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BY

GEORGE H. SIMMONS, M.D

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Original Articles.

A CONTRIBUTION TO THE SUBJECT OF RADIOTHERAPY AND PHOTOTHERAPY IN CARCINOMA, TUBERCULOSIS AND OTHER DISEASES OF THE SKIN.*

DRS. JAMES NEVINS HYDE, FRANK HUGH MONTGOMERY AND OLIVER S. ORMSBY.

CHICAGO.

Since 1894, when Finsen published his first paper on the value of the actinic rays in variola, and the year 1895, when Roentgen presented his historical paper to the Physico-Medical Society of Wurzburg, the literature of the general subject of radiotherapy and phototherapy has accumulated in geometric proportions. It is not the purpose of the present paper to survey this literature, but merely to present the results of our personal observations and experience in the management of cutaneous diseases by the modern method of light treatment. It is worthy of note, however, that while the present therapeutic use of the *x*-rays was first suggested as a result of accidents occurring in its use for diagnostic and other purposes, the light-treatment of Finsen and his followers is largely the direct and logical outcome of the work of earlier observers, who studied the influence of light in its various forms on certain phases of animal life.

Recent writers on the subject of phototherapy have made frequent references to the earlier work of (1) Averroës, Black, Waters, Barlow and others on the exclusion of light in the treatment of smallpox; (2) of Unna, Widmark and Hammer on the production of dermatitis and pigmentation by the chemical (violet) rays, and (3) of Duclaux, Downes and Blunt and others on the bactericidal influence of sunlight. Occasional mention is found, also, of the experiments of Graber, Dubois, Bert, Lubbock and others showing an influence of white light and of the violet rays on the movements of certain animals; but the broader and more fundamental researches in this field by Von Sachs and Jacques Loeb have apparently been overlooked by medical writers. It is a matter of common observation that certain plants when left in a room lighter from one side only incline toward the source of light. Sachs[1] demonstrated that in plants lighted from one side only radial structures (stems and roots) bend until their long axes are parallel to the rays of light, and that dorsiventral structures (such as leaves) assume a position in which their surfaces are perpendicular to the light rays. Plants (or organs) which turned toward the light Sachs termed positively heliotropic, and those which turned from the light negatively heliotropic. He demonstrated the three following laws: (1) The orientation of a plant toward (or from) the source of light is determined by the direction of the rays. (2) Only the more refrangible rays (blue and violet) affect the orientation of plants. (3) Light of constant intensity acts continuously as a source of stimulation.

Jacques Loeb,[2] as the result of a large number of varied and carefully controlled experiments on nearly one hundred varieties of animals (including caterpillars, butterflies, plant lice, ants, fly larvæ, various hydroids, the larvæ of beetles, etc.), demonstrated an animal heliotropism which agrees with and conforms to Sach's laws for the heliotropism of plants. Loeb's experiments showed that certain animals when exposed to white light or to blue and violet rays from a single source exhibited the following phenomena: (1) They arranged themselves with their long axis parallel with the rays of light; that is, so that the rays fell at equal angles on symmetrical areas of the body. (2) The animals, if positively heliotropic, moved in the direction of the rays until as near as possible to the source of light, and remained there as long as the light did not fall below a minimum intensity, even though in following this course they passed from a lighter to a darker place. Negatively heliotropic animals obeyed the same law, but moved as far as possible from the source of light. In all his experiments Loeb recognized and carefully controlled all other factors, such as temperature, oxygen supply, geotropism and contact irritability, which might influence the movements of the animals. He experimented with headless animals and with those having no associating cerebral organs, and succeeded in making certain animals positively or negatively heliotropic at will, thus demonstrating that the movements were due not to a subjective sense or "intuition," but to direct stimulation of the muscles by the more refrangible (blue and violet) rays of light. The more nearly the angle at which the rays struck the surface approached a right angle the greater the stimulation; hence, orientation of the animal in the direction of the rays took place before the movement to or from the source of light. These experi-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum. The records for the three following months of Cases 9, 10, 11, 13 and 15 have been included, in order to illustrate the danger of producing metastases and extension of the growth when treating carcinoma by radiotherapy, results not definitely presented in reading an abstract of the paper and consequently not discussed at the meeting.

1. Vorlesungen über Pflanzen-Physiologie. Leipzig, 1887.
2. "Der Heliotropismus der Thiere und Seine Uebereinstimmung mit dem Heliotropismus der Pflanzen." Würzburg, 1890.

ments show conclusively that the blue and violet light rays are directly stimulating to animal cells. The stimulus results probably from chemical changes, the exact nature of which is undetermined.

Recognizing the importance of Loeb's work, Benedict Friedlander[3] demonstrated by means of control experiments that the dermatitis and pigmentation resulting from exposure of the skin to sunlight, or to strong electric light, are produced wholly by the blue and violet (and not by the heat) rays. He thus confirmed the deductions drawn by Unna, Widmark and Hammer from their observations of sunburn and pigmentation in Arctic explorers and Alpine tourists. Friedlander suggested employment of the arc-light for therapeutic purposes.[4] The later development of a practical light-therapy by Finsen is a familiar subject to all readers of medical literature.

We shall not attempt a complete description of *x*-ray technic, as the subject is considered fully and in detail in the paper of Dr. Louis Schmidt. We use a current from induction coils having a voltage of from 10 to 12, and an amperage of from 1½ to 3 (rarely 4 or 5). The distance from the anticathode of the lesion exposed to the *x*-rays varies from 5 to 15 inches; the duration of the treatment from 3 to 10 minutes; the interruption from 800 to 1,200. For all superficial lesions a medium soft tube, for deeper tissues a moderately hard tube is used.[5] To protect the patient lead plates are employed. As a matter of convenience and for the better protection of the tissue immediately about the area treated we have been in the habit of exposing the latter through an opening in a small disc of lead, which can be closely fitted to the surface and fastened by means of pieces of tape or adhesive strips. A much larger flat sheet of lead, with an opening smaller than the area covered by the first lead disc, is supported by an adjustable rest between the patient and the tube. Each lesion treated has its individual small disc of lead, while the larger sheet answers for a number of areas of about the same size in the same or different patients. For treatment of lesions on the head this part is supported by a photographer's head-rest. By taking these precautions the action of the rays is limited as closely as possible to the part to be treated.

The subject of technic should not be dismissed without consideration of the susceptibility of different individuals to radiotherapy. Some recent writers state that there is no personal idiosyncrasy to the *x*-rays. The truth of such a positive statement is not demonstrable. We believe in personal idiosyncrasy to the *x*-rays, not only as a result of our experience with radiotherapy, but also because to no other therapeutic agent which we employ either internally or externally do all patients respond in the same manner or to the same degree. Every physician who treats cutaneous diseases knows that the skins of different individuals vary greatly in their susceptibility to the action of remedies and other influences, and that not infrequently a patient is found in whom a given remedy produces effects on the skin strikingly different in character or degree from that produced in the majority of individuals. For example, the effect of the sun's rays of a given intensity and duration varies greatly in different individuals, producing in one a slight pigmentation, in another an erythema, and in yet others a dermatitis of varying degrees of intensity. Occasionally an individual is found whose skin is so sensitive to the action of light that the slightest exposure to direct sunlight is followed by the formation of bullæ, small areas of necrosis and scars.

While it is undoubtedly true that in the past many of the untoward effects and the uncertain results obtained from the use of the *x*-rays have been due more to a lack of accurate technic (and possibly of skill on the part of the operator) than to personal idiosyncrasies, we are satisfied that different individuals vary markedly in the manner and degree in which they respond to this treatment. It is unquestionably true, also, that even the most skilled operator is unable, with our present knowledge, to determine with absolute precision the intensity and other qualities of the radiation employed by him in a given case. In other words, it is practically impossible so to regulate all the elements that two succeeding treatments shall have precisely the same value. Until we are better able to control all these elements, it will be a matter of conjecture as to how far the differing results may be due to variation of technic and how far to the readiness with which the patient responds to the treatment. Consequently, whether our variability in results be due to the uncertain susceptibility of the patient, or to the impossibility of regulating absolutely the value of each treatment, *the important fact remains that the only safe guide at present is the reaction obtained in each case.* The treatment in each case, therefore, must be begun gradually and pursued cautiously, and, as a rule, be suspended temporarily at the first indication of erythema or pigmentation. All experienced operators have learned that the effects of the radiation, as evidenced either in the production of a deep-seated dermatitis or in a progressive involution of the lesion treated, may continue for weeks or months after the last exposure to the rays.

Our interest in phototherapy was greatly stimulated by two visits made by one of us to Finsen's Light Institute in Copenhagen, where the opportunity was offered of making a careful examination, not only of the apparatus there employed, but also of patients in all stages of treatment and progress, including those actually relieved of their disease. There was also a large photographic collection showing the condition of patients before beginning and after treatment. A remarkable exhibition of patients and photographs at the International Congress of Dermatology in Paris in the year 1900 served as a further stimulus to the study of this subject. In phototherapy we use Sequeira's modification of the Finsen light. In it the carbons of the arc-light are brought within two or three inches of the area to be treated. Ten or fifteen minutes' exposure thus produces as much reaction as an hour's exposure by the original Finsen apparatus. The patient is protected from the light by a hollow shield, in the center of which are two rock-crystal lenses, front and back, between which cold water constantly circulates and absorbs all heat rays. The part to be treated is rendered anemic by pressing it firmly on the face of the front lens. The reaction after treatment with the lamp occurs in from six to twenty-four hours, and may vary in degree from an erythema to a vesicular or bullous dermatitis. No inflammation of tissue deeper than the skin is produced. The induced inflammation usually

3. Biol. Centralbl., 1893, xiii, p. 498.

4. For assistance in searching the literature of this subject we are indebted to Dr. Martin Fischer.

5. During the six months which have elapsed between the writing and the publication of this paper the writers have used tubes somewhat harder than those indicated in the text, and find them more efficacious and on the whole safer.



Fig. 1. Case V.



Fig. 2. Case V.



Fig. 3. Case XXI.



Fig. 4. Case XXI.



Fig 5. Case XX.



Fig. 6. Case XX.



Fig. 7. Case XIII.



Fig. 8. Case XIII.



Fig. 9. Case XIII.



Fig. 10. Case XIII.



Fig. 15. Case IX.



Fig. 11. Case XII.



Fig. 14. Case VII.



Fig. 16. Case IX.



Fig. 12. Case XII.



Fig. 13. Case XII.

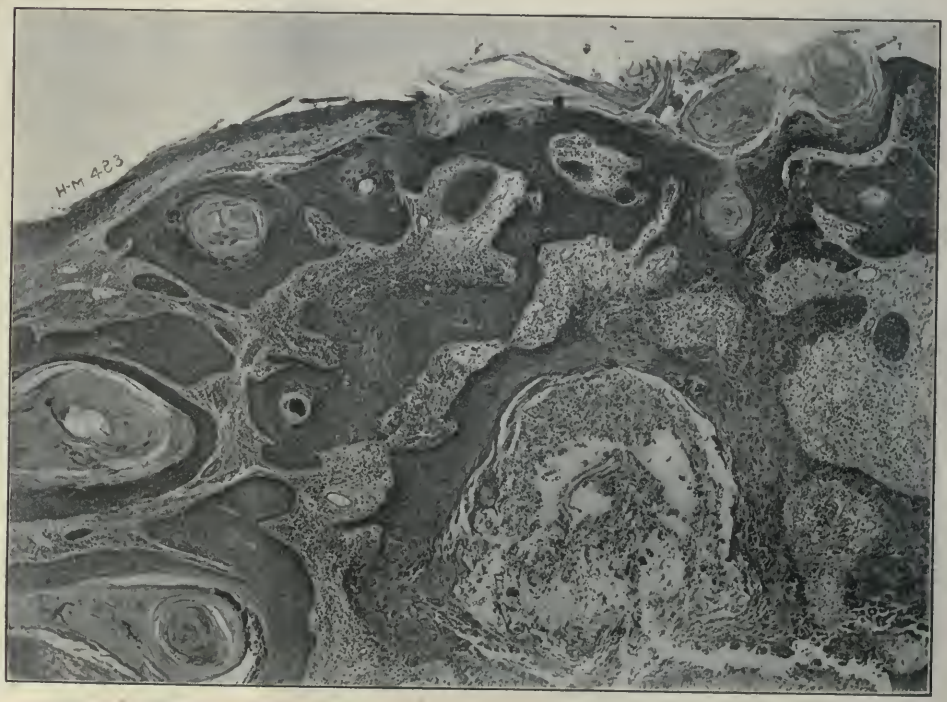


Fig. 17. Case IX.



Fig. 18. Case XVIII.



Fig. 19. Case XVIII.



Fig. 20. Case XVIII.



Fig. 21. Case XVIII.



Fig. 22. Case X.



Fig. 23. Case X.



Fig. 24. Case X.



Fig. 25. Case XXII.

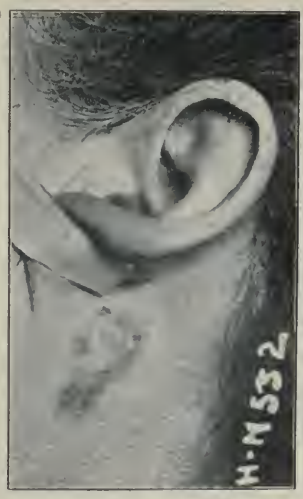


Fig. 26. Case XXII.



Fig. 27. Case III.



Fig. 28. Case III.



Fig. 29. Case XIX.



Fig. 31. Case XVI.



Fig. 30. Case XIX.



Fig. 32. Case XVI.

subsides in from three to ten days. In normal skin the reaction is followed by pigmentation, which acts as a protection against the light-rays, so that in a given area successive treatments are followed by a constantly diminishing intensity of reaction. In morbid tissue, the protective pigment is much less marked or entirely absent. In effect the light from the lamp differs, then, decidedly, from the *x*-rays in the following particulars: Reaction occurs promptly; it is always superficial; it leaves a pigmentation, which protects to a degree against the light in successive exposures; and the final results of treatment are apparent usually within a short period of time. With the *x*-rays the reaction is much slower in appearing, from one to two, or even three weeks; it frequently involves deeper tissue; the normal integument once the seat of distinct reaction is usually much more sensitive to subsequent exposure; and, finally, the effects of the radiation are frequently prolonged through several months after the last exposure.

CARCINOMA.

Of 55 cases of carcinoma of the skin treated by us with radiotherapy, the majority were of the superficial type, known generally as epithelioma or rodent ulcer. The value of the *x*-rays in the removal of such growths is so generally recognized that we shall give here a summary merely of our observations, together with brief outlines of a few typical and otherwise interesting cases. In the most superficial forms of carcinoma our results have been quite uniformly successful. As a rule, after giving the lesion a few short exposures and waiting for a period of ten days or two weeks to allow for any unusual susceptibility on the part of the patient to manifest itself, from twelve to twenty-one treatments with a moderately soft tube were given on every alternate day or daily until there appeared a slight erythema, on the recognition of which treatment was suspended, at least temporarily. In discharging ulcers the secretion became markedly less or disappeared in from four to eight days after beginning treatment, while pain or other anomalous sensations usually subsided earlier. All evidences of reaction disappeared, as a rule, in from two to four weeks after the last treatment, leaving in the majority of these cases a soft, inconspicuous scar. In a number of cases, however, in which infiltration extended somewhat deeper, it was found that while the major part of the growth had disappeared, there remained, even after several weeks, a few isolated or possibly a row of epithelial pearls or nodules, which required a second period of treatment similar to but shorter than the first. The cartilage-like border seen in some cases of superficial carcinoma does not, as a rule, yield readily to the influence of the rays, and better and more prompt results can be obtained, we believe, by removing such borders with the curette before resorting to radiotherapy.

In 25 cases (of which Cases 1 to 8 will serve as types) the lesions have been entirely replaced by scar tissue, and there has been no evidence of recurrence during periods varying from two to nine months. Of these patients one only was under 30 years of age; 21 were 40 or older. The age of the lesion was from one to 20 years. The number of treatments given varied from 10 to 27 and were given during a period of time varying from 12 days to 6 weeks. The reaction subsided, together with the disappearance of the lesion, in from 10 days to 4 weeks after suspension of treatment.

In the treatment of surface carcinoma involving the deeper tissue, our results have not been so uniformly satisfactory. In some of these cases the treatment with moderately hard tubes was carried to the point of producing a decided inflammatory reaction in the morbid tissue. While the treatment has been followed in a number of instances by complete disappearance of the tumor, in a few cases the induced inflammation apparently hastened extension of the growth or the formation of metastases. Cases 9, 10, 11, 13 and 15 illustrate very well the rapid extension of the growth following cessation of treatment or the occurrence of metastases during treatment. We have seen, not only in our own cases here reported, but in several cases treated by others, the usual swelling and reaction produced by successive treatments followed by an almost complete disappearance of the growth with the subsidence of reaction, and then, after a few weeks of further rest, a very rapid extension of the growth to the neighboring tissue, producing in several instances, within two or three weeks' time, a larger tumor than that for which the patient was originally treated. In each of these cases the second growth of the tumor has been far more rapid than anything we have ever seen in unmolested carcinoma. The second growth in each instance has had all the clinical features of true carcinoma. In one case, concerning which there was some doubt in our minds, sections of tissue removed from this rapidly extending second growth showed it to be typical carcinoma. In two instances (Cases 10 and 13) and probably in a third (Case 9) metastases have occurred during the successful treatment of the primary tumors. While we are not in position to demonstrate absolutely the pathologic conditions underlying these clinical phenomena, it certainly seems reasonable to suppose that the production of an inflammation in and about the morbid growth must favor the dislodgement and dissemination into surrounding tissues of the carcinoma cells and their transportation by the lymphatics to more distant regions of the body. As the normal tissue immediately about the tumor participates in the inflammation, and has come to some extent under the influence of the *x*-rays, there is produced a zone of lessened resistance, which must also favor extension of the growth. Though the effect of radiotherapy is to produce destruction and degeneration of the carcinoma-cells, is it not possible or even probable that some of these dislodged cells may have so far escaped the influence of the rays that they are still capable of proliferation and of starting a new growth? In attacking these tumors with the *x*-rays so vigorously as to produce in them a marked inflammatory reaction, we believe there is distinct danger of encouraging extension of the growth in surrounding tissues and of producing metastases. Many carcinomas can be removed more slowly by less vigorous application of the *x*-rays. In inoperable cancer, which threatens to be rapidly destructive, experience may yet prove that to attack very vigorously with high-tension tubes, and risk the danger of a deep burn in hope of quickly destroying the tumor, may be a safer procedure than to produce a moderate reaction, which may be followed by extension of the growth.

TUBERCULOSIS.

Our observations have included 14 cases of cutaneous tuberculosis. Of 7 cases of lupus vulgaris, 2 (Cases 17 and 18) have completely recovered; 2 more are nearly well, and the remaining 3 are much improved. In 3 cases involving both sides of the face, phototherapy was used on one side, while radiotherapy was used on the other. In one of these complete recovery occurred on

both sides in practically the same length of time (Case 18). In the second, which was an extensive case of nodular lupus, involving the major portion of both cheeks, the entire nose, the eyelids and a part of the forehead, and was of fourteen years' duration, the two sides have progressed about equally towards recovery. The third, a case similar in type and distribution to the second, but occurring in a child and of only five years' duration, has been under treatment for but a short time.

With phototherapy the best results are obtained when a marked reaction is induced and sufficient time allowed between treatments of a given area for completion of desquamation. The process is necessarily tedious, but the final results are attained as rapidly and are more satisfactory than with other methods of treatment. Two cases made complete recovery in three months, while the second case above described has had continuous treatment for a period of six months. For mucous membranes and places not readily accessible, radiotherapy is advised; but on all accessible places, and especially if not too extensive, phototherapy is preferable, as it apparently requires no more time than does radiotherapy and is free from the danger of producing a more destructive inflammation than is required.

A tubercular ulcer of one year's duration, involving the dorsum of the hand, disappeared completely after eleven treatments with radiotherapy. Two cases of disseminated tuberculosis of the skin having a generalized distribution are gradually being relieved. A case of tuberculosis verrucosa cutis, involving the forearm quite extensively, was greatly improved after seven treatments with radiotherapy. For five months the patient has been unable to leave work long enough to come for further treatment, but reports that the arm is much better than when last examined by us.

In an extensive lupus of twenty-nine years' duration, in which healing with dense and irregular scar-formation had occurred, a carcinomatous growth began to develop two years ago. It was located on and beneath the chin, and was about two inches in diameter, markedly elevated, indurated, and covered with small, wart-like projections. This lesion has received thirty treatments with the *x*-rays during a period of ten weeks, and now shows only a small ulcer level with the cutaneous surface. The patient is the victim of general tuberculosis.

A case of tuberculosis verrucosa cutis of the palm disappeared after fifteen treatments with phototherapy, leaving at present a few small points of hyperkeratosis. In a girl of 17 years multiple tubercular ulcers and sinuses, following the breaking down of tubercular glands, healed completely in ten weeks under the influence of the *x*-rays. The disease began in this case ten years ago as a tubercular dactylitis. The gradual extension of the disease, involving bones and joints, necessitated amputation first above the wrist, and later above the elbow. At the time the patient came to us the axillary glands were involved, and the stump of the upper arm was riddled with tubercular ulcers and sinuses. Amputation at the shoulder joint had been advised by her physician and consulting surgeon. Not only did the ulcers heal under the influence of the *x*-rays, but the enlargement of axillary glands has almost entirely disappeared and the girl's general health has greatly improved.

LUPUS ERYTHEMATOSUS.

In nine cases treated long enough and with sufficient regularity to note results, we found the treatment to be of undoubted value. With one exception, our results have been much better with phototherapy than with radiotherapy, though both methods were tried in several cases. The lesions treated were on the face, nose, eyelids, forehead, and ears, and were of from one and one-half to five years' duration. The usual procedure is to treat one area, one inch in diameter, at each sitting of fifteen minutes' duration. Intervals between treatments for each area vary from five to fourteen days. About two to four hours after treatment some anomalous sensations, such as pricking or stinging, usually occur. In from four to eight hours an erythema usually develops, and in from twelve to twenty-four hours a dermatitis follows, which varies in intensity up to the formation of bullæ. After three or four days the reaction usually subsides with desquamation, and by the end of a week or ten days the process can be repeated. When the lesion is unusually sensitive, it is given protective treatment. Subsequent reactions, as a rule, are not so severe as the first. Lesions in which the vascular element predominates yield most readily, some of them disappearing after two treatments. Cases in which the sebaceous element is marked are more obstinate.

PSORIASIS.

We have treated thirty-two cases of psoriasis with radiotherapy, causing in each case at least a temporary disappearance of the lesions. From four to ten treatments on a given group of lesions were usually sufficient to cause them to disappear entirely, except for a certain amount of pigment. In lesions in which the thickening was but moderate the scales often disappeared after the second or third treatment. Relief from itching when such is present occurs about the same time. As a rule, the first effects noted on a psoriatic lesion are the inability to demonstrate bleeding points and the lessened quantity of scales, which are more readily detached, and lose their micaceous appearance, becoming more friable or even powdery. In about 50 per cent. of the cases new lesions returned, either at the site of the old ones or elsewhere, within a few weeks. Of the remaining cases, both local and generalized, recurrence was delayed in many for several months. In two cases, in which circumscribed areas of psoriasis had persisted for many years in defiance of all treatment, ten exposures were followed by complete disappearance of the lesions, which have not returned after a period of eight months. In a few of the generalized cases, however, it happened that even though the treatment was continued through several weeks, as new regions were treated new lesions would appear on other parts of the body from which the disease had been removed previously. As a rule, recurring patches are removed with fewer treatments than are required for the original ones. It is also true that lesions of short duration are less resistant than those of longer standing. In a single case in which the disease was unusually acute and the skin of the patient especially sensitive, the treatment seemed to render the skin more irritable.

In the treatment of psoriasis we use a fairly soft tube, and very short exposures, at a distance of ten or twelve inches. It has not been necessary in any case to produce any visible evidences of reaction, not even an erythema or pigmentation. The influence of the *x*-rays on psoriasis is in keeping with the fact demonstrated by one of us (Hyde) twelve years ago and frequently since, that some psoriatic patients can free their skins of all lesions by prolonged sun baths.

OTHER DISEASES.

In nine cases of hypertrichosis treated by us with the *x*-rays the hairs were removed in from sixteen to twenty treatments on a given area. In five there was a return at the end of six weeks or two months of a considerable portion of the hairs. In one of these five cases the hairs which returned were removed in nine treatments. After another period of two months a few hairs are again returning. Four of the nine cases have never reported after the first removal of the hair.

In eighteen cases of alopecia areata treated by phototherapy, prompt return of the hair occurred in two, marked improvement in three, and but little or no change in thirteen cases. The treatment does not seem to present any marked advantages over other methods in vogue. We have not used the *x*-rays for fear of producing permanent alopecia, but have used phototherapy to the extent of producing a vesicular dermatitis.

In ringworm of the scalp we have had no success whatever; but here again we have feared to use the *x*-rays freely for fear of producing permanent alopecia.

In a few cases of acne and rosacea our use of the *x*-rays has been followed by very marked improvement. In two extensive and very severe cases of acne, which had resisted for months all our efforts at treatment, the eruptive symptoms disappeared completely under the use of the *x*-rays. In other cases a few exposures have seemed to materially aid the other treatment employed. The cases of acne in which radiotherapy is of unquestioned value are those in which the disease is limited to a small area. Here the treatment may be pushed, if necessary, to the point of producing atrophy of the affected glands and follicles. When many scattered glands are involved and new lesions are constantly forming, radiotherapy gives temporary benefit, but can not be expected to prevent recurrence of the lesions unless the treatment be carried far enough to produce general atrophy of the sebaceous glands of the face. But the sebaceous glands have a function to perform, and to produce a general atrophy of these glands of the face must be a questionable procedure until we can determine what effect such a course would have on the skin ten, twenty, or forty years later. Again, no local treatment can be expected to replace entirely treatment of the underlying conditions on which many cases of acne depend.

In several cases of sycosis we have used radiotherapy with decided benefit. Here again we have reserved the treatment for the few cases that have not responded to older methods, for fear of producing permanent loss of hair.

In a few cases of rosacea and in several instances of fine telangiectases, phototherapy has given good results.

In five cases of keloid-like scars following burns, a series of exposures to the *x*-rays has been followed by a decided softening and thinning, but not by complete disappearance of the scar. In these cases treatment was carried to the point of producing erythema and desquamation; in one only to the point of producing a dermatitis.

In several areas of chronic eczema and in three severe cases of intertrigo radiotherapy has given excellent results. In one exceedingly stubborn case of eczema of the scrotum, of many years' duration, in which a vitiliginous condition had appeared on the infiltrated skin, ten daily treatments gave the patient relief from itching; the infiltration gradually disappeared, and later the normal pigment returned.

In two cases of cutaneous blastomycosis which had refused to heal entirely under the iodid of potassium, the persisting borders disappeared after twelve and sixteen treatments respectively with radiotherapy.

In a case of mycosis fungoides, in which the patient's body was more than half covered with characteristic thickened and scaling areas, some of which were approaching the tumor stage, all lesions treated with radiotherapy faded decidedly or disappeared entirely, while those not so treated remained or increased in size.

Several cases of hyperkeratosis (see Figs. 29 and 30, Case 19) and of pre-epitheliomatous lesions yielded to the treatment.

NARRATION OF CASES.

CASE 1.—Mr. R. H., aged 79; carcinoma of the lip. A brother died from a cancer, also beginning on the lip. On examination the middle third of the lower lip was found to be the seat of a typical superficial ulcerating carcinoma of one and one-half years' duration. A horny mass, the size of a coffee bean, extended outward from the border of the growth. During a period of six weeks 21 treatments were given, after which the entire lesion disappeared, leaving only a thin, soft scar. No sign of recurrence six months after treatment.*

CASE 2.—Mrs. B., aged 61; carcinoma of the inner angle of the eye and root of the nose, beginning in 1898. It had been excised and skin-grafted. On examination, a mass of epithelial pearls was found beneath and on the surface of the flap of grafted skin. During three weeks 20 treatments were given, at the end of which time the tumor-mass and induration had disappeared, leaving the area slightly red but quite tender. One month later all evidences of reaction and of the carcinoma had disappeared. Four months have passed with no sign of recurrence.

CASE 3.—Mr. W. F., aged 60; carcinoma of parotid region, of two years' duration (Fig. 27). The lesion was the size of a large hazel nut, having an ulcerating center, an elevated and hard border and was situated on an indurated base. It was assuming a more malignant type, as evidenced by increased rapidity of growth and greater pain. After 18 treatments, during a period of three weeks, the lesion became bluish and slightly swollen. The discharge lessened after the third treatment, and pain ceased entirely after the sixth. Two months after beginning treatment the growth was entirely replaced by a soft and almost invisible scar (Fig. 28).

CASE 4.—Mr. Ch., aged 45; carcinoma of lip of ten years' duration. The lesion presented a superficial ulcer, situated on an indurated base. During a period of four weeks 14 treatments were given, ten days after the last of which the entire lesion had healed. No recurrence after seven months.

CASE 5.—Mr. O. S., aged 76; multiple carcinomata of the trunk of twenty-five years' duration. He had been for twenty years under the almost constant observation and care of two well-known New York surgeons and of an equally well-known dermatologist of that city, by whom he was referred to us. A large number of the growths had been removed from the chest and back by excision, by curettage, or with caustic pastes. On the chest and breast there remained three irregular superficial areas, ulcerating in places, but made up, for the most part, of small nodules and ridges. There were also numerous small scaling and thickened areas (Fig. 1). During a period of six weeks 20 treatments were given, producing a moderate dermatitis. This rapidly subsided except in one place, which healed slowly, requiring twelve weeks for complete recovery. The carcinomatous areas completely cleared up, leaving more or less scar tissue (Fig. 2. Since this photograph was taken the scars have become soft and smooth). No recurrence after six months. The diagnosis was verified by histologic sections.

CASE 6.—Mr. D., aged 35; carcinoma of eyelid. A large part of the border of the right lower eyelid was the seat of an ulcerating carcinomatous growth, which had destroyed the

* With the exception of Cases 9, 10, 11, 13 and 15, these histories were written, June 1, 1902. There have been no other recurrences since that date, and a number of cases reported here as improved, have recovered completely.

glands, the hair follicles and some deeper tissue. During a period of nineteen days 16 treatments were given, the lid being drawn downward and the eyeball protected from the rays. Considerable reaction and swelling occurred, which disappeared in three weeks, leaving only a soft, thin scar. The resulting deformity is so slight that it is not apparent except on careful inspection. The case is of interest chiefly in demonstrating what can be done about the eye, provided sufficient care be taken, with this treatment. No irritation of the eye further than a mild conjunctivitis occurred at any time.

CASE 7.—Mrs. T., aged 51; recurrent carcinoma of forehead of ten years' duration. The growth had recurred after complete excision and presented a large superficially ulcerating and crusting surface (Fig. 14). During a period of four weeks 14 treatments were given. Some erythema occurred, which soon subsided, leaving a smooth, perfectly healed surface. No recurrence after two months.

CASE 8.—Mrs. C., aged 44; carcinoma of the bridge and side of the nose. Began in 1895; was excised in 1896; recurred in March, 1901; curetted in June, and again in August, 1901. Nov. 8, 1901, a characteristic but superficial ulcerating lesion was present. During a period of one month 13 treatments were given, with only a slight reaction, which cleared up one week later, leaving the usual delicate scar. No recurrence at date.

CASE 9.—Mr. A. C. B., aged 55; multiple carcinomata of the face of fifteen years' duration. A large part of the right cheek was involved, beginning immediately in front of the ear, where one of the tumors had been excised one year previously, and extending to the outer canthus of the eye, and downward onto the nose. The lesions were for the most part superficial, in the form of small pearly nodules or ridges, which in places had been replaced by equally small superficial ulcers or atrophic areas. There were three distinct tumors, the largest being the size of a small walnut and located over the malar bone. The second, somewhat smaller (removed for histologic study) was located about one and one-half inches below and internal to the first; while the third, still smaller, was situated about the same distance below, but nearer the ear. His entire face was more or less covered with irregular, thickened, slightly crusted areas of the type known as seborrheal or senile warts (Fig. 15). Sections from the tumor removed showed the typical structure of carcinoma (Fig. 17). From Nov. 13 to Dec. 2, 1901, 12 treatments were given, when erythema appeared and treatment was suspended. Jan. 6, 1902, the largest tumor had more than one-half disappeared, and the lesions on the rest of the face were much diminished. March 17 only a few small areas remained, but the entire region was given 10 treatments up to March 27. About two days later a severe dermatitis, involving especially the scar tissue, appeared and continued for a period of over two months. As this was subsiding a deep-seated subcutaneous growth involving the region slightly in front, beneath, and back of the ear appeared and grew with great rapidity, attaining the size of a small egg in less than four weeks. As this appeared in a region from which one of the carcinomatous tumors had been excised a year before, it is not possible to determine whether it was a recurrence from the old tissue or a metastatic growth. In either event, the growth of this secondary tumor was much more rapid than usually occurs in unmolested carcinoma. This growth was given 11 treatments without apparent beneficial effect, and four weeks later was extirpated by Dr. Bouffleur. It was then found to involve the fifth nerve quite extensively, and occupied the region of the parotid gland, extending down into the superior triangle of the neck. The region of the operation is again being subjected to radiotherapy with the hope of destroying any remaining carcinomatous cells. The original lesions disappeared completely, leaving a soft, smooth scar (Fig. 16).

CASE 10.—Mr. McC., aged 58; carcinoma of the ear. His father died of gastric carcinoma, and his brother is now under treatment by us for deep carcinoma of the neck (Case 14). The tumor began three years ago. For sixteen months an arsenical paste had been applied. When he came under our observation two-thirds of the ear had been destroyed, the stump being indurated, painful, ulcerating and discharging (Fig. 22). He did not wish to submit to an operation, preferring to try radiotherapy. After receiving 18 treatments during a period of five weeks, the growth was very much smaller, and continued to diminish during the three weeks of rest which followed. The reaction subsided in this time, leaving the ear much smaller and the ulcerating surfaces healed but for two or three small openings leading to deeper-seated disease (Fig. 23). Nine daily and fairly vigorous treatments followed and produced a decided inflammation and tumefaction of the ear. At the end of a four weeks' rest the reaction had subsided and the outlook was favorable, when suddenly (the patient, who was in the country at the time, says within ten days) the growth invaded adjacent tissues and became much larger than ever before. A section of tissue from this new growth showed it to be a true carcinoma and not an inflammatory product. Twenty-one treatments were then given, during a period of five weeks, followed by six weeks of rest. During these eleven weeks the tumor has been gradually but very slowly diminishing in size. The surfaces have not healed, however, and the growth is more extensive than when treatment was begun (Fig. 24).*

CASE 11.—Mr. D., aged 47; carcinoma of the lip of eighteen months' duration, which had been treated with pastes. One half of the lower lip was the seat of a deep, destructive, ulcerating, discharging, and painful carcinoma. During a period of ten weeks 32 treatments were given this lesion, more or less regularly. At the twenty-first treatment the growth appeared less indurated and had but little discharge or pain; but a metastatic deep-seated growth appeared on the ramus of the jaw on the same side. This lesion was given 26 treatments. Six weeks after suspension of treatment the tumor of the lip, which had been considerably reduced in size, rapidly involved adjacent tissues until it was a third larger than before beginning the treatment. The metastatic growth had not yielded to the treatment and the patient has consented to a radical operation.

CASE 12.—Mrs. K. B., aged 46; carcinoma of the nose. A superficial, ulcerating lesion of two years' duration was located on the front of the nose, while a deeper-seated tumor of ten years' duration was situated on the side of the nose (Fig. 11). During a period of twelve days the former lesion received 9 treatments, and fourteen days later was replaced by scar-tissue. During a period of ten weeks the tumor received 33 treatments, after which it disappeared, leaving an excavation (Fig. 12) which is slowly filling up. A rim of epithelial papules was left, which received 22 additional treatments, with the result that most of them were removed (Fig. 13). A few more treatments will probably be necessary.

CASE 13.—Mrs. D. B., aged 76. The patient was extremely ignorant and talked but little English or German. The history was unsatisfactory, aside from her statement that the lesions had been present a number of years. A deep-seated, ulcerating and destructive carcinoma involved the entire lower lip (Fig. 9), with metastases in the submaxillary gland of the right side. A superficial, but typical, carcinoma was situated on the left cheek, and there was a large, malignant papilloma on the dorsum of the left hand (Fig. 7). After 12 treatments on the lip and hand, during a period of two weeks, the discharge from the former had ceased; the lesion was smaller (Fig. 10) and the involved gland was much reduced. These treatments were energetic, and the result was a marked dermatitis about both lesions. On its subsidence the tumor on the hand had nearly disappeared (Fig. 8. An unhealed area from the dermatitis shows above the site of the tumor). During the next two months the lip received 19 treatments and continued to improve, the tumor and dermatitis of the hand disappearing entirely. Treatment was temporarily suspended. Three weeks later the patient returned, showing a rapid growth of the right submaxillary gland originally involved and a rapidly growing tumor of the left submaxillary region.

* Extension of the growth continued and the patient finally consented to a radical operation. Dr. A. D. Bevan excised the entire mass and covered the surface with skin grafts, which are growing well and cover all but a small area.

The patient became discouraged and refused further treatment.

CASE 14.—Mr. McC., aged 76; recurrent carcinoma of the neck. His father died of gastric carcinoma, and a brother is reported in Case 10 of this series. The disease was of twelve years' duration; beginning behind the ear, extending downward. It has been extirpated six times. The tumor was entirely subcutaneous, the size of a hen's egg, firmly adherent, hard, painful, and immovable. During three weeks 19 treatments were given; after the tenth treatment deep-seated tenderness and swelling began and increased toward the end of the treatment. Four weeks later the swelling and tenderness disappeared, leaving the tumor smaller and freely movable. During the following two weeks 14 treatments were given; tenderness followed the fourth and swelling began at the fifth treatment. Both of these symptoms were marked when treatment was suspended. Two weeks later the swelling and tenderness are again subsiding.

CASE 15.—Mr. P. D., aged 55; carcinoma of the face. His disease had been treated with pastes. He presented a typical ulcerating carcinoma about one and one-half inches in diameter, involving nearly the entire thickness of the cheek, beginning at the angle of the mouth and extending upward, outward, and downward. He had been subjected to the *x*-ray for three weeks before consulting us. After an interval of rest he was given, during three weeks, 14 treatments, after which a decided reaction led to a rest of three weeks. Some improvement was noted at first, but during the latter half of this second period of rest the tumor rapidly extended and involved the surrounding tissue. During the next three weeks 16 treatments were given, after the ninth of which the spreading ceased and the lesion began to flatten. The treatment was again suspended temporarily because of the reaction, and the growth seems to be at least quiescent, but the loss of normal tissue is much greater than at the commencement of treatment.

CASE 16.—Mrs. A. D., aged 70; superficial carcinoma, of ten years' duration, of forehead, nose and cheek. The involved areas were more or less covered with crusts, epithelial pearls and ridges, small scars, and superficial ulcers (Fig. 31). During a period of six and one-half weeks 22 treatments were given, when slight reaction occurred. A month later all evidences of inflammation and of the original growth had disappeared except for scars and pigmentation and for a small circumscribed area bordered by a few characteristic pearls (Fig. 32). In the two months which have elapsed since the last photograph was taken the pigmentation has disappeared and the scars have become very inconspicuous. The small ulcer has healed, but a few pearls remain and will require further treatment.

CASE 17.—Miss M. J., aged 20; lupus vulgaris. An irregular area, about one and one-half inches in diameter, had existed on the left cheek for twelve years, but by constant treatment and frequent scraping had been kept fairly under control. Tubercle bacilli were demonstrated in the nodules, portions of which inoculated beneath the skin of guinea-pigs, produced in them general tuberculosis. Jan. 18, 1902, a small patch still remained at the lower angle of the original area. This was given 17 treatments with phototherapy during a period of three months, at the end of which time all evidence of the lupus infiltration was absent and the heavy scar tissue left from former treatment was much reduced and softened.

CASE 18.—Mrs. J. L., aged 30; lupus vulgaris of five years' duration. There were three areas on the right cheek and temple (Fig. 20) and one on the left cheek and side of the nose (Fig. 18). The lesions on the left side were given 11 exposures to the *x*-rays during a period of four weeks, beginning Nov. 20, 1901, when some erythema appeared. Beginning again on March 4, 1902, 15 treatments were given during a period of four weeks, when reaction again was manifest. One month later all evidence of the nodules had disappeared, leaving only a delicate scar (Fig. 19). Each of the three areas on the opposite side received, during a period of three months, 8 to 10 treatments with phototherapy, at the end of which time they were also entirely free from nodules and showed only a very thin scar (Fig. 21). Since the last photographs were taken the scars on both sides have smoothed out and become even less conspicuous, the pigmentation having disappeared entirely.

CASE 19.—A. C., aged 5 years; congenital keratodermia of palms and soles (Fig. 29). Both palms and soles were covered with thick, dark brown and almost black horny plates, the thickening of the skin being so marked that complete extension of the fingers was not possible. Treatment with plasters, pastes and ointments produced but slight and temporary improvement. From Jan. 29 to May 22, 1902, 9 radiotherapeutic treatments were given, at the end of which time most of the horny material had been removed and the skin of the hands was much softer and lighter in color, and the fingers could be completely extended (Fig. 30). During the following few weeks 7 more treatments were given the palms, still further improving their condition. It is now two months since the last application was made to the hands, and there has been no return of the original trouble. The same treatment, with similar results, is now being applied to the soles of the feet.

CASE 20.—Mrs. A. C., aged 70; multiple carcinoma of the face, of fourteen years' duration. Midway between the malar eminence and the bridge of the nose on the right side was located a characteristic ulcer, having a raised, hard border and a deeply indurated base (Fig. 5). A similar lesion, but not quite so deep-seated, existed over the left malar bone; while on the right temple there was a large senile wart. During a period of five weeks twenty-seven treatments were given. Seventeen days after suspension of treatment the lesions were swollen and still reacting, but after an additional seventeen days there remained only some pigmentation and a slightly depressed scar (Fig. 6).

CASE 21.—Mr. Br., aged 65; carcinoma of three years' duration, involving the region over the root of the nose, extending to the inner angle of either eye, also some distance on the forehead, and occupying one-half of the left upper eyelid (Fig. 3). Fifty treatments were given at irregular intervals during four months, leaving only a very delicate scar, in which two epithelial papules can still be detected (Fig. 4).

CASE 22.—Mrs. H., aged 45; rodent ulcer of fifteen years' duration, situated back of lower part of the ear. Had recurred from a former operation (Fig. 25). Seventeen treatments were given during a period of four weeks. One month later nothing remained except a fine scar with one small epithelial pearl at the upper angle of former lesion (Fig. 26).

CONCLUSIONS.

While it is too early to form definite and sweeping conclusions regarding the value of radiotherapy and phototherapy in all the affections in which they have been employed, our experience leads us to believe that in tuberculosis of the skin these methods of treatment are superior to any others now known to us. In lupus erythematosus, phototherapy has in our hands given very satisfactory results, far better than those we have obtained by any other method.

In superficial carcinoma involving considerable areas, radiotherapy is undoubtedly preferable to all other known methods of treatment. Superficial lesions more circumscribed are equally amenable to treatment with the *x*-rays, though in many instances small tumors can be removed more promptly by complete erasion or excision. For many of these circumscribed growths we are now inclined to advocate removal either with the knife or curette, followed by a series of treatments with the *x*-rays. In operable carcinoma of the skin which includes deeper tissues, we advocate complete extirpation followed by *x*-ray treatments. Where the growths are inoperable radiotherapy offers a possible chance of recovery, or of lessening the discomfort of the patient. As a result, however, of our observations of our own and other cases, we believe that in exciting an inflammation in carcinoma one is, to some extent at least, en-

couraging an extension of the growth through a dissemination of the cancer-cells to normal (or inflamed) tissue surrounding the growth and of favoring metastases. We believe this possibility constitutes a danger in the treatment of carcinoma by the *x*-rays that has not been sufficiently recognized.

The value of radiotherapy in extensive cases of hypertrichosis has been fairly well established by other observers. It has given us excellent results in the majority of cases of psoriasis treated. It has unquestionably been used successfully in many of the chronic inflammatory diseases of the skin, especially in acne, rosacea, folliculitis, and suppurating wounds; but until this agent can be employed with greater accuracy we believe it should be reserved chiefly for those cases in which better known and better controlled methods are not successful.

It is not yet possible to draw definite conclusions with reference to the comparative values of radiotherapy and phototherapy. The former is, for the most part, readier of application and apparently has a wider field of usefulness than the latter. In lupus erythematosus, however, phototherapy has repeatedly given us excellent results where the *x*-rays have failed altogether or aggravated the condition. Judging from our experience and from the larger experience of Finsen and others in the treatment of tuberculosis of the skin, we believe that in this disease phototherapy gives in the end results as rapid as those obtained with the *x*-rays, with better cosmetic effects and without danger of deep burns.

There is no doubt that both phototherapy and radiotherapy are valuable additions to our methods of treating certain diseases. There is also no doubt that their field of usefulness eventually will be proven much more restricted than that in which they are employed at present. Unfortunately there can be no doubt also that harm is doing and will be done by the action of *x*-rays in the hands of the unskilled or the unscrupulous. No one should attempt to employ radiotherapy who has not first carefully studied the subject and followed the work of some expert. Even with such preparation great caution is needed in acquiring experience with this new therapeutic agent; its accurate control and the character of results obtained being still subjects of discussion.

NOTES ON *X*-RAY TREATMENT OF CANCER,

WITH REPORT OF CASES.*

G. E. PFAHLER, M.D.

ASSISTANT CHIEF RESIDENT PHYSICIAN, PHILADELPHIA HOSPITAL.

PHILADELPHIA.

One year ago the treatment of cancer by means of the Roentgen ray was in an experimental stage. To-day the medical profession seems to recognize it as a valuable therapeutic agent in certain forms of cancer. The successes of the past, however, simply stimulate us to search for new uses and find the best technic to enable us to accomplish these results most quickly and with the least possible danger to the patient. I shall therefore review briefly the histories of a few cases, selecting only those that seem to present some new feature, and then draw conclusions from the results in these particular cases and from observations made by others as well as by myself.

CASE 1.—M. B., white, aged 80. For twelve years had an epithelioma at the base of nose. The size and location is indicated by Fig. 1. Patient was treated with a weak light three months. At the expiration of this time the growth had almost healed. I continued the exposure with the result that the whole surface broke down again. At about this time her general health failed, and I supposed the return of the ulcer was due to low vitality. She was then too weak to be moved and exposures were discontinued. She died three months later of phthisis pulmonalis. At the time of death the entire area had been healed and was covered with a healthy, pink scar (Fig. 2).

CASE 5.—R. F., white, aged 70. Had an epithelioma of the right inner canthus and lower eyelid for five years (Fig. 3). He was exposed to the rays two to three times a week, and improvement was noted until he had 20 exposures. It then seemed to be at a standstill. Treatment was continued with increased vigor until he had 40 exposures. No improvement was noted after the 20th exposure. He then left the hospital and treatment was discontinued. No other treatment followed. Four months later he returned to show me that the area had entirely healed (Fig. 4).

These two cases progressed nicely to a certain stage and then seemed to be failures. In Case 1 I undoubtedly produced an *x*-ray burn, which I mistook for a return of the ulcer. In Case 5 I produced no burn, and yet I must have been keeping up sufficient irritation to destroy the new granulations as they formed. These cases indicate that we may do too much, and that when we reach the stage where the cancer seems to have been destroyed and the process of repair well started we should give Nature a chance.



Fig. 1. Case 1.

CASE 7.—M. M., white, aged 52. Had three operations on the nose during the past three years (prior to admission to this hospital) for the removal of some kind of tumors in the right nostril; the last operation had been performed six weeks prior to admission. She was admitted June 13, 1901, at which time her right nostril was filled with a new growth. July 12, 1901, Dr. E. B. Gleason removed a portion of the growth, which he decided was malignant. Aug. 1, 1901, Dr. Charles P. Grayson removed a portion of the growth, the removal of which was followed by a profuse hemorrhage.

Sept. 4, 1901, the laryngologists refused to treat the case further, and she was transferred to the surgical wards. At

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

this time the growth involved the inner third of the right eyelid, the entire right side of the nose, the antrum of Highmore and the roof of the mouth, at least the soft palate was indurated. The surgeon did not advise operation. A section was removed and referred to Dr. Flexner for pathologic examination. He reported that it was an epithelioma. She was given two exposures, September 7 and 13. Prior to the second exposure she had had constant pain. After the second exposure she volunteered the information that the pain had been relieved. Operation was then reconsidered and *x*-ray treatment was discontinued until Feb. 1, 1902, when she was taking morphin 1/3 gr. for the relief of pain. The entire orbit now seemed to be involved; the nose was swollen and there was distinct bulging of the antrum. She was then given an exposure of ten minutes at a distance of five inches with a vacuum corresponding to a parallel spark-gap of 2½ inches without a shield. After this treatment her pains were relieved and the morphin has been discontinued from that time to the present. Exposures were made every three or four days. After the first exposure a redness of the skin was noticed. After the second the cauliflower growths (about the eyelids) began to round off, and after the sixth had sloughed away. After the fourteenth exposure the skin broke over the antrum sufficiently to allow considerable pus to be discharged. This opening healed very promptly, and to-day (to all appearances) is as well as the opposite side of the face.



Fig. 2. Case 1.—Showing ulcer healed.



Fig. 3. Case 5.



Fig. 4. Case 5.—Four months after treatment had been discontinued showing ulcer healed.



Fig. 5. Case 9.

Since the fourteenth exposure the progress has been slow, but steady. Up to the present time she has had 26 exposures. The right nostril is still about half filled with a growth that seems to be breaking down. The skin over the nose has at no time been broken, but has been kept constantly red. The patient in all likelihood would have been dead ere this without treatment, and the case is one of importance because of the cancer being destroyed beneath the skin.

CASE 9.—D. S., white, aged 72. One brother died from cancer of the cheek. The patient has had a cancerous ulcer affecting the left eye, forehead and face, accompanied by severe pain for 19 years. The extent of growth is shown in Fig. 5. A similar growth had developed at the inner canthus of the right eye and was connected to the larger ulcer by sinuses through the base of nose. There was also an elevated growth on the right chin the size of a silver quarter. Upon admission to this hospital (April 1, 1902) he was too weak to walk—his legs were very



Fig. 6, Case 9.—All cancer tissues apparently destroyed, though not healed—edges healing. Lower portion shows *x*-ray burn.

edematous and he was very cachectic. I felt certain that he would not live long. His complaint of great pain and my anxiety to ascertain what would be the result of *x*-ray treatment in a dying man caused me to commence treatment. He was given five exposures, April 1, 2, 16, 23 and 26. His pains were relieved. After the second exposure Dr. Howard Hansell, at my request, removed the eyeball, which had been extremely



Figure 7.

sensitive. The cancer was exposed ten minutes at each exposure, with a soft tube at a distance of 1½ to 4 inches. A shield was not used at any time on account of the extensive and general involvement. After the last exposure a dermatitis was noticed extending downward on the left cheek. The patient, by this time (after one month), had grown too weak to be moved. He died May 8, when the second photograph (Fig. 6) was taken. By this time the growth on the right chin had disappeared. The large ulcer on the left side showed none of the original characteristics of cancer, and I believe the cancer itself had been destroyed. It had not healed for the reason that time had been too short, but the edges showed distinct signs of healing. The lower portion of the affected part shown in the picture was an *x*-ray burn and not cancer.

Sections were removed from four different parts and sent to the pathologist to determine whether any cancer tissue can be found microscopically. He has not as yet had time to make a report.

I report this case because of the remarkable improvement from five exposures and to show that improvement may occur even with the lowest vitality.

CASE 17.—A. T., aged 73. Had multiple, superficial epithelioma of the skin, varying in size from a pinhead to a quarter dollar. She has had 12 exposures, and all have desquamated but the largest, leaving a red surface.

CASE 18.—R. M., white, aged 94. Has similar multiple epitheliomata, and is improving.

Good results in cutaneous cancers and other diseases of the skin have been reported by Drs. Sequeira,[1] Williams,[2] Rinehart,[3] Taylor,[4] Johnson and Merrill,[5] and others. Most encouraging results have been reported in the treatment of recurrent cancer of the breast by Drs. Hopkins,[6] Clark,[7] Pusey,[8] Soiland,[9] Morton,[10] Scott,[11] Gocht,[12] Despeignes,[13] Stenbeck[14] and others. Only a



Fig. 8.—Cancer apparently destroyed except a small nodule at the outer side.

few have been reported cured, the others are still under treatment and improving. My experience with cancer of the breast is limited to four cases; two were primary, in which operation was refused. One of these had almost entirely healed when death resulted from an attack of uremia. Autopsy showed an indurated gland of the axilla the size of a large pea. The axilla had never been exposed. This teaches that, no matter how superficial a cancer of the breast seems to be, the axilla should be exposed. The other primary case was an old woman, who likewise died of uremia, after four exposures. The cancer apparently had been destroyed, except a small nodule in the upper and outer portion (Figs. 7 and 8).

THE TECHNIC USED.

A brief review at this time of the technic used in this work by myself and others may be of value, though I realize that no rules can ever take the place of experience and good judgment in adapting this energy to the needs of each case.

1. Both the coil used and the static machine give good results, but the balance of favor seems to be with the coil, as producing the quickest results.

2. A low vacuum tube corresponding to an air gap of 1½ inches seems to be universally accepted as the best for all superficial treatment, while for the deeper structures a higher vacuum tube corresponding to an air gap of 3 inches will give better and safer results, Dr. Morton recommends one as high as 7 inches for this purpose.

3. The distance of the tube from the exposed part will vary with the amount of energy and the resistance of the tissue, but seems to be safe at from 12 to 3 inches. Dr. Pusey recommends from 30 to 12 inches. By placing the tube near, however, we save energy and time, and if the tissues are watched carefully, I believe no serious results will follow.

4. The time of exposure should be from 5 to 20 minutes, depending on the reaction obtained, and should be repeated every second or third day, unless some contraindication should arise.

5. The surrounding tissues are best protected by lead foil (a convenient and economical method is the use of tea lead) in one or two layers, which may be covered on both sides by layers of adhesive plaster.

6. Best results, judging from cases reported as well as my own experience, seem to follow when the skin has been brought carefully to a reddened condition and kept so, without producing ulceration. This may occur in 24 hours or not until several days have elapsed after the exposure producing it.

7. I have found that dusting the open surfaces with equal parts of salicylic acid, boric acid and starch helps to keep the ulcer clean and assists in the formation of a cicatrix. Dr. Taylor recommends the use of an ointment of salicylic acid, 10 grains to the ounce of vaselin.

8. The time required to cure a superficial cancer is usually from two to six months. The deeper ones often require longer time.

The results obtained seem to be due to the *x*-ray itself or to a ray that moves in straight lines, similar to the *x*-ray. This point is illustrated by a case which I reported in the *Therapeutic Gazette,* March, 1902.

We can recommend the use of *x*-ray in all carcinomata, but especially those that are inoperable, or in which operation is refused. I would recommend that all cases operated on should be followed by a course of treatment by the *x*-ray. This latter method I believe would bring about the most rapid and successful results.

BIBLIOGRAPHIY.

1. Sequeira: British Medical Journal, Feb. 9, 1901.
2. Williams: THE JOURNAL A. M. A., Sept. 14, 1901.
3. Rinehart: Philadelphia Medical Journal, Feb. 1, 1902.
4. Taylor: British Medical Journal, May 3, 1902.
5. Johnson and Merrill: Philadelphia Medical Journal, Dec. 8, 1900.
6. Hopkins: Philadelphia Medical Journal, Sept. 7, 1901.
7. Clark: British Medical Journal, June 8, 1901.
8. Pusey: JOURNAL A. M. A., April 12, 1902.
9. Soiland: Southern California Practitioner, April, 1902.
10. Morton: Medical Record, March 8, 1902.
11. Scott: American X-Ray Journal, November, 1901.
12. Gocht: Fortschritte a. d. Geb. d. Roentgenstr., Bd., p. 16.
13. Despeignes: La Semaine Medicale, No. 37, 1896, p. 146.
14. Stenbeck: Mitthellungen aus den Grenzgebieten der Medicine und Chirurgie, vl, 1900, p. 347.

Bats as Transmitters of Contagion.—Plague broke out in a solitary outlying house near Naples during the recent epidemic. The house had its separate water supply and none of the usual means of contagion could be incriminated, but Gosio noticed that bats were numerous about the place. He experimented to see if bats were susceptible to plague, with positive results. Further experiments with the numerous fleas on the bats showed that they were capable of transmitting the contagion to man. The *Allg. Med. Ct.-Ztg.*, which quotes the results of Gosio's research, observes that this is the first time that the bat has been shown to be harmful to man.

THE TECHNIC OF *X*-RAY THERAPY AS APPLIED TO DISEASES OF THE SKIN.*

LOUIS E. SCHMIDT, M.S., M.D.
Associate Professor of Genito-Urinary Diseases, Chicago Policlinic; Attending Genito-Urinary Surgeon and Dermatologist, Alexian Brothers' Hospital; Clinical Professor of Genito-Urinary Diseases, Northwestern University School of Medicine.
CHICAGO.

Schiff has, within the past twelve months, stated that beginners in this mode of treatment should proceed in a different manner than the more experienced. This statement alone from such an authority shows the unsatisfactory state of affairs. Other writers have attempted to formulate rules, but none have been universally accepted.

THE PREPARATION OF THE PATIENT.

To begin with: how are the surrounding healthy parts of the area to be put under treatment to be protected from the action of the *x*-rays? Rollins devised a box in which the tube is enclosed. This is coated on the inside with heavy lead paint and has a diaphragm of changeable size, so that the size of the cone of *x*-rays passing to the outside may be regulated. This contrivance is used but very little, probably partly on account of its cumbersomeness. As the surrounding healthy parts clearly ought to be protected I find it convenient to make shields of sheet lead. Several thicknesses ought to be on hand for the convenience of bending or plying the metal to the configuration of the body. I have on hand three grades, lead sheeting one-twentieth of an inch in thickness, then tea lead No. 1, and for the thinnest quite heavy lead foil. With the one or the other of these any part, no matter what the irregularities are, may be covered. Each patient ought to have his own shield. The shield, of course, must have a diaphragm through which the rays may reach the diseased parts. It has been recommended that the lead should be underlaid with paraffin paper so as to avoid lead contact. This is a minor point, but is important occasionally on account of contact sparking, as it is a non-conductor. The lead shield is to be held in place by a stand, if possible, and not by the individual. Many observers believe grounding of the shield to be an advantage, but I dare say it is done only exceptionally, and personally I rarely use it. As the large number of cases that come under the treatment of the dermatologist have affections of the face it is desirable to make a perfect-fitting mask. This is readily done by using a manikin.

TRIALS TO DETECT IDIOSYNCRASY.

All patients should undergo a few trial applications previous to any extended course of treatment on account of a possible idiosyncrasy of the patient towards the *x*-rays. This condition is denied by Kienboch and others. Nevertheless, these first carefully observed exposures demonstrate whether or not the individuals react suddenly and severely after such exposures. It is best to even have from five to ten days, or even longer, intervene previous to again taking up the application of the *x*-rays. I have never had such a case of idiosyncrasy. It is best to have the first sitting of ten minutes' duration with a tube of medium penetrating action, as will be described later, and the tube at about a distance of 20 cm., the second treatment given on the fifth to tenth day in the same way at a shorter distance, say 10 to 15 cm., and for at least fifteen minutes.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

I continue to follow this procedure in every case, because no patients are alike and the sensitiveness of each differs, as to the variation of dryness or dampness of the skin, in the acidity or alkalinity of the perspiration, in anemic or plethoric conditions, in electrical resistance.

HOW TO MEASURE THE ENERGY.

Freund and Schiff are usually quoted in the matter of the treatment of skin diseases by the *x*-rays. Their directions are to use a current of 12 volts and not more than 1.5 amperes with a spark length not exceeding 30 cm. and with 800 or 1,000 interruptions per minute.

The ordinary method in use to register the amount of energy going through a Roentgen tube is by stating the amount of amperes and volts or Watts passing through the primary windings of the coil. This method does not measure the amount of the electric energy at the terminals of the secondary coil, but measures the energy at the primary.

The conversion of the amount of electric energy supplied to the primary of an induction coil and the amount received at the terminals of a secondary depends on the design of the induction coil. One make of coil will produce with 1.5 amperes and 12 volts (or 18 Watts) passing through the primary a 20 cm. spark, while another with the same primary energy will only produce a 5 cm. spark. This difference depends on a number of factors, as:

(*a*) On the number of ampere turns of the primary to that of the secondary windings.

(*b*) On the amount of space (air gap), on insulation between the primary and secondary, and also on the insulation of the winding of both coils.

(*c*) On the primary iron core, thickness, length, on number of wires and quality of iron core (magnetic lag).

(*d*) On the number of turns and thickness of the wire of the secondary.

(*e*) On the type of the interruption, whether the primary current is made perfect and broken sharply or otherwise.

In consideration of these facts a statement of amount of amperes and volts passing through the primary gives very little information as to the actual energy passing between the terminals of the secondary. It probably would be quite as correct to state the electrical energy of a static machine by measuring the amount of current passing through the electric motor driving its revolving plates.

Very early after the discovery of the *x*-ray it occurred to many to register the efficiency of an *x*-ray tube by standardizing the degree of *x*-ray light by the penetrating power of its *x*-rays through various dense metals. These consist essentially of varying number of superimposed aluminum plates and then evening them with the aid of a fluoroscope. Luck octinometers or skiameters are somewhat but not extensively used.

HOW TO JUDGE THE STRENGTH OF A TUBE.

As a standard for judging the strength of my tubes, i. e., for measuring the electric energy consumed by any tube, I wish to mention a method which is simple, cheap and that can be used on all coil and static machines or for any electric energy operating an *x*-ray tube. A separate shunt is introduced into the secondary, i. e., parallel to the *x*-ray tube by means of two sliding contact points. If the amount of electric energy is to be measured the points are brought within such a distance of each other that the energy passes between the points of the shunt-spark gap. This method will measure with comparative accuracy the length of the spark in cm. which a tube will consume. This taken in conjunction with a tube of definite size and distance of the terminals with a general statement of its apparent degree of vacuum—soft or hard—will give a fairly correct definition of its power. Of course, the fluoroscope must be used to give us information as another corroborative test, but the former method is of prime importance, because by its use we can prevent an excess of electrical energy passing through and around the tube and thus limiting the power of the tube as much as possible to the production of *x*-ray, with the avoidance of an excess of heat rays and possible sparking around the outer terminals of the tube. In this manner it is possible to find the spark length that the vacuum tube will show its greatest efficiency. It also serves the purpose of demonstrating a soft or a hard tube, provided the size of the tube is taken into consideration. Hence the apparatus, whether with induction coil run with 12 or 110 volts, or even more volts, as in some static machines, makes no essential difference, if the previous mentioned mode of measurement is used.

THE VACUUM AND ITS REGULATION.

Now with the strength of the current measured there are three other important factors to consider:

1. The tube—the vacuum.
2. The position of the anode, and the distance of the tube from the skin.
3. The length of time and frequency of the sittings.

For all practical purposes at present all tubes are of two types:

(*a*) In which the vacuum can be regulated and which may or may not be automatic.

(*b*) In which the vacuum can not be regulated and which are not automatic.

Both types vary as regards size, shape and position and shape of terminals. These conditions are of importance. The tubes which are extensively used are the Gundelach. This has a vacuum which can be regulated. The Mueller tube with vacuum which can be regulated and which besides is automatic. These two tubes will suffice to explain. It will be unnecessary to go into detailed description of them, as they are the tubes in general use.

The second type of tube, the vacuum of which is neither adjustable nor automatic, need not at present be considered, as they are scarcely ever used.

Roentgen, from a physical view, divides all tubes as regards their vacuum either into hard or soft. In the former a more or less perfect vacuum exists than in the latter.

Kienboch divides tubes into five divisions which correspond to the variations of the vacua:

1. Too hard tubes (no light, no *x*-rays).
2. Hard tubes (light, little contrast picture).
3. Medium soft tubes (good, contrast picture).
4. Soft tubes (large quantity of *x*-ray—not penetrating).
5. Too soft tubes (no *x*-ray—electric energy is converted into heat).

Alhers recognizes four divisions. These he establishes by the color of the bones of the hand on the fluorometer:

1. Hard (gray).
2. Medium soft (gray-black).
3. Soft (deep black).
4. Very soft.

The latter two divisions of Kienboch and Alhers are made from a practical standpoint.

It has been stated and it is generally upheld that fairly soft tubes give quicker and more effective results

than hard tubes, although Schiff recommends the latter for our therapeutic uses.

A few axioms in regard to the tubes may be enumerated and may be of value:

With the mode of measurement suggested it holds true that the higher the vacuum the larger the spark (in the shunt). A large quantity of fluorescence does not necessarily mean a large quantity of *x*-rays. It usually means a low vacuum or signifies a fresh tube. It depends on the composition of the glass used (or on the deposit of aluminum on the inner wall of the tube, as in old tubes). It is explained in this manner: In a fresh tube the particles of aluminum have not been deposited on the inner wall of the tube (i. e., not on the light hemispheres). In an old tube where this deposit has taken place there must be a larger amount of current for the same amount of glow, i. e., compared to a fresh tube, because electricity passes over the aluminum surface and passes to the anode. This shows that the glow depends on the amount of bombardment directed on the illuminated hemisphere.

The fluorescence should always be evenly distributed over one-half of the hemisphere. Irregularities, as bright areas, may denote a tube of high vacuum.

RELATION OF HEAT RAYS TO X-RAYS.

Do not use too soft a tube. It may not produce sufficient *x*-rays for the treatment of skin diseases. Suitable *x*-rays can only be produced in tubes of medium vacuum. In a quite low vacuum tube the electric energy is converted into heat rays. The fluorescence of tubes changes by long use, and especially by the use of excessively strong currents.

It is the aim to run a tube at its highest efficiency, i. e., to produce the greatest quantity of *x*-rays from the least current that passes through the tube. An anode that becomes red hot shows that the current in part in these cases is in part converted into heat and not all into *x*-rays. These are not to be used in skin *x*-ray work. In these cases more electricity is being passed through the tube than the vacuum of the tube can convert into *x*-rays. There must be a certain degree of vacuum, otherwise there is no conversion into *x*-rays. To explain: If a high vacuum tube and a 15-inch spark is passed through a terrific amount of *x*-rays is generated. The same spark in low vacuum tube the electricity is partly converted into heat, then the anode disintegrates, and even a puncture of anodal plate may occur—this may then lower the vacuum still more.

THE POSITION OF THE TUBE.

As to the position of the anode and the distance of the tube from the skin. The general consensus of opinion as regards the anodal plates is that the rays are thrown at right angles, i. e., the angle of incidence equals the angle of refraction. There are intratubal poles which vary in shape. Those that are flat are to be preferred; the rounded ones have distinct disadvantages.

The distance of tube is usually 5 to 15 cm., according to the strength of tube used. When enforcing parts beyond this distance the efficiency becomes less, if nearer a more rapid and intense reaction will probably occur. The distance is best measured from the focus of the anode; the size of tube is always stated. Also measured from the tube. My measurements have reference from tube because I mention size of tube, shape of tube and also its spark length and about its vacuum, etc., and it is as accurate as possible. Codman uses to demonstrate this fact the simple law of light or any other energy radiating from a point:

If A is the focal point and 2 twice the distance of 1, then 2 will be four times as large as 1, and the intensity of radiant energy reaching it will be one-fourth as great, i. e., the intensity of the *x*-ray raises inversely as the square of the distance.

Codman has also stated that the danger from burns, like the intensity of *x*-rays, varies directly as the time and inversely as the distance. Furthermore, he has stated that one exposure producing injury has been at a distance of 2.5 cm. for 5 seconds, and another at a distance of 60 cm. for 28 minutes and 48 seconds.

In practice the distance and length of time is constant, but as to the number of sittings of treatment is indeterminable beforehand. Sometimes twice daily or but once and again three times a week may be desirable. Again, the individual sittings may increase to 15 or even 20 minutes' duration. During the early manufacture of *x*-ray tubes the spark gap was utilized to distinguish hard and soft tubes for trade purposes, but latterly some other method is employed.

SUMMARY.

Now, after having considered all these factors: strength of current, tube, the vacuum, position of anode and distance of tube, length of time and frequency of sittings, etc., the dosage may be regulated by (1) increasing or decreasing the *x*-rays, (2) applying them in a more or less intense manner.

The former depends then on the tube used if the efficiency is measured as suggested, and not as to what kind of induction coil or static machine, or with the amount of volts or amperes. The latter condition is fulfilled by either increasing or decreasing the distance at which the tube has its best efficiency for working purposes, and also by the length of the individual and amount of total applications of the rays.

DISCUSSION

ON THE PAPERS OF DRS. HYDE, MONTGOMERY AND ORMSBY, PFAHLER AND SCHMIDT.

DR. W. A. PUSEY, Chicago—It is constantly said that we are in the dark, both as to the indications for the use of *x*-rays and as to the means of applying the agent, and that the whole question is still experimental. I wish to emphasize that these papers all indicate just the reverse facts. The writers are from different parts of the country and have arrived at their results independently, and yet they all present practically the same findings. I know of no method of treatment used in any disease concerning which the observers are more unanimous in their reports. Men differ as to the minor details, but in the larger and more essential facts it is remarkable that the agreement should be so close. I am pleased to find that the experience of the different writers and their opinions correspond so closely with my own.

I have reported my experience in the use of *x*-rays in malignant disease very recently, and, therefore, I will not attempt here any discussion or any report on my own cases.

Regarding epithelioma Dr. Pfahler refers to one case that got well after treatment was stopped. I have a most interesting case of that sort in my records now. In my article in THE JOURNAL of the American Medical Association, April 12, 1902, I recorded among other cases one of orbital carcinoma which I had discharged as hopeless. It was a carcinoma which had destroyed the eye, involved the entire orbital cavity and spread within the cranium. After two months' treatment he was discharged as hopeless on account of the development of evidence of rapid intracranial growth. There was at the time of his discharge an acute dermatitis over the affected area. This was on Nov. 25, 1901. On April 30, five months later, I received a letter from Dr. T. Sprague of Sheffield, Ill., reporting that the disease has all practically disappeared, "the patient eats and sleeps well, uses no anodyne and has no pain." In spite of the fact that this patient was given up as hopeless he continued to get better for six months after treatment was dis-

continued. It seems to me that such a case puts us in a position where we can not refuse to treat carcinomas, no matter how apparently hopeless they seem to be.

One of the statements most surprising to me is the one sometimes made that patients show no idiosyncrasy to *x*-rays. There is no question that patients vary enormously in the susceptibility of their tissues to *x*-ray effects. Some patients will give a reaction in two weeks, while other patients under similar conditions will not show the same reaction in less than two months, and I believe it should be emphasized that we must pay close attention to this factor in handling our cases. I was interested to find that Dr. Montgomery has used this treatment in acne, psoriasis and blastomycosis. I have recently reported, in the *Journal of Cutaneous Diseases*, my experience in acne. I have seen no method of treatment in acne give results so surprisingly successful as those following the use of *x*-rays. I have also used the treatment with success in chronic inflammatory processes like psoriasis. I have recently treated a very extensive tumor of the knee, in which a diagnosis of blastomycetic dermatitis was made on the histologic findings, and the case has gotten entirely well.

Dr. H. W. Stelwagon, Philadelphia—There is one point not brought out in the discussion—the protection of the operator's hands—that I would be glad to hear about.

Dr. C. E. Skinner, New Haven, Conn.—As Dr. Pusey has just said, the experience of almost everyone is identical in this matter. I have had some 45 of these cases under observation during the past seven months; 6 of them have recovered, and the vast majority of the remainder are showing marked signs of improvement, some of them very marked. With regard to idiosyncrasy I have been much impressed by the prominence which it assumes in the problem. Some patients will exhibit evidences of dermatitis after two or three treatments, while others will accept an enormous amount of raying without manifesting any reaction, apparently. I use pure sheet tin for protecting the sound skin, and it has given me entire satisfaction. Thick rubber sheeting is recommended for this purpose by Dr. Albert C. Geyser of New York, and it is perfectly effective as a protective. In addition it has the advantage of not drawing off current from the terminals of the tube. For the protection of my hands I use an ordinary glove backed with rubber sheeting, one-eighth of an inch in thickness.

My results in the matter of scar tissue after healing have been extremely good. I have observed contraction and hardening of the skin in but one case. The original pathologic condition in this case was a large, deeply broken-down sarcoma of the neck. It healed very rapidly, requiring only six weeks, and in some spots the skin is considerably hardened and tight. Relief of pain is a phenomenon that has followed the application of *x*-radiance in nearly every case that I have treated. This has held true even in the deep abdominal cases.

A fact that I consider worth mentioning is that the brush discharges from the positive pole of the static machine given in alternation with *x*-light during successive seances, will sometimes hasten the progress of a case. This was first suggested to me by Dr. William Benham Snow of New York, and I used it first on a case of lupus that was proving refractory to *x*-radiance alone. Since then I have seen it act most kindly on cases of superficial cancer that had broken down, and which were not apparently making any advance, or but little advance, under *x*-light alone.

Another point that has excited my attention is that discontinuance of the application of the rays after the patient has had a few treatments does not always mean cessation of the curative process. For instance, I recall one case of epithelioma of the lip, the size of a half dollar, which I had treated for several weeks with but the slightest evidences of improvement. He was then attacked by the grippe, which laid him up for five weeks. He then appeared for resumption of his treatments, but his cancer had in the meantime diminished to the size of a silver three-cent piece.

As to whether or not there is a choice as between the static machine and the coil, I will state that I use both. In the superficial cases I do not think it matters which is used, but in the deeply-seated cases the static machine is, I think, to be preferred. In many superficial cases the cure will be hastened by getting up a little dermatitis, and here the coil through its unquestionably greater tendency in this direction, offers a questionable superiority. In deeply-seated cases, however, the end to be attained is penetration with as little integumental disturbance as possible, and here the static machine undeniably has the advantage.

With regard to what Dr. Schmidt said, that the anode of the tube should not be heated red hot for the purposes of x-ray therapy, I will state that my anodes are nearly always red hot and frequently white hot. It seems to have made no difference and the cases have gotten well just the same. In the case of the large sarcoma of which I have just spoken, I used a static machine and pushed the tube as hard as I could at each treatment, and the anode was always white hot, yet he got well with only seventeen treatments. This tube also, by the way, was of high vacuum, which I think disproves the idea that many of us used to hold, that coil currents and low vacuum tubes constituted the only apparatus capable of curing cancer. I do not think that heating anode exercises any influence on the curative properties of the rays, except in so far as that the radiance reflected from an anode excited to this degree ordinarily possesses greater penetration and greater volume than when the anode is backing up a current, the intensity of which is low enough to allow it to remain cool.

Dr. C. W. Allen, New York—I think this Section has the distinction, and I regard it a proud one, of being the first gathering of scientific men in this country to acknowledge and to put on record the fact that the *x*-ray treatment of some skin diseases and of certain cancerous diseases is no longer in the experimental or doubtful stage. I had watched the work of Dr. Pusey and watched it carefully, and I saw results from his work which I did not know how to obtain in any other way, and so I took up *x*-ray therapy to aid me in my work, and it has aided me materially, and I would be very loath to-day to give it up. I think with the aid of the rays we can obtain results that can be obtained in no other way. I am not in a position to say to-day that *x*-rays will cure cancer, but I can say that with their aid one can cure many cancers. You have got to have behind your *x*-rays a knowledge of the conditions present, a knowledge of your patient and a knowledge of medicine; you have got to study the case and use at times other measures, and always care and judgment. The doctor who knows what he is about can cure a great variety of cancer with the aid of the *x*-rays. But I think a note of warning should be sounded, and if I do nothing else to-day I want to say that I believe unless we move very carefully *x*-ray treatment will fall into disrepute and it will get a black eye. Patients will die now and then and there will come a public resentment against it because a next-door neighbor died quicker under the rays than he might have died without them. The *x*-ray is a powerful remedy to use, and you can kill with it as well as cure. You say you can not experiment, and you turn severe cases over to the man with the *x*-rays. It is possible that radiotherapy may hasten the death of those patients. They are suffering from a severe disease, and you are going to use something to get rid of the poisonous material that is in the system. That patient needs the most careful and conscientious physician, and that patient needs watching from moment to moment, and the treatment may save.

I am glad to hear Dr. Pusey speak of that patient who recovered after he had given him up. I can report a somewhat similar case. I treated a physician for cancer of the rectum who showed great improvement, but he had to stop treatment because of an intercurrent trouble. He had improved for two or three weeks, very markedly, but he had to stop. He was in such a condition they had to give him chloroform, and after a few days all the physicians who saw him said he was going to die. In twenty-four hours another consultation was held, and they said he would probably not last over forty-eight hours, and all attempts at medication and nourishment were stopped, as nothing could be retained. His condition was surely most grave. Suddenly, however, he began to improve, his severe symptoms gradually disappeared, and in time he began to

retain nourishment and then to sit up. He says he is going to resume the *x*-ray treatment, which he is sure has been of great benefit. I think the effect of the *x*-rays is still going on in his case, and that he is still benefiting from the treatment long after it was interrupted.

I have had some interesting cases. A boy of 15 has xeroderma pigmentosum and multiple epithelioma of the face. The eyes are involved and one has been destroyed. He is not cured yet of the lesions, but will be, I trust, after further treatment with the *x*-rays. The other eye is improving very much, and I hope it may be saved.

In another patient there was an ulcer on the side of the nose. He was treated in various ways by many physicians for two years, but the ulcer would not heal. I gave him twelve *x*-ray treatments and it healed up with a good firm cicatrix.

The *x*-rays are now being tried in all kinds of skin diseases, but probably after a year or two we will use them in a very limited number of cases only, perhaps in obstinate and persistent diseases like psoriasis, lupus, sycosis and some others.

I want to say a word about the idiosynerasy to the *x*-rays, for I believe we should all be concerned with the idiosynerasy of the various cases that come under our treatment. Individuals can not all be burned alike from the sun, and there is no reason why the *x*-ray should produce the same effect on all subjects. When Dr. Pusey was in New York he came to see me, and in showing him my technic I exhibited several patients, and I burned at least three patients the day he was there. Up to that time I do not think I had a burn, but I was letting my light shine, and perhaps let it shine too much. I asked him to criticise my work, and he answered in a very kindly spirit, "The only thing I can criticise is that you are using too great intensity of light." The results seen a week later proved the correctness of his judgment, of which I was conscious at the time. I believe you can burn almost any patient. I do not think it is only the occasional patient who has the idiosynerasy; you can burn almost anyone if you go about it, and conversely most burns are preventable.

DR. G. B. MASSEY, Philadelphia—In connection with the question of *x*-ray burns of the hands I may quote a suggestion that a pair of gloves might be painted with metal paint, such as silver or bronze paint. It was claimed that such gloves were opaque to the rays.

I am convinced there is great value in the *x*-ray treatment for some forms of superficial cancer, and yet it seems to me in these skin cancers we have means already at hand that will be much quicker and surer, in the shape of zinc and mercury cataphoresis. So far as I have seen, these superficial skin cancers could be completely destroyed by this method in thirty minutes, and possibly under the use of cocain without general anesthesia. In the use of this zinc-mercury cataphoresis small points of zinc are amalgamated with mercury and inserted into the growth for the formation of oxid of mercury and zinc, under electrolysis, the product being diffused by cataphoresis. This application by cataphoresis devitalizes the whole of the growth, and at the same time sterilizes the slough and a region surrounding it. I had such a case on a man's arm, recently brought to me, which had been diagnosed as epithelioma. It was about three inches long and little more than skin deep. The skin had been destroyed and the disease had involved some of the superficial layer of the muscles of the forearm. He was a workingman, and was brought in by his employer, who was very anxious not to lose his services. I told him it was a case in which the *x*-rays should be tried, but it would take some time to ascertain if they would be effective. There was also a slight possibility of burn. On the contrary, if he wished the cataphoric method tried he would have to go to bed, would have to be prepared for an operation, hire a nurse, and would have to lay off for some time, but the chances were certain that the growth could be destroyed in thirty minutes. The patient selecting cataphoresis, the arrangements were accordingly made, and the method applied at his home under general anesthesia, and a current of 350 milliamperes. I prepared a leash of fine wires, twenty-five in number, and attached to each a zinc needle, amalgamated with mercury at the tips. The wires were plaited in groups of six, so that the wire would not snarl during the operation, and when the current was turned on the points were thrust into the growth in close proximity. So rapid was the effect that when five or six points were inserted the first of the series had to be withdrawn, as we wished only a slight action. In thirty-five minutes the whole growth was destroyed, an area of about three and one-half by three inches. He had no pain the next day, the nurse was sent home, the man lost only a few days' time, and it is completely healed. This is an illustration of the fact that we may be going a little too fast with the *x*-rays. I have recently applied the method just described in a minor way in a case of tuberculous glands of the neck, and succeeded in healing six or seven large tuberculous sinuses of the neck that have been open for six or eight years. The other side of the neck had been thoroughly scarred up by repeated curettements. So promising was the result that I thought I had the patient nearly well, but six months later a general swelling began, showing that there were a large number of slightly-enlarged glands deep down in the neck. I then used the *x*-rays to the swollen part, and she is improving steadily without any particular dermatitis being apparent.

DR. W. T. CORLETT, Cleveland—I think we are all agreed that the *x*-ray treatment in some diseases of the skin, and especially in epithelioma, has passed the experimental stage, and is a very valuable therapeutic agent that is going to stay. Doubtless we all have our favorite methods of treating slight epithelioma. For a number of years I have used electrolysis, which I have found excellent and most efficient. It has many points in its favor, but all cases can not be treated in this way. There are a certain number of cases that are inoperable by the knife, by caustics, or by any method hitherto employed. In such cases the greatest value of the *x*-ray may be found. Recently I had a case under treatment of epithelioma of the face involving both eyes, in which I had endeavored by various methods to eradicate the disease; electrolysis had been used, caustics had been thought of, but on account of the eyes it had not been attempted, and even surgeons had held out little hope. We were then considering the use of the *x*-ray—at that time I did not know that the *x*-ray was harmless to the eyesight; in fact, I was devising a pair of metallic spectacles to protect the eyes, when the patient disappeared. Some months later the patient came back to the clinic practically well. He said he had been to Edinburgh for treatment, and when I took him downstairs and showed him what we were doing he was very much chagrined to think he had taken such a long journey. I repeat, in such cases we get possibly the greatest benefit from the *x*-rays. Aside from epithelioma, treated of so ably by the other speakers, I have used the *x*-ray in other diseases of the skin. In a well-marked case of eczema, I resorted to different methods of treatment without much avail, when finally she was subjected to eight exposures of the *x*-ray, with a complete disappearance of the eruption. My first experiences with the *x*-ray were followed by disappointment. I did not know the importance of the tube, and that much depends on the one selected for different uses. Nearly three years ago I exposed a case of lupus erythematosus to the *x*-ray without any benefit. Twenty exposures were made. I finally discovered that tubes used continually soon become hard, and that I had been using a hard tube. I believe many failures in the use of the *x*-ray occur from improper tubes and faulty technic. I regard, therefore, Dr. Schmidt's experience as to technic as an extremely valuable contribution.

DR. R. R. CAMPBELL, Chicago—That idiosyncrasies do exist in this as well as in other lines and methods of treatment was pretty conclusively demonstrated to my mind in a case of tuberculosis verrucosa cutis which I had had under treatment for some time without any apparent improvement. I finally concluded to burn him. I took a tube of low vacuum and placed it at a distance varying from one to five inches from the seat of the eruption. After two weeks of daily exposures of 15 minutes each, I succeeded in burning the patient; the patient then disappeared for two weeks, and on his return, rather to my astonishment, the disease was almost well, and the dermatitis had almost subsided. I worked for 10 days to burn him again, then allowed the patient to stop all treatment

for a month, at the end of which time all evidence of the disease had entirely disappeared. This experience is quite in contrast to that of Kienboeck, who claims that idiosyncrasy does not exist. While we would hardly expect a recurrence in psoriasis to appear within a couple of months, I was glad to hear Dr. Montgomery's results in treating the disease with the *x*-rays. My experience in treating acne and rosacea with the *x*-rays quite corresponds with Dr. Pusey's, and I have obtained most satisfactory results in the treatment of intractable cases of both of these conditions. Varney, in discussing the treatment of lupus by the *x*-rays, compared the stimulating influence on the tissues with the similar action and results of Finsen's phototherapy. He stated the results are about the same, except that the *x*-rays are somewhat more rapid in their action with shorter exposures, and larger areas may be treated at a sitting. The treatment by *x*-rays is painless; its exposures are of shorter duration and the areas treated may be of almost any size and location. In the treatment of malignant conditions by the *x*-rays, considerable area beyond the actual lesion must be exposed, while in the treatment of lupus and like diseases only the active condition or surface is to be exposed.

Puncturing of a tube is, as a rule, the result of increasing the sparking pressure of the electrical current beyond the internal capacity of the tube. Certain applications of the foil to reduce a high resistance increase the risk of puncture to the tube, as the foil approaches the cathode or anode and in proportion to the sparking pressure of the bombardment.

Dr. Beverley O. Kinnear, Clifton Springs, N. Y.—I have believed for a number of years that the central nervous system has much to do with the origin of skin diseases. I have treated a number of cases of eczema and herpes zoster, successfully and speedily, by the application of cold over the spine in the Chapman spinal ice bag. From this experience it seems to me that there must be an excitement in such disorders of the vasodilator nerve centers, which anatomically terminate in all tissue cells, and this may lead at first to redness and arteriole dilatation of the cutaneous blood vessels, with thickening and exudation, accompanied by itching and burning; or if it goes further to elevation of the cuticle and fluid exudations, as in eczema, and herpes zoster, according to the force of the nerve current. Then the query naturally arises, whether the nerve central excitement is not the direct cause at least of the skin disorder, though there may be underlying causes which induce the hyperemia, or excitement, or increased function, of the nerve centers supplying the skin. I ask also whether in the use of the *x*-ray any effect has been noted on the arterial circulation. Cold over the spine in spinal ice bags of the proper width will induce activity of the circulation all over the body, giving rise thereby to rapid molecular change, and I have healed large ulcers and absorbed exudations by this method of treatment. I would like to ask if any expert in the use of *x*-ray treatment has observed increased activity of the arterial circulation under the use of the *x*-ray. If this be so, I think it one way in which we may account for the results obtained by the *x*-ray in cases of epithelioma.

Once more, let us take the burn produced by the lighted end of a cigar—a most painful burn. The most efficient and speedy way to relieve the suffering caused by such a burn is to hold the injured part over a lamp or a hot fire. The suffering will be much increased for a few moments, but the cure is radical, and the pain ceases. May it not be possible, then, that the burn induced at times by the *x*-ray will act beneficially on an epithelioma, inducing a sedative action on the excited nerve centers; which excitement may be the direct cause inducing the epithelioma?

Dr. H. R. Varney, Detroit—In answer to the question of the last speaker regarding the effect on the circulation, in applying the rays to the tail of the tadpole, there seemed to take place a change which was, I think, almost identical with a normal inflammation. I watched it before and during long exposures. The first change apparent was a slight increase in the blood current, followed very shortly by a slowing of the same. There was an increase in the number of blood cells, the white increasing more rapidly than the red. The white corpuscles passed through the lumen of the walls and surrounding tissue until the whole area was a field of cells. In producing the physiologic effect of the rays, what I deem an erythema, or a dermatitis, is produced, and I believe this condition to be a normal process of repair, an ordinary inflammation of tissue. My experience with the rays in the treatment of epithelioma and other skin affections, has been to produce a physiologic effect. I find it can be done more safely with a static apparatus than with the coil. I give daily exposures until this effect is produced, when the patient is discharged for ten days or two weeks, after which, if it be a case of superficial epithelioma or ulcer, he returns practically, if not entirely, healed.

Just here, I would like to ask the men who are working along this line, whether they have noticed any severe cases of rheumatism reflected after exposures to the ray. I have several such cases after treatment has been given from a week to a month, and for the first time in the history of the patient. I would like to know whether any increase of solids has been noticed in giving this treatment, and if a toxemia is not produced, that will account for this painful condition resembling rheumatism.

Dr. M. L. Hiedingsfeld, Cincinnati—My experience at the present time dates a little over a year, and for the treatment of certain conditions, lupus vulgaris, dermatitis hiemalis,[1] and for certain forms of epithelioma, I am very favorably impressed with its use. I am also very favorably impressed with the relief which *x*-rays afford to the distressing symptoms, which occasionally accompany keloid, and recall one case, keloid of the left arm in a physician's wife following a burn from cleaning a full-dress glove with gasoline, where the relief has been almost a godsend. In some other conditions I am not so favorably impressed, particularly the treatment of alopecia areata after the method of Kienboeck. The obdurate character of several of these cases[2] which successfully resisted for more than a year all ordinary therapeutic measures recommended: chrysarobin, oil of mace, glacial acetic acid, pyrogallis acid, cantharides, etc., induced me to try the *x*-rays. A favorable case of alopecia areata circumscripta with multiple patches afforded me an opportunity to determine its efficacy by means of a control experiment. The *x*-ray was limited to one patch, another was left untreated and the remaining were subjected to the action of trikresol as recommended by McGowan of California. After an interval of about twelve weeks the patches treated with trikresol were richly covered with a luxuriant growth of lanigo hair and the untreated area and the area exposed to the *x*-rays remained unchanged. Trikresol was then applied to the remaining patches, with the result that the untreated area promptly recovered its hair, and the *x*-ray area has made but little improvement after a subsequent interval of almost two months. The *x*-ray has, therefore, retarded rather than aided the progress of this case.

Another affection, in which I believe the *x*-ray is not always productive of the best results, is lupus erythematosus. My experience may have been singularly peculiar in this affection, but every case which has been subjected to *x*-ray influence, however brief, has been followed by a rather intense and distressing reaction.

Dr. David Lieberthal, Chicago—About a year ago I was still skeptical about the value of the *x*-ray in the treatment of cutaneous cancer after having subjected it to a case of epithelioma, developed on the scars of lupus vulgaris, for a period of three months without beneficial results. Shortly afterward the epitheliomatous matter was removed by Dr. L. Greensfelder at the Michael Reese Hospital, the defect being covered by a flap, the results of which operation he will report in the near future. But since I saw the excellent results which Dr. Pusey exhibited I lost a good deal of my skepticism and I am employing the *x*-ray now in epithelioma as in various affections of the skin.

Although we can not expect to obtain good results in every case, we have nevertheless a valuable method in the *x*-ray. As in deep-seated or extensive carcinoma it is well first to ascer-

1. See discussion on Dr. Corlett's paper on dermatitis hiemalis, The Journal A. M. A., Dec. 20, 1902.
2. Cincinnati Lancet-Clinic, September, 1902.

tain the opinion of the surgeon, so it would be advisable to consult the dermatologist before the *x*-ray is applied for an affection of the skin.

Regarding my own experience with it, I can report the following: Two cases of epithelioma originating from senile warts, both cured; five cases of ringworm of the scalp in which from six to twelve exposures produced total alopecia in the areas treated and in which the slight irritation soon subsided, and subsequent repeated attempts at cultures from the hair follicles proved negative; and one case of cutaneous tuberculosis which yielded splendidly and is healed over. Cases of acne rosacea and psoriasis showed improvement.

DR. PUSEY—I have not seen rheumatism that could be apparently attributed to the treatment with *x*-rays. Several gentlemen have spoken in this discussion about some poison being liberated in the system from neoplasms degenerating under *x*-ray treatment. I believe that there are no good grounds for such assumptions. It is theoretically possible that such a liberation of poisonous material might occur, but I have seen nothing to indicate that it does. I have seen large masses of carcinoma tissue and of gland tissue in Hodgkin's disappear, and I have never seen any symptoms to indicate that there was a liberation of any substance in the destruction of these tumors that in any way affected the patient's condition.

DR. C. E. SKINNER, New Haven, Conn.—In deeply-seated abdominal cases my experience so far has been that we do secure improvement usually and that we ought not to consider the rays inefficient in this situation as yet. It is only a question of how far the improvement can be carried. Up to the present time the improvement which I have noted has consisted of increase in weight, relief of pain, increase of appetite, and lessening of discharge where any was present. In one case of cancer of the uterus involving the bladder and rectum, improvement along these lines was marked and in addition the growth itself had diminished in size as a whole. All of a sudden, however, she developed uremic symptoms and died in a week. In view of the fact that she had been improving markedly up to this time, the sudden development of renal trouble might be construed as indicating that a toxin of some sort had been developed or liberated. I think we ought to be careful to recognize and weigh all the elements that appear in these cases.

DR. MONTGOMERY—Dr. Allen has very properly called attention to the danger of radiotherapeutics in the hands of the unskilled and inexperienced. We shall be fortunate, indeed, if, for a time at least, more harm than good is not done with this comparatively new therapeutic agent as the result of its indiscriminate use by those who lack the requisite skill for its successful and safe administration. Papers like the excellent one just read by Dr. Schmidt, giving full details of technic, will be of great value to those desiring to take up this work; but even with full instructions the beginner can not be too cautious in acquiring the experience necessary to a safe use of this somewhat uncertain therapeutic agent. There is a tendency to use the rays for all sorts of cutaneous and other disorders for which we have no other specific treatment, and there is no doubt that we are all using them now in a tentative and experimental way in cases for which the older and better understood methods will prove to be preferable. In other words, it is probable that as our experience enlarges we shall find that radiotherapy and phototherapy, while exceedingly valuable in certain disorders, will have a narrower field of usefulness than that in which we are now trying to apply to them. We have had good results in a few cases of acne and rosacea. Dr. Pusey refers to the use of the rays in a case of blastomycosis. In two of our recent cases, areas which persisted after a long course of potassium iodid disappeared quite promptly after a few exposures to the *x*-ray.

The matter of personal idiosyncrasy is, I believe, an exceedingly important one, and I am glad that the other men have spoken so strongly on this subject. Practically the only guide we now have in the treatment is the reaction in each individual case.

It has been suggested by two speakers that the Finsen light was for all practical purposes identical with the *x*-rays. The immediate results of the treatment are quite different. With the Finsen light an exposure of ten or fifteen minutes will result in a dermatitis often vesicular or even bullous. Reaction occurs within twelve hours and disappears in a few days. No deep burn is ever produced. On normal skin pigmentation follows such a reaction and serves to protect the tissue from the light, so that a second treatment produces, as a rule, little or no reaction. In the diseased areas this protective pigmentation does not take place, and the reactions to successive exposures are like the first. With the *x*-rays, on the other hand, not only is the reaction slower in appearing, more persistent, and deeper seated, but reactions to successive treatments on both normal and diseased areas come, as a rule, more promptly and are more severe than those obtained from the first application. As to ultimate differences, we have found cases of lupus erythematosus and at least one case of lupus vulgaris in which the Finsen light has proven more effective than the *x*-rays. In at least one case of verrucous tuberculosis and in some other cutaneous affections the *x*-rays have given excellent results where none was obtained with the Finsen light. Our experience is as yet too limited to let us determine accurately the factors which cause one method to be more effective than the other in a given case.

DR. PFAHLER—I want to correct the statement of Dr. Pusey that I said no case of cancer had been cured. My paper states that cases have been cured and others are still improving under treatment. Another point that was brought out in the discussion was the protection of the hands of the *x*-ray worker. I use a mitten made of chamois skin covered on the back with lead foil and a piece of adhesive plaster over the foil. In regard to the point of heating the platinum anode, I always have my anode red hot, often white hot. I fully agree with Dr. Corlett and Dr. Allen that this is not only a very valuable therapeutic agent, but also a dangerous one.

DR. SCHMIDT—I think a large number take no precaution whatever to protect the hands of the operator. In fact, I think there is nothing to be applied or that can be applied to prevent the *x*-rays doing any damage, if an idiosyncrasy of the individual exists. The patients that come to us with *x*-ray dermatitis are those who do a great deal of photographic work. They handle chemicals and then possibly with the action of the *x*-rays a dermatitis is readily set up.

In regard to what Dr. Skinner said about heating the anode red hot or white hot, I am pretty positive that when we take a large number of workers in this field they will agree, if such a condition occurs, the tube is of a very low vacuum, and in addition to that, there is an excessive amount of electricity passing through and some of the electric energy is converted into heat rays instead of *x*-rays. If any such condition exists for a long time, a puncture of the anode may readily occur.

TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR.*

CHAS. E. THOMSON, M.D.
SCRANTON, PA.

For fifty years or more we find a sentiment pervading medical literature on the subject of fracture of the neck of the femur; that it is an irreparable injury; that a large percentage of these cases, being old, die of the trauma and shock following the accident, or the complications incident to it, viz.: Hypostatic congestion of the lungs from recumbent position or sepsis from bed sores; that the majority of those cases who live remain permanently disabled, getting about only on crutches or canes, on a badly deformed or functionally weak limb, the so-called "fibrous union." In support of this sentiment allow me to quote from the days of Sir Astley Cooper down to the latest literature obtainable, as taught in text-books on surgery, medical journal articles and medical schools.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

THE OLD TREATMENT.

Cooper.—In reference to the first-named author, that great surgeon admits that he had never seen bony union in a case of intercapsular fracture of the neck of the femur. His treatment consisted in placing the limb on a long pillow for ten days or two weeks, afterward allowing the patient to be up and about on crutches.

Samuel D. Gross, in his admirable work, Vol. I, p. 1027, commenting on the treatment of Sir Astley Cooper twenty years ago, considered it too pessimistic and added that for many years he had been in the habit of treating fractures of the femoral neck (intercapsular) as any other fracture of the femur, viz., extension and counter extension, not with the hope of obtaining bony consolidation, but with the view of keeping the ends of the fragments in more accurate contact and thus affording them an opportunity of becoming united by fibro-ligamentous tissue.

Agnew.—Writing one year later, Vol. I, p. 931, the great Agnew also criticised Cooper's treatment and advised treating fracture of the femoral neck on the same general principle as fractures elsewhere in the bone, viz., by extension on a straight or an inclined plane, adding that we have seen enough of fractures that were "believed" to be intercapsular recover with bony union to justify such procedure.

Eckhart Mines, Md., *North Carolina Medical Journal*, January, 1885, Vol. xv, p. 309. Youth of 18, crushed by fall of coal. Two inches shortening, inversion, no crepitus. Diagnosis: "The readiness with which the leg is brought down, absence of crepitus, coupled with the fact that after five weeks no attempt at union, nor discoverable callus thrown out, warrants me in believing that the fracture is within the capsule. Treatment: leg supported by pillows three weeks, Porter's modification of Smith's ant. splint, two weeks, further treatment useless. Allowed on crutches. Condition at writing: Shortening apparent enough, wears a high heel and walks with a peculiar rolling gait."

Dr. Swing, Coatesville, Pa.—Lost 16 cases out of 18. All died in from six to nine weeks. Ages 70 to 80. Treatment: extension, counter extension and weights to limb and sand bags. Cases developed bed sores.

In subsequent case allowed patient to move about on mattress, got well with shortened everted limb, but could walk about her room last year of her life. Two years later second case could walk with crutches after two months, limb shortened and everted, lived one year. The doctor considered "the only rational" treatment to be to allow patient to move about on mattress of hair. He finds they will get well if spared the necessity of useless apparatus and will recover with as good a limb as they are likely to have if they could survive the torture of the apparatus. This treatment saves life and suffering. All treatment should have these two ends in view, rather than the glorification of the surgeon in displaying his skill in adjusting apparatus and setting limb. He feels sure that some of his cases would have gotten well if they had been "let alone" instead of receiving the orthodox treatment. He concludes by saying "the surgeon is not a mechanic to adjust appliances, but one whose judgment and experience should determine their necessity."

Everhart, Scranton, Pa.—I am indebted to Dr. Everhart for report of the following case: Mrs. H., aged 71, in 1896 fell down stairs, was picked up and put to bed, about ¾-inch shortening, suffered considerable pain, but did not have much deformity for four days, when she suddenly sneezed and at the same time felt something give way in the hip. Upon measuring the hip 1½ inches shortening was found. The limb was markedly everted.

June 7, 1902: patient is still in bed, where she has remained for six years; 2 inches shortening, marked external rotation. Patient suffers great pain in hip, which is aggravated on slightest movement.

Corser, Scranton, Pa.—I am indebted to Dr. John Corser for report of the following case: Mrs. C., aged 65, in 1887 fell, fracturing her hip; patient was put to bed, where she remained for 15 years, when she died of exhaustion. During all these years was unable to walk or help herself in any way.

W. Pugin, Thornton, April 2, 1894.—Patient, aged 87, was knocked down by horse, chloroformed, crepitus found, long splint, four nurses for 3 weeks. Water bed for one month. Got bedsore while on water bed. May 2 splint taken off and sand bags used. Four and a half months in bed, now goes about in bath chair; is able to walk a short distance with crutches. I do not expect he will improve much in this respect on account of his age.

Oscar H. Allis.—*Medical Times*, August, 1883: "From first to last I make the patient my first care and regard the fracture as of secondary importance." He recommends getting patient up in rocking chair at end of first week, and from the first daily shiftings in bed. He thinks that getting patient up daily, carefully, does not produce separation of fragments. "In conclusion, I ask what has been, is and must ever be the outcome of all this? Will the surgeon risk his little all for the good of his patient or must he steer his course for that true but selfish standing, 'Self preservation is the first law of nature.'?"

Henry Lehenan.—Read March 19, 1894, before the Philadelphia County Medical Society: Mrs. ———, aged 60, fell Jan. 23, 1881, while attending household duties; was not dizzy at the time. Saw her first Jan. 24, 1881. She was then lying on a couch and was unable to stand or move about. On examination, from the preternatural mobility, intracapsular fracture was diagnosed. My attendance was continued at intervals during the months of February, March, April and May. She was not able to help herself in any way. By help she could be gotten on a Charleston chair, and this was the only treatment attempted. The most of her pain was in the adductors; there was shortening and eversion of toe. She continued in the same room and on the same couch and chair until I was called to see her, Jan. 6, 1884, when I found her dying from exhaustion. She died January 8. Permission was granted to examine the hip. Specimen here presented was obtained. The acetabular cavity was normal in appearance. The head of femur lay in cavity free. The socket and head of bone were covered over with a membrane firm but somewhat incomplete. Upon this surface the upper extremity of the femur had formed an artificial joint, the neck having been absorbed. In the surrounding tissue on the inner side was a fragment of bone 1½ inches long.

Scudder.—"In case of fracture of the neck of the thigh bone occurring in elderly individuals, treat the patient and let the fracture be of almost secondary importance." Again: "The impacted cases will unite; the unimpacted may unite." And again: "In only two cases out of sixteen could it be said that the leg was functionally useful."

Park.—"Treatment must be so ordered as to save life even at the expense of an imperfect leg."

Berger.—Gould's Year Book, 1897, p. 357: "In articular fractures those only in which operation is justifiable are about the elbow and knee, because an imperfect result here means a most grave functional loss."

American Text-Book of Surgery.—Page 310, 1892, recommends extension and fixation with sand bags and plaster of paris, and in ununited fracture reports that several cases have been cut down on but fail to give results of such operations.

Curtis.—"In certain cases, of over 60 years of age, give up the idea of bony union."—From lectures on surgery, University of New York.

From the above it is apparent that at least a goodly number of our authors have been rather skeptical about obtaining bony union in those cases, and in discussing the subject, both in medical societies and in private conversations, I find the average practitioner—under whose care those cases are usually treated—is satisfied if his patients are able to hobble about on crutches for the remainder of their lives, nor has this pessimistic standing been confined to cases treated by ordinary methods and general practitioners.

THE OBTAINING OF BONY UNION.

BRYANT.—Having reported 6 cases from König, Cheyne, Myre, Gillette and Curtis, all of whom obtained firm bony union and strong useful limbs, Dr. J. D. Bryant, in his valuable work on operative surgery, vol. ii, p. 1279, 1901, concludes as follows:

"There is yet a reasonable doubt regarding the advisability of this operation except in special cases. The difficulty of securing and maintaining proper adjustment of the fragments because of the lack of command of the inner portion, its porous character and low vitality, present obstacles to success that can not be gainsaid. The degree of shortening that follows the successful results suggests an initial failure of reduction of the deformity or the maintenance in proper place, and bespeaks in any event a considerable amount of absorption at the seat of the fracture. A more extended experience is needed and a careful comparison of the favorable results by different methods of treatment is required before a final judgment can be recorded."

BERGER.—Gould's Year Book on Surgery, 1897, p. 357: "In articular fractures those only in which operation is justifiable are about the elbow and knee, because an imperfect result here means a most grave functional loss."

Is not the hip joint an important one and quite as worthy as the elbow and knee of our special consideration? I am pleased to add Cases 5 and 6 to the successful operative list, and hope that others may be added in sufficient numbers to put the operation out of the experimental class beyond all doubt, even in the minds of the most skeptical.

Among the authors that have written more hopefully on this subject are Hamilton, Wyeth, Dennis and Ridlon.

RIDLON.—The last-named surgeon, in his excellent article on treatment of fracture of the femoral neck, Annals of Surgery, July, 1901, has so fully expressed my views that I take the liberty of quoting from it as follows:

"Let me assure you, gentlemen, that in all these cases a strong and useful limb, in good position, may be as confidently anticipated as in any other fracture of this bone or any other bone. In no other fracture is the surgeon's task easier; in none is a good result more certain." Again: "I believe we can only treat the patient properly, by properly treating the fracture from which she is suffering and likely to die." And again: "The average surgeon treats fracture of the neck of the femur precisely as he treats a solution of bony continuity where he aims to get a false joint; and, verily, he usually has his reward. My plea is simply this: Show the fracture at the neck of the femur the same consideration that you show all other fractures. It is useless to quibble about fractures within the capsule and fractures outside the capsule; fractures impacted and fractures unimpacted; about the thin, weak bone of fat old women; these cases invariably result in strong and useful union if they are given a fair chance."

I cannot possibly improve on the above quotations, nor write anything that more aptly expresses my views. I could never understand how any thinking man can pretend to benefit his patient in any way by leaving a fracture unreduced and unimmobilized. I suppose men who have never reduced nor immobilized a fractured femoral neck cannot be expected to have noticed the great relief given to a patient by such a procedure.

METHOD OF TREATMENT.

I regret that I have to differ from my friend, Dr. Ridlon, in his method of treatment, yet I believe he has the most complete and efficient apparatus ever devised for the treatment of fracture of the femoral neck, but such apparatus is made well only by skilled mechanics, whose work is expensive and hard to obtain when most needed. Then, again, each case requiring a specially made apparatus, a number of circumstances may arise causing long delay and loss of valuable time, while the patient is suffering from unreduced fracture and the friends are impatient because the limb has not been "set." All this care may be obviated by the surgeon who carries in his satchel sufficient material, and in his brain sufficient intelligence, tact and skill to make a plaster-of-paris spica. That a surgeon should stop before he really commences to treat a difficult case and wait for the whims and efforts of a mechanic is surely a reflection and a humiliation on modern surgery and should not prevail. Then, again, I think my friend has rather overestimated the task of putting up a fractured femoral neck in plaster-of-paris spica. Beside the man who is giving the anesthetic, all that is required is a McBurney hip rest and one assistant with sense enough to do what he is told, and strength enough to make the necessary extension. Then, again, they speak of disturbing the fracture by changing the plaster. I have never found it necessary to change a plaster cast on one of these cases, and have frequently left them on three months, or long after the patient was up and going about. It is not necessary to get these casts soiled, and as to excoriations and bed sores, they simply never occur, if the plaster is properly applied. On the contrary, I frequently put on a plaster-of-paris spica to cure a bed sore; by so doing you can distribute the pressure and support the circulation, two very important factors in the treatment of bed sores.

What cases should be operated on? No recent case. Why operate when we get such excellent results without operation? The two cases I have operated upon, of three and eighteen months' standing, respectively, were not even diagnosed before I saw them. I think a fair rule would be that any case that remained ununited for three months and had received judicious care, would be a case for operation.

Dr. Bryant has said, Operative Surgery, vol. ii, page 1287: "In operating on cases of ununited fracture the refreshing of the ends of the fragments is a necessary step in the technic." I made no attempt to freshen the ends of bones in my cases and yet I got prompt and firm union.

The method of treatment I have used and intend to recommend, simply carries out the principle of treatment of fracture in any other bone in the body, viz.: Reduction of fracture and retention of fragments in corrected position, for sufficient length of time to allow Nature to make the necessary bony repair. This I believe to be best obtained by anesthetizing the patient, so as to relax the muscles and enable the surgeon to ascertain the exact nature of the injury and more completely replace the parts. Impacted fractures should be very carefully handled. In fracture of the femoral neck this is best accomplished by having an assistant make forcible extension on the limb (while a second assistant, the anesthetizer, makes counter extension from shoulders) until it is drawn down to equal length with its fellow, while the operator manipulates the upper end of the bone, reducing the fracture as well as possible; and holds it while the assistant carries the limb into abduction of about 10 degrees. This position of abduction has a tendency to hold the fractured ends together, and facilitates in keeping the patient clean afterwards. The operator now applies shaker flannel bandages to the entire limb and body, as high as the arm pits, amounting to about four layers. Over this is applied plaster-of-paris dressing (reinforced with soft steel plates at hip and knee) sufficiently strong to maintain the form. During the application of the spica the limb is constantly held by the assistant in extension and ab-

duction as noted above. Care must be taken for the first twenty-four hours that undue pressure or strain is not brought to bear on the plaster before it is sufficiently dry to resist. If at any time the patient complains of pain over prominent parts, as the knee or malleoli, a portion of the plaster may be removed to relieve the pressure. After the plaster has become sufficiently dry the patient may be turned from side to side to relieve the hypostatic congestion of lungs, or for the purpose of bathing. If the spica is continued sufficiently high on the thorax it will not materially interfere with respiration. It is only when it ends at the free border of the ribs that patient complains in this respect. By this method of treatment the patient is enabled to materially assist in the use of the bed pan without the danger of disturbing the fragments.

SUCCESSFUL CASES.

The following is a list of my own cases, together with a number of successful cases from other authors, that I take the liberty to present.

SHEEHAN.—*British Medical Journal*, 1895: January, 1893, J. H., aged 91, knocked down by cab; two inches shortening, no crepitus. Treatment: Extension, weight and pulley, sand bags. Allowed up in a few days, on crutches, got about until his death from nephritis, April, 1894. Specimen showed bony repair in good position. Amount of shortening not given.

JOYCE.—Page 907: Dec. 28, 1895, patient fell while intoxicated, three-quarter inch shortening. Treatment: weight and pulley. Jan. 7, 1896, showed signs of pneumonia, propped up in bed, turned over; improvement followed. January 20, extension had to be removed as the skin about ankle and foot gave way. Next five weeks no treatment, but kept in bed. In three weeks walked with crutches. May 12, walked with two sticks, one inch shortening, complete bony union. Was since able to follow his trade of peddling.

ALEXANDER HATTEN, Portsmouth, Pa.—*New York Medical Journal*, Nov. 13, 1897: On Sunday, March 8, 1896, was called to see Mrs. C., aged 73; much emaciated, being about 5 feet 3 inches in height and only weighing 95 pounds. She had fallen while entering a church door and complained of severe pain at the left hip joint and lost motion in the left thigh. She was placed on a stretcher and carried to her residence, where on examination I found an intracapsular fracture of the neck and left femur with no impaction. She was placed on her back in a fracture bed and her leg put in good position. Buck's extension was applied and two sand bags were used, one on inner and one on outer side of leg, the latter extending up to waist. She remained in this position for six weeks, at the end of which time Buck's extension was removed, as it was found the fracture had entirely united. In three weeks more she was able to walk with the assistance of crutches. She now walks well without assistance and only has about one-half inch shortening.

AUTHOR'S CASE 1.—Mrs. C., aged 62, on August 19, 1901, was thrown from her carriage, striking violently on her hip. Seen by the writer three days later, limb everted, 2½ inches shortening, very painful. Patient chloroformed, fracture reduced, plaster-of-paris cast applied. Two weeks later was transported six miles over country road and 125 miles on railroad train to her home. Plaster left on eight weeks, when she was allowed on crutches.

Present Condition.—June, 1902, nine months after accident, limb in good position. Can walk without crutches or cane but uses cane on street. At present time is visiting friends and enjoying herself.

AUTHOR'S CASE 2.—Mrs. S., aged 66, 1897, sustained fracture of hip, 2 inches shortening, chloroform administered, fracture reduced and limb encased in plaster-of-paris spica, in extension and abduction. Cast left on for 8 weeks, when she was allowed on crutches.

Present Condition.—Has done all her house work for three years; walks with slight limp. Patient absolutely refuses to have limb measured.

AUTHOR'S CASE 3.—Mrs. F., aged 76, on Oct. 18, 1900, fell off porch 2 feet, striking on hip; 2 inches shortening, limb everted, great pain. Under complete chloroform anesthesia, limb placed in best possible position, plaster-of-paris cast applied and left on for nine weeks, during which time patient was kept in bed, and then allowed up on crutches.

Present Condition.—Shortening 1¼ inches, limb straight, 45 degrees free and painless motion. Walks without cane or crutch, no pain in hip, goes up and down stairs unaided although 78 years old.

AUTHOR'S CASE 4.—Mrs. P., aged 59, in April, 1901, fell down steps 4 or 5 feet, striking on hip; seen by writer one week later: patient in bed suffering a great deal of pain which was intensified on slightest attempt at motion; 1 inch shortening. Temporary plaster-of-paris spica applied. Patient transferred 4 miles over country road, and 20 miles on railroad train to hospital. Next day, under complete anesthesia, plaster-of-paris spica was removed, limb carefully examined and previous diagnosis of impacted fracture confirmed. Permanent plaster-of-paris carefully applied, patient put to bed for nine weeks, spica removed, allowed to walk on crutches.

Present Condition.—June 3, 1902, union firm, position and motion of limb normal, 1 inch shortening; can bear entire weight of body on limb without pain, and walks well without cane or crutch. Has done all her housework for 3 months.

SUMMARY OF AUTHORITIES ON OPERATIVE TREATMENT.

KOENIG.—The operative treatment in these cases was first suggested by Langenback, and successfully carried out by Koenig. The latter operated in a case of recent fracture, making a small incision over the trochanter major, drilled a hole through it with a metal drill in the direction of the head of the bone, applied extension to the limb to the extent necessary to overcome the deformity, and then drove a long steel nail through the canal in the trochanter into the head of the bone and left it there. The limb was then immobilized and extended for six weeks. There is no record of the ultimate shortening, but good union and free motion of the joint was obtained.

CHEYNE.—In a case of recent fracture, Cheyne exposed the fragments through a longitudinal incision made over the anterior aspect of the joint, exposed the fracture, made extension and internal rotation of the limb, and with the fingers in the wound manipulated the fragments into place; then a small longitudinal incision was made over the outer side of the trochanter major, and two canals drilled through the fragments at a distance of half an inch apart. Ivory pegs were then driven through the holes made by the drill, and the limb immobilized. Good union and motion were obtained, but there is no record of measurements of the limb.

MEYER.—In a case of ununited fracture with three inches shortening, Meyer made the Langenback incision for excision of the hip joint (Bryant's Operative Surgery, Fig. 393), exposed the seat of fracture, scraped the ends of the fragments until they bled, reduced the deformity by extension of the limb and fastened them together by driving two nails through the trochanter major. A useful joint was obtained, with an inch and a half shortening of the limb.

PARKHILL.—This method is commended for fracture of the neck of the femur (Fig. 1550 in Bryant's Operative Surgery).

GILLETTE.—Three cases of ununited fracture of the neck of the femur are reported operated on in the following manner: A horseshoe incision with its convexity downward was made, beginning an inch below and an inch posterior to the anterior superior spine of the ilium, carrying it down two inches below the trochanter major and bringing it up the buttocks to about the center of the gluteus maximus muscle. The skin and the two layers of fascia were dissected up en masse. A chain saw was then passed between the posterior border of the tensor vaginæ femoris and the gluteus medius, hugging the neck of the femur and the base of the trochanter major; it was brought out through the posterior surface of the gluteus medius and the anterior surface of the gluteus maximus; the trochanter major and its muscular attachments were sawed off, turned back, thus exposing the capsule of the joint. Then, by making a longitudinal incision into the capsule the fracture

could be easily seen. The surfaces of the fractured ends were denuded and a bone peg driven through the neck of the femur, thus holding the fractured ends together. The capsule was



Fig. 1.—Showing fracture before operation and atheromatous femoral vessels.

stitched with catgut, the trochanter major restored and nailed in place with a small bone peg, the skin closed and the limb immobilized. There was union and good motion obtained in



Fig. 2.—Showing hip after operation.

all cases, with shortening of from an inch to an inch and a half.

CURTIS.—In a case of ununited fracture of neck of the femur of three months' standing, Curtis exposed the fracture through an anterior incision, passed a drill into the callus and between the fragments to cause irritation, applied extension to the limb and reduced the deformity, after which a drill was passed through the trochanter major from the outer side, transfixing the fragments; the handle of the drill was then removed and the drill itself left in situ. The anterior wound was closed and the limb immobilized. The extension was maintained for six weeks, at the end of which time the drill could be easily removed. Good union and a useful limb were obtained with three-quarters of an inch shortening.

LISTER.—*British Medical Journal*, Aug. 26, 1871: Sir J. Lister has recorded the case of an ununited extracapsular fracture of the femur in a man aged 45, where, eighteen months after the injury, he cut down on the fragments with antiseptic precautions and gouged them, the fracture being then finally put up. Recovery was complete, the man walking well.

AUTHOR'S CASE 5.—M. M., aged 60, miner by occupation, on Feb. 7, 1900, fell on ice, striking on hip, was carried home and put to bed for three days, afterwards allowed to sit in chair, where he spent 3 months; could not put weight on limb for 18 months, had constant pain in hip, walked with both hands on cane (bent almost double) on which he carried the greater part of his weight, dragging his right limb; one and one-half



Figure 3.

inches shortening, marked eversion of limb, on manipulation distinct movement could be made out between head and trochanter (Fig. 1). On examination patient appeared much beyond 60 years, and showed signs of senile degeneration, viz., general muscular atrophy, arcus senilis, and atheromatous arteries (Fig. 2).

On Aug. 28, 1901, under complete chloroform anesthesia, a horseshoe-shaped incision was made around the great trochanter down through the muscles to the periosteum. In this case no bone flap was made, the capsular ligament was opened, and the free motility of the head ascertained. We deemed this step necessary because the skiagraph showed what we feared was ankylosis of head in the ascetabulum. I then drove two solid silver nails, 3/16 inch in diameter, and 2 and 3 inches long, respectively, through the great trochanter, neck and into head of bone. Only the long nail reached the head, as was afterward shown by *x*-ray (Fig. 2). It was not necessary to use drill before driving nails, capsular ligament was closed with catgut sutures, external wounds with silkworm gut without drainage, aseptic dressing applied and entire limb and body encased in plaster-of-paris spica. Patient did not suffer from operation, was allowed to turn over in bed, no elevation

of temperature. Wound was dressed through a fenestra in spica at end of third week, when stitches were removed, primary union complete. Was removed from hospital to home at end of six weeks, and spica taken off at end of nine weeks, when union appeared firm, 45 degrees of free motion in the hip. Three months after the operation he could bear over half the weight of body on the limb, could walk upright; 1 inch shortening.

Present Condition.—Nine months after operation the limb is straight, motion normal, shortening 1 inch, can bear entire weight of body on limb without pain, walks with cane but can walk very well without it. No pain except on direct pressure over seat of operation.

AUTHOR'S CASE 6.—This case was reported at the St. Paul meeting and published in THE JOURNAL of Dec. 21, 1901. Sustained fracture of hip by a fall of rock while working in mines. Was seen by me and operated on 3 months later; practically the same operation as in Case 5, except in this case a bone flap was made before driving nail and but one nail was used besides the small nail for bone flap. Plaster-of-paris dressing the same; wound healed by first intention. Patient walked in three months with one inch shortening. Improvement continued until at the time of his death he could walk without cane or crutch; had 90 degrees of free and painless motion. Death 18 months after operation from intercurrent disease. Specimen obtained. Bony union firm in good position (Fig. 3).

SUMMARY.

1. I believe that the teachings and writings of surgical authors have been rather discouraging to the general practitioner on this subject.
2. That in all cases of fractured femoral neck, firm bony union and useful limbs may be anticipated.
3. That age is not a counter indication to treatment nor to obtaining bony union.
4. That the patient is best treated by reducing the fracture and immobilizing it.
5. That this is best accomplished under anesthesia and by the use of the plaster-of-paris spica.
6. That the immobilization should be continued for a long time, and three months should elapse before allowing weight on the limb.
7. That Buck's extension with weight and pulley is not sufficient immobilization to obtain bony union.
8. That the use of apparatus in these cases is expensive, hard to obtain when needed, not so efficient in immobilization, and less convenient for the patient and nurse than plaster-of-paris spica.
9. That the operative treatment in old and neglected cases has succeeded beyond all expectations and deserves a place in surgery among the radical cures for troublesome conditions.
10. That the patients who usually suffer from the accident being old and enfeebled is a good reason why the physician should make their declining years as peaceful and pleasant as possible.

Intravenous Injection of Chloral in Treatment of Varicose Ulcers.—An article in the *Gazzetta Med. di Roma* for June states that Scalzi has treated 200 patients with varicose veins or ulcers by the intravenous injection of a Pravaz syringeful of equal parts chloral hydrate and distilled water. No inconveniences were noticed in any instance. He applies a constricting bandage above. The coagulum forms so rapidly that the constriction can be removed ten minutes after the injections. If the lesion is merely a varicose vein, the chloral mixture is injected at different points in the vein; if an ulcer, the injections are made in the most swollen portions of the vein, close to the edge of the ulcer. The beneficial effects are evident in a few days and the ulcer gradually heals. Enrico, the author of the article, lauds this as the simplest and most effective of all methods of treating varicose veins and ulcers.

THE TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA BY SUBCUTANEOUS PURSE-STRING SUTURES.*

JOHN B. ROBERTS, M.D.
PHILADELPHIA.

In April, 1896, I reported[1] a case of patellar fracture satisfactorily treated with a catgut ligature carried around the fragments, in the coronal plane, making a sort of purse-string suture. This method seemed to me preferable to Barker's method, in which the ligature is introduced in the sagittal plane and traverses the knee joint and prepatellar bursa. I do not know that the method was new, but it is certainly deserving of extended use. Further experience has increased my confidence in it and leads me to advocate its adoption. It requires no special apparatus, such as Malgaigne's hooks, does not invade the knee joint or the synovial sac in front of the patella, and demands no general anesthetic. It is practically free from septic risks, allows the patient to get out of bed soon, and results in such a close union of the fragments that, even if true bony union is not obtained, the function of the limb is perfect.

Clinical experience and laboratory investigation seem to justify me in suggesting some modifications of the original procedure, which will, I believe, add to its surgical value.

The only instrument used is a stout needle five or six inches long and a strong ligature of silk, soft wire, kangaroo tendon or chromicized catgut. About a week is permitted to elapse after the receipt of the injury, in order to give time for absorption of blood and synovial fluid. During this period I keep the patient in bed on his back, with the knee extended and the limb elevated in order to relax the rectus muscle, which, by reason of its origin above the hip joint, may tend to draw the upper fragment upwards. An ice bag is applied to the knee to hasten the reduction of inflammatory swelling. If the intra-articular effusion were very great, I would not hesitate to tap the joint with a small aseptic trocar. This is probably seldom necessary.

When the purse-string suture is to be applied, the skin is sterilized and the aseptic needle thrust transversely through skin, muscle and fascia, just below the lower fragment of the patella. It is carried deeply enough to insure pressure against the bone when the purse-string is drawn tight and tied; but it is not expected to penetrate the joint cavity. The aseptic suture is drawn through the tissues by means of the needle. The needle is then inserted at the puncture of exit and thrust upwards, through the tissues, alongside of the broken patella, until its point emerges at a point a very little higher up the thigh than the upper edge of the upper fragment. The suture is drawn through this needle track. During these manipulations the two fragments are held together by the surgeon or an assistant. The needle is then introduced at the second puncture of exit and carried through the muscles just above the upper margin of the upper fragment. Its transit carries the ligature across the thigh superficially to the synovial sac of the joint. The needle is then inserted at the fourth puncture and is thrust downwards alongside of the two fragments until it emerges at the first puncture. It is pulled through this open-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. Annals of Surgery, vol. xxiv (1896), p. 229.

ing, and thus brings out the end of the suture; which by these maneuvers has been made to subcutaneously encircle the broken patella. The two ends of the thread now protrude from the same opening.

The final step is to pull upon the two ends steadily and vigorously, while an assistant holds the two fragments of the patella in close contact, and tie a firm knot. The knot slips within the cutaneous opening. If a thread of kangaroo tendon or catgut has been used, the ends are cut off short; and the ligature finally becomes absorbed. If silk or wire has been employed, the long ends are allowed to remain; and at the end of four or six weeks, the knot is divided by sharp-pointed scissors, or the wire is untwisted, and the suture pulled out of the tissues.

Surely no operation could be simpler than this. In fact, it scarcely deserves to be called an operation. During its performance, general anesthesia need not be employed. I have usually been satisfied with freezing the skin at the points of puncture. I am, however, inclined to think that there may be an advantage in thorough muscular relaxation, obtained by general anesthesia, before tightening and tying the ligature. The skiagraphs illustrating this paper have led me to this conclusion.



Figure 1.

Experimental fracture of patella made on cadaver with osteotome; surrounded by purse-string suture of wire.

Before introducing the needle, I press the two fragments together and rub them rather forcibly against each other. This is done to make sure that they can be brought into contact by the encircling suture and to endeavor to displace any ragged edges of periosteum or tendon that may have fallen between the broken surfaces. It has been asserted that the interposition of these fringes of fibrous tissue may be a cause of failure to obtain osseous union.

After the suture has been tied, the four punctures are dressed with layers of aseptic gauze, and a light encircling gypsum splint is applied from the middle of the thigh to the middle of the leg, to prevent sudden flexion of the knee. The patient is then put to bed with the limb slightly elevated to relax the rectus muscle.

The patient may get out of bed on crutches three or four days later, and go to his business, provided it does not require him to suddenly exert the muscles of the thigh. The splint will prevent flexion of the knee; but sudden jerking of the four-headed extensor of the leg might possibly displace the upper fragment.

The prevention of flexion should be maintained for seven or eight weeks; after which time, gradually increasing passive motion of the joint may be made until perfect mobility is obtained. For a time after discarding the splint, it is wise for the patient to carry a cane, lest a sudden slip or loss of balance should result in refracture from sudden undue muscular action.

It may be better to use a second purse-string suture, carried around the patella more superficially than the one already described, in order to purse up the tissues near the anterior surface of the fracture. This would, I think, have a tendency to prevent the tilting of the fragments, which is seen in recent untreated fractures and shows in my skiagraphs. In such an operation I should be inclined to tie the superficial or more central suture first. The greater separation, of the anterior, surfaces of the fragments is said to be due to the attachment of the extensor tendon and of the ligament of the patella to the anterior portion of the knee-pan. An encircling suture through the tissues at the anterior, or superficial, face of the bone would seem to be an efficient means of obviating this tendency of the fragments to gape apart.



Figure 2.

Experimental fracture made on cadaver with osteotome and then encircled by two purse-string sutures of wire.

I show skiagraphs of the two methods of operating, done on a cadaver, in which I produced fractures with an osteotome. The absence of muscular tension and synovial effusion makes the experiments inconclusive. They serve, however, to show in a crude way the methods described.

ILLUSTRATIVE CASES.

A woman was admitted to the Polyclinic Hospital on Jan. 31, 1896, with the ordinary transverse fracture of the patella. One week after the accident I drew the fragments together with an encircling purse-string suture of chromicized catgut, carried through the tissues in the coronal plane. The apposition was good as soon as the ligature was tied, though previously it had seemed impossible to bring the fragments

into perfect position by pressure of the fingers, although the patient was under ether.

Two days afterward the limb was encased in a gypsum splint from the upper part of the thigh to the foot. Before the gypsum had hardened, the assistant inadvertently let go of the foot and permitted the knee to be flexed a little, causing some pain. I permitted the patient to get out of bed and walk with crutches two days later, or eleven days after the receipt of injury. This early discontinuance of confinement apparently does no harm, and is a very great advantage in the method of treatment.

The plaster-of-paris splint was removed in four weeks, when the knee showed about a quarter of an inch separation between the fragments anteriorly. This was supposed to be due to the stretching of the catgut ligature at the time the assistant permitted sudden flexion to occur, while the gypsum splint was being applied. It is likely that there was at this moment a sudden involuntary contraction of the four-headed extensor muscle.



Figure 3.

Fracture of right patella treated at Methodist Hospital by purse-string silk suture. Taken about 15 months after accident. Use of leg PERFECT. Externally the bone feels as if bony union had occurred.

It may, it is true, have been due to the ambulatory method of after-treatment. My subsequent experience leads me to think that it was not due to either of these causes, but to the usual tilting of the fragments.

I have no notes to show how much longer the limb was kept extended and protected from flexion; but the hospital record states that she was discharged on February 20. I showed the case at the meeting of the section on surgery of the College of Physicians of Philadelphia on April 10, ten weeks after the receipt of injury, and the union was as close as mentioned above, though probably not bony.

A young man fell down three cellar steps while carrying a quarter of a barrel of beer, because a piece of projecting wood caught the edge of his trousers and threw him. He was admitted in November, 1901, to the Methodist Hospital, which he left after being under treatment nearly eight weeks, for a transverse fracture of the right patella. I treated him with a purse-string suture of silk which was removed before he left the hospital.

When examined after the lapse of fifteen months, the patella was perfectly movable and the union appeared to be bony. The man could flex the knee perfectly, but there was a grating sensation occasionally felt when I moved the joint. There was no stiffness and the leg was as strong as ever. The patient says that he can carry a half-barrel of beer upstairs and that his situation in a brewery compels him to do this sort of work constantly. I had him kneel upon the floor and found that he could rise without the least difficulty from the kneeling position. There is no difference, in power or in flexion and extension, between the two legs. The front of the right knee looks a little bit thickened so that the outlines of the patella do not show as distinctly as in the normal leg. The injured patella seems to be about one-eighth of an inch longer than the other patella. There is no pain or discomfort about the leg. The man says he notices no difference between them in usefulness or feeling. He went to work four weeks after leaving the hospital, but it was seven weeks after leaving



Figure 4.

Fracture of patella treated by purse-string suture of silk at Polyclinic. Taken before suture was removed. March, 1902. Left leg.

the hospital before he could carry heavy weights like beer kegs.

A skiagraph was taken fifteen months after treatment and showed that the union was fibrous and the fragments tilted apart at the anterior surface. This surprised me, for palpation of the knee gave the impression that the union was bony, and it was only by careful examination that the line of fracture could be made out. The fragments are not quite in contact even at the under surface of the bone; and there is evidently an osteophytic growth on the lower surface of the lower fragment. It is doubtless this roughened area that gives rise to grating during passive motion. The skiagraphic illustration shows well these imperfections in the reconstruction of the patella.

It is interesting to note that the functional integrity of the bone is complete though the anatomical contour is imperfect. This is pretty good evidence that the adoption of incision of the knee-joint, for the purpose of carefully suturing fascia and bone, is unnecessary. Such an operation is more risky to the patient than the purse-string suture and can give no better functional result than was obtained in this case.

The ideally perfect union of bone, periosteum and fascia is not worth the increased risk to the mobility of the joint and to the life of the patient.

A man, aged 40 years, was admitted to the Polyclinic Hospital on Feb. 9, 1902, with transverse fracture of the left patella. He had fallen while under the influence of liquor. Eight days later, after preparatory treatment by elevation of the leg and the application of an ice bag, I drew the fragments together with a silk purse-string suture. A plaster-of-paris splint was applied and the patient put to bed with the leg elevated to relax the rectus muscle. No inflammatory reaction followed and March 17 the silk suture was removed and the fragments found in good apposition. It was necessary to make a little incision to reach the knot of the suture, in order to cut the thread at that point and draw it out of the tissues. The man had been kept in bed all of this time with the joint immobilized. This was longer than necessary. On April 4 the patient was discharged with a light gypsum splint, to prevent sudden flexion of the joint. I have seen the patient a number of times since then, and there appears to be slight motion between the two fragments, as though the union were a short fibrous one. The skiagraph made while he was still in the hospital and before the suture was removed shows that this is really the case. There is the same tilting apart of the fragments at the anterior surface that I have mentioned as usually present.

DISCUSSION

ON PAPERS OF DRS. RUTH,* THOMSON AND ROBERTS.

DR. W. H. CARMALT, New Haven, Conn.—In the paper by Dr. Ruth I think the true principles of surgery have been carried out in that the traction is made in the direction of the axis of the bones that are broken. We are too apt to think that the femur simply goes from the trochanter to the knee and ignore the fact that the neck of the femur is at another angle. To apply the pulley to the outer side certainly appeals to my judgment and I shall try it. The question of immobilization that Dr. Thomson refers to is good so far as it goes, but it lacks in just that particular that Dr. Ruth gives us. I should like to ask Dr. Thomson about his photographs, as I see something that apparently looks like nails driven in the axis of the bone. I do not know whether that is a skiagraphic shadow or is really in the specimen. The question of fixing the bony fragments with nails is not new, and I think Dr. Senn wrote an article on this subject. As to Dr. Roberts' paper I have tried a similar plan and think it suits very nicely in certain cases. I should be the last one in the Section to say we should not strive for the very best bony union possible. You have all seen cases where there is wide separation of the fragments, with a very useful leg. I remember some years ago Dr. Bull reported some cases of fracture of the patella and one was a fireman and one a policeman who were both in active discharge of their duties. They climbed over chairs and tables and did everything that anybody would be likely to do in spite of a separation of some inches between the fragments. I do not propose to advocate any slack method of treatment, but the simple fact is that patients with wide separation occasionally have very useful legs. I do not know anything better than Dr. Roberts' suggestion, and I have tried it in one case. I believe Dr. Roberts makes a purse-string suture all around, and I have done it once in that way. I have seen it reported in two cases subcutaneously, and I like the results very well.

DR. A. H. LEVINGS, Milwaukee—Fractures of the patella are of frequent occurrence, and may lead to a good deal of disability if the fragments are not brought in close apposition. The purse-string suture of Roberts is at this time not new, as it has figured in many of the text-books, and I myself have been pleased to employ it. There are, however, certain seemingly serious objections to its general use. In these fractures the upper fragment is often tilted backward into the joint cavity, rendering accurate apposition by the purse-string suture difficult or impossible. The fractured portion of the upper fragment is often covered by the torn capsule, which also hangs into the joint, again rendering close apposition of the broken fragments by this suture difficult.

Everyone who has opened these joints has found them filled and over-distended with blood, which is either more or less coagulated and at times in a state of semi-organization. These blood clots are not unfrequently the cause of adhesions, floating cartilages, and loose bodies. I have preferred to treat these fractures by opening the joint, preferably at the end of the first week, when the lymphatic and connective tissue spaces will have become closed by adhesive inflammation, thus rendering infection much less liable. After the joint is opened by transverse incision and the fluid and clotted blood thoroughly washed out with a carbolized solution the fragments are evenly and nicely coapted by wire suture, and the torn capsule by strong catgut. At this stage there is no hemorrhage and drainage is unnecessary. I have never seen infection follow the operation, and have had occasion only to congratulate myself and the patient on the result.

DR. J. P. LORD, Omaha—I have devoted considerable attention to the treatment of fractures of the small part of the neck of the femur. Twenty-one years ago, as a medical student, I was taught by my preceptor the same principles as those mentioned by Dr. Ruth. He did not claim originality for it, and I do not know where he got it, but it impressed me, and always has, as a matter of great importance in reducing this fracture. Through all these years there has been an evolution going on in my practice in establishing for myself a method which would at once reduce the deformity and maintain reduction as well as render less likely non-union or deformity. Union takes place in the aged in other fractures with almost equal facility as in the young, and there is no longer any doubt that union will take place in the small part of the neck of the femur if immobilization is maintained. The great difficulties we have in feeble subjects is to be able to get proper appliances to maintain apposition for this result to take place. There has been a tendency all these years to simply get along with tentative treatment of these cases. I have the greatest admiration for an operator who will cut down and screw or nail the fragments together, but these cases usually fall into the hands of those who would be loath to do this operation. They are not sufficiently trained to justify them in doing so formidable an operation. We should establish such a line of treatment as will best secure the combined results. A method which has served me well is to apply Buck's extension with a wide plaster to the perineum and pad and bandage the leg to that point. Put in your foot stirrup with cord and make a loop in it so that an assistant may put it around his body, and make traction. Put a strap around the thigh and from this exert traction upward and outward by means of rope and pulley, to overcome the tendency to eversion caused by the action of the strong gluteal muscles which rotate the limbs outward and can only be properly overcome by the means described. I think that a little inversion is desirable to insure a normal result. This system keeps up constant extension and the fragments are in apposition. This lateral extension is used until the fragments are in the position they should be. And to maintain them I put a piece of board in the plaster about four inches wide and 20 inches long, 1/3 of an inch thick; this rests directly behind the trochanter, when applied to the thigh portion of plaster. This extends off from the body about six inches. The body is thoroughly padded previously, and when this board is forced in against the body its spring maintains a continuous pressure. The plaster dressing is made secure. The patient is put to bed, requisite extension is applied, and this is maintained for eight weeks. My results are from 1/4 to 1/3 of an inch shortening with absolute bony union, and no deformity nor eversion. I have only had two cases, but there is no question about the union nor the results. If this

* The paper of Dr. Ruth appeared in the issue of Nov. 29, 1902, page 1380.

treatment is carried out you should secure good results. I have perfect confidence in it.

Dr. Carl Beck, New York City—As to Dr. Roberts' paper, one point has been overlooked, namely, that the whole question of operation hinges on the degree of diastasis. In transverse fractures of the patella showing little or no diastasis, a plaster-of-paris dressing is applied best. While the displaced fragment is tightly grasped and pushed downward by the fingers of an assistant, the dressing is applied. The limb is best put in the hyperextended position, while the patient sits in bed half upright. The turns of the bandage are conducted around the pressing fingers, so that at last a wall is formed around the digital impressions, which includes the reduced fragments after the plaster sets, and becomes so firm that a return of the fragments proves to be impossible. If there is a fair amount of diastasis, the operation so well described by Dr. Roberts is advisable. But if there is considerable diastasis, wiring of the fragments can not too strongly be advocated, since the performance of this simple operation is void of danger in the hands of a surgeon who is master of the principles of asepsis. Whatever has been said of the dangers of this operation applies more to the surgical novice, who does not properly understand asepsis, than to aseptic surgery itself. When it is considered that without such operation union becomes only fibrous, and that in the course of time the originally fibrous bands become stretched by the action of the quadriceps muscle, so that active extension of the knee-joint became impossible—in other words, that the patient becomes a cripple for life—we should not refrain from exposing the patient to the trouble of this operation, which guarantees an absolute cure.

Complicated maneuvers, like boring holes into the fragments, can not be too strongly condemned, since simply conducting a large needle armed with silver wire around the fragments secures their perfect apposition. The needle must be introduced at the upper end into the quadriceps tendon above the patellar margin and through the ligamentum patellæ on the lower margin of the lower fragment. The silver wire is twisted above the middle of the fracture line, its ends protruding at last through the suture line of the integument. A semilunar incision should be made from one epicondyle to the other, just above the insertion of the ligamentum patellæ. Thus a convex flap is formed, which is dissected backward. The fractured area is then fully exposed, and the intra-articular blood extravasation can be freely reached. An ironclad principle, especially referring to this operation, is "Hands off the joint!" For the consolation of such surgeons as are afraid of the aseptic state of their own fingers it may be said that there is no need for coming into contact with any portion of the field of operation with their fingers or hands. The needle can be carried through with the aid of a needle-holder and the twisting, which in itself tends to bring the fragments together, can be done with a forceps. The blood-clots can be removed by powerful irrigation with a hot sterile salt solution.

After the suturing (preferably done with boiled formalin catgut) is completed, either an ordinary wound dressing, supported by a large moss splint, or a fenestrated plaster-of-paris dressing (the fenestra being created by holding a sterilized glass over the wound) is applied. The wire suture is carefully removed after three weeks. Then the knee is well immobilized for two or three weeks longer, and the patient is allowed to walk about in this dressing. The wire must be very strong, for there is risk of its breaking if the patient be restless.

Dr. T. J. Maxwell, Keokuk, Iowa—I am responsible for the technic described in Dr. Ruth's paper. In the winter of 1870 I was called to see a lady, aged 52, who had fallen, striking on the right trochanter. She was rendered helpless, unable to arise or use that leg. She was carried into the house and placed on a pallet on the floor. Examination showed shortening of right leg two inches, eversion of foot and leg, the upper end of femur turned on the axis of shaft, not describing an arc, as is normal. There was great tenderness on movement, crepitation developed on extension with rotation. The patient was thin in flesh and the fingers grasping the trochanters could easily palpate their entire circumferences to the junction of the neck, thereby making the diagnosis of fracture of the neck complete.

I dressed the fracture by the application of a long side splint (Day's). It made extension sufficient to bring the leg to the right length determined by measurement. This dressing was retained for one week. Though the leg was the right length, there was flattening of the hip and constant pain. I knew the bones were not in coaptation. Nature had no chance to repair the injury. At the end of the week I determined to change my dressings, so that the fragments could be placed in apposition. The body of the patient was made the counter-extending force, by elevating the right side of the bed twelve inches at the foot, four inches at the head of bed on right side. The left side of bed, at the foot, was raised eight inches. Therefore the body gravitated toward the head and left side of bed. Extension (longitudinal) was made by the application of adhesive straps to either side of thigh and leg from body to ankle. A cord was attached to these straps. This cord was carried over the pulley at the foot of the bed, and a weight of about fifteen pounds, or enough to keep the leg the proper length applied. The hip being flat, I next applied a band close to the body, around the thigh. To this band was attached another cord, which was carried over a pulley at the side of the bed (this pulley was so placed that it was about eight inches higher than the body, and opposite the anterior superior spine of the ilium). Sufficient weight was attached to this cord to draw the trochanter upward, forward (as to body erect) and outward, until it was exactly as prominent as the uninjured one. This form of application relieved all pain and comfort was secured, as it did in all the subsequent cases treated in like manner. At the end of six weeks the union was complete and perfect, as far as one could judge from a careful examination and movements of joint. There was no shortening and the leg was functionally perfect.

Dr. Roberts, in his paper, refers to his preceptor having gained some knowledge of the lateral extension, from some source, unknown to him (Dr. Roberts). In answer to that I may be allowed to suggest that he likely got it from a paper I read on the subject, reporting my first case, at Galesburg, Ill., before the Military Tract Society, during the summer of 1870. Or he might have heard the paper read before the Illinois Medical Society during the spring of 1881.

The numerous cases reported in Dr. Ruth's paper are accounted for by the fact that I have taught that method in the Keokuk Medical College for the last seventeen years. The students graduating from that institution practice the method and report their cases to Dr. Ruth or myself. The method is, 1, rational; 2, painless; 3, simple and easily applied. 4. It is inexpensive and always at hand. 5. Forty and more successful cases at least commend it for trial.

Dr. H. M. Sherman, San Francisco—There is, I think, one point in connection with femoral neck fractures that needs always to be mentioned, and that point is the necessity for gentleness in the examination. This is for the conservation of any slight, or even fairly firm, impaction. The diagnosis should be made rather by measurements than by manipulation, and with this method I have obtained a satisfactory amount of success. As to the demonstration of Dr. Ruth, it is comparable to that marvelous demonstration made by Dr. Allis in Philadelphia, of dislocation of the hip, and I can not pay it a much higher compliment. I want to ask Dr. Roberts what he does with the infolding capsule in cases of fracture of the patella. In the few cases in which I have done it I have been pleased with Stimson's method of suture of fibrous tissues to coapt the fragments.

Dr. John B. Roberts, Philadelphia—In answer to Dr. Sherman I may say that it is my practice before I put the purse-string suture around to rub the surfaces of the broken bone together. I am not sure that I get bony union; indeed, I think that probably very often I do not. I have skiagraphs that show I do not at times. My impression is that it does not make any difference whether the union is bony or fibrous if it be close and strong. It is not necessary to subject your patient to the danger of an arthrotomy when you can get a good union

by some such simple method as this. It seems to me that it is better for most of us to treat transverse fractures in this way. As to the fractures of the neck of the femur, I may say that I have been very much interested in the subject. All the illustrations presented seem to be fractures of the base of the neck of the femur; which are the fractures of that part which very frequently unite if they were given the chance. None of the specimens shows union of fracture through the small part of the neck. I have great respect for Dr. Scudder, but I think his book is very old fashioned. It does not seem to me to be up to date in the treatment of fractures. Therefore, I do not altogether agree with the speaker, who lays great stress on its statements as to these factures. Dr. Maxwell's fracture seems to be a fracture at the base of the neck.

DR. R. H. GIBBONS, Scranton—Dr. Thomson has not referred to the operation of Dr. Davis of Philadelphia. I do not think Dr. Thomson does rightly to adduct the limb. The apparatus should be applied as has been mentioned by Dr. Ruth, and Buck's extension or some other form of extension should be employed. I think two lines of traction laterally and longitudinally as recommended by Dr. Maxwell should be applied. Dr. Frank H. Hamilton first suggested the use of plaster in these cases, fracture of the femur at the neck or elsewhere, and Dr. Sayre later recommended it. Lateral extension and the application of plaster were recommended, too, by Dr. A. M. Phelps. Dr. Davis recommends the anterior incision, instead of Gillette's, as used by Dr. Thomson, which is similar to Mr. Barker's of England and that of the late Dr. King of Pittsburg, Pa., in exsection of the head of the bone for diseased condition thereof. Davis says about his method of operation, that after exposure of the neck through the anterior incision, through which the capsule is not only opened, but partially cut away by scissors, through which opening a finger is passed in order that the line of osseous separation through the neck is felt, and by means of which feeling he is enabled to direct the movements of the link by his assistant to obtain reduction of the fracture and apposition of the line thereof, then through an opening over the trochanter a silver nail or screw is to be passed in line crossing the line of separation, the nail passing through the reduced fragments from the trochanter into the neck, and this without turning up the trochanter by Gillette's method, which is a weak point to his plan, otherwise quite a perfect and original operation.

DR. W. T. ECKLEY, Chicago—I wish to call attention to an anatomic principle in the Maxwell-Ruth method that has a precedent in the physical law of projectiles: projectiles follow the line of greatest traction, the point of least resistance or the resultant of the two. In this method of treatment the resultant of lateral and longitudinal traction falls in the long axis of the neck of the femur because the external rotator muscles are physiologically immobilized. A treatment that secures physiologic repose by immobilization of those anatomic factors which, under less successful methods, defeat the objects of the procedure, is certainly "anatomic treatment," and Drs. Maxwell and Ruth are to be congratulated on harmonizing a principle of philosophy as old as medicine itself with modern treatment of fractures of the neck of the femur.

DR. RUTH, in closing—There is a great deal that might be said if time permitted. Mention has been made of impacted fractures. I had such a case in a person 74 years of age. It began to loosen in four days. The shortening was then manifest, which did not appear at first. There was a final shortening of a quarter of an inch. Lateral traction is indispensable, but the apparatus is not difficult to apply. It is comfortable to the patient, and can be raised to the sitting posture. After the first two days in nearly all of these cases they will flex the sound leg and raise the hips themselves. The bedpan is readily passed under them. Objection has been made that none of these fractures were through the narrow part of the neck, but I here present a specimen of such a case fractured at 72 years of age, used for twenty years thereafter. The leg has given the patient good service for twenty years and the line of fracture could scarcely be distinguished on the outer side. It has been hinted that this was an impacted fracture, but there was two inches of shortening, as testified by Dr. Maxwell. The man had slight eversion of the foot the rest of his life, which also showed that a fracture had taken place. I have purposely picked out the line of union in specimen two, which was treated for only four weeks, to show it more plainly in cut, and the union was very strong for the time. Dr. Jenkins, who had charge of the case for a time, is present, and can vouch for the accuracy of my observation. You can tell from the specimen what had happened, but no one could determine that there had been a fracture had the patient lived for a year. I presented a specimen from a case in a patient 81 years old, and the result enabled the man to work without inconvenience for six months, when he finally died of sunstroke. As to the plaster cast it will do in a great many cases, but every one of you know that it is only about 48 hours after placing a cast that the tissue begins to diminish in size, and your cast is loose. You can not, therefore, maintain perfect extension with a plaster cast nor can you influence the rotators and absolutely prevent eversion and posterior displacement. I feel like complimenting Dr. Thomson on his results. The only thing that makes me feel badly is that the gentleman did not use the anatomic method. If we have the next meeting in the neighborhood of Iowa we will show quite an array of cases that will walk without a limp or halt.

DR. THOMSON, closing—I am afraid I have been rather misunderstood. I am sorry Dr. Carmalt did not understand that the specimen on the board was a case repaired during life. There was no diagnosis made on this man at the end of three months after the accident, and until that time he was bedridden. The operation is described in my paper, but I did not have time to read it. As to the material I have never used anything but solid silver nails. They do not corrode, and I think they are by far the most satisfactory. As to the patient who walked around the hall—my second operative case—and limped a little, this man lay for 18 months, or sat in a chair with an ununited fracture of the neck of the femur that had not been diagnosed. It is nearly nine months since his operation. I believe he will walk as perfectly as any man can do, in time. As to plaster of paris versus apparatus I believe that the surgeon who has to wait in the course of his treatment for a skilled mechanic to fix up an apparatus is being handicapped, and I think we should be able to do this work ourselves. Dr. Gibbons has said I was expert in the use of plaster of paris, but there is not a man in this room who could not make as good a plaster cast as the one presented here in fifteen minutes, for 25c. As to its holding on and getting loose I will guarantee that if it is properly applied it will stay there indefinitely. As to reduction of the fracture I did not have time to read this, but it is described in my paper. The same principle as Dr. Ruth teaches about reduction is taught in the reduction under anesthesia. We reduce our fractures on the same principle as Dr. Ruth teaches, and then put it up permanently and it unites.

Schweninger's New Post.—Our German exchanges are continually commenting on Schweninger's career. He was recently appointed professor of the history of medicine, which has called forth a formal protest from the National Society for the Study of Medical History. He has since then had a polyclinic for internal diseases organized for him at the Charité. There are already two connected with the institution and another in the vicinity, so the necessity for a fourth official polyclinic is not apparent. He is still at the head of a large public hospital, and besides his duties as professor of the history of medicine and chief of the new polyclinic, is docent for general pathology and therapeutics. He is not a trained physician, but was Bismarck's medical adviser, as has been previously mentioned in THE JOURNAL, and was for a long time professor of cutaneous diseases. In a public lecture a year or so ago he made the statement that he would leave a certain question to students of the history of medicine, for which he confessed he had "neither talent nor training." This quotation has been going the rounds since his appointment to the chair of history.

UNCINARIASIS OR ANKYLOSTOMIASIS

WITH THE REPORT OF A CASE.

JOSEPH A. CAPPS, M.D.
INSTRUCTOR IN MEDICINE, RUSH MEDICAL COLLEGE.
CHICAGO.

VARIETIES OF UNCINARIA.

The uncinaria or hook-worm belongs to the family *Strongylidæ*, subfamily *Strongylinæ*, genus *Uncinaria*. As the name indicates, the parasite is characterized by a dorsal curvature of the anterior end of the body resembling a hook. The mouth is armed with teeth which have great penetrating power. The worms vary from one-half inch to an inch in length and are peculiar in that they live by sucking blood from the host.

The parasite is not confined to man, but exists in many animals. *Uncinaria canina*, according to Stiles,[1] is common in Washington, D. C., and has caused among pups in some communities the death of over 25 per cent. It also occurs in cats. *Uncinaria stenocephala* is found in dogs, foxes and other animals. *Uncinaria trigonocephala* occurs among the sheep in Texas and has killed 25 to 50 per cent. of certain flocks. *Uncinaria radiata* was described by Stiles in the cattle of Texas. *Uncinaria Lucasi* produces a mortality of 17 per cent. in the seal pups of Alaska.

DESCRIPTION OF THE SPECIES INFECTING MAN.

The two species of hook-worm which infect man are *Uncinaria duodenalis* (Dubini), or the old-world hook-worm, and the *Uncinaria americana*, recently identified by Stiles as a new-world species. A fact of great importance to the physician is that the species found in animals has not been observed in man, and the human species is not known to infect lower animals.

As the *Uncinaria americana* probably conforms in its life history to the *Uncinaria duodenalis*, the same description will apply to both forms. In the fresh feces are seen the eggs in various stages of segmentation. No larvæ are present until the ova have been exposed some time to the air under proper conditions of moisture and heat. It is the lack of air which prevents the development of larvæ within the intestine. With favorable culture surroundings outside of the body the larvæ emerge from the ova in 24 to 36 hours. The youngest rhabditiform embryos are from .2 to .3 mm. long and have a spindle-shaped esophagus ending in a rounded stomach, that contains tooth-like structures. The embryo takes up nourishment, and after casting the skin several times and undergoing certain anatomic changes, becomes full grown within eight days. It is then from .6 to .8 mm. in length and about .024 mm. in breadth.

This mature larva is exceedingly active and has a much greater tenacity of life than the younger forms. If the temperature is not below 20 C., and if the culture medium is moist, it will remain alive and active for weeks or months, but no further development occurs outside the body. It is with the larvæ, not with the ova, that man becomes infected. After being swallowed by the host, the larva seizes on the intestinal mucosa, sucks blood for nourishment and begins a new period of growth. Within two weeks the parasite again casts its skin, the sexual organs become differentiated and developed, and the anterior extremity acquires a buccal capsule with teeth. Five weeks after infection the worms are ten to twenty times the length of the full-grown larvæ.[2] The largest larvæ are scarcely visible to the naked eye, while the adult worm, 6 to 14 mm. (¼ to ¾ in.) in length, is easily seen. The presence of mature worms within the intestine is manifested by the appearance of eggs in the stools.

The shortest possible time necessary to the completion of the cycle of development from the eggs through the larval state outside the body, through the sexual ripening within the body, to the production of eggs again, is from 5 to 8 weeks. But this period is usually much longer because of the indefinite duration of the parasite in the larval stage.

NARRATION OF CASE.

The following case in the Cook County Hospital was in the service of Dr. James B. Herrick, through whose interest and kindness I am enabled to present this report:

Previous History.—G. L., 52 years of age, was a carpenter by occupation and a native of the United States. There was nothing in the family history of any significance. He enjoyed excellent health until the year 1879, when he went to Panama to work at his trade. While there he suffered from repeated attacks of malaria of both quotidian and tertian types.

Two years ago the patient was first taken ill with sudden gastro-enteric symptoms. At that time he was employed on the Chagres River, where he handled lumber and logs that were often covered with mud. He recalls that he frequently sat down to luncheon without previously having washed his hands. The earliest complaints were of an aching pain in the upper belly, loss of appetite and weakness. There was no nausea nor vomiting. The bowels were irregular, at one time loose, at another constipated. Later he became short of breath and dizzy from any unusual exertion and had palpitation of the heart.

In January, 1901, he sailed from Panama to New Orleans, where he was in a hospital under treatment for 15 months. There the anemia was so pronounced and so intractable to iron and arsenic that the diagnosis of pernicious anemia was made.

April, 1902, he went to Iowa, but the anemia progressed steadily until he was too weak to move about.

September 9 he was admitted to the Cook County Hospital, complaining chiefly of pains in the belly, weakness, dyspnea and palpitation. After sitting or standing the feet would swell. Frequently he had spells of dizziness and faintness. Patient says that he would occasionally develop a moderate fever and at such a time the epigastric pain was worse. The appetite was poor. The bowels required a laxative. There was never any hemorrhage from the nose, intestine or skin. Vision was good. A gradual moderate loss of flesh had taken place.

Status presens: Man of medium build; skin of a lemon-yellow color. Fatty layer fairly well preserved. Sclerotics bluish and muddy. Lips and mucous membranes almost bloodless. Palpable arteries moderately thickened. Pulse of large volume, soft and compressible, low tension, with a decided water-hammer character. Lungs negative.

Heart dulness extended to the left nipple line, to the upper border of the third rib above, and to the right edge of the sternum. The impulse was forcible and diffuse. Over the apex was a systolic blow transmitted to the anterior axillary line. A louder bruit of a different pitch was audible over the mitral area and the base. The pulmonic second sound was louder than the aortic closure.

The spleen was not palpable though its area of dulness was enlarged. The liver was not felt. The epigastric and umbilical regions were tender to pressure. Knee-jerks present, but not prompt.

Temperature 98.6, pulse 90, respiration 20. Urine 1.015—no albumin—no sugar and no casts.

September 11, blood examination showed hemoglobin 18 per cent., reds 2,576,000, whites 6,600. No stained preparations were made.

September 15, gastric contents were expressed one hour after a test meal of tea and toast. No free HCl present, no lactic acid.

September 23, blood examination, hemog. 17 per cent; reds, 2,280,000; whites, 6,000.

October 20, blood examination, hemog. 12.5 per cent.; reds, 843,000; hematocrit, 980,000; whites, 4,500; color index, .80; volume index, 1.17. The differential count showed: small mononuclear, 10 per cent.; large mononuclear, 11 per cent.; polymorph. neutrophile, 66 per cent.; polymorph. eosinophiles, 13 per cent., no rouleaux formation; no nucleated red cells; poikilocytosis marked; polychromatophilia marked.

The presence of pronounced eosinophilia in a case of grave anemia made us strongly suspect the existence of an intestinal parasite so that the stools were examined frequently. The earlier specimens of feces were watery from the rectal injections employed and were therefore not easily studied. In a formed movement, however, the ova were found in large numbers. These eggs corresponded accurately in dimensions to those of *Uncinaria duodenalis*, measuring about 56 microns in length and 34 microns in width.

Subsequently the eggs of *Trichocephalus dispar* were found in small number by Dr. J. L. Miller. Charcot-Leyden crystals were present in some preparations, absent in others. Coverglass smears of feces hardened in alcohol and ether were stained with hematoxylon and eosin and eosinophilic granulations demonstrated. These granulations, like the Charcot crystals, were never numerous as is so often the case in ankylostomiasis.

The eggs were successfully cultivated and the larvæ brought to mature development. These experiments will be described later.

November 6, examination of the blood gave:

Hemoglobin 11 per cent.; reds, 748,000; hematocrit, 915,000; whites, 5,600; color index, 88 per cent.; volume index, 122 per cent. Differential count: small mononuclear, 15.8 per cent.; large mononuclear, 6.8 per cent.; polymorph. neutrophile, 70.2 per cent.; eosinophile, 7.6 per cent.; eosinophilic myelocytes, .2 per cent.; mast cells, .4 per cent. Poikilocytosis and polychromatophilia marked. Coagulation time, 5 minutes.

Previous to this examination the patient had taken thymol in small doses and it is not unlikely that many parasites were swept away and lost in the stools. The diminished eosinophilia and the smaller number of eggs found in the stools thereafter lend support to this assumption.

History in Hospital.—Treatment on the whole was unsatisfactory because of the profound weakness of the patient and the irritable condition of the stomach. A persistent nausea set in that interfered with stomach feeding and made the administration of thymol ineffective and even hazardous. Nutrient and salt enemata were resorted to, but the vomiting persisted until the patient succumbed on November 13.

During his stay in the hospital the most conspicuous symptom was epigastric pain of a dull nature at first, subsequently colicky. In the last two weeks this pain became continuous and was accompanied by great tenderness over the epigastric and right hypochondriac regions. The liver mass extended at this time about 2 inches below the costal arch and the tenderness on pressure was as great as that seen in hepatic abscess.

The bowels, as a rule, were constipated and required rectal enemata. The temperature was usually normal and ranged between 98.5 and 99.5 F. A tendency to hemorrhage was nowhere to be seen except from the intestinal tract. The feces gave the Prussian blue reaction for iron.

The examination of the eye grounds was twice carried out under difficulties. No retinal hemorrhage was apparent.

The blood findings throughout were of a most suggestive nature. An anemia at first of the secondary type, progressing until it corresponded in most respects to a primary pernicious anemia. The individual corpuscles grew larger and held an ever increasing amount of hemoglobin, the color index rising from 38 to 88 per cent. and the volume index reaching 122 per cent. The poikilocytosis was sufficiently outspoken, as well as the polychromatophilia, for a primary anemia. The scarcity of nucleated red corpuscles and the entire absence of megaloblasts is unusual in the primary pernicious form, yet some such cases have been reported. What convinced us that the anemia was not of the usual primary type was the eosinophilia of 13 per cent., for in the primary disease the eosinophiles are rarely increased. On the other hand, the uncinariæ and most of the other intestinal parasites are characterized by an increase in the eosinophilic cells.

Autopsy.—The postmortem examination was made November 13 by Dr. Harris, resident pathologist of the hospital. His report is as follows:

Body is that of a fairly well-developed and fairly well-nourished man 162 cm. tall. Postmortem rigidity and lividity present. There is a scar ½ cm. long on left arm, some edema of lower extremities. Paniculus adiposus well preserved and of a light yellow color.

Abdominal Cavity.—Diaphragm reaches to the fifth rib on the right side and to the sixth on the left. Some free straw-colored fluid in peritoneal cavity. Omentum extends down to the pelvis over the intestines and contains a considerable quantity of fat.

Pleural Cavities.—Some firm fibrous adhesions at right apex. About 1,000 c.c. clear straw-colored fluid in right pleural cavity, about 250 c.c. in left. Lungs do not meet in median line.

Pericardial Cavity.—About 500 c.c. of straw-colored fluid in the pericardial cavity. This fluid contains a few fibrinous flocculi. The pericardium is thin and surface is smooth.

Tongue, pharynx, larynx, not examined. Thymus absent. Esophagus and trachea negative.

Lungs.—Left lung smooth externally, marginal emphysema, crepitates throughout, floats in water, cut surface smooth, pale and drips fluid. On the diaphragmatic surface is a caseated nodule 8 mm. in diameter. Right lung—with the exception of the caseous nodule corresponds to the description of the left. Both lungs are quite free of pigment and weigh 2,870 gms. Peribronchial lymph glands are negative except for anthracosis.

Heart.—Cavities are quite empty, left ventricle contracted, aortic and pulmonary semilunar valves are competent, read by water test. Some fibrous thickening at the base of the aortic valves. One of the valves has a small fenestration 3 mm. long. Pulmonary valves show no changes. The mitral orifice admits three fingers and the valve shows a small amount of fibrous thickening, especially near the free borders. The tricuspid orifice admits five fingers; the valves show no changes. The left ventricle has an aberrant corda tendina extending from septum to left wall. Ventricular wall measures 16 mm., right ventricular wall measures 5 mm. Heart muscle is firm and very yellow, but not mottled. Heart weight, 300 gms. There is a slight increase of the subepicardial fat. There are a few atheromatous patches in the ascending aorta.

Spleen.—About ½ larger than normal, capsule is smooth, parenchyma is quite firm; Malpighian bodies prominent; there is an evident increase of connective tissue. The organ weighs 225 gms.

Kidneys.—Right weighs 175 gms. Section pale, cortical markings not well seen, relation between cortex and medulla is normal, capsule strips readily, pelvis is normal. Left kidney weighs 135 gms. Answers to the description of its fellow.

Ureters, bladder, testicles and adrenals present no abnormal appearances.

Liver.—Extends 4 cm. below costal arch, capsule smooth and glistening—presents yellowish mottled appearance. Cut surface mottled yellow and red, lobules well seen. Liver cuts with decreased resistance. Weighs 1,600 gms. Bile ducts patent, bile dark brown, no concretions. Pancreas shows no changes.

Stomach.—Of normal size, externally is normal, mucosa is covered with much grayish yellow mucus, no parasites.

Small Intestines.—External appearance normal. Intestines contain a large amount of very tenacious mucus. In the duodenum was found one hook-worm. One hundred and fifty were found in the jejunum and upper part of ileum, being most numerous in the upper and middle jejunum. None found in last 18 inches of ileum. They were very adherent, and were in the proportion of about four females to one male. At point of attachment of some of the parasites was found a small ecchymotic spot and scattered along the rest of the mucosa a few other ecchymotic spots were seen—possibly points of previous

attachment. The mucus in places was blood-stained. Mesenteric glands were enlarged and of a pinkish color. Appendix lies in false pelvis to the outside of the psoas muscle and behind cecum—bound down by fibrous adhesions and curled at its tip.

Spinal Cord.—Shows no microscopic changes.

Bone Marrow.—Removed from femur. Marrow is yellow and very fatty. At two points it had a reddish color, but was even here practically all fat.

ANATOMIC DIAGNOSIS.

1. *Uncinaria duodenalis* of small intestine. 2. Ecchymosis of intestinal mucosa and hemorrhage into intestinal lumen. 3. General anemia and edema of dependent portions of body. 4. Bilateral hydrothorax. 5. Hydropericardium. 6. Edema of lungs and caseous tuberculosis of lower left lobe. 7. Slight atheroma of aorta. 8. Fatty degeneration of heart and liver. 9. Aberrant chorda tendina. 10. Passive congestion and fatty degeneration of liver. 11. Chronic interstitial splenitis.

HISTORICAL.

So much has been written of late years concerning the history of this disease in the old world that I will make mention only of the more important data.

The affection was first satisfactorily described by Piso (1648) in Brazil. During the eighteenth century it was observed in Guadeloupe by Labat (1748), in St. Domingo by Chevalier (1752), in the Antilles by Dazille and Bason (1776), and in Jamaica by Edward (1790).

Dubini[3] of Milan was the discoverer of the parasite in 1838, and Siebold (1845) classified the nematode in the family *Strongylus*. Griesinger,[4] in 1854, and Wucherer,[5] in 1872, demonstrated that the widespread disease known as "Egyptian chlorosis" was caused by this parasite. In 1877 Grassi[6] and others established the fact that the anemia of brickmakers, long known in Italy to be of an epidemic nature, was a form of uncinariasis. It seems altogether probable that the Italian laborers carried the infection to the St. Gothard tunnel and caused there the fatal outbreak of 1880.

Since then the hook-worms have been observed in nearly all European countries, in Japan, Asia, Australia, India, South America and the United States. Among the names given to the disease are brickmakers' disease, geophagia, cachexia Africana, tunnel disease, miners' disease, mal d'estomac, ankylostomiasis, and more recently, the designation which is perhaps preferable, uncinariasis.

Of especial interest is the appearance of the malady in our own country. Clinical descriptions of the disease have been given by Chabert in Louisiana (1820), Duncan in Alabama (1849), and Lyell in Georgia (1849). Herff[7] also describes a case in Texas seen in 1864, where worms resembling uncinaria were found in the duodenum. Belfield[8] was one of the first to identify the hook-worm in America. His specimens were taken from the intestines of cats dying of anemia. They were sent to him by Dr. Gelbach of Mendota, Ill.

CHRONOLOGICAL LIST OF CASES.

This list reviews in chronological order the cases which have been observed in man in the United States:

I. Blickbahn[9] (1893): One case, a brickmaker, seen in St. Louis. Probably infected in Germany. Profound anemia. Eosinophiles increased. Eggs and worms observed.

II. Möhlau[10] (1896): From Buffalo, N. Y. A brickmaker who acquired the disease in the same locality. Diagnosis from eggs. Anemia.

III. Ibid. (1896): From Buffalo, N. Y. A farmer. Probably infected in region of home. High grade anemia. Parasites and eggs expelled by high rectal douches. (No mention is made of a previous administration of an anthelmintic.)

IV. Ibid. (1896): From Buffalo, N. Y. A stone cutter. Disease contracted from Italian companions in brickyard. Anemia. Eggs of *Uncinaria duodenalis* and of *Tenia solium*.

V. Ibid. (1896): From Buffalo, N. Y. A boy who had suffered from a fever resembling typhoid. Infection probably in Buffalo.

VI. Ibid. (1897): From Buffalo, N. Y. A bricklayer, who brought the parasite from the St. Gothard tunnel. Anemia. Diagnosed by eggs.

VII. Tebault[11] (1899): A case in New Orleans; developed in that city. Pernicious anemia symptoms. Both ova and parasites seen.

VIII to XI. Ashford[12] (1900): Four cases at Glen Island, N. Y. All were natives of Porto Rico who had been in the United States only a few months. Anemia in all. Eggs and worms found. Species, *Uncinaria americana*.

XII. Dyer[13] (1901): A case in a woman in St. Louis. Source of infection not stated. Marked anemia. Diagnosis from ova.

XIII. Allyn and Behrend[14] (1901): In Philadelphia. A boy, who brought the disease from Italy. Anemia of high degree. No eosinophilia. Ova and worms found.

XIV. Gray[15] (1901): A native of Virginia. Disease contracted in the state. Anemia. Eggs and worms demonstrated.

XV. Schaefer[16] (1901): In Texas. Infection occurred in Mexico. Anemia. Parasites and eggs seen in stools; also *Tricocephalus dispar* eggs.

XVI to XXIII. Smith[17] (1901): In Texas. Discovered the eggs in eight university students at Galveston. The parasites were obtained in one instance and were of the species *Unc. americana*.

XXIV. Boggess[18] (1901): In Pennsylvania. Disease imported from Italian brickyard. Anemia of pernicious type. Ova and parasites observed. *Tricocephalus dispar* ova also present.

XXV. Yates and Hall[19] (1901): In Maryland. A sailor, who brought the disease from Mexico or some other tropical country. Anemia. Eosinophilia. Diagnosed postmortem by ova and worms.

XXVI to XXVIII. Boston[20] (1901): Three cases in Pennsylvania, one a student. All brought the infection from Porto Rico.

XXIX. Claytor[21] (1902): Reported the affection in a farmer in Virginia. Anemia profound. Eosinophilia. Both ova and parasites obtained. Species, *Unc. americana*.

XXX. Greene[22] (1902): In New York. A sailor, infected either in Brazil or Florida. Diagnosis from eggs.

XXXI-XXXII. Hemmeter[23] (1902): In Baltimore, Maryland. Two cases, a soldier and a sutler, both from Porto Rico. Eggs and worms seen.

XXXIII. Herrick[24] (1902): In Washington, D.C. Subject was a soldier from the Philippines. Extreme degree of anemia. Eosinophilia pronounced. Eggs and worms both demonstrated. Species, *Unc. duodenalis*.

XXXIV to XLVI. Harris[25] (1902): In Georgia. A farmer, native of Georgia, never out of the state. Anemia. No eosinophilia. Eggs and worms detected. Species, *Unc. americana*.

XLVII. Ibid.[26] (1902): Thirteen other cases in Georgia, all farmers. In one case the disease was brought from Florida, in another from Alabama. The remaining eleven were infected in Georgia. Anemia of varying intensity. Diagnosed by presence of eggs. Species, *Unc. americana*.

XLVIII to L. Moffitt:[27] Three cases in California, two coming from Mexico and one from the Philippines. Diagnosis by ova.

LI. Capps: The writer's case herewith reported, from Chicago. Infected in Panama. Pernicious anemia symptoms. Eosinophilia. Both eggs and parasites observed. Species, *Unc. duodenalis*.

SUMMARY OF CASES.

In all there have been 51 cases reported. A glance will show that the seaboard states have suffered most. New York leads the Atlantic coast group with 10 cases; then comes Pennsylvania with 5; Maryland with 3; Virginia with 2, and the District of Columbia with 1. Georgia exhibits the largest number in the south (14),

Texas follows with 9 cases. Louisiana has but one. California claims 3 cases on the Pacific coast. The inland states are represented by Missouri (2) and Illinois (1) alone, and it should be emphasized that in the two states last named the disease was imported in every instance.

A more important inquiry concerns the localizing of the regions in this country where the disease is endemic. With the exception of 3 cases originating in New York and 2 in Virginia, the infected areas are situated in the states adjoining the Gulf of Mexico, viz., Georgia, Texas, Alabama, Florida and Louisiana.

This fact becomes significant when it is stated that of the imported cases 9 came from Porto Rico, 4 from Mexico and 1 each from Panama and Brazil respectively. The Philippines contributed 2 cases, Italy 3, Switzerland and Germany 1 each.

The prevalence of uncinariasis in the South and in the West Indies is far greater than the published cases would indicate. Competent observers believe that the "clay-eaters" of the South and many of the ill-nourished anemic inhabitants are subjects of the malady.*

PREVALENCE IN THE PHILIPPINES AND WEST INDIES.

Uncinariasis is a common disease in the Philippines, according to the reports of our army surgeons.

From the 8 cases observed in Cuba this year by Guiteras,[38] we may reasonably believe it to be a common affection also among the Cuban natives.

Ashford believes that the complaint is widespread in Porto Rico. He selected 20 cases of so-called "tropical anemia" and found the ova of uncinaria in 19.

SPECIES OF PARASITE IN THE NEW WORLD.

Less than a year ago Stiles[28] discovered that the hook-worm found endemic in Texas, Virginia, Georgia and the West Indies was of a different species from the old-world type, and named it *Unc. americana.* This species is characterized by an anteriorly situated vulva, a dorsal conical tooth, and in the caudal bursa of the male by a bipartite division of the dorsal ray.

Most observers have not attempted to differentiate these varieties. The case of Allen and Behrend, which came from Italy, was infected with the *Uncinaria duodenalis,* as might be expected. Herrick's case from the Philippines was also *Unc. duodenalis.*

My own case, from Panama, I first described as the old-world species and subsequently this opinion was confirmed by Dr. Stiles, to whom I forward specimens. It is surprising to find the new-world type in the West Indies and the old-world species in Panama. Are we to consider the Panama region as contaminated by the foreign canal workers, or is the duodenalis endogenous on this continent as well as *Unc. americana?* The question can not be definitely answered at present, but it seems not unlikely that the duodenalis was imported to Panama by Italian laborers employed on the canal. Light would be thrown on this question by an investigation of the species occurring in Mexico and the countries adjacent to Panama.

CULTURE EXPERIMENTS.

The conditions necessary for the hatching out of eggs and the growth of larvæ are:

(*a*) A suitable culture medium. The feces have proven better than artificial media.

(*b*) Moisture. The larvæ die rapidly if the medium is allowed to dry. The ova develop best in a soft medium without too much water.

(*c*) The temperature should be not above 37° C. and not below 20° C. Between 25° and 30° C. the growth is most rapid. High temperature and freezing destroys both eggs and larvæ.

(*d*) Air. Without a supply of oxygen the eggs do not hatch. Hence the outer layer of a culture shows many embryos, while the inner portion may contain eggs only.

The following experiment was tried: A bottle filled with feces was tightly corked and kept at a temperature of 27° C. for two weeks. No larvæ were present. The same specimen was replaced in the incubator with the cork removed under the same conditions of moisture and temperature. Within 46 hours embryos could be seen in great numbers.

At a temperature of 27° C. the embryos were developed to maturity. The structural changes incident to growth and the several stages of shedding the outer cuticle (ecdyses) could be easily followed. I was particularly impressed with the voracious feeding of many younger forms. One could see particles of matter carried down swiftly from the mouth to the bulb-like end of the esophagus, impelled by a vibratory sucking action. Within the bulb the material was macerated by the claw-shaped teeth and forced downward in the alimentary canal, where it was finally expelled from the anus by a contraction of the lower extremity. The complete process from ingestion to expulsion occupied less than one minute and illustrates the surprising blood-sucking capacity of the parasite. Larvæ eight weeks old are still present in our cultures.

I am at present feeding the living embryos to cats and dogs in an attempt to infect them. Previous experiments along this line, however, have been unsuccessful.

MODE OF INFECTION.

Man contracts the disease by swallowing the living larvæ. Both food and drinking water may carry the contagion, but perhaps a more common method results from uncleanliness of the hands. The subject gets the hands covered with the larvæ-contaminated mud, and in conveying food to the mouth ingests the parasites. In one drop of mud there may be dozens of embryos, so that a few exposures of this nature are sufficient to produce a severe infection. Among the "clay-eaters" the danger of infection is obviously very great.

The soil itself may owe its contamination to the careless deposit of feces from an infected individual. Thus one subject may cause an epidemic among workers in clay that was previously free of larvæ.

Looss[29] has proven that the larvæ may also enter the body through the epidermis. Bentley,[30] experimenting along the same lines, has discovered that the "ground itch" of coolies is set up by an invasion of uncinaria larvæ into the skin.

SYMPTOMS.

The symptoms fall into two general groups:

(*a*) Gastrointestinal. Severe colicky pains in the abdomen, nausea and vomiting and diarrhea occur often in the acute forms, less frequently in the chronic.

(*b*) Those arising from anemia of varying intensity. Most characteristic are the cases with a profound anemia who suffer from dizziness, dyspnea, hemorrhages, edema and exhaustion.

Many individuals who harbor a small number of worms, suffer, doubtless, from vague symptoms of malaise, indigestion and malnutrition. Still others do not consider themselves ill.

* See Editorial, p. 36, and Society Report, p. 48, in this issue.

DIAGNOSIS.

1. The *occupation* is often suggestive. Workers in dirt and clay, in brickyards, tunnels, mines or canals; soldiers and travelers exposed to unsanitary conditions of camp life with a large number of men; farmers living in contaminated localities are especially liable.

2. *Anemia* of high grade without a satisfactory cause should direct the attention to an investigation of the blood and stools.

3. *Examination of the blood* in typical cases reveals a condition resembling pernicious anemia. There is a great reduction in the hemoglobin and red corpuscles. Nucleated red corpuscles, however, are few in number and the normoblasts outnumber the megaloblasts. The statement is frequently made that the blood of uncinariasis is a chloranemia, and therein differs essentially from the pernicious type. Such a distinction can usually be made in the milder cases or in the early stages of the disease, but when the blood count falls below 1,000,000 the color index becomes higher and often is above normal. In like manner the volume of the erythrocyte, which is much diminished in the early stages, begins to increase with the progressive oligocythemia and may exceed the normal. This is determined by using the hematocrit in connection with the Thoma Zeiss apparatus, according to the formula: Percentage of erythrocytes by volume (hematocrit) divided by percentage of erythrocytes by count equals percentage volume of the average erythrocyte or volume index. In the present case the last two examinations gave a volume index of 1.17 and 1.22 and a color index of .80 and .88 respectively. We must be prepared, therefore, to find in many of the severe cases a color and volume index essentially the same as occur in pernicious anemia.

In our case macrocytes were present measuring 10 to 12 microns in diameter, but none of the huge cells seen so often in pernicious anemia. Poikilocytosis was less pronounced than usual in primary progressive anemia.

Eosinophilia is the most striking characteristic of the blood when it is present. Most cases of uncinariasis have from 3 to 30 per cent. of eosinophiles. The parasites play two distinct rôles with regard to these cells.

(*a*) A local chemotactic influence which brings eosinophiles in large number to the vicinity of their habitat.

(*b*) A toxic agent secreted by the parasite that is carried to the bone marrow and stimulates the production of eosinophile cells. The evidence of the former process is found in the usual profusion of eosinophile granules in the feces. The latter gives rise to the excess of eosinophile cells in the circulating blood.

Absence of eosinophilia does not at all exclude the possibility of hook-worms.

4. *Examination of the feces* is the only means of making a certain diagnosis. The ova found in a fresh specimen are characteristic, particularly the segmenting forms. *Oxyuris vermicularis* eggs are about the same size, but flattened at the ends; moreover, they are nearly always hatched out before leaving the alimentary canal. Further proof may be obtained by cultivating the larvæ or by expelling the adult worms with anthelmintics.

Charcot-Leyden crystals are almost always present in varying number. Their existence indicates not necessarily uncinariæ, but any form of intestinal parasite. Leichtenstern[31] says they are almost constant with uncinaria and *Anguillula intestinalis*, common with *Ascaris lumbricoides* and *Oxyuris vermicularis* and often present with *Tenia solium*. According to Bucklers[32] the crystals disappear after the worms are expelled, so that the persistence of crystals is proof that some parasites remain in the bowel.

A close relationship seems to exist between eosinophilia and the Charcot-Leyden crystals, as first pointed out by Zappert.[33] In fact, Neusser[34] asserts that the crystals represent a product of the granules. He cites in support of his view that eosinophiles and Charcot-Leyden crystals are both present in leukemia, in the sputum of asthma, in bone marrow, in mucous polypi of the nose and the vesicles of pemphigus. Gerhardt[35] points out the danger of mistaking for these crystals those formed from fatty acids.

Mixed infections are very common. The *Anguillula intestinalis* is not rarely met. Perroncito[36] states that this nematode was often associated with the hook-worm in the St. Gothard epidemic. He believed a graver form of anemia thus resulted than from the single infection, but Bozzolo[37] and Grassi opposed the theory.

In the American series the *Tricocephalus dispar* occurs most often with the uncinaria. Its effect on the patient is probably trivial.

TREATMENT.

The disease is curable if recognized early and treated properly.

The bowels should be cleared the evening before administering the anthelmintic. Thymol in a two-gram dose repeated in two hours and followed by a saline is effective as a rule. Santonin and male fern are not so satisfactory.

Prevention can be best accomplished by:

1. Drainage and drying of swampy lands.

2. Where numbers of men are working in tunnels, ditches or canals, by examination of the feces of workmen and the exclusion of infected individuals.

3. Proper disposal of dejecta in suspected localities by burning or by disinfectants.

4. Enforcement of cleanliness in washing the hands before taking food.

5. A pure water supply.

The case here reported, so far as I know, is the first instance of hook-worm disease originating in Panama. Coming as it does from the Chagres river, which is in the path of the Panama canal, its importance is evident. In the near future thousands of workmen will go from the United States to work on the great canal. Unless precautions are taken, not only will many of these men fall a prey to the disease, but they will bring back and plant the infection in the soil of numberless localities.

BIBLIOGRAPHY.

1. Stiles: Eighteenth Annual Report of the Bureau of Animal Industry, 1901, p. 189.
2. Mosler: Nothnagel's Specielle Pathologie und Therapie, Bd. vi, p. 245.
3. Dubini: Entozoografia umana. Milan, 1850, p. 244.
4. Griesinger: Archiv für physiol. Heilkunde, Bd. xiii, 1854.
5. Wucherer: Deutsches Arch. für Klin. Med., Bd. x, 1872.
6. Grassi: Gazzetta degli Ospedali, Milano, N. 41, Maggio, 1882.
7. Herff: Texas Med. Journal, June, 1894.
8. Belfield: Chicago Medical Journal and Examiner, 1886, p. 615.
9. Blickbahn: Med. News, Dec. 9, 1893.
10. Möhlau: Buffalo Med. Jour., 1896-7, p. 573.
11. Tebault: New Orleans Med. and Surg. Journal, September, 1899.
12. Ashford: Unpublished notes cited by Stiles. Vid. loc. cit.
13. Dyer: Interstate Med. Journal, St. Louis, March, 1901.
14. Allyn and Behrend, Am. Medicine, July 13, 1901.
15. Gray: Virginia Med. Semi-monthly, September, 1901, p. 269.
16. Schaefer: Med. News, Oct. 26, 1901.
17. Smith: Quoted by Schaefer. Vide loc. cit.
18. Boggess: Pub. Health Reports, Nov. 1, 1901.
19. Yates and Hall: Johns Hopkins Hosp. Bulletin, December, 1901.
20. Boston: Cited by Allyn and Behrend. Vid. loc. cit.
21. Claytor: Am. Jour. of Med. Sciences, January, 1902.
22. Greene: N. Y. Med. Journal, March 15, 1902.

23. Herumeter: Quoted by Stiles. Vide loc. cit.
24. Herrick: Am. Medicine, July 19, 1902.
25. Harris: Am. Medicine, July 19, 1902.
26. Ibid: Am. Medicine, Nov. 15, 1902.
27. Moffit: Personal communication to author.
28. Stiles: Am. Medicine, May 10, 1902.
29. Looss: Centralblatt für Bact. u. Parasitenkunde. vol. xxiv, p. 441, 1898.
30. Bentley: Brit. Med. Journal, Jan. 25, 1902.
31. Leichtenstern: Deutsches Med. Woch., 1892, p. 582.
32. Bucklers: Münch. Med. Woch., 1894, p. 21.
33. Zappert: Wien. Klin. Woch., 1892, p. 347.
34. Neusser: Wien. Klin. Woch., 1892, p. 44.
35. Gerhardt: Deutsch. Med. Woch., 1892, p. 334.
36. Perroncito: Atti dell Accad. del Lincei, Roma., 1880, p. 38.
37. Bozzolo: Giornale dell soc. Ital. d'igiene, 1880, p. 276.
38. Guiteras: Am. Medicine, July 19, 1902.

PROGNOSIS IN MENTAL DISEASES.*

FRANK PARSONS NORBURY, M.D.

Medical Superintendent Maplewood Sanatorium; Neurologist to Our Savior's Hospital.

JACKSONVILLE, ILL.

In the realm of practical clinical medicine there is no one feature that gives strength to the art and science like that of making a diagnosis. Upon this foundation—diagnosis—must be erected the superstructure of the case, embracing all of the primary essentials, of which it may be said that prognosis, by its approach to the personal element in the case, becomes of very great importance. Prognosis, then, is necessarily founded upon diagnosis. However, there enter into its consideration certain basic or fundamental essentials which make it both an art and a science.

Of the essentials contributing to make prognosis an art we will mention the ability to give estimates based upon experience. Herein are noted the deductions which acuity of observation and abstract reasoning give to the clinician, the quality of the observer which gives color to his art in diagnosis. Again, the cultivation of these faculties or of qualities of mind go to give, or make up that intuitive ability which is the art in its perfection. The science of diagnosis is perhaps more precise and more comprehensive in its observations, but not one whit more practical nor more sure in its forecast. Science in prognosis must found its judgment upon the judgment of diagnosis, which, even when founded upon almost absolute facts, is nevertheless fallible. "The science of prognosis is the science of forecasting; it must look to the art of discrimination, which, in truth, is a personal art; the observer being the artist." We can not draw a line of discrimination between the art and the science of prognosis. All that we can do is to become ourselves observers that we may contribute our mite to the accumulated experience and judgment so that on these may be formulated certain axioms which enter into and are a part of every diagnosis in mental diseases.

"As observations become more accurate as the number of observed cases increases, and as classes are better and better distinguishable, the nearer will the physician be able to approach an accurate prognosis, though the time when any sufficient rules can be applied to individual cases must long be out of our sight and the application of any approximate rules must long be subordinate to the instructive tact of the educated physician himself, who alone can apprehend the sum of the peculiarities which must modify their application to individual instances." (Allbutt.)

In mental diseases the question of heredity is ever of great importance, not so much perhaps as some of the older observers would have us believe, or as important as environment and all that goes with it. Family history should cover both of these questions, viz., the hereditary factor and the environments of the home. It is not timely to here bring into consideration the theory of heredity, even in its most modern conception, but let me enforce what doubtless is the experience of all who have had extended observation of insanity in its varied forms, that aside from the essentially degenerative insanities, environment has more to do in becoming a factor in prognosis than does the much discussed hereditary influences. Family history must, therefore, not only include the search of the family tree, but the soil in which it grows and the ill winds and wafts of fortune and misfortune which play among its branches and affect this one branch in particular.

The etiology of the mental disease is a factor which we all grant is an important one—one, in fact, which alone may give a forecast, and thus proclaim the prognosis even at the first consideration of the case. Again, we are confronted with the hereditary element, which may or may not modify our judgment as to the facts presented. If we will be sure to sift truth from the mass of utterly inconsequential chaff, which is the rule and not the exception in the history of mental cases, then the assigned etiology may be of value. It is impossible to draw any deductions as to prognosis from the tables of etiology published in the average report issued by the state hospitals of this country. Such tables are absolutely worthless as evidence upon which to found even approximate rules of prognosis; they become matters of record through the channels of the average insane inquisition, original hospital receiving records and the lax and superficial observations of the hospital physicians. This statement, of course, does not apply to those institutions in which the science and art of mental diseases is studied and in which the spirit of clinical medicine pervades the work of the staff, from the superintendent down the line to the ward attendants. The study of etiology in such hospitals is worthy of our greatest consideration. We have not sufficiently advanced in mental diseases to formulate definite rules of prognosis as based upon etiology, excepting in essentially organic cases—cases having a definite pathology. In all others we must apply our art and allow for our limitations and shortcomings as individual "artists."

Pathology is contributing its share, and a great share it is, too, toward the solution of problems of prognosis. It is from this field of certainty that we look for the advances that are to open to us many of the mysteries of the mind, and, while we may never cross that seemingly unbridgable, unknowable territory in which abides what we call mind, yet the effort of seeking for it will go on, and possibly deeper recesses may yet be opened to us.

Clinical history is of as much importance as the study of the case in its clinical aspects when first we confront it. We can only formulate deductions of what is to come by a study of what has gone before. We largely judge of the future, in medicine, by the past, and every case wholly upon its merits. The clinical history of every case, therefore, is a prime essential. It must be comprehensive, not superficial, skipping along, hitting the high places here and there, but should embrace all clinical facts, which must be a part of the record. Every case of mental disease is worthy of a record, for when studied closely and properly recorded, facts are accumulated which eventually become axioms upon which prognosis is truly and substantially founded. If every case in our state hospitals had a clinical record (which is worthy of the name of record) uniformly in keeping with all other records, then we could use such knowl-

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edge in formulating clinical deductions, then the science and art of mental diseases could better be studied and their effects for good or evil better known. Especially is this true of the study of diseases of metabolism—a class of diseases which modern chemical pathology is showing has a very important bearing upon mental diseases. In fact, we may say that, as this department of pathology develops, many of the problems which confront the chemist and the neurologist will be shown to be problems of clinical medicine.

The work of Christian Herter of New York is doing much towards the establishment of a more definite prognosis in mental disease, and opening the way for great advances in the treatment of these conditions. Herter's work shows how necessary it is for the successful chemist—the successful neurologist—to first be a successful physician, a broadly trained observer, a widely experienced practitioner, so that the whole scope of internal medicine may first be viewed before measuring the limitations or encompassing the field within the narrow confines of the specialty of nervous and mental diseases. When we become broad enough in our art and science prognosis will then be more comprehensive. Prognosis must, of course, always depend upon the observer; his art and science will say whether or not the prognosis is comprehensive. However, we endeavor in formulating a prognosis to determine the prospects in the case under consideration. This is summarized from a diagnostic study—a differential study of the points in diagnosis, and last, the condition of the patient.

If from the first study a diagnosis is determined then the prognosis will be based upon the nature of the case and our own personal deductions based upon our experience in similar cases, our knowledge based upon the experience of others and the literature of to-day. The rules are not absolute, but vary with the elasticity of our own experience and knowledge. The patient's future or forecast is determined largely on the result of our study of his attack. We have diagnosed the form and class of cases to which the case belongs, and then within the limitations of our experience and knowledge we are able to give at least a prospect—a judgment—the reliability of which varies with judgment of the observer.

The patient's future is of importance to himself and his friends and we can do no better act within our art than to give a prognosis in mental disease. We can be of no greater use to the friends and those depending upon him than that embraced in giving a prognosis. It must be remembered that a prognosis thus given must be founded on a summary of the whole art and science of prognosis and when thus given with the sincerity of an honest and conscientious clinician, then a duty well done has been discharged. The patient's future has an important bearing upon his descendants, but only in so far as the question of heredity enters, and also the question of environment which has contributed toward the evolution of mental disease. The mere abstract question of the effect upon the children born after mental disease or during mental disease is one to be determined in each individual case; a question requiring careful judicious consideration, and not to be lightly or flippantly disregarded.

In my own experience the question of prognosis is one which appeals to the whole of one's manhood, touches our heart strings, and gives earnestness of endeavor in treatment. It is a problem which concerns more than the individual and, in fact, more individuals in mental disease than in any other class of cases in internal medicine; hence we must cultivate broad and comprehensive ideas in our observation and study, grasp every opportunity to increase our knowledge and experience that we may be one of the many observers who are adding to accumulating knowledge of mental diseases upon which the art and science of prognosis must rest.

In conclusion, I would say that:

1. Prognosis is both an art and a science.

2. Prognosis should be founded upon the following: *a,* family history; *b,* etiology; *c,* pathology; *d,* clinical history; *e,* complexly related physical diseases.

3. Prognosis should be comprehensive and attempt to consider: *a,* the prospects in the present attack; *b,* its effect upon the patient's future; *c,* its effect upon his descendants.

Clinical Report.

A CASE OF URETERO-TRIGONO-INTESTINAL ANASTOMOSIS FOR THE RELIEF OF EXSTROPHY OF THE BLADDER.*

JULIUS H. JACOBSON, M.D.
SURGEON TO LUCAS COUNTY INFIRMARY HOSPITAL.
TOLEDO, OHIO.

The patient is a male, aged 29, who entered the Lucas County Infirmary Hospital April 2, 1902. The father died of Bright's disease; the mother of so-called dropsy; brothers and sisters all living; no tuberculosis or cancer in the family.

The patient relates that since birth he has had no control over his urine; it has always dribbled away, but he did not know what it was. He was operated on, when still a child, in Griefswald, Germany, but can not give the exact nature of the operation. He has always been obliged to wear some sort of receptacle to hold the urine, otherwise he has enjoyed the best of health. About one year previous to his entrance to the hospital, he underwent several operations for the relief of his condition. These operations consisted in the endeavor, by means of plastic operations, to cover the defect in the bladder, but they were not successful. At the same time he also underwent an operation for the relief of a large left inguinal hernia, which was thereby cured. He states that previous to these operations his genitals consisted of a rudimentary penis which was double, and that the urine flowed from one side of the organ. The rudimentary penis was removed during the plastic operations.

Examination of the patient, at time of entrance, revealed a well-nourished, tall, muscular individual presenting no emaciation; heart, lungs, liver and spleen were apparently normal. Above the symphysis pubis is an area of deep red tissue looking like granulation tissue and covered by a purulent secretion, which on close inspection proves to be a part of the bladder; from the lower part of same the urine can be seen to spurt at intervals of thirty to sixty seconds; both ureteral orifices can be seen and ureteral catheters passed into them. The abdominal wall, as well as the anterior wall of the bladder, is absent, which permits the posterior wall to prolapse forward.

The diagnosis of exstrophy of the bladder was easily made. Catheterization of the ureters, and examination of the separate urines gave the following: Left kidney—urine runs very freely through the catheter and is of a clear amber color, acid in reaction, highly albuminous; on microscopic examination, epithelial cells, leucocytes, urates, but no casts, are found. Right kidney—urine is of a dirty grayish color, flocculent and opaque, containing albumin, but not so much as is present in the other kidney; on microscopic examination, there are found great quantities of pus, red blood corpuscles and epithelial cells, but no casts. The urine examination reveals mainly the following facts: Both kidneys are the seat of chronic inflammation; the

* Presented before the Lucas County Medical Society, Oct. 3, 1902.

right one more so than the left, which is the result of ascending infection.

OPERATION.

A uretero-trigono-intestinal anastomosis, modified after Maydl, was made on April 19, 1902, Drs. Brewer and Steinfeld assisting. A mixture of chloroform and ether was the anesthetic used. The patient was prepared in the usual manner, while special care was given to the sterilization and preparation of the exstrophied portion of the bladder, which was the infected area to be feared. A ureteral catheter was passed into each ureter; the incision made immediately above the bladder about four inches in length and the peritoneal cavity opened; the patient raised to the Trendelenburg position. The intestines were held back by sponges. The incision was carried downward through the center of the bladder (between the ureters), dividing it in two. The ureters could be plainly seen, running outward, backward and upward; with the catheters in them they were surprisingly large and easy to manipulate, which greatly facilitated the work. Each ureter was dissected free by cutting it away from the bladder, leaving a circle of bladder tissue about one-half inch around the vesico-ureteral



Six months after operation.

openings, thereby leaving the natural ureteral openings into the bladder unmolested. The peritoneum on the right side was incised and reflected along the course of the ureter, permitting the ureter to be lifted from its bed. The peritoneum was further stripped from the posterior wall of the pelvis around to the rectum. An opening into the right lateral side of the rectum was next made, at about the level of the sacral promontory, into which the ureter with bladder-wall attached was sutured; first mucosa of bladder to mucosa of rectum by a continuous silk suture (black iron-dyed silk), then serosa of bladder to serosa of rectum with a like continuous suture. A few interrupted sutures were also applied to make the anastomosis more secure. The reflected peritoneum was finally sutured back into place (by a continuous catgut suture) making the entire anastomosis covered by peritoneum and placed extraperitoneally. About three and one-half inches of the lower part of the ureter was placed in a new position. The same procedure as described for the right side was made on the left side; the anastomosis on the left side being made opposite to the one on the right, a trifle lower. The peritoneal cavity was thoroughly irrigated with salt solution, sponges removed and patient lowered to the flat position. All of the remaining portions of the bladder walls were extirpated, hemorrhage being controlled by ligatures and cautery.

The incision was closed by interrupted silkworm-gut sutures supplemented by layer suturing of catgut. In the lower angle of the incision, where tension was great, a few tension sutures were applied. A large drainage tube was left in the lower angle of the wound, and the whole abdomen supported by broad adhesive plaster strips.

After the operation the patient suffered severely from shock, but, under stimulants and salt infusions, recovered. Immediately after the operation, the urine seemed to irritate the rectum, the desire to urinate being constant, which gradually disappeared as the rectum became more tolerant, until a tolerance of three to four hours was obtained. The abdominal wound became infected as was anticipated, suppuration was profuse which ceased after a time, allowing the wound to heal gradually, until at present it is practically closed.

The patient's condition at present is as follows : He is able to get around with no inconvenience; does considerable work about the hospital, wearing an abdominal bandage; voids urine through the rectum every three hours and states that he can hold it as long as six hours, if he wishes to do so. The bowels move regularly, and the urine is voided independent of bowel evacuations. He states that sometimes during the night the urine is passed unconsciously, during sleep. About three weeks ago he relates having passed a stone from the rectum, the nature of which was not determined, but may have been a calculus formation or lime deposit about the opening of the ureters into the rectum. The abdominal incision has united and is practically healed; in the lower angle is a small area of granulation tissue where the bladder was extirpated; this is dressed daily and is rapidly closing. In the upper angle of the incision a slight hernia has developed, which is especially noticeable when the patient is in the upright position.

Demolition of "Crazy Tower" at Vienna.—The great city hospital at Vienna is to be rebuilt and the famous round tower in which the insane were confined will soon be demolished. It was built about 1780, and usually contained 270 inmates crowded into small cells, four in a cell. There are no windows and merely narrow slits in the thick wall for light and air, with no means of heating the rooms. Of late years it has been used as a store room.

The Teaching of Common Diseases.—It has been said, and with some reason, that an average medical student, on graduation, is far better prepared to treat diseases and conditions he is never or rarely likely to see than those of common occurrence. He has probably seen much of major surgery, and is well informed regarding typhoid fever and diseases of the blood, but when he is brought face to face with a cold or a backache or any of the thousand and one minor ills of life, he is far less a master of the situation. It would be a poor policy to neglect the rarer affections for the sake of the commonplace, but it is almost equally unfortunate and far more unpractical to ignore the latter in the hope their knowledge of them may somehow come in later life. The fact apparently is that the instruction given is apt to concern itself chiefly with disease in its unusual manifestations. Interesting cases predominate. We rarely hear of a clinical exercise before a class devoted to the everyday variations from health. A course in common diseases remains to be offered, and our students are suffering in consequence. A remedy is perhaps difficult to find in the wards of a large hospital, where the patients are admitted for various reasons, but certainly not because they are commonplace. The solution lies in the more intelligent and systematic use of out-patient departments, to which each day great numbers come afflicted with the most trivial ailments. If the students could actually study these patients, under the direction of authoritative teachers, they would gain a knowledge which the ordinary clinical lecture is not likely to give. How this may be done is a matter of detail, but for out-patient departments to be used chiefly as opportunities for physical diagnosis and not for the detailed study of disease as such, is a misfortune which our improved organization should do all in its power to remedy. —*Boston Med. and Surg. Jour.*

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UNCINARIASIS (ANKYLOSTOMIASIS) IN THE SOUTHERN STATES.

A little over a year ago we stated[1] from facts then known that ankylostomiasis or uncinariasis was apparently a rare affection in the United States. Later data have modified this view, numerous cases have been observed, one of which very completely reported is published in this issue. During the past few weeks, moreover, some very important observations have been made in the Carolinas and Georgia, which are not only of great scientific interest, but which also will probably be of great value in improving the economic and physical conditions of the poorer population of some of the southern states. These observations have led to the discovery that "hook-worm" disease is extremely prevalent among the poorer classes of the southern whites.

Ankylostomiasis, or, more properly speaking, uncinariasis, has for generations prevailed more or less extensively in various parts of Europe and in Egypt. It is known under various names, such as tunnel disease, tunnel anemia, miners' anemia, brickmakers' anemia, Egyptian chlorosis, tropical chlorosis and hook-worm disease. It occurs most frequently in persons whose occupations necessarily bring them in contact with fresh or dried earth. It was the disease that proved so fatal to the workmen engaged in the construction of the St. Gothard tunnel. It is due to infection of the intestinal tract, particularly the duodenum and jejunum, with a small nematode parasite, the *Uncinaria duodenale,* the male measuring from 6 to 10 mm. long, and the female from 10 to 18 mm. The parasite produces anemia, not only by sucking blood, but also by causing an injury to the intestinal wall where it has attached itself, from which oozing of blood continues after it has let go. There is a possibility also that it produces a toxic substance which has a hemolytic action on the red blood cells. The eggs develop only after leaving the intestinal tract, so that for every adult hook-worm present in the intestine a separate larva must enter the body. Infection is believed to occur usually by the individual conveying the larvæ to his mouth on infected hands. Loos, in 1901, published the results of experiments which led him to believe that infection occurred by larvæ entering through the skin. During the present year, Bentley advanced the view that "ground-itch" or "pani-ghao," a cutaneous disease, is due to the entrance, subcutaneously, of hook-worm larvæ.

Previous to 1902 not more than twenty-five observations had been reported in the United States. These infections were all believed to be due to the European species. In May, 1902, Dr. Stiles of the United States Bureau of Animal Industry, Washington, reported[2] that he had discovered a new species of uncinaria, to which he gave the name *Uncinaria americana,* in the feces forwarded him from a case in Galveston, Texas. This parasite differs from the old-world species in two main features: the eggs are considerably larger and the two ventral, recurved hook-like teeth of the adult are replaced by a pair of semilunar plates in the American species. Stiles[3] has recently described this parasite more fully in a bulletin issued by the Department of Agriculture. Since then observations have been accumulating to show that uncinariasis is very common in some of the southern states. All the infections appear to be due to the new American species. H. F. Harris of Atlanta reported his first case in July, 1902, and since then he has observed thirteen cases, eleven in Georgia and one each in Alabama and Florida. He believes that the disease is a much more frequent cause of severe anemia in the south than is malaria, and is of the opinion that investigation will prove that it is the most prevalent of all the severe diseases in the southern states. Guiteras has reported cases from Florida and Cuba, and the disease is known to prevail in Porto Rico.

Recently, Stiles has spent considerable time in the Carolinas, Georgia and Florida investigating the prevalence of uncinariasis. He made a preliminary report[4] of his studies at a meeting of the Sanitary Conference of American Republics, held in Washington, December 2 to 4. He finds that the disease is extremely prevalent among the poor whites of the sand and pine-woods districts of the south. He believes that its prevalence in succeeding generations has resulted in the inferior physical development and lowered mental caliber of these people, and that it is the cause of the proverbial laziness of the southern "cracker." Men and women of 20 to 23 years of age resemble in appearance children of from 14 to 16. The disease is believed to prevail also in the "dirt-eaters." In this remarkable malady there is a vicious circle, the uncinariasis probably being in part responsible for the depraved appetite and the depraved appetite keeping up the infection. Owing to the marked secondary anemia produced, uncinariasis closely resembles chronic malaria, for which it has long been mistaken. The disease is readily recognized by finding in the stools the characteristic segmenting ova, from which the embryos can be easily cul-

1. THE JOURNAL A. M. A., Nov. 30, 1901, xxxvii, p. 1466. See also Original Article, p. 28, and Society Report, p. 48, on this subject.

2. American Medicine, May 10, 1902, p. 777.

3. The Significance of the Recent American Cases of Hook-worm Disease. (Uncinariasis, or Ankylostomiasis) in Man. (Reprint from Eighteenth Annual Report of the Bureau of Animal Industry, 1901.)

4. THE JOURNAL A. M. A., Dec. 20, 1902, p. 1611.

tivated. Fortunately, it is usually amenable to treatment. Thymol in 30-grain doses at 8 and 10 a. m., followed by a purgative at noon, nearly always clears the intestinal tract of the adult worms.

It can readily be seen what a far-reaching effect this most important discovery will probably have in improving the physical and mental status of the poorer classes, both white and colored, of the south. It is most sincerely to be regretted that the daily press in certain parts of the country has, as is too often the case, done much to throw discredit on scientific investigations by announcing to the public in a most sensational manner that "The Germ of Laziness Has Been Discovered."

THE VIRUS OF SMALLPOX.

The minute bodies discovered in the vaccine lymph of calves by Van der Loeff still continues to puzzle investigators. Reasons for this are the repeated failures to find, even by improved methods of bacteriologic research, any specific micro-organism as a cause for variola and the difficulty in accounting for the vaccine bodies except as parasites. Foremost among those works maintaining their intrinsic somatic origin is that of Hückel ascribing them to a specific degeneration of the epithelial cells; prominent among the supporters of their parasitic nature is Guarnieri, who concluded, from a study of their morphology as they occur in the vesicles produced by vaccinating rabbits' corneas, that the vaccine bodies are protozoa.

Soon after the work of Guarnieri, L. Pfeiffer found them in the blood of both variolous and vaccinated people as free, swimming, nucleated bodies, one-fourth the size of a red corpuscle. These observations were soon confirmed by Reed in this country, who found similar bodies in the blood of vaccinated monkeys and calves. Although he also found them in the blood of a monkey and a child, both of whom were unvaccinated, he stated that the vaccine bodies are greatly increased in the blood during the height of vaccinia, whereas before and after such periods they are rarely seen.

Experiments directed to their artificial cultivation have been made repeatedly; lymph containing them has been transferred to both fluid and solid media, and at later periods animals have been vaccinated from the media. The objection made to such experiments are that successful vaccination was due to the employment of diluted virus rather than freshly grown vaccine bodies.

Other observations similar to those noted above and evidence from various sources of the identity of vaccinia and variola have served to augment the importance of the vaccine bodies—occasionally referred to as Guarnieria—as possible causative agents of both conditions. The work of Wasielewsky[1] in no small degree increased the growing interest in this problem. He produced corneal vesicles by vaccination in 46 rabbits by transferring the exuded lymph from one animal to another successively; demonstrated the constant presence of vaccine bodies in the lymph and ascertained that when filtered lymph was employed the bodies were absent and no vesicles formed. These observations apparently make the development of the eruption of vaccination contingent on the presence of the bodies in question, yet it is not unlikely that the real *causa causans* has escaped discovery, that in the experiments of Wasielewsky it, too, failed to pass the filter and that the vaccine bodies represent the consequences in part of its action on the tissues. Ishigami[2] has recently announced the artificial cultivation of these alleged protozoa. In order to procure material free from bacterial taint, he made intravenous injections of vaccine lymph in calves. From the vesicles that appeared after a few days on various mucous surfaces and the inner aspects of the thighs and ears, he obtained lymph uncontaminated with bacteria; later he secured the same result by adding small quantities of carbolic acid to lymph. The medium on which the vaccine bodies were grown consisted in large part of epithelium from unvaccinated calves. The evolution of the parasite in cultures made from the crusts of variolous or from human or bovine lymph resembled the series of changes these bodies undergo in the tissues. Vaccination with subcultures was successful until the fourth transplantation; the animals vaccinated with such cultures remained refractory to further vaccination and the vaccine lymph collected from them produced typical vesicles in others.

The production of vaccinia with subcultures removes the objections of those who would attribute any success from cultures to the virus originally sown on the medium. On the other hand, it may be that vaccination from cultures of the second and third transplantations was due to the growth of some ultra-microscopic organism, as yet undetected, instead of vaccine bodies. The contribution of Ishigami is nevertheless an important one; its results should be confirmed by others and the nature of the vaccine bodies determined.

On reviewing the accounts of the vaccine bodies and the opposing views as to their interpretation, a marked similarity with the history of the so-called protozoa of cancer is evident. In cancer and in the lesions produced by the virus of smallpox, the structures described as parasites appear in the epithelial cells and there many details of morphology and tinctorial reactions common to both. In both cases there is a small body of enthusiastic supporters of the protozoan character of the suspected parasites.

OCCASIONAL DIAGNOSTIC DIFFICULTIES IN SURGERY.

Some weeks ago[3] we commented on the unfortunate outcome of an operation which illustrated some of the unavoidable diagnostic errors in surgery. Since then

1. See Editorial in THE JOURNAL, xxxvii, 1466.

2. Centralbl. f. Bakt., etc., 1902, xxxi, 794.

3. THE JOURNAL A. M. A., Oct. 25, 1902.

the case has been reported in full,[2] showing in much stronger light the difficulties under which the operator must labor and the misleading character of the symptoms in certain cases.

In this case the patient had on a former occasion accidentally swallowed his false teeth, and was positive that he had done the same again. It seemed almost certain that he did swallow them, but unconsciously relieved himself in his efforts, and then continued to struggle with his hyoid, the external cornua of which he could touch, believing it to be the plate he had swallowed, thus severely lacerating his throat. The obstruction became complete, only rectal feeding was permissible, and the inflammation extended to the air passages, necessitating an emergency tracheotomy. The diagnosis was misled by the skiagram in which a calcification of the aorta caused a shadow resembling the plate; this and the seriousness of the symptoms, all out of relation to the local operative traumatism, rendered operation imperative. Only after it had proved the absence of the foreign body did the family abandon their opinion and renewed search reveal the missing teeth. Thirteen physicians were familiar with the case, were present at the operation, and none of them questioned the diagnosis. The whole case seems to have been managed with all the cautions that surgical knowledge could suggest, and the fatal outcome, we judge from the report, was probably not hastened or influenced by the operation.

Dr. Crile's paper, referred to above, contains a useful study of the literature of approximately similar cases. A strikingly similar one is that reported by Lund,[3] in which the presence of a supposedly swallowed set of teeth was diagnosed by a lecturer at the Royal College of Surgeons, the cornua of the hyoid being actually felt while the autopsy showed the absence of the plate. The deduction drawn is that neither the sound nor the *x*-rays are infallible aids to diagnosis, and the reported cases show that distinguished surgeons as well as patients have mistaken the hyoid for a tooth plate impacted in the esophagus. Considering the greatly heightened mortality rate of the non-operative treatment of such cases, the urgency of the symptoms in the case reported, entirely apart from the question of the actual presence of the plate and the error of the diagnosis, it does not seem to us that there was any defect of good surgical judgment in the course adopted.

OPERATIVE TREATMENT OF EPILEPSY.

Idiopathic epilepsy was long considered a disease belonging to the field of internal medicine, and is still so considered by many. From time to time, however, enterprising surgeons report results of series of cases subjected to operative treatment with more or less success. In the intervals between such reports some lose sight of the fact that such cases have been treated surgically, and consider the operative treatment of epilepsy something new. Most of the earlier operations found their justification on the basis of animal experimentation. Physiologists have demonstrated that sudden anemia of the brain, such as is produced by ligation of both the carotid arteries and the vertebral arteries simultaneously, will produce an epileptic attack.

On the other hand, there is some experimental basis for the supposition that brain hyperemia produces epilepsy, and a number of surgeons have practiced ligation of the vertebral arteries with the idea of curing epilepsy by preventing brain hyperemia. Among the later operations is resection of the cervical sympathetic ganglion, and since the introduction of this operation the benefit of ligation of the vertebral artery has been attributed to the accidental division of the sympathetic nerve, or nerves, during the operation of ligation. The resection of the cervical sympathetic ganglions prevents sudden occurrence of anemia of the brain by paralyzing the vasomotor constrictor nerves, the nerves which produce contraction of the smaller vessels of the brain. If epileptic attacks have their origin in brain anemia, this operation has at least theoretical justification. Sporadic cases had been reported from time to time, but in 1896 Jonnesco of Bucharest brought the subject prominently before the profession at the Surgical Congress at Paris and reported 97 operations of this kind which he had collected from the literature or personally performed. Jonnesco now maintains that it is necessary to excise all three of the cervical sympathetic ganglions on both sides of the neck. The immediate effect of the operation is to produce hyperemia of the face and conjunctiva, contraction of the pupil and ptosis. The symptoms are usually transitory and no permanent trophic disturbances have been reported. The operation has not been attended by death in any case and the percentage of recoveries in over 200 cases is placed at about 6 per cent. Although this is not brilliant, it is more satisfactory than the treatment of epilepsy by bromids or other medical means, which scarcely yield 2 per cent. of permanent cures. The operation is relatively a new one and its indications are not yet well understood. Possibly, when cases can be better selected, particularly if earlier and less severe cases are taken, the results may be more satisfactory.

Craniectomy has been long recognized as a most satisfactory treatment for all cases of traumatic epilepsy, but few have attributed any value to the operation in idiopathic epilepsy. Kocher has been one of the chief advocates of the operation in idiopathic cases, and reports patients who have been without attacks for over three years. The operation is based on the theory that epileptic attacks are caused by increased intracranial tension with brain hyperemia, and by removing a portion of the skull a safety valve is formed which prevents recurrence of abnormally high intracranial pres-

2. Cleveland Medical Journal, December.
3. Brit. Med. Jour., 1885, I, 1142.

sure. Many investigators, for example Von Bergmann, Dejerine, Bier, Braun and others, hold that the theories with regard to circulatory disturbances are without sufficient foundation and consider operation absolutely unjustifiable.

Our information at present is fragmentary and based on entirely too much theorizing. Possibly some cases may be due to brain anemia, while other cases are the result of brain hyperemia. Further experimental studies along these lines are needed and, it would seem, might yield valuable results.

AN EDITOR'S VALEDICTORY.

Dr. Malcolm Morris publishes his valedictory as editor of the *Practitioner* in the December issue of that journal. We do not know who is the "younger and swifter runner" to whom he resigns his place in medical journalism, but he will have to be a worthy one to fill the place held by Anstie, Brunton and Morris. The *Practitioner* has been one of the brightest as well as one of the most solid and scientific of our British exchanges, and it is to be hoped that it will lose none of its good qualities by its change of editors.

A COMMEMORATION OF LISTER'S WORK.

The issue of the *British Medical Journal* of December 13 is a special Lister number, commemorating the completion of fifty years of medical practice of Lord Lister. The editor has made it a sort of Festschrift, made up of contributions by various eminent followers of Lister's teachings in different countries, Von Bergmann and Mikulicz-Radeski in Germany, Lucas-Championniere of France, Durante of Italy, Bloch of Denmark, together with those of several British surgeons, Ogston, March and Berry Hart. The history of antiseptic surgery as it developed under the initiative of Lister is given by Annandale, Sir Hector Cameron, John Chiene and Watson Cheyne. It is to be regretted that there are no American contributors, for what Lister has done for surgery is nowhere more appreciated than in this country, and nowhere, we believe, are the results more apparent. The editor of the *British Medical Journal* informs us that it was the original plan to have such included, but for some reason or other those who were depended on did not supply them. As it is the number is a pleasant tribute to one of the greatest advancers of surgical technic and success.

JOINT CHANGES IN TABES.

The pathogenesis of the arthropathias is still in doubt. The rôle of trauma, analgesia, neglected rheumatic effusions, rarefaction, epiphyseal separation and bone atrophy as an end result of syphilis are still denied as causative factors by many who look on the condition as induced in some manner by the peculiar and inherent nature of the disease itself. Since the macroscopic, chemic and histologic investigations of Regnard, Féré and Blanchard on the bone changes in tabetics, no one has seriously doubted the importance of these tissue alterations as factors in the arthropathias of this disease. However, the extensive study of Kienböck six years ago on tabetics by means of radiography gave no abnormal picture, neither in the arthropathic joints nor in any of the free articulations of such patients. While this investigation was a surprise to those who believed in the theory of rarefaction and bone atrophy, it failed of conviction in the presence of the more accurate microscopic and chemic studies on tabetic bone which had been previously made. In a review of the contending theories Donath[1] reports two very instructive cases of arthropathia in tabetics. In one, a typical Charcot knee was accompanied by a corresponding enlargement in all the calf muscles. The changes in the soft parts were identical in character and originated from an extension of the effusion and infiltration from the adjacent tabetic joint. The same case showed arthropathia of the elbow joint in which the triceps tendon became calcified apparently on account of immobilization. This fact suggests a practical rule: Do not permit the use of a bandage compress for too long a period as a corrective without active or passive movement of the joint. In the second case the second joint of the index finger, an unusual seat, was involved, together with its tendon (contracture). Both cases were undoubtedly luetic-tabetics and the joint changes were typical of the affection. Radiographic study showed the light shades very well, the existence of which as signs of rarefaction are denied by Kienböck. Donath emphasizes the fact that during the inactivity of the bone atrophy, radiography fails to give a typical picture. In point of fact it does not show itself in an active stage except in those cases which are ultimately fractured; hence the discrepancy in the different radiographic investigations of tabetics. Indeed, they often fail to show positive signs of epiphyseal fracture even with good technic, if rarefaction and decalcification are not great, and if the parts are buried somewhat deeply by soft parts, such as that of the knee and hip. The decalcification of bone which constitutes the predisposition is a nutritional disorder, probably the result of syphilitic endarteritis which hinders a proper blood supply. The author finally gives us the latest summary of the pathogenesis of the condition: A bony change with analgesia, in which spontaneous articular fracture occurs or is induced by slight trauma; such injury because of its painlessness and apparent trivial nature is often overlooked.

Medical News.

ILLINOIS.

For Mattoon Hospital.—Dr. David M. McFall has donated 360 acres of Coles County land to the proposed public hospital at Mattoon.

Anonymous Donor.—A Christmas gift of $1,000 from an unknown donor, to be applied on the outstanding indebtedness of $11,000, has been received by the Evanston Hospital.

Addition to Swedish Hospital.—The new section of the Swedish Hospital, Bowmanville, erected at a cost of $30,000, will increase the capacity of the institution to the extent of 75 patients.

Chairmanship of a County Board.—Dr. William R. Harper has accepted the position tendered him by the president of the county board and will serve as chairman of the advisory board of the Cook County Hospital.

1. "Contribution to Tabetic Arthropathias," by Dr. Julius Donath, Wiener Klinische Rundschau, vol. xvi. No. 43, Oct. 26, 1902.

The Parke Banquet.—The McLean County Medical Society gave a banquet, December 15, in honor of Dr. Charles R. Parke, Bloomington, who after fifty-five years' practice is about to leave Illinois and settle in Kentucky. Dr. Lee Smith acted as toastmaster, and Drs. William Hill, Franklin C. Vanderwort, James B. Taylor and Daniel M. Foster responded to toasts.

Chicago.

No Hospitals on Boulevards.—An ordinance has been passed prohibiting hospitals and infirmaries on boulevards under the control of the west park board.

Physician Reprimanded.—An Englewood physician, who is alleged to have instructed a smallpox patient to go to the health department by way of the street cars, thereby running the risk of exposing others to the disease, was reprimanded by the department for so doing.

Personal.—Dr. William B. Wherry, assistant in the department of pathology and bacteriology at the University of Chicago, who has been appointed pathologist to the Government Laboratory in Manila, Philippine Islands, left for Manila, January 1.——Dr. Warren H. Hunter has been reappointed county physician.——Dr. Otto W. Lewke has been appointed coroner's physician, vice Dr. George Leininger, resigned.

Preponderance of Female Deaths.—The abnormal preponderance of deaths among females, 305, to 293 males, in the week ended December 27, is accounted for by the health department by "the defective street car service, with its frequent breakdowns at a season of the year when thousands of women, at a high pitch of nervous tension over the holiday shopping, have been kept waiting for hours exposed to the inclemencies of the weather."

The Week's Deaths.—The mortality-rate for the week ended December 27 was 17.12 per 1,000 per annum, which compares favorably with 17.98, that of the previous week, but is much higher than that of the corresponding week of last year, which was only 15.03 per 1,000. The preponderant causes of death were pneumonia, 91; heart disease and tuberculosis, each 50; typhoid fever, 39; intestinal diseases, 36; nephritis, 35, and violence, 19.

For Sick and Crippled Children.—At a meeting of physicians and laymen held under the auspices of the Woman's Club, preliminary steps were taken to incorporate a society to provide for adequate establishments for the care of children suffering from contagious diseases, to encourage scientific research as to the best methods for preventing epidemics of these forms of sickness, and to provide for the care of crippled children. Dr. Frank Billings presided, and addresses were made by Drs. John M. Dodson, W. S. Christopher, Arthur R. Reynolds, Ludvig Hektoen, John B. Murphy, A. J. Ochsner and others.

Lemon Juice a Germicide.—The publicity given in the daily press to a cablegram alleging that lemon juice was a powerful germicide, with especial reference to the typhoid bacillus, has led the health department to experiment, with the following preliminary results:

> The following experiment was made in the laboratory to test the value of lemon juice in destroying the typhoid bacilli: One hundred and twenty c.c. of bouillon was inoculated with the *Bacillus typhosis*. The flask was placed in the incubator at 90 degrees for 12 hours. At the end of this period 4 c.c. of lemon juice was added. At the end of four hours plates were inoculated from this flask. The plates at the end of 24 hours showed no growth.

Further investigations will be made, and the department says lemon juice may be recommended as a prophylactic if results prove its value.

KANSAS.

Colleges Not Merged.—The negotiations for the absorption of the Kansas Medical College, Topeka, by Washburn College have fallen through, and an attempt is now being made to affiliate with the state university at Lawrence.

Personal.—Dr. Samuel W. Willison, Lawrence, is now professor of paleontology in the University of Chicago.——Dr. Charles Loomis has moved from Lawrence to Eudora and Dr. John Cahill from Lawrence to Birmingham, Ala.

War Against Unlicensed Practitioners.—The state board of medical examination and registration is waging war against unregistered physicians. J. S. Hamilton, Independence, has been convicted in the Montgomery County District Court, and C. H. J. Jordan, Kansas City, has been prosecuted in the Common Pleas Court of Wyandotte County for illegal practice.

MARYLAND.

Personal.—Dr. George Johnson has left Frederick and will reside hereafter in Florida.

Hospital for Cecil County.—A public meeting looking to the establishment of a county hospital at Elkton was held at that place, December 17. Dr. Charles M. Ellis, Dr. George S. Dare, Dr. Howard Bratton and Dr. John H. Jamar are among the incorporators.

Baltimore.

Prize for Health Department.—The commissioner of health has received from Paris a handsome bronze medal, won by the Baltimore health department for having the best exhibition of health and mortality records shown at the Paris Exhibition in 1900.

Increased Death Rate.—The health department reported a larger death rate last week than for many weeks past. This result is attributed to the epidemic of measles now prevailing and to the large number of cases of pneumonia consequent partly on the measles and partly on the lack of fuel supply. There were 211 deaths—a rate per 1000 of 20.20 per annum. Among the causes of death were pneumonia 40, tuberculosis 23, Bright's disease 18, measles 5. There were 216 new cases of measles reported, 34 of diphtheria and 9 of typhoid fever.

Personal.—Dr. William Osler will read a paper at the one hundredth anniversary of the New Haven Medical Society, January 5.——Dr. Edward N. Brush gave a reception at the Sheppard and Enoch Pratt Hospital, December 15.——Dr. F. O. Rodgers, who has been one of the resident house physicians at St. Joseph's Hospital for the last two years, has left for Concord, N. C. Before his departure he was given a dinner by the house staff.——The venerable Dr. John Morris is very ill at the City Hospital, and no hope is entertained of his recovery.

NEW YORK.

New York City.

Personal.—Dr. Thomas H. Manley was tendered a reception by the profession of Hartford, Conn., December 22.

Christmas in the Hospitals.—Bellevue and the other city hospitals had a red-letter day on Christmas, owing to the liberality, it is said, of Mrs. Cornelius Vanderbilt, who, desiring to show her gratitude for the recovery of her husband from typhoid fever, sent a check for $500, to provide good things for the patients on Christmas.

Bronx Vital Statistics.—The annual report for this borough shows there were 4756 deaths, an annual rate of 29.08 per 1,000, but if the 1,404 deaths of non-residents, for the most part patients in institutions, were excluded, the death rate would be reduced to 13.72, an exceptionally low rate. There were 4,938 births reported, but many births undoubtedly were not reported.

Dr. Lorenz Departs.—Dr. Adolf Lorenz has followed the schedule laid down for him for the past week. Everywhere he has received an ovation. December 26 he dined with the orthopedic section of the New York Academy of Medicine, and following this a reception was given him at the Academy. On Sunday he operated at the New York State Hospital for Crippled Children, Tarrytown. After doing a few more private operations, and being entertained at dinner by Austro-Hungarians, Dr. Lorenz embarked on the *Celtic* for Liverpool December 31.

PENNSYLVANIA.

The Free Hospital for Poor Consumptives, up to December 13, had received contributions amounting to $8,500.

Child Insurance.—John and Emma Williams have recently, by a coroner's jury, been committed to prison to await investigation by the grand jury, charged with the fatal poisoning of their two children. The securing of insurance on the lives of the children is the motive ascribed. This and other suspicious cases of a like character have led to a movement on the part of Insurance Commissioner Durham, and also of reputable insurance companies, to stop the practice of insuring young children. A bill to be presented to the legislature will contain a clause placing the minimum age limit probably at 6 years, and also limiting the amount of insurance that may be taken on a child.

Philadelphia.

Campaign of Vaccination.—Fear is not entertained of an epidemic of smallpox such as occurred a year ago, but, as a precaution, in its determination to avert such an epidemic, the Department of Public Safety will again conduct a campaign of vaccination. Police lieutenants have been ordered to have the patrolmen make a house-to-house canvass, taking a census of persons who have not been successfully vaccinated within the last five years. When the canvass is complete, city vaccine

physicians will call on and vaccinate those who will submit to it.

High Death Rate.—The death rate was high for the week ended December 20, there being 535 deaths, 76 more than in the preceding week, and 103 more than in the corresponding week of 1901. Fifteen new cases of smallpox were reported. Dr. Benjamin Lee, secretary of the State Board of Health, announces that Philadelphia is more free from the contagion of smallpox than any other portion of Pennsylvania. He states that the disease has been worse in Pennsylvania for the past four months than for a corresponding period a year ago; that it is spreading throughout the state, and that because of the lack of funds to fight its spread, the situation is a serious one. For the year ended December 1 there were 5,867 cases of smallpox and 446 deaths within the state. Within November 375 cases, with 66 deaths, occurred, while in the same month of 1901 249 cases and 40 deaths occurred. Comparison of other months shows a like increase.

Personal.—Dr. Thomas L. Coley has been appointed visiting physician to the Methodist Hospital, vice Dr. J. P. Crozer Griffith, resigned.——Dr. Alfred Hand, Jr., has been appointed visiting physician to the Children's Hospital in place of Dr. Frederick A. Packard, deceased.——On December 20, before the American Academy of Political and Social Science, General Leonard A. Wood, U. S. Army, reviewed the military administration of Cuba, dwelling especially on the present condition of the charities, the sanitary provisions, and the public works and finances of the island.——On December 18 Dr. Matthew D. Mann, Buffalo, delivered an address before the Charles B. Penrose Gynecological Society, and was afterward the guest of honor at a reception given by Dr. John G. Clark at the University Club.—On December 17 Dr. Norval H. Pierce, Chicago, read a paper before the Section of Laryngology and Otology of the College of Physicians, and was afterward entertained by Dr. D. Braden Kyle at a smoker and reception at the University Club.

GENERAL.

Cholera Continues in Manila.—Thirty cases a day were being reported a month ago. The death rate throughout the province is still heavy, and the disease is not checked.

Lorenz Tells Profits.—Dr. Adolf Lorenz is reported in the daily press to have said:

> I see it reported that I have made in this country $160,000. Now, as a matter of fact, I got one fee of $30,000 in Chicago, and in the four months I have been here I have earned just $30,000.

Want Clerks in Pension Office.—The commissioner of pensions desires to appoint twenty-five physicians in the next three months, as clerks and copyists in the pension office at salaries of from $900 to $1,000 a year. Only graduates of medical schools will be accepted in the examination, which is to be held January 27.

Want Panama Canal Physician.—The New York Academy of Medicine adopted the following resolutions, Dec. 18, 1902:

Whereas, It is well known that the previous excavations for an Isthmian Canal have been attended with a large amount of illness and a heavy mortality, due mainly to malaria and to yellow fever,

And, Whereas, Recent discoveries as to the causes of these diseases have enabled medical officers to control their ravages to a marked degree;

And, Whereas, The success which has crowned medical efforts in Cuba in apparently abolishing yellow fever, is another evidence for the belief that if proper hygienic precautions are taken at Panama and at other situations along the route of the Canal, the death-rate of the past can be much decreased or made to disappear. It is therefore

Resolved, By the New York Academy of Medicine that in its judgment the amplest powers should be given to the medical officers in charge of the sanitation of the Canal, and that to attain this end a medical officer should be a member of the Commission which the President of the United States is authorized to appoint to conduct the affairs of the proposed Canal.

It Is Furthermore Resolved, That the Secretary of the Academy be instructed to forward this preamble and resolutions, duly signed, to the President of the United States.

CANADA.

Canadian Hospital Tent Adopted by England.—The imperial government has adopted the Canadian hospital tent, which is the joint invention of Surgeon-General Neilson and Mr. Joseph Berry of Ottawa. Lord Kitchener saw the tent in South Africa and was delighted with it.

Personal.—Dr. A. E. Garrow, Montreal, will sail shortly from New York for Germany to spend several months in study. ——Dr. G. A. Charlton, Montreal, has been appointed resident physician of the Ottawa Isolation Hospital, and will enter on the duties of his office early in January.——The professors and lecturers of Bishop's Medical Faculty tendered a dinner at the Windsor Hotel one evening last week to Dr. Casey A. Wood of Chicago, a graduate of that institution, and at one time professor of chemistry and afterward of pathology.

Annual Meeting, National Sanitarium Association.—At the annual meeting of the board of trustees of the National Sanitarium Association, December 20, in Toronto, the report of the physician-in-charge, Dr. J. H. Elliott, for the official year just closed, showed that the past was the most successful year in the five years' history of the institution. During the five years 612 cases have been treated, and Dr. Elliott reported that during the past year 85 per cent. had apparently been cured or the disease arrested, while but 10 per cent. failed to improve. An important announcement was made by the secretary that a third institution was shortly to be erected near Toronto, and a fourth is under consideration to be established on the Pacific Coast.

FOREIGN.

London Fears Typhoid.—An increase in typhoid fever in London is reported. The unsanitary conditions of the city add to the fear of an epidemic.

Plague in Mexico.—Bubonic plague is said to have appeared at La Paz, Guaymas, Mulje and Mazatlan, all on the Pacific coast of Mexico. A score were reported dead December 22 and many were dying daily. A government commission is making an investigation as to the identity of the disease. Quarantine is being observed.

Leprosy in Norway.—The official statistics state that the number of lepers in Norway has fallen from 688 to 577 since 1895. Of the 533 in the three lepers' asylums, 187 have died, and 45 have been dismissed. The average duration of the disease was 18.2 years; for the form with nodules only 12.2, and for the nervous form 26.6.

Munich Vital Statistics to Be Dropped.—The local medical business organization at Munich petitioned to have postage supplied for the vital statistics sent in by physicians. As this request was denied, the physicians unanimously decided to abandon the task of supplying the statistics of morbidity, commencing with the New Year. At the same time they announce that they are ready to resume the task if the authorities should become convinced of the value of well kept vitality statistics sufficiently to bear the expenses.

LONDON LETTER.

Memorial to the Late Professor Virchow.

An inaugural meeting to promote in this country the memorial to the late Professor Virchow has been held under the presidency of Lord Lister. He said he thought that, as a rule, monuments to the departed should be made, if at all, by the nation which gave them birth, but there were exceptions, as in the case of Pasteur, whose work had benefited all mankind, and so with Virchow. A committee was formed of men of eminence.

Digestion in Plants.

Professor S. H. Vines has made some exceedingly interesting investigations into the digestion of plants. A year ago he gave the Linnean Society an account of some observations on the action of the enzyme, which not only possesses the property of peptonizing the higher proteids (e. g., fibrin), but also decomposes the proteid molecule into non-proteid nitrogenous substances, such as leucin. Since then he has investigated several other plants: Pineapple juice, cocoanut milk, melon, cucumber, tomato, marrow, grapes, pears, oranges, bananas, leaves of lettuce, green peas, onions, potatoes, cabbages, mushrooms, and turnips, and found them to be proteolytic.

The Plague.

INDIA.—During the three weeks ending October 18, 25 and November 1, the deaths from plague in India numbered 10,730, 10,494, and 8,915, respectively. Precautions are being taken against the inroad of plague on Delhi during the approaching durbar, and a large medical staff has been appointed to the inspection of stations on the railways leading to the city. With each surgeon a lady doctor has been wisely appointed to assist in the inspection. Extensive inoculation against plague has been temporarily suspended in the Punjab, as the imperial laboratory is incapable of supplying the requisite quantity of serum. It is stated that 10 persons have died in consequence of the serum with which they were inoculated being contaminated. The contamination was due to the changes suggested by the plague commission in the methods of preparation. Meantime the operations of prophylactic inoculation are suspended pending the preparation of an adequate quantity of a reliable serum.

EGYPT.—During the week ending November 16 one fresh case of plague was reported.

CAPE OF GOOD HOPE.—No case of plague in Cape Colony during the week ending November 1, the colony has been entirely free from plague since September 25, when the last patient died at Port Elizabeth. As late, however, as October 31 plague-infected rats were found at Port Elizabeth,

MAURITIUS.—During the weeks ending November 13, 20 and 27 the number of fresh cases of plague amounted to 23, 30 and 17, respectively, and the deaths from the disease to 14, 21 and 12.

PARIS LETTER.

Vallas' Report on the Treatment of Tetanus.

A most interesting report on the treatment of tetanus was made by Dr. Vallas of Lyons at the Congress of Surgery held in Paris a few weeks ago. He showed how the experiments of Carles and Rattone demonstrated the infectious nature of the disease, how Nicolaïer and Kitasato isolated the pin-shaped microbe, and showed that it was found in the earth.

In 1890, six years after the discovery of the microbe, the toxin was isolated by Faber, and later Vaillard showed that other microbes helped the bacillus, and that in ordinary conditions phagocytosis was a sufficient protection. Three methods of treating tetanus were to be considered: the classical treatment, that by the serum Behring-Kitasato, and Baccelli's method of carbolic acid injections. The first consisted in complete isolation and silence, and the use of large doses of chloral, as much as 10 or 12 grams being given in 24 hours. Amputation was permissible when the condition of the limb as the result of an accident might seem to plead for such a course.

The Behring-Kitasato treatment was discovered in 1890, and three different forms of serum are now employed, Behring's, Roux and Vaillard's, and Tizzoni's, which is a dry extract which is treated with water before being injected. Behring's method is used to determine the strength of a given serum and the unit consists in the amount needed to immunize a gram of white mouse against a fatal dose of toxin. The serum is not antitetanic, but antitoxic, so that it does not destroy the microbe, a fact which shows the importance of treating the wound most thoroughly. The preventive value of the serum was demonstrated by Nocard in 1895. 375 animals which were likely to take tetanus on account of a wound were inoculated and not one was affected by the disease, whereas 55 cases were seen among animals which were not injected.

In 1897 the same experiment was carried out on a larger scale, and 2727 horses were treated in this manner, and not one was affected with tetanus; 259 cases of tetanus were seen at the same time by the same veterinary surgeons. The result of this is that, as Dr. Landouzy has said, to wait for the onset of tetanus in a suspicious case is a mistake, and it is a rule to act when there is any possibility of infection. An injection should be made the first, third and tenth days. If the wound is not healed, it is well to make still another injection of 10 cubic centimeters. When tetanus has set in, the serum is not at all as efficacious. Kitasato lost his first case, but Tizzoni had eight successes out of 8 cases. In 1893 Roux and Vaillard had already 7 cases, with 5 deaths. There is one fact, which has been clearly demonstrated, it is that the injections are quite harmless. Dr. Vallas has been able to collect 373 cases, with the following results: Incubation of 10 days: 141 cases, with 80 deaths, which makes a percentage of 57 per cent. Incubation of more than 10 days: 118 cases with 24 deaths, or 20 per cent. Incubation not determined: 114 cases, with 41 deaths, or 36 per cent. These figures show that out of a total of 373 cases there were 145 deaths, or 39 per cent. Lockjaw is just as pernicious as ever in infants, and in women during the puerperium. If one compares this with the mortality seen in former days, 70 per cent., one is obliged to admit that there has been a noticeable improvement; 30 to 40 grams should be injected daily, until there has been a noticeable change.

There is a case on record of a negro who took 1800 grams. Intravenous injections have been found very useful in certain cases, and seem devoid of danger. As for intracerebral injections Dr. Vallas does not favor them at all. Baccelli's method consists in the daily injection of 30 to 40 centigrams of carbolic acid, in a 2 to 3 per cent. solution or a 10 per cent. solution in oil. This treatment, which has been applied more especially in Italy in some 80 cases, has been followed by a cure in all but 8 cases. Opotherapy, as formulated by Wassermann and Takaki, does not seem to be justified by the experiments carried out in the laboratory. As for peroxid of hydrogen, and persulphate of soda, the results following the use of these drugs are good, but the number of cases is very small.

Steiner has furnished statistics showing how the different serums have worked, and it would seem that the number of cures was greater in Germany and America, which may be due to the serum being used in lighter cases. In the discussion that followed Dr. Lucas Championnière said he considered intracerebral injections as quite innocuous, amputation was useless, and preventive injections had stopped an epidemic in his service some wears ago. Other physicians felt that this method was not to be absolutely condemned. Dr. Schwartz of Paris had 8 cases of lockjaw in his service from 1890 to 1898, and with an equal number of cases since then which were injected, he had only two cases, one who came in with the first symptoms already apparent, and the other who had not been injected.

Correspondence.

An Escaped Criminal Wanted.

DENVER, COLO., Dec. 22, 1902.

To the Editor:—Inclosed please find photograph of one of the rankest medical impostors that I ever heard of. His right name is Edward Rietzel and his parents live at 92 Crystal St., Chicago. In 1891 he was convicted under the name of Fox for grand larceny and sent to the Reformatory at Pontiac. He was let out on parole and next was heard of in Niles City,



Mich., in connection with the so-called St. Luke's Hospital of that place, where he assumed the name of Dr. Geo. A. Elliott, having stolen the diploma of Dr. Geo. A. Elliott of Leamington, Ont., who graduated in 1896 from the Medical Department of the University of Toronto.

At that time this bogus Elliott had a wife by the name of Adele Cornely, who was a graduate of a Swiss College of midwifery. Before going to Niles City he went under the names of Ralston and Ruleson. From Michigan he was next heard of in Kansas City, Kan., where he ran an abortion shop in the guise of a gynecologic hospital. Early in this year he presented this genuine diploma to our board and soon after began his nefarious practice in this city. In a little while he and his wife Adele Cornely were arrested by the federal authorities for sending abortion literature through the mails. She forfeited her bond and is now in Geneva, Switzerland, and it is believed that her arrest was a scheme on his part to get rid of her, he not thinking he would put his foot in it as well.

Between the 15th and 20th of February, 1902, he married again to one Mary Kaurin of Chicago. What became of her I do not know. In July of this year he was married to one Dr. Mary E. Inman, who claims to be a graduate of the Boston School of Medicine. The dean of this school writes that no one by that name ever graduated from his institution. In October he lost an abortion case by sepsis and hemorrhages, and was arrested under the charges of committing abortion and murder.

He was released on a $5,000 bail which he forfeited, having gone to parts unknown.

In the interest of the profession I beg of you to use this data and photograph in publishing an article in THE JOURNAL that may assist in his recapture. I may further add that the first thing that aroused my suspicion that he was not a graduate of the University of Toronto was his making application to the State Eclectic Medical Association, which was very queer if he belonged to a regular school.

I received a letter to-day in which it is stated that Dr. Egan has knowledge of this man's Chicago record, and you may be able to get direct from him some additional facts.

Thanking you in advance for extending me the courtesy of publishing this man. Very truly yours,

E. D. VAN METER,
Secretary Colorado State Board of Medical Examiners.

NOTE.—The Chief of Police of Denver furnishes the following data: Age, 29; height, 5 ft. 6 in.; weight, 136; dark complexion, hair and eyes; teeth good; German nationality; he may have his mustache off; he is with a woman who he says is his wife; wanted for murder at Denver.

A Side Light on Ethics.

To the Editor:—Apropos of the Code of Medical Ethics recently published in THE JOURNAL, it has occurred to me that we are very foolishly shutting our eyes and closing our ears to the low standard of ethics practiced by the medical profession in America to-day. This is an age of commercialism. It has planted itself as firmly in the profession of medicine as in the department stores. This commercialism is a menace to the high standing of our medical men; it handicaps the good we might do for humanity; the reform we might accomplish; the respect we might command. Year by year the standard of ethics and ideals is lowered. At present we stand almost at the head of the list, in the eyes of the world, of professional jealousies. The musician and the medical man rank side by side in their bickering and in their enviousness. Newspaper men and the laity in general recognize it and laugh good-naturedly at our expense.

The public know, in a vague way, that there is an indefinable thing called medical ethics. They envelope it with the mysticism that the uninitiated envelope the masonic rite. They know that the profession regards the physician who advertises in the advertising columns of the daily papers as a quack, but that if a man have sufficient reputation he may insinuate his name with impunity in the main body of the newspaper—this they understand is immeasurably more delicate, and certainly tells in a more clever fashion, while the "small fry" dare not be so bold as to resort to either of these methods. The laity, accordingly, are fairly settled in the belief that the unpardonable sin is for the professional man to insert his ad. among the advertisements, and they thus differentiate between the man of reputation and the quack by the part of the paper in which his name appears. When the public comes in personal contact with many of our profession who are in good standing and with the successful "smooth quack" they are too frequently unable to detect any difference in their conduct.

I think I express the sentiments of the average medical man when I say that the recent graduate very soon takes on one of the characteristics of an animal called a bulldog. When that animal gets a bone, by chance or otherwise, if there is good meat on it he shows his teeth at the approach of another dog, and stands ready to fight for his rights. I am not a pessimist. It is my good fortune to have been associated in consultation, with few exceptions, with men who were ethical to a degree. I may add that when I have the privilege, I choose my consultant with as much care as though I were selecting a lawyer to defend me against a charge of murder in the first degree.

It is easy enough for the man of means and of some social prestige to adhere to most of the Code of Ethics. But what of the man who starts his professional life with a wife, perhaps a young family, and a small bank account? Can he afford to be ethical in the face of an empty pantry, and scanty clothing? How many of us are strong enough to do unto others as we would be done by, when, as David Harum says, the other fellows are doing us, and doing us first. What incentive is there for the young specialist to keep faith with his Code, when men who have risen to the very top of the ladder in their respective lines are flagrant violaters of the essentials of medical ethics?

May I illustrate a case in point: For the past few years I have been the family physician in a certain household. After urgent persuasion I gained the mother's consent to make a local examination for a persistent and suspicious hemorrhage from the uterus, with the result that I unhesitatingly declared she be sent to the hospital, and after more thorough investigation probably submit to a hysterectomy for cancer. The family were quite satisfied until a near relative insisted on consultation with a noted surgeon who had performed an operation on a sister. The surgeon in question stands in the very front rank of our profession. I called him up by telephone and explained the situation. I agreed to have him see my patient at the hospital he desired, and at a time to suit his convenience. After we had finished our consultation, my consultant, without asking my permission, called the family together, gave his diagnosis, his treatment, and his prognosis. He then proceeded to set the time for operation, and graciously invited me to be present as an on-looker if I so chose. However, as the invitation was suggestive of my being asked to officiate at my own funeral, I did not go. Previous to the consultation the husband of my patient had asked what my charges would be if I did the operation. He was worth from $25,000 to $50,000, but knowing the family's tendency to "nearness" I felt I must be modest if I were able to keep my bone. I answered "one hundred dollars!" The husband shook his head. "This big surgeon my sister wants us to call in would not charge me as much as that." I learned afterward that my consultant of large fame actually did the operation—hysterectomy—for $40.

I mention this case because it is typical of the point I wish to bring out. My consultant is a good man. His alma mater is proud of him, so is his state, so is his country—so am I for the advances he has made in surgery. He is an honor to his profession. He is one of the men whom an esteemed French confrère had in mind when he wrote me enthusiastically: "I have visited every great medical center in the world, and I have never yet seen the equal of your surgical clinics in Chicago. It is magnificent—the material, and the men you have to operate on it." My consultant is an overworked man; he has more operations than he can do. Patients wait their turn for him. He was not tempted to take my case away from me, nor unwilling to share the honors, if there were to be any, of the result of the operation, because he was in need of money. He is not a grasping man; his fee of forty dollars would give the lie to such an accusation. It is said he stood at the head of his class in the average of his studies, but he certainly was never compelled to take an examination in medical ethics. He is too busy now to think about such a trifling thing as ethics. He may have seen the word written somewhere. He may possibly glance over the Association's revision of the Code, but it will never occur to him during his eminently successful and busy career to drink of the spirit of these rules and regulations. He is too old to learn. Hundreds of men will continue to witness his operations and to learn what they may from him, but if they have good sense, they will avoid him assiduously as a consultant. Meanwhile he will unconsciously continue, day after day, to go on with the gentle art of dampening the youthful ardor of the enthusiast who leaves his alma mater with high ideals and ethical aspirations. He will make these men smile at the mention of Flint on Ethics, and have thoughts unfit for publication when he reads "Of the duties of the physician in regard to consultations."

In Article I, Section 2, the revision of the Code admonishes the physician to "entertain a due respect for those seniors who, by their labors, have contributed to its advancement." Be assured the younger man will never fail in veneration for his senior, if the latter is worthy of it. The ethical man of reputation will ever have bestowed on him his due—and more.

The discourtesy existing in many of our medical societies in America is proverbial, and so rough is the abuse at times, and so unwarrantable the insults, that many a man who would

gladly give his little to "enrich the science" with some new thought or experience, shrinks from a public encounter with his medical associates. Allow me to detail another personal experience. At the suggestion and invitation of a most ethical consultant, I presented, a few months ago at one of the medical societies, a simple apparatus for the convenience of putting up, at right angles, a fractured leg of an infant. The history of my case in brief was this: After a difficult and tedious labor in a primipara, aggravated by a breech presentation, I delivered my patient of a living eight-pound child. As a last resort, when the anesthetic had to be stopped on account of a very rapid pulse, and a threatened cessation of respiration, I used the blunt hook. Stimulants were given hypodermatically, and artificial respiration was being performed while I made one last attempt to deliver the child with the aid of that instrument. I succeeded, and at the same time fractured the upper third of the thigh during the process. Fortunately, the mother and child made a good recovery. At my request the parents consented to bring their babe to the medical society on the evening that I was to exhibit my apparatus. I gave a brief outline of the case from the *time of fracture*, merely mentioning that the accident had occurred from the use of the blunt hook during delivery. I exhibited the *x*-ray photograph of the broken fragments of the femur, the little apparatus that had served its purpose so well, the various photographs of the infant while in the fracture bed, and the undeformed child. As soon as I had finished my remarks, and while the baby, held in the mother's arms, was being exhibited, one of the most noted members of the society sprang to his feet and began to denounce, in very scathing terms, my use of the blunt hook. Under the most favorable circumstances the discussion of the use of the blunt hook was hardly in order. The man criticising me knew nothing of the emergency of the obstetrical case. Moreover, I came there solely for the purpose of presenting a simple and effectual means of suspending the fractured leg at right angles, and in the hope that even the little I had to offer might serve its purpose of "enriching the science," no matter how insignificant that enrichment might be. No words can express my consternation at the sudden turn of events, especially when the tirade of criticism directed against me was made in the presence of my small patient's mother and father. Up to this time the family had considered me, like Tommy Sandys, "a wonder!" But here was a revelation for them. I was caught red-handed in an unscientific and unpardonable error—had I conducted my case properly I would not have broken their baby's leg. It is hardly necessary to add, that I am not, at present writing, their family physician. The episode in the medical society may or may not be entirely responsible for their change of doctors. Be that as it may, I should certainly feel much easier if I were ever to exhibit another patient before the same society, if the individual were deaf, dumb and blind.

The point I wish to emphasize is this: The doctor who "called me down" before my patient was a thoughtless man. If he reads this article he will probably not remember the incident. He had never met me personally, either before nor since. There was no malice, no evil intent, and I doubt if the majority of men present at that meeting gave the incident even a passing thought, so little would such a gross breach of ethics attract attention at the present time. But I ask in the name of all that is lofty in medicine, what an effect such an affair would have on a young fellow who had just started out in his practice, and who could not see how he was going to get money enough together to buy a winter overcoat. A young fellow, who, by the loss of that one family and the everlasting harm they could do him—if they so had a mind, was compelled to give up the weary fight, and perhaps accept a position offered him by a chemical house as traveling salesman. I ask in all fairness why there should not be adequate punishment meted out to such men—no matter whether the blunder be of thoughtlessness or malice. Younger men must have protection from these onslaughts if it is expected of them to "entertain a due respect for those seniors, who by their labors, have contributed to its advancement."

Article IV, Section 4, says that "Consultations should be promoted in difficult cases, as they give rise to confidence and more enlarged views in practice." Theoretically, this is a fact. But I speak for the younger, struggling practitioner when I say I know in a great number of cases that if the physician in charge be in any degree a sensitive man, he is a moral coward when it comes to consultations. This is especially so if he is not personally acquainted with his consultant. Too often, on his senior's arrival, he waits breathlessly for—whatever damage this man who has made his mark in the world, may see fit to deal him. We all realize the fact that it is not the rule for the consultant to be careful not to walk into the sick-room first. He frequently begins to examine the patient at once. He practically ignores the attending man, proceeds to interview the family, gives his diagnosis, prognosis and treatment, and finally leaves behind him doubts in the family, and a lack of confidence in their attending man. He not rarely does more harm than good.

Before we attain as high a regard in the eyes of the public as we have ambition for, we must set about casting these motes from our eyes. The older and more experienced man must never withhold a helping hand to the beginner. He must guide, protect, advise him, as he would his own son. He who reaches the summit of his profession must step on the center of the platform, with the lime-light full on him. He may err with impunity, he may have his weaknesses, his foibles as before he gained his fame, but he must never be found wanting in that sentiment which underlies and permeates the Golden Rule. Medical ethics after all, are simply the embodiment of that rule, and it must be the religion of the medical man. Not until our profession has been delivered from the chaotic state of its present ethics can we hope to stand together in a body for the good of present and future humanity. And until then it is a waste of space to insert Article II on the "Obligations of the Public to the Physician." We have no right to ask the public to respect us when we do not respect each other. We must turn out from our colleges as indispensable qualifications, men who are ethical to a degree. A majority of us today must turn over a new leaf in our attitude toward each other. We must pull up the commercialism, root and branch, that is eating into our vitals like a cancer. We must never be too busy, too overworked, too successful, to do unto others as we would wish them to do unto us.

Granted that the public should be enlightened so that they may more truly appreciate the difference between the spurious and the trustworthy qualifications of the medical man, be it also demanded that they be taught the law of medical ethics. They should be able to detect the unethical consultant as quickly as the physician in charge. They should be taught to respect these ethics. And they should also be taught that the consultant who transgresses upon this Code is not the man to whom they owe obligations, consideration, or respect.

As an ethical body, in spite of our multitudinous differences, we can join hands. We can aid in repressing wrongs, physical and moral. We can successfully establish reformations. Isms, false sciences, charlatanism, will gradually die out from lack of patronage. There will be no limit to our potency for good.

I venture the statement that I can send one of my patients on whom I have recently performed an abdominal section, the rounds, in alphabetical order, to the physicians whose names appear in the Blue-Book, or official directory, that she can go to each one of these men with a like tale—e. g., that she has recently undergone an operation by me, that she is no better, that she doubts as to whether I was honest with her in what I said I did, that she would like to be examined and have them give her their opinion as to the nature of the operation I performed. Barring some of the men who know me personally, I think I do not exaggerate when I say that 3 per cent. only might ask if I had been paid and discharged from the case. I doubt if it would occur to 2 per cent. to find out if I were a physician in good standing, or if they had a telephone in their office, take the trouble to call me up before proceeding to grab my bone because I was not looking—especially if there were any meat on it in the shape of currency.

When such a state of affairs exists, I can readily believe that many of the men who read our revised Code, may think it worthy of emanating from the pen of our Mark Twain, and con-

sider its fitness to be entered for a prize in the contest of the "Funniest thing I have ever read."

This is a busy, busy world, and so long as we, as a body, adopt the present method of business for personal gain, no matter at whose cost, let us not be so cowardly as to ask the public for any more consideration than they give to other business men. We are no better nor no worse than the rest of tradesmen. Our religion is his religion: "Every man for himself and the devil for us all."

If we are not content with the present condition of affairs, we must begin at the very beginning. We must impress on the applicant for admission to our medical schools, that something more is required of him than his fee, and satisfactory credentials as to his literary attainments. He must be capable of comprehending and appreciating the sentiments and essentials of the Golden Rule. As a freshman, while vivid conceptions are made on his mind, he should receive a short but impressive course of lectures on medical ethics, and he should be examined on these lectures at the close of his freshman year, and he should not be allowed to continue with the remainder of his studies until he had passed a high per cent. in ethics. This should be continued during the remainder of the prescribed years of his college course. The strictest ethical conduct should be observed between professors and instructors. When a patient is sent from one department to another, or from one clinic to another, or from one college to another, the ethics of the man or men in charge should be above reproach and of such a nature as to impress every student present. If there is the slightest chance of the patient having been attended by some physician and a previous diagnosis having been made, the last man whom the patient appeals to must withhold his opinion entirely, or at least he must give it in such a manner that the patient can not interpret that there has been a criticism of his previous medical attendant or attendants.

There is a way in which one professional gentleman can disagree with another professional gentleman, or take serious issue with him, which is a source of inspiration to the student, and stimulates him with a healthy desire to hear both sides of the question, and no matter which view appeals strongest to the student's mind, he has a profound respect for both gentlemen. There is a broad-minded, courteous, refined way of differing from another, and there is a sneering, narrow-minded way not unlike the manner in which one butcher runs down another butcher's grade of meat, or his methods of business. We would be more honest with ourselves if we either entirely did away with a Code of Ethics and made no pretense of being ethical, or obeyed it to the letter. We must be a body of professional men with high aims and lofty principle, or we must be a body of first-class, shrewd business men.

We can accomplish the former much-to-be-desired condition of affairs only by educating our men while they are in college, and thus giving them an ethical conscience, as the up-to-date medical man acquires the "aseptic conscience." You can mark the man who has recently taken up the aseptic theory, and the man who has had it drilled into him from the time he was a freshman. It is second nature for the drilled man to hold his clean hands in the air until he is ready to touch the field of operation. He never forgets. He never touches anything that is not sterile. When his hands are cleaned they go as automatically as a soldier salutes when his superior officer passes him. If we would turn out ethical men from our schools we must train them with as much care as we drill them in their technic of asepsis. His ethics must become a part of him—second nature.

The consultant must fully understand that his influence is incalculable either for good or for evil. He must appreciate the fact that he often has it in his power to turn the tide of a young fellow's career. That he is responsible for the bulldog tendency of to-day. It is he who is capable, in a great measure, of inspiring the younger men to live up to the high ideals of their profession, and to be a worthy part of a body of men who can if they will, accomplish more good for humanity than any other profession or factor. On the contrary, he does his part in damning the hard-pushed, recent graduate, until he finally gives up the fight and goes into another business, or worse yet, joins the ever-increasing army of men who have graduated from medical schools in good standing, and who become a menace to society by inserting medical advertisements in which they assure the public of "guarantees" and "sure prevention."

The alumni from every reputable medical college must remember their alma mater with affectionate regard, and they must be made to feel that the men connected with their alma mater are their foster fathers, and if they are deserving, they can depend on them always for encouragement, professional assistance, protection and for ideal consultation. We must add another chair to our medical course, and the man who is at the head of that chair must be possessed of an "ethical conscience."

ROBT. T. GILLMORE, Chicago.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CINNAMIC ACID IN TUBERCULOSIS.

SCRANTON, PA., Dec. 20, 1902.

To the Editor:—On page 1623, last issue, you refer to the cinnamic acid treatment of tuberculosis and refer to Krause having used Landerer's directions or formula. Will you kindly furnish me with the formula for the intravenous injection of this acid?

E. ZIEGLER BOWER.

ANS.—Landerer's method, as we understand it, is the intravenous injection of sodium cinnamate dissolved in sterile salt solution. He uses 1/10 to 1/3 grain of sodium cinnamate at first and gradually increases the dose until several grains are given at each injection. The literature of the subject is extensive. One of the latest articles is that by Dr. Wm. J. Robinson completed in the December number of *Merck's Archives*. It gives a good bibliography of the subject. Consult also Landerer's book on the subject. We can not inform you where to obtain it.

LEGAL ENTRIES IN ACCOUNT BOOKS.

SAN FRANCISCO, Dec. 16, 1902.

To the Editor:—Do the entries made by conventional signs as explained in visiting lists (such as the visiting list of Blakiston) have a legal validity or what constitutes a legal entry in a visiting list?

GEORGE GROSS, M.D.

ANS.—The laws of states differ. As a general answer: The original entries should be itemized and intelligible, requiring no explanation, at least so far as amounts are concerned, if they are to be used as evidence.

LENGTH OF QUARANTINE IN SCARLET FEVER.

SOUTH DAKOTA, Dec. 13, 1902.

To the Editor:—1. Kindly let me know through the columns of THE JOURNAL if you think a quarantine of ten days sufficient for even the mildest case of scarlet fever.

2. Also give a diagnosis of the following, if you can, from the symptoms. We have had an epidemic and there has been a dispute as to the diagnosis. Fever from 12 to 24 hours, after which a rash develops which is first vesicular, but inside of twenty-four hours some of the pimples become pustular, but the most of them do not develop pus and inside of three or four days they begin to dry up and in a few days more the crusts drop off, leaving a red spot which disappears in a week or ten days. In some of the cases there has been a little sickness of the stomach.

This has been diagnosed variola by some of the physicians, with which diagnosis I can not agree. X.

ANS.—1. A quarantine of ten days is decidedly under the limits. 2. We can not give a diagnosis from the data given.

RECIPROCITY WITH NEW YORK.

WELLSVILLE, N. Y., Dec. 13, 1902.

To the Editor:—Will you kindly inform me through your journal what states acknowledge a New York State license? Will Illinois?

B. A. BARNEY.

ANS.—We believe that no state reciprocates with New York since New York does not recognize the licenses of any other state.

Marriages.

EDWARD E. MOORE, M.D., to Miss Ida Morley, both of Chicago, December 13.

F. S. PECK, M.D., to Mrs. Annie O'Howell, both of Stillwater, Okla., November 26.

NATHANIEL WELSH HICKS, M.D., to Miss Mary Thomas Stroud, both of Florence, S. C., December 3.

FRANK F. NEWELL, M.D., Burlington, Wis., to Miss Gretchen Leis Land of Waukesha, Wis., December 10.

CHARLES FRANCIS READ, M.D., Grand Rapids, Mich., to Miss Ethelwynn Eaton of Beloit, Wis., December 16.

Deaths.

Joseph R. Laine, M.D. University of Buffalo, 1876, a member of the American Medical Association, died at the German Hospital, San Francisco, December 15, from heart disease, after a long illness, aged 56. He first practiced in Peoria, Ill.; then moved to Nebraska, was an acting assistant surgeon in the Army, and later moved to California, residing first at Sacramento and afterward at San Francisco. He was for eight years a member and secretary of the State Board of Health; he was one of the organizers of the College of Physicians and Surgeons, and its president until 1899. He was also lieutenant-colonel and assistant surgeon-general in the National Guard of California.

Jacob M. Kraus, M.D. University of Buffalo, 1889, a member of the Buffalo Academy of Medicine, the New York State Medical Association, and the American Medical Association, died at his home in Buffalo, December 19, after a lingering illness, aged 36. He was a physician of marked ability, and at the time of his death was on the medical staff of the German Hospital, and physician to the Erie County Penitentiary. Resolutions expressive of sorrow and respect were passed by the hospital staff and the societies to which he was affiliated.

John B. Crombie, M.D. University of Maryland, Baltimore, 1883, a member of the American Medical Association and a prominent physician of Allegheny, Pa., was struck by a locomotive and instantly killed, at Allegheny, December 22, aged 45.

Robert H. Moore, M.D. University of Louisiana, New Orleans, 1861, major-surgeon C. S. Army, for 25 years a resident of Hot Springs, Ark., and for six years coroner of Garland County, died at his home, December 15, after a long illness.

Mary Willits, M.D. Woman's Medical College of the New York Infirmary, 1898, first assistant physician at the State Hospital, Norristown, Pa., died at that institution, December 16, from cancer, after an illness of several months.

William P. Armstrong, M.D. University of Louisville (Ky.), 1857, formerly of Terre Haute, Ind., died at Jamestown, Cal., December 16, from heart disease, after an illness of one week, aged 73.

Malcolm Ethan Parrott, M.D. Jefferson Medical College, Philadelphia, 1883, died at his residence in Brooklyn, December 16, from Hodgkin's disease, after a long illness, aged 55.

Alexander Demby, M.D. Long Island College Hospital, Brooklyn, 1899, died at his home in Brooklyn, December 17, from appendicitis complicating typhoid fever, aged 23.

John M. Bowser, M.D. Medical College of Ohio, Cincinnati, 1878, died at his home in Goshen, Ind., December 19, from heart disease, after a short illness, aged 53.

Henry Bauer, M.D. Long Island College Hospital, Brooklyn, 1896, died at his home in Brooklyn, December 18, from meningitis, after an illness of one week, aged 27.

A. Wilber Hoon, M.D. Jefferson Medical College, Philadelphia, 1902, died at his home in Brushton, Pittsburg, Pa., December 16, from erysipelas, aged 25.

William A. Kidd, M.D. Western Reserve University, Cleveland, 1897, died from consumption at his home in Independence, Pa., December 11, after a long illness.

William B. Stevens, M.D. Jefferson Medical College, Philadelphia, 1891, of Nelson, Pa., died at Hartford, Conn., December 11, from Bright's disease, aged 37.

Samuel Daggy, M.D. a surgeon in the Union Army in the Civil War, died at his home in Philadelphia, December 15, from pneumonia, aged 79.

Frederick LeB. Brady, M.D. College of Physicians and Surgeons, New York, 1899, died at his home in New York City, December 20, aged 30.

Oscar F. Seeley, M.D. Rush Medical College, Chicago, 1868, died suddenly from heart disease at his home in Climax, Mich., December 18, aged 72.

Henry N. Jones, M.D. Dartmouth Medical College, Hanover, N. H., 1840, died at his home in Kingston, Mass., December 18, aged 87.

Francis M. Davis, M.D. Texas Medical College and Hospital, Galveston, 1874, died at his home in Houston, Texas, December 16.

John S. Mason, M.D. University of Maryland, 1836, died at his home near Waverly, Sussex County, Va., December 16, aged 85.

J. Knox Barney, M.D. Washington University, St. Louis, 1874, died at his home in Weir City, Kan., December 12, aged 60.

James R. Douglas, M.D. Missouri Medical College, St. Louis, Mo., 1855, died recently at his home in Batchtown, Ill.

Robert W. Armstrong, M.D., died at his home in Baltimore, December 12, from heart disease.

Deaths Abroad.

Prof. Richard von Krafft-Ebing, the eminent psychiatrist of Vienna, died at Graz, December 22. Richard, Baron von Krafft-Ebing, Hofrath and Knight of the Order of Franz Joseph, was born at Mannheim in 1840. Among his masters were Friedreich at Heidelberg and Griesinger at Zurich, and soon after his graduation he was appointed assistant physician at the insane asylum of Illenau. At 32 he became professor of psychiatry at Strassburg, and later at Graz, and in 1889 was called to the same chair at Vienna. His manuals of criminal psychology, psychiatry and forensic psychopathology have passed through numerous editions, and his contributions to the literature are quoted everywhere. The thirtieth anniversary of his career as a professor was celebrated March 11, and a jubilee number of the *Jahrbücher für Psychiatrie und Neurologie* was presented to him, adorned with an exceptionally fine portrait and containing twenty-five articles by Erb, Pick, Wagner, Von Jauregg and others. He delivered his last lecture March 6, as he resigned his post before reaching the age limit, for reasons connected with his health, and settled at Graz. He early recognized that psychiatry was in danger of following a false path, and was successful in leading it to its true place among the other special branches of medicine. To him more than to anyone else, perhaps, we owe the recognition of the close relationship between psychiatry and neuropathology.

Karl Nicoladoni, M.D., the well-known professor of surgery, first at Innsbruck and later at Graz. He was born at Vienna in 1847, and died at Graz, December 4, 1902. One of his first contributions to science was the successful relief of paralytic contractures by transplantation of tendons. His research on the spine in scoliosis is the basis for our knowledge on the subject, and he was also the first to describe the syndrome caused by torsion of the seminal cord, and to suggest orchidopexy. He was the inaugurator of the method of restoring a missing thumb by utilizing the second toe as a substitute.

M. Victorino, M.D., a prominent physician and surgeon of Rio. He was only 47 years old at the time of his death, November 9, but had been professor of surgery at his native city, Bahia, until appointed governor of the state, then senator, and finally vice-president of the republic of Brazil. His works on tropical parasitic affections have been translated into French, etc., and are frequently cited. He was also a prized contributor to the lay as well as to the medical press.

Ernst Bidder, M.D., a prominent physician at St. Petersburg for many years, professor of obstetrics and author of numerous works on this and allied subjects. He was the son of the physiologist, F. Bidder of Dorpat, where he was born in 1839.

Association News.

Rates to New Orleans Meeting.

Mr. Joseph Richardson, chairman of the Southeastern Traffic Association, has sent us Passenger Tariff Circular No. 1646 officially announcing rates for the New Orleans Meeting of the American Medical Association. From this we extract the following:

RULES AND REGULATIONS.

RATES.—One first-class fare for the round trip (minimum rate 50 cents) from all points south of the Ohio and Potomac and east of the Mississippi rivers.

DATES OF SALE.—May 1, 2, 3 and 4, 1903.

TRANSIT AND FINAL LIMITS.—Tickets will be honored for continuous passage in each direction with final limit 10 days from date of sale.

EXTENSION OF FINAL LIMIT.—Provided ticket is deposited in person by the original purchaser with special agent not later than May 12, 1903, and on payment of fee of 50 cents at time of deposit, final limit will be extended to a date not later than May 30, 1903.

The above rate and arrangement are respectfully tendered to connecting lines for basing purpose.

The following railroads are in the Southeastern Traffic Association:

Alabama Great Southern R. R.; Alabama & Vicksburg Ry.; Atlantic Coast Line R. R.; Atlanta, Knoxville & Northern Ry.; Atlantic & Birmingham R. R.; Baltimore & Ohio Southwestern R. R.; Blue Ridge Ry.; Central of Georgia Ry.; Charleston & Western Carolina Ry.; Cincinnati, New Orleans & Texas Pacific Ry.; Florida East Coast Ry.; Frisco System (K. C., M. & B. R. R.); Georgia R. R.; Georgia Southern & Florida Ry.; Illinois Central R. R.; Jacksonville & Southwestern R. R.; Louisville & Nashville R. R.; Macon & Birmingham Ry.; Macon, Dublin & Savannah R. R.; Mobile & Ohio R. R. R.; Nashville, Chattanooga & St. Louis Ry.; New Orleans & Northeastern R. R.; Norfolk & Western Ry.; Richmond, Fredericksburg & Potomac R. R.; Southern Ry.; Tennessee Central R. R.; Tifton, Thomasville & Gulf Ry.; Washington Southern Ry.; Western & Atlantic R. R.; West Point Route (A. & W. P. R. R. & W. Ry. of Alabama); Wrightsville & Tennille R. R.; Yazoo & Mississippi Valley R. R.

The Committee on Scientific Research of the American Medical Association is prepared to receive applications from gentlemen engaged in scientific research bearing on practical medicine or surgery. Five grants of $100 each will be given in support of such investigation. The results of the work in each case must be presented, either in abstract or complete, before one of the sections of the American Medical Association, preferably the Section on Pathology, at the next annual meeting, at New Orleans, May, 1903. All applications should be accompanied by a full statement of the applicant's previous work and training and his present facilities, as well as by a sufficient indication of the proposed or partly completed work to enable the committee to decide on the advisability of making a grant. [Signed] Alfred Stengel, Chairman, 1811 Spruce St., Philadelphia; William Osler, Baltimore; Ludwig Hektoen, Chicago.

Medical Organization.

Conference on Organization.

A meeting of the presidents and secretaries of the Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri and Wisconsin state societies, and others interested in organization, was held at the University Club, Chicago, on the afternoon and evening of December 27. The following were present:

M. L. Harris and E. W. Weis, president and secretary of the Illinois State Medical Society; J. B. Berteling, president of the Indiana State Medical Society; James T. Priestley and V. L. Treynor, president and secretary of the Iowa State Medical Society; A. E. Bulson and A. P. Biddle, president and secretary of the Michigan State Medical Society; J. W. Andrews and Thos. McDavitt, president and secretary of the Minnesota State Medical Society; Woodson Moss, president of the Missouri State Medical Association; J. V. R. Lyman and C. S. Sheldon, president and secretary of the Wisconsin State Medical Society; N. B. Carson, president of the St. Louis Medical Society; W. A. Evans, president of the Chicago (Cook County) Medical Society; Robt. B. Preble, chairman Committee on Organization of the Chicago Medical Society; E. Fletcher Ingals, chairman of the Committee on Reorganization of the Illinois State Medical Society; D. S. Fairchild, chairman of the Committee on Reorganization of the Iowa State Medical Society; Leartus Connor and W. H. Haughey, chairman and secretary of the Council of the Michigan State Medical Society; James H. Reed and A. W. Alvord, Battle Creek, Mich.; H. P. Newman, R. R. Campbell, Harold N. Moyer, E. C. Dudley, C. S. Bacon, E. Wyllys Andrews, J. B. Murphy and others from Chicago and Frank Billings and George H. Simmons, President and Secretary of the American Medical Association.

At the afternoon session, after a brief review by Dr. Simmons of the reorganization of the American Medical Association and the relation of the latter to the state societies, the president of each of the state societies represented in the conference gave an outline of what had already been done in his state and what is to be accomplished in the future.

Faults in the plan of certain of the state societies already reorganized were pointed out and recognized. Four of the states represented reorganized at their annual meetings this year, viz., Illinois, Michigan, Minnesota and Missouri. The plan adopted by the Michigan State Medical Society was shown to be almost ideal. The councilor system, with larger functions than are given in the constitution adopted by the Committee on Organization of the American Medical Association, and endorsed by that body, were especially commended. Indiana, Iowa and Wisconsin will act on the matter of reorganization at the coming meeting.

Dr. N. B. Carson of Missouri, Dr. E. Fletcher Ingals of Illinois, Dr. W. H. Haughey of Michigan and others took part in the discussion in the afternoon session.

The evening session consisted of a banquet, followed by a continuation of the conference. Dr. Billings spoke of the many benefits to be obtained through thorough organization. Dr. Harris showed the advantages of the new plan of organization as regards dues, and emphasized the fact that the dues would be much lower for the individual, and at the same time a larger amount would be realized, because a larger number would contribute.

Dr. Connor discussed the idea of a state society issuing its transactions in monthly journal form, rather than in the old method. He spoke of the practical results in Michigan from its journal which was established five months ago, and urged other state societies to do likewise. He said that the time had come when the members of the medical profession were demanding journals published in their interests, and not solely in the interest of the proprietary medicine men.

Dr. Biddle spoke of the card index system of keeping a record of licensed practitioners. He called attention to its simplicity and effectiveness and how easily the individual's record could be arranged to follow him wherever he might go.

Dr. Simmons especially urged that in the plan of organization adopted in any state the fact should not be lost sight of that one of the objects to provide for is that of obtaining information in regard to every man licensed to practice in every county, so that there shall be no one, whether a member of the organization or not, whose medical history shall not be on file on a card index in the office of either the secretary of the county or of the state society. In combining two or more sparsely settled counties into one society, a vice-president or some officer for each county should be provided for, whose duty it should be to represent and make reports for such county. He also called attention to the great advantage a record of every practitioner would be in preventing the registration of men in a state who had forfeited the right to practice in another state, if the organization co-operated with licensing boards.

Dr. Moyer spoke of the medicolegal, or medical defense function which had been adopted by the Chicago Medical Society. The object is not alone to protect members in malpractice suits, but in other ways to benefit them.

Drs. Evans and Preble talked on organization in large cities, and explained how Cook County—Chicago—had been divided into twelve districts, with a branch society in each district, and these again subdivided for work. Over four hundred new members have already been received in the Chicago Medical Society this winter and it is expected that by the annual meeting the membership will have reached two thousand.

Dr. Carson spoke of the trouble that had prevailed in St. Louis and of the better conditions already developing.

Many others spoke briefly and at nearly midnight the conference adjourned. It is believed that much good will result from this gathering, as a better appreciation of what is being attempted and a better knowledge of how to carry on the work and meet the difficulties was had by all.

Highland County (Ohio) Medical Society.

This society was organized at Hillsboro December 17, through the efforts of the councilor of the district, Dr. Brooks F. Beebe, Cincinnati, and of Dr. John C. Larkin, Hillsboro. There was once a society in this county but it has been dead for at least half a dozen years. Our reporter states that at the meeting for organization there were more physicians present than were ever before gathered in the county. Two-thirds of the regular physicians of the county became members and others who were unable to be present sent word that they would join at the next meeting.

The regular meetings will be held on the first Wednesday in January, April, July and October. The following is a list of the officers for the ensuing year: President, H. A. Beeson, Leesburg; vice-president, H. A. Russ, Hillsboro; secretary, J. C. Larkin, Hillsboro; treasurer, A. H. Beam, Hillsboro; delegate, W. W. Glenn, Hillsboro.

Societies.

Salt Lake County (Utah) Medical Society.—At the annual meeting of this society, held in Salt Lake City, December 8, Dr. Alexander C. Ewing was elected president; Dr. James N. Harrison, vice-president, and Dr. Henry La Motte, secretary, all of Salt Lake City. Dr. Augustus C. Behle, Salt Lake City, was unanimously re-elected secretary.

Iowa Central State Medical Society.—The annual meeting of this society was held in Marshalltown, December 9. The following officers were elected: Dr. Nelson Merrill, Marshalltown, president; Drs. E. W. Jay, St. Anthony, and Harry C. Willett, Whitten, vice-presidents, and Dr. Matthew U. Cheshire, Marshalltown, secretary and treasurer.

New Haven (Conn.) Medical Association.—This association will celebrate the one-hundredth anniversary of its organization, January 5 and 6. Commemorative addresses will be delivered by Drs. William Osler of Baltimore, and Dr. Francis Bacon of New Haven, and a reception will be given in their honor. Tuesday evening the association will have its annual dinner.

North Texas Medical Association.—This society convened for its forty-fourth semi-annual meeting at Dallas, December 9, and continued in session 3 days. Waxahachie was selected as the next place of meeting. Dr. Jarrett T. Benbrook, Rockwall, was elected president; Dr. Charles W. Simpson, Waxahachie, vice-president; Dr. Hugh L. Moore, Van Alstyne, secretary, and Dr. Carey A. Gray, Bonham, treasurer.

Northwestern Ohio Medical Society.—The fifty-eighth annual meeting of this society was held in Findlay, December 11 and 12, with about 300 members in attendance. It was decided to hold the 1903 meeting in Toledo. The following officers were elected: President, Dr. John North, Toledo; vice-presidents, Drs. William B. Van Note, Lima, and Myron J. Ewing, Findlay; secretary, Dr. Albert S. Rudy, Lima, and treasurer, Dr. Theodore M. Gehrett, Deshler.

Medicolegal Society of the District of Columbia.—This society was organized in Washington, December 11. Its principal objects are to promote the enactment of medical legislation in the interests of the citizens of the District of Columbia and the discussion of all civic affairs of a medical and legal character, and to bring about social affiliation among physicians, lawyers, dentists, pharmacists, and veterinary surgeons of the District of Columbia. The election of officers was as follows: President, Dr. Robert Reyburn; vice-president, Dr. William D. Hughes; secretary, Dr. Charles M. Emmons; treasurer, Dr. C. Robinson, and attorney, Edwin Forrest.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting of the Section on Pathology, held Dec. 16, 1902.

Dr. Irving P. Lyon in the Chair.

Uncinariasis.

DR. CHARLES WARDELL STILES, zoologist to the United States Public Health and Marine-Hospital Service of Washington, D. C., delivered an address, illustrated by stereopticon, "The Prevalence and Geographic Distribution of Hookworm Disease (Uncinariasis) in the United States." He gave a summary of the investigations that have been made and described the different species of the worm.

Having discovered the *Uncinaria Americana*, which differs somewhat in structure from uncinaria in Europe and Asia, Dr. Stiles undertook to determine the geographical distribution of this disease in this country, and accordingly undertook a trip through the southern states. He visited penal institutions, camps, mines, farms, orphan asylums in North Carolina, Virginia, Georgia and Florida, with the result that he was able to satisfactorily demonstrate that such a disease as *Uncinariasis Americana* occurred and could prove the infection by finding the parasite in the stool. The disease produces an anemia, and anemia is usually found in sand areas in the south, due to this parasite. Uncinariasis stands fourth among the prevalent diseases of the south. If the anemia occurs in a clay soil it is due to malaria and where you find a combination of the sand and clay soils you may find both the above-named diseases.

He spoke of the cotton mills of the south as recruiting labor from the farms of the sand areas, so the anemic condition and lack of development of these cotton workers is due not so much to working in the mills as due to a stunted growth due to uncinariasis or malaria before reaching the mills. One-half of the anemias of the south are due to uncinariasis. As to the reason of finding this disease in a sand rather than a clay soil, the feces are deposited in the sand, the embryos are thus deposited, and carried, and secondly, the embryo requires oxygen for its development and gets the oxygen in the sand rather than the clay soil. The hook-worm is known to have lived six years in the intestinal canal, and may live 60 days or longer outside of the body.

Dr. Stiles gave the symptoms of a typical case, and stated that there are all sorts of gradations of the disease. He emphasized the importance of a macroscopic and microscopic examination of feces. In uncinariasis with an ordinary objective, the hook-worm is found in intestinal contents, if in the egg-laying stage the eggs are found. It is not necessary to have much of the feces to make the diagnosis, and either the parasite or eggs are easily found without staining, simply by placing feces between the slide and coverglass. If no eggs or worms are found after examining a dozen specimens it is quite safe to say that uncinariasis does not exist. If by crushing some of the feces on blotting paper a reddish bloody color results 8 out of 10 cases suspected will prove to be uncinariasis.

There is anemia, which may taken on a pernicious form, also eosinophilia. The complexion is waxy white to sallow. In some cases the skin has a yellow tan, and looks not unlike parchment. The mucosa has a marble-white appearance; there are cervical pulsations. The pulse varies from 80 to 132, the average being 120. In some cases there is no temperature, in others the temperature is increased, and it may reach 100. There is a potbelly. Many of the patients look to be pregnant, while the arms and legs are emaciated. The appetite is abnormal; some chew coffee, pickles; some suck lemon, eat salt, sand clay, wood, rags, and one patient ate live mice. There may be constipation or diarrhea. The stools are red or brown, probably due to slight ecchymoses and hemorrhages of the intestinal mucosa.

A symptom noted is that when a patient stares the pupils dilate, and the eye assumes a cadaveric stare, like extreme alcoholic intoxication.

The people are stunted in growth physically and mentally. The penis is small; there is no pubic hair in the male. In females the vulva is small, the sexual organs undeveloped and menstruation is scant.

There may be headache, vertigo, or other nervous manifestations. The disease appears more severe in blondes than brunettes, and also more severe among whites than negroes. Among married women there is a tendency to miscarriages, and it is uncertain whether this is due to the uncinariasis or from the use of large doses of quinin, taken for chronic malaria, with which this condition is universally confounded among southern physicians.

Patients feel better in winter than during the summer months because the eggs and embryos are killed by frost and no new infection can therefore take place.

The treatment consists in thymol, 30 grs. at 8 o'clock a. m., at 10 a. m. another 30 grains, to be followed at noon by salts. It is necessary to prepare the patient by a laxative before using the thymol. It may be required to repeat this treatment from ten to twenty times, and the stools should always be examined.

Dr. Stiles warned against the use of alcoholic solutions of thymol, for it may induce fatal convulsions. This has been proved experimentally in dogs so that thymol is used in the powdered form.

This is a preventable disease. It exists in such localities where little attention is given to the proper disposal of sewage so that a proper disposition of fecal matter is a prophylactic against the spread of the disease. The privy vaults should be boxed and the people must be taught cleanliness, especially the Talmudic dictum of washing the hands before eating.

DISCUSSION.

In answer to a question of Dr. Allen A. Jones as to the value of blood examinations in this condition, the writer stated that

you have the picture of severe anemia. The erythrocytes may be reduced to 800,000, and there is eosinophilia, but he does not depend on blood for diagnosis, comparing this mode of procedure to going from Buffalo to New York by way of San Francisco. The examination of the stool is the method of diagnosis.

DR. UILMAN asked whether or not there were hemorrhages noted. The writers stated that there are slight oozings from the intestinal mucosa, but that he had never noted severe hemorrhages.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Thirtieth Annual Meeting, held in New Orleans, Dec. 8 to 12, 1902.

President, Dr. Henry D. Holton, Brattleboro, Vt., in the Chair.

(Continued from Vol. xxxix, p. 1611.)

Sanitary Measures Proposed to the Mexican Railway Companies.

DR. EDUARDO LICEAGA, president of the Superior Board of Health of Mexico, read a paper on this subject. The measures urged were:

1. To increase the number of cuspidors, and furnish them with disinfecting solutions capable of destroying the tubercle bacilli.
2. Place in conspicuous places placards containing the following: "Please spit exclusively in the spittoons, as otherwise the germs of infectious diseases, especially those of tuberculosis, will be carried into the air."
3. Until the paddings of the cars are changed for other and more convenient drapery, a wise plan would be to disinfect the car, every time it is unoccupied, with a solution of formaldehyd, which would not alter the condition of the cloth or its color.
4. Disinfect all sheets and pillow cases before sending them to the laundry.
5. Also disinfect the tapestries and couches.
6. Keep the car as clean as possible, especially the closets and urinals.

The railroad companies in Mexico considered the above suggestions practical and promised to enforce them.

Co-operation Essential to Progress in Vital Statistics.

DR. CRESSY L. WILBUR of Michigan presented a paper in which he said that for the first time there is an opportunity for continued systematic co-operation between the permanently-organized department of the National Government and the various state and municipal systems of registration to the end that accurate and uniform statistics of mortality may be obtained for the United States and made available for the use of all public health offices.

Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine.

DR. JOHN S. FULTON, Baltimore, said the Federal census should:

1. Be, at the approach of another census year, better than ever prepared to rapidly and accurately count the people, making notes of all the data needed for statistical purposes.
2. It should make such *ad interim* studies of the births and deaths occurring in non-registration areas as would serve for the better correction of the enumerators' returns for the census year.
3. It should commit all vital returns to the hands of a trained medical statistician who understands the moods and tenses of vital mathematics.

Local registration should cover:

(*a*) Records of deaths made at the time and place of their occurrence, by the most competent persons acquainted with the facts, including a medical certification of the cause of death, the making and filing of such a record being, in every instance, an indispensable preliminary to the disposal of the dead body.

(*b*) Records of birth, secured by the payment of fees, by every appeal to private interest and public necessity, including, if possible, conditioning of certain privileges of citizenship on recorded evidence of attained age.

(*c*) Records of marriage and divorce, with all such items of information as had statistical importance.

(*d*) Records of sickness, including all cases those infectious diseases which fell within the provisions of the notification laws, all cases of sickness which came under study in the public health laboratories, all sickness which was relieved at public cost, and all sickness falling under the observation of inspectors of schools, tenements and factories.

The data of vital statistics should be systematically utilized, not only for the broader purposes which had grown into common use, but for the minuter inquiries to which such records in large numbers and of great variety were adapted.

Transmission of Disease.

DR. LOUIS E. RUIZ, Mexico, presented a paper on the periods in which contagious diseases can be transmitted and also of the periods in which sick persons are dangerous to healthy persons near them.

DR. JOSE P. GAYON, Mexico, spoke of the transmission of pathogenic fungi by flies and mosquitoes.

DR. J. E. MONJARAS, Mexico, discussed the principal causes of infectious diseases and the chief means of guarding against them.

At the evening session of the first day, addresses of welcome were delivered by the Mayor of New Orleans, Paul Capdevielle, on behalf of the city, and by Hon. Jared Y. Sanders, speaker of the House of Representatives, on behalf of the state. These addresses were responded to by President Holton.

Presidential Address.

PRESIDENT HENRY D. HOLTON then delivered his address, reviewing the status of sanitation in the United States, saying the most wonderful progress had been made along all sanitary lines.

The association had been striving for many years for the establishment of a public health service, and the medical profession was to be congratulated that at last their efforts had been crowned with success. While all that was desired had not been granted, yet a substantial, and, in many ways, a satisfactory organization had been effected.

Report of Committee on Public Health Legislation.

DR. U. O. B. WINGATE, Milwaukee, Wis., presented this report, which showed the work done toward the formation of the Public Health and Marine-Hospital Service. It was hoped that this measure provides a foundation on which may be built up a National health service, such as the intelligence of the people and the age in which we are living demand.

Experiments in Disinfection with Formaldehyd Gas.

DR. M. P. RAVENEL, Philadelphia, read an exhaustive paper in which he detailed his experimental work with this gas. He drew the following conclusions:

1. Formaldehyd is justly entitled to the high position which has been given to it as a disinfectant.
2. Special apparatus, while useful and convenient, is not absolutely necessary for the successful application of the gas.
3. The germicidal power of formaldehyd gas is dependent on certain factors which, as yet, are imperfectly understood. Other things being equal, moisture and temperature are the most important of these factors.
4. In practice every operation should be controlled by cultural experiment, and no room which has been exposed to infection should be considered as disinfected unless control cultures exposed in various parts of said room are shown to have been destroyed.

Report of Committee on Disinfection and Disinfectants.

DR. HIBERT W. HILL, Boston, said that a careful examination of articles published in America and Europe had failed to reveal the discovery of any new process of disinfection of great practical value during the last year. As to room disinfection, formaldehyd still holds the first place. Gaseous disinfection, he said, as the great panacea for preventing the spread of contagion, has been much discredited by recent experiments, but the committee were strongly of the opinion that, when properly carried out, it was an important and effective aid in public health work, and would continue to be, and that formaldehyd was by far the best agent to use in carrying it out.

In using formaldehyd two things should be provided for: A sufficiency of water in the air of the space to be disinfected and a very rapid disengagement of the gas. Most forms of apparatus failed in one or the other of those points. The work of Robinson and Hill, members of this committee, clearly showed that not only did efficiency depend on them, but by properly observing them much time and material could be saved. The disinfection of the future must be simple, short and sharp.

Report of the Committee on National Leper Homes.

DR. HENRY M. BRACKEN, St. Paul, Minn., chairman, said that of all the countries represented in the association, the United States was the only one that had made no provision for its lepers. With the present knowledge of leprosy, and the methods employed in care of lepers, the committee advised that the resolution of last year be reaffirmed, favoring the establishment of national leprosaria, which might serve not only as a refuge for lepers, but also as a home and hospital, making their

lives tolerable as far as possible, furnishing employment to those who were able to work, and giving skilled medical care to all cases, with the intent of possibly curing some, and making the road to death less wearisome and painful to others.

Dangers to the Public Health from Illuminating and Fuel Gas.

DR. SAMUEL H. DURGIN, Boston, chairman, reported the investigations of the committee appointed on this subject. They found that the common condition of gas pipes and fixtures was very poor, the moderate small leaks very numerous, and that a moderate increase of pressure in the fixtures above the normal produced leakage in 89 per cent. of all the houses examined. It was also shown that the number of fatalities from illuminating gas was not only large, but was increasing from year to year.

In order to ascertain to what extent the medical profession in Boston had recognized cases of acute and chronic poisoning by illuminating gas, he sent out letters to 2200 physicians, asking for their personal experience in such cases. He received replies from 460 physicians; 246 of them reported no experience; the other 214 reported 1025 cases of acute poisoning; 374 of these resulted fatally; 288 were found dead, and 86 lived from one hour to twelve months; 623 made complete recovery in periods varying from a few hours to three years; 28 made partial recovery, while under observation, of from three weeks to twenty-one months.

Annual Report on Yellow Fever in Mexico.

DR. EDUARDO LICEAGA, Mexico, presented statistics of the spread of the disease along the Mexican coast. The recent epidemic in Vera Cruz developed 877 cases, being the most severe in the country. His report showed that 873 cases were on the Gulf coast, while only 27 cases had been reported on the Pacific Ocean coast. The death rate was low, and had been held down by the successful management of the disease.

DR. NARCISCO DEL RIO, Mexico, related with particularity the history of the spread of the disease in Orizaba, Mex.

Yellow Fever Prophylaxis.

DR. JOHN W. ROSS, U. S. A., gave at length his reasons for believing that the only way in nature for yellow fever to be contracted by man was from the mosquito. He recommended the following measures:

1. To prevent those insects from stinging yellow fever patients.
2. To destroy as far as possible the mosquitoes which have been infected.
3. To consider any place unsafe so long as the last mosquitoes which have stung yellow fever patients may be alive in it.

He stated that the clear-cut, scientific observations and classical contributions of Surgeon H. R. Carter of the United States Marine-Hospital Service, showing the interval (about two weeks) which occurred in houses between the first (infecting) case and the first group of cases, secondarily infected, impossible to explain by the theory of fomites, were now readily understood in the light of present knowledge of the elaboration of the yellow fever poison in the body of the mosquito, that process requiring not less than twelve days.

The Method of Transmission of Yellow Fever from Man to Man.

DR. WILLIAM C. GORGAS, U. S. Army, contributed a paper with this title, giving practically the same views that have been published in previous papers on this subject by him.

DR. MANUEL S. IGLESIAS, Mexico, discussed the disinfection of railroad cars as a precautionary measure against the propagation of yellow fever by mosquitoes.

PROF. GEO. E. BEYER, New Orleans, related his investigations regarding yellow fever in Vera Cruz.

DR. EDMOND SOUCHON, New Orleans, did not antagonize the theory of the transmission of yellow fever by mosquitoes, but he did not believe that we were prepared to say that the mosquito was the only mode of transmission of the disease. After a close and careful study of the question, he had reason to believe that there was some other means of transmission. What it was he could not say. It might be fomites, or something we know nothing about.

DR. HAMILTON P. JONES, New Orleans, who was in charge of the Beauregard Yellow Fever Hospital in this city in 1896, said that, despite the fact that three hundred people were exposed to mosquitoes as transmitters of the disease, as well as to fomites, not one of them had been stricken, and he was still in the dark as to the doctrine of transmission of the disease.

DR. JOHN GUITERAS, Havana, explained the prophylactic measures carried out in Havana.

DR. E. R. CARTER of the Marine-Hospital Service said that if the disease was conveyed to an animal host, it was conveyed there by a parasite. He said the conveyance of the disease might occur in two ways by fomites: First, directly to the person, and, second, through an infected atmosphere.

DR. QUITMAN KOHNKE, New Orleans, after mentioning the fact that the board of health was doing all in its power to guard against the disease, said that still more strenuous efforts should be made to keep it from coming to New Orleans from infected ports. If the disease was conveyed by fomites as well as by mosquitoes, it was logical to conclude that there was a greater danger than if it was conveyed alone by the *Stegomyia fasciata*.

Proceedings of the Section on Bacteriology and Chemistry.

The Occurrence of Tubercle Bacilli of Increased Virulence in Man.

DR. M. P. RAVENEL, Philadelphia, stated that it is rare to find tubercle bacilli in man which have a high degree of virulence for experimental animals, if one judge by the published reports, and it is still more rare to find cultures which are highly pathogenic for cattle. So marked was the difference in pathogenic power of cultures isolated from man on the one hand, and from cattle on the other, that a division into races had been proposed depending on this feature; and Koch held that inoculation of a given culture into cattle would surely show whether it was of human or bovine origin. Believing that bovine tuberculosis is a fertile cause of the disease in milk-fed children, he had for some time past taken every opportunity possible of selecting cultures of tubercle bacilli from the mesenteric glands of those who had died of a tuberculosis which was not clearly of respiratory origin. This had led to the discovery of two cultures, one of which was as virulent for all animals on which it had been tested as cultures obtained from cattle usually were; and the other, while not nearly so virulent, was still much in advance of the usual human culture.

DR. F. P. DENNY, Brookline, Mass., read a paper on the morphology of *Bacillus diphtheriæ*, *Bacillus pseudo-diphtheriæ*, and *Bacillus xerosis*, based on the study of serial preparations made at intervals from the same cultures.

The Use of Immune Serum in the Separation of Typhoid and Colon Bacilli.

DR. ADOLPH GEHRMANN, Chicago, read this paper. The difficulty in the separation of these species was due to the constant tendency of *Bacillus coli* to overgrow *Bacillus typhosus*. The search for specific retaining agents had not resulted in entire success. If an immune serum, active for one or the other species could be used to restrain the growth of one, without disturbing the growth of the other, it would be an ideal method of procedure. He related previous experiments along this line. The serum of rabbits immunized against *Bacillus coli* could be used for this purpose and gave results that were positive by artificial mixtures of the two species. The method could be improved by using the blood of immune animals direct and by rapid cultivation in the incubator. For practical purposes this method was not as yet certain and the establishment of a control was difficult. On material containing other species the restraining effect of carbolic acid did not disturb the purpose of the blood that was used. Some rather indefinite results on the isolation of typhoid from water had been reported.

An Examination of the Value of Certain Antiseptics Used for the Preservation of Antitoxin and Other Immune Serums.

DR. JOSEPH MCFARLAND, Philadelphia, said this investigation had for its object the determination of the antiseptic and bactericidal values of chloretone, formaldehyd, chloroform, trieresol and carbolic acid. It had long been believed that the addition of one-half per cent. of carbolic acid and 0.4 per cent.

of tricresol, and 0.1 per cent. of formaldehyd would satisfactorily prevent the growth of micro-organisms in the serums so prepared. As some of these reagents threw down a precipitate, the question arose whether the reagent itself was destroyed and too little remained to properly preserve the serum.

The research was conducted by preparing the serums with the proper proportions of the germicides, then adding known numbers of bacteria and determining their diminution or increase. The results showed that, other things being equal, formaldehyd was preferable to phenol, but objectionable because it did not kill molds. Phenol was better than tricresol, and the recommendation was made that hereafter tricresol be given up as a preservative of the serum.

Formaldehyd.

DR. H. W. HILL, Boston, read this paper. His conclusions were that humidity was an important factor in formaldehyd disinfection. An amount of gas which failed to kill in six hours at 42 per cent. humidity, killed in twenty to forty minutes at 100 per cent. humidity. Considering the unavoidable leaks and absorption of gas by walls, etc., found in practice, practical disinfection required a rapid discharge of gas and high humidity. The best of the generators tested ran not more than 15 c.c. per minute, and the condensed effluent yielded in the first ten minutes only about a 30 per cent. solution, hence generation by boiling in the ordinary way was too slow. Spraying was somewhat objectionable from the wetting down of the contents of the room. Atomization by steam current under 15 pounds pressure yielded from six to eight times as rapid a flow of full strength, with no polymerizing, and produced a high humidity.

The Diminishing Importance of Public Water Supplies and the Consequent Significance of Other Factors in the Causation of Typhoid Fever.

PROF. W. T. SEDGWICK, and MR. C. E. A. WINSLOW, Boston, undertook to show:

1. That in the State of Massachusetts and in many of the larger cities of the United States the public water supplies are now unimportant as vehicles of typhoid fever.
2. That in cities having pure water supplies the annual curve of typhoid fever mortality closely follows that of annual temperature.
3. That in urban communities supplied with pure water there still remains a typhoid fever tax of from 15 to 25 deaths per 100,000 population.
4. That this tax is due not to any peculiar conditions of soil, locality or climate (endemic factors), but to incomplete disinfection of typhoid excreta with subsequent infection of various articles of food and drink. These factors, when acting on a few or many persons at one time, may cause obvious epidemics, sometimes large, though generally small; but more often the infection in moving from one point to another follows different and obscure routes for different victims, and hence may be described as prosodemic.
5. That the only remedies for such prosodemic typhoid are absolutely thorough and universal cleanliness and disinfection of excreta.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Creosote and Guaiacol in Pneumonia.

A correspondent asks for the therapeutic uses of carbonate of creosote, particularly in pneumonia. Creosote and its derivatives have been the subject of much discussion, some reporting them as specific in pneumonia and some considering that they have no effect. They are discussed, both pro and con, in the "Symposium on Pneumonia" in THE JOURNAL, Nov. 15 and 22, 1902. Our correspondent is further referred to the U. S. Dispensatory for a description of the drug in question. The therapeutic uses include tuberculosis, chronic bronchitis, enteritis, ulcerations, intestinal indigestion and various other derangements of the alimentary canal. The carbonate is said to be less irritating and less toxic than creosote. The former is not soluble in water or glycerin, but is soluble in 4 or 5 parts of olive oil or sweet oil, or may be administered in capsule or in the form of an emulsion. It is decomposed in the intestine and is separated into creosote and carbonic acid. It is said to improve the appetite rather than to disturb it. The dose is from 3 to 15 minims, but should not exceed one dram in the twenty-four hours.

Dr. L. Weber of New York and Dr. J. L. Van Zandt of Texas have given very favorable reports of a large number of cases of pneumonia in which creosote carbonate was used. The latter says it may be urged that pneumonia being a self-limited disease, even bad cases will recover; but, on the other hand, good and uncomplicated cases die in spite of the best of care and the so-called symptomatic treatment, because the system does not furnish a sufficiency of serum antitoxins to end the pneumonic process. Unfortunately it can not be told in any case of pneumonia whether Nature will be able to cure the patient. Weber believes that this remedy is able to supply Nature's deficiency, working, as it does, in a very similar way to the antitoxins furnished by the system.

Dr. E. Fletcher Ingals favors the use of guaiacol applied externally rather than the use of the creosote preparations by internal medication. He states that it is rapidly absorbed, and consequently the prompt and beneficial effects are produced without any disturbance to the digestive tract. He advises its application externally in doses of 20 or 30 minims whenever the temperature reaches 101.5 F. and repeated every three or four hours if the temperature indicates it. Different areas should be chosen at each application.

Aborting a Venereal Bubo.

The following, according to an article in *Merck's Archives*, has been used successfully in aborting venereal buboes:

℞.	Ung. hydrarg.		
	Ung. belladonnæ		
	Ichthyol		
	Lanolini, āā 3ii	8	

M. Ft. unguentum. Sig.: Apply locally. If the bubo is seen early, no heat or redness being present, a piece of surgical lint spread with ointment is applied to the swollen gland; over this a piece of oiled silk of the same size. A piece of cotton is then applied, and firm, continuous pressure applied by means of a bandage. This treatment is applied every other day until, in cases in which it acts successfully, entire resolution takes place, usually in about two weeks. Or the following ointment may be used:

℞.	Emplas. hydrargyri		
	Emplas. plumbi, āā 3iv	16	
	Olei terebinthinæ 3i	4	
	Ichthyol 3ii	8	

M. Sig.: Applied locally.

The following is recommended as an injection to prevent suppuration:

℞.	Hydrarg. benzoatis .....gr. v		30
	Sodii chloridi .....gr. iiss		15
	Aquæ destil. .....ʒi	30	

M. Sig.: As an injection.

Eucalyptus in Diabetes.

Faulds, in *Glasgow Med. Jour.*, has employed with success an infusion of eucalyptus in the treatment of diabetes as follows:

℞.	Eucalyptus flores (dried) .....ʒiv	16	
	Aquæ .....ʒvi	180	

M. Fiat infusum. Sig.: One such draught to be taken twice daily. He states that he obtained good results in fifteen out of sixteen cases. In one case, a girl of 18, in which there were sixty grains of sugar to the ounce of urine passed, after four days' treatment only one grain to the ounce was passed, and on the sixth day none. He, however, thinks it of service only in those cases due to gout, overindulgence in food, or cold. It does not seem to be of service in those cases dependent on vasomotor disturbance affecting the blood supply to the hepatic cells as no improvement was shown in those cases. Eucalyptus oil or eucalyptol will not produce the same results as the infusion.

Massage in Nephritis.

Ekgren, in an abstract in *Med. Rev.*, states that active exercise increases the percentage of albumin in nephritis, and is,

therefore, contra-indicated. Demonstrations on cases of both the interstitial and parenchymatous forms of nephritis showed that passive movement and general massage were equally harmful, as they were followed by considerable increase in the quantity of albumin. The practice of treating renal anasarca by massage, according to the author, should be abandoned or applied only in exceptional cases.

Psoriasis.

Sherwell, in *Jour. of Cutaneous and Genito-Urinary Diseases*, recommends the following outline of treatment of psoriasis:

℞.	Quininæ sulph.	gr. xxx	2
	Mag. sulph.	ʒi	30
	Acidi sulph. dil.	ʒiii	12
	Tinct. nucis vom.	ʒss	2
	Vini colchici	ʒiiiss	14
	Glycerini	ʒiss	45
	Aquæ	ʒii	60

M. Sig.: One dessertspoonful night and morning in a wineglassful of water, half a glass of water to be drunk directly after.

The following to be applied locally:

℞.	Liq. carbonis detergentis	ʒiii	12
	Acidi salicylici	gr. xv-xxx	1-2
	Ung. aq. rosæ	ʒxi	44

M. Sig.: Apply locally night and morning.

Fissure of the Hands.

The following is recommended by Steffen in *Bul. Gen. de Ther.* as an ointment in the treatment of fissures of the hands:

℞.	Menthol	gr. xx	1 30
	Salol		
	Olei olivæ, āā	ʒss	2
	Lanolini	ʒii	60

M. To be applied twice a day.

J. Nevins Hyde employs the following for cracked and chapped hands:

℞.	Tinct. benzoini	ʒiss	45
	Tinct. tolutani	m. lxxv	5
	Glycerini	ʒss	15
	Spts. vini rect.	ʒiii	90
	Aq. rosæ q. s. ad	ʒvi	180

M. Sig.: Wash the hands thoroughly in warm water and apply locally night and morning.

Alopecia.

The following formulæ are credited to Balzer in *Amer. Med.*, to be employed in the treatment of alopecia areata in preference to epilation to stop the progress of the disease:

℞.	Hydrarg. biehlor.	gr. iii	20
	Acidi acetici	m. xv	1
	Alcoholis, 90 per cent.	ʒiii	90
	Spts. etheris		
	Spts. lavendulæ, āā	ʒiv	120

M. Sig.: Cut the hair. Wash the scalp once daily with the foregoing solution.

To re-establish the function of the hair follicles and the atrophied papillæ the following lotions should be used:

℞.	Res. ammoniaci	gr. lxxv	5
	Spts. terebinthinæ	ʒvi	24
	Camphorated alcohol	ʒiv	120

M. Sig.: Apply locally; or:

℞.	Acidi acetici	gtt. xv-lxxv	1-5
	Chloral hydratis	gr. lxxv	5
	Spts. etheris	ʒvi	24

M. Sig.: Apply locally; or:

℞.	Acidi lactici	ʒii	8
	Alcoholis (90 per cent.)	ʒi	30

M. Sig.: To be applied by means of a tampon of absorbent cotton and friction employed until the skin is reddened. If too much irritation is produced the treatment should be withheld for a time.

Diphtheria.

Dr. N. Novikov, according to *Amer. Med.*, states that the use of hydrogen dioxid, to the exclusion of all other medication, in the treatment of diphtheria, gives results equally as encouraging as serumtherapy. The false membrane is detached more slowly than by the serum, but the depressant action of the diphtheritic toxin is neutralized to a great extent by the hydrogen dioxid which favors oxidation. The author instructs the patient to use two or three tablespoonfuls of a 2 or 3 per cent. solution to a glass of water as a gargle night and morning. In children too young to gargle he prescribes the peroxid to be taken internally, as follows:

℞.	Sol. hydroglini peroxid	ʒi-ii	4-8
	Syr. simplicis	ʒiv	16
	Aq. destil.	ʒiii	90

M. Sig.: One teaspoonful to a dessertspoonful every hour or two.

In order to hasten the detachment of false membrane, the throat may be painted with a 2 or 3 per cent. solution three times a day.

Hydrogen Peroxid in Poisoning from Coal Gas.

Hydrogen peroxid is recommended by *Merck's Archives* in the treatment of coal gas poisoning, administered per rectum and per os. It is given in doses of two ounces (60.) full strength, per rectum; per os one ounce (30.). This dose may be frequently repeated. The success of the treatment of course depends on the absorption of the oxygen from the solution by the blood current. A piece of ice inserted into the rectum is a great adjuvant and has a remarkable effect in restoring consciousness.

Chronic Bright's Disease.

The following combination is recommended by Semmola as a drink in chronic Bright's disease:

℞.	Sodii chloridi	ʒiss	6
	Sodii phos.	ʒss	2
	Sodii iodidi	gr. xv	1
	Aquæ puræ	ʒxxxvi	1080

M. Sig.: Use pure as a drink or mixed with milk.

Medicolegal.

Registration of Physicians in Missouri.—The Court of Appeals at Kansas City, Mo., says, in the case of State vs. Morgan, that the laws of 1874 required all practicing physicians to register, and when registered they were thereafter qualified to practice. No law since that enactment has required them to again register. In regulating the practice of medicine, in 1877, the legislature exempted those who were then authorized to practice by virtue of any existing law. Laws 1877, page 343, section 1. In a subsequent regulation, in 1883, the provisions then enacted were made non-applicable to physicians who had been practicing five years. Laws 1883, page 116, section 11. The act of 1883 continued in force down to 1901, when a new regulation was made by the legislature. But it was therein provided that it should only apply to "any person not now a registered physician." Laws 1901, page 207, section 1. The competency of a physician to practice medicine under the act of 1874 has, therefore, not been interfered with by subsequent regulations.

Care Required to Prevent Aggravation of Injury.—The Court of Civil Appeals of Texas says, in Texas & Pacific Railway Company vs. McKenzie, a personal injury case brought by the latter party, that, to prevent aggravation of the injury, the party injured is only required to use such care and caution as an ordinarily prudent person would use under similar circumstances. The aggravation of a wound by unskilful treatment would not of itself prevent the recovery of damages by reason of such aggravations, unless the injured person failed to use ordinary care to prevent such aggravation. When a personal injury flows from the negligent act of another, that other is responsible for the damages resulting, and all that the law demands of the injured party is to use ordinary care to avert further injury. Here, if the company negligently caused the injury, then it was responsible for the damages that proximately resulted therefrom. Whether it was responsible for the aggravation, if any, caused by a failure of prompt attention or unskilled treatment, depended on the care used by the injured party to have the injury properly treated.

Allows But One Physical Examination.—The second appellate division of the Supreme Court of New York says, in Whitaker vs. Staten Island Midland Railroad Company, that it is true that the statute of that state which provides that on application the physical examination of a party seeking to recover for personal injuries may be ordered contemplates the appointment of a physician by the court, but where the party sued has waived this right and a physician of his own nomination has been permitted to examine the other party, and has testified without objection, he may not properly discard such testimony, and ask the court to permit an entirely new examination. The provisions of the Code of Civil Procedure in reference to examinations before trial were intended as an extension of the privileges of parties sued in actions for personal injuries, but the rule is well settled that a party may waive a rule of law, or a statute, or even a constitutional provision enacted for his benefit or protection, where it is exclusively a matter of private right, and no considerations of public morals are involved, and, having done so, he can not subsequently invoke its protection. So the court is of the opinion that the railroad company sued, having once waived the right to an examination by a physician appointed under the order of the court, could not take advantage of the provisions of Section 873 of the Code providing for examinations as above stated. The general purpose of the enactment, it says, was to change a rule of the common law, and it ought not to be extended beyond the clearly expressed intention of the legislature, which, while not expressly limiting the examination to a single occasion, makes no provision for more than one examination, and this is before trial. Again, it says that it appeared that the principal claim of the party suing was that the injuries had resulted in traumatic neurasthenia; and says that this was a matter which might be determined quite as accurately from the testimony which must be brought out on the part of the party suing and her witnesses under cross-examination as by any mere physical examination four or five years after the accident. The company had had all of the advantages of the provisions of Section 873, and it had, by accepting a physical examination under the stipulation of the party suing, waived any right to have another physician appointed by the court for the same purpose.

Current Medical Literature.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, December 20, 1902.

1 *Endometritis. H. J. Boldt.
2 *Laryngectomy for Malignant Disease. (Concluded.) Frank Hartley.
3 *Gynecologic Massage. Bernard S. Talmey.
4 *Alexander's Operation. Le Roy Broun.
5 Report of the Clinic of Prof. Adolf Lorenz, Held at the Hospital for the Ruptured and Crippled on Dec. 15, 1902. Dexter D. Ashley and Leonard W. Ely.

1.—See THE JOURNAL, xxxix, p. 1411.

2. **Laryngectomy.**—In the earlier part of his article Hartley described total laryngectomy, and here he remarks that a complete unilateral laryngectomy is done in the same manner except that the operative work is confined to one side. In the less extensive cases it may be done subperichondrally. In all cases a tracheotomy is made at the second or third rings, and the cricoid cartilage is saved, if possible. The wound remaining is closed as far as possible by the mucous membrane of the pharynx and the remainder is packed as in resections. In all other details the measures adopted in the resections are applied to the partial laryngectomy. For three days the patient is kept in bed with the foot raised without a pillow, and nourishment given by the rectum every sixth hour, and rectal irrigations with salt solution every third hour. On the third day an attempt to swallow is made—at first of water only, taken in the mouth in the exaggerated Trendelenburg posture, that is, swallowing "up hill." If the wound is not closed some leakage will occur, but this can be overcome by compressing the sides of the opening with the fingers. If this can not be done, or if the wound could not be closed at the time of the operation, a catheter should be used, best inserted through the nose. It is preferable to avoid the use of the catheter, however. He thinks that unless lymphatic involvement contraindicates operation, unilateral or bilateral removal is justifiable. He does not speak with favor of the establishment of an artificial larynx as there is a remarkable adaptation of organs to replace the function of the lost ones in these cases. He reports five cases of these operations.

3. **Gynecologic Massage.**—Talmey reviews the objections and advantages of gynecologic massage. He thinks it is indicated in every case in which pressure on any part of the internal genitals causes sudden and perhaps persistent pain. It is indicated in all cases where it is desired to help Nature improve the circulation by absorption of the products of exudation and increase the tonicity of the tissues, and it will do away with the necessity of many hysterectomies, dilatations, curettements, and oöphorectomies. The dangerous operations for retroflexion will also be avoided, and the ovaries that otherwise might have been sacrificed be saved. He gives details which we can not here reproduce.

4. **Alexander's Operation.**—Broun prefers Alexander's operation in suitable conditions for the following reasons:

1. The relief it affords patients from symptoms on account of which they seek counsel.
2. The danger is *nil*, and the operation of far less gravity than other surgical means in use for the relief of the same symptoms.
3. The anatomical result obtained is all that can be desired, and is effected without the establishment of new pathological adhesions, the intentional formation of which form the basis of all vaginal fixations or ventral suspensions.
4. That the much-heralded danger of inguinal hernia as following this operation is greatly exaggerated, provided the operation is properly done, without laceration of the surrounding tissues in a long continued search for the ligament. If such laceration has taken place, hernia is impossible, if the operator (recognizing the possibility of such) continues his incision to the internal ring and does a Bassini operation, which does not prevent his shortening the ligaments at the same time.

American Medicine (Philadelphia), December 20, 1902.

6 *Failures in the Irrigation Treatment of Gonorrhea. Ferd. C. Valentine.
7 *The Home Modification of Milk for Infant Feeding. Alfred Hand, Jr.
8 Preliminary Note on Ring-shaped Bodies (Nuclear Remains?) Occurring in the Red Cells in Cases of Anemia. Richard C. Cabot.
9 *On the Relation of Obesity to Improcreance. Heinrich Stern.
10 *The Practical Side of Electrothermic Hemostasis. Andrew J. Downes.
11 *A Report of Tuberculin as a Means of Diagnosis. J. D. Madison.
12 The Business Phase of Our Daily Work. I. N. Pickett.
13 Tettenhamer on Eosinophiles. Edward T. Williams.

6. **Irrigation Treatment of Gonorrhea.**—Valentine notices the various causes of failure of this method. Among them the possible idiosyncrasy of the physician. Not every doctor is qualified to treat genito-urinary cases, but he does not consider this as against him. He admits he has himself an abhorrence for obstetrics and gynecology and a great dread of treating children's diseases, and would consider himself unfit for such work. He notes the time required as an objection, but that is not a valid one. Also the need of employing irrigating solutions to suit the case; permanganate is not a panacea for all. The patient may be rebellious or unable to carry out the treatment. He mentions a method and apparatus for autoirrigation, which has been described elsewhere. Among the congenital defects which may interfere is a very tight preputial orifice, which may require circumcision or incision, or narrow meatus, intraurethral abnormalities, epispadias and hypospadias. Among the acquired complications are balanitis and balanoposthitis, chancre, chancroid, cicatrices, condylomas, herpes progenitalis, infiltrations, paraphimosis, phimosis, prostatitis, stricture, etc. Phosphaturia and oxyluria may exist, which must be overcome before an effect from irrigation can be expected. These, he thinks, are the principal causes for the failures that occur in the irrigation treatment of gonorrhea.

7. **Infant Feeding.**—The first point in infant feeding is to get a careful personal history of the case from birth, the second, to get a good clean milk, the third point is to get the proportion of fat according to the percentage of fat, proteids, and sugar in the different ingredients; that is, to think in percentages. Hand began by using Meigs' mixture, equal parts of milk, cream, barley water and limewater. He shows how by simple calculation, the sugar, fat and proteid can be modified

from this, by reducing the cream, milk, etc., or adding sugar as required. If the child does not show a weekly gain in weight we should see if the feeding is being carried out as directed. He believes in the use of barley water as a diluent, except in cases where constipation exists, and then oatmeal water is to be preferred. Cane sugar, a pinch of salt, and a tablespoonful of limewater should be added to each feeding. With patients three months old and upward he aims to have the proteid at least 1.75 per cent., and increases it as rapidly as the child can digest it. Infants under three months require careful handling, both as regards proteids and fat, and to tone up the digestion he uses a little sodium bicarbonate in compound infusion of gentian before each meal in some of these cases.

9. **Obesity and Improcreance.**—Stern notes the increase of obesity with decline of sex function, and reviews the causative factors. The abnormal conditions called out by the loss of the sexual stimulus and non-performance of sexual functions, preventing the expenditure of body material, may tend to obesity. In the female organism the possible participation of the surplus blood after the menopause in nutrition is also suggested, or the apparently discrepant condition of the diminution of tissue oxidation and decrease of the red blood corpuscles. There is a lessened degree of intensity of vital processes in the castrated, and in the beginning of the menopausal period, and reviewing the possible factors we find that they all depend on diminished intra-organic oxidation. There is little doubt that the sexual glands, particularly the ovaries, have other functions than those so well known to us, and while we know nothing definite about this it is very possible that their loss may cause chronic disturbances of nutrition, of which obesity is one of the most important.

10. **Electrothermic Hemostasis.**—Downes describes and illustrates the forms of the electrothermic angiotribe and details their purposes. By the electrothermic methods of hemostasis there is elimination of all the handling required in the preparation of the ligature and the operation of ligation. Further advantages are the bloodless nature of the operations, and the closing of lymphatic vessels. He has had no secondary hemorrhage in one hundred operations, unless, perhaps, in one or two cases where there has been too little heat and too short an application. The hemostased track that does not bleed immediately on section gives him no concern. He thinks the method is specially applicable to hospitals, and it is of value in oöphorectomy, appendectomy, or occlusion of the small arteries for which he has devised a special type of instruments, for hemorrhoidal operations, etc. He cites two hysterectomies for cancer performed within a month, in neither case of which was any ligation used. In conclusion he calls attention to the following points, which should be borne in mind by those not accustomed to the method:

The pressing surface of the blades must be smeared with sterile oil before each application. The field should be dried and freed from blood and the surrounding tissues protected from the outer surface of the blades. After each removal of the blades from a hemostased track all charred adhering blood must be removed from their surfaces. Too short an application should be avoided. No error is committed if the time is half a minute longer than required. It should be distinctly understood that the term cauterized does not apply to the method of hemostasis by electrically heated pressure instruments. To cauterize is to burn. In this process we cook the compressed ribbon of tissue, a vastly different thing from burning it.

11. **Tuberculin in Diagnosis.**—Madison has employed tuberculin in over five hundred cases, taking the temperature every four hours for three to five days before the first injection. The injection was given at 8 p. m., and for the next twenty-four hours the temperature was taken every two hours. If there was no reaction from the first injection, a second one was given three days later, and after this the temperature taken for three days or longer if desirable. In a short time the routine was adopted of giving a first dose of 4 mg., followed if necessary by 7 mg., as the maximum dose. Koch's original tuberculin was used. A .5 per cent. carbolic acid solution was usually made up so that each c.c. contained 2 mg. of tuberculin. The solution was made up every three to five days and kept in a cool, dark place. A rise of 2 degrees F. during the following twenty-four hours was considered a temperature reaction, and in many cases the reaction was determined wholly by the temperature chart. He reports some eight cases, and he finds that the test has a certain percentage of failures, and reaction may occur in healed cases or cases that are not tuberculous. His conclusions are given as follows:

1. Patients may react to tuberculin and no evidence of tuberculosis be found at autopsy.
2. The six cases following seem to demonstrate that completely healed tuberculosis may react.
3. Cases of proved tuberculosis may not react to the maximum doses.
4. The evidence is not conclusive that other diseases than tuberculosis may react to tuberculin.
5. The margin of error of the tuberculin test is considerable and probably not less than 10 per cent.
6. The maximum dose should be higher than 4 mg., and not more than 10 mg. Small increasing doses are not advisable, as the reaction is not so likely to be distinct on account of the tolerance which may be produced. An initial dose of 3 to 5 mg. followed by the maximum dose is better.
7. The temperature should usually be normal before injections are given. When the temperature is distinctly above normal a negative result is of no value, as these patients will frequently not respond at all, even to large doses.
8. It seems quite certain that the glycerin extract of tuberculin deteriorates, and a fresh bottle should frequently be opened, care being taken to keep it in a cool, dark place. The .5 per cent. carbolic acid solution should be made up on the day it is used if possible. I believe that deterioration of tuberculin is the principal factor in producing delayed reactions.
9. It can not be said that tuberculin injections are entirely without ill effects, but their use among suitable patients is no more dangerous than the use of chloroform and ether for diagnostic purposes and is quite as justifiable as an early diagnosis of tuberculosis is of the greatest importance.
10. About 40 per cent. of all female patients admitted to the hospital react to tuberculin.

Medical News (N. Y.), December 20, 1902.

14 *The Scientific Aspect of Modern Medicine. Frederic S. Lee.
15 *Acute Pancreatitis; with the Report of Three Cases. George Woolsey.
16 *Rubella Scarlatinosa. Frederick C. Curtis and Henry L. K. Shaw.
17 Some Observations in the Children's Hospitals of London and Paris. Linneus La Fétra.
18 Impressions of the Non-heredity of Acquired Characters. Lewis S. Blackwell.

14. **Scientific Aspect of Modern Medicine.**—Lee reviews the conception of vitality (which he considers has been a hindrance to the progress of medicine), the cell doctrine, the rise of bacteriology, modern surgery, modern germ theory of disease, progress of preventive medicine, serumtherapy, internal secretion, brain surgery, new physical chemistry, medical education, etc. He thinks the future of scientific medicine lies with the university, and that the ideal medical school will be an important department, and on a basis more nearly parallel with that of the non-professional schools of the university at the present time.

15. **Acute Pancreatitis.**—The varieties of pancreatitis with their special features are noted by Woolsey, who remarks that in the three cases here reported there is little to suggest the etiology, except that alcohol in two was an important factor, probably by causing gastroduodenal catarrh. The symptoms in all were much alike. There was sudden onset with more or less collapse, general prostration, severe and cramp-like epigastric pains, not relieved by vomiting, abdominal distension and irregular temperature. There was some abdominal rigidity and tenderness, but no mass could be palpated. In only one of the cases was there obstinate constipation simulating intestinal obstruction, which is not infrequently observed in this disease and may lead to errors of diagnosis. Glucose in the urine was present in Case 3, and helped in the diagnosis; fat in the stools was not observed in any. The diagnosis is always difficult and uncertain on account of the variety of inconstant and contradictory symptoms. In the first one of the cases reported the diagnosis was made only after the operation, and in the second a probable diagnosis was made on account of the recent occurrence within a week of the first case. Case 3 was diagnosed by a group of typical symptoms combined with alcoholic history and glycosuria. It is generally admitted that operation must be avoided in the early stages of collapse. The treatment resolves itself into that of peritonitis commencing in the superior abdominal region, and usually anterior incision, but Robson recommends in addition, or as a substitute if the diagnosis is made, a posterior incision in the left costo-vertebral angle. The prognosis is grave, but varies with the severity and form of the acute inflammation. The hemorrhagic cases are worst, the necrotic

form next, if not fully as bad. In the variety here described he was able to save the patients, though the good results in his three would not apply to a large number of other cases. Recovery without operation is probably impossible, though two cases have been reported after spontaneous evacuation through the bowels. The abdomen was opened and drainage used in his three cases, with recovery.

16. **Rubella Scarlatinosa.**—Curtis and Shaw report an epidemic of about 200 cases, which was described in THE JOURNAL, Aug. 30, 1902, p. 492, as "fourth disease." They point out the differences between these cases and scarlet fever, and consider that this outbreak was rubella, and not at all a distinct disease.

Medical Record (N. Y.), December 20, 1902.

19 *The Systemic or Constitutional Character of Gonorrhea; Illustrated by Five Cases of Iridochoroiditis. Charles S. Bull.
20 A Case of Angina Pectoris, with Autopsy. Beverley Robinson.
21 *A Case of Typhoid Spine. Leonard W. Ely.
22 *A Study of the Indication for Nephropexy. Augustin H. Goelet.
23 Observations on German Therapeutics. Simon Baruch.
24 Instructions to Patients Affected with Syphilis and Gonorrhea. Follen Cabot.
25 Congenital Absence of Pectoral Muscles. Charles V. Burke.

19. **Gonorrhea.**—The increasing evidence of the constitutional character of gonorrheal infection is noticed by Bull, who believes the gonococcus penetrates the general system, both by the blood vessels and the lymphatics. He remarks that instances of sudden loss of sight in patients affected with septic endocarditis which had been attributed to embolism, have been more recently explained by obliteration of the retinal vessels by gonococcal infection. If the aorta and heart can be attacked by the gonococcus, it is natural to conclude that retinal thromboses can be due to the same cause. As regards gonorrheal rheumatism, the facts are not so corroborative of the constitutional character of the disease. The arthritis has not been so definitely proven to be a localized product of general infection, but we have more positive evidence of the dependence on sysmatic iritis and choroiditis and the plastic character is less gonorrhea. It develops more rapidly than the ordinary rheumatic iritis and choroiditis and the plastic character is less pronounced. It is an uncommon complication; though obstinate and subject to frequent relapses it invariably subsides and usually leaves little or no traces behind it. He illustrates his views with five cases reported in detail of iridochoroiditis due to gonorrheal poisoning.

21. **Typhoid Spine.**—Ely details a case which he has had exceptional opportunities to observe. He remarks that there has been little contributed to the pathologic condition since Gibney's first case. It is quite possible that there is the same analogy between typhoid spine and Pott's disease as there is between typhoid pneumonia and tuberculous pneumonia. One tends to the acute course and comparatively rapid recovery, and the other to a more chronic course and breaking down of tissue. He feels certain that it is an osteitis, probably combined with periosteitis. In the case reported it is reasonable to assume inflammation first affecting one region that subsided there, and then attacked adjacent regions of the spine. Neuritis was caused by the inflammation of the bone and of the periosteum, and probably one or more of the spinal articulations were involved. Ely remarks on the bad manners of the Germans in giving little attention to the original authority in regard to the disease. He gives a brief analysis of the symptoms from the cases reported. The prognosis is good. All authorities, except Osler, agree that the treatment is rest—the more complete the better. The recumbent posture is the best, perhaps in a plaster-of-paris bed, with later a spinal brace or plaster-of-paris jacket. Local treatment, like massage, electricity, heat and cold and so on may be of use.

22.—See abstract in THE JOURNAL, xxxix, p. 1205.

Philadelphia Medical Journal, December 20, 1902.

26 A Case of Adiposis Dolorosa, with Involvement of the Joints. F. X. Dercum.
27 *Bronchitis and Bronchopneumonia from Inhalation of Irritant. J. N. Hall.
28 *Polypi in the Nasal Accessory Cavities; with Specimens. A. R. Solenberger.
29 *Rare Forms of Localized Posterior Staphylomata in Myopic Eyes. Burton K. Chance.
30 A Method of Treatment for the Proper Drainage of Tears in Derangements of the Lachrymal Apparatus. J. Winter Wamsley.
31 A Note on the Employment of the Hanging-drop Method in the Study of Hemoprecipitins. A. Robin.

27. **Irritative Bronchitis from Inhalation.**—A number of cases of irritative bronchitis due to chloroform, gas, sulphur gas, formaldehyd, etc., have been recently observed by Hall, and he reports several. In no case, however, was there any autopsy. Fumigators and others are warned to avoid the irritating fumes.

28. **Nasal Polypi.**—The pathology of nasal polypi is held by Solenberger to be due to irritation, usually from necrotic bone. He does not affirm that this is invariably the cause; some polypi may originate in the mucosa and some in the lower layer of the periosteum along the lining membrane of the cavities, but most of the polypi in the cases he reports seemed to grow from bone necrosis.

29. **Localized Posterior Staphylomata in Myopia.**—Seven cases are reported by Chance. Their characteristics are sharply circumscribed areas, depressed beyond the level of the surrounding fundus, as shown by the difference of refraction. The ectasiæ are composed only of sclera, which has a pearly luster, with here and there on the surface thin grayish pigmentations, much resembling those of cases of true coloboma of the choroid, rather than the dense collections seen after colloid atrophy. The disc margins are hazy, the optic disc seems to be tilted toward the ectasis, the central depression and also the vessels as they emerge trent toward it and appear to dip to a deeper level, which they surmount when they approach the opposite side in the nasal vessels. The arteries are thinner in caliber than the veins, while the color of the venous currents is decidedly deeper than that noticed in the vessels distributed in other regions, and the capillaries are more numerous. The temporal vessels run either to the nasal edge of the disc or beyond the margin, and then turn back sharply to be distributed to the temporal portion of the fundus. In the cases of ectasis localized to the inferior border of the disc, a relatively similar anatomic arrangement was noticed. All the eyes have been highly myopic, with scarcely any other defects of structure, and although the macular regions have been unaffected, the corrected visual power is much less than the normal. In each of the instances reported the patient was intelligent and carefully noted the ocular symptoms. He thinks they are instances of true staphylomata of congenital origin and not expressions of the changes taking place during the progress of increasing myopia.

Boston Medical and Surgical Journal, December 18, 1902.

32 *A Method of Staining Sputum for Bacteriological Examination. William H. Smith.
33 *Eleven Acute and Eighteen Chronic Cases of Influenza. Frederick T. Lord.
34 *Congenital Anomalies of the Phalanges, with Report of Cases Studied by Skiagraphy. (Concluded.) F. B. Lund.
35 Ependymal Epithelium as a Constituent of a Teratoma. Henry A. Christian.

Cincinnati Lancet-Clinic, December 20, 1902.

36 The Ups and Downs of a Physician's Life. (Continued.) George J. Monroe.
37 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

32. **Sputum Staining.**—The method recommended by Smith requires the following solutions:

Anilin oil gentian violet. IKI solution, iodin 1, potassium iodid 2, water 300. Saturated aqueous solution of eosin. Loeffler's alkaline methylene blue. Alcohol, 95 per cent., 4 parts, ether 6 parts. Ninety-five per cent. alcohol, absolute alcohol, xylol.

The best results are obtained when the stains are fresh. The specimen should be examined as soon after it has been raised as possible, as standing favors the growth of bacteria. No carbolic acid or corrosive sublimate solution should have been added to the specimen.

As thin a cover glass preparation as possible should be made from the sputum, by means of a sterile platinum loop. This is more essential if it is at all bloody, as is so frequently the case in pneumococcus pneumonia. Fix the preparation in the ordinary way, by passing two or three times through the flame. Cover the specimen, thus fixed, with anilin oil gentian violet, holding it well above the flame, and allow it to steam. Avoid burning.

Wash off the excess of anilin oil gentian violet with IKI solution; cover with IKI solution, and allow to steam as before. Decolorize as much as possible with 95 per cent. alcohol. Wash a few seconds in alcohol ether solution. Wash in water. Stain a few seconds in saturated aqueous solution of eosin. Wash off excess of eosin with Loeffler's blue; cover with Loeffler's blue, steaming as before.

Decolorize slightly with 95 per cent. alcohol; wash in absolute alcohol; follow with xylol; mount in Canada balsam, and examine with an oil immersion lens.

The appearance of the stained specimen is given. Leucocytes, lymphocytes, and other cells take the eosin stain, as well as the red blood corpuscles, the nuclei staining with Loeffler's blue. Eosinophiles appear as in stained blood preparations. Gram staining organisms appear black or deep violet, while Gram decolorizing bacteria take the Loeffler's blue stain. Capsules about organisms, when present, are stained by the eosin, as are ciliæ. He advises the first staining of the specimen in the routine examination for tubercle bacilli to be by one of the usual methods, and to note whether the leucocytes contain numerous minute bacilli. If such are present, they may be influenza bacilli. If no tubercle bacilli are found after several cover glasses have been examined, stain another specimen as above described, noting the following points: The number and staining reaction of the organisms present; the abundance or otherwise of the leucocytes, and whether they are phagocytic; the frequency or rarity of the occurrence of blood globules, and the presence of pigment cells, ciliated epithelial cells and eosinophiles. He remarks that the pneumococcus may be found in small numbers. Considerable stress is given to the importance of the influenza bacillus alone and in connection with other organisms. What he wants to emphasize is that further examination of the sputum is necessary than is usually made, and that it is not sufficient simply to examine for tubercle bacilli, but that the influenza bacillus should be looked for in every case of chronic disease of the lung.

33. **Influenza.**—Lord concludes as follows:

1. Infection with influenza bacilli is prevalent apart from an epidemic of influenza. Influenza bacilli have been found in the sputa of sixty of one hundred unselected cases with cough. In about one-half of these sixty cases the influenza bacilli were in practically pure culture.
2. There is nothing distinctive in the clinical manifestations of influenza apart from epidemics, and the diagnosis can with certainty be made only by the examination of the sputum for influenza bacilli.
3. The duration of the cough and expectoration after an attack of acute influenza does not usually exceed six weeks, but in some cases the duration is for months or years.
4. Many of the cases formerly classed as chronic bronchitis are chronic influenza.
5. Cases of chronic influenza with paroxysmal dyspnea may closely resemble asthma.
6. Chronic influenza is not infrequently mistaken for pulmonary tuberculosis.

34. **Phalangeal Anomalies.**—Lund finishes his article in this issue and remarks that while no important results of practical character have been secured by radiographic study of web-fingers, it has been demonstrated that the deformity, unlike beauty, is more than skin deep, and presents a most formidable character to the surgeon.

St. Louis Medical Review, December 6, 1902.

38 The Testicle: The Preservation of Its Nutrition After Complete or Incomplete Division of the Arteries of the Spermatic Cord. Thomas H. Manley.
39 School Hygiene of the Eye. J. W. Sherer.

December 13.

40 The St. Louis Water Supply. R. B. H. Gradwohl.

December 20.

41 *The Office Diagnosis of the Gonococcus. G. Frank Lydston.
42 Pericarditis—Puncture—Postmortem. H. C. Fairbrother.

41. **The Office Diagnosis of the Gonococcus.**—Lydston criticises the deduction that every case where the gonococcus is found is of venereal type, and that the presence of the gonococcus is always necessary. All inflammatory affections from the urogenital mucous membrane are liable to be infectious in spite of the absence of this germ. We have no evidence as yet that the gonococcus can not be developed *de novo* in the female sexual tract, and evidence seems to show that this may be the case. He thinks the discovery of the gonococcus is only of relative clinical value, and he also remarks that the chances for innocent infection are considerably greater than those in syphilis, though he admits that his views will probably not be accepted by everyone. The ordinary office diagnosis of gonorrhea by means of the microscope is often exceedingly fallacious and misleading, and sometimes unjust.

Annals of Surgery (Philadelphia), December, 1902.

43 *The Pathogenesis and Pathologic Anatomy of Enlarged Prostate. L. R. G. Crandon.
44 Removal of an Upholsterer's Tack from the Right Bronchus. Augustus von Llew Brokaw.
45 *Landmarks in the Ureter. Byron Robinson.
46 *Subcutaneous Rupture of the Kidney, with Report of Nine Cases. George E. Dodge.
47 *Traumatic Rupture of the Spleen. Daniel N. Eisendrath.
48 *The Transduodenal Route (Duodenocholedochotomy) in Cases of Impaction of Gallstones in the Lower Portion of the Common Duct. Charles O. Thienhaus.
49 Strangulation of Vermiform Appendix in Right Femoral Ring. Herbert V. Rake.
50 A Contribution to the Study of Intra-abdominal Omental Torsion. James F. Baldwin.
51 *Primary Tuberculosis of the Parotid Gland. Jacob Frank.
52 A Simple Device for Holding Ligatures. Maurice Rubel.

43. **Enlarged Prostate.**—Crandon discusses the literature of the subject and concludes as follows: That the underlying cause of the usual form of prostatic enlargement and of certain forms of prostatic atrophy is slow formation of new connective tissue due to infection or to infection aggravating senile degenerative processes. The gonococcus is probably the usual specific infection, 1, on account of its frequency, and 2, because other inflammatory causes are not common in this region, and 3, because of the similarity between the histology of gonorrheal processes and those in the senile prostate. Neoplasms, fibromata and myomata, occur, but may be called rare.

45. **Landmarks in the Ureter.**—The substance of the conclusions of Robinson's elaborate article is that the ureter is not of uniform caliber, but consists generally in three isthmuses or sphincters located at points in the ureter where the projecting adjacent structures compromise its lumen: 1. The distal renal pole projecting the ureter medianward, producing what he calls the proximal isthmus, sphincter or neck of the ureter; 2, where the vasa iliaca press the ureter ventralward, producing the middle isthmus or sphincter, and this is due largely to the erect position in man and is lacking in quadrupeds; lastly, it is compromised where its distal end penetrates obliquely the muscular wall of the urinary bladder. These constrictions produce ureteral dilatation and there is a ureteral reservoir or spindle proximal to each ureteral isthmus. These are more pronounced in women than men on account of the periodic hyperemia during reproductive life, and in senescence pathologic dilatations of the lumbar and pelvic spindles are likely to occur with senile sclerosis or calcification. Calculi are liable to lodge at the ureteral isthmuses, and torsion of the ureter may easily compromise the ureteral neck or proximal isthmus. Surgical intervention on the ureter should be performed at the ureteral reservoirs or spindles on account of their ample lumen and wall. Pathologic conditions of the ureter are mainly in defects of the ureteral wall, producing deficient peristalsis, or in the mechanical obstruction to the ureteral stream. So long as ureteral peristalsis is not interfered with and the stream is not obstructed, the function is normal, but whenever either of these factors exist, the non-drainage induces residual deposits with resulting bacterial accumulation, hence the resulting vicious circle, exactly similar to that from the same defects of obstruction of the pylorus or bile ducts. The ureter is an independent organ conducting urine to the bladder by rhythmic waves, regardless of altitude or force of gravity. It has similar functions to the bladder; being located in a universally loose areolar bed, and being longer than the distance between its ends, it is capable of extensive range of motion in pathologic conditions or for surgical intervention. The irregular caliber of the ureter, dilatations and constrictions is a heritage from the Wolffian body enhanced by environments.

46. **Rupture of the Kidney.**—Dodge treats the general subject of rupture of the kidney and reports his nine cases. He found the most constant and characteristic symptoms to be pain and hematuria. The latter may be intermittent or late in beginning and occasionally absent. Oliguria is often met and anuria may occur, usually due to shock and ceasing in twenty-four to forty-eight hours. Shock is also present to some extent and is often a valuable index to the amount of hemorrhage. Temperature from 100 to 101 often exists during the first three or four days, and a higher temperature may appear from simple local tissue reaction. The presence of tumor, however, is usually recognized with difficulty in the early stages, but the rigidity of the back and flank muscles is characteristic. Where hemorrhage takes place into the peritoneal

cavity characteristic signs are often evinced on palpation and percussion. Later, general peritonitis may be present. If suppuration occurs in or about the kidney, rigors, temperature, sweating, and later exhaustion, make themselves evident. The complications and the diagnosis are also noted. The latter is usually easy with the history of the case. In uncomplicated cases the course is usually a mild one, convalescence beginning from two to ten days after the acute symptoms. Two or three weeks probably represent the average duration of the case, though pain may exist longer and the danger is greatly enhanced by a rent through the peritoneum and hemorrhage into the cavity. If there is marked extra-capsular hemorrhage the prognosis is generally aggravated unless early operation is resorted to. In the simple cases, if there is only slight or moderate hemorrhage, treatment is expectant, absolute rest, milk diet, local cold applications, the use of internal remedies for the control of hemorrhage and if the employment of the catheter is necessary, the strictest antisepsis being all that is required. If there are extensive accumulated clots in the bladder their removal by a suitable evacuator is indicated. The conditions that demand exploratory incision after the lapse of the first forty-eight hours are evidences of continued hemorrhage, persistent anuria, septic symptoms, etc. The transverse incision of McBurney is best adapted to these cases. The operation may be suturing, packing and partial or total removal of the organ according to the severity of the injury. Contraindications, of course, are injury, disease, absence or malformation of other kidney.

47. **Rupture of the Spleen.**—Eisendrath reports a case and finds that the mortality has been steadily reduced with experience with the operation, which is always required, though the general prognosis of the condition is bad.

48. **Duodenocholedochotomy.**—Thienhaus concludes that the transduodenal route has a well-defined place in the surgery of obstruction of the common duct produced by gallstones, and the method of its originator, McBurney, or that of Collins by dilatation of the papilla, are the methods *par excellence* for all cases of gallstones impacted at or near the opening of the papilla as soon as experiments of manipulation have proved unsuccessful. It is also indicated for stone impacted in the retroduodenal portion of the common duct or before the diverticulum of Vater, as soon as efforts to dislodge the stone up into the supraduodenal portion have proved futile. In all cases where the operation has been performed it is advisable to suture the common duct to the duodenum to avoid infection. Choledochotomia transduodenalis seems to be more advisable than choledochotomia retroduodenalis as it is more easily performed and does not interfere with the pancreas. It has not been proven that transduodenal choledochotomy has a greater percentage of fatalities from septic infection than supraduodenal choledochotomy. Further data are desirable.

51. **Tuberculosis of the Parotid Gland.**—The rarity of primary tuberculosis in this organ is first noticed by Frank, who adds a case to the eight already recorded, and discusses its symptoms and pathology. The prognosis is good with operative treatment. Total extirpation of the gland is not necessary for a cure. He concludes with a tabulation of recorded cases.

Annals of Ophthalmology (St. Louis), October, 1902.

53 *A Study of the Connective Tissue of the Orbit by a New Method. Lucien Howe.
54 *Toxic Amblyopia. J. P. Nuel.
55 An Analysis of 100 Cases of Refraction, with Special Reference to Headache. Alex. W. Stirling.
56 *When to Operate for Ripe Senile Cataract, the Other Eye Possessing Useful Vision. George F. Keiper.
57 Death from Meningitis Following Enucleation of the Eyeball. M. V. Ball.
58 Papilloma tous Degeneration of the Conjunctiva. H. V. Würdemann.

53. **Connective Tissue of the Orbit.**—Howe's paper is a study to ascertain more exactly the location of connective tissues found in the orbit, their relation to strabismus, and operations for its correction. He holds that the fascia and even the finer bands are of clinical importance in relation to the accumulation of fluid or the extension of morbid growths, or in the protection they give from injuries or bacterial invasions, and are also of interest in relation to the normal motion of the globe. He reviews the literature, and finds that the term capsule of Tenon does not cover any exact conception. The difficulty is in recognizing the more delicate fibers, ordinary dissection having given rise to confusion, but these fibers are of unquestioned clinical importance. By using some new methods of staining connective tissue, more especially the use of potassium permanganate and oxalic acid, we have one of the best methods for identifying these connective tissue fibers and gaining a better idea of the capsule of Tenon, insertions of the recti, check ligaments and of other connective tissues in the orbit, which are of importance as regards the more practical points and in some respects the findings are new. He finds the capsule proper of Tenon extends a little beyond the line of insertion of the recti. He also outlines more exactly the external and internal check ligaments and inferior and superior check ligaments, some of which have a decided interest in connection with the operations for strabismus, etc.

54. **Toxic Amblyopia.**—Nuel reviews and criticises Birch-Hirschfeld's studies on toxic amblyopia, and filicic and quinin, and also reviews Holdon's experiments on methyl amblyopia. He comes to the conclusion that the trouble in these cases is due to a parenchymatous neuritis and that in alcoholic nicotine amblyopia it is of double, nerve and retinal origin. The argument against the parenchymatous nature of the affection, that it can not be followed by such marked recovery, is, he thinks, erroneous.

56. **Cataract.**—Keiper gives the replies to questions made to a number of ophthalmologists as to the time and conditions for the removal of ripe senile cataract and the results. He urges the removal of the ripe senile cataract, irrespective of the condition of the other eye, because the patient has a larger field of vision, rendering him less liable to the accidents of defective sight; the dangers and difficulties of extraction of an overripe lens are avoided; it offers continuous vision as the other lens is usually affected, and the patient is more comfortable with vision in both eyes, and the cosmetic effects are better.

Journal of Nervous and Mental Disease (N.Y.), December, 1902.

59 *Remarks on Acute Myelitis and Report of a Case of Tuberculous Meningomyelitis. Joseph Collins.
60 *Report of a Transverse Lesion of the Mid-thoracic Segments Leaving Intact the Posterior Columns, and Causing Syringomyelic Dissociation. Adolf Meyer.
61 A Case of Combined Sclerosis of the Spinal Cord. Frederick T. Simpson.

59. **Acute Myelitis.**—Collins reports a case commencing with symptoms of acute rheumatism and followed by myelitic symptoms, showing in the autopsy septic manifestations, extensive purulent leptomeningitis and inflammation of the cord, particularly of the lower dorsal segment. The bacillus of tuberculosis was found in portions of the lesions. He thinks that the apparent rheumatic symptoms were only the beginning symptoms of tuberculous infection of the cord.

60. **Transverse Lesion of the Cord Not Involving the Posterior Columns.**—The case reported by Meyer is of interest in regard to certain symptoms of sensibility, etc. There was practically a destruction of the cross sections of the fourth to sixth thoracic segments, leaving intact only the dorsal two-thirds of the posterior columns and a few pyramidal fibers. The tactile sensibility, pressure sense, tickle sense and sense of position were normal. Analgesia and thermanesthesia existed below the sixth rib on the right and fifth rib on the left, and a slight thermo-hyperesthesia over the fourth rib. Occasionally a girdle sensation occurred and there was paralysis below the thorax allowing but a slight pull on the thigh and toes and upper end of the recti. There was also occasional involuntary pulling up of the thighs, sometimes accompanied by shooting pains. The functional bearing of the disease on some conditions of conduction of temperature and weight sense are noted.

American Gyecology (N. Y.), November, 1902.

62 *The Mimicry of Pregnancy by Fibroid and Ovarian Tumors. Howard A. Kelly.
63 *Pregnancy and Labor Following Complete Nephro-ureterectomy. J. Wesley Bovée.
64 *Myoma of the Ovary. J. M. Baldy.
65 *The Treatment of the Extra-uterine Placenta by the Open Abdomen. Ely Van der Warker.

66 *The Lymph Glands in Uterine Cancer. George Gellhorn.
67 *The Pathology of Eclampsia, with Photomicrographic Illustrations. Greer Baughman.
68 Gastrointestinal Hemorrhage of the New-born—Case Treated with Normal Salt Solution and Gelatin, One-half 1 per cent.—Recovery. John F. Moran.

62. **Pregnancy Simulated by Tumors.**—Kelly reports cases of confusion of diagnosis, and points out the misleading symptoms. The mimicry of pregnancy by tumors is very close, but there are certain diagnostic signs always present. The first is absence of fetal pulse and the synchronism of pulsation of the tumor with the radial pulse. Other important points are the continuance of menstruation and the unaltered hard cervix. A careful examination for ascites and a recto-abdominal bimanual examination under a brief anesthesia will help to clear up the diagnosis. A better knowledge of abdominal palpation in advanced pregnancy will be valuable. The age of the patient and the length of time elapsed since the appearance of the tumor, absence of regular enlargement of the womb, the non-occurrence of labor, etc., are also mentioned.

63.—See abstract in THE JOURNAL, xxxix, p. 1339.

64. **Myoma of the Ovary.**—Baldy reports a case in which ovarian substance was converted into a neoplasm, assuming all its anatomic relations and still containing some ovarian tissue.

65. **Treatment of Extra-Uterine Placenta.**—In a case reported by Van de Warker an operation was performed and the placenta found distributed over an extensive area, estimated at over a square foot. Its removal in the septic and weakened condition appeared to invite a hemorrhage that would quickly prove fatal. It also seemed dangerous to close the wound with any of the usually practiced means of drainage. He therefore left the wound partially open, closing the peritoneal cavity by stitching the free edges of the sac to the peritoneum and placing in the cavity large folds of sterilized gauze. The following day the placenta was attacked with injections of 1 to 1000 solution of formalin night and morning. After about three days' gentle traction was made on the cord, and daily thereafter by means of a long curved fenestrated sponge forceps, piece after piece of the placenta was removed, the cavity contracting accordingly. When the last portion was removed, some eleven days after the operation, the degenerated edges of the wound were cut away and the wound closed. Primary union occurred.

66. **The Lymph Glands in Uterine Cancer.**—From a very extensive study of the literature, Gellhorn finds a remarkable inconstancy in the distribution of the lymph system, even under normal conditions. Carcinomatous degeneration produces in the majority of cases a marked change in the macroscopic aspect of the glands. The fact has been brought out that in about one-third of all the cases of uterine cancer involvement of the regional glands in the pelvis takes place. This occurs rarely in the incipiency of the disease and usually only after primary cancer is more or less advanced and extended into the parametria or other adjacent structures. Recurrence after the old methods of operating takes place in four-fifths of all cases in or near the cicatrix of the vagina, while it occurs in only one-fifth in the glands. Abdominal radical operation, with removal of the pelvic glands, strives to lessen the high percentage of recurrences, but so far has not been successful. This deficiency depends on anatomic and technical difficulties in routine ablation of pelvic glands. In a large number of cases this radical procedure, with its great and manifold dangers, has been found to be unnecessary, as there were no diseased glands anywhere within the pelvis. These conclusions, however, are not yet definite, and many questions are still in suspense. The future of abdominal operations will depend on laboratory researches and practical experience, the former showing what percentage and how early involvement takes place in uterine cancer and which forms of carcinoma lead to lymphatic infection and which glands are most frequently involved. Practical experience will in due time tell us whether recurrence can be made less frequent and the mortality diminished. The paper concludes with a lengthy bibliography.

67. **Eclampsia.**—Baughman gives the characteristic pathologic findings from a review of the literature. The kidneys always show evidences of degeneration and the liver is studded with punctate hemorrhages, thrombi and degenerated epithelium. The mucous membrane shows punctate hemorrhages with necrosis of the epithelium. Similar lesions are found in the heart; not so frequently in the suprarenals, pancreas, and gastrointestinal tract. The paper is illustrated with microscopic sections from a case of eclampsia, showing uterine, kidney and hepatic tissue.

Journal of Medical Research (Boston), November, 1902.

69 Preliminary Note on Some Effects of Tobacco on the Tissues of Rabbits. I. Adler.
70 *On Thrombi Composed of Agglutinated Red Blood Corpuscles —Preliminary Communication. Simon Flexner.
71 *Experiments on the Permeability of the Berkefeld Filter and the Pasteur-Chamberland Bougie to Bacteria of Small Size. Wm. B. Wherry.
72 Researches on the Action of Tuberculin on Rabbit's Blood. Hugh M. Kinghorn.
73 *A Study of Chronic Infection and Subinfection by the Colon Bacillus. 1. On the Anemia Produced by Repeated Injections of Cultures of a Colon Bacillus of Low Virulence. G. A. Charlton.
74 On the Hemolytic Potency of Certain Sapotoxins Dissolved in Blood Serum. A. Arthman Bruère.
75 Simple Adenoma of the Pancreas Arising from an Island of Langerhans. Albert G. Nicholls.
76 A Study of Eel Serum, and the Production of an Antitoxin in a Cold-blooded Animal—A Contribution to the Study of Immunity. Justin de Lisle.
77 Dog's Blood—Differential Counts of Leucocytes. F. C. Busch and C. Van Bergen.
78 On Branching Forms of Certain Bacteria. L. M. Loeb.
79 A Chemical Study of the Liver from a Case of Acute Yellow Atrophy of the Liver. Alonzo Englebert Taylor.
80 *Multiple Anemic Infarcts of the Liver. Frederick A. Baldwin.
81 On the Erythrogenic Spleen of Mephitis Mephitica. Walter R. Brinckerhoff.

70. **Red-Blood Corpuscle Thrombi.**—The following are Flexner's conclusions:

1. The agglutination of red corpuscles *intra vitam* is not uncommon in infectious disease in man and animals. 2. A special variety of thrombi is produced through this agglutination which may be denominated agglutinative thrombi. 3. When such thrombi are old, or when the agglutination is compact, they may present appearances to which the name of hyaline thrombi has been applied. 4. Other alterations of the blood than those arising in infectious disease may bring about agglutinative thrombosis, the nature of this alteration being little understood. 5. Poisons which destroy corpuscles rapidly are provocative of agglutinative thrombosis. 6. The so-called fibrin ferment thrombi are probably nothing else than agglutinative thrombi.

71. **The Permeability of the Berkefeld Filter.**—Wherry has experimented with three sizes of the Berkefeld filter to determine the time in which bacilli and bacteria can pass through and the time it requires for them to grow through the substance of the filter. His summary is given as follows:

1. The bacillus producing pneumonia in guinea-pigs will pass through the pores of the small Berkefeld filter, No. 5, under the conditions of the experiments noted. It did not pass through the larger Berkefeld, No. 8, perhaps on account of the greater thickness of the walls, the relatively small amount of the fluid passed through, and the somewhat diminished pressure. Nor did it pass through the Pasteur-Chamberland bougie. It is probable that these filters, especially No. 5, will be found even less efficient when very turbid, concentrated cultures are passed through. This was the case in Smith's experiments cited above.
2. *Bacillus coli communis* did not pass through any of the above filters.
3. *Bacillus coli communis* and the organism from pneumonia in guinea-pigs grows through the walls of the Berkefeld filter very rapidly; through the walls of the Pasteur rather slowly.
4. It seems justifiable to conclude that if the virus of a disease passes through the pores of the Berkefeld it is not necessarily ultramicroscopic. Further work with organisms of various size might help in defining the size of the pores of such a filter and determine whether various filters of the same make have the same size pores or not.
5. It would seem advisable that workers should make a preliminary test of filters, by employing some such minute organism, in order to determine more accurately the efficiency of the filter used.

73. **Subinfection by the Colon Bacillus.**—Experiments on rabbits, one set of which received small doses of culture of the non-virulent form of the *Bacillus coli* injected into the abdominal cavity, while the other received a smaller amount of a similar culture injected directly into the circulating blood through an ear vein, gave rather striking characteristic results. Charlton finds this "subinfection" of rabbits produced a marked and progressive anemia indicated by reduction in the number of red corpuscles, poikilocytosis, appearance of nucleated red corpuscles, reduction of hemoglobin, etc., together with progressive ascending paresis, ending in paralysis. The condition is very similar to that of pernicious anemia, but differs from that in the fall of the amount of hemoglobin

being parallel with the decrease of the red blood corpuscles, and in the absence of a distinct Quincke's siderosis, and of clear evidence of inflammatory or other disturbances of the digestive tract, and of changes in the bone-marrow.

80. **Anemic Infarcts of the Liver.**—Understanding by these the area of necrosis due to shutting off the blood supply, Baldwin discusses the literature and reports a case with elaborate postmortem examination. He found it was a case of multiple anemic infarction of the liver, accompanying similar conditions found in other organs. Such infarctions occur but rarely, and then only when the liver labors under such disadvantages that it can not overcome the results of an embolism or thrombosis in its congested hepatic vessels.

Mississippi Medical Record (Vicksburg), December, 1902.

82 Strangulated Umbilical Hernia: Report of a Case. Louis Frank.
83 *Some Experiments with Quinin. H. N. Stilphen.

83. **Quinin.**—Stilphen has experimented on himself with quinin, testing the amount of urine and urea passed with various doses, also regulating the diet and drink. The object was to find the action of quinin on the kidneys by comparing the results obtained during the two weeks of the experiments. There was a marked diminution in the amount of urine with increase of urea on the second week, showing that 20 gr. doses of quinin will affect the kidneys. From this he would say that the use of quinin is contraindicated in all forms of acute and chronic affections of the kidneys and liver, especially in acute uremia, liver atrophy, hematuria, yellow fever, etc.

New York Medicinische Monatschrift, October, 1902.

84 *Ein Fall von schwerer Verbrennung mit hydriatrischen Bemerkungen zur Behandlung der Brandwunden. Friedrich Grosse.

84. **Treatment of Burns.**—Grosse describes a severe burn in a child aged 7, involving the face, neck, breast and both hands and over a portion of its surface destroying the stratum papillare. The patient was first treated with carron oil applications, but when he came into Grosse's hands, he used applications of absorbent gauze wrung out of a 1 to 2000 chinosol solution, with the best results and a very considerable diminution of the scar. He remarks in favor of moist applications of this kind in preference to the oily ones, covering them with water-proof material and applying them tolerably warm. He does not favor cold applications. He discusses the subject from the point of view of the literature, and remarks, in closing, that similar applications are valuable in other kinds of wounds.

Pennsylvania Medical Journal (Pittsburg), November, 1902.

85 *Address in Mental Disorders, Medical Society of the State of Pennsylvania. J. M. Murdoch.
86 A Case of Phlyctenular Keratitis Complicating Smallpox. Edward Stieren.
87 *Corneal Tattooing. J. L. Borsch.
88 *Report of a Case of Bitemporal Hemianopia, and of Case of Orbital Cellulitis After Bowman Operation, with Use of a Leaden Style. Walter B. Weidler.
89 Infantile Scurvy—Report of a Case with Fracture of the Femur and Multiple Epiphyseal Separations. Theodore J. Eiterich.
90 *Epilepsy as Related to the Ocular Muscles. Wendell Reber.
91 A Fatal Case of Hysteria. Theodore Diller.
92 *The Elevation of the Stomach in Gastroptosis by the Surgical Plication of the Gastro-hepatic and Gastro-phrenic Ligaments: An Original Operation. Henry D. Beyea.
93 Chronic Sphenoid Abscess. Lewis S. Somers.

85.—See abstract in THE JOURNAL, xxxix, p. 857.

87. **Corneal Tattooing.**—The technic of this operation is described by Borsch, in which he advocates the use of the single needle and the importance of not rubbing the eye to remove the excess of ink, but allowing boric acid solution to flow over it. He urges also the importance also of following the outlines of the structures underneath and imitating the normal eye as much as possible. The striations of the iris should be followed and the darker tints of the iris obtained by making perpendicular thrusts between the striations; the closer they are, the darker the tint. In this way the eye may be made to assume the color of the iris covered by the leucoma so that in many cases it is impossible to distinguish the actual condition except by the closest scrutiny. He also remarks on the notable improvement in vision that sometimes follows tattooing of the smaller opacities, and says in conclusion that many patients now wearing artificial eyes might have retained their natural ones if the possibilities of tattooing were more generally known.

88.—See abstract in THE JOURNAL, xxxix, p. 791.

90. **Epilepsy and Eye Strain.**—What Reber proposes to show is that various cases of epilepsy have continued to have their seizures with uninterrupted frequency, notwithstanding the faithful use of carefully adjusted glasses, but that in a certain percentage of cases the seizures can be diminished in frequency, and sometimes made to disappear entirely by resorting to prism glasses and exercises, or as a last resort to tenotomy—and all this without drug treatment. He does not accept the enthusiastic claims of Stevens and Ranney, but thinks that the condition of the eye nevertheless is worthy of the most careful attention in many epileptic cases. He reports a number.

92.—See abstract in THE JOURNAL, xxxix, p. 857.

Buffalo Medical Journal, December, 1902.

94 The Surgical Specialty. A. L. Beahan.
95 *The Diet of the Asthmatic. George N. Jack.
96 Infant Feeding. A. J. Colton.
97 *Surgical Importance of the Caput Coli, and Its Etiologic Factorate in Producing Inflammation of the Vermiform Appendix. J. P. Creveling.
98 Some Observations on the Climate of the West. John L. Heffron.
99 A Case of Cutaneous Horn. Alfred E. Diehl.

95. **Diet in Asthma.**—Jack insists on the importance of a properly selected and individualized diet, as this disease depends on the functions of the blood and lungs, the blood carrying the alimentary substance throughout the system, and itself undergoing very important modifications in the lungs. He thinks that asthma is always on the borderland of severe blood conditions, such as leukemia, pernicious anemia, cerebral hemorrhage and hemorrhagic conditions of the respiratory mucosa. On account of these vicious, progressive tendencies a diet must be given such as will replace the waste of the disease and prevent intestinal fermentation and putrefaction. It must be of such a character that it will not, after absorption, readily undergo perverted chemical metabolic changes in the blood. It must also be of such a character that it can be persisted in for many years. The misery of the disease, and malnutrition from impoverished blood causes melancholia, which in turn materially interferes with the digestive function. He reviews the various types of asthmatic lymphocytosis, asthmatic toxic leucocytosis and asthmatic anematosis. In the former case he thinks in children it is advisable to completely or partially substitute the bottle for the breast, especially in cases of breast-fed infants with prominent cyanotic attacks of increasing severity. In toxic leucocytosis he would carefully watch the stools, blood and urine, as well as the general condition of the patient and give a fairly elaborate diet without much sugar, but largely composed of vegetables, which he enumerates. Animal foods are most apt to cause deleterious changes in the intestines, and if the stools become alkaline they should be diminished, while if they become acid the carbohydrates should be limited. Meat should also be interdicted or diminished if there is a marked leucocytosis exceeding that of the normal digestion, but if there is iodophilia of the blood, then carbohydrates should be cut off. His conclusions are:

> If on a differential count the blood shows a high percentage of small lymphocytes, milk should be diminished or withheld. An abnormal increase in the polymorpho-nuclear neutrophilic cells indicates an intestinal toxemia and putrefaction which suggests the withholding of meat foods. A pronounced iodophilia indicates an amyloid or starchy degeneration of blood and suggests the withholding of foods rich in starch. A thin, watery blood with a deficient plasma and a red corpuscle poor in hemoglobin and deficient in biomagnetism, as shown by the lack of rouleaux formation and the scattering of the red blood corpuscles about the field, indicates the giving of fresh bloody meat, raw eggs and green vegetables rich in chlorophyl and protoplasm.

97. **Cecal Inflammation.**—Creveling calls attention to the importance of inflammation of the cecum in many cases where the appendix gets the blame. The latter may be found healthy, even when the bowel itself is diseased.

California State Journal of Medicine (San Francisco), November, 1902.

100 Some Notes on the Visit of Professor Lorenz of Vienna to San Francisco. Philip M. Jones.

101 *The Aleuts: Some Hygienic Observations by a Layman. W. F. B.
102 Report of a Fatal Case of Gastro-duodenal Ulcer; with Autopsy Findings. William F. Cheney.
103 The Mastoid Operation in Chronic Suppurative Otitis Media. H. Bert Ellis.

101. The Aleuts.—This article by a layman describes the habits of the Aleuts, showing the excessive mortality among them since they have come in contact with the whites and have changed their habits and clothing. Their mode of living has never been exactly sanitary, but under present conditions the effect on their statistics is much worse; consumption especially is increasing among them. While their dwellings would seem to favor the conditions of typhoid, it seems to be unknown among them, and the filth diseases that infect even the cleaner cities are hardly present in Alaska among the natives. Their drinking habits, where they can get alcoholic liquors, are bad. This also is deteriorating the race.

American Practitioner and News (Louisville, Ky.), October 1, 1902.

104 Electrotherapy Reviewed Briefly: History, Progress, Remarks. Joseph W. Irwin.
105 Version. Walker B. Gossett.
106 *Puerperal Eclampsia. J. T. Reddick.
107 Abortion of Gonorrheal Ophthalmia. Warwick M. Cowgill.
108 The Therapeutic Uses of the *X*-ray, with Report of Cases. Jesse T. Dunn.

106.—See abstract in THE JOURNAL, xxxviii, p. 1389.

Medical Fortnightly (St. Louis), December 10, 1902.

109 Plastic Surgery in Ophthalmology. Flavel B. Tiffany.
110 A Few Days with a Country Practitioner. W. L. Downing.
111 Conglomerate Cystic Kidney—Report of a Case. J. F. Herrick.
112 The Value of Reconstructive Therapy in Modern Medicine. C. H. Powers.

Medical Herald (St. Joseph, Mo.), December, 1902.

113 *William Beaumont: A Pioneer American Physiologist. William Osler.
114 Cancer and Its Treatment by the *X*-ray. Charles G. Geiger.
115 Foreign Bodies in the Ear. M. F. Weymann.
116 A Few Remarks on the Treatment of Malaria. G. H. Moller.

113.—See THE JOURNAL, xxxix, p. 1223.

Dominion Medical Monthly (Toronto), November, 1902.

117 Gallstones. F. W. Hall.
118 The Sphere of the General Practitioner in the Diagnosis and Treatment of the Insane. G. H. Manchester.
119 Cancer of the Breast. O. M. Jones.
120 Tuberculosis. British Columbian Legislation. Charles J. Fagan.
121 An Unusual Case of Umbilical Hernia. Ernest A. Hall.

Peoria Medical Journal, November, 1902.

122 The Alarming Prevalence of Venereal Disease. R. A. Kerr.
123 Modern Views on Uric Acid and the Purin Bases. O. J. Roskoten.
124 Experiments with a New Anti-malarial Remedy. A. G. Servoss.

Medical Standard (Chicago), December, 1902.

125 A Medical Clinic. Daniel R. Brower.
126 The Commoner Diseases of the Eye. How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
127 Practical Dietetics. A. L. Benedict.
128 Hot and Cold Water in Eye Diseases. Willis O. Nance.
129 Landmarks in the Tractus Genitalis. Byron Robinson.
130 Massage or Manual Therapeutics. John Mulholland.
131 Pain and Its Indications. E. C. Hill.

American Medical Compend (Toledo, Ohio), December, 1902.

132 The Predisposition to Hernia. B. Becker.
133 Phlebotomy—A Case. J. T. Woods.
134 Report of an Interesting Case of Meningitis. A. L. Steinfeld.
135 Pernicious Anemia with Report of a Case. Herbert E. Smead.
136 The Management and Treatment of Fistula in Ano. H. E. Noble.
137 Therapeutics of Dropsy. D. E. Bowman.

University of Pennsylvania Medical Bulletin (Philadelphia), December, 1902.

138 The Gas Evolved in the Decomposition of Hydrogen Dioxid by Pus. John Marshall.
139 Accurate Anthropometric and Orthopedic Record by Uniform Photographic Method. Joseph M. Spellissy.

Carolina Medical Journal (Charlotte, N. C.), November, 1902.

140 Fevers and the Microscope. Hughes B. Hoyle.
141 Malaria and Pregnancy. A. B. Greiner.

Medical Summary (Philadelphia), December, 1902.

142 Constipation and Mental Influences. J. R. Smith.
143 Treatment of Tuberculosis. Harrison E. Stroud.
144 The House Fly a Conveyer of the Bacilli of Typhoid Fever. C. W. Canan.
145 Medicine a Science. J. L. Wolfe.
146 There Are Waters and Waters, but Pure Water is the Elixir of Life. W. H. Vail.
147 Practical Thoughts for the Practitioner. S. D. Sour.
148 Mistaken Diagnosis of Rectal Diseases. George J. Monroe.

Maryland Medical Journal (Baltimore), December, 1902.

149 A Résumé of *X*-ray Work with Some Personal Observations. Frances C. Bayne and Henry F. Cassidy.
150 Is the Tendency to Contract Contagious or Infectious Diseases Greater in the Prisoner than in the Freeman? Theodore Cooke, Jr.

Pacific Medical Journal (San Francisco), December, 1902.

151 Address, San Joaquin Medical Society. J. B. Rosson.
152 An Ovarian Multilocular Cystoma. Winslow Anderson.
153 The History of the Pawpaw. F. C. Keck.
154 Senility with Cerebral Hemorrhage. Louis Jacobs.
155 Temperature of 110° F. in an Infant Ten Days Old. C. W. Kahl.

Medical Review of Reviews (N. Y.), November 25, 1902.

156 Traumatism During Adenoid Operations. Walter F. Chappell.
157 The Prevention and Treatment of Typhoid Fever. Henry H. Pelton.

Proceedings of the Pathological Society of Philadelphia, November, 1902.

158 Address of the President. Charles W. Burr.
159 A Study of Myocarditis, with Special Reference to Changes in the Elastica in Myocardial Affections. W. M. L. Coplin.

Medical Examiner and Practitioner (N. Y.), December, 1902.

160 Macroscopic Examination of the Urine. F. C. Valentine.
161 Hemophilia and Its Significance in Life Insurance Examinations. Andrew H. Whitridge.
162 Treatment of Acne Vulgaris. George Henry Fox.
163 Heredity, with a Study of the Statistics of the New York State Hospitals. William C. Krauss.
164 The Early Diagnosis of Pulmonary Tuberculosis. Searle Harris.
165 Gastric Dilatation and Prolapse as a Factor in Disease. Chauncey Rea Burr.
166 Medico-Life Insurance. W. Ed. Grant.
167 Common Sense Tonic Medication, with Illustrative Cases. A. W. Duvall.
168 A Case of Stricture Aggravated by Improper Treatment. W. C. Watts.

Medical Mirror (St. Louis), November, 1902.

169 What Constitutes Conservatism in the Treatment of Appendicitis? William E. Fitch.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (London), December 13.

1 *Plugging with Iodoform Gauze in Operations Performed in Cavities of the Body. Ernst von Bergmann.
2 *The antiseptic Method of Lister in the Present and in the Future. Lucas-Championière.
3 *Certain Cerebral Localizations. Francesco Durante.
4 Antiseptic Treatment of Wounds. Oscar Bloch.
5 *Treatment of Fractured Patella. Von Mikulicz-Radecki.
6 *Infective Arthritis. Howard Marsh.
7 The Influence of Lister Upon Military Surgery. Alex Ogston.
8 Pasteur and Lister. D. Berry Hart.
9 Lord Lister and Antiseptic Surgery.

1. Iodoform Gauze Plugging.—Von Bergmann describes his method of plugging with iodoform gauze in resections of the upper jaw, operations on the tongue and total extirpation of the larynx. He leaves the tampon undisturbed in the jaw for several days—even as long as ten days—before removal, and on removing finds the wound partially cicatrized and the remainder with healthy granulations. He has been fortunate in avoiding infection of the wound in this way in every case, except one in which erysipelas occurred. To avoid pneumonia from aspiration he has performed preliminary tracheotomy and plugging of the trachea in most cases. In extirpation of the tongue by Langenbeck's method, he tampons the whole wounded surface. In total extirpation of the larynx he plugs the large wound cavity on either side of the pharynx between it and the lateral muscles of the neck with iodoform gauze, which very soon adheres firmly by suction. At present he considers that an essential part of the after-treatment consists in completely shutting off the trachea from the oral and pharyngeal cavity by suturing it to the external skin at the lower angle of the mouth and by forming two lateral cutaneous flaps, which are then united above the trachea with the posterior circumference of its transverse section, thus enclosing the trachea by skin. To avoid the flowing of saliva or mucus into the trachea from the part of the wound which lies above these two flaps he carefully stuffs that part with iodoform gauze tampons. He finds the value of plugging with iodoform gauze most strikingly shown in excisions and resections of the rectum, where he stuffs the

entire wound cavity around the rectum, leaving it undisturbed for six to eight days.

2. **The Lister Method.**—Lucas-Championnière gives the history of Lister's work, showing that the failures that have been made have been from infidelity to the principles laid down by him. He is severe in his remarks on the rejection of antisepsis. Asepsis is not a new discovery; it is simply the carrying out of Lister's ideas and the neglect of antisepsis always involves the exposure to infection.

3. **Cerebral Localization.**—Eight cases are reported by Durante, 6 for dural and cerebral neoplasms and 2 for remote post-traumatic conditions, with 8 cures, 5 complete and 3 with defect. He discusses the effect of lesions of the frontal, or especially the prefrontal lobes, and calls particular attention to one of his cases, in which there was total anesthesia of the whole of the left arm from traumatic depression of the hinder portion of the right parietal bone. On removal of the depressed bone sensibility was completely restored in six hours. He considers that this case has a value as a physiologic experiment on man. The depression was situated 3 cm. distant from and behind the Rolandic fissure, that is, completely removed from the psychomotor zone and well in the parietal lobe. The baric and stereognostic, as well as the thermic and tactile sensibilities were completely abolished, and yet the restoration occurred within the short period mentioned. He thinks this is the only case in the literature that clearly proves that the center, at least for the superior extremity, of these sensibilities is situated in the parietal lobe. His conclusions are given as follows:

> That lesions, especially those determined by neoplasms, of the frontal lobes are nearly always accompanied by very grave phenomena of altered intelligence; which proves that the frontal lobes, and particularly the prefrontal, must be considered as the seat of the most elevated functions of the mind. 2. That the cortical center for hearing is situated in the temporal lobes, that each center is in relation with both the auditory nerves, and that the direct auditory bundle must be very much less active and smaller than the crossed auditory bundle. 3. That the site of the center for general sensibility and for muscular sense is in the parietal lobes, and that disturbances of general sensibility and of the muscular sense may occur in the limbs independently of any disturbance of motility whatsoever. 4. That for the solution of various problems concerning the functions of the several regions of the human brain, operative surgery and pathologic anatomy are more useful than experimental physiology, which has animals only at its disposal; the functional arrangement of the brains of such animals has some analogy with that of man, but certainly can not be compared with it in every respect.

5. **Fractured Patella.**—The results in 45 cases of fractured patella observed in the last twelve years by Von Mikulicz-Radecki in the Breslau Hospital form the subject of this article. He describes the different forms of fracture, the pure blow fracture or the tear, especially in reference to the question of whether suture of the patella is necessary or not. With few exceptions he would abstain from suturing the fractured patella in blow fractures and limit himself to medico-mechanical treatment and rest in the condition. In tear fractures, where the ligaments are torn apart, he has employed suture. He operates without exsanguinating the limb, making the incision correspond to the line of fracture and long enough not only to expose the patella, but also the torn patellar ligaments. This incision is better than the longitudinal one on account of the clear view it gives. Latterly he has used brass wire suturing, avoiding carefully any sublimate solution, putting three or four sutures in the bone, the accessory ligaments being sutured on each side with one or two sutures as well as the patella. In all, five to eight sutures will be applied. The blood-clot is removed with a sharp spoon during irrigation with sterile boiled salt solution. Drainage is not inserted, but the wound is closed, except for 1 cm. at each end of the skin incision, which remains unsutured. This is sufficient to allow the escape of any subsequent oozing, and does not prevent healing by first intention. In late operations there is less difficulty in bringing down the ends of the bone, and he has relieved the tension of the muscle by making a V-shaped incision in it, and later restoring its continuity by sewing up the edges of the cut with strong catgut sutures. The results are analyzed and generally seem to be thoroughly satisfactory.

6. **Infective Arthritis.**—The Bradshaw lecture by Marsh begins with a historical sketch, and then reviews the various forms of microbic arthritis, pneumococcic, typhoid, scarlet fever, influenzal, erysipelatous, glanderous, etc. He describes the infective joint changes and the unclassified infective arthrites and reports cases. In conclusion he remarks that the first form of infective arthritis mentioned, that which consists of transient synovitis with slight effusion, has a good prognosis and a suitable splint and warm fomentations are all that is required. Where the joint cavities, however, contain fluid, it must be removed and the joint thoroughly irrigated with carbolic solution 1 to 100, or mercurial solution, of which the best has been biniodid 1 in 1000. A full-sized hydrocele trocar may be used and irrigation through the canula or incision be employed. If the fluid is purulent the joint must be thoroughly drained, and any adhesions broken down with the finger followed by copious irrigation. In the third or plastic form, the prognosis is distinctly unfavorable and here the arthritis is but one of the manifestations of the general septicemia and is often associated with other lesions; it is also highly unfavorable. In fact, it is often only an unimportant complication of the general condition, with its fatal termination.

The Lancet (London), December 6.

10 The Meaning of a Profession. William Smart.
11 The Cardiac Muscle from a Clinical Point of View. Seymour J. Sharkey.
12 *The Natural History and Pathology of Pneumonia. J. W. Washbourn.
13 *A Note on the Causation and Treatment of Thrombosis Occurring in Connection with Typhoid Fever. A. E. Wright and H. H. G. Knapp.
14 Obturators. T. S. Carter.
15 A Method of Removing Small Metallic Foreign Bodies from the Stomach Without External Operation. Stephen Mayou.
16 The Clinical Association of Re-duplicated First Sound. Arthur G. Phear.
17 *A New Departure in the Treatment of Hypopyon Keratoiritis. G. Herbert Burnham.
18 A Case of Concealed Accidental Hemorrhage. J. W. Ingles.
19 Eosinophilia Associated with Bilharzia Disease. A. E. Russell.
20 Report on Outbreak of Typhoid Fever and Other Illness Due to Oysters. John C. Thresh.

December 13.

21 *Infective Arthritis. Howard Marsh.
22 *The Surgery of Acute Appendicitis. C. B. Lockwood.
23 The Clinical History and Symptoms of 120 Cases of Exophthalmic Goiter. George R. Murray.
24 *The Incidence of Alkaptonuria: A Study in Chemical Individuality. Archibald E. Garrod.
25 Ablation of the Crystalline Lens to Rectify High Myopia. William J. Collins.
26 A Case of Chronic Gastric Ulcer Successfully Treated by Excision. Ernest W. Hey Groves.
27 Notes on Sleeping Sickness. C. A. Wiggins.

12. **Pneumonia.**—In his fourth Croonian lecture Washbourn discusses the question of the inhalation of fine particles by the lungs and gives details of his experiments; the mode of their introduction into the lungs is the special point. The bulk of evidence favors the view that no absorption of particles takes place through the mucous membrane, trachea and bronchi. It is probable that they go through the alveolar walls. The two chief lines of defense against the entrance of particles are the nose and the larynx. The mucosa over the turbinal bone retains an enormous amount of dust. Tracheotomized animals, therefore, are not in a favorable condition to estimate this question. Violent respiratory movements facilitate the entrance of dust into the lungs, and may lead to rupture of minute blood vessels. Small areas of collapse are frequently seen in the lungs of animals which have inhaled soot or dust. Particles getting into the alveoli are gotten rid of in the following manner: Some pass through into the lymphatics and either reach the bronchial glands, where they are retained, or are retained in the adenoid tissues and thence may be excreted to the bronchi by means of cells, while some are taken up by cells and thus passed into the bronchi and are ultimately extruded through the upper-air passages.

13. **Typhoid Thrombosis.**—The thrombosis in typhoid fever is thought by Wright and Knapp, from the results of their experiments, to be due to the excess of lime salts in the blood of typhoid convalescents. Increased coagulability may depend on this excess. The remedy is citric acid, which, for prophylaxis also, might be initiated as soon as the danger of intestinal hemorrhage has been surmounted. A partial decalcification of the milk in the diet might be wise. This can be

readily effected by adding to the milk from 0.25 to 0.5 per cent. of citrate of soda (from 20 to 40 grains per pint).

17. **Hypopyon Kerato-Iritis.**—Burnham relies on the purely constitutional treatment for severe cases, save the dropping of a 4-gr. solution of atropin every day or two and the casual bathing of the eye with a little hot water or boric acid. It consists in the use of mercury or iodid of potash taken internally and pilocarpin given hypodermically. The results, he says, have been exceedingly satisfactory.

21.—See also ¶6, above.

22. **Appendicitis.**—Lockwood is not in favor of operation in all cases. He calls attention to the relative importance of the pulse and temperature, the pulse first, temperature next, and after these the respiration. Generally one need not be alarmed if the temperature is 102 and the pulse 90, but if the pulse is 130 and the temperature 99, the condition would be alarming. The main points to be taken into consideration as regards operation are the mode of onset, including the intensity, duration of pain, rigor and vomiting, pulse, temperature and respiration, conditions of constipation or obstruction, the different forms as regards tenderness, rigidity, hardness, edema, etc., mobility of the abdominal walls and intestines, micturition, inflammatory swelling, the presence or absence of complications, such as colitis, nephritis, cystitis, pleurisy, pneumonia, subdiaphragmatic abscess, hepatic abscess, pyemia, septicemia, tubercle, actinomycosis and malignant disease. Pregnancy is an occasional and serious complication. He thinks when we are in doubt, it is better to operate. He does not believe in opiates in the medicinal treatment, and has gradually become more averse to the use of purgatives. He would remove the appendix in every case where it is possible. Biniodid catgut he finds thoroughly efficient for securing the bleeding vessels, the meso-appendix, the stump of the appendix, the omentum, and, finally, the layers of the abdominal wall. Silk and silkworm gut are not satisfactory in sepsis. If pus is found the wound should be drained and he would use gauze or a rubber drain. He also considers the expediency of incising and emptying the intestine when there is distension due to peritonitis, and considers it a safe procedure. The opening closes if there is no occlusion of the intestine beyond.

24. **Alkaptonuria.**—Garrod has studied a number of cases of alkaptonuria, paying particular attention to history, consanguinity of parents, etc., and suggests the possibility of its being a sort of metabolic sport or individualism of metabolism, not the result of a pathologic process. The thought presents itself that these are merely extreme examples of variations of chemical behavior, which are probably everywhere present in a less degree. The individuals of species do not always conform to an absolutely rigid standard of metabolism.

Indian Medical Gazette (Calcutta), November.

28 *A Note on the Pathology of Mycetoma, and on the Part Played by the Lymphatic Vessels in the Spread of the Disease. J. Maitland.
29 Hypnotism in Therapeutics. T. H. Delany.
30 A Note on Jail Tuberculosis. Ernest E. Waters.
31 *Is "Malarial Cachexia" Purely Malarial? Leonard Rogers.
32 *Is Antivenene of Any Value in Cobra Poisoning? P. Carr-White.

28. **Mycetoma.**—This has usually been considered a local disease, but Maitland gives facts and cases which seem to indicate that in many cases it becomes complicated with secondary centers of disease due to transmission of diseased particles along the lymphatic vessels.

31. **Malaria.**—Following the suggestion that there can be secondary infections aiding in producing what is called malarial cachexia, Rogers has investigated the pigmentation of the viscera, and leucocyte variation in these cases. He calls particular attention to the leucocyte changes in malarial cachexia and their diagnostic importance, the phagocytes becoming so gradually reduced in the chronic forms of malaria strongly suggesting a persistent light between them and the parasites, and he thinks our efforts should be directed to the increase of the white corpuscles, especially the polynuclears, while giving quinin hypodermically. The great destruction of polynuclears will account for the frequency with which malarial cachexia cases succumb to the invasion of other infections like pneumonia, dysentery, phthisis, etc.

32. **Antivenene.**—Carr-White has experimented on dogs with Calmette's antivenene and finds very little profit from its use in cobra poisoning. In most cases of snake bite the species is not known, but he was most careful in his experiments to make sure as to this point. He thinks it is possible that the special antivenene of Calmette is not directly applicable to producing immunity to the Indian cobra. The question whether we will have to use different antivenenes for each kind of poisonous snake bite would seem to complicate treatment, but there appears to be no reason why antivenene for each division of poisonous snakes (colubrine and viperine) should not be used.

Journal of Tropical Medicine (London), December 1.

33 Adult Form of Filaria Demarquali. C. W. Daniels.

Annales de Dermatologie (Paris), October.

34 *Des gangrènes multiples et primitives de la peau (skin). Carle.
35 Le durillon (callosity) rétro-malleolaire de la femme. Belot.

34. **Primary Multiple Cutaneous Gangrene.**—Carle analyzes the few cases of this affection that have been published and one he has had occasion to observe during the last two years. In all there was a history of some preceding traumatism in exceptionally robust persons, a burn or scald, a cut or the sting of some insect. The affection commenced at several points at once, the patches of efflorescence separated by long distances. The course is by recurring "pushes," which may be local or diffuse. The infectious character of the affection is established by the fever, headache, inflammation and suppuration of ganglia and glands, contagion by auto-inoculation, and erysipelatous condition of the face which accompany the exacerbations. In two cases recovery was complete in two months; in the others the attacks recurred indefinitely, but the general health did not suffer much, although Carle's patient has lost more than thirty pounds in a year and a half. He gives cuts of the patches on back and arms of his patient.

Annales des Maladies des Organes Gen.-Urin. (Paris), xx.

36 (No. 7.) *Contribution à l'étude de l'anatomie macroscopique de la prostate hypertrophiée. J. Albarran and B. Motz.
37 *Necrose spontanée et hémorrhagique du testicule sans torsion du cordon spermatique. Mauclaire.
38 *De l'intervention chirurgicale dans les néphrites médicales. A. Pousson. (Commenced in No. 5.)
39 *Les urines des 2 reins (kidneys), recueillies séparément avec le diviseur vésical gradué. F. Cathelin.
40 104 Operations de calculs de la vessie (bladder). M. Christovitch (Salonica).
41 (No. 8.) Taille perineale et prostatectomie. F. Legueu.
42 L'orchite des prostatiques. E. Desnos and Minet.
43 (No. 9.) Laceration of Bladder Consecutive to Fractures of Pelvis. E. Jouon.—Des déchirures extrapéritoneales de la vessie consécutives aux fractures du bassin.
44 *Greffes (grafts) et transplantations du testicle. Application au traitement de l'ectopie testiculaire. Mauclaire.
45 Leg Support for Perineal Operations. E. Loumeau.—Porte-jambes pour opérations périneales s'adaptant à toutes les tables et à toutes les inclinaisons du tronc.
46 (No. 10.) Anatomy of Prostate and Bladder in the Aged. G. A. Iastreboff.—Quelques particularités sur les caractères microscopiques de la prostate et de la vessie des vieillards.
47 Prostatectomie périnéale. Technique et instrumentation. P. Delbet.
48 De l'emploi thérapeutique de l'adrénaline dans les voies urinaires (in urinary passages). J. M. Bartrina.
49 Le diagnostic des calculs du rein (kidney) par la radiographie. J. Verhoogen.
50 (No. 11.) Contribution au traitement des affections des testicules et de leurs annexes. J. Zabludowski.
51 *Extirpation intracapsulaire de la prostate hypertrophiée. Rydygier.
52 Report of French Congress of urology.

36. **Macroscopic Anatomy of Prostate.**—Albarran's article describing the conditions that prevail in an enlarged prostate, is illustrated with forty-six cuts.

37. **Spontaneous Necrosis of Testicle.**—Senile gangrene, or apoplexy of the testicle is usually due to torsion of the spermatic cord, to infection, to phlebitis and thrombosis or to obliterating endarteritis of the spermatic artery. In the case of spontaneous and hemorrhagic necrosis reported by Mauclaire in this communication, the last-mentioned was evidently the cause of the lesion.

38. **Surgical Intervention in Medical Nephritis.**—Pousson states that he has operated eight times on 6 patients with chronic nephritis. Two were in the last stages of Bright's disease and have died. The others were remarkably improved and a complete cure can be claimed for at least one case in which nephrotomy and then nephrectomy were performed more

than two years ago. He tabulates the details of 27 published cases in which one or both kidneys were operated on. The mortality was nil. The fact of the comparative frequency of the restriction of the lesion to one kidney is a potent argument in favor of operative intervention. Both kidneys can be operated on at the same time or after an interval without danger and with great possible benefit. An operation on one kidney frequently restores the functions of its mate, even if the anatomic lesions do not retrogress.

39. **Bladder Urine Separator.**—Cathelin's instrument for collecting the urine from each kidney separately without catheterization of the ureters was described in THE JOURNAL of July 19, 1902, p. 173. The present article is profusely illustrated. Further experience is confirming the great value of this "intravesical divisor." (See also THE JOURNAL of November 8, p. 1211.)

44. **Engrafting Atrophic Testicle on Sound Mate.**—Mauclaire has thus operated on 9 patients, and the results have been highly satisfactory except in the case of a boy of 10. The other patients were adults. He assumes that some primary malformation in the vessels of the testicle is the cause of the lack of normal development. By bringing the raw surfaces of the two testicles in close contact and suturing them in a single envelope, the two organs grow together. He illustrates his technic, which consists in a lozenge-shaped incision in the tunica albuginea on the inner aspect of each testicle. In the case of the boy the ectopic testicle had not descended below the outer ring and the grafting of the sound testicle on it did not improve conditions to the anticipated extent.

51. **Intracapsular Extirpation of Enlarged Prostate.**—Rydygier formerly advocated intracapsular enucleation, but found that it exposed to the danger of involuntarily opening the prostatic urethra. This can be avoided by resection of the prostate, instead of enucleation, leaving the part near the urethra intact. His method, therefore, now is intracapsular resection through a median perineal incision, and the results he has attained corroborate the advantages of this intervention.

Archives de Neurologie (Paris), xiv, 82-83.

53 Contribution à l'étude de la pathogénie des idées délirantes fondamentales, des idées directrices, et des obsessions; de leurs rapports dans les délires vésaniques. A. Paris.
54 Contribution à l'étude de l'idiotie morale et en particulier du mensonge (lying) comme symptome de cette forme mentale. Bourneville and Boyer.

Bulletin de l'Acad. de Med. (Paris), November 18 and 25.

55 (No. 37.) *Competition for the Audifred Tuberculosis Prize.
56 *Note sur un procédé d'extirpation du rectum, par la voie abdominale-perinéale, avec abouchement consécutiff de l'S iliaque à l' anus; conservation du sphincter et du canal anal. Durest.
57 (No. 38.) Inauguration de l'hotel de l'Académie.

55. **Competition for the Audifred Prize.**—As THE JOURNAL has frequently mentioned, the Paris Académie de Médecine has an endowment representing an annual income of about $5000, which is awaiting the person who shall discover a sovereign remedy for tuberculosis. Nine communications were received in competition for it this year; six were evidently by unscientific writers. One summarized his views in the phrase, "Cool the abdomen"; another recommended consumptives to drink diluted carbolic acid; the others merely referred the Academy to persons cured by the writer's method. Three communications were from scientific competitors: Dumont described the practicability of establishing winter sanatoriums in an accessible portion of the Sahara. Bezançon and Griffin described their favorable experiences with blood gelose as a culture medium for the tubercle bacillus. V. Wachter advocated a method of treating tuberculosis by inhalation of ethylboric ether. This becomes decomposed on contact with the mucous membranes into alcohol and boric acid, and thus allows the latter to reach the mucosa very finely divided. His inhalator, designed for the purpose, is ingenious, and the results attained are very promising according to his description.

56. **Extirpation of the Rectum Without Necessity for Artificial Anus.**—Duret detaches the rectum through an abdominal incision and removes the detached intestine through a vaginal or perineal incision. He then draws down the afferent loop of intestine and sutures it directly to the anus. He describes two cases of extensive cancer of the rectum treated in this way. The patients died from their cachexia or an intercurrent cause, and at the autopsy the perfect success of the intervention was determined. He announces, therefore, that it is possible to fasten the omega loop directly to the anus without danger of gangrene or other disturbance.

Bulletin Medical (Paris), July to November 19.

58 (No. 58.) Les syphilides secondaires atypiques. A. Renault.
59 (No. 67.) Poids (weight) et robusticité. H. Mackiewicz.
60 (No. 68) Sur les accidents de travail. C. Remy.
61 (No. 69.) Les injections thérapeutiques dansle traitement de la syphilis. Leredde, Pouchet and Lafay.
62 Préparatifs (preparations) d'une opération à domicile. Pouchet.
63 (Nos. 71 and 76.) L'ophthalmologie dans la pratique journaliére. Chevallereau.
64 (No. 72.) Sur la psychologie des tuberculeaux. L'optimisme. C. Legrand.
65 (Nos. 73 and 81.) La rhinopharyngologie dans la pratique journaliére. A. Malherbe.
66 (No. 74.) Report of the Belgian Congress of Surgery.
67 (No. 77.) Fat Necrosis. P. Gallois.—La nécrose de la graisse abdominale.
68 (No. 78.) Etude de l'albuminurie et de la glycosurie dans la paralysie générale. M. de Montyel.
69 (No. 79.) L'ecthyme et l'impetigo de Bockhardt. Balzer.
70 (No. 82.) La présentation du siége decompléte; mode des fesses (pelvic presentation). Maygrier.
71 (No. 83.) Sur la possibilité d'un programme internationale dans l'étude de la psychiatrie. J. Roubinovitch.
72 (No. 86.) *Le practicien et l'oxyde de carbone; traitement de l'intoxication. Le Gendre.
73 (No. 89.) Conception nouvelle et etiologie de l'hystérie. L'origine psychique des crises d'hystérie générales et locales. Bernheim.
74 (No. 90.) Des indications op. dans le cas de spina bifida. Kirmisson.
75 (Nos. 91-92.) La médication ferrugineuse. Gilbert.

72. **The Practitioner and Carbon Oxid.**—When the general practitioner is summoned to a case of intoxication from carbon oxid the first measure is to carry the patient in a horizontal position into fresh air, then commence artificial respiration and traction of the tongue, with flagellation with a towel dipped in cold water. Rubbing with alcohol is also useful, but the main point is to keep up the artificial respiration and tongue traction for an hour and more, until the respiration becomes sufficiently deep and regular for oxygen to be inhaled. Ascending electricity may then be applied, if convenient, the positive pole at the anus and the negative in the mouth. In exceptional cases transfusion of blood may be a valuable adjuvant. When natural breathing is re-established the patient should be put to bed and the tendency to hypothermia combated while careful watch is kept for the reappearance of symptoms. The victim of carbon oxid intoxication looks and staggers like a drunken man. The weakness of the muscles explains the inability to escape from the room when the symptoms attract attention. The subject falls if able to rise to his feet. The after symptoms are sounds in the ears, rebellious insomnia, vertigo, tremor and even delirium. Amnesia may be absolute. Glycosuria from 6 to 15 gm. in the twenty-four hours may appear in fifty to sixty minutes after the first intoxication, and serious lobular pneumonia may rapidly develop. Nervous, vasomotor or trophic troubles may appear after a period of apparent recovery. The vasomotor disturbances are liable to be patches of erythema or nodosities which ulcerate and scab over, gingivitis, ulceration of tonsils, or unilateral edema of leg or thigh. The nervous disturbances may be a generalized or localized neuritis, neuralgic or paralytic. The paralysis may be due to an arteritis or focus of softening in the brain. It developed in Poelchen's case eight days after apparently complete recovery. The patient was 37 years old. There may also be hemiplegic neuritis, toxic hysteria or sclerosis in patches due to arteritis entailing sclerotic foci. The results of slow intoxication may be mistaken for chlorosis, hysteria, neurasthenia, "petit Brightisme," or the prodrome of softening of the brain. In examining the cadaver, sections of the muscles will sometimes give the characteristic band in the spectrum after all the carbon oxid has vanished from the blood. It may also be detected in the blood accumulating around a wound or contusion where it does not feel the effect of the oxygen in the blood. As a general rule it may be assumed that the greater the individual demand for oxygen the sooner the victim suc-

cumbs. The bird dies before the dog, while the frog does not seem to be at all affected. The child succumbs before the adult and the robust man before the women and aged. Prognosis should be guarded until two months have elapsed.

Revue de Laryngologie (Bordeaux), September to December.

76 (No. 40.) *Traitement des tumeurs malignes primitives de l'ethmoide. E. J. Moure.
77 (No. 41.) *La bronchoscopie. G. Killian.
78 (No. 43.) Rapports de l'apophyse unciforme avec les cellules ethmoidales et le méat moyen. J. Mouret.
79 (No. 46.) Contribution à l'étude de la syphilis des fosses nasales. P. Brunel.
80 (No. 47.) Réaction galvanique de l'auditif. Sa valeur négative au point de vue du diagnostic. F. Chavanne.
81 *La technique des injections de paraffin solide. Eckstein.
82 (No. 48.) Contribution à l'étude des blessures de l'oreille (wounds of the ear) par balles de revolver. Blanchard.
83 Polymorphisme du chancre syphilitique de l'amygdale (tonsil). Valeur du symptome "dysphagie" à la période primitive de la syphilis. Bellissen.

76. **Treatment of Primary Malignant Tumors of the Ethmoid.**—Moure describes a simple and easy way of obtaining access to the ethmoid. He incises the soft parts of the nose from the brows to the septum, sufficiently to one side of the median line to preserve the septum intact. He then incises the bony framework of the nose on the median line and on one side, the latter incision gradually sloping slightly toward the median line below. This allows the removal of an oblong piece, which affords ample access to the regions below, while enough of the framework is left to maintain the shape of the nose. He describes and illustrates a typical case.

77. **Direct Bronchoscopy.**—Killian's bronchoscopy has been mentioned at various times in THE JOURNAL. The present description of it is profusely illustrated, including a cut of a phantom bronchus for practice.

81. **Technic of Paraffin Prothesis.**—Eckstein proclaims that the paraffin can be kept from hardening in the syringe by ejecting two or three drops after it is filled, and aspirating the same amount of hot water. He also has found it necessary sometimes to scrape out a little of the paraffin if it spreads beyond the desired point. This is easily done and the scar of the minute incision is invisible.

Semaine Medicale (Paris), November 5 to December 3.

84 (No. 45.) La lutte contre la tuberculose, d'aprés les travaux de la Conference de Berlin. L. Cheinisse. (Commenced in No. 44.)
85 L'insuffisance de la docimasie pulmonaire hydrostatique dans les cas où il existe des germes dans la cavité utérine.
86 (No. 46.) La splenomegalie chron. avec anémie et reaction myeloide du sang (of the blood). P. Emile-Weil and A. Clerc.
87 Report of XIth Italian Congress of Internal Med. (Commenced in No. 45.)
88 (No. 47.) Valeur et indications de l'intervention chirurgicale dans la lithiase vesiculaire. F. Lejars.
89 (No. 48.) *L'aortite abdominale. Teissier.
90 (No. 49.) *Sur l'opportunité d'une intervention chirurgicale dans la néphrite chronique. R. Lépine.
91 *Un nouveau reactif des pigments billares dans l'urine. F. Baudouin.

89. **Abdominal Aortitis.**—Primary abdominal aortitis is rare, but chilling of the abdomen has been known to produce it. It is usually propagated from an inflammatory process in the upper portion of the vessel or in some neighboring organ. The characteristic symptoms are the pain that can be induced at the aorta and iliac arteries, the displacement of the aorta and its mobility. The pain is localized in the wall of the vessel and may be traced along the iliac arteries sometimes to their roots. It may be so severe as to prevent any exploration of the region, but when the aorta can be taken up between the fingers it will be found abnormally increased in size and less elastic. Distension occurs more easily, but the lessened elasticity prevents resumption of the former caliber and the result is a lengthening of the vessel. As it can not stretch lengthwise, it curves on itself, forms a loop and this usually slips into the left iliac fossa. At the same time it becomes more movable. There are also a number of accessory symptoms such as contraction of the rectus which may be so pronounced in some cases as to simulate a tumor in the epigastrium, stomach troubles and vomiting, neuralgia of the diaphragm, the impossibility of lying in a physiologic attitude, the character of the arterial pulse in the epigastrium, sometimes accompanied by a reflex pulse exclusively located in the muscular wall of the abdomen. and certain disturbances in the abdominal circulation causing local elevation of temperature on slight exertion, when the mouth and axillary temperature show no change. A very important sign is hypertension in the dorsal artery of the foot, when compared with the radial tension. This indicates almost infallibly some irritation in the subdiaphragmatic arteries. On the other hand, when there is hypertension in the abdominal arteries but hypotension in the dorsal artery, the disturbances in the abdominal circulation are of a purely reflex order or are due merely to a neurasthenic condition. Teissier has been collecting data on this subject and proclaims that this modification in the peripheral blood pressure is almost pathognomonic. He calls it "le signe de la pédieuse." In all his patients there was an increase of 2 or 3 cm. of mercury in the blood pressure of the dorsal artery, while physiologically it is 20 mm. below the radial pressure. The complications of abdominal aortitis include besides the multiple dyspneic or cardiac reflexes and gastric and intestinal disturbances, a possibility of intestinal hemorrhages, nephritis from propagation of the inflammation, or actual infarctus or rupture of the aorta. Resolution of the inflammation is the rule, at least in the recent cases. The hypertension in the dorsal artery gradually subsides as recovery progresses. Treatment is principally by rest in bed to immobilize the artery and prevent displacement, and careful dieting to avert digestive disturbances which might add to the erethism of the abdominal circulation by reflex action and induce pulsation in the celiac trunk. A strict milk diet—when it is tolerated—frequently answers these indications. Revulsion is indispensable. Leeches have proved useful during the acute stage. During the subacute periods a blister or mustard plaster may suffice. If the affection shows a tendency to become chronic, small blisters frequently repeated, or cauterization with a conical cautery may be beneficial. Measures are also needed to soothe the abdominal reflex excitability and hyperesthesia. This can be accomplished with belladonna salve or conium plaster, application of compresses, injections of hot water or injections of ammonium bromid, which is an excellent remedy for the circulatory reflexes originating in intestinal irritation. Iodin and tannin will promote internal resolution and calomel may be useful both internally and in local applications.

90. **Surgical Intervention in Chronic Nephritis.**—Lépine describes experimental research on three dogs in which decortication of the kidney after venous stasis had been induced did not materially increase urination. He does not believe that capsular nephrotomy or decortication would be of much benefit in the clinic in similar cases. He would restrict it to painful unilateral congestion rebellious to medical measures, or to anuria consecutive to a congestive attack. Exposure of the kidney and decortication are mild procedures in a sound animal but are much more serious when the organ is diseased. It is important to examine the cadaver of a person with Bright's disease who has been treated by decortication, in order to learn the exact status of the intervention and its results.

91. **New Reagent for Biliary Pigments in Urine.**—Baudouin states that a solution of fuchsin added to urine produces an orange stain in case it contains bile pigments. The fuchsin must be in a .5 per cent. solution and two drops are added to a test tube one-third full of the filtered urine.

Archiv f. Gynaekologie (Berlin), lxvii, 2.

92 Ueber Myomotomie und retroperitoneale Behandlung des Stieles (treatment of pedicle) nach Chrobak. G. Heinricius.
93 *Ueber das primäre Chorio-Epitheliom ausserhalb des Bereiches der Eiabsiedlung (outside region of ovum implantation). W. P. Z. Kissell.
94 Ueber die Versio mit sich anschliessender Extraction beim engen Becken (contracted pelvis) auf Grund von 320 Fällen. Krull.
95 Zur Etiologie congenitaler Klumpfüsse (club foot) und Gelenk- (joint) Contracturen. Keller.

93. **Chorio-Epithelioma Outside of Region of Ovum Implantation.**—Kissel reviews 11 cases, 1 personally observed. Only 4 were fatal. In 7 the vagina and always the anterior wall was affected; in one the brain, in one the uterus and other internal organs, and in one the lungs. The deportation of the particles of chorionic epithelium may occur by way of veins or arteries, and has been observed even during the course of the pregnancy. The possibility of spontaneous arrest

and healing, even for a chorio-epithelioma with metastases, should impose caution in regard to assuming its malignant nature. In the personal case reported, exhibiting multiple chorio-epitheliomata in vagina and lungs, the lesions in the lungs healed spontaneously after those in the vagina had been excised. In a second series of 6 cases all were fatal, in 4 from recurrence after operation. The vagina or labia were involved in 5. In one the labium and lungs were the seat of the lesion, and in another the epitheliomata were found in the right and left heart, and in the small arteries of the brain, kidney and intestines. The uterus and adnexa were exempt. In this case an old interstitial myocarditis evidently favored the settling of fragments brought to the heart by way of the uterine veins.

Centralblatt f. Chirurgie (Leipsic), November 22 and 29.

96 (No. 47.) *Die Eröffnung des Sinus cavernosus bei Thrombose. Voss.
97 Ein neues Bauch- (abdominal) Speculum. G. Boegel.
98 (No. 48.) *Vereinfachtes Verfahren (simplified process) Zur Stereoskopie von Röntgen-Bildern. K. Bartholdy.
99 *Proposal for Simplication of Suture in Applying the Murphy Button. F. Rehm.—Vorschlag zur Vereinfachung der Naht bei Anwendung des Murphy-Knopfes.

96. **Opening of the Cavernous Sinus in Case of Thrombosis.**—Voss opened up the cavernous sinus in a recent case and recommends his technic, although the patient succumbed to the progress of his meningitis. The intervention described allows ample drainage. He approached the Gasserian ganglion, and the first and second branches of the fifth nerve, which were his guides to the sinus, by means of a flap made according to Lexer's directions. It requires temporary resection of the malar bone. After exposure of the Gasserian ganglion and of the first and second branches, he opened up the sinus with the knife, and inserted a drain tube wrapped in gauze, after which the wound was sutured. The autopsy showed that the sinus had been opened for 6 to 8 mm. In case the thrombosis originates in the orbit, the intervention can be modified as he describes to open into it. He believes that this procedure will be found useful not only for exposing a thrombosed sinus but also for the evacuation of the rare extradural abscesses at the apex of the pyramids. Further experience will establish whether it is possible to save the patients by this means, and also whether the intervention on the sinus will have to be bilateral.

98. **Simplified Process for Roentgen Stereoscopy.**—Bartholdy states that fine stereoscopic images can be seen by using ordinary 18-degree prism glasses in the stereoscope and the original plates, not a reproduction or enlargement of them. The simple apparatus consists merely of a sliding somewhat pyramidal chamber fitted to hold the original plates at the larger end. As soon as the plates are dry they are ready for inspection, and they can even be used before they are dry.

99. **Simplification of Suture in Applying Murphy Button.**—Rehm has worked out on dogs a method of suturing the Murphy button in place which materially shortens the time. One part of the button is inserted in the incision in the intestine and pressed close against one end of the wound. The incision below is drawn together by a single buttonhole suture close to the button, which is thus held firmly. If the incision is unduly long two or more sutures may be required, but if just the right length, one is sufficient. In an end-to-end anastomosis the button is inserted in the small incision and a buttonhole suture—a single stitch—taken each side of the button. In the experiments on two dogs the button was passed after four days, and when dissected, the bowel was found in perfect anastomosis with a smooth cicatrix.

Muenchener Med. Wochenschrift, November 25.

100 Ueber Phagocytose, Synthese und andere intrazelluläre Vorgänge. J. Arnold.
101 *Operation der Fibromyome des Uterus. A. Hegar.
102 *Die Operative Behandlung der Lungen-Tuberculose. A. Landerer.
103 *Ueber Spirometrie R. v. Hoesslin. Ibid. A. Gebhardt.
104 *Explanation of Action of Atropin in Ileus. J. Pal.—Zur Erklärung der Darmwirkung des Atropin mit Rücksicht auf dessen Anwendung beim Ileus.
105 Zur tuberculöse Lungen-Phthise im Säuglingsalter (infancy). N. Hohlfeld.
106 Ueber den therapeutische Wert der Bismutose. H. Starck.
107 Paraldehyd und Skopolamin (Hyoscin) als Schlaf- und Beruhigungs-mittel (narcotic and sedative) für körperlich und geistig Kranke. Bumke.
108 Zur Gelatin-Behandlung bei Melaena neonatorum. E. Oswald.
109 Beitrag zur Casuistik tödtlicher Magenblutungen (fatal gastric hemorrhages). M. Tiegel.
110 2 Fälle schwerer Otitis media acuta purulenta durch Schneeberger (snuff). W. Schroeder.
111 Hypertrophie der Prostate und galvanokaustische Behandlung nach Bottini-Freudenberg. Bierbaum. (Personal experience.)
112 Use of Small Rubber Rings to Relieve Pressure on Painful Points in the Feet. Bettman.—Ueber die Verwendung kleiner Gummiringe zur Druckentlastung schmerzhafter Punkte am Fuss.
113 Venereal Diseases in the Marine. C. Graeser.—Ueber Seemannsordnung und Geschlechtskrankheiten.
114 Practising Among the Chinese. Perthes.—Erfahrungen in der ärztlichen Praxis bei Chinesen.
115 *Ueber Erfolge mit Tuberkulin-Behandlung nach Goetschschem Verfahren. W. Roemisch. (Commenced in No. 46.)

December 2.

116 *How Should We Narcotize? O. Witzel.—Wie sollen wir narkotisieren?
117 500 Chloroform-Narcosen in der gynaekologischen Praxis. W. Evelt.
118 Selbsttätiger Ether-Flaschen-Verschluss (automatic stopper) für die Narkose. A. Kurrer (Lorch).
119 Digestion of Albumin. E. Heinrich.—Untersuchungen über den Umfang der Eiweissverdauung im Magen des Menschen, auch bei gleichzeitiger Darreichung von Kohlehydraten.
120 Bericht über einen neuen Fall von syphilitischer Magengeschwulst (gastric tumor). Max Einhorn.
121 Correction of Bone Deformities. K. Port.—Ueber die Ausgleichung von Knochendeformitäten.
122 *Kombinierte Behandlung von Lungen-Tuberculose mit Calcium und Tuberculin. Rudolph.
123 The Saratoga Meeting and Trip. Carl Beck (New York).—Medicinische Streiflichter aus America.

101. **Operation for Uterine Fibromyomata.**—Hegar advocates vaginal total extirpation, and has thus removed tumors that extended above the umbilicus. In some cases he has prepared the uterus for extirpation by working through the vagina, and then removed it finally by abdominal section. He does not believe in retaining the uterus in case of large tumors, as its vitality is compromised, and it is possible to ligate the vessels as a preliminary measure and thus obviate hemorrhage, when there is no care as to its further function.

102. **Successful Operative Treatment of Lung Tuberculosis.**—Landerer proclaims that great benefit can be derived in advanced cases of tuberculous cavities, from resection of parts of several ribs. The cavity is not opened, and the aim of the intervention is merely to mobilize the wall of the chest over the lesion and by resecting the ribs to allow the wall to contract and reduce the size of the thoracic cavity. The lung is thus forced to contract also and is not able to expand to its former capacity. This favors the healing of the tuberculous lesion within. He describes in detail 6 cases on which he has thus operated. All were what is called hopeless cases, but the results of the operation were the complete cure for the time being of one, and probably of another; two others were very much improved, and the fifth patient was operated on recently. This method of treatment is particularly applicable for lesions in the lower lobe, which for some unknown reason offer such an unfavorable prognosis that the sanatoria usually refuse to receive them. Consequently Landerer advises this operation in such cases even in the early stages. It is surprising how well the consumptives bear the operation. The benefits are apparent in the course of two or three weeks. Chloroform narcosis is well tolerated, but loss of blood must be guarded against. The most appropriate cases are those with destructive processes which are stationary or slowly progressive. He attributes a large measure of his success to the fact that he always precedes and follows the operation with cinnamic acid (hetol) treatment, whose effect in promoting the shrinking and healing of tuberculous lesions has been thoroughly established. The operation in one case included resection of 4 to 15 cm. of seven ribs, the second to the eighth, reached through a right-angled incision in the rear side wall of the thorax, drawing the scapula forward. In the second case a triangular piece was removed, including 3.5 cm. of the first rib; 5.5 cm. of the second and 7.5 cm. of the third. In another patient, about 70 cm. of ribs were resected from the ninth to the fourth rib, but the cavity involving the entire lower lobe was too extensive for the possibility of complete healing. The patient's condition is somewhat better than before the intervention. In another case the intervention was an *indicatio vitalis*. Large pieces

were reseeted from the ninth to the fifth ribs, from the rear on the left side to the axillary line, the patient in a position to prevent pus from flowing into the sound part of the lung. There was no coughing nor expectoration afterward and the abscess had to be evacuated later from without, after which the patient rapidly improved and the benefit derived has been permanent. Landerer used the morphin-chloroform-oxygen narcosis in all. He adds also the history of three cases operated on several years ago by draining the cavity. One patient still has a fistula; the others were practically moribund when operated on.

103. **Spirometry.**—Hoesslin and Gebhardt have found that the spirometer findings vary with the same individual under otherwise similar conditions unless the air breathed is warmed to body temperature and calculated for the state of the barometer. They illustrate an improved spirometer which warms the air, and propose formulæ to remedy the defects of the Hutchinson method, according to which the vital capacity of an individual differs to a marked extent as he is at the level of the sea or at Davos, for instance, although all other conditions are the same.

104. **Explanation of Action of Atropin in Ileus.**—Pal has learned from research on dogs that atropin has an elective inhibiting action on the nerve terminals of the vagus and splanchnicus, while the muscles of the walls of the intestines and the ganglia which control peristalsis are not affected by it. As atropin thus affects only certain ganglionary apparatus for the intestines, it should be applied in those cases alone in which the elimination of these ganglia is required.

115. **Successful Treatment of Tuberculosis with Tuberculin.**—Roemisch has followed Goetsch's directions in regard to the administration of tuberculin—waiting and adapting the doses to avoid all febrile reaction—and his experience has fully confirmed the successes reported by Goetsch. He thinks, however, that besides the febrile, extremely nervous patients should also be excluded. He found the treatment effective even in quite advanced cases which had come to a stillstand as the result of sanatorium and other treatment, but which could not be forced to further improvement. In all cases in which too rapid breaking down of extensive diseased tissue might prove harmful, the use of tuberculin is not advisable. The best results are attained in cases in which the lesions have partially cicatrized.

116. **How Shall We Anesthetize?**—Witzel makes a practice of securing thorough disinfection of mouth, nose and air-passages as a preliminary to any operation. Inhalation of steam from saline solution or of turpentine he considers a most important measure for the prevention of ether pneumonia and ether bronchitis. He has the patient recline on the table with the head lowered at an angle of about 45 degrees. This allows free egress to the secretions that accumulate in the air-passages, while there is no hypersecretion in the trachea or larynx. The patient is covered with warm cloths held in place by long bags drawn up over arms and legs, so that he will not be chilled when the window is opened to ventilate the room after the operation. He is then told to count from 200 backwards, slowly and breathing deep between the numbers. Chloroform is given at first, and then ether, only a drop of either at a time. When the operation is completed the patient is carried with head still low to his bed, and allowed to sleep with the window open. He exhales ether for hours, but the fresh air, with rinsing of the mouth, will certainly diminish the tendency to vomit. If vomiting does occur the stomach is rinsed on the supposition that some ether must have been swallowed. He allows his patients to get up remarkably early after even severe operations, the evening of the same day after amputation of the upper arm, for instance, the next day after ablation of a carcinoma of the mamma, etc. All are instructed and trained beforehand to breathe deep ten to twenty times in the half hour by the clock. If the deep breathing causes pain, morphin may be needed. His experience with morphin scopolamin narcosis in 3 cases anesthetized by Korff himself, was unfavorable. One patient suffered from weak heart action afterward for days, and another succumbed to sepsis, which he might have resisted under other circumstances.

122. **The Lime-Tuberculin Treatment of Tuberculosis.**—Rudolph argues that calcification is one of Nature's means of combating invasion by a foreign body. Tuberculin given by the "Etappen" method, that is, in repeated courses, combined with administration of lime water per os and rectum, is a combination that has proved remarkably effective in his hands in the treatment of advanced tuberculosis. He reports 5 cases and the results challenge attention, although none have been controlled by autopsy findings. The lime is continued in the intervals between the courses of tuberculin, to promote calcification as much as possible.

Therapeutische Monatshefte (Berlin), November.

124 *Sulphur in Typhoid. J. Woroschilsky.—Anwendung von gereinigten Schwefelblumen bei der Behandlung des Typhus abdominalis.
125 Ueber die Behandlung der Lungen-Tuberculose mit Geosot (Guaiacolum valerianicum). A. Kühn.
126 Ueber Strichförmiges (linear) Eczem im Versorgungsgebiet des Nervus cutaneus brachii externus im Anschluss an eine Verletzung. Orlipski.
127 How to Testify in Regard to Functional Capacity of Hand After Accidents, etc. G. W. Schille.—Wie begutachtet man die Gebrauchsfähigkeit der Hand?
128 Beiträge zur Eisen- (iron) Therapie unter bes. Berücksichtigung der Eisen-Mangan-Präparaten. Jung.

124. **Sulphur in Typhoid Fever.**—Woroschilsky has been giving 1 to 1.25 gm. of sulphur depuratum every two hours in a large number of cases of typhoid for the protecting coating which it forms in the intestine. It has also an antiphlogistic and antiseptic action, but these are subordinate. The coating formed by the sulphur prevents irritation and injury of the intestinal walls from the ingesta. The rapid subsidence of the diarrhea and other symptoms testifies to the great benefit derived. He cites tests on healthy men who took 22 gm. of sulphur a day without injury and no disturbance of either appetite or digestion. Kobert states that 90 per cent. of the sulphur ingested passes unaltered through the system.

Brazil Medico (Rio de Janeiro), July to November.

129 (No. 28.) Pain from the Medical Standpoint. M. Pereira.—A dor no ponto da vista medico. (Commenced in No. 26.)
130 *The Pulse in the Insane. H. Roxo.—Do pulso nos alienados.
131 Discussion of Value of Strychnin in Yellow Fever. Contradictory Opinions by Members of Local Medical Society.
132 (No. 29.) *Signal para o diagnostico da ankylostomiase. N. Gurgel.
133 (No. 31.) *Dos accidentes em sero-therapia. O. G. Cruz. (Commenced in No. 29.)
134 A proposito da Ainhum. J. Moreira.
135 (No. 32.) Electro-Therapy of Lepra. F. Pires.—Do emprego das correntes de alta frequencia e grande tensao na lepra anesthesica.
136 (No. 34.) *Pathogenia e Therapeutica da febre amarilla (yellow fever). M. Guimaraes.
137 (No. 36.) Vibration Massage. Werneck Machado.—A sismotherapia.
138 (No. 37.) Differentiation of Sporadic Yellow Fever. A. Ferrari.—Formas clinicas da febre amarilla observadas no hospital de S. Sebastiao durante o invierno.
139 (No. 38.) Relations Between Eye and Ear Affections. S. Fialho.—Relacoes entre as molestias do ouvido e as do olho. (Commenced in No. 27.)
140 (39) Notas sobre a filaria e a tenia no homem (in man). H. Monte.
141 (No. 40.) *O pulso e a tensao arterial na febre amarilla (yellow fever). A. Ferrari.
142 Benefit from Brewer's Yeast in Case of Epilepsy. N. de Andrade.—O levedo de cerveja no tratamento da epilepsia.
143 (No. 41.) Sobre a propagaçao do impaludismo. L. Sobrinno.

130. **The Pulse in the Insane.**—Roxo proclaims that the sphygmographic tracings may be able to differentiate certain dubious cases of mental affections. In laborious research on 130 insane patients he found a very pronounced difference in the pulse between certain classes of affections. It was only exceptionally normal. He reproduces the tracing of a typical example of each class. In mania the pulse was slow, averaging in 6 patients 66 to the minute. In melancholia the pulse was polycrotic and slower than normal, averaging 62 in 7 patients, but otherwise regular. The average in 14 patients with mental confusion was 82, the vertical line of the wave was very pronounced and the waves were polycrotic and very irregular. In 9 cases of dementia the average was 78 and the sphygmogram resembled that of arterioselerosis. In 11 paranoiacs the pulse beat was more rapid than normal, averaging 80. The sphygmogram is peculiar and characteristic in this affection. The

top of the wave very rounded and irregularly polycrotic. In 18 cases of epilepsy the sphygmogram was marked by a short vertical line, frequently irregular, alternating with a dicrotic wave, the beat only 66 to the minute. In hysteria the tracings were very irregular, the beat averaging 76. In 25 alcoholic cases the pulse was within the range of normal rate. The vertical line was very short and the top of the wave frequently flat. The pulse averaged 64 in the cases of cerebral syphilis and 78 in those of systematic psychoses. M. Nery has reported that he found some disturbance in the circulatory apparatus in 93 per cent. of the insane in his experience, but the characteristic differences in the pulse above noted are probably of reflex, vasomotor origin.

132. **A Diagnostic Sign of Ankylostomiasis.**—Gurgel's experience fully confirms the value of the bluish spots on the tongue as a sign of ankylostomiasis. He found them in nearly every one of a large number of patients examined.

133. **Accidents of Serotherapy.**—Cruz compares the accidents from the use of serum treatment at Rio with those reported in Europe and announces that they were identical in kind and occurred in about the same proportion. The minor accidents from antiplague serum made at Rio were digestive disturbances, cutaneous manifestations, adenitis or pain in the joints, muscles, etc. Two of the persons thus affected were physicians, and the disturbances were not sufficient to interfere with their practice, and vanished in the course of a few days. The more serious accidents included high temperature, intense pain, arthralgias, neuralgias, etc., pulmonary phenomena, delirium, prostration and adenitis accompanied with symptoms which suggested the plague. In the case of the wife of a colleague, after two injections of the serum a ganglion became painful, and there was insomnia and agitation, with temperature of nearly 103 F. and chills. A patch of erythema 30 cm. long developed, with urticaria, ecchymoses in the legs, and manifestations in the joints suggesting articular rheumatism. The patient also lost flesh; 42.5 c.c. of the serum had been injected in the course of eight days. The physicians were in doubt as to whether the case might not be true plague, but bacteriologic examination was always negative and the patient rapidly recuperated. A single injection of 10 c.c. in a woman in the seventh month of pregnancy was followed by very high temperature and swelling of glands with intense pain and purpuric patches. All these symptoms vanished by the end of fifteen hours. In another case an erysipetalous patch developed on the abdomen accompanied by fever, pain and swelling of the glands, after two injections of 10 c.c. of the serum. All the disturbances had vanished by the end of the week. Out of the total of 123 persons injected with the serum 58, or 47.17 per cent. exhibited accidents, but only 7 were of a serious character. Adenitis occurred alone or with other symptoms in 18. The serum used was about a month old. The proportion of accidents observed at Frioul was 44.7 per cent., and at Glasgow, 47.3 per cent. Among the incidents which he relates to show the efficacy of preventive antiplague injections is the case of an infected vessel, the Gundulic, which arrived with a case of plague on board. The patient was taken to the hospital and the rest of the crew were treated with the antiplague serum as a preventive measure. No further cases of plague occurred until twenty days had elapsed, when two more sailors exhibited symptoms of the disease. The ship had evidently been infected but the antiplague serum had protected the crew from infection so long as its immunizing effect lasted. This is from eight to fifteen days. After this immunizing effect had worn off, the crew were liable to contract the infection as if they had not been injected. The incident is interesting from the further fact that the two sailors last affected had the dangerous submammary bubo or plague carbuncle, and yet, possibly owing to the influence of the preceding injection, the course of the disease was exceptionally mild. All the serum prepared at the local institute is heated for an hour to 135 F., which destroys the toxic properties inherent in normal serum. No fatal accident has followed the use of antiplague serum anywhere, he concludes, and commends it as a most valuable and indispensable preventive measure.

136. **Treatment of Yellow Fever with Glucosed Serum.**—Guimaraes argues that the symptoms of yellow fever indicate insufficiency on the part of the liver. This commences by depression of the glycogenic function, the key to all the subsequent phenomena, he thinks. He aims to compensate the loss of this function by subcutaneous injection of a mixture of 10 gm. of glucose in 200 c.c. of a 1 per 1000 solution of sodium chlorid. This promotes diuresis, alleviates thirst and strengthens the heart action, as Barker has already established. Guimaraes has tried it hitherto only on moribund patients, but the effects observed encourage its wider adoption.

141. **The Pulse in Yellow Fever.**—Ferrari gives a number of tracings to illustrate the pulse in yellow fever. The ascending line is vertical and rises to a peak at first. The pulse is markedly dicrotic in the two first days, and it is very rapid in proportion to the arterial pressure in the first twenty-four hours, suggesting derangement of the innervation of the arterial apparatus. Another interesting fact is the modification in the arterial pressure after a minimal blood letting. Withdrawal of 40 to 60 c.c. of blood is immediately followed by a drop in the arterial tension, revealing the lack of arterial vasomotor reflex action. The aim in treatment should be to relieve the overtaxed heart by restoring the arterial contractility. In no other disease does the arterial hypotension succeed so rapidly to the exaggerated tension at first. The pulse in a typical case described was 110 and the tension 26 the first day, by the third they were respectively 90 and 16, by the fourth 68 and 12, and the fifth day 88 and 8.

Siglo Medico (Madrid), August to December.

144 (Nos. 2538-2546.) Tratamiento del aborto. A. Pulido Martin.
145 La neurastenia en los pueblos (small towns). T. Valers.
146 *Medicina colonial.
147 Tratamiento de las estrecheces (strictures) uretrales. C. Negrete.
148 *Deontologia medica. S. D. Varona.
149 (Nos. 2547-8.) 2 casos de quiluria (chyluria). G. Tanago y Garcia.
150 (Nos. 2549-51.) Diagnostico de las aneurismas aortices. C. M. Cortezo.
151 *Petition to the King from City Physicians.—El Mensaje al Rey de los médicos titulares.
152 (Nos. 2550-5.) Sanidad publica en Espana y ministerio social de las clases medicas.
153 Transmission de la peste. Report of Spanish Consul at Yokohama.
154 Los idiotas ante los tribunales de justicia. T. Maestre.

146. **Colonial Medicine.**—In this article is reviewed the sanitary work accomplished in Havana by the United States authorities. It cites extracts from Paris papers contrasting the condition before and after the conquest of Cuba, and remarks that the "contrast is a greater blow to the good name of Spain than the defeat at Santiago and more depressing than the treaty of Paris." It also describes the instruction and institutes of colonial medicine in England and France, although as it adds, "the Spaniards have no longer the same interest as formerly in matters pertaining to colonies."

148. **Medical Deontology.**—Varona remarks in the course of his article, which is an appeal for physicians to assert certain rights, "we physicians spend half our life seeing patients, and the other half in lamenting over the conditions that prevail," instead of organizing and working to improve them.

151. **Petition to King of Spain from City Physicians.**—According to the present Spanish law each town has its city physician, who is supposed to look after the public health, but no provision is made as to their appointment, salary, etc., which is all left to the municipal authorities. They have no secure tenure of office and no means of enforcing their recommendations, and this appeal states that the public health thus left at the mercy of the municipal authorities is absolutely disregarded and thousands of lives are unnecessarily sacrified every year. The "médicos titulados," as they are called, have been holding a conference for the purpose of protesting against this state of things, and they formally petition the government to alter the law and have the public health confided to the care of a "cuerpo de sanidad civil" in each town, a board of health appointed by and responsible to the state, to the central government instead of being at the mercy of local politics.

New Patents.

Patents of interest to physicians, November 18 to December 9:

713952. Pasteurizer. A. A. Busch, R. Gull, and T. J. Barry, St. Louis.
713980. Hypodermic syringe. Henry J. Gill, Clonskeagh, Ireland.
713875. Portable stand for supporting and carrying stretchers. Harry C. Hall, Telluride, Colo.
714041. Sterilizer for liquids or fluids. Irvin E. Schoch, Damascus, Ill.
714052. Artificial leg and ankle joint. Sylvester E. Staggs, New York.
714067. Muscle-developer. Elndred Viko, Sioux Falls, S. D.
714124. Body brace. Joel U. Adams, Cincinnati.
714463. Exerciser. Matthew Duffner, Allegheny, Pa.
714477. Strength-testing machine. Henry Haenze, Pittsburg, Pa.
714305. Hernial truss. George R. House, Kansas City, Mo.
714309. Exercising apparatus for straightening the legs. Franz Langel, Cologne, Germany.
714342. Apparatus for treating diseases by vacuum and air pressure. Robert Watson, Washington, D. C.
715010. Hernial bandage or truss. Vincenzo Brocchi, Milan, Italy.
714785. Disinfecting apparatus. B. M. Davis, Los Angeles, and C. E. Cook, Whittier, Cal.
715052. Mouth and nose guard. Margaret B. Goodwin, Denver.
715112. Catamenial appliance. Theresa Minard, Scio, Ohio.
714738. Extracting syringe. Joseph R. Perry, Wilkesbarre, Pa.
714952. Applicator. Willard E. Robinson, Malden, Mass.
714850. Appliance for preventing neuresis. Carl Zimmermann, Heidelberg, Germany.
715331. Truss. Joel U. Adams, Cincinnati, Ohio.
715650. Electrical massage apparatus. Oscar A. En Holm, New York.
715661. Vaccinating tool. Elijah M. Houghton, Detroit.
715290. Device for cleaning hypodermic needles. George Porter, Manchester, N. H.
715426. Suturing instrument. David Schisgal, Vernon, France.
715701. Truss. Milton B. Smith, Holton, Kan.
715612. Wound closing device. Gerard J. Van Schott, Passaic, N. J.

The Public Service.

Army Changes.

Movements of Medical Officers, U. S. Army, under orders from the Adjutant General's Office, Washington, D. C., from Dec. 8 to Dec. 13, 1902:

Andrews, Charles H., major and surgeon, U. S. V., is honorably discharged from the service of the United States, to take effect Feb. 1, 1903, his services being no longer required.

Adair, George F., contract surgeon, U. S. A., is granted leave of absence for one month, to take effect Dec. 1, 1902.

Corbusier, William H., major and surgeon, U. S. A., is granted leave of absence for one month.

Moseley, Edward B., lieut.-col., deputy surgeon-general, U. S. A., is detailed as a member of the Army retiring board to meet at Denver.

Lewis, William F., captain and asst.-surgeon, U. S. A., is granted one month's leave of absence, to take effect when relieved from duty at Fort D. A. Russell, Wyoming.

Robins, Robert P., contract surgeon, U. S. A., now at Philadelphia, will proceed to Fort Niagara, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending December 20:

P. A. Surgeon T. D. Myers, retired, detached from special duty at Naval Hospital, Philadelphia, and ordered to the Navy Yard, League Island, Pa.

P. A. Surgeon E. Thompson, detached from the *Montgomery*, and ordered to duty with the marines at Culebra, W. I.

P. A. Surgeon H. H. Haas, detached from duty at Culebra, and ordered to the *Montgomery*.

Asst.-Surgeon S. S. Rodman, unexpired leave revoked, and ordered to the *Pensacola*.

Surgeon N. J. Blackwood, detached from the *Alliance*, and ordered to the *Chicago*, via steamer sailing December 27.

P. A. Surgeon C. DeW. Brownell, detached from the *Panther* and ordered to the *Alliance*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the 14 days ended Dec. 18, 1902:

Surgeon C. T. Peckham, granted leave of absence for 14 days from December 23.

A. A. Surgeon P. N. Barnesby, granted leave of absence, on account of sickness, for 30 days from December 10.

Asst.-Surgeon M. J. White, relieved from duty at San Francisco, and directed to proceed to Portland, Ore., and assume command of the service at that port.

Asst.-Surgeon D. H. Currie, to report to Surgeon A. H. Glennan, San Francisco, for assignment to duty.

A. A. Surgeon C. W. Bailey, granted leave of absence for 7 days.

A. A. Surgeon P. N. Barnesby, granted 9 days' extension of leave of absence from December 1.

A. A. Surgeon G. A. Gregory, granted leave of absence for 10 days from November 26.

A. A. Surgeon J. C. Rodman, granted leave of absence for 4 days from December 15.

A. A. Surgeon M. H. Ross, granted leave of absence for 14 days from December 21.

Medical Inspector Agnes Walker, granted leave of absence on account of sickness, for 15 days from December 1.

Pharmacist F. L. Brown, to proceed to Philadelphia, for special temporary duty.

Pharmacist W. F. Schlaar, to report to Assistant Surgeon-General G. T. Vaughan for temporary duty in office for the port of Washington, D. C.

BOARD CONVENED.

Board convened at Boston, Dec. 10, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

REINSTATEMENT.

W. F. Schlaar, reinstated and appointed senior pharmacist, effective Nov. 13, 1902.

PROMOTIONS.

To be pharmacist of the third class: E. M. Holt, C. W. Stephenson, G. W. Iltis, G. A. Morris, M. H. Watters, L. P. Hall, L. C. Spangler, F. Siedenburg, C. Stier.

To be pharmacist of the second class: A. M. Roehrig, J. Achenbach, G. H. Brock, E. S. Maguire, R. H. Gibson, T. V. O'Gorman, F. L. Brown, F. S. Goodman, Charles Miller, C. H. Woods, F. R. Hanrath, S. W. Richardson, J. V. LaGrange, M. McKay, M. Walerius, W. W. Kolb, G. C. Allen, F. H. Peck, Edw. Rogers, F. J. Herty, E. B. Scott, C. Slough, B. E. Holsendorf, L. W. Ryder, M. R. Mason, F. L. Gibson, C. G. Carlton, F. A. Southard, H. E. Davis, R. F. Troxler, J. E. Beck, W. F. Schlaar.

To be pharmacist of the first class: W. F. Macdowell, Henry Gahn, W. L. Stearns, A. M. Roehrig, G. H. Brock, R. H. Gibson, T. V. O'Gorman, F. L. Brown, F. S. Goodman, Chas. Miller, F. R. Hanrath, S. W. Richardson, J. V. LaGrange.

CASUALTIES.

Surgeon John Vansant, died Dec. 12, 1902.
A. A. Surgeon Joseph Charles, died Dec. 11, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended Dec. 20, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, Nov. 29-Dec. 6, 3 cases; San Francisco, Nov. 30-Dec. 7, 3 cases.
Colorado: Denver, Dec. 6-13, 9 cases.
Florida: Jacksonville, Dec. 6-13, 1 case.
Georgia: Atlanta, Dec. 3-10, 2 cases.
Illinois: Belleville, Dec. 6-13, 1 case; Chicago, Dec. 6-13, 4 cases; Freeport, Nov. 29-Dec. 13, 3 cases.
Indiana: Indianapolis, Dec. 6-13, 22 cases, 2 deaths.
Maine: Dec. 6-13, Biddeford, 4 cases; Portland, 1 case.
Massachusetts: Dec. 6-13, Boston, 21 cases, 2 deaths; Chelsea, 1 case; Lawrence, 2 cases; Malden, 1 case; Newton, 1 death; Taunton, 3 cases.
Michigan: Detroit, Nov. 29-Dec. 13, 68 cases; Grand Rapids, Dec. 6-13, 9 cases.
Missouri: St. Louis, Nov. 30-Dec. 7, 40 cases.
Nebraska: Omaha, Dec. 6-13, 3 cases.
New Hampshire: Nashua, Dec. 6-13, 20 cases.
New Jersey: Newark, Dec. 6-13, 1 case.
New York: Dec. 6-13, Binghamton, 1 case; Buffalo, 1 case; New York, 7 cases.
Ohio: Cincinnati, Dec. 5-12, 2 cases; Cleveland, Dec. 6-13, 11 cases, 5 deaths.
Pennsylvania: Altoona, Dec. 6-13, 14 cases; Erie, Dec. 6-13, 3 cases; Johnstown, Nov. 22-Dec. 13, 12 cases, 2 deaths; McKeesport, Dec. 6-13, 1 case; Philadelphia, Dec. 6-13, 4 cases, 2 deaths; Pittsburg, Dec. 6-13, 20 cases, 9 deaths.
Utah: Salt Lake City, Nov. 29-Dec. 13, 12 cases; 3 cases imported.
Washington: Tacoma, Nov. 30-Dec. 7, 1 case.

SMALLPOX—FOREIGN.

Canada: Quebec, Dec. 6-13, 1 case.
France: Rheims, Nov. 23-30, 1 death.
Great Britain: Bradford, Nov. 15-29, 38 cases; Dundee, Nov. 22-29, 2 cases; Manchester, Nov. 22-29, 1 case; Sheffield, Nov. 15-29, 9 cases.
India: Bombay, Nov. 11-18, 1 death.
Italy: Naples, Nov. 24-Dec. 1, 2 cases; Palermo, Nov. 15-22, 3 cases.
Mexico: Mexico, Nov. 23-30, 1 case, 1 death.
Russia: Odessa, Nov. 15-22, 2 cases, 1 death; St. Petersburg, Nov. 15-22, 7 cases, 2 deaths.
Straits Settlements: Singapore, Oct. 25-Nov. 1, 2 deaths.
Uruguay: Montevideo, Oct. 23-30, 11 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, Nov. 1-8, 4 deaths.
Colombia: Panama, Dec. 1-8, 5 cases, 2 deaths.
Costa Rica: Port Limon, Nov. 29-Dec. 6, 4 cases, 3 deaths.
Mexico: Tampico, Nov. 30-Dec. 7, 18 deaths; Vera Cruz, Nov. 29-Dec. 6, 12 cases, 3 deaths.

CHOLERA.

China: Hongkong, Oct. 18-25, 1 case, 1 death.
Egypt: Alexandria, Nov. 8-22, 39 cases, 35 deaths.
India: Calcutta, Nov. 8-15, 24 deaths.
Straits Settlements: Singapore, Oct. 24-Nov. 1, 19 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Nov. 1-8, 5 deaths.
China: Hongkong, Oct. 18-25, 1 case, 1 death.
Egypt: Alexandria, Nov. 8-22, 1 case.
India: Bombay, Nov. 11-18, 134 deaths; Calcutta, Nov. 8-15, 6 deaths.
India: Karachi, Nov. 9-16, 10 cases, 6 deaths.
Straits Settlements: Singapore, Oct. 25-Nov. 1, 1 case, 1 death.

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Original Articles.

TUBERCULAR PERITONITIS

IN EARLY LIFE: WITH ESPECIAL REFERENCE TO ITS TREATMENT BY LAPAROTOMY.*

THOMAS MORGAN ROTCH, M.D.

PROFESSOR OF DISEASES OF CHILDREN, HARVARD UNIVERSITY. BOSTON.

The clinical differentiation of cases of tuberculosis of the peritoneum in early life, based solely on the pathologic findings, is inadequate for a satisfactory decision, first, as to diagnosis, second, as to etiology and treatment.

It has long been known that in certain cases of tubercular peritonitis laparotomy has proved to be curative, where all other means of treatment have been ineffectual. The reason why the laparotomy is in these cases successful is not definitely known.

Tuberculosis of the peritoneum, from an etiologic standpoint, is often obscure, but it may be a primary infection. Most commonly, however, it is secondary to tuberculosis of the mesenteric lymph-nodes. Again, it may be secondary to tuberculosis of other organs, such as of the intestines, of the lungs or of the lymph-nodes in various parts of the body. It may arise in the course of various infectious diseases, especially the exanthemata. From a pathologic point of view, the process consists of the formation of miliary tubercles on the peritoneum, which give rise to opaque cheesy thickening, often nodular, and with firm adhesions of the adjacent surfaces. This pathologic condition may or may not be accompanied by an exudation into the peritoneal cavity; the ascites may be serous, sero-purulent or purulent in character and of different amounts, but the amount of fluid when any is present is usually considerable.

Again, from a pathologic standpoint, we may practically speak of three forms, first, a miliary tuberculosis with ascites acute or subacute in its course. Second. A fibrous form in which ascites may be, but is not usually present. This second form is essentially chronic, and is represented by the formation of a fibrous tissue with matting of the intestine, the omentum and the mesentery, without much tendency to caseation or to breaking down. Third. A later stage of the form just described, in which there occurs large tubercular deposits with caseation and softening. This form has by some pathologists been called the ulcerative, and in it the lungs are commonly affected. It is not so chronic as the fibrous form, but is characterized by more fever and more severe symptoms.

In view of the difficulty in determining clinically the various types just enumerated we must consider certain questions: 1. The diagnosis of the presence of a tuberculosis of the peritoneum. 2. The detection of which pathologic form is present. 3. Whether the tuberculosis of the peritoneum is localized and is not complicated by tuberculosis elsewhere (this practically means outside of the abdominal cavity), or is secondary to tuberculosis of the thoracic cavity. 4. Which of these forms of tuberculosis of the peritoneum are amenable to treatment? Finally, 5, under what circumstances and in what cases should laparotomy be performed?

The answers to these questions must be, it is acknowledged, somewhat uncertain. It is only in a general way that, with our present knowledge, we can determine clinically whether a laparotomy should be performed. The finer details, both pathologic and symptomatic, although interesting at the autopsy in the light of advancing our knowledge of the subject, are clinically of little practical value in comparison with the importance of differentiating the operable from the inoperable cases.

With this general statement we must now consider how we can solve the various questions which have just been enumerated, and finally, we must determine whether we shall or shall not operate in a given case. My views on this subject are based on a study of those cases of tubercular peritonitis in early life which have occurred at the Infants' Hospital and at the Children's Hospital during the last eighteen years, and a table of these cases will be given later.

The symptoms in infancy and early childhood of tuberculosis of the peritoneum are so varied, unsatisfactory and obscure that it is of great importance first to determine whether the case is tubercular or not, and next whether the tuberculosis is of the peritoneum, lung, lymph-nodes or any other part of the economy.

In many cases the physical examination fails to give us this knowledge, and if the temperature is irregular and much raised, as 102, 103 or 104, it will often be impossible to determine this question decisively. If, however, the temperature is moderate, 99 to 100 or 101, and keeps fairly regular within these bounds, we can with decided benefit use the tuberculin test. Although it can not at present be said that a tuberculin reaction will take place in every case of tuberculosis in infants and children, yet it is of value when it occurs, although its negative evidence is not decisive.

After having made ourselves fairly sure that tuberculosis is present, it should next be decided, if possible, whether the tuberculosis exists elsewhere than in the abdominal cavity. This in early life is often exceedingly difficult, as there may be a tubercular process in the thoracic cavity, either of the bronchial lymph-nodes or of the lung itself, without physical evidence, the sputum

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

in these cases often being impossible to obtain. A swab, however, for culture should be taken from the esophagus, and will in some cases reveal the presence of the tubercle bacillus, which otherwise would not have been detected. The examination of the blood in reference to leucocytosis is of very little diagnostic value, as leucocytosis may or may not be present.

An examination of the urine for tubercle bacilli should be made in cases where there is evidence of renal or vesical disturbance. All these examinations, when they have failed to give results, are merely negative evidence and are simply to be used as additional factors in the problem which is being solved. If the bacilli are found from the swab, or in the urine, this would be so much evidence in favor of there being tuberculosis in some part of the lung or in the genito-urinary tract in addition to the possible presence of tuberculosis of the peritoneum.

There are certain facts connected with the age of the individual which aid us in making a practical clinical classification, and which are worthy of great consideration.

Tuberculosis of the peritoneum may occur both in infancy and in childhood, but those forms which show a marked inflammatory condition, either with or without ascites, are more common in children than in infants. In infants, on the other hand, it is more common to have a miliary tuberculosis of the peritoneum in the course of a general tuberculosis which does not as a rule show abdominal symptoms. In children, again, the peritoneal inflammation may be so localized as to constitute a disease of itself, and this is so marked that this phase of the disease and this stage of the development of the individual constitutes what, for want of a better name, is called "chronic tubercular peritonitis," and it is this chronic tubercular peritonitis occurring in individuals most frequently from 1½ to 4 years of age which can be treated as a disease per se, and which gives us the largest percentage of recoveries from tubercular peritonitis by means of laparotomy.

We can therefore state that, provided we have a localized tubercular process in the peritoneum which is chronic in its course, that it is this class of cases which should be treated by laparotomy. In this class of cases, however, certain forms give a better prognosis than others. The most favorable form for treatment by laparotomy, is where the first pathological form described above is present, that is, miliary tuberculosis of the peritoneum with ascites; while the less favorable form for laparotomy is that which we have spoken of above as the fibrous form, and the prognosis in this fibrous form seems to be more favorable if ascites is present than if ascites is not present.

Here again I would draw attention to the fact that while in early chilhood after the first year this miliary tuberculosis of the peritoneum is the most favorable form for laparotomy, yet on the other hand laparotomy is seldom of avail during the first year of life, as miliary tuberculosis of the peritoneum in early infancy is usually part of a general tuberculosis and therefore can not be benefited by laparotomy owing to the activity of the tubercular process elsewhere.

Given, then, the opinion in a special case that tuberculosis of the peritoneum is present, we first consider the age in determining whether laparotomy should be performed. If the patient is under one year, although as a last resort we may operate, it does not have the same favorable prognostic significance as at a later period. Moreover, we can expect a more favorable result from laparotomy when ascites is present, as the presence of ascites usually shows a less advanced and more active process than when it is not present, as is often the case in the fibrous form, which has been stated to have a less favorable prognosis.

If by means of physical examination we have made up our minds that we probably have a localized fibrous form to deal with, the opinion being based on the detection of masses large and small in the abdomen, without evidence of fluid, even then it is better to operate than to run the risk of the child dying of exhaustion, provided we find no evidence that tuberculosis exists outside the abdominal cavity.

In the third or so-called ulcerative tuberculosis of the peritoneum it is usually evident on physical examination that there is tuberculosis elsewhere than in the abdominal cavity, the probability being that it is in the bronchial lymph-nodes or lungs, and that the tubercular peritonitis in this instance is secondary to a thoracic tuberculosis, and therefore, as a rule, can not be benefited by laparotomy.

The primary forms, on the contrary, had much better always be operated on, even when the infection is secondary to a tubercular mesenteric lymph-node, for the removal of such node or nodes is indicated and in such cases there is a fair chance for a radical cure of the general tubercular infection of the peritoneum.

I have had cases in which a child who was failing in appetite, losing in weight and strength, and having a heightened temperature, and in whom a tubercular mesenteric lymph-node was detected on physical examination, completely recovered after removal of the tubercular node, and in whom after a number of years, at least five or six, there was no return of the disease.

There have, of course, been cases of tubercular peritonitis which have recovered spontaneously, but the fact that this result can occur does not indicate, as has been suggested by some writers, that we should not operate but should wait and see whether such spontaneous recovery would take place.

The danger of a localized tubercular peritonitis, which we know can get well, becoming disseminated and thus producing a general tuberculosis or a local tuberculosis of the lung or brain, is undoubtedly a great one, and knowing that if this dissemination does take place the child will in all probability die, it seems much more reasonable to operate before such dissemination has taken place than to wait until it is too late. It is also well known that, first, in individual cases of localized tuberculosis we are unable to say whether such cases will recover spontaneously or will become a general tuberculosis, and second, that an exploratory laparotomy, when performed by an expert, is known to be of little danger, especially in the earlier stages of the disease when the child has not yet become markedly reduced in strength and vitality.

Is it not better, then, to give the child the benefit of the chance, and when we are reasonably sure that tubercular peritonitis is present in a child over one year of age, and when there are no evident signs of tuberculosis elsewhere, or possibly only in the mesenteric lymph-nodes, is it not better to make an exploratory laparotomy at once?

At a meeting of the American Pediatric Society, held in Boston on May 27, 1902, I presented[1] 6 cases of tubercular peritonitis in which laparotomy had been performed and complete recovery had taken place. These

1. Reviewed in THE JOURNAL A. M. A., Oct. 18, 1902, ¶70, p. 1009.

cases were only 6 out of the 20 cases which have been operated on and recovered in our service at the Children's Hospital. [The other 18 cases lived at too great a distance to be brought to Boston.] I also found in our service at the Infants' Hospital during the same period only one case of tubercular peritonitis. This case died, and proved to be one in which the tubercular peritonitis was part of a general tuberculosis, thus exemplifying what I have already said, that tubercular peritonitis in the first year of life is rare as a primary disease, and is almost invariably part of a general tuberculosis.

I wish to acknowledge the courtesy of my colleagues at the Children's Hospital for allowing me to report those cases which happened to occur in their respective services.

During a period of 18 years, from 1884 to 1902, the total number of cases admitted to the Children's Hospital in which the diagnosis of tubercular peritonitis seemed reasonably certain was 69. Of this number 39 were boys and 30 were girls.

The relative occurrence at the different ages showed the condition to be extremely rare in the early months of life, the youngest case recorded being 14 months. After the first year and a half of life the disease was found to become frequent and was most common between 2 and 4 years, after which it was of only occasional occurrence. The influence of age to the disease is seen in the following table: One to 2 years, 11 cases; 2 to 3 years, 17 cases; 3 to 4 years, 14 cases; 4 to 5 years, 9 cases; 5 to 6 years, 4 cases; 6 to 7 years, 3 cases; 7 to 8 years, 1 case; 8 to 9 years, 5 cases; 9 to 10 years, 1 case; 10 to 12 years, 4 cases.

The average duration of the symptoms before the child entered the hospital was about three months. The statements made by the mother were often indefinite. Usually the first thing noticed was the gradual and increasing distention of the abdomen, which was present in nearly every case except those which began as tubercular meningitis. Occasionally the swelling appeared to come on quite acutely, sometimes following a blow or fall, and at times rapidly increased. The course was usually chronic, sometimes dating back a year or even more, and associated with failing health and loss of weight. In many cases rhachitis is mentioned as being present, but the hospital records were not sufficiently explicit on this point to be of much value. Distention of the abdominal veins was recorded in 3 cases only.

FAMILY HISTORY.

There was a family history of tuberculosis in 20 cases, representing 30 per cent. This, however, bears no relation so far as the statistics are concerned to the death rate.

GENERAL SYMPTOMS.

Abdominal tenderness was generally absent, and if present was rarely severe. The movements of the bowels, so far as recorded, were not significant, loose movements and constipation alternating, and one being about as frequent as the other. Even in the cases in which an autopsy subsequently showed the presence of tubercular ulcers of the intestines, there was, as a rule, nothing especially characteristic or suggestive noted in the discharges.

SPECIAL SYMPTOMS.

The temperature was irregular and, as a rule, elevated, although in some cases it was only slightly above normal, and at times was normal or even subnormal.

The pulse was usually accelerated, its rate varying between wide limits.

The respirations also were generally accelerated, and varied between wide limits.

There were records of white blood counts in only 23 of the 69 cases. These counts showed an average leucocytosis of 16,435, the lowest count being 5,400, the highest 44,000. Counts of 15,000 to 20,000 were frequent. In certain of the cases, but by no means in all, the leucocytosis could be explained by coexisting inflammatory changes. So far as this series of cases is concerned, we must admit that the presence or absence of leucocytosis is of very little value in either the diagnosis or the prognosis of tubercular peritonitis in children.

An analysis of this series of 69 cases in reference to the mortality gives the following result:

In Series 1, number of cases dying in the hospital, without operation, 20, or 29 per cent.; after operation, 12; total number of deaths occurring in the hospital 32, or 46.3 per cent.

In Series 4, total number of cases discharged without operation, 17, or 24.7 per cent.

Of the 32 cases operated on the results were:

In Series 3, recovering from operation and discharged to parents, 20, or 62.5 per cent.

In Series 2, dying in the hospital after operation, 12, or 37.5 per cent.

In the analysis of the four series of cases, into which the 69 cases are naturally divided, I have made use of the following signs:

* = Cases in which autopsies were obtained.

+ = Definitely stated to be present, or reasonably inferred to be present from the data given in the records.

+? = Not definitely stated to be present, but probably present by inference.

? = Data not sufficient to justify one in affirming or denying the point in question.

0 = Definitely stated to be absent or negative.

— = Not definitely stated to be absent or negative, but presumably absent.

The Arabic numerals are the numbers of the cases.

SERIES 1.—Cases Dying in the Hospital Without Operation.

Number of Case.	*3	*6	*7	*8	*11	14	*15	*22	*23	*24	*25	*28	*29	*33	*35	1 40	*43	*45	*46	*57
1. Presence of fluid.	0	0	0	0	0	0	+	0	+	0	—	—	+	0	0	+	0	—	-	—
2. Abdominal distention.	0	+	+	0	+	+	+	0	+	+	+	+	+	0	0	+	0	+	+	+
3. Intestinal adhesions.	—	+	0	—	—	?	+	+	+	+	+	—	+	—	—	?	+	+	+	+?
4. Tub. of mesentery or mesenteric nodes or both.	+	+	0	+	+	?	+	+	+	+	+	?	+	+	+	?	+	+	+	+
5. Thick'ni'g of peritoneum	—	+	0	—	-	?	+	+	+	+	+	?	+	?	—	?	+	+	+	+?
6. Miliary tubercle of peritoneum	+	+	+	—	?	?	+	+	+	—	+	+	+	+	+	?	+	+	+	+
7. Miliary tubercles of liver, spleen, kidneys or all	+	+	+	—	+?	?	+	—	+	—	+	+	+	+	+	?	+	+	+	?
8. Tuberculosis of lungs or pleuræ.	+	+	+	+	—	—	+	+	+	+	+	+	+	+	+?	?	+	+	+	+
9. Tub. of meninges or brain or both	+	+	+	+	—	—	—	—	+	+	—	—	+	+	+	+	+	+	+	—
10. Enlarged lymph nodes, cervical, axillary, inguinal or bronchial	+	+	+	—	—	+	+	+	+	+	+	+	+	+	+	—	+	+	+	—
11. Tuberc'l'r ulcers of intestines	?	+	—	+	+	?	+	+	—	+	+	—	—	+	—	—	+	+	+	—

1. Complicated by diphtheria (?).

Of the cases in Series 1 autopsies were obtained in 18, in which not one showed the lesions of tuberculosis to be limited to the peritoneum and mesenteric lymph nodes. Eleven cases showed tuberculous ulcers of the intestines, but their presence could not have been diagnosticated from the clinical symptoms recorded. Seventeen cases showed some tuberculous lesions of the lungs. Twelve cases showed tuberculous lesions of the brain or meninges.

SERIES 2.—Cases Dying in the Hospital After Operation.

Number of Case.	16	19	38	*39	*47	50	51	56	58	61	65	2 68
1. Presence of fluid	0	+	+	+	+	0	+	0	+	+	+	+
2. Abdominal distention	+	+	+	+	+	+	+	+	+	+	+	+
3. Intestinal adhesions	+	+	−	?	+	?	+	+	+	+	0	+
4. Tuberculosis of mesentery or mesenteric nodes or both	+	+	−	?	+	+	+?	+	+	+	−	+
5. Thickening of peritoneum	+	+	−	?	+	?	+	+	+?	+	0	+
6. Miliary tubercles of peritoneum	+	+	+	+	+	?	+	+	+	+	0	+
7. Miliary tubercles of liver and spleen	?	−	−	?	+	?	?	?	?	?	?	?
8. Tubercles of lungs or pluræ	+?	−	−	?	+	−	−	−	−	−	?	+?
9. Tuberculosis of brain or meninges	−	−	−	?	−	−	−	−	−	−	−	−
10. Enlarged lymph nodes, cervical, axiliary, inguinal or bronchial	−	−	−	?	−	+	+	−	−	+	+	−
11. Tuberculous ulcers of intestines	. .	.	.	.	+	.	.	.	.	.	.	.
12. Tuberculin reaction	.	+	.	.	+	.	.	.	.	.	.	.
13. Pathologic exam. of tissue removed	.	.	.	.	+	.	+	.	.	+	.	.

2. Complicated with general septic peritonitis and intestinal perforation.

Six of the 12 cases of Series 2 (i. e., 16, 19, 47, 51, 56, 69) were on incision of the abdominal wall found to be practically inoperable, owing to the extensive adhesions of the intestines to each other and to the abdominal wall. Four of the above-mentioned cases had fluid in addition to the adhesions.

SERIES 3.—Cases Operated on and Discharged Temporarily Relieved.

Number of Case.	5	9	10	3 13	4 20	26	37	41	3 42	44	48	49	52	55	59	60	3 63	3 66	67	69
1. Presence of fluid	−	0	0	−	+	+	+	+	+	0	0	+	+	+	+	+	0	+	+	+
2. Abdom. distention	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3. Intest. adhesions	+	+	−	+	−	+	−	−	+	−	+	−	?	+	+	+	+	+	−	+
4. Tub. mesentery, mesenteric lymph nodes, or both	+	+	+	.	−	+	−	+	+	?	+	+	−	?	+	+?	+	+	?	+
5. Thickeni'g of peritoneum	+	+	+	+	−	+	−	−	+	?	+		+	?	+	+	+	+	?	+
6. Miliary tubercles of peritoneum	+	−	+	?	+	+	−	−	+?	+	+	+	+	?	+	+	+	+	+	+
7. Miliary tuber. of liver and spleen	−	−	−	?	−	?	-	+	+?	?	?	?	?	?	+	?	?	?	?	?
8. Tuberculosis of lungs or pleuræ	?	?	−	?	−	?	?	?	−	−	−	−	−	−	−	−	−		−	−
9. Tub. of brain, meninges or both	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−
10. Enlarged lymph nodes in neck, axillæ or groin	+	−	+	+	−	+	+	−	−	−	+	+	−	−	+	−	−	−	−	−
11. Pathol. diagnosis from specimen	+	0	+	.	.	.	.	.	.	.	+	.	.	.	.	+	+	.	.	+
12. Condition when discharged	Good.	Improved.	Improved	Poor.	5	Good.	Excellent.	Nearly well.	Not relieved.	Relieved.	Fair.	Good.	Good.	Good.	Good.	Good.	Not improved	Not improved	Good.	Good.

3. Discharged not relieved. Incision abdominal wall. Further operation made impossible by universal intestinal adhesions.
4. Complicated with ovarian cyst.
5. Relieved, recurrence. Discharged because of pertussis.

SUMMARY.

A summary of the cases in Series 3 shows that the condition when discharged was the same or worse in 5 cases, or 25 per cent. In 4 (Nos. 13, 42, 63, 66) of the 5 cases intestinal adhesions prevented successful operation, although in 2 cases some fluid was present. Extensive adhesions, therefore, are shown by this limited number of cases to be a distinctly unfavorable condition. The condition in the remaining case was not stated at the time of its discharge. That is, of the 5 cases operated on in Series 1, 2 and 3 in 5 per cent. it was impossible to learn what the condition was at the time of the child's discharge.

A limited number of adhesions did not apparently affect the results of the operation, as they were present in six of the fourteen satisfactory results. The report of the operation in a number of cases failed to give information as to the extent of the adhesions found at the operation. Satisfactory results were obtained in cases numbered 9, 10, 44, 48, in which no fluid was present. Therefore, the absence of fluid does not preclude an immediately successful result.

The presence of fluid with few or no adhesions, and with the absence of tuberculosis elsewhere would seem to be the most favorable class of cases for operation.

The analysis of these 69 cases, therefore, shows that tuberculosis of the mesenteric lymph-nodes does not preclude a successful result. Also, that inasmuch as the presence of palpable masses and the absence of fluid does not preclude a successful operation, and inasmuch as the degree of intestinal adhesions can only be surmised before operation, laparotomy would seem to be indicated in all cases of tubercular peritonitis, provided (1) that the general condition of the patient permits it, and (2) that there is an absence of evidence of cerebral, pulmonary or extensive glandular or bone tuberculosis.

The presence of tuberculous ulcers of the intestines is obviously an unfavorable condition for operation, but in many cases they cannot be diagnosticated by the clinical symptoms.

Of the above 20 cases operated on and discharged relieved, 13 have been traced and the results known up to the present date, June, 1902. Of these 13 cases 11 are to-day well, 2 have died and one is undergoing a relapse. The final results of the operations to date may be seen in the following table:

Case 5 died 7 months after operation.
Case 9 is well 2 years after operation.
Case 10 is well 2 years after operation.
Case 13 is well 4 years after operation.
Case 20 is well 5 years after operation.
Case 37 is well 9 years after operation.
Case 44 was well for one year, but is now undergoing a relapse.
Case 49 is well 3 months after operation.
Case 52 is well 2 years after operation.
Case 59 is well 3 years after operation.
Case 60 is well 2 years after operation.
Case 66 died 4 months after operation.
Case 67 is well 3 months after operation.

Of these 13 cases, which ultimately recovered, 2 (Nos. 13 and 66) were in poor condition when discharged.

Of the 7 cases, the ultimate results of which we could not trace, all but 2 were in excellent condition when discharged, and inferentially were permanently benefited by laparotomy.

SERIES 4.—Cases Discharged from Hospital Without Operation and Against Advice.

Number of Case.	1	2	4	12	17	18	21	27	30	31	32	34	36	53	54	62	64
1. Presence of fluid	+	+	?	+	?	+	0	0	?	+	0	0	0	?	0	0	0
2. Abdominal distention	+	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3. Palpable masses in the abdomen	.	+	+	−	−	−	+	−	+	+	+	?	+	+	+?	−	−
4. Enlarged lymph nodes neck, axillæ or groin	−	−	+	−	+	+	+	−	−	−	−	+	−	−	−	+	+
5. Probable tuberculosis elsewhere	.	?	?	?	6 +?	6 +?	? ?	? +?	6? ?	?	?	9 +?	7 +?	8? 8?	−	8? +?	?
6. Tuberculin reaction	?	?	?	?	Not relieved.	Not relieved.	Relieved.	Relieved.	?	Much relieved.	Relieved.	?	?	Slightly relieved.	?	N t relieved.	Not relieved.
7. Condition at discharge	Slightly relieved.	Relieved.	?	Improved.													

6. Lungs. 7. Lung. 8. Kidney. 9. Ankle.

In this series there were 17 cases, in 10 of which there was more or less evidence of tuberculosis elsewhere. Eight cases (Nos. 1, 2, 4, 12, 31, 32, 34, 64) were operable, and of these 8, 4 refused operation. In the remaining 9 cases there were strong indications against operation.

Of these 17 cases 9 were discharged relieved, but the data as to the exact condition of the patient when discharged is not satisfactorily stated.

Of the above series only 5 could be traced, and of these all are alive (Nos. 12, 17, 32, 53 and 64).

Before ending this paper I wish to recognize the laborious and exact work done by Dr. Maynard Ladd,

who has carefully gone over the records of all these series of cases and arranged them as I have presented them to you.

DISCUSSION.

DR. J. M. DODSON, Chicago—A point of interest is the use of tuberculin for diagnostic purposes, not only in tubercular peritonitis, but in suspected tuberculosis of the lymph nodes. There is, fortunately, a reaction from the disappointment experienced in the early history of the use of this agent. Its immense value and perfect safety when used under proper conditions are now beginning to be recognized. In a condition like tubercular peritonitis, where the diagnosis is often so obscure, its great value is, of course, evident.

There is another remedial measure which holds out, it seems to me, some promise, i. e., the use of the *x*-ray. In a number of cases of tubercular peritonitis in adults in the Presbyterian Hospital in Chicago, the *x*-ray has been used with very gratifying results. There has been a subsidence of tenderness and pain, and a disappearance of the effusion and of the fever. It is too early to say whether the relief will be permanent or not. Theoretically, we have much reason to hope that the *x*-ray may prove of use in the more deeply-seated tubercular affections. By whatever means it may produce its effects in cutaneous tuberculosis or lupus, the good it has done can not be denied. It is a remedy, moreover, which, with the more recent apparatus and methods, can be employed with safety, and utilized in children and even in infants with safety, if care is taken as to exposure and adjustment of the apparatus. I would, therefore, suggest the use of the *x*-ray, especially in those cases in which operation is contraindicated.

DR. MARGARET T. SHUTT, Springfield, Ill.—I was engaged some time ago in making blood counts in a child. There was a leucocytosis of 30,000 in addition to a marked anemia. It was a rather acute condition, and there was present a tumor on the right side. The diagnosis was in doubt because of the regularity and size of the tumor, until at operation it was found that the tumor was composed of matted intestines and omentum and large tubercles. It was supposed, because of the size of the tubercles, that no good would result from the operation, but when I last heard of the child, about twelve months later, it was apparently perfectly well. In another recent case of miliary tuberculosis in a child of ten I made a blood count, and found no leucocytosis, but a marked anemia. That case has not yet been operated on.

A CASE OF PROGRESSIVE IDIOPATHIC ATROPHY OF THE SKIN.*

A. RAVOGLI, M.D.

CINCINNATI.

Progressive atrophy of the skin is an affection of great importance on account of the causes producing it and the conclusions which we can derive therefrom. Cases of this affection have been reported by Buchwald, Touton, Colombini, Elliott, Bronson, Pospelow, Neuman, Ohmann-Dumesnil, Popoff, Jadassohn, Unna, Krzysztalowicz and others. In some of the cases the morbid process producing atrophy of the skin was known, in others it was perfectly obscure. From the study of all the reported cases Unna gave his classification of the atrophies of the skin as idiopathic and deuteropathic, calling idiopathic the cases where the skin is primarily affected, without progressed morbid process, and deuteropathic the cases of atrophy where the skin falls into atrophy secondarily on account of a tubercular, syphilitic or other process which has damaged its stroma.

Our case belongs to the first group, the affection occurring primarily on the skin. The idiopathic atrophies are also distinguished as limited and diffused, and our case belongs to the second. Although in general the causes of the atrophy of the skin are obscure, yet the authors unanimously agree that the atrophy of the skin is the consequence of a disturbance of the innervation. The affection of the nervous system in these cases has a disturbing influence on the trophic nerves, and the skin in consequence falls in an atrophic condition. Before proceeding to the study of the action of the trophic nerves and to the cause of their disturbance, it is better to call our attention to the results of the atrophic process on the tissues of the affected skin, to be able to find out the pathologic alteration, which may clear up somewhat the process from which they are derived.

The case under consideration is of more interest because an autopsy could be held.

Flora F., 18 years of age, was admitted into the city hospital under the neurologic service, and I thank Dr. Hoppe for permission to use the history of the case. She was brought to my attention on account of the peculiar condition of her skin.

Her mother is living and is a strong woman in good health. Her father died some years ago, they claim from consumption.

Personal History.—The patient was four feet and ten inches tall, of poor and meager development. Three years ago she claimed to have had typhoid fever, and from that time she discovered the atrophic condition of the skin. She has always been a weak and delicate girl; she attended school, but stopped, as the work was too hard for her. She often had fainting spells. Lately her condition grew worse, she got dizzy and fell without losing consciousness. She could not walk without help, had an ataxic gait, and was constantly leaning on the left side. If the support was taken away from her she fell toward the left.

Examination.—From the photograph it appears that she had a mask-like countenance, the eyes large and staring, bulging and expressionless; both pupils were dilated, but the right more so; the left eye was somewhat convergent; the pupils did not respond to the light.

With the ophthalmoscopic examination was found edema of the optic disc, with some exudation around spreading to the retina for a short distance. The veins were swollen and tortuous, the arteries reduced in size, the same in both eyes. From the ophthalmoscopic finding was made the diagnosis of double, optic neuritis. The external rectus of the left side was paralyzed. At times she suffered with headache. Her grip was very weak, the knee-jerk exaggerated on both sides, no ankle clonus. Plantar flexion bilateral.

Her skin was somewhat white and anemic all over the body, but thin and soft. It showed white superficial scars, like patches, which reminded one of the appearance of mussed cigarette paper (Pospelow), thin and atrophic. One round scar the size of a five-cent piece was one inch above the left eye, and another on the left side of the forehead at the hair line. The largest scar occupied in a semicircular course the right side of the chest, beginning at the jugular region, running down to the right breast one and one-half inches below the nipple, from there around the axilla of the same side covering the whole shoulder to the apex of the scapula, then extended to the whole right arm and forearm, stopping at the wrist. On the left arm a circular scar of the same character was on the elbow, on its extension surface, five inches in length. Another large round scar was seated on the internal surface of the left thigh, oval in shape, seven inches in length. Two other round scars were on both knees on the extension surface.

All the cicatricial areas had a peculiar dull pearl-white color, glistening in places, smooth in others, showing small holes or indentations as if honeycombed, or small cicatricial string-like elongations. It could not easily be raised in folds and when raised remained folded for a while, like parchment paper. The whole cicatricial surface did not show the underlying blood vessels; it seemed destitute of pigment, lanugo hair could not be found, no desquamation was ever seen. On the periphery of the affected skin round, reddish-brown erythe-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

matous spots were found, which lasted only a few days, leaving the skin in the already described condition.

In the atrophic skin of the arm a yellowish-green patch, result of a contusion, was observed, which the patient referred to a fall on her arm in attempting to walk. She felt no pain on the affected skin and would have scarcely noticed it except for its appearance. The atrophy of the skin began some three years ago at the time when she claimed she had typhoid fever, and progressed gradually to the present condition. The muscles of the affected arm were weak and she could move it with difficulty. The sensibility in the cicatricial areas was somewhat benumbed. Two test tubes, one filled with hot water and the other with ice water, were applied on the scar surface and there was some hesitancy in distinguishing which was the hot and which was the cold. When tried with the head and with the point of a pin, on the cicatricial areas, she could not distinguish them as she did on the normal skin. The sense of pain was still maintained, although somewhat benumbed.

The condition of the patient grew gradually worse, at times she became delirious, at times she fell in a stupor, regaining consciousness again, and died April 26, this year.

Autopsy.—The postmortem was held on the same day by the neuropathologist of the hospital, Dr. David Wolfstein. The limited time does not allow me to give a full report of the alterations which were found in the different organs. I will only mention that in the liver were found deep cicatrices, extending to the parenchyma, and also some grayish-pink nodules around its surface. The spleen was greatly enlarged, swollen, friable and congested. The interesting alterations were all in the brain. Dura normal, pia mater showed a fibrous thickening near the longitudinal fissure. Under the right frontal lobe in the orbital surface a gumma was found the size of a walnut, and in the same place in the median line a small-sized gumma confined to the gray matter. Another gumma was found in the right caudate nucleus extending back to the internal capsule. A large gumma was found in the temperosphenoidal lobe, which showed a marked area of softening. On the base of the brain the third nerve was covered with a gelatinous translucent mass, but the nerve appeared healthy. Some gelatinous mass was collected on the upper part of the right optic tract pressing on the right middle cerebral artery. Some infiltration was marked on the right surface at the junction of pons and medulla. Imbedded in this mass was the right sixth nerve, the basilar and the cerebral artery, the seventh and eighth nerves. On the left side another gummatous production was found on the exit of the fifth nerve, and in the middle pedicle of the cerebellum. Spinal cord was normal.

The report of the pathologic alterations which were found especially on the base of the brain show the interesting rôle of the nervous system in the nutrition of the tissues and consequently the production of the atrophy of the skin.

The experiments begun by Claude Bernard, continued by Ludwig, Thicq, Owsjannikow and Dittmar have established the presence of a vasomotor center, which is placed at the point of the calamus scriptorius, extending to the corpus trapezoides as a place very rich in multipolar gangliar cells. Any irritation produced on this point causes the constriction of the arteries of the whole body, and in consequence increasing of the blood pressure. And, on the contrary, a cause producing paralysis of this center causes dilatation of all arteries and consequent diminution of the blood pressure. The gangliar cells which are in the fourth ventricle, according to Onuf and Collins, originate sympathetic fibers. From this vasomotor center the vasomotor fibers proceed together with motor and sensitive fibers through the internal capsule toward the pons to the center of the vasomotor nerves, the medulla oblongata.

In this case it is clear that the pressure produced over the cells of the vasomotor nerves has been the cause of the atrophy of the skin. Weir Mitchell found that on cutting the nerves through the perspiration and the secretion of the sebaceous matter of the skin stopped entirely, while on cutting the nerves partially the secretion and the perspiration continued, and in some cases a glossy skin appeared. In some cases of traumatic neuritis Cassirer found hyperhydrosis in the corresponding regions where a glossy skin existed and yet the motor and sense functions were maintained.

We can say that the idiopathic atrophy of the skin is in most of the cases the result of a trophoneurotic alteration, which may be the result of an affection of the vasomotor center, as in the present case, or from peripheral affection of the nervous ramifications or of the nervous ganglia. A trophoneurotic affection is constantly accompanied by other alterations of sensibility and also of stasis in the blood vessels.

The influence of the trigeminus in the nutrition of the epidermis was demonstrated by the experiments of Gaub, who found that after cutting this nerve between its origin and the ganglion Gasseri in the epidermis, there were developed necrotic patches, and in other places epidermic growths.

Returning to our patient, she never complained of any pain, and she would have scarcely noticed the affection except for its appearance. It is interesting to recollect that the muscles of the affected arm were weak and the sensibility partially maintained.

During her life I removed a small piece of the affected skin, near the edge of the atrophic patch, which was treated in 4 per cent. formalin solution, hardened in alcohol and stained by different processes.

The course, the clinical symptoms and the pathologic alterations of the skin show that the affection is the result of an inflammatory process of a trophoneurotic origin, which soon causes atrophy and sclerotic condition of the tissues of the skin. In my specimens I was able to find a discrete small cell infiltration in the layers of the derma in the papilla and surrounding the glands, as was found by Buchwald, Jadassohn, Colombini and also between the collagenous fibers as found by Neuman. Unna and Huber found the plasma cells, which I could find in my specimens, together with enlarged connective tissue corpuscles between the collagenous fibers. The superficial layer of the derma is the place where the infiltration is found most abundant. The connective tissue fascicles as noted by Krzysztalowicz are thickened and hypertrophic; they run like waves, reminding one of the structure and disposition of the fibers in keloid. The same thickened condition of the fibers can be seen in the flattened papillæ, where I could find some large cells in a hyalin degeneration. The elastic fibers seem to be somewhat diminished, and this observation is confirmed by those of Heuss and others who have found them in an atrophic condition. In some places the papillæ are flattened, in others elongated and in a triangular shape.

The epidermis is greatly changed, the stratum corneum in some places is much thinner on account of the flattening of the epidermic cells, which form a kind of dry thin lamellæ. But in some places it is somewhat thickened, as can be seen in Figure 1, and as was found in the case described by Pospelow. Neuman in his case described the horny layer as a strip without nuclei, the stratum granulosum reduced to a simple row of cells, the stratum spinosum as fairly maintained. Colombini described the horny layer very much thinner with flat dry cells, the stratum granulosum resulting of only one row of cells, the stratum spinosum atrophic,

and the basal layer formed by small cells filled with pigment. Huber found the horny layer thinner, the stratum granulosum formed by only one row of cells and the stratum spinosum greatly reduced in thickness, consisting of elongated cells with small nuclei, so, too, the cells of the basal layer were smaller and filled with pigment granules. Unna, in his description and in his microscopic illustrations, showed the horny layer unequally thickened, the stratum granulosum sufficiently preserved, but the stratum spinosum atrophic, and the columns of cells are no longer found between the papillæ. The description given by Krzysztalowicz is entirely in accordance with that given by Unna. In Figure 2 can be seen the stratum corneum much thinner, consisting of dry lamellæ where nuclei can not be seen; the stratum lucidum has disappeared, pigment in a very small quantity can be found. The stratum granulosum is reduced to one row of cells, while the stratum spinosum shows the cells well maintained but elongated horizontally, having lost their cylindrical appearance and somewhat disarranged. The whole epidermic surface appears uneven and irregular.

The papillary layer seems to be the part mostly affected of the atrophic skin; in some places the papillæ have completely disappeared, in others they are enlarged



Figure 1.



Figure 2.

and of an irregular shape. The papilla appears to be made up of a thick fibrillary substance, which does not react as elastic, but more as a collagenous substance. In some the blood vessels are enlarged and a scanty accumulation of cells can be seen in their composition. Enlarged connective tissue corpuscles are also crowded into the papilla. The fascicles of the fibers forming the stroma of the corion are thicker and crowded together, and are sufficiently stained with orcein and with acid fuchsin, without showing a distinct appearance. The fibrillæ are enlarged and have a kind of wave-like disposition, which reminds one of the structure of the keloid.

Buchwald had already pointed out a swelling of the subepidermic layers, and indeed it seems to me that in this place occur the most important pathologic changes. The fascicles of the fibrillæ of the papillary layer are changed into homogeneous, collagenous fibers. The degenerative changes of these fibrillæ are well demonstrated by Figure 3, a microphotograph from a specimen treated with orcein, polychrome and washed in glycerin and ether, which shows the nuclei and a kind of granoplasma contents of the collagenous tissues (*b*). In this specimen can be seen quite abundant plasma cells (*a*), to the presence of which Unna and Huber have called attention. The infiltration and the plasma cells are more often found around the blood vessels in their adventitia. Multinuclear leucocytes were not found by Krzysztalowicz, and the small infiltrating cells are found (*c*) around the small blood vessels and also between the collagenous fascicles.

In my specimens the blood vessels of the superficial layer of the corion are enlarged, with a thick infiltration around their adventitia and with a swollen endothelium, which is in accordance with the observations of Heller and Huber. Unna states that he found blood vessels enlarged but nearly obliterated on account of a shrinking of their lumen. The sweat glands appear smaller and in an atrophic condition. They are in a horizontal direction, and their excretory ducts can not be seen. I did not find in my specimens follicles of the hair or sebaceous glands. Unna has found the flat muscles of the skin smaller and in atrophic condition; in my specimens also the muscles arrectores pilorum can be seen, but not distinctly. Their condition is subordinate to the degree and to the intensity of the atrophic process of the skin.

In regard to the elastic fibers nearly all authors maintain that they are in an atrophic condition. Colombini pointed out that the elastic fibers in regard to their form, thickness and number were in a regressive proportion, and their atrophy was much more perceptible in the papillary and in the superficial layer of the corion than in the deeper strata. Huber has found a diminution of the elastic fibers in the places showing infiltration. Unna refers to the atrophy of the elastic fibers as a diffuse and irregular one; that they have lost their fibrillary appearance, and that they are thinner and are very weakly stained. I can only confirm the observations referred to, as in our specimens the elastic fibers show very little of their presence, and the whole structure of the corion seems to be made up by abundant, thick and enlarged collagenous fibers.

In some places in the subepidermic layer granules of pigment are found, while no pigment was found in the basal layer of the epidermis.

In regard to the lymphatic spaces, Colombini and Buchwald claim that they are abnormally enlarged. Pospelow claims to have found them normal. Unna has found the lymph spaces nearly normal in the superficial layer of the corion, and greatly enlarged in the deeper layer. In what concerns the nervous system Unna stated that he, like the rest of all authors, has never found any abnormal condition of the nerves. In some of my specimens the nervous ramifications are clearly

perceptible, but they are compressed in a quantity of thick and hard collagenous fibers. In a deformed and enlarged papilla I have found a nerve entering a corpuscle, compressed by the crowding of the thick collagenous fibers. The neurilemma is thickened and the nervous body is elongated and distorted. The cylinder axis is turbid and the nerve fibers are not easily perceptible. The membrane which forms the nervous corpuscle is thickened and covered with infiltrating cells.

The question now is, whether the atrophy of the nervous corpuscles is the consequence of the compression of hardened collagenous tissues on the nervous ramifications, or whether the atrophic condition causes disorders of nutrition in the tissues of the skin, with the resulting pathologic alterations.

We have cases of progressive atrophy of the skin in healthy persons, limited to one part of the body which is supplied by an affected nerve. In these cases the origin of the nervous affection is not from the central organs, but is limited to one, or to one group of peripheral nerves. In one case I have under treatment, of which I show the photograph, the atrophy of the skin took two years to invade the internal surface of the arm and the flexion surface of the forearm, and the affection has been accompanied by intermittent neuralgic pains



Figure 3.

of the brachial plexus. It was nothing else than a case of peripheral neuritis, which caused the atrophic condition of the skin, with a remarkable effusion of the coloring matter of the blood and consequent pigmentation.

The disturbance of the trophic nerves causes hyperemia of the small arteries and stasis of the veins; from this an effusion of serum and of small leucocytes occurs in the tissues and an increased nutrition starts the proliferation of the connective tissue corpuscles. The anomalous hypernutrition causes the hypertrophy of the fascicles of the fibers and gradually their collagenous condition. The thickened and hardened collagenous fibers pressing on the delicate elastic fibers cause their atrophy. The papillæ have disappeared or are atrophic. The nervous terminations, Meissner and Pacinian corpuscles are also atrophied, which explains the benumbing of the sensibility and the alteration of the nutrition of the epidermis. The epidermis derives the nutrition from the papillary layer, which when in an abnormal condition will afford only an abnormal nutrition. For this reason we have seen the epidermic layer compressed and irregularly developed, the excretory ducts of the glands obliterated, the hair and the sebaceous glands disappeared. The pathologic alterations of the epidermis are not the cause of the sclerotic condition of the derma, as Krzysztalowicz is inclined to maintain, but are only the consequence.

Pospelow, Jadassohn, Neuman and Huber refer this affection as a result of trophoneurotic disturbances, and Neuman calls the process "lenticscierenden trophoneurotischen Entzündungs Process." The result of the autopsy of our case upholds the opinion of Neuman, showing the diffuse progressive atrophy of the skin to be the result of the presence of a syphilitic gumma on the junction of the pons and of the medulla pressing on the origin of the seventh and eighth nerves, just at the point which is the center of the vasomotor nerves. That the process is of a chronic inflammatory nature is clearly shown by the clinical symptoms and by the pathologic alterations. The end of the process is the atrophy, which is the consequence of a sclerotic process, the end of the evolution of the chronic trophoneurotic inflammation.

Although we know that this atrophic condition of the skin is the result of an inflammatory process caused by the irritation or the paralysis of the vasomotor center, yet the name of idiopathic must remain, as it occurs primarily in the tissues of the skin without any other progressed process. In this way this atrophy is distinguished from other forms which have been called deuteropathic by Unna, where the sclerosis and the atrophy of the skin is a true cicatrix, the result of an infectious inflammatory process such as the tubercular or syphilitic, which has damaged the stroma of the skin.

The case referred to belongs to the class of skin atrophies which Unna has grouped as those resulting from nervous diseases. Their prognosis is entirely subordinate to the extension and nature of the affection of the nervous system, which in many cases is of such character that therapy does not afford any means of relief.

BIBLIOGRAPHY.

1. Bronson: A Case of Symmetrical Cutaneous Atrophy of the Extremities. Jour. of Cut. and Gen.-Urin. Dis., 1895.
2. Buchwald: Ein Fall von diffuser idiopatischer Hautatrophie. Auspitz's Archiv, 1883.
3. Colombini: Klinische und hystologische Untersuchungen über ein fall von Atrophia Idiopathica. Monatshefte für Pr. Derm., 1899, B. xxvii.
4. Elliott: A Case of Idiopathic Atrophy of the Skin. Jour. of Cut. and Genito-Urin. Dis., 1885.
5. Heuss: Beitrag zur der Atrophia maculosa cutis. Monatshefte für Pract. Derm., 1901, B. xxxii.
6. Huber: Ueber Atrophia idiop. diff. progressiva cutis in Gegensatze zu seniler Atrophie. Arch. f. Derm. und Syph., 1900, iii.
7. Jadassohn: Ueber eine eigenartige Form von Atrophia maculosa cutis. Archiv für Derm. und Syph., 1892.
8. Krzysztalowicz: Ein Beitrag zur Histologie der idiopathischen diffusen Hautatrophie. Monatshefte für Pract. Derm., 1901, Bd. xxxiii.
9. Neuman: Ueber eine seltene Form von Atrophie der Haut. Arch. für Derm. und Syph., Bd. 43 and 44, 1898.
10. Ohmann-Dumesnil: Ein Fall von striae und maculae atrophicae nach Typhus abdominalis. Monatshefte, Bd. xii, 1891.
11. Popoff: Progressive Hautatrophie der Gesicht. Arch. Neurolog., Bd. xxii, 1866.
12. Pospelow: Cas d'une Atrophie idiopathique de la pean. Ann. de Derm. und Syph., 1886.
13. Touton: Ein Fall von erworbener idiopathischer Atrophie der Haut. Deutsch. Med. Woch., 1886.
14. Unna: Ein Fall von idiopathischer diffuser progressiver Hautatrophie Festschrifft von Prof. Neuman, 1900.
15. Cassirer: Die Vasomotorisch trophischen Neurosen. Berlin, 1901.

DISCUSSION.

DR. W. T. CORLETT, Cleveland—I have seen cases of atrophy of the skin, but never such an extensive case as has been detailed by Dr. Ravogli. Moreover, it is very seldom one gets an opportunity to hold a postmortem examination. Such cases often pass out of the observation of dermatologists, and when death finally occurs the disease may not even be interesting or at all understood by the medical attendant.

DR. W. S. GOTTHEIL, New York—I desire to show some photographs in this connection illustrating a case of progressive idiopathic atrophy, which Dr. Abrahams had intended to exhibit at this meeting. It is a very marked case, involving the

entire skin of both lower limbs up to the middle of the buttocks. The immediately interesting point is the upper advancing margin of the disease, which is erythematous, distinctly inflammatory and tender. As you are well aware, the main point of discussion in connection with this entirely intractable disease has been in regard to its being inflammatory or not in its beginnings. The microscopic findings have been at variance. This case has been distinctly inflammatory along its advancing margins from the very beginning. This settles the question, so far as clinical observation can do so, in certain cases at all events. We propose at a future time to publish the case, and detail the results of the microscopic examination of the skin at the advancing margins.

THE RELATION OF LUPUS ERYTHEMATOSUS TO TUBERCULOSIS.*

HENRY G. ANTHONY, M.D.

PROFESSOR OF SKIN AND VENEREAL DISEASES, CHICAGO POLICLINIC.
CHICAGO.

The relation of lupus erythematosus to tuberculosis has long been the subject of a discussion, the final settlement of which we can hardly look for at the present state of our knowledge.

Until more is known of the eruptions which are in some way allied to tuberculosis and which, provisionally, are said to be due to tubercular toxins, and until we obtain more accurate knowledge regarding the cause of lupus erythematosus, our discussions must be of a purely clinical character.

Clinical discussion, although not conclusive, is nevertheless of value, as it eliminates from the controversy many mooted questions, and it renders clinical observation more keen and accurate.

OPINIONS OF VARIOUS WRITERS.

Those who believe that lupus erythematosus is a manifestation of tuberculosis are mostly members of the French school of dermatology. They state that a careful analysis of the family history and a thorough examination of patients will reveal the presence of tuberculosis in most cases.

I have carefully studied the family histories of the cases which have passed under my observation, tracing the history of each and every member of the family, and I have examined my patients for evidences of tuberculosis time and time again, with negative results in the typical cases. I therefore can not recognize the correctness of this assertion.

Kaposi has seen lupus erythematosus in a child of three years, but never in an old person. Besnier[1] says that the reason for this is that these patients die of tuberculosis at an early age, and that they are more apt to succumb to tuberculosis than are cases of lupus vulgaris. Besnier is not entirely right on this point, inasmuch as there are a number of cases on record in which the disease has been observed between the sixtieth and seventieth year of life. Fordyce[2] has reported one case, 70 years of age, where the disease had existed 20 years, and Bronson[3] has reported a case of 93 years.

I believe we lose sight of these patients in many instances, not because they die of tuberculosis, but because, after consulting one physician after another, they give up all hope of being cured and discontinue treatment.

THE AUTHOR'S BELIEF.

Following the leadership of Robinson,[4] I believe that typical discoid lupus erythematosus of the face is a local skin disease, coming under the general classification granulomata, and having nothing whatever to do with tuberculosis.

The reason that the correctness of Robinson's position on this subject is not generally accepted is, in my opinion, due to the fact that those who believe that lupus erythematosus is a manifestation of tuberculosis do not sufficiently separate the typical discoid form of the face from other varieties.

For the purpose of studying the tubercular question here involved, we would exclude all cases of acute lupus erythematosus, all atypical cases, all cases of folliclis* and all cases of lupus erythematosus disseminatus.

NARRATION OF TWO CASES.

A few years ago a patient, aged 40, consulted me for alopecia areata, which had developed during the preceding two months. He was a politician, and had just been through a heated political campaign. The areas of alopecia were four in number. They were each the size of a quarter of a dollar, and of oval form. There was no redness or scaliness of the surface. In the older of these plaques there was a central depressed atrophic scar, which caused me to make the probable diagnosis lupus erythematosus of the scalp. The patient's pulse was 90; the temperature was normal. Examination of the lungs negative. He had no cough or expectoration, and no eruption on any other part of the body. He was advised to take a complete rest, which he did. Three weeks later, on his return to the city, he was again examined. His pulse was still 90; he had a little evening temperature, and we detected râles in the apex of one lung. He was referred to a specialist on lung diseases, who confirmed our diagnosis of tuberculosis of the apex of the right lung. The patient was sent to California, where he died of tuberculosis within a year.

Lilienthal[5] has reported the following case: The patient is 46 years old; previously healthy. Six months ago an eruption appeared on the ear, and later spread to the face, scalp and under extremities, accompanied by fever and rapid emaciation. On the nose is a plaque, with no scaliness; in the scalp are areas of alopecia with atrophy of the hairs. On the fingers are typical lesions of lupus erythematosus disseminatus. At first there was no evidence of tuberculosis of the lungs, but after a time the patient took cold, and on his recovery from this the apex of one lung was found to be infiltrated, and a new eruption of the disease occurred on the back.

THE BASIS OF THE TUBERCULAR THEORY.

It is possible that toxins of tuberculosis cause alopecia with atrophy, just as toxins of syphilis, typhoid fever and puerperal fever cause alopecia without atrophy.

Cases like these, in which a rapidly developing tuberculosis follows the first manifestations of lupus erythematosus, have been reported by many observers, and they impress everyone as being cases in which the lupus erythematosus is a manifestation of tuberculosis rather than the accidental presence of two diseases in the same individual. It is the observation of these cases which forms the basis of the tubercular theory.

They have nothing whatsoever to do with the granuloma lupus erythematosus, although in many instances they cannot be separated from the granuloma. They are, in my opinion, cases of folliclis, that is, eruptions which are in some way related to tuberculosis, without showing, up to the present time, the presence of the tubercle bacillus or the structure of the tubercle.

Erythema multiforme is to-day regarded by many as being both an acute infectious disease and also a symptomatic eruption. I believe the same is true of lupus erythematosus. There is a disease, lupus erythematosus, *sui generis,* and also a symptomatic eruption related in some way to tuberculosis.

Brocq[6] believes that most cases of lupus erythematosus

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

* The word folliclis is a French term which was first applied to these eruptions by Barthelmy in 1891. It has many synonyms.

are due to tuberculosis, but that some cases are due to other causes. Roth[7] states that H. Hebra and Jemieson hold that the disease is caused by different etiologic factors. Hardaway[8] believes that the disease is due to more than one cause, and Galloway[9] says tuberculosis is only one cause of the disease.

THIS DISEASE SIMULATES OTHERS.

Crocker[10] is right in saying that lupus erythematosus is a great imitator of other diseases. There is, however, no class of cases which it so closely imitates as those eruptions which are in some way related to tuberculosis, and which many believe are due to tubercular toxins.

Nobl[11] says that lupus erythematosus disseminatus is the same as folliclis. Were this invariably the rule the division of the cases would be extremely simple—the disseminate form would be tuberculosis, and the discoid form would be the granuloma. The difficulty, in my judgment, lies in the fact that the granuloma may produce a disseminate eruption and folliclis may produce the discoid form; hence, in many instances, it is impossible to separate the two forms, but even at the present state of our knowledge I believe that the two forms may sometimes be differentiated.

Lilienthal states that, in 1872, Kaposi pointed out the fact that when pulmonary manifestations appear the disease quickly spreads, and that, in 1893, Veiel said that the disseminate form was certainly tubercular, and that he found tuberculosis in one-third of his cases of this variety.

Another point of importance in the differential diagnosis is the fact that a study of the tubercular cases shows that they are made up of plaques, one or two of which are typical, and the remaining are atypical.

Inasmuch as folliclis so closely resembles lupus erythematosus and inasmuch as Boeck believes that folliclis is a subdivision of lupus erythematosus, it is necessary to consider certain points which it presents in a study of the relation of lupus erythematosus to tuberculosis.

The present tendency of dermatology is to include the cold abscess, subcutaneous tuberculosis or scrofulotubercular gumma (using these terms synonymously) in the group of folliclis. This, in my opinion, is absolutely incorrect, there is no reason for changing the old classification, "subcutaneous tuberculosis"; in fact, I extend this group, which shows the structure of the tubercle and the presence of the tubercle bacillus and include in it certain cases which are, to-day, classified under other headings.

WHO FIRST DESCRIBED FOLLICLIS.

Toeroek says that the first case of this class of which there is any record is a case reported by Hutchinson in 1879. The second case was reported by Boeck, as a case of lupus erythematosus disseminatus. He sustains the claim of Brocq, that he was the first to describe the disease. These authorities entirely disregard American literature on this subject. It was Duhring, and not Brocq, who first described folliclis under the title, "Small Pustular Scrofuloderm."

My reasons for assigning to Duhring the credit of first describing this disease are as follows: Boeck[13] says that the case which was reported by Bronson in 1891 as a case of acne varioliformis of the extremities was a case of folliclis. Toeroek says it was a case of acnitis of Barthelmy and Dubreuilh believes that both Bronson's case and Pollitzer's case of hydro-adenitis destruens suppurativa belong to the same group as Barthelmy's case. Inasmuch as these authorities believe that hydro-adenitis destruens suppurativa and acnitis are synonyms of folliclis, it will be seen that they agree that Bronson's case was a case of folliclis. In the discussion of Bronson's case Fox[14] spoke of a similar case, shown some time ago, which he had diagnosed acne cachectecorum. Jackson said that the case more closely resembled the pustular scrofuloderm of Duhring. Taylor had seen an eruption similar to this in late syphilis.

As near as can be judged from a description, Jackson is correct in saying that this case is a case of "the small pustular scrofuloderm," first described by Duhring[14 1-2] in 1881. Brocq[15] published his description about 1890, and it corresponds to that of Duhring's as closely as two descriptions independently written ever do.

SITE OF THE ORIGIN OF THE DISEASE.

In two of the cases of folliclis which have been reported (cases of Brocq and Hallopeau), the lesions of folliclis were present on the extremities, and typical lesions of lupus erythematosus were present on the hands.

Dubreuilh, Broeck and Toeroek regard this as the accidental presence of two diseases in the same individual. Toeroek bases his opinion to a great extent on the microscopic findings. He says: "The microscopic findings show, as a difference from lupus erythematosus, the presence of an endophlebitis and thrombosis of the veins on the border of the derma and subcutaneous tissue, as well as a beginning of a necrotic process in the same location in dermatitis nodularis necrotica." He disregards the fact that Gerber and Leloir have stated that lupus erythematosus begins in an alteration of the blood vessels of the papillæ and corium and that Boeck, Holder and Petrini have found thrombi in the vessels.

Pick, the most recent of all writers, says: "Regarding the first appearance of the disease, I agree with Miethke, Schoonheid and others, that the disease begins in the subcapillary vascular layer of the skin. On the border of the lesion we find, first of all, the vessels are dilated and surrounded by a small cell infiltration, which follows the vessels as they ascend into the papillæ."

Hallopeau[16] believes that these cases of a combination of lupus erythematosus and folliclis are different manifestations of the same morbid process, and that they are either cases of abnormal lupus erythematosus, folliclis or new morbid type.

We side with Hallopeau, but we would exclude the new morbid type; were we to believe that these combination cases are abnormal forms of lupus erythematosus, then all folliclis are lupus erythematosus, and that would extend lupus erythematosus *ad infinitum,* and it would be easy to establish a relationship between lupus and tuberculosis by statistics.

If, on the other hand, we believe that tuberculosis may produce both folliclis and symptomatic lupus erythematosus, we have an explanation which is more satisfactory.

Combinations of lupus erythematosus with folliclis, with lupus vulgaris, with rare forms of tuberculosis, with subcutaneous tuberculosis and with pulmonary tuberculosis are, in my opinion, one and all of them cases of tuberculosis, in which one or two patches are lesions of symptomatic lupus erythematosus.

REASONS FOR DIFFERENCE OF OPINION.

With this method of looking at lupus erythematosus in mind, permit me to direct your attention to an article, published by Roth[17] in 1900. He collected from the literature and from the private and clinical practice of Herxheimer, 250 cases of lupus erythematosus, of which 185 cases showed evidences of tuberculosis, and he concludes that there can be no question whatsoever of the relation of the two conditions.

He finds evidences of tuberculosis in 63 per cent. of his cases, which is the highest per cent. yet attained by any observer.

Wherein lies the difference of opinion?

We respectfully submit that the typical cases do not find their way into medical literature, hence statistics founded on reported cases are based, not on the typical, but on the atypical cases.

ROTH'S CLASSIFICATION.

Roth divides his cases into classes. Class A contains 12 cases, reported by Boeck, who states that they are cases of folliclis. As our present knowledge of folliclis is so meager that their exact relationship to tuberculosis is not yet established to the complete satisfaction of many leaders of the profession, and as there are but few who believe that they are in any way related to lupus erythematosus, they should not be employed to bolster up the doctrine that lupus erythematosus is tuberculosis. Class B contains 30 cases of discoid lupus erythematosus in which the glands of the neck were enlarged, also reported by Boeck.

Pick shows that lupus erythematosus may produce an enlargement of the glands of the neck without there being any evidence that the enlargement is due to tuberculosis, and we object to drawing conclusions from the presence of enlargement of the glands of the neck, even where they are tubercular, unless the number of cases observed at the same period of time, in which there was no enlargement, be stated.

Class C contains 81 cases, collected from the literature as reported by various writers. This class consists of a heterogeneous collection of dermatologic curiosities; some of the cases of this class are cases of folliclis, others are cases the diagnosis of which was questioned when they were presented before medical societies. One of them is a case of erysipelas perstans fascei, of Kaposi. They should one and all be excluded from the statistics.

In fact, the only part of Roth's statistics of any value are the cases which he presents from Herxheimer's clinic, of which there are 138 cases, with evidence of tuberculosis in 36, or 26 per cent., as follows: Tuberculosis of the lungs, 9 cases; enlarged glands in the neck, 9; one or more relatives died of tuberculosis, 6; carious bone removed in childhood, 1; glandular scars in the neck, 2; cough and expectoration, 3; tuberculosis of the testicle, 1; lupus erythematosus transformed in lupus vulgaris, 1; previous inflammation of foot, necessitating amputation, 1; reaction to tuberculin, 1; previous symptoms of tuberculosis, 2.

Roth was quickly answered by Dr. Pick[17], of Neisser's clinic, who reported 43 cases of discoid lupus erythematosus, 18 of which, or 43 per cent., showed evidences of tuberculosis, as follows: Tuberculosis of the lungs, 5 cases; relatives died of tuberculosis, 6; enlarged glands in the neck, 6; tuberculosis of the hip joint, 1.

From this it will be seen that the statistics of Herxheimer's clinic show a smaller proportion of tuberculosis than the statistics from Neisser's clinic.

CONCLUSIONS OF THE AUTHOR.

My conclusions are:

1. That discoid lupus erythematosus is a granuloma, which has no relation whatsoever to tuberculosis, but which may be accompanied by a general eruption.

2. That tuberculosis may produce symptomatic lupus erythematosus, usually with disseminate, atypical plaques.

3. That what may be shown by statistics regarding the relation of lupus erythematosus to tuberculosis depends on what is understood as evidence of tuberculosis, and also on what is included in lupus erythematosus.

BIBLIOGRAPHY.

1. Pathologie et Traitement des Maladies de la Peau, p. 230.
2. Journal of Cutaneous and Genito-Urinary Diseases, 1889, p. 432.
3. Idem., 1893.
4. Transactions, American Dermatological Association, 1899, p. 88.
5. Berliner Klinische Wochenschrift, 1894, p. 125.
6. Journal of Cutaneous and Genito-Urinary Dis., 1895, p. 345.
7. Archiv f. Dermatologie und Syphilis, vol. li, p. 1.
8. Journal of Cutaneous and Genito-Urinary Dis., 1898, p. 458.
9. Annales de Dermatologie et Syphilographie, 1901, p. 188.
10. Journal of Cutaneous and Genito-Urinary Dis., 1894, p. 1.
11. Archiv f. Dermatologie und Syphilis, Erguenzung hefte, 1900.
12. Mracek: Handbuch der Hautkrankheiten, p. 446.
13. Archiv f. Dermatologie und Syphilis, 1897.
14. Journal of Cutaneous and Genito-Urinary Dis., 1898, p. 25.
14½. American Journal of Medical Sciences, 1881.
15. Traitement des Maladies de la Peau, p. 283, Second Edition.
16. Annales de Dermatologie et Syphilographie, 1895, p. 380.
17. Archiv f. Dermatologie und Syphilis, vol. li.
18. Idem., vol. lviii.

DISCUSSION.

DR. M. B. HARTZELL, Philadelphia—I wish to ask the writer of the paper what is his authority for asserting that tuberculosis may give rise to symptomatic erythematous lupus.

DR. F. H. MONTGOMERY, Chicago—I think the most of us agree with the writer that ordinary discoid lupus erythematosus is not, as a rule, associated with tuberculosis. There are undoubtedly some exceptions and occasionally a case is seen in which there is apparently a close relation between lupus erythematosus and lupus vulgaris. I remember very distinctly one clinical case which Dr. Hyde and I treated for a number of years for typical lupus erythematosus of the face, scalp, and ears. After disappearing from our observation for a year or two, the patient returned with a typical lupus vulgaris of the nose, producing almost complete destruction of one ala. In a scraping from one of the nodules tubercle bacilli were found.

DR. R. R. CAMPBELL, Chicago—I thoroughly believe lupus erythematosus is not a tubercular disease. And if the statement as made by Dr. Jackson, that it is not an inflammatory disease, can be demonstrated, then I think we will have conclusive evidence that it is not tuberculous, because where we have tuberculosis we have an inflammatory condition present. The question might arise as to what constitutes an inflammatory condition. If we simply mean a process characterized by cell and tissue change then we must acknowledge lupus erythematosus to be an inflammatory disease. I am inclined to the belief that in a great many cases lupus erythematosus is due to a toxemia generated as a result of an illy defined or latent tubercular process, existing in the patient, in some portion of the body distant from the seat of the lupus erythematosus.

DR. W. T. CORLETT, Cleveland—Speaking from a clinical standpoint I have never been able to associate lupus erythematosus with tuberculosis, and lupus erythematosus is a comparatively common disease. I have seen many cases which were looked on as peculiar manifestations of lupus erythematosus by others, but it was not patent to me. Neither can I agree with the last speaker, that lupus erythematosus is a product of the tubercle bacillus, because, as I have said, in my own cases I have not been able to associate lupus erythematosus in any way with tuberculosis.

DR. L. WEISS, New York—In 1890, when Koch's lymph came into use and for the study of which I happened to be on the other side of the ocean—as is the case now with the *x*-rays—we tried to enlarge its use and to apply it to several skin conditions. So it came that tuberculin was used tentatively in many skin diseases, and Dr. Buzzi of Berlin and myself made a few tuberculin tests at Professor Schweninger's clinic, by inoculating several lupus erythematosus cases and two cases of lichen scrofulosorum. One of the latter reacted and of the half dozen lupus erythematosus cases three reacted. In one case a history of remote tuberculosis in the family could be ascertained, but in the other two cases there was none. It seems to me, therefore, that lupus erythematosus must have some connection, at least in some cases, with tuberculosis, and the contention of Dr. Campbell, that toxemia of tuberculosis may in

some unknown way cause a modified tuberculosis and an eruption of lupus erythematosus, is quite tenable after what these injections of tuberculin have taught us.

Dr. L. Duncan Bulkley, New York—In regard to the age of patients with lupus erythematosus, I certainly do not believe that the young average observed is owing to the early death of many of these patients by tuberculosis. I believe that it is rather due to the fact that the disease is prone to develop in early life, and then after some attempts at treatment, if not speedily cured, the patients give up, and do not seek further medical aid. I have certainly seen patients 60 years old with lupus erythematosus, and I have watched patients with the eruption for many years. I have had the subject of tuberculosis under thought since a possible connection was first suggested, and have repeatedly examined patients for evidences of the same, in vain. I recall only one patient who had lupus erythematosus, who died of tuberculosis; and this among many hundreds of cases in public and private practice.

Dr. M. L. Heidingsfeld, Cincinnati—I am by no means favorably impressed with any effort to bring tuberculosis in causal relation with lupus erythematosus. I believe both clinically and histologically the types are separate and distinct forms of dermatoses, easily recognizable and distinguishable from each other. A few cases may have had both affections coincidentally associated, but I believe that the transitional forms, from one to the other, mentioned by Roth and others, have been largely errors in diagnosis, the affection being one or the other, *ab initio*. Personal experience in one or two instances strengthens me in this opinion. I concur with Pick, who states that we are not justified in bringing tuberculosis and lupus erythematosus in causal relation.

Dr. J. Frank Wallis, Philadelphia—I would like to ask the Doctor in regard to those scrofula cases, whether in their history and in others he has found inoculation to prove that they are tubercular. I have had under my care the past year five or six cases, four in one family. There is no history of tuberculosis. Two other cases that came up later had the same affection, but no history of tuberculosis, and I wondered if any inoculation had been made in any of the cases reported. The cases are still under observation.

Dr. H. W. Stelwagon, Philadelphia—I am surprised that the experience of those present is so different from my own, as in the large majority of my cases it has occurred in tuberculous families. I have never seen a case demonstrated as tuberculosis, but I have been thoroughly impressed with the history given me in my cases that tuberculosis has existed in one or more of the remote members of the family, and I think there is a good deal of clinical evidence in medical literature in the same direction.

Dr. Anthony—In answer to Dr. Hartzell's question, if these cases are included, then tuberculosis is present in 70 per cent. of the cases; if excluded, then tuberculosis is present in about 33 per cent. of the cases where every possible evidence of tuberculosis is considered, such as the death of a relative from tuberculosis, scars in the neck from scrofula in childhood, bone disease of childhood, reaction to Koch's lymph, etc. Where these doubtful evidences of tuberculosis are disregarded, the percentage is much less than 33 per cent.

The cases which I would exclude are those like the following one of Boeck's cases: The axillary glands were removed and found to be tubercular; shortly afterward there appeared on each cheek a sharply defined, symmetrical erythema, which was diagnosed as erythema lupinosum, a transitory erythema which is not the same as lupus erythematosus. Six months later the patient had a swelling of the forearm which the attending physician supposed to be erysipelas, but which proved to be a tubercular periostitis. Then she had the eruption of folliclis on the arms and forehead, next erythematous plaques on the face, and lastly, more than a year after the beginning of the disease, two small plaques of lupus erythematosus behind the ear.

These two small plaques are permitted to dominate the entire clinical picture; they give a name to the disease and furnish one more case to swell the statistics in proof of the assertion that lupus erythematosus is tubercular.

To my mind these are cases in which tuberculosis produces, among a great variety of lesions, one or two lesions which at the present state of our knowledge can not be distinguished from lupus erythematosus either clinically or microscopically. There are very few cases on record in which there was present in the same patient lupus vulgaris and lupus erythematosus. Brocy has reported one such case.

THE ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM.*

GEORGE W. WEBSTER, M.D.
Professor of Physical Diagnosis and Clinical Medicine, Northwestern University Medical School.
CHICAGO.

At the outset, while it may seem trite, it may be well to define the sense in which the term etiology is used as well as to indicate what is meant by the term rheumatism. We here employ the term cause in the same sense as we do in typhoid fever, pneumonia, pulmonary tuberculosis, etc., in which we recognize that aside from the infective agent there must be what some have called the soil, susceptibility to infection varying from extreme susceptibility on the one hand to complete immunity on the other; and that the latter may for certain animals and diseases be variable in degree and also either hereditary or acquired.

In order to limit discussion the term rheumatism will be confined to those cases of non-suppurative arthritis occurring especially in children, but which also occur in the adult. This is the view of Poynton and Paine.[1] They say: "All suppurative arthritis must, we think, be excluded. There may be very possibly a suppurative form of rheumatic arthritis; there may, indeed, be rheumatic suppuration as there are pneumococcus suppurations, but as yet all suppurative conditions must be set aside as a basis for investigation."

We may start with the postulate that it is always an infection. If proof of this be demanded it may be found in the work of Fraenkel[2] in 1892, Sahli[3] in the same year, Lanz[4] in 1893, Singer[5] in 1894, Dana[6] in 1894, Lubarsch in 1896, Achalme in 1891[7] and 1897,[8] Triboulet[9] and Coyon in 1898, Wasserman, Poynton and Paine[10] in 1900, Meyer[11] in 1901, Menzer[12] in 1901, Predtechensky[13] in the same year. A study of this literature shows that there are four principal views in regard to the bacteriology of acute articular rheumatism.

THE THEORY OF A MODIFIED PYEMIA.

The view of Gustav Singer, first published in 1898, is that it is not a distinct disease, but due to streptococcal or staphylococcal infection; in other words, a modified pyemia. This view he again defends vigorously in a recent communication,[14] in which he holds that in the face of his evidence the search for a specific organism is futile. He maintains that the diplococcus previously described by Wasserman, Meyer, Poynton and Paine and others is nothing but the *Streptococcus pyogenes*. He further maintains[15] that polyarthritis is only an occasional occurrence in rheumatism and that rheumatism can not be produced in lower animals. He claims that because of the peculiarity of the circulation of the joints they may be affected by a degree of virulence less than that required to produce a pyemia and that this attenuation is brought about by passage through the adenoid tissues of the throat. The objections to Singer's views are briefly as follows:

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

1. His results have not been confirmed by other observers, especially by Poynton and Paine.

2. He has not demonstrated the organisms in the joints, but only in the heart and lungs.

3. As so well stated by Poynton and Paine,[16] in the five last cases reported by him, the strepto-diplococci were demonstrated in, and isolated from, the tissues, but no experiments were recorded. They say: "This organism Singer calls the *Streptococcus pyogenes* on account of the morphological and cultural characters. Yet the lesions were non-suppurative and our present knowledge of the morphology and cultural characters of several organisms in the coccus group make any assertions on these grounds as to their exact nature a very doubtful proceeding."

4. He does not admit that rheumatism can be experimentally produced in the lower animals.

5. It does not seem reasonable to suppose that micro-organisms which so frequently cause suppuration should be so uniformly attenuated as to always produce such constant and uniform phenomena and always without suppuration.

6. It does not seem quite reasonable to argue that these joints are more vulnerable because of their lessened resistance, and that yet they are as likely as any other structures to be affected by a virulent culture.

7. His hypothesis must carry with it the idea of a constitutional predisposition to suppurative infections.

8. If due to streptococcus infection, the use of the antistreptococcus serum ought to be curative or at least helpful.

ACHALME'S SPECIFIC GERM THEORY.

The second view is that of Achalme,[17] that acute articular rheumatism is the result of infection by a specific anaërobic bacillus which is of large size and possessed of remarkably variable morphologic characteristics. In the papers published in 1891 and 1895 he claimed that the organism is found with constancy, and that rheumatic fever was produced by it in rabbits. Poynton and Paine[18] failed to confirm the results of Achalme, but found a bacillus similar to the one described by him, which they found to be the lactic acid bacillus. Since then they carefully sterilized their media and incubated it over night.

Fullerton[21] expresses the belief that Achalme's work was not well done and that it was most improbable that the organisms which he describes has anything to do with the disease. Rist[19] says "that the organism described by Achalme has been found very often in a number of cases, pathologic or not, where rheumatism was out of the question."

Achalme now reviews[20] his former work and states his belief that his bacillus is to be found in the healthy individual and that it is an ordinary saprophyte whose development in the blood is favorably influenced by the action of heat or cold.

THE THEORY OF VARIED INFECTIONS.

The third view is that acute rheumatic fever is not due to any particular organism, but is a particular reaction to varied infections. In other words, that we may have a uniformity of lesions with a multiplicity of causes. This is too general and includes too much. It makes rheumatism a synonym of arthritis. For example, it is well known that the gonococcus, the pneumococcus, the bacillus of tuberculosis, or the staphylococcus may cause arthritis, and yet we no longer call these cases rheumatic. Gradually there is being formed a rather larger class of cases designated as arthritis, to which the appropriate descriptive adjective is prefixed, as gonorrheal arthritis, pneumococcus arthritis, tuberculous arthritis, etc. If this is followed out to its legitimate conclusion it will be a question of simply calling all inflammatory affections of the joints arthritis and then determining the particular organism causing the inflammation. If it shall be found that all those cases of non-suppurative inflammation of a constant type are always due to a specific germ, then for these the term rheumatism may be reserved, but there is no particular advantage in doing so.

THE DIPLOCOCCUS OF POYNTON AND PAINE.

The fourth view is that of Poynton and Paine. In January, 1899, Poynton and Paine[22] undertook the study of the bacteriology of rheumatism with the intention, if possible, of confirming the results of Achalme. In this they failed and abandoned the attempt. In eight successive cases, however, they obtained a diplococcus which grew in streptococcal chains, which did not thrive on ordinary agar or on serum agar, grew indifferently on blood agar and appeared to grow best in a liquid medium of milk and bouillon, rendered slightly acid with lactic acid. These organisms were isolated in pure culture on three occasions, from the blood of patients during life who were suffering from acute rheumatic pericarditis; also from the pericardial fluid after death, from the valves of the heart and the throat of the patient; fragments of granulation from the valves of the heart of human beings, and also from the joint exudation, heart-blood, urine from the bladder and cerebro-spinal fluid of inoculated rabbits.

These organisms when inoculated into rabbits produce polyarthritis, bursitis and tenosynovitis, multiple non-suppurative valvulitis and pericarditis, plastic pleurisy and pneumonia, a condition of the myocardium analogous to that found in the human heart as a result of rheumatic carditis. There are multiple joint swellings, wasting and pyrexia, thus closely simulating rheumatism in the human being.

When these organisms are passed from animal to animal similar symptoms are produced, but there is a tendency to increase in the severity of the cardiac with lessened severity of the arthritic lesions. The organisms were found, not on the surface, but in the interior of the valves. In one case of chorea the diplococci were found in the perivascular lymph spaces and capillaries of the pia mater and in some parts of the motor areas of the brain.

In September, 1901, they reviewed[23] the bacteriology of the disease and brought the number of cases up to eighteen. They take the ground that rheumatism is not only an infectious disease, but that it is due to a diplococcus infection, and point out emphatically that "the most ardent bacteriologist does not pretend that the presence of a micro-organism explains all the phenomena of rheumatic fever."

The organism described by Poynton and Paine is undoubtedly the same as that previously described by Triboulet[24] in 1898, and Apert and Triboulet in the same year and by Wasserman and Malkoff[25] in 1899. Litten, as the result of the study of two cases and the inoculation of many guinea-pigs, says[26] that he sees no reason why the diplo-streptococcus should not be regarded as the cause of acute articular rheumatism.

Perhaps the views of Pribram[27] should be mentioned. He maintains that in most cases cultures from the joints and blood are sterile and that where micro-organisms are present they are due to secondary infection, predisposed to by the damaged joint.

The fact that micro-organisms are not found in the exudate in the joint is not against the infection theory. It is exceedingly difficult and sometimes impossible to demonstrate the tubercle bacilli in tuberculous effusions. So generally is this recognized that their absence is considered diagnostic of the tuberculous origin of the disease. Indeed, in these cases of rheumatism the germs are found in the articular structures, in the structure of the valves and vegetations, and it is only in those cases in which they come to the surface in large numbers that the name ulcerative or malignant endocarditis occurs and that many minute emboli are formed.

According to Hamburger[28] the bactericidal power of venous is much greater than that of arterial blood. Consequently, we find endocarditis in the left side of the heart because of its arterial blood. It is well known that the venous engorgement of valvular disease, especially mitral disease, affords almost complete immunity against pulmonary tuberculosis. A large percentage of diabetic patients die of tuberculosis because the formation of sugar restricts the formation of carbonic acid.

Brandenburg[29] has shown that alkali occurs in the blood in two forms, that combined with carbon dioxid and that combined with albumin. The latter are very tenacious of their alkali and the bactericidal properties of the blood are augmented by increasing the amount of diffusible alkali in it. Hamberger found that after determining the bactericidal power of the blood, the addition of carbon dioxid releases the alkali from the albumin, increasing the proportion of the alkali, and this augmented alkali tension markedly increases the bactericidal properties of the blood. He suggests that acid intoxications induce variations in the alkali tension. Hegeler, Tsuboi and Stemmetz long ago showed[30] that the bactericidal action of serum which has been heated to 55 C. is restored by adding highly diluted alkali.

CONCLUSIONS.

1. Many organisms produce arthritis.

2. Probably all cases of acute articular rheumatism are due to infection.

3. Probably all organisms known to cause either acute articular rheumatism or other forms of arthritis also give rise to other pathologic conditions as well.

4. It would thus seem to be not merely a local infection or inflammation, but a general infection, the commonest seat of the principal lesion being the joints, but also involving the heart, both endocardium, pericardium and muscle, occasionally the meninges and other structures and caused by a diplococcus circulating freely in the blood. The diplococcus seems to be merely a germ capable of causing widespread inflammation, and the joints are included in its sphere of action. Just as in pneumonia, we may have a general infection with local manifestations or inflammatory reaction in the meninges, the pleura, the endocardium, pericardium, post-nasal space, peritoneum, lymphatics and lungs, the latter being probably the usual site of the localizing inflammation.

5. It is quite possible that there is some hereditary diathetic or constitutional peculiarity, the nature of which is completely unknown to us, which may favor infections in general, and possibly that of rheumatic infection in particular.

6. That there may be varying degrees of susceptibility depending on exhaustion, depressing influences, as cold and the like, seems reasonable. These are the occasions and not causes. They favor but do not cause.

7. That susceptibility varies greatly there can be no doubt. Whether this depends on alkali tension has not yet been demonstrated, but it seems plausible on the ground of variation in the bactericidal action of the blood. This may explain the value of alkalies in the treatment of rheumatic affections.

BIBLIOGRAPHY.

1. British Medical Journal, Sept. 21, 1901, p. 779.
2. Deutsche Medicinische Wochenschrift, No. 46, p. 809.
3. Correspondenzblatt für Schweizer Aerzte, 1892, vol. xxii.
4. Centralblatt für Bacteriologie, 1895, Band. xiv, p. 269.
5. Wiener Klinische Wochenschrift. 1894, No. 26, p. 449.
6. American Journal of Medical Science. 1894, p. 31.
7. Comptes Rendus de la Société de Biologie, 1891.
8. Annales de l'Institut.
9. Bulletin et Memoire de la Société Médicale des Hôpitaux, 1898, p. 93.
10. British Medical Journal, Sept. 22 and 29, 1900, pp. 861 and 932.
11. Deutsche Med. Woch., Feb. 7, 1901.
12. Deutsche Med. Woch., Feb. 14, 1901.
13. Abstract, Journal A. M. A., Aug. 21, 1901, p. 609.
14. Wien. Klin. Woch., May 9 and 16, 1901, No. 20.
15. British Medical Journal, Sept. 21, 1901, p. 780.
16. British Medical Journal, Sept. 21, 1901, p. 780.
17. Comptes Rendus de la Société de Biologie, 1891.
18. British Medical Journal, Sept. 21, 1901.
19. British Medical Journal, Sept. 21, 1901.
20. Gazette Médicale de Paris, April 6, 1901.
21. British Medical Journal, Sept. 21, 1901, p. 781.
22. London Lancet, September, 1900, pp. 861 and 932.
23. British Medical Journal, Sept. 21, 1901, p. 779.
24. Bulletin et Memoire de la Société de Biologie, 1898, Band. xviii, p. 825.
25. Berliner Klinische Wochenschrift, 1899, No. 29, p. 638.
26. Progressive Medicine, March, 1902, p. 149.
27. Progressive Medicine, December, 1900.
28. Weber: American Medicine, May 24, 1902, p. 854.
29. Deutsche Med. Wochenschrift, January, 1902.
30. Centralbl. f. Bacteriol., 1892, xii, 365 and 450; xiii, 576.

DISCUSSION.

Dr. Heinrich Stern, New York—The diversity of the methods employed and the contradictory findings of the various investigators clearly demonstrate that in spite of an apparent clinical justification the supposition of a microbic causation of rheumatic fever is in reality based more on speculation than on facts. Achalme's results are directly contradicted by those of Westphal, Wassermann, Malkoff, Meyer, Predtetchensky and others. Sawthenkow, on the other hand, obtained the same results as Achalme, namely, a specific bacillus. Dr. Webster, if I am not mistaken, made liberal use of the articles of Poynton and Paine. In my estimation it is the easiest thing in the world to be a follower of the theory of bacterial origin of disease. It is convenient and for the time being, at least, it is made to serve a certain purpose. The bacterial theory of the causation of rheumatic fever has relegated to oblivion the old lactic acid theory. Who yet believes in the lactic acid foundation of acute articular rheumatism? If we want to determine the cause of acute articular rheumatism I think we must start from a different point altogether. In those affected with the disease we find two pronounced abnormalities in the blood and the urine. This is, firstly, the increased fibrin formation, and secondly, the deficient output of chlorids. This is the basis on which we should work. Where does the fibrin come from; how did it originate? We know there is an intravascular formation and accumulation of fibrin in acute articular rheumatism. This can only be brought about by the presence of fibrinogen and some salts of calcium. The third factor essential to the formation of fibrin does not interest us at the present moment, and I abstain from mentioning the different contentions as to its nature. We can not have thrombosis or intravascular fibrin formation unless the calcium factor works together with prothrombin and the third factor. Looking now for the anatomic substratum of the affection, we will find that the only tissue involved is white fibrous tissue, principally that of joints. The changes found in the inelastic fibrous texture are the same whether they are located in the articulations themselves, in the adjacent structures, or in the heart. White fibrous tissue is found more particularly in those parts habitually used in locomotion. White fibrous tissue is made up of bundles of fibers held together by an agglutinating substance.

Lime or baryta water, or other weak alkalies affect this cementing material. The alkalies may dissolve the cement completely out of the texture. Now it is possible that the calcium salts which bring about intravascular fibrin formation which at this period exists either in larger quantities in the organism or exerts an increased reactivity, also causes the extraction of the agglutinating material from the white fibrous texture. As a natural result of the lesions in the membranes thus produced we will have a disturbance of the osmotic equilibrium, that is, material will pass through the seat of injury which could not penetrate or diffuse through the normal tissue. The deficiency of urinary chlorids may be also explained in this way. The accumulation of ectogenous material in the synovial sacs, the inflammation of the membranes and structures making up the articulations, and all other phenomena of acute articular rheumatism can be explained by the existence of such a lesion in the white fibrous structure.

DR. FRANK BILLINGS, Chicago—Why is it self-limited?

DR. STERN.—That is easily explained. A given case of acute articular rheumatism is dependent either on the degree of the anatomic lesion and the activity of the fibrin-calcium factors or on the calcium material alone. However this may be, the attack will continue as long as the reactivity of the calcium factors continues. The abrupt onset of the affection, its shifting character, etc.—these and all other pertaining characteristics of acute articular rheumatism are better understood on the basis of this physico-chemical substratum than by taking refuge to pathogenic micro-organisms whose influence as regards production of rheumatic fever, with all due deference to the various observers, has not as yet been demonstrated to me.

DR. J. M. ANDERS, Philadelphia—There is perhaps a unity of opinion that we know little about the so-called arthropathies and in cases of acute articular rheumatism we have instances that belong clearly to the intoxications or infections. As you know, we class both under one large head, acute infectious disease or acute infections. The specific micro-organism may be seen; still, I do not see why they should not be multiple as in ulcerative endocarditis or pneumonia. I do not believe that, at the present day, we can definitely say that any special micro-organism is a constant cause of the disease.

One theory regarding this affection has not been mentioned by Dr. Webster, and that is that the symptoms may sometimes be classed with gout, both being due to a prolonged intaking of proteids and carbohydrates in excess. Again, other determining factors may be absorbed from the alimentary canal, resulting from the action of bacteria on proteids. Still, I think this view simply explains the predisposing, rather than the specific cause of the disease. To my mind, acute articular rheumatism is a disease entity; there is no difficulty in recognizing this in its more typical phases. In the typical forms, and in chronic rheumatism, all probably of some specific nature, we are constantly confused with other forms of arthritis and I know of no way to discriminate these clinically. We should attempt, by every therapeutic resource known, to separate acute articular rheumatism from gonorrheal rheumatism; this is usually easy. We should also separate it from acute polyarthritis and gout. In many instances the tophi in the ears will be of great value in discriminating between them. To discriminate between the two diseases clinically is oftentimes not very difficult. Symptoms of purpura occurring in connection with acute articular rheumatism I believe are not common; when it does occur what is the interpretation? It is probably a toxic purpura, yet it may be due to emboli. Quite recently I saw an instance of acute rheumatism, of typical form, in which purpura developed. Here we are confronted with the question, are they *Peliosis rheumatica*, or Schönlein's disease? Polyarthritis and purpura and wheels guide us in making a diagnosis of acute articular rheumatism. *Peliosis rheumatica* is of rheumatic origin, it is stated. I can not ascribe to this view because the cases that I have seen did not show any cardiac complications. Cardiac complications occur so rarely in *Peliosis rheumatica* that it tends to show that it has a different etiology. I see no more reason for speaking of rheumatic diathesis than for speaking of pneumonic diathesis, or of influenza diathesis. I think such a term is obsolete.

DR. WEBSTER, in closing—Dr. Stern says I claim this to be a type of infection and that I have no reason for such a claim. I said in my paper that an organism had been found which we believed to be at least one of the causes of the disease; that this organism had been found in the blood, in the heart, in exudations in joints, and in various other structures and fluids in the body in both the human being and in the lower animals. These organisms taken from the human being have been inoculated in animals and produced identical lesions in them. If carried through a series of animals the arthritic phenomena were again produced in them. If anyone is not convinced by such evidence, I do not know what evidence is called for; I think it is sufficient to convince anybody. With regard to the calcium salts, etc., I have not gone into this part of the subject. The bactericidal powers of the blood are well known, but the Doctor does not demonstrate anything to us; he has been giving us theories; what I have given has been demonstrated.

ETIOLOGY AND PROPHYLAXIS OF THE CARDIAC MANIFESTATIONS OF ARTICULAR RHEUMATISM.*

JOSEPH M. PATTON, M.D.
CHICAGO.

The scope of this paper is limited to the consideration of two phases of rheumatic cardiopathies which, notwithstanding the relative frequent occurrence of these manifestations and their great importance because of their far-reaching effects, have, until a recent period, been almost as imperfectly determined in the one case and ineffectually managed in the other as when Pitcairn, in 1788, noticed the connection between rheumatism and pericarditis, a relation more fully explained by Dundas, Wells and Latham, or when Baillie and Kreisig observed the association of acute rheumatism and endocarditis, the definite connection of which was shown by Bouillaud, who also introduced the term endocarditis.

RHEUMATISM AS A FACTOR IN HEART DISEASE.

Among the extrinsic causes of diseases of the heart rheumatism has long held the most important position. It has gradually absorbed into its etiologic relations the so-called idiopathic inflammations of the pericardium and endocardium, and even certain myocardial conditions of an acute nature. It is even admitted that many of the so-called hereditary diseases of the heart are probably of rheumatic origin, while it is generally conceded that those cardiopathies of early life which obtain with the entire absence of clinical history, or, at most, an indefinite mention of "growing pains," are of rheumatic origin. In several hundred ambulatory cases of acute and chronic disease of the heart observed during the last ten years, fully 30 per cent. failed absolutely to give any history of rheumatic manifestations, though usually some such history could be traced in the parents or other members of the family. In those presenting primary conditions or exacerbations of chronic states the exhibition of rheumatic remedies invariably gave relief. Sansom believes that practically all cases of heart disease in individuals under 35 years of age are rheumatic, and that practically all fetal endocarditis is rheumatic.

THE ETIOLOGY OBSCURE.

The exact etiologic nature of the relation of cardiac disease to rheumatism has long been in discussion.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

With the abandonment of the humoral and nervous theories of the nature of rheumatism, and the growth of its recognition as a distinct morbid entity of infectious nature resembling rather closely pyemic conditions and possibly depending on a specific organism, there developed the belief that the cardiac manifestations of acute rheumatism were, as expressed by Dreshfield in regard to endocarditis, not a complication or sequel, but an integral part of the disease. Whether as such the cause lies in the direct local action of a specific organism, or in the action on the tissues of a chemical poison, the result of infective processes seems not entirely settled. The latter theory, based on such observations as those of Buchner that dead bacilli or their protoplasm will determine a chemotaxis capable of causing tissue changes, or those of Sidney Martin, who obtained staphylococci from the blood of a case of infective endocarditis which could be cultivated and produced a proteid substance which, injected into animals, caused pyrexia, diminished coagulability of the blood, and, with an overdose, death with fatty degeneration of the heart, has its adherents, and will have as long as it is recognized as a possible cause for the joint manifestations of acute rheumatism.

The occurrence of toxic lesions of the heart in nephritis has been cited in support of the toxic nature of the cardiac manifestations of rheumatism. The analogy is not close, however, as the cardiac lesions of nephritis are practically always, in the absence of intercurrent infection, of a degenerative nature, while the diffuse myocarditis of rheumatic origin is inflammatory in type, and is usually associated with endocarditis or pericarditis, and with which it sustains etiologic relations. Moreover, myocarditis is much more frequently associated with toxic conditions of the blood not rheumatic than an acute lesion of the covering of the heart or of the lining of its cavities, while the latter are much more frequently associated with rheumatism than are acute myocardial changes. If a chemical agent be the causative factor in the production of the cardiac manifestations of articular rheumatism, then it must be one which has a peculiar affinity for the fibrous tissues of the heart, and different from all the other toxic substances which affect this organ. In a certain proportion of cases there appears a degree of myocarditis which can not be explained by extension of inflammation or by embolic or other direct infective processes, and we must assume with Hanot that toxins are capable of producing acute inflammations of the heart.

THE BACTERIAL RESEARCHES.

The bacterial evidence of direct infection of the heart tissues in rheumatism does not, at present, warrant an assumption other than that the infection is of a polymorphous nature, no specific organism having yet been found with sufficient constancy to cause it to be accepted as the special causative agent for rheumatic carditis. Certain organisms have been by some considered specific for rheumatic lesions of the heart, but at present may be regarded as occupying a position in the bacteriology of these lesions similar to that occupied by the *Bacillus endocarditis capsulatus* of Weichselbaum, or the *Bacillus immobilus et fetidus* of Fränkel and Sanger in relation to the bacteriology of endocarditis in general, and the organisms observed by Klebs, Köster and others in this connection.

Wilson, in 1885, found organisms in the pericardial fluid of a fatal case of endocarditis occurring with rheumatism. Popow (1887) obtained cocci from a blood culture in a case of rheumatism which in rabbits caused "acute articular rheumatism with pericarditis and endocarditis." Achalme (1891) obtained a bacillus by anaërobic culture from the pericardium, blood of the heart, and by direct examination of the pericardial fluid and from sections from the exudate from the mitral valves and sections from the pericardium. Inoculations gave no result. He again (1897) obtained this bacillus from the blood of the heart, the heart valves and the subpericardial tissue. He subsequently found the same bacillus in the blood of a living rheumatic. Triboulet and Coyon (1898) concluded that a diplococcus which they constantly found was the cause of the endocarditis of rheumatism. Intravenous injection of pure cultures caused mitral valvulitis with the diplococcus present in the diseased valves. Westphal and Wassermann (1899) found a recent endocarditis at autopsy of a case of acute rheumatism. Cultures from the blood, brain and mitral valve produced a streptococcus which caused arthritis in animals from whose joints the same micro-organism was obtained. Poynton and Paine (1900) demonstrated what they considered a typical diplococcus of rheumatic fever and endocarditis, which in animals produced polyarthritis, valvulitis, pericarditis and myocardial degeneration.

THREE VARIETIES OF MANIFESTATIONS.

The cardiac manifestations of rheumatism are pericardial, endocardial and myocardial. The importance of their manifestations is attested by the large proportion of cases of rheumatism in which they occur. In this connection they are essentially lesions of early life, and while the well-known laws of Bouillaud in relation to their association with rheumatism are abstractly true, namely, that in acute articular rheumatism of a violent type and general distribution, the coincidence of pericarditis and endocarditis is the rule, and the non-coincidence the exception; that in acute articular rheumatism of a mild type and partial distribution, the non-coincidence is the rule, and the coincidence the exception, yet clinically there is ample evidence of the somewhat frequent association of each of these conditions with the mildest types of rheumatism, and abundant postmortem evidence of their frequent and often unsuspected occurrence, especially of pericarditis, in rheumatism of early life, the statement of Sibson that the means of diagnosing pericarditis are practically infallible, to the contrary notwithstanding. Anders states that both plastic and sero-fibrinous pericarditis may occur in connection with rheumatic dyscrasia without evidence of arthritis.

PERICARDITIS.

According to Baumgarten, pericarditis occurs in about one-third of the cases of acute rheumatism. Anders states that plastic pericarditis occurs in more than one-half the cases of acute articular rheumatism, and Roberts states that the cases of rheumatic pericarditis are more numerous than all the other cases combined; that it is an essential part of the disease and not a mere complication. Sibson states that rheumatic pericarditis is three times less frequent than rheumatic endocarditis and that the latter is generally present also in children. He believes that the production and severity of the pericarditis is related to the increased activity of the heart in rheumatic conditions. Periendocarditis, or carditis, he considers as exclusively rheumatic. Sears reported 100 cases of sero-fibrinous pericarditis, 51 of which were due to acute rheumatism. In 100 fatal cases of heart disease reported by Sturges, pericarditis was present in all but 6. In 150 cases of

rheumatic heart disease reported by Lees, the pericardium was uninvolved in only 9 instances. Twenty per cent. of Sibson's 326 cases of acute rheumatism were complicated by pericarditis. Latham gave 7.5 per cent. and Chambers and Ormerod gave 13 per cent. and 71.7 per cent. respectively.

ENDOCARDITIS.

Acute rheumatism is generally conceded to be the most frequent cause of endocarditis, the observations of Bouillaud as to the frequency of this association being generally admitted. According to Dreshfield endocarditis is not a complication or sequel, but is an integral part of the rheumatic affection, a localization of the rheumatic poison in the tissues of the valves, the mean percentage obtained from various sources being from 20 to 23 per cent.

Of Sibson's 325 cases 107 had endocarditis alone, and 54 endopericarditis. The latter is particularly frequent in children, and Sturges says that "the rheumatic heart inflammation of children when pericardial is always endocardial as well, and when endocardial is extremely likely, with the recurrence of rheumatism, to involve the pericardium also." The incidence of endocarditis in acute rheumatism is stated by Bamberger as 20 per cent. of the cases; by Wunderlich, 9 per cent.; by the Bellevue Hospital report, 33 per cent.; by Anders, 40 per cent.; by West, 61.3 per cent. In children it is variously estimated at from 50 to 80 per cent. The endocarditis most often occurs during the primary attack of rheumatism. In 115 fatal cases given by Poynton it so occurred in nearly one-third of the cases. Bouillaud and Trousseau called attention to the fact that the endocarditis may precede the articular manifestations.

MYOCARDITIS.

The occurrence of acute myocarditis in connection with rheumatism is generally admitted. Lees believes that acute dilatation of the heart occurs from myocarditis in rheumatism, but is less severe than in diphtheria and influenza, probably because of less deleterious effects of toxins on the myocardium. Douglass Powell states that acute myocarditis may be secondary to rheumatism. Leyden regards the myocardial lesion of acute rheumatism as an acute myocarditis.

The general tendency at present to attribute marked dilatation of the left ventricle occurring during the course of an acute rheumatic mitral valvulitis to concurrent myocardial changes rather than to the mechanical effect of the valvular lesion, shows the general recognition of acute rheumatic myocarditis. The occurrence of acute myocarditis by the extension of pericardial or endocardial inflammation occurring with acute rheumatism is recognized by all authorities.

The nature of the pathologic changes, and the possibility of their occurring from other causes than extension, or by embolic processes—that is, from toxic causes—involves discussion foreign to this paper, but my own observation, clinically as well as postmortem, has been that in a certain proportion of cases the extent of the myocardial changes, the degree of the resulting dilatation and the rapidity of its development were not at all in proportion to the extent and severity of the pericardial or endocardial involvement. Anders states that it is probable that myocarditis may occur from rheumatism without involving endocardium or pericardium. Poynton describes a case of rheumatism associated with apparently a primary myocarditis. He calls attention to the fact that severe cardiac involvement may be present without signs of valvulitis. His studies of the pathology of the myocardium in fatal cases of rheumatism shows cellular exudation in scattered foci which are not necessarily dependent on pericarditis. Giacomelli, from experiments on animals with various bacteria and subsequent examinations of the myocardium, concludes that there is constantly more or less marked changes in the heart muscle fibers varying from simple atrophy to fatty degeneration and destruction. Rarely the interstitial connective tissue and vessels are involved by diffuse, lymphoid infiltration. There are no definite lesions corresponding to definite, specific poisons. The changes are due to the direct action of bacterial toxins and poisons on the muscle fiber itself.

The frequent occurrence of toxic degenerations of the heart muscle in dyscrasiæ other than rheumatic exhibit the effect on the heart muscle of toxic agents, and it is possible that in rheumatism the heart muscle may be affected by toxic agents which do not directly affect the less vascular tissues of the epicardium or valves. The most extensive degrees, however, of rheumatic myocarditis are connected with those cases of pericarditis and endocarditis of bacterial association, and continuity of tissue would appear to be the chief element in its production. I believe that some degree of myocarditis is a more frequent element in the cardiac manifestations of acute rheumatism than is generally supposed, and that especially in childhood it is a powerful factor in the severe and rapidly fatal cases of cardiac rheumatism.

This imperfect consideration of this part of the subject is yet sufficient to emphasize the importance of the prevention of cardiac complications in articular rheumatism. These preventative measures pertain not only to the incidence of the more acute phases of the cardiac manifestations, but also to their control when established as preventative of the remote effects.

If we regard the cardiac manifestations as a local manifestation, a feature of the symptom complex, an integral part of the rheumatic disease, the importance of early and effectual control of the rheumatic infection is evident. Sansom says that if the microbic theory be true then the toxins are so slowly evolved as to continue to produce marked changes for months or years, or else the toxins first induce a morbid perversion of metabolism whereby an autogenetic morbid product is formed for an indefinite period. While this appears somewhat too theoretical, it serves to impress the importance of rest during and immediately after the acute period of rheumatism as related to the occurrence of cardiac involvement.

PROPHYLAXIS.

With the treatment of acute rheumatism it is not my province to deal further than to emphasize my belief in the importance, as far as avoiding heart complications is concerned, of early control of the condition as shown by mitigation of the joint symptoms and subsidence of fever, and to express my conviction that this is best obtained by the temporary employment of pure salicylic acid in sufficient dosage to produce relief of pain and fever, with sweating and more or less depression, to be followed by sodium salicylate combined with alkaline diuretics.

The prophylaxis of the cardiac complications of articular rheumatism is constantly engaging more direct effort. There are those who believe that we have no control over the frequency of the incidence of these conditions in rheumatism, and statistics are as notoriously inconclusive on this point as on many others, while the outcome of a give series of cases may furnish the basis for

an entirely different conclusion to the physician who treats the patients than it will to a less directly interested party. Caton's series of 500 cases with a cardiac complication rate of less than 20 per cent. appeals more forcibly to him in support of his method of treatment than to most of us, even though we can not duplicate his statistics.

There is a vital feature to which I am afraid too little attention has in the past been given, especially in the milder forms of rheumatism in children, and that is careful observation of the heart during and for some time after these rheumatic manifestations. We are too much given to considering alterations in cardiac rate and rhythm during the course of rheumatism as depending on the general conditions unless there are murmurs or friction sounds about the heart. We should bear in mind that these signs are neither a necessary nor invariable accompaniment of cardiac rheumatism, that cardiac irritability marked by excited action and rhythmic changes, especially remission and intermission, is an early indication of cardiac involvement, and that when physical signs are evident it is not unlikely that the localization is already beyond our control. Cardiac irritability, therefore, should indicate the institution of measures of prevention, and these should be carried out as thoroughly and persistently as if more positive objective signs were present.

VALUE OF REST AND SLEEP.

It is doubtful if the value of rest is generally appreciated, at least as a therapeutic measure it is often neglected. In children it is particularly important. Sir William Jenner is said to have stated that "children do not grow out of heart disease; they grow into it." Hilton emphasized the fact that rest diminished the action of the heart and afforded opportunity for better nutrition. The views of Sibson in regard to increased heart action and the occurrence of pericarditis has already been stated. Powell has pointed out the importance of rest in children for several weeks after the joint symptoms have subsided, as salicylates may control the joint manifestations and yet the heart is not more able to bear exercise than when the joints were painful and inflamed. He thinks that primary rheumatic endocarditis is frequently curable if the patient continues at rest long enough for the valves to recover before strain is thrown on them. The value of rest is insisted on by Potain, Caton, Thompson and Holt. The latter thinks that in inflammatory conditions of the heart in children rest should be measured by months rather than weeks. The difficulty of keeping the patient at rest is admitted, but the necessity of maintaining the recumbent position until changed to a sitting or upright position is not attended by undue acceleration of pulse rate or change in rhythm can not be too strongly insisted on.

The necessity of sleep is admitted by all, especially in regard to young patients, and yet we too frequently allow the restorative value of sleep to wait on the exhaustion of Nature, when a little timely aid would obviate the nervous strain necessarily attending such a process. Of the hypnotic remedies recommended in this connection the bromids are often unsatisfactory, unless it be the bromid of sodium in connection with small doses of codein. Chloral is, as a rule, too depressing for these cases. Paraldehyd may be efficient, but is so disagreeable as to be practically impossible. Trional is unsatisfactional and often effective. Chloralamid has proven the most satisfactory hypnotic for these cases that I have employed, and it appears to be relatively safe.

DIET AND MEDICATION.

Light, ventilation and diet are important. Diet should consist of concentrated and easily assimilated food. Milk is generally recommended and can not be improved on if the patient takes it well. Potain recommends superalimentation. We must be cautious about crowding food for fear of imperfect digestion increasing cardiac effort and distress.

Of the drugs employed in this connection the salicylates and iodids still hold first place. E. Barie recommends the prophylactic use of iodids, with salicylates for analgesic and antithermic purposes. Potain recommends sodium iodid. Relative to those who doubt the beneficial effect of the salicylates, or profess to believe in their increasing the liability of cardiac involvement, it would appear that as we have definite beneficial effects from their administration in rheumatic conditions generally, and an indefinite understanding of the specific etiologic factor of rheumatic cardiac manifestations individually, it is our duty to give them. Weill, in emphasizing the employment of salicylates to prevent endopericarditis in infantile life, remarks that as to the salicylates predisposing to cardiac involvement, the latter occurs frequently in children who have slight rheumatism and who have not taken salicylates. Packard says that cardiac complications are, to say the least, not increased in frequency by salicylates, and that such apparent effect is probably due to the reduction of pain and fever, allowing the patients to move about before the heart has had time to recover itself.

The alkalies are not yet entirely distanced by the salicylates. Ewart believes that the alkaline treatment reduces the frequency of endocarditis, in connection with diet, through lowering the coagulability of the blood—a property shared by iodid of potash, which, therefore, is to be recommended in threatened endocarditis. William Keen thinks there is less risk of heart complications if the urine is kept alkaline. Personally, I prefer the concurrent use of sodium salicylates, sodium iodid and potassium citrate.

EXTERNAL THERAPY.

The value of external applications to the precordial area for the prevention and mitigation of cardiac rheumatism has been much discussed. According to Gibson, the only two measures which have any influence in preventing pericarditis in rheumatism are the systematic employment of cold by an ice bag, or by iced cloths, or by Leiter's tubes, and the continuous application of blisters after the method of Caton of Liverpool. The latter claims his method of treatment will prevent valvulitis or will check it if instituted sufficiently early. He reports 54 cases in which the heart was involved on admission, and of which 34 were discharged with normal hearts. In another series of 31 cases which developed primary valvulitis while under observation, 28 made a good, and in all but 2, to the best of his knowledge, a permanent recovery. The features of this method of treatment are: 1. Absolute rest in bed in order to protect the valves from pressure. The patient is wrapped in flannel from head to foot. A patient with a true valvular bruit is kept motionless in the recumbent position for a long time to slow the heart and prevent blood waves of high tension from injuring swollen or softened valve cusps. 2. Blisters the size of a florin applied singly and successively over the anterior terminations of the first, second, third or fourth dorsal nerve, above but not over the pericardium. The blisters are followed by small poultices. They are intended to stimulate the

trophic nerves of the heart through the sensory filaments of its related skin area and so hasten absorption and repair. 3. Sodium or potassium iodid in from 8 to 10 grain doses thrice daily, and in some cases small doses of mercury, to help absorption of the, at first, imperfectly organized inflammatory products in the cusps and endocardium.

Sansom recommends the bold and prolonged use of the ice bag over the precordial area. Its continuous use is advocated by Robardet, who protects the skin by a layer of flannel. Thompson recommends leeches, sedative applications and the continued administration of aconite.

The most effectual local measure is the continued application of cold to the precordium. Hot applications have an analgesic effect, and are more readily allowed by children, but their effect on the inflammatory condition of the heart is decidedly less than that of cold. Aconite has a distinctly beneficial effect in quieting the heart and slowing its action, Gibson's assertion that it is entirely useless to the contrary notwithstanding. In the excitable conditions of the earlier stages aconite may be combined advantageously with sodium bromid. In certain rheumatic infections of a mixed type the serum treatment may be advisable, but its relation to the conditions under consideration is not sufficiently definite to warrant its present consideration.

STATIC ELECTRICITY IN TREATMENT OF MORPHINISM.*

A. J. PRESSEY, M.D.
CLEVELAND, OHIO.

Electricity, while not old in medicine, can not be considered new. One of the first advocates of static electricity as a medical agent, I believe, was John Wesley. While endeavoring to educate the people to his ideas of a religious life he spent some time writing and teaching how to apply static electricity for the relief of pain and the cure of certain diseased conditions. He must have given the subject considerable thought and study for much of his advice is as good as that of any of the writings we have at the present time. While there is no doubt in my mind that static electricity may be used to advantage in nearly all forms of neurotic troubles, I shall confine myself in this short paper to its use in the treatment of morphinism.

There is no royal road to the cure of drug addictions. There are no specifics, so that every agent that can be found that is of service in some or all of the cases treated is of value and should be utilized as the conditions of the patients require. In nearly every newspaper and magazine, and I am sorry to say that too often in medical journals we find advertised a sure cure for morphin and other drug addictions where the patient will find freedom from further necessity of the use of the drug in from one to ten days. I have investigated some of them during the past ten years and found them all to be cures that do not cure. Nevertheless, most cases of morphinism can be permanently cured. But as in the treatment of other neurotic diseases, we must have time, the coöperation of the patient, employ any and all agents that have been proven to be useful, and then with the tact and skill that comes with reading and experience every patient can be freed from the addiction, and a large majority can be kept more comfortable during their entire treatment than while taking the drug themselves. I have no faith in either the sudden or rapid withdrawal methods. I have known of many patients treated after each of the above methods and I have yet to find the first case that did not relapse within a very short time after treatment. While I do not doubt that some have been cured permanently by each of the methods, it would appear to me that the percentage must be smaller than by the gradual reduction method, or I would have been able to have found at least one person in all these years who had not relapsed.

Static electricity is in no sense a specific or cure for the morphin addiction, although there are many uncomfortable symptoms that arise during the treatment of some cases that can be relieved with the static machine, for which I was formerly obliged to give an increased amount of morphin. A frequent symptom complained of, when the dose of morphin is a little small, is nausea or vomiting or pain at the epigastrium. Nearly always this can be relieved and the patient kept comfortable until the next regular hour for giving morphin, unless there has been too large a reduction made in the dose given. For the relief of the symptom place the patient on the platform which is connected with one of the prime conductors (I do not care which), then with a brush or single point metal electrode connected with the other prime conductor throw a sharp breeze or spray, or if that does not relieve the pain or nausea some small sparks directly over the epigastric region. The treatment should be continued for about ten minutes or until the symptom is relieved, and should the symptoms return repeat the treatment as often as necessary to keep the patient comfortable, which can many times be done and thereby save giving an extra dose of morphin unless, as I have already said, there had been too large a reduction made in the previous dose. Another frequent symptom is a peculiar nervous sensation of the legs described by patients as pulling of the muscles which, if not relieved, will amount to a severe pain and cramps. I have often been able to relieve this symptom with the use of the breeze or spray and prevent giving morphin. Burning of the feet and legs can often be relieved. Headache is of frequent occurrence and can nearly always be relieved with a breeze from the crown of ten or fifteen minutes. When relieved it is liable to return in half an hour or an hour, but a second or perhaps a third application will usually relieve it for that day. Neuralgic pains or what appears to be neuralgic are very common in patients during the withdrawal period, and I have found the static current very efficient in controlling this very unpleasant symptom. No remedy that I have tried have I had so good success with for the purpose of equalizing the circulation as I have with the static current. Many and many a time patients come to me with hands and feet cold and clammy, features pinched and looking sick when with ten or fifteen minutes of a breeze from the head crown and the other electrode applied to the feet all the symptoms would be changed, the entire skin would be warmed and the patient made comfortable. Sleeplessness can in some cases be overcome by a ten minutes' use of electricity just previous to the patient's retiring for the night.

No remedy with which I am acquainted will so readily and universally correct the heart's action as will static electricity under certain conditions. Should a large part of the patient's ordinary dose be taken away at one time electricity would be entirely inadequate to control the heart. But we will presume that the heart is being properly supported with strychnin or some

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

other heart tonic and we have made a small reduction in the dose, enough so that the patient is a little weak and nervous. Under these conditions the slightest cause, either mental or physical, is sufficient to increase the circulation 30 to 60 beats to the minute and make the patient very uncomfortable. Under these conditions electricity is a sovereign remedy. Should the heart become slow and weak the same remedy appears to act about as well. In fact, there are but few of the nervous phenomena due to the withdrawing of morphin but may be modified with the static machine.

Valuable as electricity is in relieving the above symptoms, I consider its greatest worth is as a general nerve tonic. There are many cases that would not probably require any electric treatment during the entire withdrawal period, while many others will be in much better condition at the end of their treatment if they take electricity twice a day during the whole period of withdrawal. I make it a rule to give ten to twenty minutes of a general electrization to all patients who come to me as nervous wrecks, such as a majority of morphin patients are, and I feel sure from experience that they recuperate faster and are more comfortable, and I believe that it is of great importance that patients be kept just as comfortable as possible while withdrawing the morphin. Certain it is that one is far from being in a favorable condition for recuperation when he can not sleep or rest at night, nor eat or be at ease during the day. Most patients can be kept comfortable during treatment and made to improve in flesh and general health, a condition much to be desired by the physician and very much appreciated by the patient.

While static electricity can be considered only as one of the remedies to be used in the treatment of this troublesome disease, it has been a valuable one in my hands. I am thoroughly convinced, after years of experience in the treatment of narcotic drug addictions, that those patients who receive the least shock from withdrawal of the drug, or, in other words, those who are kept the most comfortable during the period of withdrawal, are the ones whom we are able to more nearly restore their nervous systems to a normal condition, and as we come nearer to doing this we increase the probabilities of a permanent cure.

A large per cent. of patients will leave the institution as soon as the drug is withdrawn, and they find it possible to get along without the use of it. Unless there has been considerable repair of the nervous system previous to the time of leaving the institution there will be a very large per cent. of relapses. All patients should remain in the institution until they are quite well and strong.

The one unpleasant feature of static electricity is that all the machines that I have any knowledge of are inclined to take a vacation during two or three of the hot months. However, with proper care they can be made to give some current that will be more or less efficient.

To recapitulate. Reduce the morphin so gradually that there is no shock or irritation to the nervous system. Static electricity will be of service in helping to keep the patient in such a condition that the above is possible. The nearer one can keep the patient in a condition of comfort and ease the better and more rapidly will the nervous system recuperate. Static electricity will help us keep the patient in that condition.

Keep the patients in the institution under tonic treatment until they are as near perfect health as possible.

Static electricity is a good nerve tonic.

900 Fairmont Street.

DISCUSSION.

DR. RICHARD DEWEY, Wauwatosa, Wis.—I would like to ask Dr. Pressey if he used the machine with the mica plates. It is claimed that this machine holds its power better than the others.

DR. A. T. GUNDRY, Baltimore—I would like to ask the Doctor about what percentage of permanent cures he records.

DR. PRESSEY—I have never used a mica plate machine. Manufacturers of the machines with mica plates claim that their machines work better in hot, damp weather than machines with glass plates, and I would not be surprised if it were true. I think there is scarcely any agent that will condense moisture more rapidly than glass at the same temperature. Of course, it is the moisture that collects on the plates that prevents generating a current.

As to the percentage of cases permanently cured, that is one of the most difficult things to answer. I find it almost impossible to keep track of patients so as to know whether they have relapsed or not. A very large proportion of the sporting class (both men and women) will relapse. However, some of them will remain cured.

A large part of the patients that I have treated have been well educated, intelligent people who have become addicted through some misfortune, and not from a desire to dissipate. This class want to be cured and to remain cured, and a large per cent. of them do remain cured. Just what that per cent. is I do not know. I have treated some cases the second and third time, and some of these cases have now been cured three and four years and are all right. It is my opinion that with proper care and treatment 60 to 80 per cent. of the better classes may be permanently cured.

PERIPHERAL NEURITIS AS A COMPLICATION OF WHOOPING-COUGH.*

AUGUSTUS A. ESHNER, M.D.

Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital; Assistant Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Physician to the Hospital for Diseases of the Lungs at Chestnut Hill.

PHILADELPHIA.

Our knowledge of neuritis is of but comparatively recent date. In fact, one of the earliest systematic studies of the subject was made by three American physicians, namely, Mitchell, Morehouse and Keen, whose observations on traumatic neuritis during and following the Civil War have become classical. Isolated cases of neuritis due to other causes had been reported previously, but their nature was not clearly understood and many of them were considered examples of anterior poliomyelitis or spinal muscular atrophy. It was not, however, until 1880 that, largely as a result of the labors of Leyden and others, the clinical and anatomic picture of polyneuritis was established. The etiologic diversity was at the same time recognized and the clinical variability later pointed out. Still more recently the conception of the neuron, comprising the ganglion-cell and its peripheral processes as one continuous whole, has helped to explain on the one hand certain relationships between anterior poliomyelitis and motor neuritis, and on the other hand the similarity between the symptoms of sensory neuritis and degenerative disease of the posterior columns of the spinal cord.

CLASSIFICATION OF CAUSES.

Neuritis may result from a great variety of causes, some of extrinsic, others of intrinsic origin, some local, others generalized in operation, and the character and distribution of the disease will vary accordingly. Num-

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erous classifications of neuritis from the etiologic standpoint have been attempted, but owing to imperfections in existing knowledge none yet proposed is entirely satisfactory. Thus Remak,[1] in his article on "Neuritis and Polyneuritis," makes the following classification:

A. Neuritis of local origin.
  1. Traumatic.
    a. From external injury.
    b. From subcutaneous injections.
    c. Without external injury.
    d. Traumatic ascending neuritis.
  2. Neuritis by extension.
  3. Professional neuritis.
B. Neuritis and polyneuritis from internal causes.
  1. Spontaneous (infectious and rheumatic) amyotrophic polyneuritis.
  2. The neuritic form of ascending paralysis.
  3. Peripheral neurotabes and acute polyneuritic ataxia.
  4. Neuritis and polyneuritis attending and following infectious diseases.
  5. Dyscrasic neuritis and polyneuritis.
  6. Toxic neuritis and polyneuritis.

The causes of neuritis are and of necessity must be the same as those of inflammation in general, and I would accordingly suggest the following classification as being most nearly in harmony with current conceptions of the mode of action of the factors concerned in excitation of the inflammatory process:

A. Physical—comprising the effects of extremes of temperature, mechanical influences, and the like.
B. Chemical.
  1. Acting from within (metabolic), such as gout, diabetes, uremia and the like.
  2. Acting from without, such as lead, mercury, arsenic, copper, alcohol and the like.
C. Biologic—comprising infectious diseases.

This classification comprehends all of the causes of neuritis, as well as of inflammation in general. The chemical causes, however, may in their ultimate action be considered as a variety of the physical. Further, the biologic causes must be viewed as essentially chemical, being effective largely, if not wholly, through the activity of the toxic products resulting from the reaction that takes place between the causative micro-organisms and the invaded tissues, although the irritation resulting from the presence of the micro-organisms in the capacity of foreign bodies can not be entirely ignored. Finally, the separation of the metabolic from the biologic is somewhat arbitrary, as from a liberal standpoint the latter also are metabolic, the causative agency in each instance being of cellular origin. The classification proposed may therefore be simplified by including all of the etiologic factors in one great group, namely, the physical, which is subdivisible into: 1, causes that are chemical, and, 2, those that are not. The former comprise: *a*, poisons introduced from without, and, *b*, poisons generated within the body. The first of these may be of infinite variety, while the second are subdivisible into, 1, those of metabolic, and, 2, those of infective origin.

THE SYMPTOMS.

Among the more distinctive symptoms of neuritis are pain, tenderness and swelling in the course of the affected nerves, with muscular weakness and wasting and degenerative electric reactions and alterations in the reflexes. Sensibility may be heightened, particularly at first, but generally it is impaired in greater or lesser degree. Associated with derangement of sensibility there may be ataxia or other disorder of coördination. The condition of the reflexes, superficial and deep, depends upon the state of the factors that enter into the formation of the reflex arc, although reinforcement may be brought about as a result of either local or general influences. Secretory, circulatory and trophic changes of varied kind in the distribution of the affected nerves are not rare and contractures and arthropathies may occur as sequels.

CASES ILLUSTRATING THE CONNECTION WITH WHOOPING-COUGH.

Neuritis appears to be a rare complication of whooping-cough, not even being referred to in this connection in most text-books and systematic treatises, and only a small number of cases of the kind being recorded in the literature. The inflammation may involve one nerve or many nerves, and those of special as well as those of common sensibility. Of cases of the latter variety I have succeeded in collecting those that follow:

Surmay[2] reports the case of a girl, 5 years old, who suffered from an attack of typhoid fever followed by weakness in the lower extremities. Great improvement ensued and the gait became almost normal. After an attack of whooping-cough six months later, however, the previous condition of weakness returned in greater degree, with foot-drop, almost complete paralysis of the extensors and abductors of the feet and of the muscles of the toes, and from which recovery failed to take place.

In this case there appears to have been a polyneuritis complicating the attack of typhoid fever and recurring in accentuated form in the sequence of an attack of whooping-cough at a later date.

A. Jurasz[3] reports the case of a boy, 2 years old, in whom symptoms indicative of paralysis of the posterior crico-arytenoid muscles developed during the course of an attack of whooping-cough. Inspiratory dyspnea was present, with loud, long, snoring sounds and epigastric and suprasternal retraction.

It can not with certainty be determined from the context whether this case is really one of neuritis, but by reason of the isolated character of the paralysis it was thought justifiable to include the report among this collection. The motor disability may be looked upon as due to degeneration of the posterior crico-arytenoid muscles or their intramuscular nervous elements or of the recurrent laryngeal nerve.

P. J. Moebius[4] reports the case of a boy, 3 years old, in whom six weeks after the onset of an attack of whooping-cough weakness was observed in the lower extremities, with absence of the knee-jerks, but with preservation of sensibility. Subsequently paralysis appeared in the upper extremities, although improvement took place in the lower. The muscles of the neck and the diaphragm also were involved. The reflexes in the arms and legs were lost, and the abdominal reflexes were enfeebled, while the cremasteric reflex was preserved. The functions of the rectum and bladder were not affected. Improvement took place and was rapid and progressive, although the knee-jerks were rather slow to return. Moebius describes the case as one of ascending paralysis, and he considers the involvement of the bladder and the rectum, as well as the speedy recovery, indicative of neuritis rather than myelitis.

E. Mackey[5] reports the case of a boy, 6 years old, who on recovery from a protracted attack of whooping-cough following measles, complained of pain and weakness in the arms and legs, of tenderness in the course of the sciatic nerve, of foot-drop, inability to stand and to move the toes, of loss of the knee-jerk and of the

plantar reflex and preservation of sensibility and of the cremasteric reflex. The affected muscles were flabby, but not distinctly wasted, and they at first yielded enfeebled and later degenerative electric reactions. The pupils reacted to light, the action of the sphincters remained unimpaired and swallowing was not interfered with. The patient grew worse for a time, but subsequently he improved slowly, although the knee-jerk had not returned when the report was made.

F. A. Craig[10] reports the case of a girl, 3 1-3 years old, in whom in the fourth week of an attack of whooping-cough paralysis of the left side of the face with internal strabismus of the left eye appeared. This failed to improve after recovery from the primary disease, and was thought to be due to venous hemorrhage into the medulla resulting from the increased pressure to which the veins were subjected in consequence of the violent spasmodic cough. It seems not impossible, however, that the symptoms might be due to inflammation of the sixth and seventh cerebral nerves.

Chas. Leroux,[6] in the course of a paper on the forms of paralysis attending whooping-cough, cites a case reported by Andre Moussous before the Bordeaux Society of Medicine on May 12, 1891. The patient was a child, 18 months old, who, during an attack of whooping-cough, had three convulsive seizures attended with fever and followed on the next day by paresis of the lower extremities, extending to the muscles of the trunk and the neck, without wasting or reaction of degeneration. The voice acquired a nasal character and liquids ingested were regurgitated through the nares. The reflexes could not be determined on account of the movements of the child. Sensibility was unimpaired and the functions of the bowels and the bladder were preserved. For a time there was alarming difficulty in breathing, but subsequently improvement set in and progressed to recovery.

Although this case is reported as one of peripheral origin, the development of the motor disability following convulsions, the mode of extension and the absence of wasting, of degenerative electric reaction and of sensory impairment at least raise reasonable doubt as to the seat of the disease and its character.

M. L. Guinon[7] reports the case of a girl, 5 years old, who, during the subsidence of an attack of whooping-cough, complained of pain in the lower extremities, with paresis, loss of knee-jerks, enfeebled plantar reflexes, weakness of the muscles of the trunk, neck and upper extremities, fibrillary tremor of the tongue, incontinence of urine, bilateral internal strabismus. Some of the affected muscles exhibited partial degenerative electrical reaction, others simple reduction in electrical irritability without qualitative change. Deglutition was not deranged. Improvement gradually took place, but scarlet fever and diphtheria occurred as intercurrent affections.

The foregoing represent all of the cases of peripheral neuritis complicating whooping-cough that I have been able to collect in a cursory search through the literature. I have intentionally omitted from consideration instances of optic neuritis and also cases complicated by deafness and probably due to disease of the auditory nerve, and of each of which a few examples have been reported. Other portions of the nervous system also, brain, medulla, spinal cord, may suffer—inflammation, hemorrhage, thrombotic or embolic softening—in connection with diphtheria, but it would appear from the evidence that the complications involving any portion of this system are uncommon, although it is true that convulsions are not altogther rare at some stage of the disease. To the rarity of paralysis as a complication of whooping-cough Valentin[8] has recently called attention. He was able to collect 83 cases due to all causes, and of these 62 were of cerebral origin, while but four were pontine, bulbar or spinal. P. Horveno[9] had previously stated that but few cases of paralysis of peripheral origin in the sequence of whooping-cough had been reported.

BIBLIOGRAPHY.

1. Nothnagel's Specielle Pathologie und Therapie, xi B., iii Th., iii Abth.
2. Archives générales de Médecine, 1865, p. 678.
3. Jahrbuch für Kinderheilkunde, 1879, xiv B., p. 277.
4. Centralblatt für Nervenheilkunde, Psychiatrie und gerichtliche Psychopathologie, March 1, 1887, p. 129.
5. British Medical Journal, Aug. 25, 1894, p. 407.
6. Journal de Clinique et de Therapeutique Infantile, March 31, April 7, 14, 21, 28, 1898.
7. Revue mensuelle des Maladies de l'Enfance, 1901, xix, pp. 327, 529.
8. Thèse de Paris, 1901; British Medical Journal, Epitome, March 15, 1902.
9. Thèse de Paris, 1899; British Medical Journal, Epitome, Nov. 11, 1899.
10. British Medical Journal, June 13, 1896, p. 1440.

DISCUSSION.

Dr. E. G. Carpenter, Columbus, Ohio—I would like to express my gratification at the new classification suggested. There seems to be so much confusion with regard to classifying the different phases in which neuritis expresses itself. This classification shows that the causes of neuritis have a common derivation, and the internal and the external causes, which are largely toxic, lay claim to the majority of the cases of neuritis. The pathology and histology of the disease bears this out, for the findings show especially changes in the anterior cornua cells, such as simple swelling and those indicating atrophy. Changes also occur in the nerve fibers in which they may be seen as segmented. There are changes in the nuclei, not only of the cells, but also of the neurons, and in the membranes of the vascular system. These changes show that the toxic influences have impaired or destroyed the nutrition of the neuron paths. Speaking again of the classification, frequently different titles have been given to these conditions, such as diphtheritic, alcoholic or puerperal neuritis. You might as well speak of typhoid neuritis, or the name suggested by any other infectious disease. I do not know how to explain these cases of neuritis caused by certain vocations, and would like to have a little light on that subject from the reader of the paper if anything has been given to us to show what changes have taken place in neuritis from a vocation.

Dr. Eshner—I am not quite sure that I gather just what Dr. Carpenter means when he refers to the cases of professional origin. If by that term he intends to include the cases of occupation neurosis, I am somewhat at a loss to answer. The occupation neuroses I am inclined to consider a form of local neurasthenia, if we may be permitted to use such a term. As has been stated on several occasions in this meeting, I think we must look on the whole group of so-called neuroses as expressive of nutritive disturbances. This is a view that I have long maintained, and I consider that factor as the underlying cause in the whole group of cases designated functional and which are attended with more or less definite symptomatology, but in which we have as yet been able to discover no lesions, microscopically or macroscopically. With regard to the disturbance in cases of occupation neurosis, I am scarcely willing to consider it in the nature of neuritis. I believe that certain changes take place, probably in the cells of the cerebral cortex, perhaps in the peripheral nerves. The cases in which neuritis occurs as a result of intoxication, as from lead or mercury or arsenic, or the like, in the course of various occupations are readily susceptible.

Receding Gums.—The application of glycerite of tannin to spongy and receding gums will be found effective. Whether this condition be due to ptyalism or debility following acute disease, the topical use of this simple remedy will be satisfactory.—*Med. Standard.*

A NOTE ON THE CHEMICAL DIAGNOSIS OF HYPERNEPHROMAS (SUPRARENAL TUMORS) OF THE KIDNEY.*

ALFRED C. CROFTAN, M.D.
CHICAGO.

In two recent publications[1] I have shown that a watery extract of fresh suprarenal glands possesses the following properties:

1. Injected into the body of a dog or a rabbit it produces glycosuria (see also Blum's, Zuelzer's and Herter's recent publications).

2. It possesses the power of converting starch into dextrose and maltose and this power of the extract is lost on boiling.

3. It causes the blue color produced by iodin in a starch solution to disappear.

I am indebted to Dr. A. O. J. Kelly of Philadelphia, whose work on hypernephromas is well known, for the suggestion that possibly hypernephromas possessed properties similar to those shown to be possessed by the suprarenals themselves. It seemed possible that an investigation of this question might lead to an additional and important means of differentiating hypernephromas from tumors derived from proper renal structures.

Inasmuch as it was thought that conclusive evidence might not be furnished by old preparations of hypernephromas, the matter remained in abeyance until an opportunity to investigate the subject was afforded by the obtaining of a fresh hypernephroma at a necropsy performed by Dr. A. O. J. Kelly at the German Hospital, April 20, 1902 (Necropsy No. 460). The results attained with this specimen suggested the wisdom of extending the scope of the investigation so as to include (a) that portion of the kidney from this case that was not yet invaded by the tumor growth; (b) several old hypernephromas; (c) a squamous epithelioma developing from the mucous membrane of the pelvis and invading the kidney structures, and (d) fresh normal kidney tissue.

Dr. Kelly has kindly furnished the following description of the fresh tumor:

The fresh hypernephroma was obtained at necropsy from a male subject, aged 42 years. The tumor growth occupied the upper two-thirds of the right kidney which measured 15½x10x7 cm., and weighed 600 grams. The tumor was entirely subcapsular, well circumscribed and consisted of spheroid or ovoid nodules that varied somewhat in size, and that were whitish or yellowish-white in color and moderately firm. The growth was evidently fatty and was somewhat soft in certain regions, but marked retrograde metamorphosis was nowhere to be seen. The growth invaded the pelvis of the kidney but had not penetrated the mucous membrane. Microscopically the tumor consisted of a stroma made up of a rather close network of capillary blood vessels and of cells intimately associated with the capillaries and arranged in rows and larger masses within the meshes of the vascular network. In great part the capillaries were collapsed. The single layer of endothelium of which the capillaries were composed was generally intact. The arrangement of the cells within the capillary network recalled the zona fasciculata of the suprarenal, that is, the cells were arranged in rows and double rows, and in some places in larger masses. Except in the larger masses the cells were attached directly to the endothelium or the capillaries, and this was true also of the more external of the cells in the larger masses. The tumor cells varied somewhat in shape; for the most part they were polygonal, but some were distinctly columnar. The cell protoplasm was faintly granular and contained rather large droplets of fat (in preparations after treatment with alcohol and ether the fat droplets were represented by large vacuoles). Generally the cells were well preserved, being epithelial in appearance; they contained a single nucleus that stained well and revealed distinct nucleoli. Droplets of glycogen also were present in considerable numbers. In the center of some of the larger collection of cells more or less necrosis was present.

THE POWER TO PRODUCE GLYCOSURIA.

Twenty grams of the fresh hypernephroma were mashed into a fine pulp with sand and the mass extracted with 100 cc. of distilled water. Of this extract, after filtration through a gauze filter, 50 cc. were injected into the muscles of the lumbar region of a rabbit. The first urine was passed 10 hours after the injection. It reduced Fehling's solution, turned the plane of polarized light to the right, gave a positive fermentation test and formed a typical dextrosazon with phenylhydrazin. The urine contained 2.47 per cent. of dextrose. The second specimen was voided fourteen hours after the injection and contained 1.65 per cent. of dextrose. The third specimen was passed between the twenty-first and twenty-fifth hours after the injection, and contained only a trace of reducing substance, the nature of which could not be determined. The fourth specimen examined after twenty-nine hours contained no sugar and was altogether normal. The animal recovered. No bile pigment was at any time voided nor was the area of injection discolored as in some of the injections with suprarenal extract already reported.

THE DIASTATIC ACTION.

A watery extract of the fresh hypernephroma was prepared as mentioned above, and equal portions were distributed into several test tubes containing equal portions of dilute starch solution. Four of these test tubes were boiled, four were not boiled. To all of the test tubes 2 *pro mille* of sodium fluorid were added in order to prevent the action of bacteria. At the expiration of 24 hours the tubes were examined for sugar. It was found that the tubes that had not been boiled contained appreciable quantities of dextrose, but that those that had been boiled did not reduce Fehling's solution and did not respond to other tests for dextrose. The conditions found correspond in all respects to those described in regard to the action of suprarenal extract on starch solution. A series of tubes was also prepared in the same manner with glycogen instead of with starch, and it was found that here, too, hypernephroma extract formed sugar, but that no sugar was formed if the extract was first boiled.

THE POWER TO DECOLORIZE IODIN-STARCH SOLUTION.

Equal portions of starch solution having been distributed in several test tubes, hypernephroma extract was added to one-half of them, and then one drop of an alcoholic iodin solution was added to each. Those tubes that contained no hypernephroma extract immediately turned blue and remained blue; whereas those tubes that contained hypernephroma extract turned blue for an instant only and became immediately decolorized. In performing this test care must be exercised not to add too much iodin solution, as in the presence of a considerable quantity of the iodin the decolorization proceeds very slowly. If a great excess of the iodin is added no decolorization whatever may occur, as, of course, the power of the small amount of active substance in the hypernephroma is limited—the decolorization being, in my opinion, a purely chemical process, in contradistinc-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

1. Concerning a Sugar-forming Ferment in Suprarenal Extract. A Preliminary Report on Suprarenal Glycosuria. American Medicine, Jan. 18, 1902, vol. iii, p. 113. Das diastatische Ferment der Nebennieren. Pflüger's Archiv für die gesammte Physiologie, 1902.

tion to the sugar-forming power that I consider to be of a fermentative character.

So much having been demonstrated, two old hypernephromas, that had been removed at operation by Dr. John B Deaver[2]—one from a woman, aged 49 years, on April 16, 1899, and the other[3] from a man, aged 45 years, on Feb. 25, 1902, were furnished by Dr. Kelly and investigated by me. Since removal both of these tumors had been preserved in formalin. Both gave a typical iodin reaction, but extracts made from them did not produce glycosuria when injected into a rabbit, nor did they possess diastatic powers. Extracts made from that portion of the kidney not yet invaded by the fresh hypernephroma as well as extracts from other fresh kidney tissue and from the squamous epithelioma developed from the mucous membrane of the kidney pelvis were submitted to these tests with a negative response in each case. The squamous epithelioma of the kidney pelvis had been in formalin and alcohol since May, 1899.

THE VALUE OF THESE FACTS.

In view of these results I believe that it is possible by these simple chemical tests to differentiate hypernephromas from other tumors of the kidney. The last named reaction in particular is so easy and rapid of execution, and so characteristic, even pathognomonic, of suprarenal tissue that, should the occasion arise, it might be made use of as a convenient and time-saving means for diagnosticating hypernephromas immediately at the time of operation or at the necropsy table.

Not the least interesting results of these investigations has been the demonstration that the cells of hypernephromas are not only morphologically identical with suprarenal cells, but that they are also functionally identical with them; and it is especially interesting that this functional activity should be preserved in the large mass of cells making up the massive and malignant hypernephromas which, as is well known, result from proliferation of aberrant suprarenal rests that are often microscopic in size.

It is probable that by means of these tests we may also be enabled to determine the exact nature of certain bodies found in the broad ligament in the female and in the spermatic cord, etc., in the male, and known as Marchand's adrenals. During recent years these bodies have been the subject of much controversy, the question at issue being whether they are to be looked upon as aberrant suprarenal rests or as more or less independent bodies. I intend to apply these tests to these bodies as soon as material can be procured, and I believe that should the tests respond positively we shall be justified in declaring these bodies to be aberrant suprarenal rests, whereas should the tests respond negatively we shall be compelled to conclude that they are more or less independent bodies.

It will be interesting to pursue this line of thought and to endeavor to ascertain whether or not other groups of specific tumor cells found in localities remote from the location of the parent growth (metastases) also possess the functional properties of the organ from which they are derived.

DISCUSSION.

DR. H. R. GAYLORD, Buffalo—I am especially interested in this communication of Dr. Croftan, as for nearly two years we have been looking for a hypernephroma to determine if these tumors contain the adrenal principle. The chemical work was done by Dr. G. H. A. Clowes, chemist to our laboratory. The first tumor examined had been hardened in formalin, and the second proved to be an adenocarcinoma, and for these reasons both gave negative results. We have a number of hypernephromata which we shall now submit to the test which has given Dr. Croftan such interesting results. This line of research is of the greatest importance, and we believe with him, that along these lines lies the solution of many difficult problems.

DR. LEO LOEB, Chicago—In certain cases tumors seem to produce the same substances which are normally produced by the cells from which they originated. In this regard Von Eiselsberg's observation, according to which a metastasis of a tumor of the thyroid prevented the results of removal of the thyroid itself, has especially become well known. It is, however, doubtful if tumor cells are always identical in their chemical activity with the normal cells from which they are derived. Certain investigations might be cited against this view. I also might mention that I observed lately in an animal an epithelial tumor of the mammary gland which neither during nor after pregnancy produced any milk.

DR. E. LIBMAN, New York—Four years ago I performed an autopsy on a young woman who died of diabetes, and found an enormous hypernephroma weighing about seven pounds. I was inclined to think there was some connection between this tumor and the diabetic condition. I am more impressed with such an idea since hearing Dr. Croftan's paper.

DR. CROFTAN—The question of this diastatic ferment in the blood is a very interesting one, but this is not the place to discuss the etiology of suprarenal ferments. My theory is that the suprarenal gland has one of two functions: it either secretes a diastatic ferment which, entering the blood in excessive quantities, converts the glycogen into sugar, causing a flooding of the blood with sugar, or it acts as a disintoxicating organ. As there are a great many cells of the sympathetic type in the suprarenals we can understand how in either case stimulation or inhibition might regulate the amount of diastatic ferment in the blood and in this way control the amount of dextrose poured into the blood.

Some of you may not know that to Dr. Porter more than to anyone else is due the credit of the fact that a laboratory can now be fitted out at a small expense, owing to the many improvements he has made in physiological apparatus and his endeavor to cheapen the cost of same.

2. See A. O. J. Kelly, On Certain Tumors of the Kidney—Hypernephroma, etc., Journal of Medical Research, 1902, Case No. 15.
3 Ibid., Case No. 16.

A STUDY OF SIR JAMES PAGET IN HIS WRITINGS.*

HELEN C. PUTNAM, A.B., M.D.
PROVIDENCE, R. I.

"Examine men's ruling principles, even those of the wise, what kind of things they avoid, and what kind they pursue."
—Antoninus.

By chance I was searching English medical journals for a special item two years ago, at the time they were containing obituaries of Sir James Paget. My attention was held by the ring of personal affection and esteem in practically every mention. Their essence seemed to be: He was a great surgeon and pathologist, an ideal teacher and lecturer, and the best loved of his profession in Great Britain. Any one of these records in the book of fame would satisfy a large majority; and the wish arose to learn more of their combination in a single individual. The question came to mind: How far may the personality of a scientific man be revealed by his writings?—"the subtlest form," Phillips Brooks has said, "in which biography can take its shape."

In this attempt to answer the interrogation concerning one so lately living and known to many others, whatever of presumption there may seem to be will, I trust, be overlooked in view of the fact that my motive is that his good influence may be prolonged by better acquaint-

* Read before the Rhode Island Medical Society, June 5, 1902. Published by courtesy of the Committee on Publications before appearing in the Transactions. (A bibliography of Sir James Paget will appear in the Transactions.)

ance with his good life which I hope to interest you to make. I shall endeavor not to trespass on his Memoirs, lately edited by one of his sons, but to leave them for your own reading.

HIS EARLY PAPERS SHOW ORIGINAL OBSERVATION.

It is always interesting and often instructive to trace success to its beginnings, to estimate how far from them it advanced and along which of the early lines. There is a fine consecutiveness of development in the writings of Sir James Paget that indicates persistency of purpose and well-balanced judgment. When he was 20 years old a little book appeared by himself and his older brother Charles, "The Natural History of Yarmouth." The entomology was written by Charles, the botany and introduction by James. Curtis, in his British Entomology, calls it "an invaluable abstract of local information, and an admirable example, which I hope to see followed in every county." In the *Lancet,* thirty-two years later, is a letter by him in reply to a request for information, telling of an event in his first year in medical college with which every student of science must feel a thrill of gratulation. He saw the same "spiculæ of bone" in the flesh of a subject in the dissecting room that teachers, pupils and scientists had noticed in other subjects. But Mr. Paget, barely 21, "an intelligent first year student," with the habits of a naturalist such as any boy may acquire, looked closely through his lens, saw that the spiculæ were cysts, in each a coiled up worm; and so, in 1835, *Trichina spiralis* came to be known, a scientific discovery, as Dr. Cobbold, an authority on entozoa, says, "one of the happiest to which Englishmen can point." A good introduction to fellow-students and teachers it certainly was in those early days of the microscope.[1]

The first paper I find with his signature is in the *London Medical Gazette* three years afterwards, and during the first decade of professional life papers appear each year. We notice that home journals and foreign quote them or refer to them with approval; justly, for they have characteristics not commonly found even in older writers. He signs himself "M. R. C. S., Demonstrator of Morbid Anatomy and Curator of the Museum at St. Bartholomew's Hospital." He then adds "Surgeon to the Finsbury Dispensary," and later, "Lecturer on Physiology and Warden of the College at St. Bartholomew's," or "Lecturer on General and Morbid Anatomy." In those days of the infancy of pathology, physiology and museums, these offices could hardly have brought much income. He writes almost exclusively on minute anatomy and physiology, and translations or reviews of scientific work. These two items—his positions and his subjects—with the fact that the numerous papers evidence much time spent in original observation in museums and dissecting room, and much more time in reading many French, German and Dutch, Latin, Italian and English authorities, justify the conclusion that private practice was small, and that he was working faithfully to gain an income and for love of his profession.

His first subject is "On some of the diseases of the papillæ of the cutis"; other titles are "On the blood vessels of tendinous tissues," "The influence of madder on the bones of growing animals," "White spots on the surface of the heart, and the frequency of pericarditis," "Obstructions of the branches of the pulmonary artery." His object in each is to contribute something from his own observations of preserved specimens or of fresh anatomic material, or of his experiments in physics, physiology and chemistry. He outlines the ideas of others, correlating his own, and referring in footnotes to original authorities or to catalogued specimens. In the first essay are very noticeable his methods and even vocabulary of botanic study. His naturalist's habits of close observation, careful reasoning and accurate description are demonstrated by the writings of this period to have been, beyond doubt, a very large part of the foundation on which success was built. "Very, very few are the men," Dr. Billings writes, "who can by and for themselves see and describe the things that are before them."

A WRITER ON PROGRESS IN MEDICINE.

During the second half of these ten years he regularly contributed annual reports of progress in anatomy and physiology to the *British and Foreign Medical Review.* With their abundant references to authorities in any of six languages they are marvels of condensation and analysis. They testify to his good judgment in discriminating between authors and selecting from their observations, manifest now after sixty years. They show rare thoroughness and extent of reading, justice and courtesy to authors and readers, straightforwardness of purpose to present fairly and to make his material as useful as possible to others. It was a high compliment to so young a man to be connected with Dr. Forbes on this remarkable quarterly that probably has had no superior among English periodicals and that did much to raise standards of medical literary work.

We also discover him listed among contributors of articles (unsigned) on surgery and anatomy to the *Penny Cyclopædia.* Special mention should be made of his seventy-five (approximately) sketches of early physicians in Long's Biographical Dictionary, some of them indicating that he criticised their works after his own thoughtful reading. Such study of professional careers by this keen young observer must have implanted many ideas of what is most and least worth while in the conduct of a physician's life, and, with his extensive scientific reading, have had a profound influence in molding his own. It must also have had some considerable share in cultivating his later exceptional ability and interest in character study.

We next find him signing himself "Assistant Surgeon," and publishing his "Lectures on Surgical Pathology" given before the College of Physicians, from which we infer that the preceding ten years of unusual industry were beginning to materialize in professional and financial returns. His writings in those years give evidence of capacity for the hardest mental work and of ambition to serve along every line in his power, pathology, histology, anatomy, physiology and literary effort. He had utilized his minor offices to their fullest extent for acquiring a liberal and accurate fund of information, and by publishing so much he indicated his spirit of helpfulness. His essays are characterized by simplicity of style, accuracy, conciseness; a logical sequence of thought that makes reading easy; a faculty of seeing much in common subjects; a fondness for tracing back to principles, of fitting facts to facts, that adds to the interest and usefulness of what he writes and leaves an impression of truth. They show much shrewd sense, and a love of justice in giving credit where it best seemed to belong. One concludes the author to be a hard-working and alert student, a helpful, stimulating teacher, a young scientist of sincerity and independence without egotism.

1. The history of this discovery is interesting from several viewpoints. It can be traced in The Lancet, 1866 (Paget, Wilks, Presidents of Abernethian, Cobbold and others); Lond. Med. Gaz., 1833 (Hilton), 1835 (Wood, Farre, Owen).

As we glance over those Annual Reports and later writings we find such names as Schwann, Vogel, Henle, Kölliker, Nägeli, Virchow, Pasteur; Liebig, Purkinje, Claude Bernard; Broca, Flourens, Marshall Hall; Darwin, Huxley; Helmholz, Faraday; Dalton, Draper and scores of others that recall vividly to mind the fact that James Paget by his reviews, translating and experimenting was helping introduce the very earliest reports of revolutionizing ideas that flooded periodicals after the invention of the compound microscope: the protoplasmic cell replacing John Hunter's "vital fluid"; the contention of *omnis cellula e cellula* and spontaneous generation; bacteriology, preventive inoculation, serum therapy, parasitic diseases; antisepsis and anesthesia; pathology, histology; our modern physiology and organic chemistry; the laws of atoms and molecules, of electricity, of conservation of energy; the theory of evolution; our knowledge of the nervous system, of reflex action and cerebral localization. Many of these one will recognize as having been a battleground for popular prejudice or for professional myopia.

PAGET'S AVOIDANCE OF CONTROVERSY.

But we find no hint of contention, no "personalities" in what he wrote. He showed sound judgment in selecting "facts, probabilities and guesses" from pages teeming with them, proving himself a cautious thinker who led, as teacher and writer, so discreetly as not to need to retrace his steps. His peaceful course was in part due to his large knowledge that enabled him to look on many sides of the subject, to his truthfulness and zeal for progress that guided him along right lines; to a tactful method of presentation, passing by logical steps from one thought to the next, no assertion without correlation, avoiding non-essentials that might antagonize, and a trained insight taking him to the heart of the subject with clear and simple words. His discussion of antisepsis in 1879, read with other addresses and remarks in the same volume, illustrate this, particularly his pithy common sense, "A patient ought to be cured with as little risk to his life as possible"; "It is not enough that he just escape with his life"—the debate being on whether "partial antisepsis" (cleanliness) was not "just as good," its statistics showing up so well.

He was a leader in matters the subject of controversy yet not a controversialist. By request, I imagine, he wrote for two lay journals on the alcohol question and on vivisection. Dr. Oliver Wendell Holmes condenses his own philosophy in not being drawn into these affrays, in the Professor's "hydrostatic paradox of controversy." "You know that if you had a bent tube, one arm of which was the size of a pipestem and the other big enough to hold the ocean, water would stand at the same height in one as in the other. Controversy equalizes fools and wise men in the same way—*and the fools know it.*" Sir James Paget with his love for humanity and understanding of "the falsehood of extremes," says: "Of course, among the opponents of experiments on animals there are several very different groups, and with some of them it is useless to appeal to reason. Some have committed themselves to the agitation, and can not recede without discredit or more material loss, and some are carried on with so strong an impulse of a mind once made up that they can not pause for a revision of their judgment. . . . That which is most to be desired is that persons with fairly balanced minds, with at least an average both of humanity and of capacity for judgment in cases in which deep feeling may be stirred, should study the whole matter, and judge of experiments on animals as they would of other practices in which utility or even pleasure is pleaded as justifying the infliction of pain."[3]

Concerning total abstinence as the only sure remedy for intemperance, "Here, I can only doubt," he says. "I should think that in this, as in other things lawful yet tempting to excess, the discipline of moderation is better than the discipline of abstinence. But it is certain that we have no facts at all by which to estimate . . . .; we have nothing from which we may make even a fair guess, or which would justify a great experiment. . . . But some will say, what is this moderation? How may we define it? Let those who thus ask try to define, to the satisfaction of any ten persons, what, under all circumstances and to all people, is moderation in bread, or the wearing of jewels, in hunting or the language of controversy."[4]

On both topics he wrote with wide outlook and frank courtesy. Later he spoke on "Science versus Classics" in education, also on "Theology and Science," to which we shall return. Natural law in sociology as in physics seems to be that a centripetal "conservatism" and centrifugal "radicalism" are necessary to generate the median line of true progress. He was in neither extreme, however they may have influenced him, but steadily in the line achieving progress. Yet with all his moderation he could on occasion excel in scathing displeasure, as two or three short notes concerning unethical conduct bear witness.

QUALITIES OF HIS CLINICAL PAPERS.

Reports of his clinics at St. Bartholomew's are found after 1847 for twenty-four years, nearly every week in either the *Gazette, Lancet,* or *British Medical Journal.* While not his writings their brief consideration here may be allowable since they are records, sometimes by shorthand or revised by himself, of his extemporaneous speaking and of his operating. They bring him before us with more reality than do his essays as an accomplished diagnostician, skilful, prudent, ingenious operator, and wise and interesting instructor. We see him as deservingly a leader here as he was along corresponding lines in science and as hard a worker. He was prompt to test new methods, resourceful, original, careful in details, humane; his comments showing again his spirit of helpfulness, sympathetic understanding of students, clearness of expression and thought, large information and experience.

So admirably do these frequent reports reflect the actual surgeon and teacher that one could wish the useful and sometimes brilliant clinics of our own distinguished surgeons could have been or could be preserved with regularity and accuracy in our journals. They would be, as those of Sir James Paget now are, valuable portraits for historian and biographer, as well as helpful to readers not privileged to be present; better often than some of our papers and duplicated abstracts.

It may be admitted of reports of cases and clinical papers that, unless one has some special interest, the majority are read, when they are read, rather from a sense of duty and with uncomfortable effort of mental application. The clinical writings of a few are exceptions, and among the few is Sir James Paget. It is a common experience after reading his first sentences to

3. A characteristic reply follows in Fortnightly Review, 1882.

4. In closing a discussion, carried through several evenings, on the pathology of alcoholism, he comments upon the amount of uncertainty in every subject of this kind when discussed by those who have seriously considered it and are competent to form an opinion; contrasting it with the positive statements by those who know comparatively little of the matter.

continue from genuine interest. Perhaps we may specify a few of the qualities to which the attractiveness is due. His introductory words are simple, are clear and present a genuine thought lighting up his subject. Continuing with easy expression, with rarely a superfluous word or statement, each sentence a definite addition to the development of his thought, his presentation is completed and the reader has found no place to skip because irrelevant or wordy, no weariness because obscure or difficult; but the pleasure that always goes with old ideas well put connecting with new ones evidently true and of value. He has succeeded in what was apparently his wish—that his experience should be as genuinely useful to others as his description can make it.

His clinics and clinical papers, his discussions of cancer and pyemia can well be called, in his words, "Some of Time's old mirrors, upon which, if our thoughts be directed aright, they may be reflected in lessons of wisdom which we may contemplate to our own instruction. . . ." The lecture from which I quote testifies to his scientific spirit in the daydawn of science, to his faith in the future of scientific medicines, his broad philosophy; and it contains an historic bit of humor. While looking through eighteenth century records (to which his happy phrase, "Time's old mirrors," refers) for the origin of the Arris and Gale Lectureship, he finds that at one time the members of the Company of Barbers and Chirurgeons were most indifferent to these lectures on anatomy and surgery. At an executive session it was unanimously voted that each of them who at any time "should attend any of the lectures on anatomy to be delivered in the theatre, should be entitled to and receive the sum of 5 s. out of the cash of the Company." Professor Paget calls this "very cheap devotion of themselves, the principal members of the profession, to the personal encouragement of scientific teaching," and states that not until 1803, when the Company of Surgeons became the College of Surgeons by Royal Charter, did they abolish this "bounty of 5 s. for listening to the Professors."

ADDRESSES AND LECTURES.

In 1862, at the first meeting held in London by the British Medical Association, Mr. Paget gave the Address in Surgery, his subject being "The management of patients after surgical operations." For us of 1902 perhaps no more graphic sketch can be drawn of the state of the best surgical thought and practice just when Pasteur's brilliant investigations of ferments were focusing the observations and hypotheses of others in the question: Why may not communicable diseases, puerperal infection, pyemia, have their origin in germs and be preventable? As became a teacher Mr. Paget did not attempt to answer the speculation; but he impresses us with the urgency of its being the next thing for science to clear up. We see how an earnest, honest, acutely observant, keenly intelligent, humane surgeon struggled in the darkness to find light. In simple words he tells of rigors. "What is the meaning of this strange shuddering preceding, as it so often does, some of the most fearful maladies we have to deal with?" After outlining an autopsy, he says: "We must believe something from the seat of operation passed into the blood and utterly spoiled it." He tells of the improvements in surgical methods by which "we are adding constantly to the list of things that may be done to save life. But on all this, which might be so bright, a cloud rests like a dark pall." The simplicity of his words and the intensity of his searching thought become eloquence, and the impressive picture thrills us who see the answer to all he asks just within his grasp. Many years after, in a plea for acquiring early habits of scientific observation, he said: "It would be a very useful book, I think, if some one would write . . . . a history of the oversights . . . . of things which have been under men's feet, plainly before their eyes. . . . ."

A lecture on "Dissection Poisons" is of special interest because his study of a nearly fatal illness of his own. Commenting on his loss of the immunity which he used to have when dissecting daily, he says: "How it comes to pass we can not surely tell, but the fact of an acquired immunity seems certain. I wish some of you would study these immunities more than any one has yet done. They are of infinite interest in physiology . . . and of still more interest in pathology." This was ten years before the incident of Pasteur's forgotten culture-flask of chicken cholera microbe—the beginning of scientific study of immunities.

FORESHADOWINGS OF DISCOVERIES.

In many other of Sir James' essays we find foreshadowings of scientific discoveries. So extensive and accurate was his information that, knowing the existing limits of knowledge, he looked beyond the barriers with wisdom and courage to indicate where these might and should be broken through. And not infrequently he led the way, as in his "Disease of the Mammary Areola," "Osteitis Deformans," and other papers.

Underneath, throughout and over all his teachings is found by his constant example and speech this precept: The future usefulness of the profession lies in scientific progress; this is to be built up by facts from allied sciences that stand the test of clinical experience, and by our own accumulated clinical studies according to scientific methods; but our first business is to cure the patient, and we are and long will be certain of many remedies which we can not explain. Scientific study carried along with practice he never loses an opportunity to urge and to commend all through his professional record, whether in address, essay or biographical sketch. His criticism is constructive; encouraging, instructing, stimulating. He was a utilitarian in the sense that he valued knowledge and endeavor, and even pleasures, in proportion as they better the individual and society. The "utility of science" is a favorite topic.

His addresses on formal occasions, as the opening of annual sessions or new institutions, his presidential addresses before clinical and pathological societies, the British Medical Association or International Congress, commemorative addresses such as the Bradshawe, Morton, Croonian lectures, light up still more the features of his portrait we have discovered; but the temptation to quote must be cut short. One must often admire the plasticity of simple English as he adapts it with so much ease to fine shades and strong expressions of thought. These addresses bear witness above all to his being a philosopher—a lover of wisdom who does not find it in isolated facts, but rather in such a joining of them together as to create a compact force for good. His intellect traveled around and through his subject, fitting in and adjusting the new-found truths. His chief motive in addressing non-professional audiences was to correlate scientific work with popular life as part of the whole progress of humanity. Indeed, he believed that the general study of science would be the most efficient protection against quackery and anti-science.

Many titles excite one's curiosity, as "The Cause of Rhythmic Motion of the Heart," "Rare and New Diseases," "The Chronometry of Life." I would not men-

tion his "Elemental Pathology"—my own happiest of introductions to his writings several years ago—if it were possible to deny myself the pleasure, it is so fully spoken of in his Memoirs. Of this and his Hunterian Oration one must say, read both, for none will deny them place among our classics. The former traces the likenesses and unlikenesses between human and plant pathology. Before one advances far into this wealth of novel scientific ideas so charmingly set forth, one involuntarily exclaims: "What an interesting man this must be!" We are reminded of Washington Irving and his fluent grace; of Thoreau observing nature so minutely, and seeing in familiar details so much more than the material facts; of Dr. Holmes and his sagacious philosophizings; but the author in "Elemental Pathology" stands out pre-eminent as the brilliant scientist.

He questions into the coloring of autumn leaves and why they are symmetrical as, when younger, he speculated on the causes of pathologic symmetries in man. Many more foreshadowings of scientific discoveries are here, e. g., "In these galls and other similar diseases in plants, we have, it seems, hundreds of specific diseases due to as many hundred specific morbid poisons." After outlining the insect diseases of plants with a suggestiveness that pervades the whole address—for which "fascinating as any romance" is none too much to say—he adds: "It would be difficult to find a field for the study of the very principles of pathology larger or richer than this offers to you."[5]

HIS RELATIONS TO STUDENTS AND EDUCATION.

That he was invited to give so many addresses to students, and their content as well, make us believe him popular among his juniors. They have the same tactful courtesy, practical good sense, earnestness for industry, for scientific medicine and for high principles. He believed in honorable competition since it is a stimulus to better work for ourselves and for the community we serve; and humorously introduces this subject in an address before a "rival" Provincial college by the three queries: "Can one's rival be abolished? If he can, ought he to be so? If he can not, in what condition is it best to have him?" He believed in frequent examinations; "they are the best means of learning how to keep knowledge in such a form that it may be always ready for use." They are excellent training "in the art of thinking during anxiety and other mental troubles." He tells how to pass them, and how to cram for them; about recreations to get back "a clearer head, a stronger will," about how to succeed in practice and the rewards: "Competency of living; the society of educated men; blessings from the poor; recompense, with gratitude, from the rich; boundless fields for intellectual exercise; access to the richest stores of knowledge, for the glory of the Creator and the relief of man's estate; daily inducements to the exercise of the highest Christian virtues." But not wealth, ease or high social or political influence. He teaches that professional success is more in proportion to knowledge than to anything else; but inadequate knowledge is not so great a bar to success as are certain personal defects, such as self-distrust, unbusinesslikeness, discourtesies, disparagement of others. When it is said that a man's success is greater than he deserves, study that man. He probably has some good quality that enhances his professional skill—such as close attention to his cases or the rare gift of common sense. "There is nothing incompatible in intellect and good temper. Knowledge and good manners are not mutually exclusive; the same mind may be scientific and businesslike." He is enthusiastic in presenting the usefulness, dignity and honor of the profession.

His emphatic advice to undergraduates is to "first, last and always combine the study of actual practice with that of the principles and foundations of our profession," . . . "from the beginning to the end of your career, and day by day you must study diseases and their treatment in actual practice. There is nothing of which the observation of the careers of students has made me more sure than of this." Excepting university men with high degrees, "as a constant rule, the best students, and they who have proved themselves the best, not only in the schools, but in after life, have been those who, in the beginning of their studies and for the most part before attending lectures, have been pupils in the provincial hospitals or with active and intelligent general practitioners, who have enabled them to see practice every day and helped them to study it. I am aware that this opinion—that the study of actual practice should extend through the whole period of medical education—is not held by some who have carefully thought upon the subject. . . . . Much of our first learning consists in learning to know things by sight and by other senses, before any consideration of whether we understand them; and much of technical language and of mere routine must be learned, which any one may learn, whether he understand them or not; and many things may be learned and remembered which we may afterward come to understand. And besides all this, there is in practical medicine and surgery a great deal of knowledge which can not yet be, in any proper sense, understood; that is, which can not be reduced to principles, or connected with any laws of physiology or other parts of medical science. Yet it is real knowledge, true and very useful; and it can be gained only in the study of actual disease and its remedies; and there is so much of it that in all the time you can spare, through the whole period of your pupilage, you will not be able to learn it all. But learn all you can of it; for it is eminently the kind of knowledge which is useful in practice, and of which, as years pass on more and more will be incorporated in the true science of medicine. . . . . I do not advise you to study practice to the exclusion of these things [science], but to study it with them and with their help." Elsewhere he speaks of the early special education of the senses "which can hardly be begun too soon and which becomes more difficult the longer it is deferred."

HIS VALUATION OF SCIENCE, CHARACTER AND THEOLOGY.

These opinions he held before 1865, and again in 1890 he says: "You hear a good deal said by some that science is the only way to success; by others that practice is the only way to what is right. After watching for a great many years I am disposed to tell all students now—and I think the rule may hold good for others besides those in medicine—both those should be worked together." After urging faithful devotion to science before and after graduation, he says concerning the belief of some that success in both science and practice is not probable: "it is quite as absurd as the talk that scientific men can not be good men of business, or that they can not have a love of art, or that they can not fully entertain the Christian faith."

One of his opening addresses to students at St. Bartholomew's closes: "But above all, be sure that your

5. It is interesting in this connection to note Dr. S. Weir Mitchell's recent offer of a prize of $50 (annually for a short period) for investigations of the causes bringing about the autumnal coloration of plant parts.

knowledge be not polluted by any irreligion . . . for it is only by joining the study of Revealed truth with that of science, that our science can be perfect. For we stand, as it were, in the centre of an area of light and truth, and whichever way we move, except in one, we come too soon to the twilight, and then to the deep darkness, of that on which the light of science has not yet shone. But, in that one direction there is no twilight; there, if we follow in the line of truth, and do not with a mad conceit refuse the proffered help—there is the path of Revelation, and there the light of science is not lost—it merges in the more glorious light of faith."

"Theology and Science," an address given to students preparing for ordination at the Clergy School at Leeds, might well have for its sub-title, "the philosophy of controversy." He was at that time 67 years old, and it may be taken as his mature thought by which he guided his own conduct. He finds it "a law of our nature that, on all doubtful matters, the vast majority of men refuse to wait for knowledge, and arrange themselves in parties, each of which maintains that itself is sole possessor of the truth." He says it is well to remember that this seems to be "a law of our nature" because it may help to show that some antagonisms are not wholly the fault of those engaged or of the subjects which they discuss. Here we find one of the epigrammatic comments so frequent in his writings: "We love to hold by what we think, for what we think has in it more of ourselves than what we know."

He argued that modern specialization is unifying knowledge and will eventually fill up the intervals by which our beliefs now stand apart: "For future knowledge will not be merely heaped up on the surface of that we now possess; it will penetrate the mass and fill its gaps and interspaces, and make many things one which as yet seem multiple and alien"; as its growth has harmonized many truths apparently in discord, so will it again in science and revelation, although perhaps not in just the ways we anticipate.

HIS SKETCHES OF OTHERS SHOW HIS OWN CHARACTER.

His personal relations with others as shown by his writings were courteous and generous. He was also a keen reader of character. His essay, "What Becomes of Medical Students," indicates that his former position as Warden gave him opportunities which he embraced for comparing early tendencies and their results in after life. This unique analysis could well be reprinted and made easily accessible in every medical college reading room. Its statistics and comments are as impressive as a laboratory demonstration. His conclusion is: "There is scarcely any mental capacity of which the results may not, in the long run, be surpassed by those of constant strong willed resolution." Of his masterly appreciation of John Hunter as man and as physician he says: "After having studied Hunter's life and all his defects of temper and of general culture, of social skill and of all the arts of pleasing, nothing has seemed clearer than that the power of a great intellect, with a strong will and a right aim, is, in the competition of life, sufficient and irresistible; and that, among all the intellects and wills that I have studied, not one was stronger than John Hunter's." But that he would advise another way to success he leaves no doubt.

His life sketches of contemporaries are interesting, not only as studies of character, but as showing what he valued in men's lives and wherein he thought lay failures. Of two promising careers cut off in middle age he says: "Such were the Ormerods. I believe it is not only my affection for them that makes me think their lives should be recorded, both for just praise and for lessons that may be read in them. I only wish that my record could teach all that I studied in them, for to have known them . . . . is one of the responsibilities of my life. Chiefly, they were very dutiful. Whatever came to be their duty, whether through choice or circumstance, they did it with all their might. . . . . And they did not go far away or take much thought to find where or what was their duty. It was always at hand, in the common business of their calling, or if beyond this, in the nearest and best work for which they could fairly, or even modestly, think themselves fit. . . . . Turned from the course of life they wished for, they went into that which then seemed best, and did their best in it. With equal patience they endured the weariness and pain of disease; and not only with patience, but with hope. . . . . They had studied human life in all its aspects and had learned nothing concerning it of which they were more sure than that it was benevolently designed to be the way to an eternal happiness. . . . Over all that were associated with them they had the influence accorded to those who are respected for being always just, virtuous and very prudent, though, on just occasion, not afraid to maintain hard truth; over intimate friends they had, besides, the influence of those who are loved for wisdom, purity, tenderness and watchful courtesy."

It was probably by wise design that he published these and certain other character sketches in the Hospital Reports (St. Bartholomew's) where generations of students can read them.

Of one physician he says: "The rare charm of his personal character moved many to work with him and multiplied the power of his own work." He speaks often of the ability to work with others harmoniously as one of the most important qualities for success. Of two he says: "They included in their duty the striving to find everywhere how they might do more good than in the same conditions had ever been done before." Of another: "He was a strong instance of that fault that sometimes goes with honesty; he was so sure that his convictions were the result of hard and well-intentioned study; so sure that he sought the truth, and sought it on the right way, that he was wholly unable to believe that any one, with equal honesty and almost equal industry, could arrive at conclusions different from his own." Another "was a many-sided man and on all sides good." He likes to mention "the personal and social qualities commanding the confidence of the public. He was gentle in voice and manner; cheerful, warmhearted and kindly in his judgment of others; firm in his friendship, and had a tender-hearted love of home." He loses no chance to commend in their lives any study of natural science which they have kept up, as Edward Ormerod's study of wasps, and several times mentions carpentery as having been a recreation. He especially commends simplicity, clearness and accuracy of speaking, teaching or writing, originality, orderliness, painstaking and dexterity.

In one admirable character sketch he approves business and executive ability. "He was prudent and judicious." "He acted discreetly, persuading, not trying to compel." "He could work with everybody, not because he tried to let everybody have his own way, but because he was always patient, calm and courteous." In debate or controversy "he was liberal, forbearing, gentle." "Everywhere he was a peacemaker."

We believe it legitimate inference that one who so persistently noted these several traits in others, and

whose writings for half a century serve as a confirmatory context, must have modeled his own life accordingly. In a most graceful and tactful address as President of the Section of Surgery of the British Medical Association at Norfolk, in his native county, he recalled the several surgeons he had known more than forty years before when an apprentice, with affection and fine discrimination crediting the good qualities of each. Thus honoring their memories he still more, quite unconsciously, honored himself by disclosing the nobility of his philosophy of judging and remembering others. His frequent appreciation of the good in past work, in history and in men past and present, seems one with his reverence for universal good, with his respect for the individuality of others, and his interest in his students. It could have been no small factor in his influence and in his hold on the affections of others.

While wandering through highways and byways, on southern mornings, searching for an old plantation house, the air musical with bobolinks and mellow voices of toilers in the cotton fields, the Cherokee rose and yellow jasmine swaying out from boughs of stately pines, radiant sunshine and grateful shade, when the homestead was still quite distant, I have felt my quest was nearly ended by a consciousness of some subtile fragrance—all pervasive, yet so delicate as not to be described or easily perceived, even on close approach—the fragrance of the old box borders in the garden; a breath far wafted, yet so elusive that consciousness of it is stronger than of the source from whence it comes.

And so, in tracing Sir James Paget's character through the grace and polish, the science, wisdom and philosophy of his essays and addresses, in addition to the qualities we can indicate, is a subtile, all-pervading attractiveness of personality that we can not find words to make clear; and by our failure we understand better than before the feeling with which his son wrote the last words of his brief preface to the Memoirs: "Other friends have contributed accounts of him as they best knew him. But, for all the good help that has been given the book is not worthy of his memory."

There is no life chronicle—at least I know no other—fitter to put in the hands of a medical student for his help in college days; of a physician for his guide to living in the "waiting years," his wise friend in success, and his consultant in the years of ripening and passing on; and all the charm and interest of its autobiography, its events and quotations have been left quite untouched for your own individual fresh enjoyment; to be supplemented as often as may be by his writings themselves.

Feeding the Cow.—Dr. C. L. Case of Ramona, Cal., has been reading articles on infant feeding and expresses surprise that none refer to feeding the cow to secure suitable milk. He writes to *American Medicine:* "This is the plan I follow: A healthy cow is selected with a calf as nearly as possible the age of the baby, older rather than younger, if a choice is necessary. The cow is given dry feed, plenty of hay and bran, and no green feed for the first two months, and above all no bitter weeds. To begin with I order 2 oz. of boiled milk, 2 oz. of boiled water, 1 oz. of limewater, 5 grains of white sugar, and 1 grain of salt every two hours, to be put into an eight-ounce graduated nursing bottle with no tubes. I gradually increase the milk about ½ oz. each month for each feeding. I also increase the sugar and salt in proportion with the milk, but the other ingredients I leave the same in quantity for about nine months, when the child usually passes from under my care and begins to eat with the family. The intervals between feedings are to be increased 15 minutes each month up to six months and night feeding done away with as much as the child will allow."

Special Article.

BLOODLESS OPERATIONS FOR THE REDUCTION OF DEFORMITIES.*

ADOLF LORENZ, M.D.
PROFESSOR IN THE UNIVERSITY OF VIENNA.
VIENNA, AUSTRIA.

INTRODUCTION.

Complying with the request of your president to appear before this distinguished audience, I must begin with the admission that I feel myself to some extent embarrassed. The reasons for this embarrassment are obvious. More than anything else the feeling disturbs me that I may stir up your resentment by the ill-usage of your fine language—that with every word I may commit the offense which the Frenchman so cleverly calls *ecorcher sa langue*—"to flay his mother-tongue."

Another reason for my disquietude lies in the entire and extraordinary situation in which I find myself through the boundless hospitality of Northwestern University—through the conferring of the degree of "Doctor of Laws" by which I may enjoy the distinction of belonging to the university as an honorary member. I can only assure you that I know how to prize highly this honorary degree.

I must here remark that in the Old World also an honorary title has been given me. You know very well what a great part titles and orders play in the Old World. The title which was conferred on me by His Majesty, the Emperor Franz Josef the First of Austria, reads: "Imperial Counselor of the Government."

Now this old and this new title have a certain inner relationship. This relationship consists in the fact that, without doubt, I am the worst counselor of the government and quite as much without doubt the worst doctor of laws anywhere to be found; for I understand fully as little about government as I understand about laws.

From this it seems to me that the distinction of a degree is so much the greater, the less a man is entitled to it by his respective knowledge. And, therefore, I prize the honor which has been conferred on me through the bestowal of this title of a "Doctor of Laws" as one so high that I feel myself entirely unworthy of it.

If, nevertheless, I accept this honor, it is because I look on it not as a personal one, but regard myself only as the agent of courtesy which the Northwestern University desires to bestow on the long-celebrated School of Medicine of Vienna, a member of which it is my greatest pride to be.

This honoring of one school by another is a beautiful expression of the always deeply-rooted feeling that science is one united power which throws a common bond around all nations; that there are, especially for the medical art and science, no separating boundary posts, no dividing ocean, no different nations. The science of medicine joins her adepts around the world in a great brotherhood, whose common highest law is the law of humanity and brotherly love.

In this sense I accept with deepest thanks the distinction that has come to me, and ask your forbearance and goodness if I shall endeavor in the following to bring before you some remarks of a general nature concerning the character and object of bloodless operations.

THE POPULAR IDEA OF SURGERY AS BLOODY.

The terms "surgery" and "bloodless" appear at first sight, according to general comprehension, each to exclude the other; for surgery is known more than anything else as a bloody art. And yet the word surgery means nothing else than handicraft, technical skill or dexterity. What the hand creates need not mean the shedding of blood. The hand can also caress and coax. But the coaxed of the surgical hand have always certainly a dubious character. In order to characterize bloody surgery, one must speak of it as surgery with the knife. The layman can not conceive the surgical hand otherwise than

* An address delivered before Northwestern University, Nov. 28, 1902, at the conferring of the honorary degree of Doctor of Laws on Dr. Lorenz.

armed with the knife. He thinks as the German poet, Uhland, writes, of the hand of the barbarous king whom the minstrel cursed: "Und was sie schreibt ist blut"—and what it writes is blood!"

The surgical therapeutics of the ancients armed the hand of the surgeon with fire and sword, as is seen from the old sentence: "*Quod medicina non sanat, sanat ferrum, quod ferrum non sanat, sanat ignis, quod ignis non sanat, sanat mors*"—"What medicine does not heal, the knife heals; what the knife does not heal, fire heals; what fire does not heal, Death heals." The flaming sword or the glittering surgical knife should, according to the rule of the ancients, be held by the strong hand of a young man. Ancient surgery demanded in fact the following qualities from the surgeon: "*Chirurgus autem sit juvenis, visu alacri manu strenua nec unquam trepidante; sit im misericors,*" etc.—"The surgeon must be young and gifted with a sharp eye and a hand that never trembles; be merciful," etc. One, indeed, need not wonder that the poor sick man in past centuries perceived in this barbarous, sharp-eyed youth, armed with fire and the sword, the typical surgeon of that time—an executioner rather than a savior. To that was added the terrible certainty of feeling without any relief every motion of the knife, every touch of the glowing iron. Then when the terrible torture was past and the brutal work of the surgeon was finished, his responsibility was at an end, for, to speak briefly, the course of the wound was left more or less to favorable or unfavorable chance.

A celebrated French surgeon of the middle ages, Ambrois Paré, used to say, after the completion of his operation, "*Moi, J'ai vous ai opera, Dieu vous guerisse*"—"I have operated on you; may God heal you!" Modern skill has taken from the dismal picture of ancient surgery much of its terror. Although the surgeon of to-day does also work with fire and the sword; although his eye is sharp, his hand is sure and never trembling; yet his heart is filled with mercy and all his transactions are determined by a feeling of responsibility for his acts. With the finishing of the operation, his responsibility is not at an end; perhaps, in truth, it first begins here. The course of the treated wound is no longer dependent on accident, but will be determined by the sure skill of the antiseptic and aseptic. If the cure does not take the course desired, the modern surgeon no more prays, "*Dieu vous guerisse,*" but he asks himself: "Wherein lies the mistake that I have made?"

If the bloody operation under the protection of modern asepticism has, for the most part, lost its dangers, so it has also, through the help of narcotics, been deprived of practically all of its horror, and dreams may flit about for the patients in those critical moments when the hand of the modern surgeon invades vital organs of which the ancient surgeon had not the remotest idea.

THE FEAR OF THE KNIFE.

But notwithstanding all the progress of surgery and the surgeons, it remains a distinguishing characteristic of human nature to fear the surgical knife and the loss of some of the costly fluid which all vital energy kindles and holds. "Blood is a special kind of sap," very rightly says the poet, and so thinks mankind.

The fear of the knife, however, rules not only the lay public; the doctors also, including the surgeons, do not remain exempt from it. I knew a great surgeon whose daily occupation it was to rummage in the bowels of his fellow mortals, and who himself was so shy of the knife that he could not come to the decision to allow an infectious abscess to be opened with the knife, and who preferred to await in pains the spontaneous breaking of the abscess.

Concerning this, different nations are to different degrees shy of the knife. In general, I have received the impression that the Americans, as a whole, are much less afraid of the knife than are the Europeans. I believe that the American would allow himself to be quartered if thereby he could reach his goal. The greatest fear of the knife rules among the Orientals. The Mohammedans, as a rule, flatly decline an operation, and prefer to allow the celebrated prayer, "*Alah il alah Mohammed rasul Alah!*" to be written on a plate by the hand of a priest, after which they wash off the ink and make use of the water as a remedy. The inhabitants of the Balkans, also, in so far as they are not Mahommedans, characterize themselves by a high degree of fear for the knife and by great vulnerability. It is not easy to compel them to agree to an operation.

Indeed, there is a fear among these shy of the knife that is still greater than the fear of the knife itself—it is the fear of the certain death near at hand, if a life-saving or a life-prolonging operation be omitted. In this lamentable situation there disappears among most men the fear of the knife, and we see that under such circumstances the affair changes sides. The patient begs for the knife and the conscientious surgeon sees himself often enough compelled to deny the request of the patient. "Surgery may not be drawn down to the level of the quickening position," one of my teachers used to say. Speaking in general, the surgical knife remains the "*ultima ratio,*" to its own harm, according to the old rule, "*Principiis obsta,*"—"Resist the very beginnings!"

We can calmly say that with the position of surgical skill at the present day and the high moral worth of contemporary surgeons, the fear of the knife by the layman is unfounded, and the educated public has, for the most part, removed this fear to a distance. There is, however, also a well-founded fear of the knife. This fear of the knife, I conceive when the knife is not the only, and, indeed, not the best means to bring about the cure.

ORTHOPEDIC SURGERY.

Such cases in which the knife does not present itself as the best means for healing belong particularly to the province of orthopedic surgery, that branch of general surgery which concerns itself with the treatment of the misformation and crookedness of the human body, especially in the case of children. In orthopedic surgery the endeavor has been made from remotest times to solve the problems of therapeutics in a bloodless way. But these efforts were nearly fruitless, since the means were entirely insufficient.

A celebrated example of the fruitlessness of this endeavor is afforded by the English poet, Lord Byron, on whom a freakish nature bestowed not only poetic genius but also a club-foot. He carried the club-foot to the end of his life. One of his biographers tells us that Lord Byron in his entire life could not get away from two things: his club-foot and the hypocrisy of his people. A still more celebrated example of the incurability of club-foot with the means then at hand as bloodless surgery is offered by Cardinal Richelieu, who took his club-foot with him to his grave. No more than club-foot could other deformities be brought to cure by the means then at hand in bloodless surgery.

THE DISADVANTAGES OF BLOODY ORTHOPEDY.

From this manifest fruitlessness of orthopedy, it was no wonder that surgery awakened to a new life by antisepticism, seized all problems in orthopedy and disposed of all misformations and crookedness in a bloody way. The principle of this therapeutics was bone resection. So and so much of every bone or part of a bone through whose change of place and shape the deformity depended was extirpated until the crookedness became straight. The principle of operating-orthopedy consisted also of this, to fit the skeleton, that is the bones, to the shortened soft parts. Without doubt, the results reached in this way were remarkable. But important objections may be made to these results; through bone-resetting a deformity may indeed be straightway corrected, but the straightened limb remains crippled, notwithstanding, since the formative groundwork, the skeleton, has become crippled. Such a limb remains shortened, much less adapted to its function. A club-foot, for example, which has been treated with bone-reseeting may be battered partly in its form, but it remains, nevertheless, still a crippled foot, since through the operation it has been shortened, since its joints have become in part destroyed, since its mobility has been lost, so that it can no more lift itself up and perambulate in normal manner on the floor. Let this example serve for many others.

A second objection to the bloody operation in orthopedic surgery is based on the accompanying dangers which are not

less by single operations than are the dangers of the most difficult invasions in abdominal surgery.

We know very well how to meet the dangers, but our certainty never can be absolute, for our measures of precaution always remain incomplete, as in everything human. *"Errare humanum est"*—"It is human to err!"

One should never forget that the orthopedic operations are not demanded as life-saving measures. The operations are not an absolute necessity, the deformity would not hurt life and the patients can reach an advanced age even with their infirmities. The life of the patient, therefore, should never be endangered by an orthopedic operation.

THE JUSTIFICATION OF BLOODLESS METHODS.

From the previously-stated reasons, the endeavor, by the introduction of new and successful methods, to make bloodless orthopedy capable of competing with bloody surgery seems to me to be justified. That bloodless procedure can be successful has been proven for hundreds of years by the crippled feet of noble Chinese women as well as the skulls of South American tribes, modeled to desired forms. But the Chinese method of crippling the foot requires years of care and pains.

In order to be capable of competing with bloody surgery, a bloodless method must give at least as quick and as sure results as the bloody method. If the bloodless method unites the swiftness of the result, with absolute lack of danger, it can become superior to the bloody method.

The foundation of success of bloodless orthopedic knowledge won by experience of the extraordinary plasticity of human tissues, especially the tenderness of it in youth. One can, therefore, characterize bloodless orthopedy as plastic bloodless surgery.

THE MECHANICS OF BLOODLESS ORTHOPEDY.

The essence of plastic bloodless surgery is the extremest conservatism; it forms the strongest opposition to surgery by extirpation and resecting; it takes away nothing from the body, it merely gives the individual parts of it another form. This transformation does not take place through mutilation of the skeleton, or through fitting of the skeleton to the soft parts. Bloodless plastic surgery, on the contrary, opens an entirely opposite way, it regards the bone as somewhat invulnerable and fits the shortened soft parts to the unchanged and unshortened length of the bone.

This fitting on of the soft parts occurs by means of the gradual stretching by manual or instrumental force, exactly regulated as desired, in extreme cases through the subcutaneous tearing of the shortened soft parts. Plastic, bloodless surgery, therefore, regards the youthful tissue as plastic clay, which to a certain extent it remodels in new forms.

The creation of new forms can obviously follow only in the natural way of joint-movement. This way is more or less closed by the crookednesses of the human body, since the bones have been deformed and the mechanism of movement has been destroyed, and since the shortened and shriveled soft parts hinder this movement. The chief problem of plastic bloodless surgery is, according to this, to stretch the shortened soft parts in a bloodless manner until they have the normal length, and to lead back the pathologic joints to postures best adapted for their function.

The direct effect of plastic bloodless surgery is limited to the soft parts. The bones have retained their abnormal form, and have simply been brought into changed relations one to the other. The plastic remodeling of pathologic bone forms into normal forms or those approximating to that which is normal is left to Nature. Nature does not do this voluntarily, but must be compelled to do so. The second, and quite as important, task of plastic bloodless surgery is to create this compulsion.

One means only exists by which Nature can be forced to lead back an abnormally-formed bone to a normal or nearly normal form, and this magic means is "the function of the bone as a carrier." The entire problem of plastic bloodless surgery, therefore, is to transform in a bloodless manner crooked limbs into normal postures, that the same (in this normal position) may be subject to function-rendering. Two simple examples may explain what I mean.

CLUB-FOOT AS AN EXAMPLE.

Look at the congenital club-foot. You can easily construct the picture of such a club-foot if you think of a normal foot rolled up to a spiral, so that the sole of the foot is turned in and the back is turned out. The problem therein consists of unrolling this spiral without disturbing the integrity of the skeleton. As I mentioned already, the resecting of bones is a very barbarous and maiming means, which would not be an unrolling, but a dismemberment of the spiral. The unrolling follows very lightly through the so-called modeling redressment, which either with manual, or in the case of older children, with machine power, stretching out all the shortened soft parts until the spiral becomes unrolled and the deformed bones can be brought into a normal position to each other. If a foot unrolled in such a way be held in its normal position and weighted down with the weight of the body, then Nature, through the law of the *functionelle anpassung*, discovered by J. Wolff, takes care of the restoration of the normal forms, and the club-foot remains permanently healed. The patient himself, so to speak, has trod his foot into the normal form.

CONGENITAL HIP DISLOCATION.

Another classical example for the bloodless plastic surgery is the congenital dislocation of the hip-joint. The problem here is the same in fundamental principles as that of the club-foot. The bones of the hip-joints must first be brought into proper opposition, be held in this position and in this position become subject to the function of weighted carrying.

The bloody opening of the joint pointed out the way to solve the problem of setting the dislocated joint in a bloodless manner. Through the preservation of this reposition and by means of the burden of the weight of the body on the head of the thigh placed in the insufficiently-developed socket, the possibility is given for the socket to deepen itself, and to a certain extent to grow about the head, so that finally it gains the power to retain it permanently.

Should it not be possible to fit the head in the normal place, it can, under the influence of function form a substitute socket, near the normal socket place, and while no ideal healing will be reached in such a case, there will, nevertheless, be a remarkable functional improvement.

Particularly in the treatment of the congenital hip dislocation, plastic bloodless surgery has to boast of its greatest and everywhere recognized results. In the case of the bilateral dislocation, this result is for the laity also a convincing one, especially if it sees the profile of such a child before and after the successful treatment. The completely-deformed body, with its ape-like habit and the ugly, protruding posterior and the prominent belly and the very ugly zigzag attitude has been restored as through a wonder to that normal and beautiful form which blooms, according to our German poets, on Olympus.

A BROAD FIELD FOR BLOODLESS METHODS.

In the two examples mentioned above, bloodless plastic surgery has substituted, for two really dangerous and threatening operations, means that are harmless and bode no danger. The same thing is the case with the wry-neck, a deformity which, if it be treated timely, that is, in childhood, in nowise demands any mutilating resecting of the muscles, but, on the other hand, may be surely and quickly healed in an entirely bloodless manner.

A broad field opens itself for plastic bloodless surgery in the treatment of the angular deformity of the joints. Only in the case of complete bony ankylosis bloody separation of the bones is indispensable. At least 95 per cent. of all the angular deformities of joints are not bony but fibrous, and, therefore, subject to the bloodless plastic surgery. Here the question is one of rapid rectification by means of the modeling redressment and the consolidation of the newly-created relations through the weighting-down function. Grave bloody operations may, in this manner, be avoided. Many problems of orthopedic surgery have not yet been solved by means of the plastic bloodless method. For example, the healing of lateral curvature of the spine is still an open question. Certain it is, that this cure can never be reached by means of operations: If it be at all possible to cure lateral curvature it will be effected in a

bloodless manner and by bloodless methods, which are analogous to the customary methods of plastic bloodless surgery. The lateral curvature of the spine will be overcorrected, and in the overcorrected position be subject to the function of weight-bearing. Until the present time, there has been wanting only the technical skill to carry out this plan. I can not here go into the subject, but I also claim that in the local treatment of tubercular joint diseases in children the bloodless conservative method in all cases shows better final results than the bloody method of treatment by resection. It is a principle of my bloodless treatment to restrain the function only so long as it is painful, that is, for so short a time as possible.

At the end of these detailed statements I should add that general surgery works very often with bloodless means. I recall simply the bloodless treatment of strictures and bone fractures and dislocations which has been a prevalent one for generations.

THE TREATMENTS OF FRACTURES.

In modern times, operative surgery has tried, with little success, to usurp the therapeutics of fractures. When the Röntgen rays taught that it is seldom possible to fit exactly the fractures of bones together one on the other, some surgeons proposed to lay bare every fracture, to fit the broken surfaces exactly together, and then to fasten them by means of nailing. Entirely apart from the wanton danger, called down by this procedure, the functional results throughout were not encouraging. The healing was of long duration; the patients succeeded in getting the use of their limbs later than with the old treatment, which, according to general experience, still had in great part quite satisfactory functional results, even if the anatomic results still left something to be wished for.

AMBULANT FRACTURE CASES.

Certainly the old bloodless treatment had great defects; the greatest and grossest of these shortcomings consisted in the exceedingly long exclusion of the broken limb from every function. Fortunately a reaction is under way against this method. I believe that the total omission of fixation of a fracture and simple massage treatment went too far and shot over the goal. The correct means will be to limit the fixation to the absolutely necessary minimum, and to prepare by massage for the taking up again of the functions. My maxim is to fit the bones well to each other, to fix them very exactly, and for the rest, to treat the fractures by the ambulant method, that is, to allow the patient to go about after a few days. Through the irritation of the function, the healing follows much quicker and surer than by absolute rest. I have had the experience that children who, from whatever reason, had broken the thigh or leg bone, could by suitable fixation of the limb walk about without pain as early as three or four days afterward. It is then my principle to restore as soon as possible the function of the broken bones in order to make use of this function of irritation for quick and sure healing. The care of the soft parts is a matter of secondary importance.

CONCLUSION.

The question is at hand whether the bloodless method can have any kind of a future in general surgery. No one knows. Impossible, however, it is not. At all events everyone filled with the spirit of humanity must wish heartily for it.

At the present time hundreds of wise men of all nations are studying the question whether the cancer, this most terrible scourge of mankind, is of parasitic origin or not. If the cancer is of parasitic origin, as one must hope, and as many of the most respected surgeons believe, then it may be possible that a curing antitoxin will be found. Then the prophesy of the great Joseph Lister, spoken as he gave his fellow beings antisepsis, will be appropriate for the second time: "Surgery will be quite different from what it has been heretofore."

If this boon should come to mankind, then, general surgery also will give way to a very little sharp but harmless instrument—the hypodermatic syringe.

May the twentieth century give to the world, burdened with pain and death, this savior of mankind. The nation which gives birth to this genius will become the first nation of the world through this one deed!

Clinical Report.

REMOVAL OF A SHOE BUTTON FROM THE NASAL PASSAGE.

H. M. CHILDRESS, M.D.
PADUCAH, KY.

In October I was called to see Eva, aged 6 years, who apparently had a severe case of postnasal catarrh. The general health was good. The history of the case is as follows: The first appearance of any trouble in the nasal passage was noticed four years ago. The symptoms at first were mild, but after a year they grew worse, and a slight cold caused the right nasal passage to close up and the right side of the face to become swollen and painful. The trouble finally extended to the right ear, and there was more or less suppuration, with very offensive odor, through the external ear. A physician treated her for catarrh for about three years. I learned that the treatment consisted mainly in spraying the nose with carbolized solutions and the application of various ointments.

I found no marked hypertrophied conditions, which led me to believe the passage was obstructed by a foreign body, and my diagnosis was confirmed when I removed from her nose a shoe button, located between the inferior and middle turbinated bodies, which had by some means gotten into the passage and remained there for a period of four years and had escaped detection. The button was of the ordinary rubber-like composition, and when removed was rough with depressions and abrasions. The wire eyelet crumbled on attempting to pick it up; the rubber composition, however, was still firm and retained its original shape and was perfect except as to the rough depressions. The patient recovered.

Germany's Latest Sanatorium, the Beelitz.—The success of the recent Tuberculosis Conference lay in what was seen rather than what was heard, and the great sanatorium at Beelitz was one of the most interesting sights. It has been recently constructed by the sickness insurance system "Landesversicherungsanstalten," for working people. It is about an hour's ride from Berlin, in the midst of pine groves, and is divided by roads into four parts, completely separating the sexes, and with one quarter devoted to tuberculous subjects who are thus isolated from the other inmates. The aim is always the restoration of the ability to earn a livelihood. The institution is at present arranged for 600 beds. There is a central heating and lighting plant, and the steam is forced through underground pipes to the various buildings. Each bedroom contains two to five beds, but the bathing and washing is in separate lavatories with special arrangements for rinsing the mouth. The inmates are trained especially to extreme cleanliness and care of the mouth. There is no luxury, but all is on the principle that the best is the cheapest in the end, and conveys the impression of luxury. The buildings are constructed with a view to the maximum of light and air. The entire institution is an object lesson of the benefits to be derived from the insurance legislation in Germany and the far-sighted policy of the insurance societies which are spanning the country with a network of sanatoria, as a matter of business.

Ross Combats Malaria in Egypt.—The Suez Canal Company asked to have Dr. Ross sent out to suggest measures to combat malaria at Suez. The local physicians had been studying the cause why mosquitoes were so prevalent in that arid country, although there seems to be no stagnant water for them to hatch in. They found that although the surface is dry, yet there is moisture close to the surface in many places, forming concealed marshes, revealed only by occasional tufts of grass. They found the anopheles at these points, and Ross has already instituted measures for their destruction on the lines that have been so successful in Western Africa.

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WHEN AND HOW PHYSICIANS DIE.

During 1902 the deaths of 1,400 regular practitioners of the United States were noticed in The Journal. This is probably within 5 per cent. of the total mortality in the profession of the country, as our facilities for obtaining notices of deaths are very complete. The total number of physicians in the United States is probably about 105,000, and the number of regular practitioners about 95,000. Consequently, the death rate for the year was about 14.74 per 1,000, a lower rate than is usually supposed to obtain in the profession. The statistics of life insurance companies claim a mortality rate per thousand among physicians of 7 at the age of 25; 15 at the age of 35; 21 at the age of 45; 34 at the age of 55, and 112 at the age of 65. The statistics of the United States Census of 1900 show figures which closely parallel our findings. While the details at our command are not sufficiently minute to enable us to make exact deductions, as they were usually derived from lay sources, still an analysis of the recorded cases presents a number of points of interest as regards causation, age at death and length of practice.

Of the 1,400 deaths recorded, in 616, or 44.7 per cent., no cause of death was given, or the cause alleged was so manifestly incorrect or incomplete as to be valueless. The principal causes of death were heart disease, 111; pneumonia, 107; paralysis, 63; tuberculosis, 61; accident, 60; nephritis, 47; typhoid fever, 45; apoplexy, 42; malignant disease, 31; appendicitis, 25; septicemia, 25; suicide, 23, and homicide, 13. Of these causes "heart disease" probably includes a number of cases of so-called heart failure; under "paralysis" are probably classed various nervous diseases terminating in that condition, and "apoplexy" may take in several causative conditions.

In 328 instances, or 23.4 per cent., the ages of the decedents were not given. The extreme limits of age were 21 and 96. Between the ages of 21 and 30, 67 deaths occurred; between 31 and 40, 137; between 41 and 50, 159; between 51 and 60, 173; between 61 and 70, 212; between 71 and 80, 220; between 81 and 90, 94, and 6 deaths occurred in individuals above 90.

The age of greatest mortality was 75, with 30 deaths; then followed 70 and 78 with 29 each; 80, with 28; 64, with 27; 63, with 26, and 35 with 25 deaths. The minimum of deaths, one, occurred at the ages of 21, 91, 93, 94 and 96. A graphic curve representing the deaths of the year in numbers by decades would show a rapid rise to 35, a slight rise thence to 65, a very slight increase from 65 to 75, the maximum. Thence there is a rapid drop, the minimum being reached at 95. A similar graphic curve based on the statistics of deaths of physicians in the United States Census, shows distinct parallelism, but the curve of the mean annual death rate of England and Wales for 1881-1890 rises symmetrically, reaching its maximum at 75. The mean average age of deaths among American physicians in 1902 was 58 years, 7 months and 29 days.

The number of years during which the decedents had practiced also varies within wide limits. In the case of 108, or 7.7 per cent., it was impossible to determine the duration of practice. The recorded limits varied between the year of graduation and 70 years, each with two deaths. In the first decade of practice 219 died; in the second, 246; in the third, 229; in the fourth, 235; in the fifth, 199; in the sixth, 143, and in the seventh, 21. The average duration of practice was 28 years, 10 months and 28 days. The greatest number of recorded deaths was 40 in the twentieth year of practice; 32 in the fifth and twenty-fourth years; 31 in the tenth, thirty-fifth and forty-second years; 30 in the fourteenth year and 29 in the sixth, twelfth and thirty-sixth years. A graphic representation of the length of practice would show a rise in the first and second decades; a slight decline in the third decade, and a slight rise in the fourth, followed by a sudden and progressively increasing angle of decline.

So far as these necessarily incomplete statistics go, they show that physicians lead a relatively sanitary life and that they practice what they preach.

THE CELLS IN INFLAMMATORY PROLIFERATIONS OF CONNECTIVE TISSUE.

The nature and fate of the cells in areas of inflammatory proliferation have been the subject of investigation and discussion among pathologic histologists since the very beginning of cellular pathology. To the student this part of the histology of inflammation no doubt is the reason of much perplexity because of the large number of different kinds of cells that he must learn to recognize and trace to their proper source. For a generation or more it has been taught that the polymorphonuclear leucocytes that migrate from the blood vessels in inflammations do not undergo any further development nor take part actively in the formation of new tissue from which they disappear. The mononuclear forms, or lymphocytes, on the other hand, have continued to offer great obstacles to satisfactory and unanimous agreement as to their exact rôle, especially as regards the formation of new tissue, because of the difficulty in distinguishing between these cells and more or less similar cells derived from the connective tissue or fixed cells, and endowed while young with the powers of locomotion. For a long time the general tendency was to deny all other cells than derivatives of connective

tissue cells the power actively to form new tissue; the more conservative would say that such power had not yet been demonstrated in the case of any white blood corpuscles. The gradual development of improvements and refinements in tinctorial methods and histologic technic in general soon led to renewed, more accurate morphologic study of the cells in question, with the result that special forms were recognized, such as the plasma cell, which hitherto had not been sufficiently well described. Observations were soon made that indicated that the question as to the rôle of the various lymphocytic cells in inflammatory foci was by far not so simple as just indicated. The results of an elaborate reinvestigation of these problems by means of the most improved and elaborate technic have been published recently by Maximow[1] from Ziegler's laboratory. Glass chambers and celloidin tubes were introduced into the subcutaneous tissue of various animals, and the immigrating and other cells studied both fresh on the warm stage and also in fixed preparations. He divides the different cells that enter into consideration into three large groups, the polymorphonuclear leucocytes, the fibroblasts and the polyblasts.

The polymorphonuclear leucocytes are shown once more not to form new tissue. The fibroblasts are derivatives of the fixed connective tissue cells; they are generally long and branched and contain clear nuclei with nucleoli; only occasionally do they become rounded and more like polyblasts. In the formation of connective tissue fibrillæ are described as originating in the superficial parts of these cells.

The polyblasts—the most interesting group because most complicated—are the mononuclear cells of various sizes, heretofore described as lymphocytes, mononuclear leucocytes, plasma cells, and, in the case of larger forms, as epithelioid cells. The majority are traced to mononuclear cells in the blood, but a small part seem to come from wandering cells present in the subcutaneous tissue (rabbits) and from cells in the adventitia of blood vessels, cells that in both cases probably belong to the same form as the lymphocytes of the blood.

The polyblasts are called so because they develop into the most varied cell forms. The lymphocytes from the blood are shown to develop or possess ameboid movements and to constitute a large part of the most important phagocytes, the macrophages, which before have been regarded mostly as fibroblasts. The nuclei and centrosomes are often peculiar, while in many the peripheral parts of the cell body may stain intensely with methylene blue (plasma cells). Maximow believes that this condition corresponds to special functional states in the various cells and that they are not characteristic necessarily of any particular form of cell. The polyblasts do not seem able to form connective tissue fibrils, but they may remain permanently in the tissue as an integral part of it; again, others constitute granular and non-granular cells in the vascular adventitia.

Without going into further interesting details of the varied morphology discussed by Maximow, enough has probably been said to show that the lymphocytes and their derivatives—polyblasts—appear to be entitled to more importance in the inflammatory process than so far given them. They are ameboid and phagocytic, forming a large part of the so-called macrophages. While they do not seem to form connective tissue in the sense that they give origin to fibrils, yet they may remain as permanent but distinct parts of the new tissue. In this sense we may speak of them as hematogenous tissue builders. There is, therefore, much that is new in Maximow's conclusions, and if verified in their more essential points they will mark an important advance in our knowledge of the cellular changes in inflammatory proliferations.

1 Ziegler's Beitr., Supplementheft v, 1902.

ABOLISH THE CORONER'S OFFICE.

The New York County Medical Association has prepared a legislative bill for abolishing the coroner's office in the state of New York. The measure is modeled largely after the Massachusetts law, and among other things it provides for medical examiners who shall furnish accurate and complete information concerning suspicious deaths. The police department or prosecuting attorney is given power to carry the legal investigation of suspicious cases before a magistrate.

It is, indeed, most desirable that this relic of ancient English jurisprudence known as the coroner's office be abolished, and the sooner the better. A more cumbersome, irresponsible, and on the whole useless piece of governmental machinery does not exist than the coroner's office of this country, especially as it appears in our larger cities where the demands for the kind of work it is supposed to do are greatest. In many states the office is a constitutional one, which will make the efforts for its abolishment in those states more difficult. In the matter of practical forensic medicine the United States is far behind other civilized countries because of the failure of the coroner's office to develop and adapt itself to the needs of the modern community. The proper carrying out of the important and highly responsible work naturally expected of the office that the present coroner's office stands for demands well-equipped laboratories for pathologic and toxicologic work manned by trained scientists. Medicolegal institutes of this kind exist elsewhere than in this country. Here this work is given into the hands of untrained men to do in the most unfavorable places, without facilities of any sort and with such apparatus as may be carried in a hand-bag. Corresponding to this shameful state of practical forensic medicine in this country, we find that the subject is neglected in most of the medical schools or given but perfunctory attention in order to fulfill the requirement of some states that instruction be given

in medical jurisprudence. Adequately equipped laboratories for teaching those who desire it the special essentials of forensic medicine do not exist here. The vast amount of suitable medicolegal material daily furnished by our large cities—the medical centers—is unused for instruction of students or for any scientific purpose. There exists but little scientific periodic literature in this important branch of medicine in this country. No doubt this neglected state of affairs is in turn responsible for the numerous and wonderful "battles of experts" that so often disgrace our court proceedings. It is no wonder that justice is heard to have miscarried because of imperfect and incompetent investigations by medical men from the coroner's office.

In the efforts to rehabilitate in adequate form this part of the legal machinery it is the duty of the medical profession to see to it that the steps taken are commensurate with the importance of the object it is sought to accomplish. The state should be asked to furnish not merely competent, trained men, but also properly equipped places for them in which they may do their work. In other words, it is time that special institutes, or medicolegal laboratories, be established in our large cities. Provision must be made, too, for improvements in the methods and facilities for teaching forensic medicine; special laboratory courses should be introduced wherever the material is available and the conditions warrant it.

UNSATISFACTORY REFERENCES BY ANTIVIVISECTIONISTS.

One is impressed, on reading Senator Gallinger's reply to Dr. Keen's letter as published in the newspapers, of the necessity of following Virchow's advice and verifying one's references. From internal evidence it would appear that the honorable Senator paid too little attention to the correctness of his citings and that probably he relied on a defective memory or on a very poorly informed informant. It is not very difficult to find cases of abuse of vivisection, but they no more warrant its prohibition or its restriction to the extent desired by the zoophiles than do the intemperate utterances of the antivivisectionists warrant their extermination. We could furnish him with cases of abuse which have been condemned in our columns, but it would be a great misfortune to mankind if its suffering and death were estimated as not worth some animal sacrifices. Even the beasts would suffer if vivisection were restricted, for veterinary medicine depends as much on animal experimentation as does human healing and more.

It is not our purpose, however, to review Senator Gallinger's arguments or statements, but to ask for better information as to some of the names he quotes. We can understand "Saranelli," but unless the types have done him injustice we might suspect Senator Gallinger of having only a very general and imperfect knowledge of a man whose name he thus misspells. But who are Drs. Pyle of Ohio and B. A. Watson of Jersey City? Dr. W. S. Halstead of New York is also unknown to us, though we have heard of Dr. W. S. Halsted of Baltimore, and do not recall just what in his record is referred to. The only Dr. B. A. Watson in Polk's Directory for 1902 hails from a small Missouri city, and the only Drs. Pyle in Ohio from Toledo and Oberlin. Their records as vivisectionists are unknown to us. Professor Slosson of Wyoming is apparently not a physician, and we admit unfamiliarity with his work. These are points in Senator Gallinger's letter that discredit it to a certain extent. We doubt whether Dr. Keen or any one else is as familiar with alleged instances and authorities, as quoted by the Senator, as the latter would seem to suppose.

In this connection it may be well to say that a Mrs. R. P. White, in a communication to the newspapers, called out by the first letter of Professor Keen to Senator Gallinger, quoted Sir Frederick Treves as an opponent to vivisection. We took the trouble to send the clipping to Sir Frederick and received in reply a statement from which we quote:

> My solitary utterance on the subject of vivisection is contained in an address delivered at Birmingham, in October, 1898 (*Lancet,* Nov. 5, 1898). Speaking of the suturing of intestine, I said that I had found that operations on the intestines of dogs were useless as a means of fitting the surgeon for operations on the human bowel.
>
> Those who are familiar with the controversial methods of the antivivisection party will not be surprised that certain of my remarks have been cunningly isolated from the context and have been used in advertisements, pamphlets and speeches to condemn all vivisection experiments as useless. . . . . No one is more keenly aware than I am of the great benefits conferred on suffering humanity by certain researches carried out by means of vivisection.

This is only one of many misrepresentations of the antivivisectionists, and even after their attention has been called to the misrepresentation, they still keep on.

MEDICAL MEMBER OF THE CANAL COMMISSION.

The New York Academy of Medicine recently adopted resolutions[1] suggesting that, as the health of the workmen engaged on the Panama Canal was in the past the most serious problem in its construction, one of the members of the commission, which the President is authorized to appoint to control the affairs of the proposed canal, should be a medical man. It is further suggested that the amplest powers should be given the medical officers in charge of the sanitation of the canal. These resolutions can only meet with the hearty approval of the medical profession and can scarcely fail of the approbation of any one who realizes how much has been accomplished for the health of Cuba as the result of the proper maintenance of sanitation by the

1. THE JOURNAL A. M. A., January 3, p. 41.

fortunate presence of a medical governor general. The death rate of Havana when the United States handed the government of the island over to the Cubans was scarcely more than one-third what it had been during Spanish rule before the war. The city had actually been converted from a known hot-bed of disease, dangerous for all visitors, into a rather salubrious semi-tropical port, even healthier than many of our larger cities on the American mainland.

Yellow fever and malaria are the most serious of the diseases that threaten the workmen at Panama and practically constitute the main reasons why temperate white workmen should find the tropics dangerous to health. Yet the experience in Cuba and elsewhere shows that these are preventable. Capps[2] has called attention to the need of medical supervision for prophylaxis against uncinariasis, which also may otherwise prove the source of not a small mortality. It would seem that the United States government has one of the greatest opportunities ever offered to demonstrate how much modern sanitary regulations can accomplish for health under presumedly unfavorable circumstances. It would indeed be a matter for pardonable national pride if we could accomplish the constructions at Panama without the terrible loss of life hitherto considered inevitable because of the climatic and pathogenic conditions.

On the other hand, it would be a lasting disgrace if a popular government should neglect any possible precaution to save lives in the work. By all means let us have a medical member of the commission, to whom shall be entrusted, with full powers, all the sanitary aspects of this important problem. If the magnificent work of the governor general of Cuba during our occupation is to be any earnest of the ability of medical men to fulfill executive duties of the very highest order in an exemplary manner, then indeed there is not only ample justification, but even obvious advisability to try further experiments in the employment of members of the medical profession in responsible administrative positions, especially where great sanitary problems are involved.

THE WELTMER DECISION.

The abstract of the recent decision of the U. S. Supreme Court that appears on p. 122, and which we noticed editorially November 29, emphasizes the fact that in the case as presented to the court the averments of the complainant as regards the material facts were admitted in the demurrer, and that the court did not have presented to it the evidence of fraud which is so clear to us as physicians and which was the cause of the postmaster's action. That being the case, it may be that the decision is not criticisable by us, though we still think that some of it is liable to a rather unfortunate construction in some regards. It is hoped that nothing in the decision will rule out the proper presentation of the evidence when the case is reheard and a complete showing up of the fraudulent practice which lead to the original refusal of the privileges of the mails.

2. THE JOURNAL A. M. A., January 3, p. 28.

DANGEROUS SELF-DRUGGING.

As an illustration of one of the popular types of self-drugging, we notice an item which has been going the rounds of the papers for some time, ostensibly coming from a physician's communication in a medical journal, which advises the use of equal parts of peppermint water and spirits of chloroform as a remedy for sleeplessness. Of course, advice is often given in medical journals not intended for the public. The consequences of the general use of spirits of chloroform by the public whenever they can not go to sleep would not be altogether satisfactory to contemplate, and though the physician would probably have to be called in, there might be cases where the outcome might be disappointing. Nothing is said about the dose in the newspaper items, therefore the victims, for that is what we may call them, would have a chance to do themselves up in the most approved fashion. Other items of this kind are extant—this is only one of many—but now and then it is worth while to notice them.

Medical News.

CALIFORNIA.

Personal.—Dr. W. Francis B. Wakefield, Oakland, has returned from a trip abroad.——Dr. Robert F. Rooney, Auburn, fell a few days ago, breaking a bone in his ankle.——Dr. Jose de S. Bettencourt, San Francisco, has returned from eight months' study in Vienna.——Dr. Luther S. Rogers, Tehachapi, celebrated his twenty-fifth wedding anniversary Dec. 27, 1902.

Would Bar Out Consumptives.—The special committee on tuberculosis appointed at the last session of the legislature has decided against the proposition for the establishment of a state hospital for the care of tuberculous patients. It also decided to recommend in its report to the legislature, the adoption and rigid enforcement of more stringent laws governing the admission to California of persons afflicted with tuberculosis.

San Francisco Mortality for November.—The statistician of the board of health reports the total number of deaths during November was 579, equal to a death rate of 19.29 per 1,000 per annum, as against 564 for November, 1901, when the rate was 18.79. During the week ended November 29 there were 165 deaths registered, which is greatly in excess of the normal rate for similar periods in past years. The principal causes of death were: Diphtheria, 14; typhoid fever, 14; cancer, 35; tuberculosis, 77; cerebral apoplexy, 21; diseases of brain 17, of heart 69, of respiratory system (including pneumonia) 57, of digestive system 39; Bright's disease, 25; accident, 50; homicide, 3; suicide, 14.

ILLINOIS.

Bequest to Hospital.—By the will of Mrs. Isabella D. Harwood, Champaign, $2,000 is devised to the Julia F. Burnham Hospital in that city.

The Detention Hospital.—The number of patients admitted to the Cook County Detention Hospital during 1902 was 1,503, the same as for 1901. Of these 899 were men and 604 women; 613 were sent to the Cook County Hospital for the Insane; 248 to the Illinois Northern Hospital at Elgin; 242 to the Illinois Eastern Hospital at Kankakee, and 275 were discharged.

State Board of Health Recommendations.—The biennial report of the State Board of Health recommends that the legislature establish a state home for consumptives; that a state board of medical examiners be created, which shall conduct examinations made under the present law by the State Board of Health. Other recommendations are for better laws to enable the board to suppress contagious disease and safeguard the public health.

Cook County's Sick.—In the year 1902, the County Hospital admitted 19,728 patients, or 1,287 less than for 1901.

More than 1,600 major operations were performed. In August 915 patients were under treatment, or nearly 300 more than the average for that month. This was due to the increase in typhoid fever. More than 900 cases of this disease were treated during the year, with 97 deaths. The aggregate of deaths for the year was 1419, or nearly 7.2 per cent.

Chicago.

Hospital Sold for Debt.—St. Anthony's Hospital on Frankfort Street was sold, January 3, as a result of mechanic's lien proceedings.

Left Money for Hospitals.—By the will of Mrs. Rosa Buehler, $1,000 is bequeathed to the German Hospital and $500 to Uhlich's Lutheran Hospital.

Regulation of Hospitals.—Corporation Counsel Walker has given an opinion that the city has the right to regulate the location of hospitals which can be shown to be offensive or unwholesome. He holds, however, that the police power of the city does not permit it to prohibit hospitals generally as a class from any designated locality.

Lemon Juice and Germs.—The health department says:

Further laboratory study of the action of lemon juice on the typhoid germs confirms the results previously announced. The investigation has been extended to its action on the colon bacillus—first cousin of the typhoid and the cause of diarrheal and dysenteric diseases, which carry off many more victims every year than does typhoid fever at its worst. It is found that the juice from different specimens of fruit varies greatly in destructive power, and the proportion stated last week—one teaspoonful to half a glass of water—is none too much. The action of the acid is instantaneous.

Campaign Against Smallpox.—The commissioner of health, in his annual report, thus sums up the year's history regarding smallpox:

During 1902, 334 cases of smallpox were discovered in the city and removed to the isolation hospital, of which number 322 have been discharged recovered, 4 died, and 8 remain under treatment. The campaign against the disease was inaugurated in January and pushed by the active co-operation of the railway managements in 600,000 square miles of infected territory and among 25,000,000 people. At the time this campaign was begun there had been an increase of more than 900 per cent. in the number of smallpox cases in this territory over the number for the corresponding period of 1901, and 73 per cent. of all the cases in the United States were in the ten states surrounding Chicago. By the middle of October the United States Public Health Reports showed a reduction of 48 per cent. in Chicago territory, and an increase of 124 per cent. in the remainder of the country, in which no such campaign of education and instruction was pursued.

Deaths of the Week, Month and Year.—The abnormally high death rate of December, 1902, continued throughout the week ended January 3, and 628 deaths were reported, an annual death-rate of 17.36, an increase of 30 over the previous week and of 129 over the corresponding week of 1902. The bulletin of the health department says:

The causes showing the greatest increase are pneumonia, bronchitis, cancer, consumption, diseases of the heart and of the nervous system and the deaths from violence.

The December, 1902, deaths have materially raised the rank of the month in the relative mortality scale of the past twenty-two years. For the previous twenty-one years December had furnished an average of 7.9 per cent. of the total yearly mortality, and ranked fifth in lowest mortality. The 2,607 reported deaths last December form 9.8 per cent. of the total 26,455 deaths of the year, and the month now ranks eleventh in the scale, being exceeded only by the month of July, which furnishes 10.7 per cent. of the total mortality of the twenty-two years.

The year's deaths numbered 26,455, or 14.53 per 1,000 of population.

MARYLAND.

Smallpox.—Two cases of smallpox were reported near Emmorton, December 29.——The smallpox conditions on the Eastern Shore are reported by Dr. John S. Fulton, secretary of the State Board of Health, to be as follows: A new case was discovered at Berlin, January 3, in a girl 10 years old. Of the 20 smallpox cases at Snow Hill 13 have been discharged from the isolation house and the others are convalescent. There are 3 cases at Stockton.

Baltimore.

Health Department Banquet.—The annual banquet of the health department was held Dec. 30, 1902, the entire force being present under Dr. Bosley. Dr. William Royal Stokes was toastmaster, and speeches were made by Mayor Hayes, Drs. Bosley and Heiskell and others.

Fumigation Wagons.—The health department has added to its equipment two fumigation wagons. The fumigation of rooms and houses has grown to be one of the most important duties of the department. Heretofore the agents have traveled about with their fumigating machines on the street cars.

Smallpox in Baltimore.—For the first time in more than four months, a case of smallpox was discovered in Baltimore December 29. The patient, a tramp, said he had come from Ohio on a freight train. In less than an hour of his arrival he had been sent to quarantine, and by night every place where he had been had been visited by health officials, and all likely to have come in contact with him vaccinated.

Health Department Extension.—Plans are being matured for the erection of a number of buildings for the use of the health department on land adjoining Bayview Asylum. Among these will be an infectious diseases hospital and a hospital for consumptives. The latter is to be built entirely of iron and glass on the plan of a conservatory. The property to be utilized contains 150 acres. In connection with the infectious diseases institution the cottage plan will be used, each cottage being devoted to the treatment of a separate disease.

Mortality of the Year.—The report of Health Commissioner Bosley shows 10,253 deaths during 1902, as compared with 10,700 for 1900 and 10,479 for 1901. The annual death rate per 1,000 was 18.70, being for the whites alone 16.53, and for the colored 30.76. The death rate was one per cent. less than that of the two previous years. There were 3,327 deaths under 5 years, or 32.45 per cent. of the entire number. Among death causes pulmonary tuberculosis leads with 1,159; pneumonia has 1,010; heart diseases, 716; diarrhea and enteritis (under 5, 695; over 5, 82); Bright's disease, 659; cancer, 384; typhoid fever, 220; diphtheria, 99; whooping cough, 95; measles, 41; scarlet fever, 37, and smallpox, 7.

Insane Hospital Report.—The one hundred and fifth annual report of the Maryland Hospital for the Insane No. 1, at Spring Grove, shows a net cost of maintaining the institution during the past year of $104,800, the expense per capita being $190.45. At the beginning of the year, Nov. 1, 1901, there were 530 patients, 286 males and 244 females, including 22 private patients. During the year 58 males and 55 females were admitted. The whole number under treatment was 643, 344 males and 299 females. During the year 44 were discharged, of whom 15 recovered, 12 were improved, and 17 unimproved. There were 47 deaths. Of causes, heredity was the potent factor in 25 per cent. of all cases, intemperance and old age following in the order named in males; while the most common exciting causes in females were "change of life," ill health and domestic trouble. Dr. Percy Wade, superintendent, recommends the erection of a special building for the criminal insane so as to prevent escapes.

MICHIGAN.

College to Move.—The officers of the Grand Rapids Medical College have decided to move the institution to a more central location.

Sanitarium Destroyed.—Fire on Dec. 13, 1902, destroyed the Reed City Sanitarium. The inmates were all removed in safety. The loss is about $45,000.

Left Estate to Hospital.—By the will of Dr. George L. Elliott, one of the pioneer dentists of Detroit, his entire estate, valued at $15,000, is bequeathed to the Children's Free Hospital.

"Mail Curers" Convicted.—Drs. James M. Peebles, Walter T. Bobo and Charles W. Green of the People's Institute of Health, Battle Creek, were convicted by a jury in the United States District Court, Dec. 22, 1902, of violating the postal laws. A thirty-day stay of proceedings was granted. It was charged that advertisements of their mental "cure" by mail for all sorts of ills constituted an attempt to obtain money by fraud. During the trial Dr. Bobo testified that he believed Dr. Peebles had a healing power like that of Jesus, only that the doctor's power was smaller. Dr. Bobo admitted that if a patient at a distance managed to procure Dr. Peebles' signed instructions and followed them faithfully the cure would not be effective if the patient had not paid the fee of $1.

MINNESOTA.

Smallpox at Hopkins.—County Physician Dr. Jonas M. Kistler visited Hopkins, Dec. 20, 1902, found 9 cases of small pox and quarantined two houses.

New Hospital at Brainerd.—The Order of St. Benedict has completed its $30,000 hospital at Brainerd, and the patients have been moved into it. The hospital is called St. Joseph's, and will be dedicated March 19.

Leprosy in Minnesota.—Dr. Henry M. Bracken, secretary of the State Board of Health, advocates a national home for

lepers. He says that 76 lepers have made their homes in Minnesota, of whom only 16 now live, each being isolated and cared for as well as may be under conditions of isolation.

Personal.—Dr. Willard C. Foster, Minneapolis, as the result of a competitive examination, has been appointed city physician of Manila.——Dr. Charles H. Norred, Minneapolis, has resumed active practice.——Dr. Reynaldo J. Fitzgerald, Minneapolis, who has been in bad health since his return from the Philippine Islands, is reported to have been seriously ill, but his ultimate recovery is confidently expected.

MISSOURI.

To Obviate Substitution.—The first examination for certificates to practice medicine under the new rules promulgated by the State Board of Health requiring that the application be accompanied by a photograph of the applicant, was held at Kansas City, Dec. 29, 30 and 31, 1902.

X-Ray Not Compulsory.—In the suit of an employe against his employer for $20,000 damages for injuries alleged to have been received while in the employment of the defendant, Judge Gibson, Kansas City, has ruled that a court has no right or power to compel a person to undergo an *x*-ray examination.

Registration of Consumptives.—An ordinance providing for the registration of the name, address, sex and age of persons suffering from tuberculosis, within the limits of Kansas City, and regulating said matter was introduced in the city council and referred to the sanitary, hospital, etc., committee.

State Failed to Establish Fact of Practice.—The action of the State Board of Health in summarily rejecting an applicant for license to practice medicine has been decided to be an infringement of constitutional rights, and in the case in question, that of the State vs. Dr. F. A. Starbuck of Kansas City, Mo. and Kansas City, Kan., Justice Fairweather has found the defendant not guilty.

NEW JERSEY.

Bequest to Hospital.—Patrick Flanagan, Perth Amboy, who died recently in St. Michael's Hospital, Newark, has bequeathed his entire estate, valued at $7,000, to that institution.

Isolation Hospital Site Chosen.—The committee appointed to select a site for an isolation hospital for the Oranges, has secured a tract of 13 acres of pasture and wood land on the top of the First Mountain in West Orange.

Settled Out of Court.—The case of Dr. John R. C. Thompson, Bridgeton, against the Township of Downe, Cumberland County, for services rendered a smallpox patient, has been settled for $1,500. Suit was brought for $2,000, and a jury gave a verdict of $2,100.

Tuberculosis Sanatorium Site Secured.—The commission appointed to secure a site for the tuberculosis sanatorium has secured 550 acres of land at Glen Gardner, Hunterdon County. The commission is having plans prepared for extensive building thereon, and asks for an appropriation of $300,000 to carry out the plans. The last legislature made an appropriation of $50,000.

New Jersey Epileptics.—The annual report of the board of managers of the State Village for Epileptics, states that there are more than 2,500 epileptics in the state. It shows that 85 patients have been received at the village at Skillman since it was opened, in 1898, and that of this number 9 have been discharged as cured; 4 have been transferred to other institutions; 4 have been removed by parents; 2 have died, and 3 have escaped. During the past year 25 male and 20 female patients have been admitted, making the total population at the present time 75.

Hospital Staffs.—The medical staff of Somerset Hospital, Somerville, has reorganized by electing Dr. John P. Hecht, president, and Dr. Aaron L. Stillwell, secretary.——St. Michael's Hospital, Newark, has elected Dr. Herman C. Bleyle attending physician, and Drs. George H. Balleray, Paterson, Edgar Holden, Peter V. P. Hewlett, Charles J. Kipp, Charles Young, Charles M. Zeh and James Elliott, Newark, on the consulting staff.——The German Hospital, Newark, medical staff, has elected Dr. William F. Seidler, president; Dr. Frederick Hexamer, secretary, and Dr. William J. Roeber, treasurer.

NEW YORK.

New York City.

Gouverneur Hospital.—That this hospital has had a busy year is shown by the statement that the four physicians of the house staff have attended 57,721 cases in the dispensary, over 35,000 of which were surgical.

The Bulkley Lectures.—Dr. L. Duncan Bulkley began his usual winter course of lectures on diseases of the skin, January 7, at 4:15 p. m. The lectures will be held thereafter on every Wednesday afternoon in the out-patient hall of the New York Skin and Cancer Hospital, at the same hour, and are free to the medical profession.

Bellevue's New Superintendent.—Dr. William Mabon, formerly of Ogdensburg, took up his new duties as superintendent of Bellevue, Harlem, Fordham and Gouverneur hospitals January 1. After a tour of inspection of Bellevue, he expressed himself as well satisfied with the present state of affairs there, and disclaimed any intention of making any radical changes in organization or personnel.

Diet for City Institutions.—Commissioner of Charities Folks has found so much lack of variety in the dietaries of the institutions under his care that he has appointed, at a salary of $1,000 a year, Miss Florence R. Corbett, the present chief dietitian in the Kings County Hospital, as his assistant and adviser in the purchase, distribution and cooking of the food for the department. Miss Corbett is a graduate of the Kansas State Agricultural College.

"Million-Dollar Hospital" Wants Funds.—The Society of the Lying-in Hospital, better known as J. Pierpont Morgan's million-dollar hospital, has made an appeal to the public for funds for its maintenance. The hospital is intended to accommodate 186 persons, but at present only 62 beds are in use. The plea for help is based on the fact that all the other maternity hospitals of the city have a total of less than 600 beds, while the number of births in the Borough of Manhattan alone in the past year was 51,688, i. e., one child was born about every ten minutes.

Board of Coroners vs. Coroner's Physician Weston.—The Board of Coroners of the Borough of Manhattan have sought to try Dr. Albert T. Weston on various charges which they considered sufficient to warrant his removal, but he prevented such action by applying to the Supreme Court for a restraining writ. Justice Leventritt, of that court, has now decided that the Borough Board of Coroners, and not the whole city board, is competent to try Dr. Weston, and that the Manhattan board is right in its contention that Dr. Weston is not legally in the employ of the city, his term of office having terminated with that of the coroner who originally appointed him.

The New Hospital for Consumptives.—Allusion has already been made in these columns to the movement now on foot, under the auspices of the Charity Organization Society's Committee on the Prevention of Tuberculosis, for the establishment without the city limits of a new hospital for consumptives. It is estimated that, including the general hospitals, homes and sanatoria receiving tuberculous patients, there are accommodations in New York City for only about 1,000 consumptives. It has been estimated that one-eighth of all the deaths in the city are due to phthisis, and in Greater New York, in 1901, there were 8,141 deaths from this disease, while 13,387 cases of tuberculosis were reported in that year. This shows the inadequacy of present accommodations. The committee now has under its care 64 poor tuberculous persons.

Vital Statistics for 1902.—The annual report of the board of health, which has just been made public, shows a gratifyingly low death rate, not only for the whole city, but for each of the boroughs. The death-rate of New York City for 1902 was 18.74 per 1,000, which is considerably lower than any previously reported for this city, thus: In 1898 it was 20.26; in 1899, 19.47; in 1900, 25.97, and in 1901, 20.02. The total number of deaths for 1902 was 68,082, as compared with 70,803 for 1901. The death rate for the old city, i. e., the boroughs of Manhattan and the Bronx, was 19.49 for 1902. The nearest approach to this in the past was in 1899, when the death rate was 19.81. A popular belief, which is shared in to some extent even by physicians, that measles is a trifling malady receives a severe setback in the statement in this report, that the epidemic of measles in the first four months of last year caused an increase in the number of deaths over the year 1901 for the same months of 1,100. There was a slight increase in the number of deaths from typhoid, but this was offset by a decrease of 100 deaths from smallpox. There were 4,907 more births and 2,653 more marriages reported than in 1901.

Buffalo.

New Emergency Hospital.—A new accident hospital, called the Riverside Accident Hospital, has been opened in the Fitch Institute building, and a ward of eight beds is now ready for the reception of patients.

New Quarantine Hospital.—The councilmen have at last, by a bare majority, approved the resolution of the aldermen directing the commissioner of public works to prepare plans and specifications for a new quarantine hospital on the site of the present one on East Ferry Street.

Tenement-House Owners Ignore Law.—Health Commissioner Greene has submitted to the district attorney the names and addresses of 26 owners of tenement houses who have ignored the health department's orders to remedy the sanitation or other unsafe conditions existing therein.

Relief for Hospitals.—The committee on charitable institutions of the board of supervisors has granted financial aid to the following hospitals and dispensaries: Buffalo Eye, Ear and Throat Hospital, $2,000; Buffalo Eye and Ear Infirmary, $2,200, and German Hospital Dispensary, $1,700.

Eye and Ear Infirmary Report.—The twenty-sixth annual report of the Buffalo Eye and Ear Infirmary shows that during the past year 2,363 new cases were treated; of these 1,675 had diseases of the eye, 336 diseases of the ear, 260 diseases of the nose and throat, and 92 diseases of the skin. The total number of patients admitted since the opening of the institution was 37,786.

Fumigation of Mails.—Health Commissioner Green has written to Dr. Lewis of the State Board of Health of New York and to Dr. C. O. Probst, of the State Board of Health of Ohio, recommending that they take advantage of their authority to direct cities in which smallpox exists to fumigate outgoing mails. There has been a case of smallpox in Buffalo directly attributable to the mails. It occurred in a local mail handler sorting Rochester mail. A mail clerk was also taken from the train at Syracuse, N. Y., suffering from smallpox.

PENNSYLVANIA.

Sued for Suicide of Husband.—Mrs. Minnie Kincaid has sued the borough of South Bethlehem for $20,000 for the death of her husband, who hanged himself while quarantined with smallpox.

Alleged Illegal Detention.—Drs. Frank C. Gundlach and William C. Ranson, Pittsburg, are defendants in a damage suit of $5,000 for alleged illegal detention of Mrs. Tina Jackson on the grounds of insanity. It is contended by the plaintiff that the physicians took only a few minutes in making the examination.

Personal.—Dr. C. E. Boon, Johnstown, has been elected smallpox physician at a maximum salary of $300 per month. ——Dr. William A. Shannon, Ellwood, charged with being a public nuisance, because he did not report a case of smallpox to the secretary of the local board of health, was acquitted, Dec. 13, 1902, the county paying costs of suit.

The Fight Against Tuberculosis.—The Pennsylvania Society for the Prevention of Tuberculosis plans to organize the whole state into a system with a society of many thousand members. The hospital at White Haven is to serve as a center, and it is the purpose to establish like institutions and also dispensaries throughout the state. As to the system here adopted—out-door life with forced feeding—Dr. Flick states that he saw no better results abroad. The Pennsylvania system is more economical; the indigent poor are treated; and provisions are also made for dying consumptives, whereas European institutions care only for incipient cases.

The Care of the Insane.—A commission was appointed at the last session of the legislature to inquire into the condition of the insane of Pennsylvania and to suggest remedial legislation. The commission has visited all the institutions of Pennsylvania and the principal ones in New York, Michigan and Wisconsin. It is understood that it will recommend that all the institutions for the care of the insane be placed under a board of control having the right to buy supplies, transfer patients—keeping those susceptible of improvement apart from the violent cases—and to exercise a general supervision in the construction of buildings and in the appointment of attendants.

Philadelphia.

Coroner's Inquests.—The coroner has held within the year 2,745 inquests. There were 196 cases of suicide. Of these 42 were gunshot wounds, 33 gas asphyxiations, 32 strangulations, and 31 by the carbolic acid route.

Munificent Bequests.—The account of the executors of the estate of John D. Lankenan, who was for many years president of the German Hospital and the Mary J. Drexel Home, was recently adjudicated. The balance on hand for distribution is $1,139,777. Of many charitable bequests there are two of $569,888 each to the German Hospital and to the Mary J. Drexel Home.——A site for the new almshouse and insane department of the Philadelphia Hospital has probably been chosen. This is a matter of great concern to the profession in Philadelphia, and of vital importance to the laity on account of the overcrowded and antiquated equipment. The site determined on for the almshouse and insane department is ground of the House of Correction property at Holmesburg, where the city owns 150 acres of high, healthy, accessible, unoccupied land. On December 28, at the invitation of Mayor Ashbridge and the officials of the Department of Charities and Correction, a number of prominent physicians of the city made a visit of inspection to the proposed site. Resolutions were afterward unanimously adopted endorsing this site. After the meeting it was understood that Mayor Ashbridge will transmit a message to councils recommending the passage of an ordinance permitting the Department of Charities and Correction to use the site selected, and to begin at once the construction of the necessary buildings. This plan will permit the enlargement of the Philadelphia Hospital on its present site.

GENERAL.

Want Panama Canal Physician.—The American Association for the Advancement of Science petitioned the President, January 2, that one member of the Isthmian Canal Commission should be a physician.

To Kill Hawaiian Mosquitoes.—A crusade with oil to kill mosquitoes is begun in a part of Honolulu. The lowland taro-patches and swamps are an especial object of attack because of their standing water.

Hawaiian health reports for November showed that the unfavorable autumn weather caused in certain districts a large increase in influenza, pneumonia and dysentery. The general average of the reports made a favorable showing, however.

The Plague Conference.—In response to a request from nineteen states, Surgeon-General Walter Wyman has called a conference of the Public Health and Marine-Hospital Service with the health representatives of said states, to meet in Washington, D. C., January 19. This is the first conference called under the law of 1902 reorganizing the United States Marine-Hospital Service and providing for a conference of that service when requested officially by the health or quarantine officers of any five states. The principal object of this conference will be the consideration of bubonic plague now alleged to exist in some quarters of the United States and Mexico.

Estate of Major Walter Reed.—At a recent meeting of the New York Academy of Medicine, Dr. W. W. Keen, Philadelphia, said that he had been informed that the family of Major Surgeon Walter Reed had been left with only a very small pension for their support, and that President Gilman of the Carnegie Institute had suggested the propriety of the medical profession and the public generally raising for them a fund of $100,000. At the recent meeting in Washington of the American Association for the Advancement of Science, the medical and allied branches appointed a committee to collect a fund for Mrs. Reed.

CANADA.

Montreal General Hospital reports for December 241 patients admitted and 245 patients discharged; average daily sick in residence, 192; admissions to the outdoor departments, 2,556; deaths, 19.

New Wing for St. Michael's.—Two lots adjoining St. Michael's Hospital, Toronto, have been purchased, and the houses thereon will be remodeled and used as a maternity ward. Later a building will be put up. There are now 150 patients in this hospital, and patients have had to be turned away for lack of room.

Montreal Civic Hospital Problem.—The Montreal City Council has decided to give the Notre Dame Hospital and an English hospital each $15,000 a year for twenty-five years, if they will care for patients affected with contagious diseases. This hospital problem has been before the Montreal Council now for three years.

The Ontario death rate for 1902 from all causes is about that of 1901. For 1902, as compared with 1901, the figures are as follows: Diphtheria, 443—512; scarlet fever, 265—209; measles, 112—120; whooping cough, 145—112; typhoid fever, 332—345; tuberculosis, 2,205—2,286; other causes, 21,556—22,152. Totals, 25,058—25,736.

Smallpox Well in Hand in Ontario.—Dr. P. H. Bryce, secretary of the Ontario Board of Health, reports with the

close of 1902 that the smallpox outlook was much brighter than a year before. In December, 1901, 250 new cases were reported in the province while in December, 1902, but 86 were reported, and these were nearly all in two centers, one of which is now practically cleared up. During the whole year of 1902 there were in round numbers 2,500 cases, with 15 deaths. The year 1902 was the heaviest in this regard for a good many years. In 1901 there were 1,838 new cases and 7 deaths. In 1900 there were 11 deaths; in 1899, 7. Dr. Bryce was notified January 3 that smallpox had broken out at three points in Ontario, viz., Galt, in Waterloo County, Thamesville, in Kent County, and on the Desceronto Indian Reserve.

FOREIGN.

Antitoxin in Austria.—By order of the government of Austria, every drug store in that empire must keep diphtheria antitoxin on hand and sell it below cost.

Quarter Million for Hospital.—The London Hospital for Sick Children has received $240,000 from William Waldorf Astor to build a new out-patient department.

Laborde's Automatic Tongue Tractor.—A cable from Paris announces that Dr. J. V. Laborde has invented a mechanism to employ his resuscitation method by rhythmic traction on the tongue. It is electrically driven.

A typhoid serum was described, with reports of marked reduction of the death rate, at the International Medical Congress at Cairo. This will be reviewed in the Foreign Medical Literature department next week, title 55.

An international exposition of hygiene will be held at Buenos Ayres in April, 1904, in connection with the Second Latin-American Medical Congress. Several steamship companies have granted reduced rates for the transportation of exhibits.

Physicians on Mecca Pilgrimage.—The Egyptian government will have pilgrims from that country to Mecca go in a body with an escort of physicians to guard against the bringing back of the plague and to care for the health of the pilgrims on the trip.

Medical Honors for a Publisher.—The honorary degree of M. D. has been conferred by the university of Freiburg on the publisher, Gustav Fischer of Jena, who has brought out a large number of important medical books and collected works as well as medical periodicals.

The sleeping sickness, according to a report of the School of Tropical Medicine, London, is extending in Africa, and fears are expressed of its menacing Egypt. It has killed 25,000 people, chiefly in and about Uganda. It resembles meningitis and is almost invariably fatal.

Woman's Medical College at St. Petersburg.—Six years have elapsed since this college was established by the St. Petersburg authorities, and the first class to graduate has just received its diplomas. There were 111 members of the graduating class and the total number of students is now 1,314.

Argentine Antituberculosis Measures.—Instructions how to prevent the spread of tuberculosis have been printed on the match boxes used by a large match factory in the Argentine Republic. Our informant states that the pictures of the physicians most prominent in the crusade also adorn the boxes.

The "Vereinigung Alter Deutscher Studenten in America."—Our German exchanges welcome the birth of this new organization, of which Dr. Carl Beck of New York is the president. The aim is to promote closer intercourse and friendship between Germany and America in all matters pertaining to science, art and literature.

New Editors of Virchow's Archiv and Jahresbericht.—Professor Orth of Berlin assumes the publication of Virchow's *Archiv* henceforth, with Prof. O. Israel as editor. Professors Waldeyer and Posner are to continue the publication and traditions of Virchow's *Jahresbericht über die Fortschritte und Leistungen der gesammten Medizin.*

The plague in Mexico proves, on microscopic investigation, to be bubonic plague. People fled by hundreds from Mazatlan at first, but soldiers now prevent any emigration. The reports express the belief that the disease will not spread. U. S. Public Health officers are at the spot. Sanitation in surrounding cities is reported to be strenuous.

A Physician in the Ministerium of the Interior in Saxony.—Our German exchanges are rejoicing over the fact that a physician has been formally installed as a permanent member of the ministerium of the interior for Saxony. Dr. F. Renk has been selected for the post. He is a pupil of Pettenkofer and has long served as a member of the national council of health.

Fined for Assuming Title of Professor.—A charlatan at Hanover, Germany, had acquired the title of professor of music from some Italian school of music, and paraded this title of professor in all his advertisements and on his signs. The local court fined him $10 or to ten days' imprisonment for use of the title of professor as intended to deceive in regard to his medical standing.

Medical Correspondent in America.—Dr. Francis Munch has been sent to this country by the *Semaine Médicale* of Paris as special correspondent to write up the "*mouvement actuel de la science médicale*" in the United States. His first letter appears in the issue for December 24, and deals with Boston and Philadelphia, principally devoted to the work in radiotherapy by Williams, Ellis, Sweet and Rust.

Too Many Physicians.—The dean of the Paris faculty remarked at a recent meeting of the Academic Council that "families and teachers ought to dissuade young people from entering on a medical career unless possessed of independent means or exhibiting a very marked vocation for medical studies. There are too many physicians. This is very bad for the patients as well as for the physicians themselves."

Less Tuberculosis in Prussia.—The deaths due to tuberculosis were 31 to every 10,000 of the population in 1876; in 1891 the number was only 27; in 1896, 22; in 1901, 20. The number dropped from 36 to 22 in the cities, and from 28 to 17 in the rural districts. All the large cities show a diminishing death-rate from tuberculosis, and the decrease was apparent long before the sanatorium movement was inaugurated.

French National Subscription to Combat Tuberculosis.—An appeal has been issued by a committee of which Brouardel is chairman, calling on the people of France to subscribe toward a national fund for the erection and maintenance of sanatoria for consumptives. The appeal states that Germany now has 64 such sanatoria, sheltering 23,000 inmates, while France has only 2. It also states that during the last three years the German army has lost 1,300 men from tuberculosis, while France has lost 10,000 from this cause alone. An anonymous subscription of $50,000 has already been received.

Post-Graduate Facilities at Frankfurt.—The various medical institutes at Frankfurt a. M. are to be incorporated under the name of the Academy of Practical Medicine for the purpose of affording improved opportunities for post-graduate studies and research. A large sum has been raised for enlarging the present institutes and the city has appropriated funds to enlarge the hospital and establish an institute for anatomy and another for testing the purity of food supplies. Over half a million dollars has already been raised for the purpose in unofficial circles. The aim is to make Frankfurt an unparalleled center for post-graduate instruction.

The Eyelids in the Gore Case.—The cable reported the death of Ellen Gore in Paris from a bullet wound in the eye, and the arrest of the man who was alone with her at the time. The man has since been released on the sole ground that the lids and lashes of the eye penetrated by the bullet were intact. The medical experts, Socquet and Brouardel, testified that there was every probability that the injury was due to an accident, as the victim of an attempt to murder would naturally close the eyelids, or at least they would flutter more or less. The fact that they were intact in this case, they said, indicated that the victim was tranquil at the moment the ball struck her.

The Fifth International Congress of Applied Chemistry will begin its sessions in Berlin, May 31, 1903. The sections are as follows: Analytical chemistry, apparatus and instruments; chemical industries of inorganic products; metallurgy, mining and explosives; chemical industries of organic products; sugar industry; fermentation and starch manufacture; agricultural chemistry; hygienic, chemical and pharmaceutic chemistry; photochemistry; electrochemistry and physical chemistry; legal and agricultural problems in connection with the chemical industries. Dr. H. W. Wiley, chief of the Bureau of Chemistry, Department of Agriculture, Washington, D. C., chairman of the American committee, will give further information to those desiring it.

Prizes for Research on Fish Poisons.—As a number of cases of poisoning from the consumption of raw salted fish occur every year, the Russian authorities have offered prizes of $2,600, $800, and $530, for the best work on the nature of the poisonous substance, its action on the animal body, means

of preventing its formation, diagnosis, and the antidotes for it, and for poisoning from food in general. The smaller prizes will be awarded for the best work on any one or more of the above branches of the subject. All communications must be addressed to the "Ministère de l'agriculture et des domaines," St. Petersburg, and be received before Oct. 3, 1903. They may be in English, French, German, Latin or Russian. A similar prize was offered five years ago, but there were no contestants.

The French Pharmacists' Oath.—The Paris Pharmacists' Syndicate recently sued a pharmacist for illegal practices. His defense was that he was not a legal pharmacist and that there was not a single legally qualified pharmacist in France, as none of them had taken the oath which was established in the fourteenth century as an indispensable qualification. The oath has eighteen paragraphs; in one the pharmacist vows never to dispense an abortifacient or to practice abortive measures; never to substitute for any ingredient in a prescription without the advice "of some one wiser than I"; never to give a purge to a person sick with any acute disease, without previously consulting with some physician, and to contribute in every possible way to "the honor, the glory, the ornament and the majesty of medicine." Centuries have passed since this oath was exacted, and the pharmacist's defense was not accepted.

Further Progress in the Sanatorium Movement in Germany.—The sick benefit society which includes the district of Berlin has sent a circular to the employers of wage earners calling their attention to the new sanatorium at Beelitz and urging them to inform their workmen and workwomen that free accommodations are offered to all working people suffering from chronic affections such as neurasthenia, anemia, gastric disorders, bronchial catarrh, rheumatism, gout, debility after acute diseases, etc., in case their affection offers the prospects of a cure after a four to six weeks' course at the sanatorium. It is especially urged on wage earners still at work, but feeling the inroads of a chronic affection, who might be completely re-established by a course at the sanatorium. During the absence of the breadwinner at the sanatorium a weekly sum will be paid to his family. Employers are asked to use their influence to have their employes take advantage of the offer.

Prizes Distributed by Paris Academie de Medecine.—Only 22 of the 38 prizes offered were awarded, and the practice of dividing certain prizes has been discontinued on request of the executors of the endowments. Bezançon and Griffon were given 2,000 francs out of the Audiffred fund for their research on the cultivation of the tubercle bacilli in gelosed blood. Castaigne also received a prize of 2,300 francs for his methylene blue test of the permeability of the kidneys. A prize of 5,000 francs was bestowed on Jaboulay of Lyons for his "Surgery of the Nerve Centers, Viscera and Members." Cavazzani of Ferrara received a prize of 1,200 francs for research on the vasodilating center for the vessels of the brain. Ehlers of Copenhagen and Cohnheim of Dresden received a prize of 1,500 francs for their study of leprosy in Crete. Testut of Lyons also received a prize of 4,400 francs for his "Manual of Anatomy." No communications were received in competition for seven of the prizes. Among the medals awarded was one to Dr. G. Ullman of Chester, Pa., for his work on vaccination. He is a graduate of the Medical School of the University of Paris.

Dangers of Hypnotism.—A suit has recently been decided in Germany which has attracted much attention. Winkelmann of Berlin gave an entertainment of hypnotism at Insterburg, with the consent of the authorities. Among his subjects was a youth named Lau, who had always been very nervous. The other subjects showed no disturbances from the hypnotic suggestion, but young Lau became much excited, gasped for air after the seance, and was mentally unbalanced to such a degree that he had to be under restraint for four months. Although at present dismissed from the sanatorium, he is still incapable of entering business, and his family sued the "suggestor" for damages. The court, while recognizing that the possibly latent nervousness of the young man had been fanned into actual insanity in all probability by the hypnosis, yet the defendant had evidently not intended such a result, as he practices this means of livelihood under the eyes of the municipal and medical authorities. As the former had granted him permission to give the entertainment, notwithstanding the knowledge of his lack of special training, the charge against him was dismissed.

German Society for School Hygiene.—The sanatorium treatment of tuberculosis in Germany is for the benefit of adults. Children have not been regarded hitherto, while France has accommodations for 1,200 in its seashore children's sanatoriums. In the November meeting of the German Society for School Hygiene, Baginsky pointed out that scrofulous and tuberculous children should be classified as: 1, those with inflamed glands, eruptions and catarrhal inflammations; 2, those with actual but not open tuberculous lesions of bones, glands, or joints; 3, with open lesions of this kind, and 4, those with pulmonary tuberculosis. The anemic children of the first group require merely to be placed in a more favorable environment. Those with pulmonary lesions should be placed in a sanatorium for lung diseases, but the others are best treated in a seashore sanatorium. Experience teaches, he states, that bone and joint tuberculous lesions frequently heal without the necessity for an operation under the influence of the sea air. Other speakers mentioned that the climate of France was more favorable for the purpose than that of Germany, and Orth urged the erection of a seashore sanatorium at Naples or at the Madeiras. A committee was appointed to discuss ways and means.

LONDON LETTER.

Paraffin Injections for Nose Deformities.

Gersuny's method of treating deformities of the nose by paraffin injections has not been long adopted in England, but so far the results have been satisfactory. At the Clinical Society Mr. S. Paget read a paper on 25 cases, which is important in consequence of certain suggestions in technic. In his earlier cases he used Eckstein's paraffin, but he found that it has obvious disadvantages and no advantage over paraffin melting at a temperature of 25 or 30 F. lower. The best melting point he finds is between 108 and 115 F; he now uses paraffin melting at 111. Of many syringes he finds Eckstein's is the best: it keeps the heat well, can be easily worked with one hand and has a screw nut on the piston, which prevents any sudden running in of the paraffin, but it ought to have a short and strong steel needle. He thinks it is wrong to attempt to raise the skin with a tenotomy knife before injection, but if there has been exfoliation of bone so that a depressed and adherent cicatrix is produced it may be advisable to free the skin at this point. He emphasizes the fact that paraffin shrinks when it sets; and the paraffin that sets the hardest shrinks the most. The inevitable shrinkage may be so slight as to be hardly visible; it involves the addition about a week later of a few more drops of paraffin under cocain.

Syphilis and Life Assurance.

At the Edinburgh Medico-Chirurgical Society Dr. Byron Bramwell read an important paper on this subject. He regarded the life of a man who had syphilis as a damaged one, and did not think that an office should accept him as a first-class life, but should impose an "extra." Of course there were some exceptions. The statistics of assurance companies afforded no evidence as to the mortality from syphilis, and as to its effects on longevity. To arrive at some sort of an estimate —necessarily an underestimate—he picked out from such statistics the diseases due in a large proportion of cases to syphilis—tabes, general paralysis, and aneurism. Death due to syphilis is almost always the result of a tertiary lesion. Hence the importance of the date at which tertiary lesions develop. In 107 cases of grave cerebral and spinal syphilis 12.1 per cent. occurred in the first year, 40 per cent. during the first 5 years, and 68 per cent. during the first 10 years after infection. Probably tertiary lesions occurred in 10 per cent. of all cases of syphilis. Most observers seemed to think that the mortality from syphilis was almost entirely the result of typical tertiary lesions, but probably only a small portion was. A much larger proportion was due to aortic aneurism, aortitis and resulting aortic incompetence, and to para-syphilitic lesions (general paralysis and tabes), cirrhosis of the liver and arterial disease. In 32 cases of tabes the average duration of the disease was 8.8 years. In 17 of these, in which the exact date of infection was determined, the expectation of life was diminished by 270 years, or an average of 15.8 years. As to general paralysis of the insane, and it generally lasted from 2 to 6 years, the average age at death was 44 years. As to aortic aneurism it was an underestimate to ascribe 50 per cent. of the cases to syphilis. Applying these estimates to the Scottish Widow's Fund, of 3,658 deaths, 6 were due to tabes, 52 to general paralysis of the insane, and 24 to aortic aneurism. Granting that 75 per cent. of the deaths due to the two former diseases and 50 per cent. of those due to the latter disease were the result of syphilis, this gave 55.5 deaths. But in addition many cases of aortic valvular disease and some of cirrhosis of the liver and kidney were no doubt due to syphilis. Moreover,

there were doubtless some deaths certified as cerebral softening, apoplexy, hemiplegia, insanity, myelitis, paraplegia, atheroma, sclerosis of the coronary arteries, angina pectoris, myocarditis, laryngitis, etc. Finally the persistent and widespread effects of syphilis render it probable that the disease causes arterial degeneration and premature senile changes. All these considerations lead to the conclusion that the longevity of syphilitics, apparently healthy when they presented themselves for examination, was on an average shorter, probably considerably shorter, than it would have been if they had not had the disease.

Typhoid Fever from Contaminated Oysters.

A number of cases of typhoid fever have occurred at Portsmouth and Winchester, which are believed to be due to oysters taken from beds contaminated with sewage. The dean of Winchester has just died from typhoid fever, believed to have been contracted in this way, and among the victims is Dr. England, formerly surgeon to the Royal Hampshire County Hospital. At Southampton, also, 8 cases have occurred. A scare has been created in London, and the oyster merchants have sent circulars to the medical officers of health in localities in which there are oyster beds requesting reports. Those from the non-incriminated ones have been satisfactory.

Mr. Hutchinson's Leprosy Investigation in India.

At the Polyclinic Mr. Jonathan Hutchinson, who is about to go to India on a tour of investigation, read a paper on the present state of the leprosy question in connection with the Prince of Wales' Leprosy Fund. He said that he first planned the tour he was about to undertake 30 years ago. In the interval he had read everything which has come to hand on the subject of leprosy, and taken the evidence of a large number of the medical men, missionaries, and others who have resided in India. Through the whole of this period he has held firmly the conviction, which has strengthened as years has advanced, that leprosy is in the main a food disease; that it spreads only to a small extent by personal contagion, and that the one article of food which is to be suspected is badly-cured fish, eaten without its being sufficiently cooked. In all ages, and in almost every country where leprosy has prevailed, the popular belief has been that fish eating is in some way connected with it. The way in which the disease has waned and ultimately almost ceased in Europe with advancing civilization is in harmony with this belief. It advanced in inland districts of Europe with the advance of Christianity, and the observance of fish fasts, and it disappeared when Protestantism threw these fasts into disuse. Other influences are the development of agriculture and the increased production of other kinds of food. Norway and Iceland have always been conspicuous for the prevalence of the disease. The former has from time immemorial had the largest fishing trade in the world, and of the latter an old geographer wrote that it ought to be named "stock fish." In both of these places fish is still largely consumed. Over the whole world at the present day the prevalence is almost in ratio with the use of cured fish. Leprosy is not very prevalent on the main land of India. The average prevalence in India, South Africa and Norway is something less than 5 per 10,000. In Ceylon it does not reach 2 per 10,000; but in some of the smaller islands off the coast of India—Minicoy, for instance—where fish is eaten by the laboring population three times a day, its prevalence reaches the enormous ratio of 100 or 150 per 10,000. Among Mr. Hutchinson's more important inquiries will be the question whether the statements made by certain Hindus and Brahmins that they have never eaten fish are trustworthy.

Correspondence.

Beri-Beri in Louisiana.

ABBEVILLE, LA., Dec. 22, 1902.

To the Editor:—The history of this disease dates back many years, occurring principally in the Orient, along the coast of China and Africa. I have been unable to get much information on the subject. A short article appeared in THE JOURNAL, if I remember correctly, concerning it some time ago. In no work on practice or in any medical literature am I able to find a record of a single case occurring in Louisiana. Still, that this disease exists here has been proven beyond a question of reasonable doubt in my mind as well as in the minds of several physicians of prominence in southwest Louisiana. We have had many cases in our practice during the last five years.

As to its causes there seems to be little known. Some writers claim that beri-beri is due to a parasite, others to certain miasmatic germs developed in tropical climates, others claim that it is due to the eating of rice, which *per se* generates it, and still others claim the micrococcus is in the rice. This latter condition seems to have some bearing on the causation of the disease as it exists in Louisiana at the present date.

In the last fifteen years, southwest Louisiana—which up to that time had raised only a few barrels of rice—has developed this industry enormously, and we have now in this, Vermilion Parish, and several surrounding parishes, miles and miles of nothing but rice; so much so that we now raise in this part of the country more rice than is raised in all of the other states. What was a few years ago barren prairies, low, alluvial soil, and filled with wild cattle, is to-day a prosperous country occupied by industrious farmers raising virtually nothing but rice, which has proved very profitable to them. They have made it a sure crop by irrigation from deep wells and large sub-surface canals.

I have been practicing medicine in this parish for twenty-three years and up to five years ago never saw a case of beri-beri, nor anything resembling it. Since then, however, there have been in this district no less than forty cases of a disease which we have termed beri-beri.

Dr. Robert J. Young of this town has treated in the last five or six years nearly thirty such cases. Dr. C. J. Edwards, same town, has treated perhaps a half dozen or more. Dr. W. G. Young of Crowley, La. (the center of the rice district), has seen about the same number, and I have had seven or eight. The cases have occurred, without exception, in a locality surrounded by rice fields, and all the patients were heavy eaters of rice. Most of the patients gave a history of having had a slight chill, followed by a low febrile condition for about two days, profound prostration, loss of appetite, generally constipation, insomnia in the majority of cases, rapid heart action, anemic murmurs, anasarca, inability to lift the feet and when walking they moved their feet with a great deal of difficulty, and would invariably drag their legs as if from partial paralysis. In all of these cases there was multiple neuritis and in certain portions of the body, especially in the legs, anesthesia. While the patients were very apprehensive of their condition, not one case died. All recovered slowly under proper treatment. Some were sick several months before becoming once again their former selves.

All the physicians named and myself used similar treatment, which consisted of: If possible, a change of locality, baths, a good nutritious diet with plenty of milk, medication consisting of calomel and soda, cholagogue cathartics, followed with such as digitalis, convalaria, strophanthus, spartein and especially strychnin, which was kept up through the entire treatment in heavy doses, tr. fer. mur, and arsenic. Quinin seemed to have no effect.

These cases seem to occur always—we might say endemically—all within a radius of about twenty miles, and all came under my observation within a period of twenty-four months. Since then we have failed to see others.

FRANK FENWICK YOUNG.

NOTE.—A report on beri-beri by a Norwegian committee was published in THE JOURNAL of August 16, xxxix, p. 388. Abstracts of an interesting discussion on the same subject at the last meeting of the British Medical Association, published in the *British Medical Journal*, Sept. 20, 1902, appeared in THE JOURNAL on p. 941 of the same volume. The rice theory of the disease suggested by our correspondent was upheld in the discussion by Rost, whose views, as given in a paper previously published, will be found in the issue of THE JOURNAL for August 23, p. 454.—ED.

A Side Light on Ethics.

BURLINGTON, IOWA, Jan. 5, 1903.

To the Editor:—During the past year or two I have read in THE JOURNAL and other medical publications a good deal about "organization," "ethics" and "reciprocity," and I have even written a few lines on these subjects, which have found their

way into print; but I have seen nothing which so completely sums up the whole matter as Dr. Gillmore's letter in your current issue. Until we can get ethical unification—a oneness of purpose individually and collectively—it seems to me useless to talk about organization and reciprocity; and through one thing and another, mostly perhaps as Dr. Gillmore suggests, the absence of emphasis on the golden rule in the teaching course, we seem to be drifting farther and farther from this unification.

I do not wholly agree with Dr. Gillmore that commercialism is a basic fault. It may be difficult to harmonize commercialism with the golden rule; but as we must all be more or less commercial so long as we charge fees and send out bills for services, we should certainly make the effort. And if we only succeed in harmonizing the Chinese version: "Do not do unto others that which we should not like them to do unto us," the situation would be vastly improved. Truly yours,

H. B. YOUNG.

DETROIT, Jan. 3, 1903.

To the Editor:—I ask permission to add my approval to the wise, just and timely "thesis" under the above title by Dr. Robert T. Gillmore, which appeared in your issue of January 3.

In his communication the Doctor has so ably covered the ground that there is very little left for those who agree with him to say except to express their approval and add their sincere "Amen."

Those, if there are any such, who are disposed to differ with the Doctor's views are not likely to present their arguments either in the columns of THE JOURNAL or elsewhere. I have heretofore given such expression as I could to the feeling of shame and regret with which the commercial spirit at present animating and overruling our profession has affected me. Consequently Dr. Gillmore's presentation of the subject afforded me sincere gratification. With medical students and young physicians I have had an extensive and intimate acquaintance, and that I have been known as their friend will, I believe, be universally admitted. Nevertheless it has been my painful duty to preach "in season and out of season" against their openly-avowed passion for converting, with unseemly haste, their scientific and technical acquirements into filthy lucre, the first and most important question as to the essential nature of a case being too often "How much money is there in it?" instead of "What can I do for the best interest of this patient, and what can I learn from a careful study of the case?"

This spirit of commercialism exhibits itself in many ways, and unquestionably exercises a deleterious effect on the youthful aspirant, while at the same time it has a natural and inevitable tendency to prejudice against him "those seniors who by their labors have contributed," etc.

Many years of close observation have tended to convince me that few greater misfortunes can befall a young practitioner than too rapid success in the acquisition of practice and the premature growth of his bank account. It would appear, therefore, that the necessity for reform and improvement is not limited entirely to either one of the parties involved.

At any rate, there can be no room to question Dr. Gillmore's fundamental deduction: "If we are not content with the present condition of affairs we must begin at the very beginning. We must impress on the applicant for admission to our medical schools that something more is required of him than his fee, and satisfactory credentials as to his literary attainments. He must be capable of comprehending and appreciating the sentiments and essentials of the golden rule."

On the shoulders of his teachers must of necessity rest the vital responsibility of imbuing his youthful nature with so much of genuine devotion to science as will have the effect of overshadowing and crushing out in reasonable measure the deplorable spirit of commercialism. His study of ethics will then become a real labor of love, the actual practice thereof second nature, and his life's motto will be appropriately set forth in the words of old Polonius: "To thine own self be true, and it must follow e'en as night the day, thou canst not then be false to any man."

DONALD MACLEAN.

State Boards of Registration.

Maine.—The Maine Board of Registration of Medicine, according to the report of the examination held at Portland, November 11, 1902, sent by Dr. A. K. P. Meserve, secretary, examined in 7 subjects, by 70 questions. The percentage required to pass was an average of 75 and of not less than 60 in any one branch. The examination was written; 7 were examined, 6 passed, and 1 failed.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
501	H.	Hahnemann Med. Coll., Chicago...	1889	*86 2-7
502	R.	Coll. of P. and S., New York City.	1889	87
503	R.	Coll. of P. and S., New York City.	1901	80 6-7
504	R.	Laval University, Montreal, Can..	1901	78 4-7
505	R.	Baltimore Medical College.....	1902	87 4-7
507	R.	Medical School of Maine.....	1902	82

FAILED.

506	R.	Louisville Medical College, Ky....	1902	72 4-7

* Re-examination.

New York.—The New York State Board of Medical Examiners, according to James Russell Parsons, Jr., director, held examinations at Albany, Buffalo, New York, and Syracuse in September, 1902, at which the number of subjects was 7; percentage required to pass, 75; written examination; total number examined, 131; number passed, 95; number failed, 36.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
117	R.	Albany Medical College.....	1902	79.2
587	R.	Albany Medical College.....	1898	77.8
118	R.	Albany Medical College.....	1893	80.2
437	R.	Coll. of Phys. and Surgs., New York.	1899	89.1
488	R.	Coll. of Phys. and Surgs., New York.	1902	78.8
452	R.	Coll. of Phys. and Surgs., New York.	1900	80.8
559	R.	Coll. of Phys. and Surgs., New York.	1902	82.8
438	R.	Coll. of Phys. and Surgs., New York.	1902	82.7
574	R.	Coll. of Phys. and Surgs., New York.	1902	86.4
566	R.	Coll. of Phys. and Surgs., New York.	1902	86.4
490	R.	Coll .of Phys. and Surgs., New York.	1902	87.4
453	R.	Coll. of Phys. and Surgs., New York.	1901	82.8
436	R.	Coll. of Phys. and Surgs., New York.	1894	82.1
467	R.	Coll. of Phys. and Surgs., New York.	1902	83.0
465	R.	Coll. of Phys. and Surgs., New York.	1902	89.5
553	R.	Coll. of Phys. and Surgs., New York.	1901	87.2
610	R.	Coll. of Phys. and Surgs., New York.	1902	89.2
546	R.	Coll. of Phys. and Surgs., New York.	1901	82.1
545	R.	Coll. of Phys. and Surgs., New York.	1902	83.1
441	R.	Coll. of Phys. and Surgs., New York.	1902	89.2
558	R.	Coll. of Phys. and Surgs., New York.	1902	83.0
617	R.	Coll. of Phys. and Surgs., New York.	1902	83.4
614	R.	Coll. of Phys. and Surgs., New York.	1901	81.2
159	R.	Coll. of Phys. and Surgs., New York.	1902	84.4
306	R.	College of P. and S., Boston.....	1900	79.2
531	R.	Cornell University Medical College..	1902	87.1
430	R.	Cornell University Medical College..	1902	85.2
519	R.	Cornell University Medical College..	1901	83.4
102	R.	Cornell University Medical College..	1900	82.7
521	R.	Cornell University Medical College..	1902	91.7
534	R.	Cornell University Medical College..	1902	88.5
611	R.	Cornell University Medical College..	1902	86.4
413	R.	Long Island Medical College.....	1902	86.7
418	R.	Long Island Medical College.....	1901	90.5
523	R.	Long Island Medical College.....	1902	79.5
427	R.	Long Island Medical College.....	1901	91.1
619	E.	New York Eclectic Medical College..	1902	85.1
609	E.	New York Eclectic Medical College..	1902	83.0
320	H.	New York Homeopathic Med. College	1902	85.2
612	H.	New York Homeopathic Med. College	1902	88.8
116	H.	New York Medical College.....	1901	89.5
554	R.	Univ. and Bellevue Hosp. Med. Coll..	1902	85.4
487	R.	Univ. and Bellevue Hosp. Med. Coll..	1898	81.7
613	R.	Univ. and Bellevue Hosp. Med. Coll..	1902	84.8
415	R.	Univ. and Bellevue Hosp. Med. Coll..	1902	91.8
602	R.	Univ. and Bellevue Hosp. Med. Coll..	1899	77.5
586	R.	Univ. and Bellevue Hosp. Med. Coll..	1902	81.1
321	R.	University of Buffalo Medical Dept..	1900	83.8
308	R.	University of Buffalo Medical Dept..	1902	79.4
312	R.	University of Buffalo Medical Dept..	1892	83.0
581	R.	University of California.....	1899	86.7
311	R.	University of Michigan.....	1889	80.7
502	R.	University of Minnesota.....	1897	83.0
530	R.	University of Pennsylvania.....	1902	91.1
528	R.	University of Pennsylvania.....	1902	84.5
529	R.	University of Pennsylvania.....	1902	85.7
456	R.	University of Pennsylvania.....	1897	86.1
583	R.	University of Pennsylvania.....	1900	90.2
532	R.	University of Pennsylvania.....	1898	†88.4
615	R.	University of the South.....	1901	79.2
419	R.	University of Virginia.....	1894	86.5
439	R.	University of Vienna, Austria.....	1900	80.0
560	R.	University of Berlin.....	1891	81.5
493	R.	University of Berlin.....	1896	78.5
473	R.	University of Giessen.....	1896	87.7
496	E.	University of Bologna.....	1897	‡81.8
621	E.	University of Naples.....	1897	**86.7
414	R.	University of Naples.....	1896	77.5
482	R.	University of Naples.....	1898	79.8
431	E.	University of Naples.....	1900	79.2
409	R.	University of Palermo.....	1894	77.4

PASSED.

Candidate.	Sch. of Pract.	College.	Year. Grad.	Per Cent.
410	R.	University of Turin	1899	82.4
484	R.	Gross Medical College, Denver	1901	88.1
468	R.	Yale University Medical Dept	1899	81.7
423	R.	Atlanta Medical College	1897	84.7
598	R.	Rush Medical College, Chicago	1902	86.0
596	R.	Baltimore University	1902	80.4
422	R.	Baltimore University	1899	79.4
152	R.	Johns Hopkins University	1901	81.8
573	R.	Maryland Medical College	1901	80.1
516	H.	Boston University School of Med.	1902	90.4
518	H.	Boston University School of Med.	1900	85.7
517	H.	Boston University School of Med.	1901	89.2
567	R.	Harvard University	1900	91.0
592	R.	Harvard University	1902	92.7
600	R.	Harvard University	1901	92.7
466	R.	Harvard University	1901	84.7
451	R.	Detroit College of Medicine	1902	81.0
486	H.	Cleveland Univ. of Med. and Surg.	1896	80.8
562	R.	Jefferson Med. Col., Philadelphia	1902	85.0
533	R.	Jefferson Med. Col., Philadelphia	1902	82.2
571	R.	Medico-Chirurgical Col., Philadelphia	1902	*79.4
420	R.	Vanderbilt University	1900	85.2
161	R.	Queen's University, Kingston, Ont.	1898	85.5
526	R.	Royal Coll. of P. and S., Edinburgh and Faculty of P. and S., Glasgow	1900	†84.7

FAILED.

402	R.	Coll. of Phys. and Surgs., New York.	1901	77.5
542	R.	Coll. of Phys. and Surgs., New York.	1901	69.5
543	R.	Coll. of Phys. and Surgs., New York.	1901	66.7
544	R.	Coll. of Phys. and Surgs., New York.	1902	74.8
302	R.	Coll. of Phys. and Surgs., Chicago.	1894	65.0
552	R.	Coll. of Phys. and Surgs., Boston	1899	78.8
620	R.	Long Island College Hospital	1902	77.0
597	E.	New York Eclectic Medical College	1902	65.8
309	R.	University of Buffalo	1893	59.7
307	R.	University of Buffalo	1902	††81.1
301	R.	University of Michigan	1870	61.5
154	R.	University of Vermont	1902	80.0
570	R.	University of Munich	1899	58.4
531	E.	University of Naples	1895	70.2
498	E.	University of Naples	1894	64.8
435	R.	University of Naples	1892	76.1
481	R.	University of Naples	1899	67.5
433	E.	University of Naples	1900	80.0
593	E.	University of Naples	1898	74.5
471	R.	University of Naples	1900	53.2
411	R.	University of Naples	1886	68.0
549	R.	University of Naples	1900	60.8
572	R.	University of Palermo	1895	69.4
550	R.	University of Palermo	1898	67.7
432	R.	University of Palermo	1891	60.8
489	R.	University of Turin	1898	79.1
524	E.	Georgia Coll. of Ecl. Med. and Surg.	1888	81.1
114	H.	Hahnemann Medical Coll., Chicago	1879	24.1
569	R.	Illinois Medical College, Chicago	1899	48.0
606	R.	Rush Medical College, Chicago	1898	77.8
605	R.	Baltimore Medical College	1901	77.8
303	R.	Baltimore Medical College	1902	75.2
547	R.	Baltimore Univ. School of Medicine.	1898	67.4
527	R.	Maryland Medical College, Baltimore	1901	74.0
463	R.	Sewanee Medical College	1901	78.2
492	R.	Imperial Jurief (Darpat) University	1895	72.8

* License held for registration of college.
† License held for preliminary education.
‡ Final examination passed before state board.
** First eight examinations taken before state board.
†† Fraud.

Miscellany.

Clippings from Lay Exchanges.

FLUENCY A DESIDERATUM.

"Dr. —— has recently come to this city. . . Dr. —— is a German, speaking that language fluently, which will be appreciated by those of that nationality. . . ."—*Baraboo* (Wis.) *Republic.*

DISORDER OF AORTIC ARTERIES.

"—— dropped dead. . . . in the office of Dr. ——. Dr. —— performed an autopsy and found a disorder of the aortic arteries which ceased to feed the heart."—*Milwaukee* (Wis.) *News.*

ONE DOLLAR ADMISSION.

Euclid.—"Dr. —— has been fixing up a suite of rooms over the store for office purposes. They are large bright and cheery, and almost make one want to be a little sick so as to call on him and enjoy their brightness. One dollar only, will give any one that privilege."—*Crookston* (Minn.) *Farm Journal.*

Tentative Diagnosis.—Nothing has a greater tendency to increase a man's skill in inductive reasoning than the habit of writing down, after each examination, the diagnosis that seems to him most likely, no matter how many question-marks he puts after it, nor how frequently he changes this diagnosis at subsequent examinations. The very necessity of putting in concrete form what is too often a hazy idea, sharpens the faculties and stimulates the mental processes.—*Phila. Med. Jour.*

The Eye Should Have a Broad Range.—One should have the opportunity of seeing a long distance. We are denied this opportunity. We are hemmed and hedged in until the distance we are capable of seeing is very short indeed. This is why I am a strong advocate of parks, of promenades. Green is naturally a restful color, and if the city could be provided with long avenues and splendid parks, where one's eyes could stretch out in a long vista, it would be a great thing.—Quoted from an optician in *New Orleans Times-Democrat.*

Curability of Tuberculosis of the Pharynx.—Veis describes five cases of tuberculosis of the pharynx, isolated and primary in one, and accompanied by insignificant pulmonary lesions in the others. He succeeded in curing them all by local treatment, for which he recommends a concentrated solution of trichloracetic acid. Improvement was manifest in his cases, which were all ulcerative, after the first application of this acid, under which the tissues turned white. The cauterization can be repeated every four or five days until complete cicatrization.—*Arch. f. Laryngol.*, xii, 3.

The Nobel Prizes.—Considerable disappointment is being expressed, says the *Allg. Med. Ct.-Ztg.*, that the executors of the Nobel estate are not carrying out to the letter the wishes of the testator in regard to the prizes awarded. The will stipulated that the achievements for which the prizes are to be bestowed should be recent. This stipulation applied to the work of Ross, but not to that of Fischer, who received the chemistry prize. His fame rests on his synthesis of the various kinds of sugars, and similar works many years ago. The physics prize was divided between Lorentz of Leyden and Zeemann of Amsterdam, who first announced the discovery that optic phenomena could be influenced by magnetic action. The prize for literature was given to Mommsen, whose great historical work dates from fifty years back. The testator evidently intended to encourage and sustain struggling investigators rather than to reward persons already resting on their laurels.

Book Notices.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, Columbia University, N. Y. Vol. VIII. For the Collegiate Year 1901-2. Paper.

With the apparent exception of the first article on the "Morphology of Ganglion Cells in the Rabbit," this volume is made up of reprints from various medical journals, all of them duly credited with the source of their first appearance. The director says, in his preface, that it seems that this form of publication—first, the wider circulation which current medical journals afford, and the subsequent grouping together of reprints—would more certainly fulfill the aims of such studies than would a separate department or university publication. The only objection we have to offer is that the difference in type, margin or pages, etc., makes a very clumsy arrangement. This, however, is only a minor objection. The book is a valuable collection of important monographs on the subject considered.

A TREATISE ON THE DISEASES OF THE EYE, NOSE, THROAT AND EAR. For Students and Practitioners. By Various Authors. Edited by William Campbell Posey, A.B., M.D., Professor of Ophthalmology in the Philadelphia Polyclinic; and Jonathan Wright, M.D., Attending Laryngologist to Kings County Hospital. Illustrated with 650 Engravings and 35 Plates in Colors and Monochrome. Cloth. Pp. 1238. Price, $7.00. Philadelphia and New York: Lea Brothers & Co. 1902.

One's first impression of this book is that the color of the binding is abominable. It is positively displeasing to the eye, whether the book is viewed by itself or with other works on the shelves of one's library. We certainly trust that the future editions will appear in a more rational dress.

It is an octavo volume of 1238 pages, 685 of which are devoted to the eye, 386 to the nose and throat, and 128 to the ear. It is well printed on good paper, which, fortunately, is not so glossy as much of the highly calendered paper used in modern text-books and magazines. Most of the

colored plates and illustrations are admirable, but a few are so bad that we wonder at their being used. It is impossible to convey an adequate idea of the extent and scope of the work without giving the table of contents, which follows:

THE EYE. Examination of the Eye, by William Campbell Posey, M.D. The Physiology of Vision, by William Norwood Suter, M.D. Refractive Errors in General, by Alexander Duane, M.D. The Motions of the Eyeball and Their Derangements, by Casey A. Wood, M.D. Diseases of the Orbit, Lachrymal Apparatus, and Lids, by R. A. Reeve, M.D. Diseases of the Conjunctiva, Cornea, and Sclera, by John E. Weeks, M.D. Embryology of the Eye: Anomalies, Diseases, and Injuries of the Iris, Ciliary Body, Choroid, and Vitreous, by H. V. Würdemann, M.D. Sympathetic Ophthalmia, by H. Gifford, M.D. Diseases of the Retina, Optic Nerve, and Its Cerebral Origin, by T. Holmes Spicer, F.R.C.S. Eng. Diseases of the Crystalline Lens, by Edward C. Ellett, M.D. Glaucoma, by E. Treacher Collins, F.R.C.S. Eng. Disturbances of Vision without Apparent Lesion, by Elmer G. Starr, M.D. The Eye in Its Relation to General Diseases, by C. F. Clark, M.D. General Preparation for Operations on the Eye, by Clarence A. Veasey, A.M., M.D. The Technique of the Pathological and Bacteriological Examinations of the Eye, by Edward A. Shumway, B.S., M.D.

NOSE AND THROAT. The Histological Pathology of Diseases of the Nose and Throat, by J. L. Goodale, M.D. Methods of Examination; Instruments and Apparatus and Their Use, by J. E. Newcomb, M.D. Inflammatory Diseases of the Upper Air Passages; Hay Fever; Rhinorrhea; Asthma; Influenza, by Charles W. Richardson, M.D. Diphtheria of Nose and Throat; Intubation; Syphilis, Tuberculosis, Lupus and Leprosy of Nose and Throat; Chronic Laryngeal Stenosis; Foreign Bodies in Nose and Throat; Rhinoliths, by William Kelly Simpson, M.D. Neoplasms of the Nose and Larynx; The Local, Medicinal, and Surgical Treatment of the Larynx, by W. E. Casselberry, M.D. Diseases of the Accessory Sinuses, by St. Clair Thomson, M.D., F.R.C.S., Eng. Diseases of the Oropharynx and Nasopharynx, by H. S. Birkett, M.D. Neuroses of the Nose and Throat, by Emil Mayer, M.D. External Deformities of the Nose; Cleft Palate, by F. E. Hopkins, M.D.

THE EAR. Examination of the Ear; Diseases of the External Ear; Diseases of the External Auditory Meatus; Otomycosis; Foreign Bodies; Wounds of the Membrana Tympani, by F. E. Hopkins, M.D. Diseases of the Internal Ear and Auditory Nerve; Deaf Mutism, by E. A. Crockett, M.D. Purulent Inflammation of the Middle Ear, by Henry Arnold Alderton, M.D. Chronic Non-Suppurative Middle-Ear Disease, by Arthur H. Cheatle, F.R.C.S. Eng.

The names of the authors are a sufficient guarantee that the subjects assigned have been well treated, and that the matter has been brought down to date. Each writer has covered completely the topic assigned, thus avoiding the repetitions and contradictions common to systems. As a rule, the articles are clearly and concisely written, and the book as a whole will be appreciated by the general practitioner, and at the same time the undergraduate will find nearly all the information he needs on these subjects and more than he has time to master. Although it enables the reader to become familiar with the style of many and to relax or concentrate his attention, according to the perspicuity of the individual writers, yet we confess to some disappointment in reading almost all of these composite works on account of the distraction caused by the various styles. In other words, it appears to us much easier to grasp and to retain the meaning when a single style, even though not altogether to our liking, pervades a book from cover to cover. The chapter on the relation of the eye to general diseases will be of special interest to the general practitioner, and that on the pathology of diseases of the throat, nose and ear will be found instructive even to the specialist. There is so much to praise in this work and so little to criticise one dislikes to make an adverse criticism. We imagine, however, that many oculists will be astonished on reading the chapter on refraction by Dr. Doane. On page 98 he says, "A certain amount (0.25 to 0.50 D.) of primary astigmatism may be regarded as *physiological* in that at least that amount is found in nearly every eye." And also, on page 131, "Astigmatism of only 0.25 or 0.50 D. I do not prescribe for, unless the symptoms (asthenopia, blurring of sight, etc.) seem particularly to call for the correction, or unless the patient has to use his eyes for very close and continuous work, or finally, unless the patient is going to use a glass anyhow, in which case I regularly add the cylinder correction that he requires, however small." It seems very difficult to reconcile these statements with the fact that many patients of many oculists are securing complete relief from distressing headaches by wearing constantly the correction for 0.25 and 0.50 D. of astigmatism.

PSYCHOPATHOLOGICAL RESEARCHES. Studies in Mental Dissociation with Text Figures and Ten Plates. By Boris Sidis, M.A., Ph.D., Director of the Psychopathological Laboratory. Published under the Auspices of the Trustees of the Psychopathic Hospital, Department of the New York Infirmary for Women and Children. Cloth. Pp. 329. Price, $3.00 net. New York: G. E. Stechert. 1902.

This may be considered as a sort of posthumous publication of the New York State Pathologic Institute. The institution still exists, but under other management. This is a publication of a research in a line which has possibly and apparently been discontinued by that institution. This is not said in disparagement of the institute, for we have no doubt under its present management its work will be as useful in the future as in the past, though under other direction and with a somewhat different policy. The book consists of a clinical narration of cases, with special relation to the functional and organic nervous pathologic states, and will be of interest to the psychologist and neurologist, though hardly so to the general practitioner, notwithstanding its narration of cases which would have a certain amount of interest. The conclusions of most interest as regards these dissociated states in psycho motor and psycho-pathologic conditions are those as regards the relation of functional to organic disease, and especially the nature of so-called psychic epilepsy, which the author considers sometimes a functional neurosis. The book is published under the authority of the trustees of the Psychopathic Hospital Department of the New York Infirmary for Women and Children, and another work on Principles of Psychology and Psychopathology is promised to appear soon.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London. Tenth Edition. Fifteenth Thousand. Two Volumes. Cloth. Pp. 696. Price, $5.00. Chicago: W. T. Keener & Co. 1902.

The value of this work is clearly shown by the demand. The author includes in Volume I the therapeutics of the diseases of the organs of digestion, the heart and blood vessels and of the blood and ductless glands, diseases of the respiratory organs, including a chapter on the prophylaxis and sanatorium treatment of phthisis, which is concluded in Volume II. The treatment of erysipelas and of hay fever has received additional consideration in Volume I, in which chapters the experience of American authors has been properly recognized. In Volume II the author discusses the treatment of diseases of the liver, urinary and renal affections, nervous system, constitutional diseases and specific infective diseases. Additional subjects also receive consideration which have not been considered in previous editions, such as paralysis agitans, cerebral tumors, cerebrospinal fever, rachitis, scurvy and purpura. The author treats the different subjects from the standpoint of the disease and gives a thorough outline of the general treatment of the disease, prophylactic as well as medicinal, and then considers the complications individually. Formulæ are appended to each chapter which are adapted to the different stages of that disease. The principal fault of the work is that some of the formulæ contain ingredients taken from the British Pharmacopeia which do not occur as standard preparations in American materia medicas. But the large experience of the author in therapeutics is embodied in these volumes in such a manner as to render them the peer of anything in the line of treatment.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1903. New Revised Edition. Leather. Price, $1.25. New York: Wm. Wood & Co. 1902.

This is one of the standard visiting lists and one of the best. The volume for 1903 has been considerably improved. It contains a mass of information in a very small space, besides the usual well-arranged blank pages for records of visits, etc.

Marriages.

W. A. HOLLIS, M.D., to Miss Aldah Leach, both of Hartford City, Ind., December 24.

S. S. MYERS, M.D., to Miss Joycie P. Weaver, both of Centreville, Kan., November 26.

ERNEST LAPLACE, M.D., to Miss Katharine Borsch, both of Philadelphia, December 16.

ALFRED J. STOCKER, M.D., Erie, Ill., to Miss Nettie Stratton, at Belleville, Ont., December 4.

J. LOUIS C. PERRILLIAT, M.D., to Miss Marie Louise Caiborne, both of New Orleans, December 9.

JOSEPH JAMES HARRISON, M.D., to Miss Edna Earl Goans, both of London, Tenn., December 23.

PHILIP SCHUYLER DOANE, M.D., to Miss Helen Pullman Stewart, both of Chicago, January 1.

ELWIN O. CHURCH, M.D., Henry, S.D., to Miss Ethel Feay Davison of Kampeska, S.D., December 25.

THOMAS OVERTON BURGER, M.D., to Miss Hallie L. Bellamy, both of McMinnsville, Tenn., December 17.

FREDERICK S. BOWEN, M.D., Woodburn, Iowa, to Miss Agnes Sullivan of Newburgh, N. Y., December 21.

CARL I. SULZBACHER, M.D., Kansas City, Mo., to Miss Decimond Minor of Chillicothe, Mo., December 11.

PHILIP GIBSON GARY, M.D., Wakeman, Va., to Miss Laura Irene Robbins of Lester Manor, Va., December 23.

ARTHUR BUCKNER HARRIS, M.D., Cannelton, W. Va., to Miss Caroline B. Lyons, at Charlottesville, Va., December 23.

ALFRED AUSTIN BECKER, M.D., Jamestown, N. Y., to Miss Maude Jane Burch of New Richmond, Pa., December 24.

DAVID T. MUIR, M.D., Alden, Kan., to Miss Harriet M. Peters of Petersburgh, N. Y., at Kansas City, Mo., December 24.

GEORGE MILTON BOYER, M.D., Washington, D. C., to Miss Annie Marie Bowman of New Gaithersburg, Md., December 24.

HARRISON C. HOPPER, M.D., Galesburg, Ill., to Miss Clementine Van Ravenswaay of The Hague, Holland, at Booneville, Mo., December 25.

Deaths.

Dennis J. Loughlin, M.D. Jefferson Medical College, Philadelphia, 1881, formerly city commissioner for the Moyamensing District; member of the state legislature; appraiser of drugs at the port of Philadelphia, etc., died at his home in that city, December 27, from Bright's disease, after an illness of three months, aged 55.

William Stenning Harding, M.D. Edinburgh, 1836, in active professional life in St. John, N. B., until a few years ago, and until 1895 medical inspector of the port of St. John, died suddenly at his home in that city, Dec. 19, 1902, aged 88.

James Codrus Lawrence, M.D. Columbus (Ohio) Medical College, 1889, twice president of the Columbus Academy of Medicine, died at his home in Columbus, Dec. 23, 1902, after a long illness, from tuberculosis, aged 43.

Rush Winslow, M.D. Rush Medical College, Chicago, 1866, four times mayor of Appleton, Wis., died at St. Elizabeth's Hospital in that place, Dec. 27, 1902, nine days after an operation for appendicitis, aged 59.

William T. Hughes, M.D. University of Pennsylvania, Philadelphia, 1873, of Bedford, Pa., died at the German Hospital, Philadelphia, Dec. 21, 1902, from sepsis, following an operation for appendicitis.

William F. Penwarden, M.D. Bellevue Hospital Medical College, New York, 1883, of Grand Rapids, Mich., was instantly killed in a railway accident at Wanstead, Ont., December 26, aged 42.

George R. Weeks, M.D., surgeon U. S. V. in the Civil War, for many years a resident of Little Rock, Ark., died at his home in Los Angeles, Cal., January 1, aged 76.

George Barton Beeler, M.D. University of Maryland, Baltimore, 1876, died suddenly at his office in Baltimore, Dec. 23, 1902, aged 49.

R. Herbert Clement, M.D. Hahnemann Medical College of the Pacific, San Francisco, 1893, died in that city, Dec. 23, 1902, aged 32.

William H. Fox, M.D. University of Pennsylvania, Philadelphia, 1849, died at his home in Ashland, Va., Dec. 31, 1902, aged 80.

Deaths Abroad.

Dr. W. Bernatzik, professor of general pathology and materia medica at the Josefs Akademie at Vienna.——**Dr. W. Sobieranski,** professor of materia medica at Lemberg.——**Dr. K. v. Kupffer,** professor of anatomy at Munich, in his seventy-fourth year.——**Dr. Rudolf Massini-Meyenrock,** professor of materia medica at Basle, director of the polyclinic, and chief of the medical department of the Swiss army.

Association News.

New Members.

Report of new members for December, 1902:

ALABAMA.

Williams, Wm. C., Shelby.
Green, Henry, Dathan.
Torrance, Gaston, Birmingham.

ARKANSAS.

Bogart, Julius A., Wheatley.
Mann, R. H. Y., Texarkana.

CALIFORNIA.

Wemple, E. L., San Francisco.
Tinsman, Charles M., Adin.
Wehrly, John, Santa Ana.
Lindsay, Wm. K., Courtland.
Loomis, Melville LeRoy, Beckwith.

COLORADO.

Gilbert, Oscar M., Boulder.

CONNECTICUT.

Pierce, Elbridge W., Meriden.
Cohan, Timothy F., New Haven.

DELAWARE.

Belville, Frank, Delaware City.

DISTRICT OF COLUMBIA.

Van Rensselaer, John, Washington.
Ferguson, C. E., Washington.

GEORGIA.

Morgan, J. B., Augusta.
Martin, Henry H., Savannah.
Gholston, W. D., Danielsville.

IDAHO.

Taylor, John M., Boise.

ILLINOIS.

Long, H. W., Yale.
Grossman, Frederick A., Chicago.
Wilcox, Geo. G., Seneca.
Bieringer, W. A., Chicago.
Dethlefsen, Geo. H., Chicago.
Hall, Alfred M., Chicago.
Gentles, H. W., Chicago.
Pusey, Brown, Chicago.
Miller, Geo. H., Chicago.
Orton, Susanne, Chicago.
Porter, Wm. A., Chicago.
Carver, S. C., Chicago.
Falls, S. K., Chicago.
Tivnen, Richard J., Chicago.
Jones, Herbert C., Decatur.
Mease, C. L., Freeport.

INDIANA.

Leaming, Lewis, Otterbein.
Dresch, Chris. A., Wishawaka.
Gibbons, John A., Mitchell.
Wilcox, Frank H., New Albany.
Allen, Irvin O., Metamora.
Leach, W. J., Sellersburg.
Powell, Dwight C., Logansport.
Armstrong, Lewis P., Newtown.
Bernheimer, H. L., Terre Haute.
Leedy, Charles V., Anderson.
Davis, Fielding L., Evansville.
Gemmill, Henry C., Markle.

IOWA.

Taylor, Chas. B., Nassau.

KANSAS.

Dallal, Joseph J., Norcatur.
Kenney, Chauncey S., Norcatur.
Warriner, W. L., Topeka.
Keith, Henry H., Topeka.
Pickerel, Joseph F., Lincoln.
Boone, Wm. M., Highland.
Brown, Kent O., Topeka.
Hoxie, Geo. H., Lawrence.
Purdue, G. C., Wichita.

KENTUCKY.

Asman, Bernard, Louisville.
Fallis, Robert G., Louisville.
Stone, Thos. W., Bowling Green.
Martin, Josephus, Cynthiana.
Harris, S. J., Philpot.

LOUISIANA.

Storck, J. A., New Orleans.
Watson, D. L., New Orleans.
Thibaut, Pierre L., New Orleans.
Walet, E. H., New Orleans.
Graner, Edwin J., New Orleans.

MARYLAND.

McDowell, C. C., Baltimore.
Moseley, Wm. E., Baltimore.
Stone, Daniel E., Mt. Pleasant.

MASSACHUSETTS.

Newton, Wm. C., Revere.
Newhall, Lawrence T., Brookfield.
Baldwin, F. W., Danvers.
Cook, Chas. H., Natick.

MICHIGAN.

Gurd, Adeline E., Detroit.
Taylor, Harry F., Mt. Clemens.
Richter, E. P. W., Saginaw.
Van DeWalker, Edward C., Sutton's Bay.
Curtis, Elmore E., Saginaw.
Blanchard, Francis R., Lakeview.
Grant, Jr., Charles L., Chippewa Lake.
Braley, Frank W., Saranac.

MINNESOTA.

Olsen, Otto R., St. Charles.

MISSISSIPPI.

Wilkinson, E. T., West Point.
Carder, Thos. A., Lula.
Street, D. P., Vicksburg.
Erskine, P. Odeneal, Jackson.

MISSOURI.

Trotman, C. A., St. Louis.
Overholser, M. P., Harrisonville.

MONTANA.

Conyngham, E. F., Philipsburg.
Kingsbury, W. V., Dillon.
Long, Willard A., Lewistown.

NEBRASKA.

Elmore, J. Q., Gordon.
Meisenbach, G. W., Plymouth.

NEW HAMPSHIRE.

Dinsmoor, S. M., Keene.
Perkins, Frank B., West Derry.
Anthoine, I. G., Nashua.

NEW JERSEY.

Meigh, Josiah, Bernardsville.
Chattin, J. F., Trenton.

NEW YORK.

Wise, H. Edwin, Turner.
Blaauw, Edmond E., Buffalo.
Ogden, John P., New York.
Moore, V. A., Ithaca.
Richards, Seymour S., Frankfort.
Hurd, Edward F., New York.
Wijetunge, V., Brooklyn.
Burgess, Daniel M., New York.
Eckerson, J. Fred, Shelby.
White, H. J., Troy.
Mosher, Burr B., Brooklyn.

NORTH DAKOTA.

Welch, W. H., Larimore.
Crawford, John, Esmond.

OHIO.

Dice, S. D., Xenia.
Stroehley, Erwin O., Cincinnati.
Mallow, Edgar H., Dayton.
Green, D. W., Dayton.
Foote, Chas. G., Cleveland.
Stockton, Geo., Columbus.

OKLAHOMA.

Walker, Harry, Pawhuska.
Ball, Wm. A., Box.

PENNSYLVANIA.

Oglesby, James, Danville.
Fitch, A. B., Factoryville.
Sollenberger, Aaron B., Waynesboro.
Farley, Joseph, Philadelphia.
Walsh, Joseph, Philadelphia.
Pfahler, G. E., Philadelphia.
Kercher, Delno E., Philadelphia.
Wenner, E. Bruce, Philadelphia.
Watson, Wm. N., Philadelphia.
Leach, W. W., Philadelphia.
White, Courtland Y., Philadelphia.
Kohn, Bernard, Philadelphia.
Foltz, J. C., Chestnut Hill, Phila.
Crawford, J. K., Philadelphia.
Read, A. J., Philadelphia.
Uhle, Alex. A., Philadelphia.
Hayes, Senes E., Weedville.
Neff, Chas. C., St. Marys.
Espy, John S., Pittsburg.
Wadhams, Raymond L., Wilkesbarre.
Lake, David H., Kingston.
Huebner, Erwin F., Allentown.
Lamade, Albert C., Williamsport.
Kocher, Q. S., Gradatim.
Painter, A. P. N., Kittanning.

Wallis, A. W., Pittsburg.
Stroup, Geo. H., Eddington.
Wilson, H. S., Smoke Run.
Smith, Alfred C., Brownsville.
Smith, C. H., Uniontown.
Wood, Edward H., Homestead.

RHODE ISLAND.

Powell, Stephen C., Newport.
Cooke, Harry A., Providence.
Lewis, James N., Ashaway.

SOUTH CAROLINA.

Lewellen, Jesse DeL., Friendfield.
Redfearn, A. M., Clemson College.
Hinnant, T. B., Lake City.
Hanahan, R. B., Wainsboro.
Patterson, Edward L., Barnwell.
Gray, J. Louis, Anderson.

SOUTH DAKOTA.

Beeson, J. B., Columbia.
Kenaston, H. R., Bonesteel.
Gundermann, H. R., Selby.

TENNESSEE.

Ridings, Edw. W., Dickson.
Acres, Frank M., Dover.
Hill, Jr., L., Covington.
Sullivan, Claude C., Waverly.
Neblett, L. L., Slayton.

TEXAS.

Turner, S. T., El Paso.
Pullen, W. B., Jacksonville.
Chase, Ira C., Ft. Worth.
Haden, Henry C., Galveston.
Carter, W. S., Galveston.
Keiller, Wm., Galveston.
Reuss, Jo. Henry, Cuero.
Marchman, Oscar M., Grand Saline.
Sartor, Elias R., Biard.
Noster, Alfred H., New Braunfels.
Pope, J. G., Coleman.
O'Barr, J. T., Ledbetter.

UTAH.

Forbes, H. B., Ogden.

VERMONT.

Morgan, John C., Stowe.
Allen, Lyman, Burlington.
Bates, Chas. H., Ludlow.

VIRGINIA.

Caton, Wm. P., Dumfries.
Tipton, John A., Hillsville.
Robinson, Malcolm G., Austinville.
Davidson, A., St. Albans.
Rucker, Jos. A., Bedford City.
Moseley, Jr., E. J., Richmond.
Gordon, Wm. S., Richmond.
Osborne, Andrew J., Lawrenceville.
McCulloch, Chas., Howardsville.
Tallaferro, Madison Mills, Va.
Wright, Otho C., Jarratts.

WEST VIRGINIA.

Stille, W. S., Parkersburg.
Jarvis, J. W. P., Amos.
Peck, Chesley R., Bridgeport.
Stewart, W. DeWitt, Monndsville.
Jamison, W. A., Fairmont.
Woodford, Alonzo Howe, Bellington.
Richmond, B. B., New Richmond.
O'Brien, Jr., John, Lawton.

WISCONSIN.

Schmeling, A. F., Columbus.
Thorndike, Wm., Milwaukee.
Reich, Hugo C., Sheboygan.
Hadley, Dudley A., Oconomowoc.
Doyle, J. H., Little Chute.
Miller, Wilmot F., Milwaukee.
Johnson, Fred Gordon, Lake Nebagamon.
Ogden, H. V., Milwaukee.

WYOMING.

Riser, Fred'k L., Rawlins.

Medical Organization.

Douglas County (Kan.) Medical Society.

This society has adopted the constitution issued by the American Medical Association, and has been affiliated with the state society.

Chattanooga and Hamilton County (Tenn.) Medical Society.

The Chattanooga Medical Society met Dec. 19, 1902, and in adopting the constitution and by-laws suggested by the American Medical Association, changed its official name to the Chattanooga and Hamilton County Medical Society.

Washtenaw County (Mich.) Medical Society.

This society met at Ann Arbor, Oct. 22, 1902, for the purpose of reorganization along the lines detailed by the American Medical Association. Drs. Nathan H. Williams, Jackson, councilor for the Michigan State Medical Society, Second District; Albert E. Bulson, Jackson, president of the State Medical Society, and Victor C. Vaughan, Ann Arbor, member of the House of Delegates of the American Medical Association, spoke in favor of reorganization. The standard county constitution recommended by the Association was unanimously adopted, but certain minor changes were made to meet local conditions. Dr. Reuben Peterson was elected president; Dr. Frederick R. Waldron, vice-president, and Dr. John W. Keating, secretary-treasurer, all of Ann Arbor.

Clarksdale and Six Counties (Miss.) Medical Association.

This association was organized Dec. 10, 1902, in conformity to the plan recommended by the American Medical Association and adopted the constitution and by-laws prepared by the committee of the American Medical Association. The association includes the following six counties: Tunica, Quitman, Coahoma, Sunflower, Tallahatchie and Bolivar. The territory covered by these counties is extremely thinly settled and a society in each county was considered impracticable for scientific work. Provision, however, is made for a vice-president in each county who will represent his county in a business way, etc. The following officers were elected: President, Dr. Morris J. Alexander, Tunica; a vice-president from each county; secretary, Dr. L. D. Harrison, Clarksdale, and treasurer, Dr. James W. Gray, Jr., Clarksdale.

Societies.

Medico-Surgical Society of Camden (N.J.).—At the annual meeting of this society Dr. Paul N. Litchfield was elected president; Dr. Alexander McAllister, vice-president; Dr. Clarence B. Donges, secretary, and Dr. Joel W. Fithian, treasurer.

Fort Wayne (Ind.) Academy of Medicine.—The academy held its annual meeting, Dec. 16, 1902, and elected Dr. Charles R. Dancer, president; Dr. Robert B. McKeeman, vice-president; Dr. J. Clifford Wallace, secretary, and Dr. Adam L. Schneider, treasurer.

Fort Dodge (Iowa) Physician's Club.—This club held its first regular meeting, Dec. 9, 1902, with 16 charter members, and elected Dr. Charles J. Saunders, president; Dr. Harley G. Ristine, vice-president, and Dr. James D. Lowry, secretary and treasurer.

Weber County (Utah) Medical Society.—At its annual meeting in Ogden, Dec. 10, 1902, Dr. Amasa S. Condon was elected president; Dr. Hammond J. Powers, vice-president; Dr. George A. Dickson, treasurer, and Dr. Harry B. Forbes, secretary, all of Ogden.

Cleveland (Ohio) Academy of Medicine.—The annual election of the academy, held Dec. 19, 1902, resulted as follows: Dr. Harris G. Sherman, president; Dr. William E. Lower, vice-president; Dr. Walter H. Merriam, secretary, and Dr. Oscar T. Thomas, treasurer.

Arizona Academy of Medicine.—The regular quarterly meeting of the academy was held in Phœnix, Dec. 20, 1902, of which Dr. E. Payne Palmer was elected president; Dr. W. M. Bell, vice-president, and Dr. W. H. Seton, secretary and treasurer, all of Phœnix.

Los Angeles County (Cal.), Medical Association.—At the annual meeting, Dec. 19, 1902, Dr. Rose Talbott Bullard was elected president; Dr. Fred. C. Shurtleff, vice-president; Dr. Charles G. Stivers, secretary; Dr. Kate Wilde, assistant secretary, and Dr. John C. Ferbert, treasurer, all of Los Angeles.

Montgomery County (Ohio) Medical Society.—At its annual meeting in Dayton, Dec. 5, 1902, this society elected the following officers for the ensuing year: President, Dr. John C. Reeve, Jr., Dayton; vice-president, Dr. Charles S. Judy, Miamisburg; secretary, Dr. Wilfred J. Taylor, Dayton; treasurer, Dr. David C. Lichliter, Dayton, and censor, Dr. Francis C. Gray, Dayton.

Camden District Medical Society.—This society has adopted a resolution recommending that the New Jersey State Board of Medical Examiners refuse to recognize the certificates granted by other states, except where New Jersey's certificates are recognized. This is in retaliation to the action of some surrounding states which fail to recognize the New Jersey Board's certificates.

Dodge County (Neb.) Medical Society.—At the annual meeting and banquet of this society, held in Fremont, December 11, Dr. Robert C. McDonald, Fremont, was elected president. The other officers elected were Drs. J. S. DeVries, Fontanelle, and Frank H. Brown, Fremont, vice-presidents; Dr. Andrew P. Overgaard, Fremont, secretary, and Dr. William J. Davies, Fremont, treasurer.

Atlanta (Ga.) Medical Library Association.—Drs. William S. Elkin, Virgil O. Hardon, E. Bates Block, Floyd W. McRae, Alexander W. Stirling and Michael Hoke filed a petition in the Superior Court, Dec. 19, 1902, asking to be incorporated under the name of the Atlanta Medical Library Association, whose purpose is the formation, establishment and maintenance of a library of medicine and the allied sciences.

The Tri-State Medical Association of Western Maryland, Western Pennsylvania and West Virginia.—This association met at Cumberland, Md., Dec. 11, 1902. There was a large attendance, and papers were read by Drs. J. Wesley Bovée, Washington, D. C.; Joseph C. Bloodgood, Baltimore; Benjamin M. Cromwell, Eckhart, Md.; Asa F. Speicher, Elk Lick, Pa.; S. A. Boucher, Barton, Md.; William F. Barclay, and Xavier O. Werder, Pittsburg, and John G. Clarke, Philadelphia.

Medical and Chirurgical Faculty of Maryland—Section on Clinical Medicine and Surgery.—At the meeting of this section, Dec. 5, 1902, Dr. Julius Friedenwald showed fragments of stomach tubes, which had become broken off in the stomach of two patients, necessitating operation for their removal. He stated that he had not found cases of gastrotomy performed for such cause, in the literature. Dr. Harvey Cushing, at the

same meeting, showed a patient who had had a gunshot wound destroying the facial nerve. He had anastomosed the distal end of the facial and the spinal accessory with the result of restoring the functions of the facial.

American Congress on Tuberculosis.—A petition was filed here, Dec. 18, 1902, in the Superior Court, Atlanta, Ga., asking for a charter for the incorporation of the American Congress on Tuberculosis. The incorporators are: Dr. George Brown, Atlanta; Dr. Henry D. Holton, Vermont; Dr. Daniel Lewis, New York; Dr. J. A. Egan, Illinois; Dr. Frank Paschal, Texas; Dr. Irving A. Watson, New Hampshire, and Drs. E. J. Barrack and P. H. Bryce, Canada. The purpose of the corporation is to promote discussion and devise means of bettering the condition of persons suffering with tubercular complaints. Another object is to assist in organizinz the World's Congress on Tuberculosis.

Philadelphia Hospital Association.—Twenty-five hospitals of the city recently united in this association. Dr. J. Vaughan Merrick was elected president. The association is advisory only, and its recommendations are to be submitted to the boards of managers of the hospitals represented for their rejection or adoption. The objects of the association are: To consider questions pertaining to hospital management; to discuss matters and methods that may increase the efficiency of hospital service; to consider possible abuses and methods to protect hospitals from imposition; to confer, when necessary, with state and municipal authorities; to devise methods for protection from contagious and infectious diseases, and to secure such comity and co-operation as may promote the best interest of all the hospitals in Philadelphia and the public good.

Southern California Medical Society.—The thirtieth regular semi-annual meeting of this society was held at Pasadena and Mount Lowe, Dec. 3 and 4, 1902, with the following officers: President, Dr. Fitch C. E. Mattison, Pasadena; vice-presidents, Drs. John C. King, Banning, and F. W. Thomas, Claremont; secretary and treasurer, Dr. Frank D. Bullard, Los Angeles. At the June meeting the question of forming a society in Southern California for the prevention of the spread of tuberculosis was discussed and a committee appointed to report a plan of organization. At this meeting the report of that committee was adopted and a temporary organization effected with Dr. Francis M. Pottenger, Los Angeles, as president, and Dr. Rose Talbott Bullard, Los Angeles, as secretary. The society will be called the Southern California Anti-Tuberculosis League.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twelfth Annual Meeting, held at St. Joseph, Mo., Dec. 29 and 30, 1902.

The President, Dr. James E. Moore, Minneapolis, in the Chair.

An address of welcome was delivered by Dr. J. Geiger, St. Joseph, and response was made by the president.

Evolution of the Treatment of Cancer of the Rectum.

DR. C. H. MAYO, Rochester, Minn., presented a paper on this subject. Certain definite results are desired in operations on rectal cancer, namely, permanent cure, low operative mortality and a controllable anus or its best substitute. These results are modified by location, stage of progress, and by the age and condition of the patient. Dr. Mayo gave a review of the operative treatment since 1870.

The modern surgical treatment is the block removal of the rectum, glands and gland tissue from below, in some cases, but more often by a combined abdominal and perineal method. Through an abdominal incision a low section of the sigmoid is made, this portion of the colon being saved as a fecal container, and the cut ends of the bowel inverted and closed by a circular suture, rendering the remainder of the operation aseptic. The rectum is separated laterally and below by a peritoneal incision and pushed down with the glands and fat by blunt dissection, the separation being carried as low as possible beneath the bladder, the remainder of its removal being completed through the perineum. The sigmoid is freed sufficiently to bring the cut end out of an inguinal McBurney muscle separation opening, the skin incision of which is one and one-half inches to one side, and to which the end of the sigmoid is sutured. The bowel is also sutured within the abdomen to prevent prolapse, and a pad compression of the skin-covered sigmoid loop gives a fairly controllable anus.

The main objections of the past, the author stated, are:

1. Ineffectual removal with local recurrence, so common in the perineal type.

2. The extensive mutilating character of the Kraske before operative conditions were known.

3. The frequent failure of all methods of union of proximal and distal portions of the bowel, which, when united with the destruction of the levator ani and internal sphincter, and anus saved, represented but one-third of the controlling apparatus of the bowel.

4. The frequent formation of stricture, either cicatricial or cancerous after operation, necessitating inguinal colostomy.

5. The loss of the fecal container in straightening the sigmoid.

Sentiment, and not chance, has proven the main reason for continuing to place an uncontrollable anus in an inaccessible situation. The gain in the combined operation has been in a selection of the operation to the case, radical removal *en masse*, with all glands, fat, and connective tissue, or colostomy for palliation; the retention of the sigmoid as a fecal container; the peculiar formation of the anus, giving a fair control in an accessible situation.

Carcinoma Uteri.

DR. H. C. CROWELL, Kansas City, Mo., read this paper.

Unless very early discovered, he believes that nothing is gained by hysterectomy for carcinoma of the cervix. Later operations may avail in carcinoma of the body of the uterus. The diagnosis should be confirmed by the microscope in the hands of a competent pathologist. The uterus must be freely movable, capable of being dragged down to the vulva. If not, it is probable that the disease has involved the utero-sacral ligaments and adjacent tissue, making an operation of doubtful utility. If the disease is clearly made out by touch, appearance, and clinical history, it is rarely possible to secure a radical cure by hysterectomy, if the fatal termination is not accelerated. In cases well advanced, his individual experience leads him to believe that more days or months, as the case may be, are added to the life of the patient than by any attempt at extirpation, by cutting and scraping away the necrotic tissue down to solid tissue, burning that surface with the thermocautery, and treating subsequently by touching the surface occasionally with 4 per cent. formalin. By this treatment disintegration is retarded, hemorrhage and discharges are checked, enabling the patient to recuperate sometimes to a remarkable degree. The suffering is lessened, and the patient is relieved of the shock and dangers attending more radical procedures. The essayist urged more frequent early examinations of parous women, who should be advised of the expediency of such examinations as a routine safeguard after the age of 36.

Discussion on Papers of Drs. Mayo and Crowell.

DR. M. L. HARRIS, Chicago, pointed out the necessity of making a laparotomy previous to the operation for rectal cancer if the disease extends high, and the surgeon is not perfectly sure that it is limited to the lower part of the bowel. This preliminary laparotomy should be for three purposes: (1) for examination, in order to determine whether or not the case is operable; (2) to facilitate operation, provided one is necessary; (3) to perform a colostomy if the case is inoperable. He thinks colostomy is an extremely valuable operative procedure in many cases.

DR. HENRY T. BYFORD, Chicago, thinks Dr. Crowell too pessimistic and narrated the case of a woman on whom he operated more than ten years ago, in which cancer had involved the entire cervix. The woman has not had a recurrence. He could report a number more that had recovered following operation.

DR. H. D. NILES, Salt Lake City, said that he recently had a case in which he was in doubt as to whether the stricture of the bowel was syphilitic or malignant. He used such measures as were available, and was still in doubt. He thinks in such a case it would be wise to do a colostomy, and at the same time explore parts of the bowel. An excellent result was obtained so far as the sphincter was concerned. The patient had excellent control of the bowels.

DR. A. C. BERNAYS, St. Louis, saw Dr. Mayo perform the operation described. It was a beautiful piece of surgery, and anyone who has seen this operation done will hereafter perform it in preference to any other.

DR. D. S. FAIRCHILD, Clinton, Iowa, is convinced that surgeons, after witnessing this method of operating, will conclude that it is the procedure which will be adopted hereafter.

Disarticulation of the Hip for Sarcoma of the Femur.

DR. A. E. HALSTEAD, Chicago, reported a case and remarked on the diagnosis and prognosis in sarcoma of the femur.

DISCUSSION.

DR. B. B. DAVIS, Omaha, called attention to elevation of temperature in these cases. Several years ago he had a case and his first diagnosis was osteomyelitis of chronic form rather than sarcoma, simply because of the temperature at the time, but he soon found out his mistake. In standard text-books he found no mention of elevation of temperature. This is a symptom to remember.

DR. JOHN P. LORD, Omaha, mentioned a case of carcinoma of the femoral neck following a fracture at that point from slight violence. While in flesby individuals he thinks it would be impossible to differentiate this condition by ordinary manipulative methods, yet with the *x*-rays, in fractures from comparatively slight violence, the surgeon might suspect the condition and have an *x*-ray examination to determine the early existence of the disease.

DR. WILLIAM JEPSON, Sioux City, Iowa, mentioned 6 cases of sarcoma of the femur, 2 of which developed at the upper end of the femur, and were not subjected to operative intervention. In 4 the disease involved the lower end of the femur, 3 were subjected to amputation at the junction of the upper with the middle third; the other one was subjected to primary hip-joint amputation; 2 of the 3 were subjected to secondary disarticulation of the femur at the hip-joint. One of these 2 died; also 1 not subjected to this operation. Out of 6 cases there are only 2 living.

Oblique Inguinal Hernia.

DR. A. E. BENJAMIN, Minneapolis, said there were too many methods and a too large percentage of relapses and pointed out some of the causes of imperfect results. An operation that is not altogether new, but worthy of consideration, is as follows: The patient is prepared by having the parts shaved the morning of the operation. In doing so, infected areas or vesicles are avoided, which may result, when the shaving is done the previous evening or before the parts have been thoroughly cleansed. The time intervening between the previous evening and morning of the operation favors a greater multiplication of microorganisms. The bowels are emptied and subsequently kept free from gas accumulation, which lessens the internal pressure. An ordinary incision for a Bassini operation is made. The aponeurosis of the external oblique is slit up to a point opposite the internal ring. The fibers of the internal oblique and transversalis muscles are divided by blunt dissection, thus opening the inguinal canal. The internal oblique and transversalis muscles are found closely connected. They are not separated, but the aponeurosis of the external oblique is carefully and thoroughly removed from the internal oblique. The lower portion is dissected down to Poupart's ligament, and the transversalis separated from the peritoneum. Such careful dissection and positive identification of structures are an important aid in securing direct apposition and firm union. It corrects all defects of Nature in this region. The cord is now raised and silkworm-gut sutures introduced, passing through the skin, Poupart's ligament, internal oblique and transversalis. The loop is made on the lower side of the transversalis. The needle, re-entering the transversalis and internal oblique, passes through the skin to the outer and lower side of the cut near the point of entrance. From three to five sutures are similarly introduced. These sutures pull the internal oblique and transversalis below the shelving edge of Poupart's ligament, and are observed to make a firm barrier against any internal force. The sutures are then tied over rolls of sterilized gauze. The spermatic cord rests on the internal oblique. The external oblique is then closed over the cord. Interrupted figure-of-eight sutures are introduced, bringing the external oblique in apposition with Poupart's ligament. This also approximates the skin, and the sutures are tied over a roll of sterilized gauze. The sutures are usually left two weeks.

Appendicitis and Other Cases.

DR. W. W. GRANT, Denver, reported a case of rupture of gall-bladder or duct from vomiting, with rupture of the appendix in the same patient, and also reported two cases of appendicitis because of the interest connected with drainage and phagocytosis. He is satisfied that he has saved some patients after peritoneal extravasation by the liberal use of gauze for drainage. In abdominal operations drainage imperils the integrity of the abdominal wall, therefore predisposes to hernia. It should consequently be dispensed with as soon as possible. But in a justifiable belief in the efficacy of hyperleucocytosis, he believes it is not wise to hastily discard surgical procedures which have stood the test of abundant experience. Dr. Grant also reported a case of acute yellow atrophy of the liver.

Chronic Pancreatitis and Pancreatic Cyst.

DR. B. B. DAVIS, Omaha, reported a case of each of these affections and discussed the etiology and diagnosis of pancreatitis. Infection is considered the determining factor in most cases, being secondary to gallstones, cholecystitis, gastritis, duodenitis and zymotic diseases, particularly typhoid fever and influenza. Probably syphilis, alcoholism and general arteriosclerosis also cause a small percentage.

Glycosuria, fatty stools and muscle fibers in the stools, which theoretically ought to be diagnostic factors, in pancreatic disease, practically have usually been found absent. If glycosuria is present, destruction of the islands of Langerhans has been found to exist. In all cases in which infection is the causative factor, prolonged drainage of the gall-bladder was recommended.

DR. M. L. HARRIS, Chicago, emphasized the frequency with which stomach troubles precede chronic pancreatitis. It is possible that some stomach affections or ulcers of the duodenum are undoubtedly instances of chronic pancreatitis, and may be the result of infection.

Gunshot Wounds of the Stomach.

DR. J. W. ANDREWS, Mankato, Minn., reported a case and stated that since surgeons of international reputation do not agree as to an immediate operation, he prefers to do an immediate operation in all cases where it is reasonably certain that the stomach has been perforated.

Fowler's Position in Abdominal Surgery.

DR. VAN BUREN KNOTT, Sioux City, Iowa, had employed this position and reported five recoveries from diffuse septic peritonitis, no two of which occurred without an intervening failure. These are the only cases of diffuse septic peritonitis that have been operated on by the author successfully. The Fowler position was maintained for 24 hours, unless some special reason for continuing it was present. He says that the head of the bed should be raised from 18 to 20 inches from the floor. He hoped that those present, who had neglected to employ the Fowler position, would be induced to do so, for he believes that it can do no harm, and in many cases will prove of much value.

Old Irreducible Dislocations of the Shoulder Joint.

DR. A. F. JONAS, Omaha, reported seven cases in his own practice. His method consists chiefly in (1) manipulation, using the forearm as a lever, rotating outward and inward, abduction and adduction, never forgetting for a moment a possible accident to the axillary vessels and nerves, and the possibility of fracturing the humerus; (2) if this plan fails, the capsule is incised, and all cicatricial tissue is extirpated. All muscular attachments that offer restraint are severed, the axillary vessels are protected with a broad, flat retractor, and the head of the bone is brought into place by means of an elevator, assisted by manipulation and traction. To avoid infecting the wound, in this last maneuver it is advisable to firmly wrap the entire arm and hand with wet sublimate towels. Dry towels are liable to slip and become displaced, making it possible for the operator's hand to become infected. If the head can not be replaced, then (3) the head of the humerus should be resected, an operation to be avoided, when possible, on account of the

resultant flail-like condition of the arm, and yet must be done (*a*) when the humeral head and neck become too extensively stripped of their attachments, experience having shown that necrosis may occur in 16 per cent. of cases; (*b*) when osseous union has occurred between the head and the ribs; (*c*) when, after a division of all restraining soft parts, the head rests against the point of the acromion process.

DR. ALEXANDER H. FERGUSON, Chicago, reported a case of end-to-end anastomosis of the popliteal artery for gunshot injury.

Repair of Pelvic Injuries.

DR. WILLIAM E. GROUND, West Superior, Wis., contributed a paper on "Natural and Logical Treatment of Injuries of the Pelvic Floor Occurring During Parturition."

His conclusions were that almost every woman during her confinement suffers injuries from which she does not recover unless she is subjected to a secondary operation for repair; that immediate suture of apparent lacerations does not restore pelvic support in the vast majority of instances; that from one to two months after labor the woman should be subjected to a thorough examination and any relaxation corrected, before it has had time to impair her health.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Alexander H. Ferguson, Chicago; vice-presidents, Drs. C. H. Wallace, St. Joseph, and C. W. Oviatt, Oshkosh, Wis.; secretary and treasurer, Dr. George H. Simmons, Chicago; members of the executive council: Dr. James E. Moore, Minneapolis, chairman; Drs. A. F. Jonas, Omaha; O. B. Campbell, St. Joseph; C. H. Mayo, Rochester, Minn., and J. R. Hollowbush, Rock Island, Ill.

Denver was selected as the place for holding the next annual meeting, Dec. 28 and 29, 1903.

(To be continued.)

AMERICAN ROENTGEN RAY SOCIETY.

Third Annual Meeting, held in Chicago, Dec. 10 and 11, 1902.

The President, Dr. G. P. Girdwood, Montreal, Can., in the Chair.

X-Ray Physics.

DR. T. PROCTOR HALL, Chicago, opened the program with a paper on the physics of the *x*-ray, which he concluded are electrical waves of some sort. He exhibited a new flouroscope which, in his estimation, is far superior to any other.

Equal Potential Surfaces in X-Ray Field.

DR. JOHN C. PITKIN, Buffalo, considered the principles and mechanics of static machines in general and exhibited an apparatus of his invention illustrating that many air gaps in simple series are superior to one long interval. This apparatus consists of a glass rod about one foot in length and one-half inch in diameter, on which are slipped a number of plain brass band rings, which are freely movable, to form the intervening air gaps. This apparatus greatly intensifies the *x*-rays. He suggested that in order to avoid distortion of the *x*-ray image the fluoroscope screen and the photographic surface should be made to conform to the shape of these equa-potential surfaces.

Presidential Address.

The president, Dr. Girdwood, in his annual address, reviewed the origin and development of electricity from the time of the early Greeks. He also considered the discovery of the Roentgen ray, the skiagram and the fluoroscope, and exhibited photographs made nearly thirty years ago when the skiagram was still exceedingly crude. The apparatus in use at that time was described in full. The nature and origin of the *x*-ray was also discussed in full as well as the value of the *x*-ray as a means of diagnosis and treatment. In closing, he called particular attention to the proper naming of these rays after their discoverer, Roentgen. All great discoveries in electricity had been named after the man who was instrumental in their discovery, and there is no reason why an exception should be made in this instance. They should be known as the Roentgen ray and not the *x*-ray.

Systematic Records and the Routine Use of the X-Rays.

MR. W. J. WILBERT, Philadelphia, described the methods used in the hospital with which he is connected in the capacity of radiographer. He called special attention to the necessity and value of the routine use of the ray for diagnostic purposes, because in many instances a seemingly correct diagnosis is seen to be wrong when a skiagram is at hand for confirmation of the clinical diagnosis. This is especially true in unsuspected cases of fracture about or in joints which are usually classed as sprains or contusions or nerve injuries. Many cases were cited in support of this contention.

Skiagraphy as an Art.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, read this paper and described what is absolutely necessary in order to procure a good skiagraph, the principal thing being expertness on the part of the radiographer. The expert finds things which are entirely invisible to the novice. The correct reading or interpretation of the shadows in a skiagram is by no means an easy task. He favors rapid exposures with a high current.

Results and Technic in Treating Epithelioma.

DR. EMIL H. GRUBBE, Chicago, in this paper, strongly objected to the indiscriminate use of the high and low tubes in tumors. The method is inexact and positively harmful. A tube with a vacuum just high enough to penetrate the tissues to be exposed should always be used. Inflammation of either the deep or surrounding superficial tissues should be avoided. Either the static machine or the induction coil may be used. When the static machine is used it is advisable to use at least two series of spark gaps between the machine and the tube. When the coil is used connection may be made to the tube without the use of a spark gap in series. The principal thing is to maintain a constant vacuum in the tube. The controlling factors in this method are the quality of the tube, distance of the tube from the parts to be treated, the time of exposure, frequency of exposure and exciting apparatus. The time of exposure depends on the intensity of the *x*-ray. Treatments should be given daily, with exposures of ten minutes, the tube being placed from four to six inches from the part, until a reaction ensues in the shape of redness, heat and itching. The treatments are then discontinued for from two to seven days, after which the patient is again exposed in the same manner as before and to the same rays. All parts not under treatment are protected by a mask of thin sheet lead. The occurrence of a dermatitis does not retard the progress of the cure; in fact, it may be taken as an indication that the treatment is beginning to be effectual. Proper general or systemic treatment should also be used in conjunction with the rays.

The author details a large number of cases so treated and tabulates the result. Good results were obtained in the majority of the cases, the result always varying with the location of the disease. The average duration of all treatments was four months. Some were symptomatically cured in as short a time as one month.

When the disease is situated in an accessible part of the body the chances of recovery are manifestly greater than when the location is inaccessible as the part can be brought more readily under the influence of the rays. The results obtained were of such a nature as could not have been obtained by any other method of treatment. The writer does not claim to have brought about an absolute cure, but only a symptomatic cure. He states rather positively, however, that in all complicated cases of superficial epithelioma, where the treatment was begun early, the results have been such as to warrant the use of the word "cured" in its fullest sense. In incurable cases the *x*-ray is as nearly a specific as any therapeutic agent in use to-day.

DISCUSSION.

DR. CLARENCE E. SKINNER, New Haven, Conn., did not agree with Dr. Grubbe that it was necessary to produce a dermatitis in order to get the best results from the use of the *x*-ray, although in the majority of the cases the production of some dermatitis hastens the cure.

This was also the opinion of several others who participated in the discussion. All favored a slight tanning or browning of the skin, but not actual burning.

DR. E. J. BROWN, Decatur, Ill., believes in producing a dermatitis, but finds that it is much easier to produce a burn and much harder to cure one on the body than on the face. He advocated giving the treatment in relays, as it hastens the cure and also permits of a control of the degree of a burn. The *x*-ray gives a better functional result and cosmetic effect than surgery.

The Roentgen Ray as a Therapeutic Force, from a Clinical Standpoint, with Illustrative Cases.

DR. J. B. MURPHY, Chicago, said that in the fracture element of surgery the *x*-ray is of enormous benefit, although it is liable to err. It is also of great assistance in the diagnosis of tubercular affections of the joints in differentiating whether the lesion is one of the bone or of the synovial membranes, thus materially facilitating the method of treatment and the subsequent result. The *x*-ray is further valuable in these cases as a therapeutic agent, producing remarkably good results, and in an incredibly short time. He also cited a number of cases of tuberculosis of the spine in which the *x*-ray was used for its therapeutic effect. A cure resulted in each case, in one after twenty-five applications, in another after twenty-one. A third was very much improved after twenty-three applications. He called attention to the difficulty of correctly diagnosing the presence of renal calculi with the *x*-ray. It is often deceptive, showing stones when they are not there, and not showing them when they are there. Repeated skiagraphs should be made, and always in two directions. Deep-seated tumors, as of the intestinal tract, were not affected in his experience. In intestinal and tubercular fistulas the sinuses close up promptly after only a few applications of the ray.

DISCUSSION.

DR. J. P. MARSH, Troy, N. Y., called attention to frequent blood examination for prognosis. He finds that if the leucocytes increase in number the outcome will be a favorable one, and *vice versa*.

DR. CLARENCE E. SKINNER, New Haven, Conn., said that there is considerable difference in the way in which these growths respond to the influence of the *x*-ray. He suggested that perhaps it might be called an idiosyncrasy.

Others who discussed the subject were: Drs. Gibson, Birmingham, Ala.; Dunham, Cincinnati; Edwards, Nashville, Tenn., and Pennington, Chicago.

DR. G. P. GIRDWOOD, Montreal, Can., contributed a paper describing cases of cancer, tuberculosis and rodent ulcer with the rays.

The Technic of Treatment of Malignant Growths.

DR. J. N. SCOTT, Kansas City, Mo., read this paper. He insists that the apparatus used should be powerful enough to excite the largest tube to its fullest capacity and permit of a complete control of the current. He believes that the results in malignant growths are better when the cases are treated every day. The ray should never be employed strong enough to produce a necrosis of the tissues. He begins with an exposure of four minutes and gradually increases to eight minutes when a reaction usually appears. The time of exposure is then diminished, followed by another gradual ascent until the period of reaction. This method is pursued until a satisfactory result is obtained. The growth should always be exposed from as many directions as possible.

The general condition of the patient should be carefully watched and all the functions, especially those of elimination, kept active. Dr. Scott is convinced that the Roentgen ray will cure a certain percentage of cases of malignant tumor and improve nearly all more or less. The *x*-ray is far superior to the knife in that the original tumor, as well as the metastatic growths, can be treated at the same time, thus preventing any further spread. It is also applicable where the knife is not. A special apparatus is described, devised by the author, for the purpose of preventing the possibility of producing a burn on other parts of the body, and also to protect the hands and eyes of the operator, which is a very important matter. The apparatus consists of a metal box which is perforated by openings through which the rays pass and through which the operator can also regulate his apparatus without exposing either himself or his patient. Since he has used this box he has no trouble whatever with burns of unaffected parts of the body.

DISCUSSION.

DR. GORDON C. BURDICK, Chicago, does not believe that the normal tissue should be protected in a case of carcinoma, except when the tumor involves any part of the face. In body tumors the tumor tissue will break down long before the healthy tissue.

DR. LESTER E. CUSTER, Dayton, Ohio, exhibited a screen of his invention, containing a central opening adjustable in size by a series of diaphragms. It is mounted like a music stand and is freely movable in every direction for use on any part of the body to protect the healthy tissue. It also protects the operator. The screen is made of block tin, but any kind of metal can be used. It may be packed in a small space and is easily and rapidly set up.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Arthur Goodspeed, Philadelphia; vice-presidents, Drs. John B. Murphy, Chicago, and Wm. Jordan Taylor, Cincinnati, Ohio; secretary, Dr. J. B. Bullitt, Louisville, Ky.; treasurer, Dr. Weston A. Price, Cleveland, Ohio; member of the executive committee, Dr. Ralph R. Campbell, Chicago. The next place of meeting will be determined by the executive committee.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Prevention of Mammary Abscess.

Dr. Alfred C. King, in *N. Y. Med. Jour.*, states, in the prevention of mammary abscess, that the treatment should really begin during the latter months of pregnancy by manipulating and drawing out the nipples and bathing them in alcohol or borax water to harden the epithelium. Absolute cleanliness is requisite; frequent washing of the nipples with soap and water, followed by a saturated solution of boric acid, keeping gauze pads saturated with this solution wrapped around the nipples during the day and sterilized vaselin applied during the night. As an application also, the author recommends the following combination:

℞. Tannici (glycerite)	℥ii	8
Alcoholis	℥i	30
Aquæ rosæ q. s. ad	℥iii	90

M. Sig.: To be applied constantly on sterile gauze.

For the pain give opium or codein or morphin hypodermatically if the pain is unbearable, and apply lead and opium wash locally. Saline cathartics lessen the hyperemia of the breasts. Belladonna ointment applied locally often affords comfort. Ice bags are of great importance and should be employed in order to prevent pus formation. Support by bandages is necessary, employing the figure-of-eight in combination with the "straight around" bandage, making gentle compression as well as support. Bacon's method of massage may be employed by beginning in the axilla and rubbing under the clavicle, gently at first and gradually increasing the pressure. The stroking is all directed away from the breast and not toward it. The purpose is to facilitate the flow of the blood and lymph back from the breast and to accelerate the flow in the efferent vessels.

Potassium Chlorate in Habitual Abortion.

Dr. S. Remy, in *Merck's Archives*, recommends the use of potassium chlorate, given internally, in cases of habitual abortion in young women, which is not dependent on epidemic disease, on syphilis, or on lesions within the uterus. As soon as the patient is certain she is pregnant, she is given daily grains 3 (gm. .20) of potassium chlorate and the medication is con-

tinued during the entire period of gestation. The dose is decreased to grains 2½ (.15) during the last few weeks. The author succeeded in a number of cases which previously had had several miscarriages. He believes that the nascent oxygen liberated acts on the elements of the uterine mucous membrane in the process of evolution and gives them increased vitality.

Burns.

F. Tichy, according to an abstract in *N. Y. Med. Jour.*, recommends calcium hypochlorite as an antiseptic for burns. He applies a cool bandage with an antiseptic oil on the first day, which he finds causes the vesicles to form quickly, which he opens after twenty-four hours under antiseptic precautions. He then applies compresses steeped in the following solution:

℞. Calcii hypochloriti .....gr. xxxvi-lxxv 2.25-5
Aquæ destil. .....℥xxxv 1080
Dissolve, filter and add:
Camphoræ .....m. lxxv 5

M. Sig.: Apply locally.

The compresses should be renewed after twenty-four hours, but kept moist by pouring on fresh solution during that time. It is of importance to keep the compresses on as long as possible and to keep them constantly damp. Great care must be exercised in removing the old compresses not to disturb the scabs under which the wound is to heal.

Salicylic Acid for Soft Chancre.

The following is recommended by *N. Y. Med. Jour.* in the treatment of soft chancre:

℞. Acidi salicylici .....gr. xxiv 1 | 65
Tinct. benzoini 3ss 2
Petrolati .....℥i 30

M. Sig.: Apply locally night and morning.

Infantile Eczema.

A. Ravogli, in *Cin. Lancet-Clinic*, recommends the following treatment of eczema of infants: The patient should have plenty of water, and if necessary to further stimulate the kidneys 10 to 20 grains of potassium citrate may be added to the water daily. The elimination by the bowels must be given attention. For this purpose small doses of calomel, magnesium citrate, sodium phosphate, cascara or castor oil may be given. In cases of diarrhea, salol and sodium bicarbonate, two grains of each may be given three times a day. In poorly-nourished children tonics, iron and cod liver oil are of use. Arsenic is of no benefit in eczema.

In an acute eczema bran or starch water or a mild solution of sodium bicarbonate should be used for bathing instead of soap and water. The clothing should not be so excessive as to keep the child constantly in perspiration. The local treatment must be governed by the stage of the disease. Dusting powders like zinc oxid, bismuth or rice powder and boric acid should be employed in the acute form when it is of an erythematous nature located around the genitals and in the folds of the skin. In the acute form, with deep excoriations, accompanied by abundant serous discharge and severe itching, the use of ichthyol in the form of a liniment as follows is of great value:

℞. Ichthyol 3ii 8
Olei amygdalæ dulc.
Aq. calcis, āā 3iv 16
Aq. rosæ
Glycerini, āā .....℥i 30

M. Fiat linimentum. Sig.: To be applied on strips of lint saturated with the liniment. According to the author, ichthyol cornifies the epidermic cells of the corpus mucosum and forms a temporary protection to the papillary layer. The surface of the skin should be washed with a 1 per cent. solution of carbolic acid or sodium borate before the liniment is reapplied.

In cases of acute eczema the following is recommended as a sedative lotion:

℞ Pulv. calamin prep.
Zinci oxidi, āā 3ii 8
Glycerini
Aquæ rosæ, āā .....℥iss 45

M. Sig.: Apply locally to the affected surfaces with a camel's hair brush or on pieces of lint.

In order to maintain the remedies on the scalp it is necessary to cut a mask which may be fastened to a skull cap and bound to the head. Resorcin should be employed when there is a marked seborrheic condition of the scalp and face. It may be applied in the form of an ointment as follows:

℞. Resorcin .....gr. x | 65
Ung. aq. rosæ .....℥i 30

M. Sig.: Apply locally; or:

℞. Resorcin .....gr. xv 1
Acidi salicylici .....gr. vi | 20
Vaselini flavi .....℥i 30

M. Sig.: Apply locally.

The foregoing cleanses the surface, diminishes the exudation and secretion of the sebaceous matter. As a continuation of the treatment pastes such as Lassar's may be applied to protect the parts:

℞. Acidi salicylici .....gr. x | 65
Zinci oxidi 3ii 8
Amyli 3ii 8
Vaselini .....℥i 30

M. Sig.: Apply locally.

In eczema, accompanied by prurigo, sulphur mixed with the foregoing paste gives good results. In cases of pustular eczema of the scalp a salve containing white precipitate, likewise produces good results:

℞. Hydrarg. precip. albi .....gr. x | 65
Zinci oxidi
Bismuthi subcarb. 3ss 2
Acidi carbol. .....gtt. x | 65
Vaselini flavi .....℥i 30

M. Sig.: Apply locally.

When the inflammation has subsided and the epidermis is reforming and the exudation has been reduced the application of a combination containing tar is of service:

℞. Ung. picis liq. 3iii 12
Zinci oxid. 3iss 6
Ung. aq. rosæ 3vi 24

M. Sig.: Apply locally.

Where it is difficult to keep the mask and ointment on the face, the Pick paste may be applied.

℞. Zinci oxidi 3ii 8
Pulv. tragacanthæ 3i 4
Glycerini 3iss 6
Aq. rosæ .....℥iv 120

M. Sig.: Apply locally.

Carbolic acid or tar may be substituted in proper proportions for the zinc oxid. When the eczema has healed up but the skin is tender and easily cracks and itches the following should be applied:

℞. Acidi carbol. 3i 4
Glycerini 3i 4
Aq. rosæ
Alcoholis, āā 3iii 12

M. Sig.: Rub on the skin with absorbent cotton and then dry and dust with rice powder.

Capillary Bronchitis in Children.

The prognosis of capillary bronchitis is dependent to a great extent on the age and state of nutrition of the patient. In children under twenty months it is more grave and may terminate fatally within twenty-four or thirty-six hours. To control the temperature tepid sponging or bathing should be resorted to. Warm mustard baths serve two purposes in this disease: first, to reduce the temperature, and secondly, to modify the state of congestion of the pulmonary circuit by dilating the peripheral capillary vessels. The strength of the mustard bath should be one tablespoonful of mustard to the gallon of water. The bath may be repeated every three or four hours if necessary. It has been recommended to put one tablespoonful of mustard in a quart or half gallon of water and, wringing a towel from this solution, wrap the infant in the towel and allow it to remain there for ten or twenty minutes, when the skin will become reddened. Mustard paste applied to the anterior portions of the chest or posteriorly over the base of the lungs is of undoubted value in relieving the congestion and lessening the

difficulty of respiration to some extent. The paste should be made up from one part of mustard to six of flour, and in older infants a comparatively stronger paste may be used. The elimination, respirations and heart's action must be carefully watched and the presence or absence of cyanosis observed. There is, however, great danger in over-stimulation in these cases in the anxiety to relieve the dyspnea.

Small doses of spirits of nitrous ether repeated four or five times in the twenty-four hours are of service in increasing the renal elimination. To support the respirations small doses of spiritus frumenti or strychnin may be employed, depending on the rapidity of the respirations and the heart's action. For a child of fifteen or twenty months the dose of strychnia should range from gr. 1/300 (.0002) to gr. 1/200 (.0003), given every four hours.

In order to render the mucous secretion in the capillary bronchi less viscid and thus aid the little patient to clear the finer air-passages and at the same time to lower the temperature by increasing elimination, the following combination may be given:

℞.	Ammon. carb. .....gr. viiss-xv		50-1.
	Liq. ammon, acetatis .....ʒi	30	
	Aq. destil. q. s. .....ʒii	60	

M. Sig.: One teaspoonful every four hours, alternating with the strychnia.

An emetic is sometimes given to advantage when the infant is unable to raise the mucus.

Small doses of calomel should be given in divided doses at the beginning of the attack.

Medicolegal.

County Physician Refusing to Act in Epidemic—Expense.—The Minnesota statutes provide that, on the breaking out of epidemics of contagious and infectious diseases, the constituted authorities, who are present and have notices thereof, have power to act, and that all necessary expense incurred by any board of health in the general control of contagious and infectious diseases within any town, village, or city shall be a charge in favor of such town, village, or city against the county in which the same is situated. The Supreme Court of Minnesota holds, in the case of the City of Mankato vs. Blue Earth County, that the health officer of a municipality is justified in incurring the expense of furnishing medical treatment for the purpose of controlling a contagious disease, when the county physician, whose duty it is, refuses to treat the infected persons, and such expense may be recovered against the county. It says that it was suggested in this case that it was not in the power of the county physician to refuse; that he should have been compelled to perform his duty, or, if he would not, then application should have been made to the county commissioners to secure the requisite services. But the court does not think that the statute justifies such construction. It says that it is the evident intent and spirit of the whole law to provide a speedy method of controlling and stamping out such diseases, and, although it was made the duty of the county physician to perform such services, it would be unreasonable to require the public to undergo the delay and suspense attendant on securing another representative of the county in the manner suggested. It must be assumed that, for the purpose of caring for people afflicted in such a manner, the county physician is the duly accredited representative of the county, and a refusal on his part to perform the services was ample justification for the health board to take the matter in their own hands, and furnish the medical attendance necessary to control and eliminate the infection. No distinction can be drawn between expenses incurred in removing the patients into quarantine, furnishing them shelter and necessary supplies for their comfort, and the expense of medical attendance, for such services are required not only to allay the sufferings of patients, but also to control the epidemic. Furthermore, the county is liable, the court holds, for the necessary additional salary paid the local health inspector for extra services in locating and combating contagious diseases.

Mental Healing Under the Postal Laws on Fraud.—The case of the American School of Magnetic Healing and another vs. McAnnulty, to enjoin the latter, as postmaster at Nevada, Mo., from carrying out a fraud order of the postmaster-general to withhold their mail, was tried on demurrer, that is, admitting all material facts in the bill of complaint, and denying that under them the complainants were entitled to any relief. It was therefore admitted that the business of the complainants was founded "almost exclusively on the physical and practical proposition that the mind of the human race is largely responsible for its ills, and is a perceptible factor in the treating, curing, benefiting, and remedying thereof, and that the human race does possess the innate power, through proper exercise of the faculty of the brain and mind, to largely control and remedy the ills that humanity is heir to, and complainants discard and eliminate from their treatment what is commonly known as divine healing and Christian science, and they are confined to practical scientific treatment, emanating from the source aforesaid." Can such a business be properly pronounced a fraud within the statutes of the United States? The Supreme Court of the United States answers that there can be no doubt that the influence of the mind upon the physical condition of the body is very powerful, and that a hopeful mental state goes far, in many cases, not only to alleviate, but even to aid very largely in the cure of an illness from which the body may suffer. And it is said that Nature may itself, frequently, if not generally, heal the ills of the body without recourse to medicine, and that it can not be doubted that in numerous cases Nature, when left to itself, does succeed in curing many bodily ills. How far these claims are borne out by actual experience may be matter of opinion. Just exactly to what extent the mental condition affects the body, no one can accurately and definitely say. One person may believe it of far greater efficacy than another, but surely it can not be said that it is a fraud for one person to contend that the mind has an effect on the body and its physical condition greater than even a vast majority of intelligent people might be willing to admit or believe. Even intelligent people may and indeed do differ among themselves as to the extent of this mental effect. Because the complainants might or did claim to be able to effect cures by reason of working on and affecting the mental powers of the individual, and directing them towards the accomplishment of a cure of the disease under which he might be suffering, who can say that it is a fraud, or a false pretense or promise within the meaning of these statutes? How can any one lay down the limit and say beyond that there are fraud and false pretenses? The claim of the ability to cure may be vastly greater than most men would be ready to admit, and yet those who might deny the existence or virtue of the remedy would only differ in opinion from those who assert it. There is no exact standard of absolute truth by which to prove the assertion false and a fraud. We mean by that to say that the claim of complainants can not be the subject of proof as of an ordinary fact; it can not be proved as a fact to be a fraud, or false pretense or promise, nor can it properly be said that those who assume to heal bodily ills or infirmities by a resort to this method of cure are guilty of obtaining money under false pretenses, such as are intended in the statutes, which evidently do not assume to deal with mere matters of opinion on subjects which are not capable of proof as to their falsity. We may not believe in the efficacy of the treatment to the extent claimed by complainants, and we may have no sympathy with them in such claims, and yet their effectiveness is but matter of opinion in any court. The bill in this case avers that those who have business with complainants are satisfied with their method of treatment, and are entirely willing that the money they sent should be delivered to the complainants. In other words, they seem to have faith in the efficacy of the complainants' treatment, and in their ability to heal as claimed by them. If they fail, the answer might be that all human means of treatment are also liable to fail, and will necessarily fail when the appointed time arrives. There is no claim that the treatment by the complainants will always succeed. To further illustrate what it means, the Supreme Court refers to the difference of opinion as to the value of electricity in treating disease, of

vaccination as a preventive of smallpox, and of homeopathic treatment. Both the homeopathic and what is called the "old school," it says, have their followers, and many who believe in the one will pronounce the other wholly devoid of merit. But there is no precise standard by which to measure the claims of either, for people do recover who are treated according to the one or the other school. And so, it is said, do people recover who are treated under this mental theory. By reason of it? That can not be averred as a matter of fact. Many think they do. Others are of the contrary opinion. Is the postmaster-general to decide the question under these statutes? The court holds not. As the effectiveness of almost any particular method of treatment of disease is, to a more or less extent, a fruitful source of difference of opinion, even though the great majority may be of one way of thinking, the efficacy of any special method, it declares, is certainly not a matter for the decision of the postmaster-general, within these statutes relative to fraud. Unless the question may be reduced to one of fact, as distinguished from mere opinion, these statutes can not be invoked for the purpose of stopping the delivery of mail matter. And in this case, it simply holds that the admitted facts showed no violation of these statutes. Its instructions to overrule the demurrer are coupled with others that it be with leave to answer, and to take such further proceedings as may be proper and not inconsistent with this opinion. In overruling the demurrer, it adds, it does not mean to preclude the postmaster from showing on the trial, if he can, that the business of the complainants, as in fact conducted, amounts to a violation of the statutes as herein construed.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 27, 1902.

1 *The Diagnosis of Cancer of the Stomach. William F. Cheney.
2 *Lumbar Puncture as a Curative Agent in Meningitis, with Report of a Case. S. Ormond Goldan.
3 *An Autopsy Four Hours Postpartum on a Subject on Whom Ventral Hysteropexy Had Been Done Four Years Previously. Byron Robinson.
4 *Hydrops Tubæ Profluens, with Report of Cases. F. Hurst Maier.
5 A Case of Corrosive Sublimate Poisoning from a Vaginal Douche. Horatio C. Wood, Jr.
6 A Case of Herpes Zoster Ophthalmicus Complicated by Oculomotor Palsy. William Zentmayer.

1. **Cancer of the Stomach.**—Cheney notes the symptoms of gastric cancer, and says that where there is no tumor the difficulty may be much greater and the diagnosis of Bright's disease and pernicious anemia may require careful study, but it is in these cases that cure by operation is the most possible.

2. **Lumbar Puncture.**—Goldan reports a case of meningitis in a child, accompanied with convulsions and marked swelling of the fontanelle. Lumbar puncture was made with the idea of relieving the pressure and with strikingly good immediate results. He thinks that lumbar puncture with aseptic precautions is devoid of any risk, and while valuable from a diagnostic point of view, may be also curative in certain cases.

3. **Ventral Hysteropexy.**—In the case reported by Robinson death was caused by invagination of the postpartum uterus, due to ventral hysteropexy performed four years previous. The direct cause was atrophy of the fundus due to dragging of the peritoneal band on the fundus. The direct cause of death was heart shock, which he explains by the effect of trauma on the heart through the hypogastric and ovarian plexuses, solar plexus, and splanchnics to the cervical ganglia. He concludes that ventral hysteropexy should not be performed on women in the reproductive period.

4. **Hydrops Tubae Profluens.**—Two cases are reported by Maier, who remarks that the pathology is the same as that of ordinary hydrosalpinx, differing only in the fact that the occlusion is mechanical and finally gives way to pressure. He notices the theory of Menge and Döderlein that it is due to mild streptococcic infection of puerperal origin and with the possibility also of gonorrheal infection.

Medical Record, New York.

December 27, 1902.

7 *On Some of My Principles in Orthopedic Surgery. Adolf Lorenz.
8 *What Can Be Done to Prevent the Spread of Syphilis. E. Harrison Griffin.
9 *X-Light in Therapeutics. Clarence E. Skinner.
10 *Typhoid Gangrene. Charles E. Nammack.
11 *The Etiology of Relapse in Typhoid Fever. H. N. Rafferty.
12 *Pasteurized and Sterilized Milk as a Cause of Rickets and Scurvy. E. M. Sill.

7. **Orthopedic Surgery.**—Lorenz gives the following principles as guiding him in his operations: 1. Avoidance of even the possibility of putting the life of the patient in danger. For this reason he generally prefers the bloodless operations, and osteoclasis to osteotomy. 2. The so-called central correction of deformities, which means that every deformity should be corrected in the vertex of its angle. If one prefers to correct the deformity in one of the sides of the angle, the deformity itself would remain, and instead of correction we would have only a compensation. 3. Another important principle is that of absolutely saving the bones by dividing the soft parts as far as circumstances may demand it. This condemns all cuneiform osteotomies and resections *en bloc* of bone, and substitutes for them simple linear osteotomy. 4. In tuberculous disease of the joint in children, he rather favors expectant treatment. He has never made a resection of a tuberculous joint; the results of conservative treatment seem to him far the best. In hip-joint disease he aims to procure a solid ankylosis; experience has taught him that great mobility and bad function with lack of endurance are common allies. He makes little of permanent extension, and considers it only a matter of fixation, proclaiming that every articulation attacked by chronic disease should not be prevented from function any longer than absolutely necessary.

8. **Syphilis.**—Griffin notices the causes which he has observed, and, aside from the sexual causes, he mentions drinking fountains, and suggests that public drinking fountains be supplied with a cone-shaped cup without a base, which should be kept inverted over the water jet and thus constantly rinsed. He notices also the common prevalence of buccal syphilis, and the habit that the victims have of picking the sores on their mouths and leaving the virus on whatever they handle, doorknobs, glasses, etc. Laundresses are liable to acquire the disease, and he notices especially cases among nurses, midwives, etc. He thinks syphilis should be a notifiable disease, and the victims placed under surveyance. He lays down certain hygienic rules, including all the precautions against the spread of the disease, the prohibition of alcoholic drinks and of marriage for three years.

9. **The X-Light.**—From an analysis of published cases and from his own observations, Skinner concludes: 1. That the pain in deep-seated cancer is removable by the *x*-light to an extent ranging from slight amelioration to entire disappearance in a large proportion of cases, whereby the patient is enabled to spend what remnant of life is left him in comfort and free from the effects of the continuous use of opium. 2. In many cases the *x*-light is capable of exercising an influence on deep-seated cancer of sufficient intensity to markedly retard the progress, prolonging life where it can not be ultimately preserved. 3. In a proportion of cases it possesses the power to entirely overcome deep-seated malignant processes, restoring the patient to apparent health. 4. A small number of deep-seated malignant growths seem insusceptible to the *x*-light. 5. The phenomena consisting of chills, rise of temperature, etc., indicating systemic toxemia, not infrequently accompany the development or liberation of a toxin probably dependent on retrogressive metamorphosis occurring in the tissues which have become too deeply involved to be susceptible to regeneration. This auto-infection is capable of overwhelming the patient, hence it is desirable to suspend treatment temporarily when this systemic toxin first appears, and allow the system to rid itself of the noxious accumulation before further use of the rays. He believes his experience, in connection with the uniformly gratifying results met by nearly everyone in superficial growths, leads to the conclusions: 1. That a greater pro-

portion of cures can be obtained by this than any other method, possibly excepting the mercuric cataphoresis of Massey. 2. That in all cases of cancer where it is advisable to use the knife, the influence of the *x*-light in antagonizing cancerous degeneration may be looked on as indicating its application for a time immediately succeeding the operation in all cases and also in some cases preceding it. 3. That the *x*-ray is indicated in all inoperable cases because it has been successful in some and improved others, and, 4, lastly, it is the only measure that offers anything whatever of hope for ultimate recovery. He remarks on the possibility of *x*-ray lesions and the methods of producing the rays. He prefers the static machine exclusively for internal cancers, and the coil or static machine indifferently for superficial ones. Therapeutic applications of the *x*-ray should be entrusted, he thinks, only to the experienced operator, as the difference between efficient and faulty technic will determine the success or failure.

10. **Typhoid Gangrene.**—This condition, due to obstruction of the circulation from altered blood, weakened heart and mechanical embarrassments and local diffusion of bacteria, is observed in four different forms: 1, arterial thrombosis of cardiac origin; 2, autochthonous thrombi in the arteries; 3, autochthonous thrombi in the veins, and 4, thrombi in the small peripheral vessels. In the case here reported the gangrene affected both the lower extremities simultaneously, and the diagnosis was arterial thrombi of atheromatous origin, involving the aorta at its bifurcation.

11. **Typhoid Fever.**—The object of Rafferty's article is to point out the possibility of a large percentage of relapses in typhoid being due to gall bladder and liver colonization by the germs, subsequently reinfecting the duodenum and lower bowel by the bacilli-laden bile. He reports a case illustrating these views, and quotes authorities and gives references.

12. **Infantile Scurvy.**—Sill has observed 179 consecutive cases of infants fed with pasteurized and sterilized milk, and found in 97 per cent. of them unmistakable signs of rickets and scurvy, least marked in those cases where the feeding was supplemented with a small proportion of breast feeding. He thinks cow's milk is not bettered by sterilization or pasteurization for children. The better plan would be to thoroughly study the source and be able to exclude the possibility of disease. Sterilized or pasteurized milk, he says, is to the infant what canned or salt food is to the sailor.

Medical News, New York.

December 27, 1902.

13 *Recent Advances in Electrotherapeutics. William J. Morton.
14 Imitation, Suggestion and Social Excitements. John B. Huber.
15 *Cutaneous Angiomata and Their Significance in the Diagnosis of Malignant Disease: A Statistical Study Based on the Observation of Nearly 400 Cases. Douglas Symmers.
16 *The Rapid Microscopical Diagnosis of Fresh Tissue; with Special Reference to Staining. F. T. Billings.
17 *Indications for the Performance of the Mastoid Operation. William C. Braislin.

13. **Electrotherapeutics.**—Aside from the older methods of franklinization which still have their value, Morton includes among the recent advances in electrotherapeutics: 1. The static induced current; 2, the wave current (a phase of the static induced); 3, the Tesla transformer of the static induced; 4, the D'Arsonval transformer of the static induced; 5, the Oudin resonator. The first, the static induced, is local and direct in its application, and reaches a far greater extent of tissue, owing to its potential and consequently diffuse power, than the galvanic and faradic currents. The second is almost entirely general, but may be either local or general, and the same applies to the transformed currents of Tesla and D'Arsonval. The Oudin resonator enormously increases the difference of potential of high frequency currents, and in itself creates a new field of application of high tension electricity, especially in local treatments and reactions. He mentions the methods of administering these currents, the use of the brush discharge, etc., and the vacuum or Geissler tube, also the remarkable effects of actinic rays.

15. **Cutaneous Angiomata.**—Symmers has investigated some 373 cases for angiomata and finds them increasingly present up to an advanced age, the percentage being greatest between 70 and 80 years, his results in this respect agreeing closely with the statistics of Raff. He has also studies 17 cancer cases which were available, in which there was no question in the diagnosis as to their relationship with angiomata. He found angiomata present in 13 cases, absent in 4, but in no case were they present in noticeably large numbers nor did they seem to bear any special relationship to cancer. He discusses the literature and concludes that skin angiomata bear no relationship to malignant disease, and that their existence, even in large numbers, is to be viewed without any degree of alarm so far as cancer is concerned. They are a frequent, practically an invariable, concomitant of decay of advanced years, and in both young and old are probably significant of some form of well-marked arterial degeneration. He remarks in a note that Rosenbaum has recently published a series of 400 observations, the results of which and the author's conclusions are essentially identical with those given in this paper.

16. **Fresh Tissue Section.**—Billings describes the methods employed for cutting and preparing fresh tissue sections. He finds hematein the best stain for nuclei, which is usually used in the form of hemalaun after P. Meyer's formula modified by Pick. It is prepared as follows: (*a*) Hematein, 1 gm., alcohol 90 per cent., 50 c.c.; heated over water bath. (*b*) Powdered alum, 50 gms., water, distilled, 1000 c.c.; heated over water bath, alum dissolved. The two solutions are poured together and allowed to cool. This is best after standing for some time; Pick leaves it untouched for six months. The different steps of hardening and staining are given as follows: 1, fresh specimen set on freezing stage, frozen and cut; 2, sections wiped off knife and placed in water; 3, alcohol, 50 per cent., two minutes; 4, alcohol, 95 per cent., three minutes; 5, hemalaun, three minutes; 6, wash in water; 7, alcoholic solution of eosin, 30 seconds; 8, alcohol, 80 per cent., three minutes; 10, carboxylol, two or three minutes; 11, mount in Canada balsam. The whole process, cutting included, should not take over twenty-five minutes. The result, as a rule, is entirely satisfactory. The results are certainly as good for all practical purposes as the prolonged hardening and embedding in paraffin or collodion, which are difficult and expensive.

17. **The Mastoid Operation.**—Braislin says the symptoms of greatest significance in leading one to undertake immediate operation are:

1. Pain continuous and severe, making sleep impossible, and radiating upward along the side of the head to the vertex, backward to the occiput, or more rarely, forward to the frontal region. 2. The temperature, even in children, does not often keep at a high point after the first days of acute illness, but is often markedly irregular. 3. A falling of the posterior superior wall of the external auditory canal. This is caused by edema of the periosteum and tissues over the mastoid cells or may be due to the actual burrowing of pus. It is possible to mistake this condition for furuncle of the canal and *vice versa*. 4. Tenderness over the mastoid is the rule in cases calling for operation, but there are exceptions. Other severe symptoms may be present pointing to perforation of the tegmen tympani.

Some operators go to the extreme of believing that an exploratory mastoidectomy is justifiable at any time, but Braislin thinks that many of these cases would recover without operation and conservatism would be preferred by most of us as applied to our own mastoids. He thinks it is proper to operate on cases in the quiescent chronic state to prevent destructive processes and further serious consequences. Stacke's operation can often be done in this condition with benefit, and with a shorter convalescence, but the lack of pain or serious subjective symptoms often prevents permission to operate.

New York Medical Journal.

December 27, 1902.

18 *The Operative Treatment of Deformed Fractures as Indicated by the Roentgen Rays. Carl Beck.
19 Retrocecal Abscess Developing Three Years After Removal of the Appendix. Thomas S. Cullen.
20 *Personal Experience with McGraw's Method of Gastroenterostomy. Samuel Lloyd.

18. **Deformed Fractures.**—Beck's paper is fully illustrated with skiagrams showing the deformities that may exist after fractures, and illustrating his methods of their repair. He remarks that until the Roentgen rays made the diagnosis of

these deformities possible and the outlining of operative measures, indifference in regard to these cases was more justifiable. He also remarks on the necessity of fixation and the occasional advantage of wiring, though he avoids this whenever possible. If it is done he leaves the ends out, enclosed in iodoform gauze. Screws, clamps, etc., should only be resorted to under extreme conditions. The fragments of the bone in their normal position may require more or less extensive chiseling or sometimes excision of the parts of the bone. Involvement of the nerves may be suspected whenever there is intense pain or numbness in the range of their course. In fractures of the lower half of the humerus or the upper end of the fibula, the possibility of nerve interposition should never be lost sight of. The *x*-rays give us no information as to this particular point. He remarks that, of course, such deformities as are here represented should not occur at all, and it would be a most desirable thing if they were always due to the patient's own neglect and disobeying of orders.

20.—See abstract in THE JOURNAL, xxxix, p. 1409.

Philadelphia Medical Journal.

December 27, 1902.

21 *Influenza and the Nervous System. Smith E. Jelliffe.
22 *A Case of Acute Intestinal Obstruction Caused by a Gallstone: Necrosis of the Bowel; Operation; Death. J. A. Scott.
23 *The Surgical Treatment of the Enlarged Prostate. George E. Armstrong.
24 *Sore Throat. B. F. Randolph Clark.
25 *Neurasthenia. T. W. Keown.

21. **Influenza and the Nervous System.**—The history of the present epidemic of influenza in its effects on the prevalence of nervous disease, insanity, etc., is noticed by Jelliffe. He quotes from various authorities as to the increase of psychic disorders, especially the exhaustive types, and calls attention to the affinities with neurasthenia. The popular diagnosis of influenza is often erroneous. The clinical symptoms may be similar in the ordinary colds and conditions which have an entirely different bacteriology, and the necessity of bacteriologic examination and diagnosis is mentioned. The increase of suicide within the influenzal decade of 1890 to 1900 is also particularly remarked on. In conclusion he says that although the mortality of influenza and its collateral affections falls short of that recorded in the great epidemic, the situation is still a serious one, and he advises as to prophylactic measures. It is not advisable to visit persons sick with influenzal disease, but if it is necessary it is best to avoid any unnecessary contact and use disinfectants, washes, etc., and the airing of garments and exposure to the direct rays of the sun afterward. Those who are exposed to the infection should watch their general health and avoid any indulgence in alcohol. With the initial symptoms, the patient should go to bed and call for a physician. The complications are too serious to allow of risk. After the disease has passed, all articles used in the sickroom should be disinfected. These, he says, may seem to be unnecessary precautions, but the disease is so infectious and its consequences so far reaching that it is wise to take the risk seriously.

22. **Gallstones.**—The title of Scott's article gives the main facts. He concludes it with a general discussion of obstruction of the bowels, with special reference to the possibility of gallstone complications.

23. **Surgery of the Prostate.**—Armstrong formerly used the operation of suprapubic prostatectomy, but not with very successful results, and therefore gave it up, nor did he have much better success with Dittel's perineal operation when he employed that. It then occurred to him that in view of the favorable statistics of Bottini's method, that still better results would follow a more thorough and systematic use of the cautery and that through a suprapubic cystotomy wound the prostate could be thoroughly exposed and the cautery applied directly to the point where it could do the most good. He put this idea into practice in the spring of 1900, and reports seven cases. He claims for the method a great degree of safety; the cautery applied directly to the prostate, the parts and instrument being in full view, is a safe operation and can be recommended with confidence. The operator can recognize just how far the prostate extends into the bladder and which lobes require treatment, and demonstrate the condition of the bladder wall and remove any stone that is present. As much tissue as is desired can be removed and a cicatrix is left which, in healing, undergoes the inevitable contraction and opens and lowers the internal orifice of the urethra and tends to raise the floor of the bladder. Hemorrhage can be effectually controlled. Up to the present he has endeavored to close the bladder after operation, but his experience has led him to the plan of leaving it closed excepting for a drainage tube, which can be removed after the charred tissue has passed away, and any possible obstruction of the urethral orifice is out of the question. The bladder wound will close very quickly after the tube is removed. He notices in conclusion Bouffleur's article in the *Annals of Surgery* for July, where he recommends a very similar operation. He would go further than Bouffleur, however, and remove all the projecting parts of the prostate.

24. **Sore Throat.**—Clark's paper is a review of the different forms of sore throat, anginas, ulcerations, abscesses, tonsillitis, catarrhal pharyngitis, mycosis, quinsy, syphilitic sore throat, traumatic conditions, etc. The pain attending laryngeal troubles is usually described as sore throat. The treatment of the different forms is described.

25. **Neurasthenia.**—This is a general discussion of the subject. Keown calls attention to gastric disturbances as having much to do with the condition in some cases through autointoxication, and he is inclined to credit the sympathetic system as the principal nerve apparatus concerned in this disease. It is an irregular vasomotor control, which he thinks has much to do with the production of the symptoms.

Boston Medical and Surgical Journal.

December 25, 1902.

26 *On the Teaching of Physical Diagnosis. William S. Thayer.
27 *Two Cases of So-called Landry's Paralysis: Autopsies. E. W. Taylor and G. A. Waterman.
28 *Obstetrical Antisepsis. Warren R. Gilman.
29 *Errors in the Estimation of Urea by the Hypobromite Method. Elliott P. Joslin.

26. **The Teaching of Physical Diagnosis.**—Thayer's article is a full exposition of his ideas in regard to this department of medical teaching, and he emphasizes the following points: 1. An essential part of the teaching of physical diagnosis consists in the demonstration of those points in regional anatomy, an accurate knowledge of which is necessary to the diagnostician. Such demonstration should be accompanied by exercises in the application of the fundamental methods of physical examination to the normal individual. 2. The student should learn, so far as possible, by actual observation and practice, the physical causes for the signs to be noted on inspection and palpation and elicited by auscultation and percussion of the normal subject; without this a proper understanding of the pathologic signs and deviations is impossible. 3. A thorough training in pathologic anatomy is essential and frequent demonstrations in the necropsy room of the lesions which the student is meeting in the living individual form an important part of the course. 4. The study of physical diagnosis should be approached without preconceived ideas beyond those acquired in the normal individual, and books should not be allowed to be consulted until the student has learned to detect in the living subject the more important manifestations if disease. Acquiring first ideas from text-books is apt to produce bad habits which may affect his diagnostic abilities later. 5. To thus properly train the student requires that the class be divided into small sections, so that each man may personally test each observation. 6. As a part of the course the student should have a fair experience in the examination of patients as they come to the out-patient clinic in order that he may acquire the skill in taking histories, in the practice of topographic percussion, and in the habit of forming an independent diagnosis. This should be under the direct supervision of the instructor. 7. No man is properly fitted to begin the practice of medicine who has not had a reasonable amount of actual bedside experience of the more important diseases he has to meet. This can be done by: 1, insisting that the student shall have several months' experience as a clinical clerk in the hospital wards; 2, by providing for daily or frequently repeated ward visits with an instructor for at least an equal length of time. This is in no way detrimental

to the interests of the patients or the institution. A great deal, of course, depends on the instructor. The teacher must be enthusiastic and absorbed in his subject, and be able to communicate these qualities to his students.

27. **Landry's Paralysis.**—After reporting two cases in which the postmortem revealed nothing adequate to account for the symptoms, Taylor and Waterman discuss the propriety of the name "Landry's paralysis," which they think is perhaps still justifiable for such cases where after adequate study no anatomic changes are found postmortem.

28. **Obstetric Antisepsis.**—Gilman's article is a full and detailed general review of the antiseptic measures that should be employed in obstetric practice.

29. **Urea Estimation.**—Joslin points out that the hypobromite method for estimating urea is not safe clinically when ammonia, acetone and *b*-oxybutyric acid and ammonia are present in the urine. Other bodies like creatinin, uric acid and urates also interfere with the test, but to a less extent. Since acetone, *b*-oxybutyric acid and ammonia are chiefly found in diabetic patients, it is a good rule to scrutinize carefully reports of large quantities of urea in this disease, since if these are present, the estimation is untrustworthy if the hypobromite method is employed. The simplest method to enable us to judge of the presence of these substances is the ferric chlorid test for diacetic acid and when this is positive, acetone and *b*-oxybutyric acid are always present, and an excess of ammonia is probable.

Cincinnati Lancet-Clinic.

December 27, 1902.

30 Tuberculosis—Sanitation. H. H. Spiers.
31 Surgery of Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Medical Age, Detroit, Mich.

December 10, 1902.

32 *A Contribution to the Study of Herpes Progenitalis. Noah E. Aronstam.
33 *The Hydrotherapeutic Treatment of Typhoid Fever. Henry B. Favill.

32. **Herpes Progenitalis.**—This condition is described by Aronstam, who attributes it to a peripheral neuritis or local vasomotor paralysis as its chief underlying pathologic state. He notes also its occurrence in the later secondary stage of syphilis, but is not prepared to say in what relation the two disorders stand to each other. It may also, according to reports, be associated with tuberculosis, and various local conditions may also be causal factors. The indications of treatment are to remove the cause and treat any existing systemic disorder; observe strict cleanliness of the parts; use protectives to exclude any irritation or infection of the lesions. If the latter has occurred in spite of all efforts against it, treat the resulting ulcer antiseptically. He advises for protective applications, powders of bismuth and boric acid with aristol, or zinc oxid and bismuth with europhen, first applying a little glycerin to ensure their adhesion.

33. **Typhoid Fever.**—Favill describes the bath treatment of typhoid, using the bed bath. The patient can be kept in the tub for varying periods. It looks, he says, like maltreatment, the patient shivers, complains, and looks blue, but when once taken out and rolled in blankets he immediately goes to sleep, and sometimes continues sleeping for hours. This kind of a bath can be given in any house where there is a person who can devote his attention to the patient. The reduction of temperature is not the special point and sponging and packing are not adequate substitutes.

Virginia Medical Semi-Monthly, Richmond.

December 12, 1902.

34 *Some Phases of Albuminuria. William S. Gordon.
35 *Severe Heart Depression After Use of (Small) Immunizing Doses of Diphtheria Antitoxin. Lewis Holladay.
36 Cretinism, with Report of Case and Treatment. S. T. A. Kent.
37 Case of Xeroderma Pigmentosum. Lewis Wheat.
38 Primary Intrinsic Sarcoma of the Larynx. William F. Mercer.
39 Three Cases of Appendicitis. T. M. Baird.
40 A Plea for the More Frequent Use of Accouchement Force. Christopher Tompkins.

34. **Albuminuria.**—A number of cases of transient albuminuria are reported by Gordon, in all of which the morbid product disappeared under proper treatment, and they illustrate what may be variously termed physiologic, cyclic, intermittent, periodic, and functional albuminuria. He discusses them and says that if transient albuminuria is not to be regarded as a normal occurrence, it should be considered simply as an indication of disordered health due to temporary crippling of the physiologic processes of the body. He is inclined to think that many of the cases are indications of uric acidemia or some gastrointestinal disorder.

35. **Diphtheria Antitoxin.**—Holladay reports the case of a young man aged 26 years who took a prophylactic dose of 500 units and went into a condition of profound cardiac depression and syncope. He was revived with nitroglycerin, strychnin and digitalis, followed by mustard poultices, together with the continuance of nitroglycerin, and it was half an hour before any pulsation could be felt in the radial arteries. A sensation of painful constriction of the chest-impeding respiration was present for a much longer time. Holladay had used an equal quantity on himself without ill effects, and he thinks the occurrence points to an idiosyncrasy to antitoxin in this case and suggests caution in the use of this powerful prophylactic and curative agent.

American Journal of the Medical Sciences, Philadelphia.

December, 1902.

41 *The Treatment of Pleurisy with Effusion. Francis Delafield.
42 *Pancreatic Lithiasis, with Report of a Case. Francis P. Kinnicutt.
43 *Wolff's Law and the Functional Pathogenesis of Deformity. Albert H. Freiberg.
44 *A Discussion of Wolff's Law. R. Tunstall Taylor.
45 *The Surgical Treatment of Cirrhosis of the Liver, with a Summary of Reported Cases. Robert B. Greenough.
46 Autopsy in a Case of Adiposis Dolorosa. F. X. Dercum and D. J. McCarthy.
47 Diphtheria with Persistent Trismus and Opisthotonos—Escherich's Pseudo-Tetanus. Irving M. Snow.
48 Tuberculosis of the Parotid Gland; Excision of the Tumor; Recovery. No Recurrence One Year and More After the Operation. Charles L. Scudder.
49 *The Present Status of Serum Therapy. Frederick A. Packard and Robert N. Willson.
50 Some Observations upon Delusions, Impulsive Insanity and Moral Idiocy. Bernard Oettinger.

41. **Pleurisy.**—Delafield has come to the conclusion that aspiration is the only treatment for pleurisy with effusion. He tabulates 200 ordinary hospital cases occurring in the years 1886 to 1901, with results. None of the patients died, none of them were injured by the operation, and in none of them was the chest infected. Of 200 cases 182 left the hospital entirely cured; 6 left the hospital within ten days after the aspiration, and probably recovered; 6 left at periods from 17 to 36 days, the pleurisy was better, but the results were uncertain; and 6 left the hospital at the end of from 24 to 38 days, not at all improved. In more than one-half of the cases the duration of the pleurisy before aspiration was between 10 and 30 days. In all the inflammation had been kept up and the patients had not been at all improved either by Nature or by the different medicines which they had taken. The operation was done once in 142 cases, twice in 45, three times in 9 cases, and four times in 4 cases, and the length of time intervening between aspiration and entire recovery ranged from one week to six, a larger number taking a longer time. In private practice he says the results are generally better than in hospitals.

42. **Pancreatic Lithiasis.**—The literature of this condition contains six cases where a positive diagnosis of pancreatic lithiasis was made or suspected during life. Abstracts of these and of a case of his own are given by Kinnicutt. He remarks, in conclusion, on the difference from cholelithiasis, and says none of the subjective symptoms, such as nausea, vomiting, diarrhea, etc., can be regarded as characteristic. The belief that a ptyalism of varying degree accompanies a deficient secretion of the pancreatic juice, either through occlusion of the ducts or disease of the gland, is not borne out by clinical experience. The pain probably differs neither in kind nor location from that of cholelithiasis. The presence of an unusual number of undigested striated muscle fibers in the stools can not be regarded as a basis for positive diagnosis, but its presence is suggestive. The decisive evidence of the existence of pancreatic lithiasis is the recovery of the characteristic concretions from the stools, and is exceedingly rare. If the other

symptoms fail to furnish evidence singly, their various combinations may be suggestive. Attacks of epigastric colic of an obscure nature, with or without jaundice, associated with a large number of muscle fibers in the stools, accompanied or followed by glycosuria, should be regarded as a reasonable basis for a diagnosis of pancreatic lithiasis.

43. **Wolff's Law.**—Wolff's law is translated by Freiberg as follows:

Every change in the form and function of the bones, or of their function alone, is followed by certain definite changes in their internal architecture and equally definite secondary alterations of their external conformation, in accordance with mathematical laws.

He discusses its applicability, having studied the bony structure of various animals, including the primates, and also pathologic cases. He says in conclusion that from all the researches of Wolff, Zschokke, Schmidt and others, as well as from observations herewith presented, it is believed justifiable to conclude as follows:

1. The strictly mathematical concept of Wolff's law has not yet been justified by demonstration. 2. Save in their mathematical aspects the statements of Wolff's law and its corollaries may be accepted as being in agreement with observations hitherto made. 3. If we accept the foregoing statements it does not follow that we must make use of the so-called "functional methods" in our therapeutic endeavors; they are to be chosen not from theoretical considerations only, but for reasons of expediency and practicability.

44. **Wolff's Law.**—Taylor discusses the same subject, concluding that we must all fully concur with Wolff that pressure does not produce atrophy in bone as Lorenz has claimed, and that functional transformation of bone must and does occur to meet the altered static demands of pressure, tension and shearing strain. He is not, however, prepared to admit that we can attribute all deformities to function alone, regardless of superincumbent weight. He supports his views by illustrations of deformities following mal-union, Pott's disease, etc.

45. **Talma's Operation.**—From a view of the facts ascertained and a study of the cases reported, Greenough concludes that the condition known as biliary cirrhosis with enlarged liver, jaundice and fever and without ascites, is accompanied in a certain proportion of cases by infection of the bile ducts. The drainage of the bile ducts by cholecystostomy is a proper operation when such evidence of infection is present, and symptomatic treatment has failed to relieve. Of 105 cases of liver cirrhosis which presented the symptoms of ascites, 42 per cent. were improved and 59 per cent. not improved by Talma's operation or one of its modifications. The mortality within thirty days was 29.5 per cent. Nine cases were improved in health two years after the operation, these presenting no marked differences in general character from the others. Cases where the liver was enlarged gave a lower mortality and a higher percentage of improvement than cases of atrophic liver. Cases of suture of the omentum between the layers of the abdominal wall gave a lower mortality and a slightly higher percentage of improvement than cases where only peritoneal surfaces were brought in contact. Drainage increases the danger of sepsis and peritonitis and should be avoided. Tapping may be done, if necessary, after the operation. The presence of adhesions and perihepatitis is of good prognostic import as regards the success of the operation, while the number of tappings before operation and the presence of edema of the feet and legs are of less prognostic importance than the general condition of the patient, the size of the liver and the functional activity of the liver cells. Talma's operation or one of its modifications is of proved benefit in a certain limited number of cases of liver cirrhosis, primarily for the relief of ascites, and secondarily for the relief of other symptoms of portal congestion. The dangers attending the operation are mainly due to the weakened resistance of the patient, rather than to the operation itself. More judgment should be exercised than has hitherto been the case in the selection of cases. The operation is not indicated in ascites due to other causes and is contraindicated in the presence of renal or cardiac disease, and when evidence does not exist that sufficient functional liver tissue remains to maintain life. It is also contraindicated when complications exist sufficient in themselves to make the results of operation uncertain. The paper concludes with a summary of cases and bibliography.

49. **Serumtherapy.**—Packard and Wilson describe the theory of immunity and serumtherapy, defining the terms lateral-chain theory, complements, immune bodies, haptophore, toxophore, etc., and discuss the investigations that have been made. The principal purpose of their paper is to review the clinical evidence for and against the efficacy of sera in different diseases where they have been employed. The value of antidiphtheria serum is an established fact. The antitetanus serum, they conclude, is a valuable means of treatment, though by no means curative in all cases. It is only by a consideration of a large number of cases that its real value is discovered and its influence appears to be appreciable mostly in cases of subacute and chronic type, the mortality in the acute cases being less affected, though there has been a real reduction even there. Until very recently the development of a typhoid antitoxin seems to be even less encouraging than that of the antitetanus serum, but it now seems to promise significant help in the treatment of the disease; not only treatment of the disease itself with curative serum, but preventive inoculation has proved of value. The antistreptococcus serum, the authors conclude, will at least do no harm, and where special streptococci are involved alone, will eliminate the micro-organism, and control the symptoms unless used too late. When the streptococcus occurs in combination with other micro-organisms it has no effect, except so far as the streptococci are concerned. The antipneumococcus serum seems to be of less substantiated value, but we have apparently better results with the more active sera used in larger doses. Antiplague serum has yielded important and favorable results that have not been appreciated in this part of the world, and has a positive value in the treatment when properly employed, but the extent of its value is still an unsettled one. The serum treatment of tuberculosis, they conclude, is an adjuvant which if used early may result in cure, and when used late may retard the process and promote healing. The promise for it is good when we learn more definitely just where it can be employed with benefit. Other serums known are the antivenene, which seems to be of value, more particularly against certain forms of snake venom. Its action is directed against the nervous rather than the irritating and tissue-destroying principle in the venom. Anticholera, antidysentery serum, and the antitoxin of scarlet fever are also noticed. There seems to be as yet nothing that will touch malaria, but there have been some good results in such diseases as syphilis, whooping cough, erysipelas, anthrax, scarlatina, etc. In conclusion they refer to Emmerich and Low's "immunizing and curative proteidin," but say that no comment can be made at this time on the value of the product. The paper concludes with an extensive bibliography.

Annals of Gynecology and Pediatry, Boston.

December, 1902.

51 *Polyhydramnios; Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
52 Appendicitis. John Bruce Harvie.
53 *Medical Gynecology. John H. Fuller.
54 A Case of Absence of the Uterus and Ovaries. Antonio Bustillo-Llrola.

51. **Polyhydramnios.**—Polyhydramnios is understood as the condition in which more than two pints of amniotic liquid existed at full term. The pathology is not fully known. The placenta is often large, dropsical, infiltrated, the umbilical vessels are often enlarged, and the amnion and chorion may be thickened with extensive fissures in the epithelial layer of the amnion and fatty degeneration of the cells. Any fetal condition leading to venous engorgement tends to produce polyhydramnios, and the irritating substances formed in the lymphatics may cause this condition. Excessive secretion from the cerebrospinal canal of the fetus may contribute to polyhydramnios. It does not follow increased renal action of the fetal kidneys. Davis thinks that further knowledge regarding the osmotic properties of maternal and fetal blood and of liquor amnii may be obtained through cryoscopy. The diagnosis is made by first diagnosing the pregnancy, but it may complicate ectopic pregnancy. In ovarian cyst the illness is longer and swelling at first unilateral; the uterus is but little enlarged. In ascites the dulness changes when the position of

the patient is altered. The diagnosis must be made further from hydatid mole, plural pregnancy, etc. All may mislead, but hydatid mole is accompanied with a pear-shaped uterus with little fluctuation, and there is blood discharged. In exceptional cases, ovarian cyst complicating pregnancy may be difficult to diagnosticate and exploratory incision may be necessary. The absence of tension on the membranes and of shortening of the cervix should be noted. Treatment by drugs is useless. If distension increases too rapidly and health is impaired, the cervix should be dilated under antisepsis, the membrane ruptured and fluid allowed to escape very gradually until the presenting part descends firmly against the cervix. Firm pressure must be made over the abdomen by a broad bandage and the patient watched, as labor is often precipitate and presentation unfavorable. Labor should not be hurried in the interests of the child because the fetus is often deformed, and there is increased danger of sepsis and hemorrhage to the mother. The uterus should be completely emptied and made to contract, and the hypodermic use of strychnia and ergot and other stimulation are necessary, while a hot 1 per cent. douche of lysol and tamponing with iodoform gauze may be required.

53. **Medical Gynecology.**—Fuller reviews the symptoms associated with pelvic disease. Nervousness is often relieved by sudorifics, and is often connected with weak heart and relieved by proper tonics. The headaches may depend on various causes, constipation, lacerated perineum, cardiac weakness, stomach disorders, etc., all of which can be relieved. Backache is another symptom. This, if dorsal, depends most on the stomach and the liver; if sacral, on the pelvic organs; if lumbar, on the bowels and kidneys. The respiratory disorders like chronic rhinitis and pharyngitis are those produced by imperfect excretion and a brisk purge will relieve them. The "winter cough" of gynecologic patients is often relieved by treatment of the kidneys, being due, he thinks, to renal insufficiency. Autointoxication from the digestive tract is also mentioned. The reabsorbed, resecreted and re-excreted bile carries an immense amount of excreted matter through the liver. Too great abundance of uric acid, leading to nervous and artheromatous symptoms is to be considered by the gynecologist, and renal insufficiency is often of more importance than the metritis or menstrual derangement, as many pelvic troubles run back to this causation. Fuller remarks that surgical technic is taught in all its refinement, but the symptomatology, differential diagnosis and medical part of gynecology does not receive adequate attention.

New York State Journal of Medicine, New York.

December, 1902.

55 *The Newer Relation of the Pancreas to General Medicine. Alfred Stengel.
56 *Surgery of the Stomach for the Relief of Non-Malignant Pathological Conditions. A. J. Ochsner.
57 *Pneumonia, from the Bacteriological Standpoint. A. C. Abbott.

55. **The Pancreas in General Medicine.**—Stengel's article reviews the more recent acquisitions to our knowledge in regard to the pancreas in health and disease with special reference to the diagnosis of its morbid conditions. He considers fatty diarrhea an important symptom in connection with others, especially when there is no jaundice, but its absence is less significant. The pancreas is not essential to fat absorption though an important organ for this function. The finding of muscle fibers in the stools is of comparatively little value by itself, but has considerable significance if bile secretion is normal and gastrointestinal disease can be excluded. The relation of the pancreas to glycosuria is discussed at length by the author, especially the relation of the islands of Langerhans; the recent researches on this point are noticed, especially those of Opie. He says, while the results of recent studies tend to more and more magnify the importance of the pancreas in diabetes, it can not be said that it always plays a part. Special points in the diagnosis are noticed at length: emaciation, fatty diarrhea, lipemia and lipuria, sialorrhea, which is not very frequent and less significant in pancreatic than gastric disease, the subjective symptoms of pain and its character, glycosuria, etc.

56.—See abstract in THE JOURNAL, xxxix, p. 1205.

57.—Ibid.

Fort Wayne Medical Journal-Magazine.

November, 1902.

58 *The Pretubercular State—Some of Its Etiologic Factors. A. P. Buchman.
59 The Lesson of Virchow's Life. James J. Walsh.

58. **The Pretubercular State.**—Buchman sums up his ideas by saying that every case of tuberculosis, no matter where located, has a clearly-defined pretubercular state of considerable duration, and that the conditions which initiate this are in positive relationship with tuberculosis. That the primary and sole cause of the pretubercular state is: 1, an excess of carbon in the system, and 2, unelaborated food particles floating in the general circulation. That a properly and scientifically regulated dietary will, in a large proportion of cases, entirely cure the condition, hence the importance of the dietary in the prophylaxis of tuberculosis.

St. Louis Courier of Medicine.

December, 1902.

60 *An Infectious Form of an Eczematoid Dermatitis. Martin F. Engman.
61 *Concerning Antipyresis in Children. E. W. Saunders.
62 *The Etiology of the Summer Diarrhea of Infants. John Zahorsky.
63 *Bacillus Dysenteriæ. Carl Fisch.
64 *The Cecum: In Relation to the Psoas Muscle in 310 Adult Male and 125 Adult Female Autopsies. (Concluded.) Byron Robinson.

60. **Eczematoid Dermatitis.**—Engman describes and illustrates this condition and reports cases. He finds it generally starts from a trauma or infection, often after surgery or an accidental wound. The similarity between this rapidly-spreading condition and Crocker's dermatitis repens is at once obvious. Its infectiousness was beautifully illustrated among the babies at the Bethesda Foundlings' Home during the summer of 1900. The pūre impetigo type is far more infectious and more prevalent than the dermatitis. The infection is usually staphylococcal. According to his studies pure cultures of yellow or white staphylococci, or both, can be obtained from the contents of the initial vesicles, serous or seropurulent discharge, crusts and denuded surfaces of the skin. When the apparently-healthy skin of a person suffering from eczematoid dermatitis is slightly irritated after sterilization, and inoculated with the discharge, the flora and symptoms of the original from which the inoculation was taken are reproduced. Inoculation experiments from individual to individual have not been encouraging, probably on account of the patients' unwillingness. Inoculations from artificial cultures on individuals were not very successful. Engman thinks the organism must undergo some change in its chemotactic character in artificial media. The suppuration so often associated always contains staphylococci, and all these facts together confirm his belief in the staphylococcic origin of the disorder.

61. **Antipyresis in Children.**—The urgency of antipyresis depends on the concomitant symptoms, and not on the height of the mercury alone, but Saunders thinks that even moderate temperature in comparatively mild disease should not be entirely disregarded if suffering is caused. Hydrotherapy takes first place in its relief, but in many cases it is advantageous to combine the external and internal antipyretics. This combined method is not sufficiently employed. He does not object to the use of coal-tar products, if given occasionally with full recognition of the fact that they are depressing in their action. They are contra-indicated wherever the heart is liable to fail, as in diphtheria and pneumonia, though in the early stages of scarlet fever and other exanthemata they are not harmful, and the relief they afford will generally justify their use. In influenza some cardiac stimulation should be added. He calls attention to the value of pilocarpin as an eliminant and antipyretic in diphtheria and scarlet fever. In pneumonia, veratrum viride is the safest antipyretic and its general neglect is undeserved. The external application of guaiacol is another antipyretic; just how it acts is still unsettled. He has found it exceedingly valuable in infants and children, for in pneumonia many cases do not bear cold baths well, and then the external application of this drug is indicated. In typhoid fever and especially in tuberculosis there should be no hesitation in its use. With care there is little danger of its producing depression. In some cases one drop is sufficient, in others several are required.

Hydrotherapy should be employed with judgment in its application. Some children take the full bath nicely, and others become very chilly and do not react promptly. For general use the wet pack is most likely to agree.

62. **Summer Diarrhea.**—From a recent study of the disorder in the Bethesda Foundlings' Home, Zahorsky found the Gruber-Widal reaction in a large proportion of cases and the *Bacillus dysenteriæ* was obtained. There will be little doubt, he thinks, that the epidemic depended on this bacillus, and he believes that while we can not exclude other germs this must be considered the probable etiologic micro-organism.

63. **Bacillus Dysenteriae.**—Fisch thinks it is too early to form conclusions as regards Duval and Bassett's discovery, but seemingly there is a relation of the bacillus to a great number of intestinal infections of infants. In Zahorsky's studies the number of positive reactions was rather puzzling, and in a few tests of the blood from healthy infants the results were always negative. He thinks that under the head of summer complaint a number of etiologically different conditions are gathered, but that Duval and Bassett have succeeded in clearing up a part of the question.

64. **The Cecum.**—This number contains only the conclusions of Robinson's article; they are too long to be reproduced. The reader is referred to the original.

Kansas City Medical Index-Lancet.

December, 1902.

65 *Suspension in Tabes Dorsalis. Harold N. Moyer.
66 *Plastic Surgery in Ophthalmology. Flavel B. Tiffany.
67 *Septicemia and the Curette. H. Plympton.

65. **Suspension in Tabes.**—Moyer concludes that suspension is not a cure but a valuable aid in tabes. It is useful in about 30 per cent. of cases. Rapidly progressing or stationary cases are least benefited; those of moderate severity where the disease is largely confined to the lumbar enlargement, receive the most benefit. If the cervical enlargement is most involved, little can be expected from this measure. The method should be adopted with care, and the effect of each suspension be closely observed.

66. **Plastic Surgery in Ophthalmology.**—Tiffany reports cases of operations on the eyelids for trichiasis, entropion, etc.; gives illustrations and calls special attention to the operation of skin grafting for the restoration of the destroyed lid, and the operation for congenital ptosis.

67.—See editorial in THE JOURNAL, xxxix, p. 1327.

International Journal of Surgery, New York.

December, 1902.

68 *The General Consideration of Surgical Patients. A. J. Ochsner.
69 Surgical Treatment of Strangulated Inguinal Hernia. W. B. DeGarmo.
70 Nose and Throat Work for the General Practitioner. George L. Richards.
71 The Surgical Assistant. Walter M. Brickner.
72 A New Method of Preventing Shock, Nausea and Thirst After Operations. T. J. Biggs.

68. **Surgical Patients.**—The points made by Ochsner in his general consideration of surgical cases are the avoidance of unnecessary operations, and the necessity of careful examination without, however, too great insistence on positive diagnosis, when it may require operative measures that might be dangerous. He thinks that the exploratory examination of malignant tumors is sometimes overdone. He also protests against any kind of diagnostic massage or pressure on suspicious growths as likely to do damage, also against too much faith in the exploratory needle and the syringe since they are unreliable. In considering the patient in regard to the advisability of an operation, a number of things must be taken into account. Old age is not of itself a contraindication, though elderly patients do not bear the loss of blood so well. Old people generally bear surgical operations well if they are allowed to move about and sit up early after the operation. He thinks it may not be bad even in apparently serious operations, such as removal of the breast, to allow the patient to sit up the next day. Obesity is a point that requires consideration, but seldom entirely contraindicates operation. Tuberculosis is not a contraindication to operation for the removal of tuberculous growths. Cachexia in malignant growths is, as a rule, a distinct contraindication, exception being made in cases of ulcerative carcinoma where the cachexia is due largely to the absorption of decomposing products. The question of time is also considered, and the need of expedition should not prevent thorough and careful work. On the other hand, prolonging the operation may be disastrous, and prolonged anesthesia is dangerous and infection is more likely to occur. He protests alike against insane haste in performing operations and imbecile deliberation; it is difficult to say which is the worse. The operation should include a minimum of traumatism and there should be the least possible manipulation of tissues.

Nashville Journal of Medicine and Surgery.

November, 1902.

73 *The Therapeutic Value of Heat and Cold Applied to the Spinal Column. W. Frank Glenn.

73. **Heat and Cold Applied to the Spinal Column.**—Glenn emphasizes the importance of heat and cold as applied to the spinal column in treating various conditions. He has brought on the suppressed menstrual flow by the application of ice to the lower dorsal and lumbar region, and has arrested uterine hemorrhage by hot-water packs at a temperature of 115 to 120 over the same tract. He has also seen congested lungs readily relieved by hot-water applications over the lower cervical and upper dorsal spine, and fever, he says, can be absolutely controlled by the application of hot water over the cord from the fourth cervical to sixth dorsal vertebra. His view is that nothing should be put into the stomach except such substances as form a component structure of the body, and if this rule were followed we should have no digestive disorders, and always have a normal blood, and since the amount of blood in any part is controlled by the action of the vasomotor centers in the cord and the sympathetic ganglia in close proximity to the cord, any disease causing local circulatory disorder can be thus located and treated. To get the proper effects of heat and cold applied to the cord, the anatomy and physiology of the nervous system must be scrupulously borne in mind.

Medical Mirror, St. Louis.

December, 1902.

74 *Congenital Dislocation of Hips; with Report of Case and Description of a Pelvis Obtained Three Years After Successful Reduction by the Lorenz Method. Edward H. Ochsner.
75 The Grippe Convalescence. T. J. Biggs.
76 Ophthalmic Neonatorum—Gonorrheic Ophthalmia—Pathology, Etiology, Prognosis. L. R. McCready.
77 The Value of Trikresol as an Antiseptic in Ophthalmic Practice. Edward Jackson.

74.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 51, p. 447.

Atlanta Journal-Record of Medicine.

December, 1902.

78 Diuretic Medication in Various Diseases. T. Solacolu.
79 *The Present Day Mortality of Pneumonia. Alex G. Brown, Jr.
80 How an Enterolith May Behave. T. M. McIntosh.
81 Etiology and Treatment of Acne Vulgaris. F. H. Beadles.

79.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 45, p. 1547.

Texas Medical Journal, Austin.

December, 1902.

82 Social Aspects of Tuberculosis. F. E. Daniel.
83 What a Doctor Should Do and What He Should Not Do in Case of Labor. T. J. Bell.
84 The Mosquito and Malaria. A. N. Perkins.

Woman's Medical Journal, Toledo, Ohio.

December, 1902.

85 The Lane Lecture Course. Mary Ryerson Butin.
86 Pregnancy and Parturition from a Woman's Point of View. Margaret E. Colby.

Texas Medical News, Austin.

November, 1902.

87 Early Diagnosis of Empyema. J. P. Oliver.
88 Metritis. J. M. Nicks.
89 Puerperal Eclampsia. G. W. Foster.
90 Some Points in the Treatment of Chronic Ulcers. H. W. Cummings.

The Physician and Surgeon, Detroit and Ann Arbor, Mich.

September, 1902.

91 The Spirit of Research in Medicine. Frederick G. Novy.
92 A Plea for More Scientific Prescribing. Walter J. Wilson, Jr.

Alabama Medical Journal, Birmingham.

December, 1902.

93 Tuberculosis. Y. L. Abernathy.
94 Curettage—Its Indications and Technic. Monroe Smith.

95 *Report of a Case of Septicemia as I Felt It Myself. J. C. Newman.
96 The Use and Abuse of the Morphin Sulphate. H. L. Appleton.
97 The Conduction of Early Infancy. J. Ross Snyder.
98 Fractures of the Skull. W. H. Wilder.

95.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 26, p. 1278.

Medical Times and Register, Philadelphia.

December, 1902.

99 Cerebrospinal Meningitis. Henry T. Hotchkiss.

Medical Bulletin, Philadelphia.

December, 1902.

100 The Treatment of Chronic Alcoholism. John V. Shoemaker.
101 Pemphigus of Mucous Membranes. J. Charles.
102 The Treatment of Obesity. George A. Hewitt.

Kansas City Medical Record.

December, 1902.

103 Paraplegia. H. O. Hanawalt.
104 "Taking Cold" a Misnomer. T. F. Lockwood.
105 Extrinsic Lesions of the Spine, Dependent on Traumatism. Thomas H. Manley.

New England Medical Monthly, Danbury, Conn.

December, 1902.

106 Notes on the American Medical Association. C. B. Newton.
107 Leg-Cramps in Elderly People—A Mode of Treatment. John MacDonald.
108 The Nervous Symptoms of Chronic Bright's Disease. James Hendrie Lloyd.

Peoria Medical Journal.

December, 1902.

109 The Responsibility of the Surgeon in Caring for the Patient. Anna M. Braunwarth.
110 Report of Two Cases of Gallstones in the Gall-Bladder. C. U. Collins.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Annales d'Hygiene Publique (Paris), xlviii.

1 (No. 1.) La destruction des stegomya fasc. et la fièvre jaune. Bordas.
2 *Examination for Typhoid Bacillus in Water. Busquet.—Recherche du bac. d'Eberth dans les eaux.
3 Nouvelle méthode de régéneration de l'air confiné à l'aide du bioxyde de sodium. A. Desgrez.
4 *Danger que peut presenter la consommation des légumes et des fruits.
5 L'hygiène corporelle en China. Coullaud.
6 (No. 2.) Le traumatisme, la tuberculose et la loi (law) sur les accidents du travail. E. Mosny. (Commenced in No. 1.)
7 Composition et valeur alimentaire des mammifères, des oiseaux (birds) et des reptiles. A. Balland.
8 Le lait (milk) et la mortalité infantile dans les principales villes de France. C. Gerard and F. Bordas.
9 (No. 3.) Les accidents du travail et les bons de pansement (tickets for dressings for industrial accidents). R. Marcel.
10 De la reforme du régime alimentaire dans les hôpitaux. A. Chauffard.
11 La différenciation du sang (blood) par le serum spécifique. Stoenesco.
12 Suggestion for Determining Loss of Working Capacity in Industrial Accidents. G. Desanches and G. Brouardel.—Projet d'évaluation de diminution de valeur ouvrière.
13 (No. 4.) *Considerations sur quelques cas de mort subite (sudden death). N. Stoenesco.
14 Accidents du travail. A. Duchauffour.
15 The Garbage Question. P. Reille.—Les ordures menagères.
16 (No. 5.) Cas d'intoxication par des chaussures jaunes noircies (russet shoes dyed black) a l'aniline. P. Brouardel.
17 Les vieux papiers (old papers) et l'hygiène. P. Reille.
18 La legislation sanitaire industrielle en France et à l'étranger. Ibid.

2. **Examination for Typhoid Bacilli in Water.**—Busquet describes experiences which prove that the typhoid bacillus may be found in the mud or slime at the bottom of wells, cisterns, sluggish streams, etc., after it can no longer be found in the water above.

4. **Danger from Raw Vegetables and Fruits.**—The Public Health Society, of which the *Annales* is the organ, adopted resolutions appealing to the authorities to absolutely prohibit on sewage farms the raising of vegetables and fruits which are eaten without cooking.

13. **Certain Causes of Sudden Death.**—Stoenesco relates a number of instances from his extensive experience of sudden deaths from unusual causes. In a few cases, suffocation was caused by an intestinal worm. In one case a footman vomited, but for fear of soiling the floor retained the vomited matter in his mouth and a deep inspiration drew it into his lungs. Fragments of the vomit were found in remote ramifications of the air-passages. In another case unsuspected pneumonia caused the sudden death of a bridegroom. Four men cleaning a vault succumbed suddenly to acute suffocating catarrh. In two cases a hydatid cyst or tubercular tumor in the left ventricle was the cause of death; in others spontaneous rupture of the heart or of an aneurism while the subject was quietly walking or writing, and in ten cases death was the result of a perforating ulcer in duodenum or stomach which had been unsuspected. In others, a large calculus impacted in the bile duct; rupture of enlarged heart in a slight accident; hemorrhage from varicose veins in a pregnancy nearly at term, or retention of urine in a man with hypertrophied prostate and dilatation of the ureters. The statistics at Bucharest show that renal lesions are responsible for about 50 per cent. of all cases of sudden death.

Progres Medical (Paris), xxxi.

19 (No. 40.) De la fièvre bilieuse hémoglobinurique observée en Grèce. J. P. Cardamatis. (Commenced in No. 38.)
20 (No. 41.) *De la cholelithiase biliare. Zalackas.
21 *Contribution à l'étude de l'isotonie des globules rouges (reds) de l'homme. S. Distefano.
22 (No. 42.) *Relations between Typhoid Fever and Insanity. A. Paris.—Contribution à l'étude de la fièvre tiphoide. De ses rapports avec l'aliénation mentale.
23 (No. 43.) Double dacryoadenite avec iritis double. E. Millée.
24 (No. 44.) Tennis Arm. Clado.
25 (No. 45.) Students' Number. Medical Guide to France and her Colonies.—Numero des Etudiants.
26 (No. 46.) Sur la transmissibilité de la fièvre aphtheuse, stomatite aphtheuse, des animaux à l'homme (from animals to man). H. Roche.
27 (No. 47.) *Myopathie du tétanos. Urriola (Panama).
28 (No. 48.) Illustrated Description of New Académie.—La nouvelle Académie.

20. **Biliary Cholelithiasis.**—Zalackas reviews 36 cases of fistula, the result of gallstones. Expectant treatment in 12 failed to prevent the death of 5, while all the cases treated by surgical intervention were promptly cured, with one exception.

21. **Study of Red Corpuscles with Iodin Solutions.**—Distefano describes his experiments, which have led him to the conclusion that regeneration is occurring whenever the microcytes in a weak solution of iodin are of normal aspect and numbers. He has found that the best formula for the solution is 18.75 gm. metallic iodin; 37.5 gm. potassium iodid and 300 c.c. of distilled water. The reaction to this fluid of the red corpuscles varies with their size, and he accepts that the smaller cells are the youngest, consequently the presence of numerous small cells is evidence that regeneration is proceeding more or less normally.

22. **Relations Between Typhoid Fever and Insanity.**—In two cases in Paris' experience at a large insane asylum melancholia in women predisposed by heredity and privations or emotions passed away with an intercurrent typhoid fever, and the patients recovered from both at the same time. The stimulation of the functions of assimilation evidently restored the normal balance during convalescence from the fever. Two other similar cases were temporarily improved, but the melancholia returned after convalescence. There was a substratum in these cases of serious climacteric circulatory disturbances. He also noted that maniacs in many cases recovered their reason during the height of the typhoid fever, and had no febrile delirium. This never occurred in subjects who were congenitally degenerates. Delirium occurred in the latter under the influence of typhoid fever as in otherwise normal subjects. This fact may serve as a basis for physiologic study of the differences between true degenerates and the delirious insane. Hygiene and therapeutics offer better prospects in the treatment of the latter than of the former. Typhoid febrile delirium, therefore, of the ordinary type, indicates that the subject was previously normal or merely a simple degenerate, and is not actually insane. The hallucinations and mania of true insanity diminish temporarily under the influence of the typhoid fever, as also the convulsive manifestations and psychic troubles of epilepsy. These facts should be borne in mind when committing a person to an asylum, as an unsuspected typhoid condition may mask the true diagnosis. Post-typhoid mental disturbances are of the type of cellular degeneration, rather

than of actual insanity. The mental condition resembles the mental debility observed in certain cases of hemiplegia, syphilis, etc. In short, typhoid fever may transiently improve and sometimes cure certain mental affections, but can never be the cause of this same type. The type affected is that in which hereditary influences are the basis for loss of mental balance in case of privations, emotions, debauch, alcoholism, emotional stress, or other accidental physical disturbance.

27. **Myopathy from Tetanus.**—Urriola's patient was a field hand of 34, exhibiting a typical case of myopathy with "clasp-knife rigidity" and progressive atrophy. The condition followed a severe attack of "spontaneous tetanus" six years ago.

Archiv f. Klin. Chirurgie (Berlin), lxviii.

30 (No. 1.) *800 Radical-Operationen nach Bassini und deren Dauer-Resultate (ultimate results). S. Goldner.
31 Successful Ablation of Cyst in Occipital Lobe. Thiem.—Ueber die erfolgreiche op. Entfernung einer im linken Hinterhauptslappen entstandenen Hohlgeschwulst.
32 *Ueber die Blut-Cysten am Cranium (Hematocele sinus pericranii) und ihre Behandlung. F. Franke.
33 Ueber diffuse adhäsive Peritonitis in Folge von Appendicitis. Karewski.
34 *Resultate bei operative Behandlung carcinomatöser Dickdarmgeschwulste (tumors in large intestine). J. Hochenegg.
35 Zur Kenntniss der Blutergelenke (bleeder joints). K. Mermingas.—König's clinic; 3 cases.
36 *Course of Ileus in Case of Carcinoma in the Intestines and Local Meteorism of the Cecum with low-seated Occlusion of Large Intestine. W. Anschütz.—Ueber den Verlauf des Ileus bei Darmcarc. und den localen Meteorismus des Coecum bei tiefsitzendem Dickdarmverschluss. Mikulicz' clinic.
37 Ueber frühzeitige (early) operative Behandlung uncomplicierter intra- und paraarticulärer Fracturen. Lessing.—König's clinic.
38 Myome des Mastdarmes (rectum). E. Lexer.—Bergmann's clinic.
39 *Ueber einen nicht gewöhnliche Fall von Cephalocele und über die post-operative Hydrocephalie. G. Muscatello.
40 *Ueber die Diagnose der Spina bifida und über die post-op. Hydrocephalie. Ibid.
41 (No. 2.) Development of Fissured Palate. R. Fick.—Zur Wolfsrachenbildung.
42 Zur Früh- (early) Operation bei Appendicitis. E. Payr.—Nicoladoni's clinic.
43 Attempt at Collective Summary in Respect to Early Operation in Appendicitis. Sprengel.—Versuch einer Sammelforschung zur Frage der Früh-Operation bei acuter App. und persönliche Erfahrungen.
44 *Die Erkrankungen der regionären Lymph-Drüsen beim Carcinoma der Pars pylorica des Magens. Lengemann.
45 Zur Frage der retrograden Incarcerationen. R. v. Wistinghausen.
46 *The Natural Means of Alleviating Pain in the Organism. C. Ritter.—Die natürlichen Schmerzlindernden Mittel des Org.
47 Ueber plastiche Deckung (closure) von Knochenhöhlen (bone cavities), nebst einem Fall von osteoplastischem Ersatz (substitution) des Os cuboides. Busalla.
48 *Zur Diagnostik der physiologischen und path. Nieren- (kidney) Function. F. Straus.
49 *Experimental Study of Ligation of Large Vessels in Liver. C. Ehrhardt.—Ueber die Folgen der Unterbildung grosser Gefässstämme in der Leber. Garré's clinic.
50 Lungen-Complicationen bei Appendicitis. E. Sonnenburg.
51 Ueber Carcinom-Recidive (recurrence). C. v. Kahlden.
52 Ueber die Ursachen (causes) der Stieldrehung (torsion of pedicle) intraperitoneal gelegener Organe. E. Payr.
53 *Zur bacteriellen Etiologie und zur Behandlung der diffusen Peritonitis. P. L. Friedrich.
54 Ueber Exarticulatio pedis mit dem Cirkel-Schnitt. O. Samter.
55 Ueber den Wundverlauf (course of the wound) Nach Hernie-Operationen. Ibid.
56 Ueber die sogenannte diffuse wahre Mamma-Hypertrophie und ihr Verhältniss (relations) zum Fibrom. L. Kirchheim.
57 (No. 3.) Ueber die Lumbal-Hernien und seitliche Bauch-Hernien (Laparocele). R. v. Baracz.
58 Ueber die Lendengegend (lumbar region) mit bes. Berücksichtigung der Durchtrittsstelle (emerging point) der Lenden-Hernien. Ibid.
59 *Zur Theorie und Praxis der chirurg. Desinfection. E. Braatz.
60 Ueber papilläre Tumoren des Nierenbeckens (renal pelvis) in klinischer und path.-anatomischer Hinsicht. F. Pels-Leusden.—König's clinic.
61 Ueber die Laparotomie im Kriege (war). V. Hippel.
62 *Ueber Darm-Invagination. Haasler.—V. Bramann's clinic.
63 Bird-Eye Inclusions in Tumor Cells. C. Posner.—Ueber die vogelaugenähnliche Einschlüsse in Geschwulstzellen.
64 (No. 4.) Zur Castration bei Hoden (testicle) Tuberculose. L. Berger. Trzebicky's clinic.
65 Zur operative Behandlung der Lymphome am Halse (neck). R. Trzebicky.
66 Die Behandlung der Prostata-Hypertrophie. T. Rovsing.
67 Cysts in Long Bones. G. Koch.—Ueber Knochencysten in den langen Röhrenknochen. Körte's clinic.
68 Darm-Invagination in das Rectum in Folge von Carcinom-Bildung im S. romanum. Herburg.
69 Die otitischen Symptome der Basis-Fractur. Stenger.—Trautmann's clinic.
70 *Kreislaufverhältnisse (conditions of circulation) und locale Tuberculose. G. Friedländer.
71 Ueber die Aktinomykose des Menschen (in man) auf Grund eigener Beobachtungen. R. v. Baracz.
71½ Die Verletzungen der Milz (injuries of spleen) und ihre chirurgische Behandlung. E. Berger.—Kehr's clinic. (Commenced in No. 3.)

30. **Permanent Results of 800 Bassini Operations.**—Goldner reviews the results achieved at the clinic of the late Professor Albert of Vienna, and notes that primary healing is not the only deciding factor for the ultimate outcome. There was recurrence of the hernia in 35 cases; suppuration occurred in only 10 of these. In 3 the muscles seemed to be defectively developed, and in 5 there was senile alteration. In 2 the local anesthesia may have been responsible, as it possibly interfered with suturing. In 4 nothing could be discovered to explain the recurrence. In 3 cases a femoral hernia developed after a radical operation on an inguinal hernia. In 9 of the cases of recurrence severe work was resumed in three weeks. He advises waiting three months when possible, and believes that the absence of early severe work is the reason why the operation is more apt to be successful in children. Three of the patients died, one during the narcosis and 2 from embolism. Both of the latter had large varices on the legs, and this condition should impose caution in doing a radical operation.

32. **Blood Cyst in Skull.**—Franke's patient was a young woman, and the cyst owed its origin to a congenital hole or fissure in the skull. There was probably merely a congenital varix at the spot at first, but as it grew it enlarged the hole and the edges of the bone were absorbed. After the copious hemorrhage had been arrested by inserting the finger in the hole and then tamponing, he completed the operation by introducing a piece of silver-wire netting, about 4 by 8 cm., beneath the skin, draining and suturing.

34. **Results of Operative Treatment of Carcinoma of Large Intestine.**—Hochenegg compares his results with those obtained by other surgeons, and thinks that they confirm the benefits of his sacral method of extirpating a carcinoma in the rectum. He has had 237 such cases and operated on 174; 158 were cured, and only 16, or 9.12 per cent., died. Czerny's mortality has been 10 per cent.; Krönlein's, 12.1; Mikulicz's, 25.7; Kocher's, 28.5; Bergmann's, 32, and König's, 32.5 per cent. Hochenegg states that he lost none of his patients from the narcosis, from hemorrhage during or soon after the operation, from shock or collapse, nor from post-operative pneumonia, while the reports of others attribute about 50 per cent. of the mortality to one or more of these causes. He warns that a diarrheic stool is much more poisonous than a formed stool, and hence denounces the practice of administering a purgative before operating. He operated by the perineal route in 8 cases and by the sacral in 112. Thirty, or 25 per cent., of these 120 patients are alive to-day after a minimum of three years. Ten of the 30 are completely and 2 comparatively continent. The others have a sacral anus and are incontinent. He calls the year after the operation the "quarantine year" as progression of the lesion is revealed within this time by sacral pains, emaciation, etc. He operated on 194 out of the 283 cases of cancer of the intestines that have come under his observation. The total mortality has been 24, and 170 have remained cured to date. In 30 the intervention was merely palliative.

36. **Course of Ileus in Carcinoma in Intestines.**—Anschütz mentions that in 14 out of 26 cases the ileus developed without premonitory symptoms and the assumed volvulus proved to be a carcinomatous lesion. He calls attention to the localized meteorism observed in the cecum in case the carcinoma is located low down and the ileocecal valve is unusually resistant. The local distension of the cecum is an aid to diagnosis, but it is always a bad sign when very pronounced.

39. **Post-Operative Hydrocephalus.**—Muscatello has found that secondary hydrocephalus occurring after surgical intervention is usually due to syphilis and can be cured by specific treatment combined with repeated evacuation of the fluid. A suppurative process occurring in cases of spina bifida is almost certain to be followed by meningitis or hydrocephalus, which in this case is due to pyogenic infection, and has a grave prognosis.

44. **Involvement of Lymph Glands in Carcinoma of Pars Pylorica.**—Twenty cases of carcinoma of the pyloric portion of the stomach observed at Mikulicz's clinic were carefully scrutinized, and only one case was found entirely free from

some metastasis in the glands of the region. About 189 glands were examined, and 110 were found sound, but others at a distance were affected. By removing all the small omentum the glands in it are extirpated at the same time, and there have been no indications of gangrene or other disturbance from inadequate blood supply in his experience. The glands in the lesser curvature were found involved more frequently than those in the greater curvature. In only two cases were they exempt, and 50 per cent. were affected.

46. **Natural Means of Alleviating Pain.**—Ritter makes the announcement in this article that he has established by his research that the pain from a serous effusion is not caused by the mechanical action of the fluid but by its concentration. The constant destruction of albumin produces rapidly a very concentrated fluid, which causes intense pain, but as more serum mixes with it, the pain diminishes as the dilution increases. The concentration of the fluid is evidenced by the variation of the freezing-point. It averages normal in the pus of a cold abscess, but may be .715 C. in empyema pus, etc. Bier has called attention to the fact that his methods of inducing artificial hyperemia or venous congestion reduce the pain to a marked degree. Ritter shows that this alleviation of the pain is due to the dilution from the hyperemia or venous congestion in the concentrated effusion. We must assist Nature in this process of dilution, and we will be able in this way to systematically alleviate pain. He has been most gratifyingly successful in the application of these principles to the treatment of severe, painful burns, inducing venous congestion, according to Bier's directions. (See THE JOURNAL, xxxviii, p. 1113.)

48. **Functional Tests of Kidneys.**—Straus confirms the fact that under physiologic conditions the kidneys work alternately and exactly alike. He describes two cases in which a carcinoma or ulceration had destroyed almost the entire parenchyma while the glomeruli were still intact. The phloridzin test had been positive, to a slight extent, which indicates that the glomeruli may be regarded as the seat of the transformation of phloridzin.

49. **Experimental Ligation of Portal Branches.**—Ehrhardt found that the disturbances induced in the liver by ligation of large branches of the portal vein were merely transient. The shriveling and ascites noticed soon became compensated by the regenerative forces of the organ and the establishment of collateral circulation.

53. **Treatment of Generalized Peritonitis.**—Friedrich was able to save all his ten patients with generalized peritonitis traceable to appendicitis or traumatism, and he attributes his success to his method of draining and of subcutaneous nourishment. He remarks that anaërobic bacteria are probably involved in the process more than is generally appreciated. He drains with a special trocar inserted through the abdominal wall, and passed behind the uterus and out through the vagina. A drain tube is hooked on the trocar guide and is then drawn in by the latter until it emerges in the space behind the uterus, while the shell of the trocar is held at the entrance to the vagina. The drain tube is thus brought into the exact point in the Douglas where most needed, and without the slightest scraping of the walls of the vagina. The shell can then be removed. He injects 30 to 100 or even 150 c.c. of olive oil, leaving the canula in place and injecting it always at the one point. It is absorbed in less than an hour.

59. **Surgical Disinfection.**—Braatz announces that warming gauze to 60 C. has no effect on its further disinfection, and that superheated steam—at 110 to 122 C.—does not permeate the gauze. The disinfection is most complete when the gauze is warmed beforehand to 88 C. and then exposed to steam at 100 C. The gauze takes up the steam under these conditions, but must be kept in a wire frame away from the walls of the receptacle. He proclaims that steam sterilization as usually done is ineffectual.

62. **Invagination of Intestines.**—Haasler advocates resection far into sound tissue as the only safe way to treat an invaginated loop. In his 10 cases the invagination was traceable to a tumor in the intestinal wall in 3; to adhesions left after appendicitis in 2, and to a tuberculous lesion in one. He also reviews 133 cases which he has collected.

70. **The Circulation and Local Tuberculosis.**—In Friedländer's experiments animals inoculated in the femoral artery, with a suspension of charcoal dust, lime, lycopodium, or other substances, including weakly virulent cultures, developed local processes at the very points which display a predisposition for local tuberculosis. Even in physiologic conditions the current is peculiarly sluggish and the walls of the vessels exceptionally thin at these points, evidently favoring the deposit of foreign particles and of bacteria.

Centralblatt f. d. Grenzgebiete der Med. u. Chir. (Jena), v.

72 (No. 20.) *Acuter und chronischer Gelenks- (articular) Rheumatismus, Entstehung (origin) und Beziehung zu anderen Gelenks- (and relations to other joint) Affectionen. W. Predtetschensky. (Commenced in No. 17.) Critical Review.

73 (No. 22.) *Ueber die Erkrankungen der Mesenterialgefässe (vessels) und ihre Bedeutung (significance) für die Chirurgie. W. Neutra. (Commenced in No. 18.) Critical Review.

72. **Study of Articular Rheumatism in Relation to Other Joint Affections.**—In this communication from Moscow forty-six of the latest articles on articular rheumatism are reviewed, including a number of Russian works. The writer first points out the incongruity of the term "rheumatism" from rheuma, a flux, as applied to many joint affections. Physicians usually content themselves with the term "rheumatic" as meaning an affection due to getting chilled, but late researches demonstrate that this is very unscientific and entails confusion. They should trace the joint affection to its actual cause. When this is done it will be found that a new classification is necessary. The term "chronic rheumatic polyarthritis" will be reserved for the chronic multiple joint affection in which there is known to be an unmistakable connection with acute articular rheumatism. The cases which have been hitherto labeled chronic articular rheumatism but whose origin is obscure will be classed as chronic polyarthritis without any descriptive term. This is certainly better than to ascribe to rheumatism cases which have nothing in common with it except the external appearance. Acute articular rheumatism very rarely passes over into the chronic form, and consequently the number of cases of true chronic rheumatic polyarthritis will be found very small. The domain of progressive deforming polyarthritis will contain besides the essential polyarthritis deformans and malum senile coxæ, the varieties which have been known as polyarthritis chronica villosa hyperplastica, many cases of nodular rheumatism, and some of Haberden's nodules (others will be found to belong in the class of uric polyarthritis). As the physician learns to trace the connection between the polyarthritis and various infections he will distinguish between the true rheumatic acute and chronic polyarthritis and the gonorrheal, the erysipelatous, the typhoid and the pneumococcous. Possibly also the scarlatinal, dysenteric, tuberculous, syphilitic, the neurogenic (in case of tabes and syringomyelia), the polyarthritis accompanying osteoarthropathy of Marie-Bamberger, and polyarthritis deformans progressiva, urica, and possibly also polyarthritis urica, syphilitica et deformans. This makes fifteen classes besides that of simple polyarthritis chronica.

73. **Affections of Mesenteric Vessels.**—Neutra reviews the literature on this subject and gives a brief summary of the various cases he has been able to find of occlusion of the mesenteric vessels, aneurisms and periarteritis nodosa. They include a number published in America. Occlusion of the mesenteric vessels is due to embolism or thrombosis, and the resulting alterations in the intestines range from mere hyperemia to gangrene, peritonitis, etc. The onset is usually sudden, violent pains around the umbilicus or in the epigastrium, hypochondrium or lower abdomen, diarrhea, and, in 30 per cent. of the cases on record, intestinal hemorrhages. Ileus is observed quite frequently later and distension of the abdomen. In 2 instances tumors could be palpated which proved to be accumulations of blood between the sheets of the mesentery. The prognosis depends on the establishment of collateral circulation, and treatment should aim to promote it. Light massage of the abdomen may be useful, as it enhances the local circulation and may break up the coagulum. This treatment, with efforts

to raise the blood pressure, is indicated in the colic stage and on the appearance of intestinal hemorrhages. After symptoms of ileus have developed, all nonsurgical treatment is inevitably hopeless. Only a few cases have been reported in which operation proved successful, and these were all undertaken at the stage when the intestine was already dark colored but with no signs of gangrene or peritonitis. The cases on record number 120; in 86 the arteries, and in 32 the veins were involved. One-third of the patients were women. The age ranged from 5 to over 90 years, but the majority were in or past middle life. In 108 cases that terminated fatally, 29 seemed to run a slow, chronic course. The clinical picture of periarteritis nodosa is a characteristic combination of neuritic or myositic symptoms with gastrointestinal manifestations.

Centralblatt f. Gynaekologie (Leipsic).

74 (No. 47.) *Zum Accouchement forcé mittels Metall-Dilatatoren. L. Knapp.
75 *Ibid. Wagner, C. W. Bishoff, H. Langhoff, A. Mueller and V. Frommer.
76 *Zur chirurgischen Behandlung des Uterus-Krebses (cancer). O. v. Franqué.
77 (No. 48.) *Beitrag zur Casuistik der Cervico-Vaginal-Fisteln. E. Wormser.
78 *Fistulæ cervico-vaginales laqueaticæ. E. Dirmoser.
79 *Vaginaler Sectio cesarea bei Portio-Carcinom. Kallmorgen.
80 *Ibid. F. Weber.
81 *Lateraler Sectio durch das Os pubis. L. Gigli.
82 *Vorläufige Mitteilung über die Anwendung von Skopolamin-Morphium-Injectionen in der Geburtshilfe (obstetrics). V. Steinbüchel.

74 and 75. **Accouchement Force by Means of Metal Dilators.**—Knapp presents a dilator made on the principle of Bossi's, but which he thinks is a great improvement, as it is simpler and the action of the spreading lattice-work ring is more even and spreads over a larger surface than with the four arms of the Bossi dilator. The arms and the ring can be protected by rubber caps. Wagner reports fine results from the use of metal dilators, confirming the statements of Leopold and Knapp in regard to the great value of this method of delivery, especially in eclampsia, and that it should entirely supersede Cesarean section in such cases. He reports 3 cases, Bischoff 5 and Langhoff 2, in which a completely-closed portio was enlarged in twenty to thirty minutes by means of the dilator (Bossi's) with minimal hemorrhage and no injury to the parts. Mueller delivered a patient in twelve minutes by this means in narcosis and extracted a thirty-weeks' fetus. It is possible, he adds, to enlarge the os in eight minutes sufficient for version, and, with a little further dilation by the hand, immediate extraction of the child. He uses a dilator made on the principle of a glove stretcher, which seems to answer the purpose perfectly well, although he prefers his inelastic rubber bag or metreurynter when haste is not necessary. He states that it is possible under favorable conditions to accomplish the dilation with the latter in ten minutes without narcosis, and reports a case. Frommer illustrates a dilator, which he claims is superior to Bossi's, as the dilation is accomplished with eight instead of four arms, and they stretch the vagina as well as the os. When folded, the dilator looks like the frame of a closed umbrella, but when dilated by means of a screw in the handle and graduated scale, the instrument resembles the partially-opened frame of an umbrella, but with the handle emerging from the top. All the branches can be taken out to be sterilized separately.

76. **Surgery of Uterine Cancer.**—Franqué advocates the more general use of supravaginal amputation according to Schroeder in the treatment of certain cases of beginning cancroid of the portio, and states that patients operated on in this way by Hofmeier and himself are still well after six years. He also doubts whether the columnar epithelium cysts found in the pelvic glands in cases of uterine cancer should be regarded as metastatic. He has noticed them in cases of basement epithelium neoplasms without a trace of glandular degeneration in the primary tumor and also in a case which exhibited both these cysts and metastases of the carcinoma, but with no apparent connection between them. He has never yet found them in women free from cancer, but thinks they could be found with more extensive material. He mentions, in conclusion, a case of malignant chorio-epithelioma operated on more than seven years ago by vaginal total extirpation about four months after delivery and about three months after the first hemorrhages had been noted. The patient is in good health to date.

77 and 78. **Cervico-Vaginal Fistulae.**—Wormser adds another to the nine cases collected by Neugebauer. The patient was a young primipara in the fifth month. The posterior wall of the cervix tore spontaneously during the third day of labor, and the fetus was evacuated through the laceration. There were no venereal nor abortive antecedents. Dirmoser reports a similar case in the fourth month. The fistulæ in each were rebellious to various operative measures. They were both longitudinal, and while Wormser's patient was left sterile, Dirmoser's patient passed through a second abortion and then was delivered of a healthy boy through the fistula. The natural os was impermeable.

79 and 80. **Vaginal Cesarean Section in Carcinoma of the Portio.**—Kallmorgen delivered twins in the eighth month of pregnancy by this means in a case of operable carcinoma of the portio in a v-para, 32 years old. The children died in the course of two weeks, but the mother made a smooth recovery, with very little hemorrhage. Weber delivered a healthy boy by this means, but the child succumbed a month later to acute gastritis. There was no shock nor appreciable hemorrhage. He has collected 13 cases of vaginal Cesarean section with portio carcinoma in the literature. Two of the patients were very weak and died from heart failure. All the others recovered. Nine of the children lived; some of them weighed more than 4000 gm. He recommends, therefore, Dührssen's vaginal Cesarean section as the standard procedure for cases in which beginning cancer of the portio is diagnosed at the close of pregnancy, with a normal pelvis and yielding soft parts.

81. **Lateral Symphysiotomy.**—Gigli's extramedian section of the pubis was described in THE JOURNAL, xxxix, p. 226.

82. **Scopolamin-Morphin Anesthesia in Obstetrics.**—Steinbüchel portrays the benefits derived from a harmless anesthetic which banishes pain for a few hours, attaining its maximum effect in one and one-half hours, without affecting the contractions of the uterus, injuring the child nor inducing consecutive atony of the uterus such as is liable to follow chloroform. He accomplishes this by the scopolamin-morphin method of anesthesia. The narcotic effect of the two drugs is superposed, while their other effects are apparently mutually neutralized. He injects at first half a syringeful, and after two hours a full syringeful. The dose was .0003 gm. of scopolamin and .01 morphin to the syringeful. With the exception of a brief period of excitement in one very nervous i-para, 42 years old, he never witnessed the slightest by-effects from this method of anesthesia in his extensive experience. If necessary, a few whiffs of ether or chloroform may supplement it in case long surgical intervention is required.

Dermatologische Zeitschrift (Berlin), ix.

83 (No. 5.) Dermatoses After Use of a Hair Dye. M. Wolters.—Ueber Hautaffectionen nach dem Gebrauch von Aureol.
84 Die Zahndifformitäten (teeth deformities) in der Diagnose der hereditären Syphilis. F. Poor.
85 Erfahrungen über die Behandlung und Heilung der Lepra im Riga'schen städtischen Leprosorium. M. Hirschberg.
86 Fall von Granuloma trichophyticum Majocchi. P. Colombini.
87 Die microscopische Technik im Dienste (in the service) der Dermatologie. R. Ledermann. Collective Review. (Commenced in No. 3.)
88 Education of the Public in Regard to Venereal Diseases. O. Lassar.—Zur Prophylaxe der ven. Krankheiten.
89 Report of International Preventive Conference.
90 (No. 6.) Action of Continuous Warmth on Skin and Other Organs. K. Ulmann.—Ueber Wirkungen constanter Wärme auf die Haut und andere Organe mit Demonstration des Hydro-thermo-Regulators und verschiedener Thermokörper.
91 Case of Mercurial Exanthem. P. Thimm.—Ein schweres, spät eintretendes bulloses Quecksilberexanthem nach 12 Einreibungen mit grauer Salbe.
92 *Direct Application of Radiotherapy to Interior of Urethra. H. Strebel (Munich).—Lichttherapeutische Spezialitäten und neue Licht-Generatoren.
93 Peculiar Hair Anomaly. S. Giovannini.—Eigenthümliche leichte Ausziehbarkeit der Papillenhaare und ihrer Wurzelscheiden.
94 Radiotherapy at II International Congress for Medical Electrology and Radiology. Berne, September 1-6.
95 Report of Section of Dermatology at Naturforscher Congress.

92. **Direct Radiotherapy of Interior of Urethra.**—Strebel's success in this line has already been mentioned in THE JOURNAL, xxxix, p. 1,075. He illustrates his apparatus and

describes the principles on which it is constructed, to eliminate the irritating rays. He offers the simple contrivance as a means for treating inflammatory processes in the urethra, which promises to be as effectual as the other applications of radiotherapy.

Jahrbuch f. Kinderheilkunde (Berlin), lvi.

96 (No. 2.) 2 Fälle von Anencephalie. M. Wichura.
97 Erfahrungen über die Bulau'sche Aspirations-Drainage bei der Behandlung eitriger Brustfellergüsse (suppurative pleural effusions). P. Oloff.
98 Ueber die verschiedenen Formen des Icterus im Säuglingsalter (infancy). B. Skormin.
99 *Ueber Calomel in der Kinderheilkunde (in pediatrics). S. Schoen-Ladniewski.
100 Erstickung (suffocation) durch Aspiration necrotischen Massen aus einer perforierten tuberculösen trachealen Lymphdrüse. A. Horst.
101 Fall von Hernia ventralis lateralis congenita. J. Steinhardt.
102 (No. 3.) Infant Mortality in Norway. A. Johannessen.—Die SäuglingsSterblichkeit in Norwegen.
103 *Ueber Säuglings-Eczem. Strauss.
104 Ibid., und seine etiologische Beziehung zum Intestinal-Tractus und daraus sich ergebende Therapie. J. G. Rey.
105 Untersuchungen über die normale Ossification des Knorpels (cartilage). D. Pacchioni.
106 Beiträge zur künstliche Säuglings-Ernährung (infant feeding). F. v. Szontagh.
107 Untersuchungen über die Acidität und den Zuckergehalt (sugar) von Säuglingsstühlen (infants' stools). L. Langstein.
108 Noch ein Mal der Meningococcus intracellularis. O. Heubner.
109 (No. 4.) Zur Physiologie des Säuglingsalters (infancy). Camerer.
110 *Die Pneumococcen-Peritonitis im Kindesalter (childhood). M. Stooss.
111 *Zur Frage der congenitalen Rachitis. C. Escher.
112 (Supplementary Number.) Ueber die Fermente der Milch (milk). E. Moro.
113 Weitere Beobachtungen über die Nahrungsmengen (amounts of food) von Brustkindern (breast babies). E. Feer.
114 Ibid., unter Berücksichtigung des Energie Quotienten. W. Beuthner.
115 Ueber die congenitalen Herzfehler (cardiac defects). L. M. Spolverini and D. Barbieri.
116 (No. 5.) Functions of Child's Stomach in Digestive Diseases. T. v. Hecker.—Ueber die Functionen des kindlichen Magens bei Verdauungskrankheiten.
117 Beitrag zur Diagnose der Persistenz des Ductus arteriosus Botalli. K. Dresler.
118 Körpergewicht (weight) der Säuglinge nach socialer Gruppirung. H. Neumann.
119 Zur Pathologie der Maasern (measles). M. Brueckner.

99. **Calomel in Pediatrics.**—Ladbiewski does not believe in administering calomel for a laxative, preferring castor oil for this purpose, but he expatiates on its almost marvelous action in flatulent colic, dyspepsia, febrile gastrointestinal catarrh, convulsions from indigestion, icterus, hydrops and syphilitic and scrofulous eye affections. He orders it always in the form of calomel ophthalmicus as the finest pulverized, and gives ten or twelve doses of .005 to .02 gm., according to age. He warns that traces of sublimate develop in the mixture of calomel and sugar in time, and hence it should always be made up fresh. Sunlight decomposes calomel. Salt and salted foods, bitter almonds and cherry laurel water, iodin and ammonium chlorid have a tendency to transform part of the calomel into sublimate.

103. **Infantile Eczema.**—Eczema in infants can be influenced by appropriate internal treatment of the digestive tract, and this fact distinguishes it from the purely ectogenic parasitic and artificial eczemas of older children. But secondary infection may modify it in infants and require external as well as internal treatment.

110. **Pneumococcus Peritonitis in Children.**—The encapsulated form recovers rapidly after evacuation of contents. The prognosis is more serious when the peritonitis is not encapsulated. Nine died and 3 recovered out of 12 cases collected by Stooss, including one personally observed, which recovered. He has also had 3 cases of the encapsulated variety.

111. **The Question of Congenital Rachitis.**—Escher was unable to discover any traces of rachitis in a number of fetuses and still-born children examined.

Monatshefte f. Prakt. Dermatologie (Hamburg), xxxv.

120 (No. 8.) *Zur Naphthalan-Behandlung des Eczems. D. Awerbach.
121 Zur Tatowierung bei Frauenzimmer der öffentlichen und geheimen Prostitution. R. Bergh.
122 (No. 9.) Fall von Neuro-Fibromatosis mit starker Betheiligung der Haarbälge (hair follicles). A. v. Karwowski.
123 Fall von multipler circumskripter Sklerodermie. W. B. Warde.
124 Improved Zinc Glue Dressing. Rasch.—Verbesserung der Zinkleimdecke.
125 (No. 11.) Fall von positivem Gonococcen-Befund in einem epididymitischen Abscess. A. v. Karwowski.
126 *Muskel-Syphilis im Frühstadium (early stage). R. Matzenauer. (Commenced in No. 10.)

120. **Naphthalan in Treatment of Eczema.**—A number of writers, including Unna and Hallopeau, have reported much clinical experience with naphthalan, establishing that it is an effectual means for treating certain cutaneous affections, not irritating to the tissues and borne well by nearly every skin, while it displays great energy in drying up secretions, alleviating pain, soothing the itching, promoting the regeneration of the epidermis and absorption of infiltrates.

126. **Early Syphilitic Myositis.**—Matzenauer announces that the involvement of the muscles in syphilis is liable to occur early, in which case the proliferating interstitial infiltrate spreads throughout the muscle in a diffuse form and does not form foci. This infiltrate may be easily and rapidly absorbed and complete restitution is possible. Later in the disease the diffuse infiltration is liable to become transformed into gummatous foci. He witnessed this transformation in one instance. He has also observed cases with a rapid, malignant course, in which the nodular infiltration was marked in the early stages. Eleven of his 13 cases of syphilitic affections of the muscles were myositis diffusa, and he has found 26 similar cases in the literature. In 22 the myositis developed in the first year after infection and in 5 cases later than four years afterward. In 24 the myositis was restricted to a single muscle; in 5 it was symmetrical, and in 8 in various muscles successively or simultaneously. Six of the 37 cases were of the early malignant form, and in 2 of these the early infiltration softened and required operative treatment. The process is essentially the same in both the diffuse infiltration and the later gummatous formation, as he shows by colored photographs of sections from four cases, one an autopsy discovery.

Therapie der Gegenwart (Berlin), November.

127 Die Balneo-Therapie in ihren Verhältniss zur Gesammt-Medicin (in its relations to general medicine). C. Bäumler.
128 Fetor ex ore gastrointestinalen Ursprungs (origin). T. Rosenheim.
129 Ueber Theocin (Theophyllin) als Diureticum. O. Minkowski.
130 Cacodyl-Säure und Lungen-Tuberculose. E. Allard.
131 Neue Beiträge zur Tuberculose-Frage. F. Klemperer. Collective Review.
132 Pankreon bei chronischem Enteritis. Köppern.

Zeitschrift f. Heilkunde (Prague), xxiii.

133 (No. 8.) Beitrag zur Klinik der myasthenischen Paralysen. C. Hodlmoser.
134 *Zur Differentiell-Diagnose der primären und secundären Pleura-Tumoren mit bes. Berücksichtigung der Ergebnisse der Probe- (exploratory) Punction. J. Sorgo.
135 Fall von Kopf (head) Tetanus. H. Neumann.
136 Zur Theorie der Agglutination. R. Kraus.
137 (No. 9.) Ueber Carcinom-Bildung auf gummösem Boden. L. Spitzer.
138 Albumin-Splitting Action of Pus. R. Knapp.—Ueber die Eiweissspaltende Wirkung des Eiters.
139 Lymph-Angiom mit temporärer Chylorrhoe. Neumann.
140 Swallowed Foreign Bodies in Relation to Hernia. M. v. Statzer.—Ueber das Verhalten verschluckter Fremdkörper zu Brüchen.
141 Case of Cleft Lip, Jaw and Tongue. H. Salzer.—Fall von medialer Unterlippen Kiefer-Zungenspalte.
142 Elimination of Nitrogen and Uric Acid in Psoriasis. L. v. Zumbusch.—Ueber Gesammtstickstoff- und Harnsäure-Ausscheidung bei Psoriasis.

134. **Differentiation of Primary and Secondary Pleural Tumors.**—Sorgo states that when the fluid derived by exploratory puncture abounds in epithelial elements, it is suspicious of a neoplasm, but a hemorrhagic or chylous tendency or the presence of fat or glycogen is no evidence either for or against. The sediment should be examined both fresh and in hardened sections. The neoplastic nature of the affection is demonstrated by polymorphous epitheloid cells with large oval or irregularly-shaped nucleus, by polynucleated cells, by mitotic and amitotic segmentation of nuclei and cells, by large vacuolated cells and vacuolization of the cell connections. The protoplasm and the nucleus of the cells in the sediment from cases of carcinomatous pleuritis attracted attention by intense staining with polychrome methods, methylene blue or thiosin, and by the numerous variations in the tints. The sediment is more abundant in case of secondary carcinosis of the pleura. The finding of cylinder cells, glandular elements and vacuolized cells indicates positively metastasis in the pleura from a primary carcinoma in some glandular organ. He has had occasion to study two cases at Von Schrötter's clinic.

Grece Medicale (Syra, Greece), iv.

143 (No. 18.) Contribution à l'étude de la pathogénie des deviations menstruelles. C. Polani.
144 (No. 20.) La fièvre bilieuse hémoglobinurique n'est pas (is not) une maladie essentielle; elle est tout simplement un symptome qui varie quant à l'intensité. J. P. Cardamatis.
145 (No. 22.) *Quelques considérations sur la grande neurose et surtout sur la valeur sémeiologique de ses stigmates. E. Macris.

145. **Study of Hysteria.**—Macris has observed at Paris eight cases which he describes. All were typical examples of severe hysteria and all were cured by suggestion, yet none of them presented any of the so-called stigmata of hysteria. The heredity, anamnesis and symptoms rendered the diagnosis unmistakable, and it was confirmed by the prompt recovery under psychotherapy. The symptoms were those of astasia-abasia in one case, of dystasia-dysbasia in another, coxalgia in the third, rhythmic choreiform movements in a fourth, paralysis and coxalgia in the fifth, and paralysis or "grande hystérie" in the others.

Semana Medica (Buenos Ayres), ix.

146 (No. 17.) Posicion del corazon (heart) en los derrames (effusions) del percardio. Desviaciones del corazon. P. Uslenghi.
147 (No. 21.) La circuncision entre los Judios en la Republica Argentina. J. Rietti.
148 (No. 22.) *Tumores del encefalo. Sarcoma de la base. Ayerza.
149 *Investigaciones sobre la excitabilidad de los centros nerviosos despues de la muerte (after death). M. Alurralde.
150 *Simulation of Insanity. J. Ingegnieros.—Disimulacion de la locura.
151 (No. 24.) Conferencia medica sobre el paludismo y profilaxia en Brazil. J. Penna and others.
152 *Las inyecciones previas de suero (serum) artificial en la cirurgia abdominal. Bozetti.
153 (No. 26.) Investigaciones sobre la presion hidraulica del humor acuoso. V. Grandis.
154 (No. 27.) Cirrosis sifilitica. L. Agote.
156 (No. 28.) La anatomia patologica en sus relaciones con la cirugia del sistema nervioso. A. Tedeschi.
157 (No. 29.) Hemorrhagias por insercion viciosa de la placenta. S. Gache.
158 (No. 30.) El examen radioscopico de los organos abdominales, del rinon (kidney) y de la pelvis. C. Heusner.
159 (No. 31.) Pulsation of the Foot in Criminals and Insane. S. Tatti.—pulsacion del pié en los criminales y en los locos.
160 (No. 33.) *Tratamiento maritima de las tuberculosis quirugicas. M. Castro.
161 Los craneos del antiguo Peru. (Estudio del Professor Ranke.) R. L. Nitsche.
162 (No. 34.) Eclampsia puerperal. Sintesis de su estudio. J. C. R. Dominguez.
163 (No. 35.) *La psicopatologia de los criminales en sus relaciones con la simulacion de la locura (insanity). J. Ingegnieros.
164 (No. 38.) Contribucion al estudio de la tripanosomosis de los equideos sud-americanos conocida bajo el nombre de "Mal de Caderas." J. Lignières. (Commenced in No. 37.)
165 (No. 39.) *La verdadera interpretacion de la pulsacion del pie (foot). S. Tatti.

148. **Tumors of the Brain.**—Ayerza describes a case of sarcoma of the base which he was able to relieve of the intense pain, cerebral vomiting, blindness and paralysis of the legs, by simple puncture and evacuation of a certain amount of cerebrospinal fluid. The relief was immediate and durable to the time of writing, with two repetitions of the puncture.

149. **Study of Excitability of Nerve Centers After Death.**—Alurralde states as the result of his researches on dogs that the excitability of the nerve centers does not disappear with the suspension of the last sign of life. This postmortem excitability lasts for a shorter or longer time in different animals, ranging from eight to thirty minutes, becoming shorter the lower the animal stands in the list of warm-blooded animals. The cells in the spinal cord possess the highest degree of this postmortem excitability. It responds only to powerful chemicals which irritate and act destructively on the protoplasm, consequently it is impossible to reproduce the movement a second time on account of the injury to the parts.

152. **Preliminary Injections of Artificial Serum in Abdominal Surgery.**—Bozetti prepared an anemic patient for ablation of a fibroma weighing 19 pounds, by daily subcutaneous injections of artificial serum for a month previous to the intervention. She bore the operation well, without vomiting once. Since then all the patients, about 100 in all, have been systematically treated in this way with preliminary injections of artificial serum before abdominal interventions. The aim sought was the suppression of vomiting, and it was accomplished in nearly all. The few exceptions displayed merely a slight nausea. The patients rest after the operation without being disturbed by vomiting, while urination is copious. About 500 gm. of the serum are injected each twenty-four hours for a day or two preceding the operation.

160. **Seashore Treatment of Surgical Tuberculosis.**—Since the foundation of a seashore sanatorium for debilitated children near Buenos Ayres, in 1897, about 60 with tuberculous affections of the bones or ganglia have been sent there. The best results were obtained in those cases which had displayed a marked tendency to recuperation before being sent to the sanatorium. The seashore is evidently by no means a specific, and the tuberculous lesions pass through their usual phases the same there as elsewhere. There is no doubt that the benefit of sea air for such cases has been much exaggerated. The tanned cheeks of the children conceal the pallor of anemia beneath. The chief benefit from these seashore sanatoria is to receive children debilitated from other causes, after protracted infectious diseases, etc., and by restoring them to robust health abolish the predisposition to the acquisition of tuberculous lesions later. The child should stay a year at least, and sea bathing should be prohibited as its inconveniences outbalance the advantages. Children with albuminuria, pulmonary or very advanced lesions should not be sent to such a sanatorium.

163. **Psychopathology of Criminals in Simulation of Insanity.**—Ingegnieros argues that the most abnormal criminals are the least disposed to resort to insanity as a defense of their crime. The possibility of simulation is in inverse ratio to the degree of psychic degeneration of the individual.

165. **True Interpretation of the Pulsation of the Foot.**—Tatti called attention in 1898 to the foot beat, as one leg is crossed over the other, and stated that it probably represents the sum total of the contraction and dilation of all the arteries in the leg, plus the variation in size of the leg under the influence of the changes in the circulation, and its tonicity and elasticity. In case of mitral or aortic insufficiency the tracing of the foot beat varies in a characteristic manner from normal. He appends the "podogram," as he calls it, of the pulsation of the foot in a case of traumatic aneurism of the femoral artery after extirpation of the sac and ligature of the artery. The fact that the pulsation was noted in both feet excludes the idea that it is due to the action of any one vessel, or to the constriction of the vessels at the knee. He has been studying it in criminals and states that in the agitation and excitement common under the circumstances a nervous element is superadded to the circulatory in these cases.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SELECTED PAPERS ON OPERATIVE AND CLINICAL SURGERY. By the Late William Stokes, M.D., M. Ch. (Univ. Dub.); F.R.C.S.I.; Knt., Surgeon in Ordinary to Her Majesty Queen Victoria in Ireland. Edited by William Taylor, B.A., M.D. (Univ. Dub.), F.R.C.S.I., Surgeon to and Lecturer on Clinical and Operative Surgery, Meath Hospital and Co. Dublin Infirmary. With a Memoir of the Author by Alexander Ogston, M.D., Regius Professor of Surgery, University of Aberdeen. Cloth. Pp. 484. Price, 10 shillings. London and Dublin. Bailliere, Tindall and Cox. 1902.

A TEXT-BOOK OF DISEASES OF THE EYE. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, etc. Fourth Edition, Revised, Enlarged, and Entirely Reset. With 280 Text-Illustrations and 6 Chromo-lithographic Plates. Cloth. Pp. 773. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1903.

MALARIAL FEVER: Its Causes, Prevention and Treatment, Containing Full Details for the Use of Travelers, Sportsmen, Soldiers, and Residents in Malarious Places. By Ronald Ross, F.R.C.S., D.P.H., F.R.S., Walter Myers Lecturer Liverpool School of Tropical Medicine. Ninth Edition, Revised and Enlarged. Cloth. Pp. 68. Price, $0.75. New York: Longmans, Green & Co. 1902.

LESSONS AND LABORATORY EXERCISES IN BACTERIOLOGY. An Outline of Technical Methods Introductory to the Systematic Study and Identification of Bacteria. Arranged for the Use of Students. By Allen J. Smith, M.D., Professor of Pathology in the University of Texas, Galveston. Cloth. Pp. 298. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1902.

MEDICAL MICROSCOPY. Designed for Students in Laboratory Work and for Practitioners. By T. E. Oertel, M.D., Professor of Histology, Pathology, Bacteriology and Clinical Microscopy, Medical Department, University of Georgia. With 131 Illustrations, Some of Which Are Colored. Cloth. Pp. 362. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Edin., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. IV. Diseases of the Respiratory and of the Circulatory Systems. Cloth. Pp. 493. Price, $2.00 net. New York: The Macmillan Co. 1902.

TWENTIETH CENTURY PRACTICES. An International Encyclopedia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. Volume XXI. Supplement. Cloth. Pp. 845. Price, $5.00. New York: Wm. Wood & Co. 1903.

THE MATTISON METHOD IN MORPHINISM. A Modern and Humane Treatment of the Morphin Disease. By J. B. Mattison, M.D., Medical Director, Brooklyn Home for Narcotic Inebriates. Cloth. Pp. 40. Price, $1.00. Published by the Author. New York: E. B. Treat & Co. 1902.

MANUAL OF ANTENATAL PATHOLOGY AND HYGIENE. The Fetus. By J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S. Edin., Lecturer on Midwifery and Gynecology, Medical College for Women, Edinburgh. Cloth. Pp. 527. Price, $5.00 net. New York: Wm. Wood & Co. 1902.

OBSTETRICAL NURSING FOR NURSES AND STUDENTS. By Henry Enos Tuley, M.D., Louisville, Ky., Professor of Obstetrics, Kentucky University, Medical Department. Cloth. Pp. 202. Price, $1.00 net. Chicago: G. P. Engelhard & Co. 1902.

A TEXT-BOOK OF NURSING, for the Use of Training Schools, Families, and Private Students. By Clara Weeks-Shaw. Third Edition, Thoroughly Revised and Enlarged. Cloth. Pp. 397. Price, $1.75. New York: D. Appleton & Co. 1902.

HOW TO SUCCEED IN THE PRACTICE OF MEDICINE. By Joseph McDowell Mathews, M.D., LL.D., President of American Medical Association, 1898-9. Cloth. Pp. 215. Price, $2.00. Louisville: John P. Morton & Co. 1902.

THE PHYSICIAN'S VISITING LIST. 1903. Fifty-second Year. Leather. Prices: Regular Edition, $1.00 to $2.25; Perpetual, $1.25 and $1.50; monthly, $0.75 to $1.00. Philadelphia: P. Blakiston's Son & Co.

THE A B C OF PHOTO-MICROGRAPHY. A Practical Handbook for Beginners. By W. H. Walmsley. Cloth. Pp. 155. Price, $1.25 net. With 29 Photo-Micrographs by the Author. New York: Tennant and Ward.

REGIONAL MINOR SURGERY. By George Gray Van Schaick, M.D., Attending Surgeon French Hospital, N. Y. Profusely Illustrated. Cloth. Pp. 226. Price, $1.50. New York: International Journal of Surgery Co.

LIFE AND CORRESPONDENCE OF HENRY INGERSOLL BOWDITCH. In Two Volumes. Vols. I and II. Cloth. Pp. 337 and 397 Respectively. Price, $5.00 net. Boston and New York: Houghton, Mifflin & Co. 1902.

THE PROCEEDINGS OF THE CHARAKA CLUB. Volume I, 8vo. Pp. 97. Price, $3.50 net. Printed for the Club by William R. Jenkins. New York: William Wood & Co. 1902. Limited Edition.

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY. Thirty-third and Thirty-fourth Annual Meetings. 1901 and 1902. Cloth. Pp. 307. Minneapolis: Northwestern Lancet. 1902.

THIRTY-SECOND ANNUAL REPORT OF THE CENTRAL STATE HOSPITAL OF VIRGINIA, for the Fiscal Year Ending Sept. 30, 1902. Paper. Pp. 74. Richmond: Everett Waddey Co. 1902.

FORDWELL GRAHAM, or Lost and Won by the Hand of the Dead. By W. June Arlington. Cloth. Pp. 414. Price, $1.25. Philadelphia: Allen, Lane & Scott.

THE ISLE OF CONTENT, and Other Waifs of Thought. By George F. Butler, M.D. Cloth. Pp. 142. Price, $2.50. Concord, Mass.: The Erudite Press. 1902.

THIRTY-THIRD ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Cloth. Pp. 615. Boston: Wright & Potter Printing Co. 1902.

LUCE E SALUTE. FOTOTERAPIA-RADIOTERAPIA del Dott. Angelo Bellini, con 65 illustrazioni. Pp. 355. One Vol. Milano: Ulrico Hoepli.

The Public Service.

Army Changes.

Movements of Medical Officers, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from Dec. 15 to 20, 1902:

Hall, Henry M., contract surgeon, U. S. A., is granted leave of absence for one month.

O'Neill, Joseph A., contract surgeon, U. S. A., is granted leave of absence for one month.

Overton, David W., contract surgeon, U. S. A., is granted leave of absence to include Dec. 31, 1902.

Pinquard, Joseph, contract surgeon, U. S. A., is relieved from duty at Fort Leavenworth, Kan., to take effect on the arrival at that post of Captain John H. Stone, asst.-surgeon, U. S. A., and will then proceed to his home, Vinita, I. T., and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Stockard, James K., contract surgeon, U. S. A., now at Greensboro, N. C., will proceed to Fort Delaware, Del., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East.

The following named assistant surgeons, U. S. A., are relieved from duty at the places indicated after their respective names, and will report in person to the commanding general, Department of California, for transportation to the Philippine Islands on the transport to leave San Francisco Jan. 1, 1903, and on arrival at Manila will report in person to the commanding general, Division of the Philippines, for assignment to duty:

First Lieut. Milton E. Lando, discharge camp, Angel Island, Cal.; First Lieut. Charles Y. Brownlee, Bernicia Barracks, California.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending December 27:

Medical Inspector D. N. Bertolette, ordered to duty as fleet surgeon of the Pacific Station.

Medical Inspector E. H. Green, detached from duty as fleet surgeon, Pacific Station, and ordered to the *Wisconsin*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 25, 1902:

Asst.-Surgeon H. B. Parker, granted leave of absence for 14 days from December 22.

Asst.-Surgeon M. J. White, granted leave of absence for 14 days from December 23.

Asst.-Surgeon B. J. Lloyd, relieved from duty at San Francisco Quarantine and directed to report to Surgeon A. H. Glennan, San Francisco, for duty.

A. A. Surgeon J. C. Ballard, granted leave of absence for five days from December 28.

A. A. Surgeon B. W. Goldsborough, leave of absence for three weeks granted by Department letter of Nov. 22, 1902, amended so that said leave shall be for 12 days only.

A. A. Surgeon S. C. Leonhardt, granted leave of absence for one month from January 1.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 27, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 7-14, 1 case; Sacramento, Dec. 6-13, 2 cases; San Francisco, Dec. 7-14, 3 cases.
Georgia: Atlanta, Dec. 10-17, 3 cases, 1 death.
Illinois: Chicago, Dec. 13-20, 2 cases.
Indiana: Elwood, Dec. 14-21, 1 case; Indianapolis, Dec. 13-20, 22 cases, 4 deaths.
Kentucky: Lexington, Dec. 13-20, 1 case.
Louisiana: New Orleans, Dec. 13-20, 1 case, imported from Monroe, La.
Massachusetts: Dec. 13-20, Boston, 16 cases, 6 deaths; Everett, 1 death; Lawrence, 2 cases.
Michigan: Grand Rapids, Dec. 13-20, 6 cases.
Missouri: St. Louis, Dec. 7-14, 14 cases.
Nebraska: Omaha, Dec. 13-20, 5 cases.
New Hampshire: Dec. 13-20, Manchester, 7 cases; Nashua, 15 cases.
New Jersey: Dec. 13-20, Camden, 3 cases; Newark, 2 cases.
New York: Dec. 13-20, Buffalo, 2 cases; New York, 1 case.
Ohio: Cincinnati, Dec. 12-19, 1 case; Cleveland, Dec. 13-20, 9 cases, 5 deaths; Dayton, Dec. 13-20, 7 cases; Hamilton, Dec. 13-20, 2 cases.
Pennsylvania: Dec. 13-20, Erie, 6 cases; Johnstown, 8 cases, 2 deaths; McKeesport, 1 case; Philadelphia, 15 cases.
South Carolina: Charleston, Dec. 6-13, 3 cases, 1 death.
Tennessee: Memphis, Dec. 6-13, 2 cases.
Washington: Tacoma, Dec. 7-14, 2 cases.
Wisconsin: Milwaukee, Dec. 6-20, 15 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 22-29, 9 cases, 1 death.
Belgium: Antwerp, Nov. 22-29, 1 case, 1 death.
Brazil: Bahia, Nov. 15-29, 4 cases, 1 death.
Ecuador: Guayaquil, Nov. 22-29, 2 deaths.
Gibraltar: Nov. 23-30, 1 case.
Great Britain: Birmingham, Nov. 29-Dec. 6, 1 case; Edinburgh, Nov. 29-Dec. 6, 1 case; Leeds, Nov. 29-Dec. 6, 3 cases, 1 death; Liverpool, Nov. 29-Dec. 6, 18 cases, 4 deaths; London, Nov. 22-Dec. 6, 10 cases.
India: Bombay, Nov. 11-25, 4 deaths; Calcutta, Nov. 15-22, 1 death; Madras, Nov. 8-15, 1 death.
Italy: Palermo, Nov. 22-29, 4 cases, 1 death.
Mexico: City of Mexico, Nov. 30-Dec. 7, 6 cases, 2 deaths.
Russia: Moscow, Nov. 15-22, 7 cases; Odessa, Nov. 22-29, 1 case; St. Petersburg, Nov. 22-29, 4 cases, 1 death.
Straits Settlements: Singapore, Oct. 8-25, 1 death.
Turkey: Constantinople, Nov. 23-30, 3 deaths.
Uruguay: Montevideo, Nov. 1-8, 16 cases, 1 death.

YELLOW FEVER.

Ecuador: Guayaquil, Nov. 29-Dec. 6, 4 cases.
Mexico: Dec. 6-13, Coatzacoalcos, 1 case; Tampico, 8 deaths; Vera Cruz, 13 cases, 4 deaths.

CHOLERA—INSULAR.

Philippines: Manila, Oct. 19-Nov. 1, 33 cases, 20 deaths; Cebu, Oct. 30, 1 death; Provinces, Oct. 19-Nov. 1, 7,764 cases, 4,806 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Nov. 22-29, 11 deaths.
India: Bombay, Dec. 11-25, 1 death; Calcutta, Nov. 15-22, 26 deaths.
Java: Batavia, Oct. 24-Nov. 8, 81 cases, 68 deaths.
Straits Settlements: Singapore, Oct. 18-25, 17 deaths.

PLAGUE.

China: Hongkong, Nov. 1-8, 1 case, 1 death.
India: Bombay, Nov. 11-25, 253 deaths; Calcutta, Nov. 15-22, 9 deaths; Karachi, Nov. 16-23, 19 cases, 18 deaths.

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Address.

RECENT PROGRESS IN LARYNGOLOGY, OTOLOGY AND RHINOLOGY.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

G. HUDSON MAKUEN, M.D.

PHILADELPHIA.

A NEW NAME SUGGESTED FOR THE SECTION.

We live in an age of specialism. No man, however ambitious, can any more hope to know all there is to know in medicine. The practitioner of to-day who would even approximate accuracy in his work, must perforce choose his specialty. Nor, indeed, is specialism a new thing, for, as Dr. Jonathan Wright of Brooklyn has pointed out in his recent interesting papers, there are evidences in literature of its having been practiced by the Egyptians more than fifteen hundred years before the Christian era. While these ancient writings contain no direct reference to laryngology and otology, it is interesting to note that Herodotus mentions "diseases of the head" among the specialities of Egyptian medicine. Thus may we not infer that the newest of our triad, rhinology, may be in fact the oldest and the first to be recognized as worthy of special practice. This being so, are we not somewhat neglectful of our sister specialty in denying her a place in the title of our Section. Making use, therefore, of one of the prerogatives of my position as your chairman, I would suggest that we adopt such measures as may be necessary to have our name changed so that it will read: The Section of Laryngology, Otology and Rhinology of the American Medical Association.

Whatever may have been the status of our specialty in ancient times it now ranks among the first of the specialties in medicine. While diseases of the throat, ear and nose have been recognized for centuries, it has remained for the modern laryngologist, otologist and rhinologist to develop a working classification of these diseases and a rational system of treatment. Indeed, laryngology, otology and rhinology, as we know and practice them to-day, may be said to have had their origin within the memory of us all. Their development and growth have been marvelously rapid and each succeeding year has witnessed important steps in advance. Other and abler men have written their early history, and it is of their more recent progress that I shall have the honor briefly to speak.

THE LARYNX AND ITS DISEASES.

Excellent work has been done in laryngology, although attention has been directed chiefly to the parts above the larynx. Dr. George Avellis of Frankfort-on-Main, who has made some investigations with reference to the singing organs of birds, claims that the larynges of the birds possessing beautiful voices do not differ widely from those not so gifted. He also claims that the laryngoscope reveals no peculiar conformation in the larynges of singers, and that the power to sing depends, not so much on the structure of the larynx as on the mental and intellectual bent of the individual.

Dr. Allen T. Haight, Chicago, describes a new aseptic throat mirror made from solid German silver highly polished and nickel plated. It has a universal handle made of steel and the connection is by ball and socket joint, to allow of easy adjustment to any position or angle. It may be sterilized by boiling.

Laryngectomy is no longer the unusual and dangerous operation it once was, and its results, largely perhaps on account of improved technic, are much more satisfactory, both to the patient and to the operator. Dr. D. Bryson Delavan and others are making some investigations relative to the value of the x-ray in the treatment of malignant tumors of the larynx. Tubercular laryngitis and its treatment still play a prominent part in the discussions of our meetings, and opinions are divided as to the frequency, and even the possibility, of primary tuberculosis of the larynx and as to the efficacy of radical surgical measures for its cure. Eruptions and ulcerations due to the use of orthoform have been reported by W. Dubreuilh.

Dr. S. Leduce of Nantes has invented a glass tube for the inspiration of remedial powers by which it is said the patient may make the necessary applications to his own throat.

DIPHTHERIA.

Antitoxin has added a new interest to the study of diphtheria. E. von Behring asserts in his book just published in Berlin that inasmuch as the Klebs-Löffler bacillus may be found in the throats of about 10 per cent. of the entire population it must in many cases either be of a non-virulent type or else some individuals are immune to its infection. The comparative immunity of physicians to the disease he ascribes to the unconscious auto-inoculation of the virus in small doses, and he suggests a more general immunity, and the final disappearance of the disease altogether, by the use of antitoxin inoculations. Should these views prove to be correct, the future treatment of diphtheria will consist largely in its prevention, not as at present by the isolation of those having been exposed to the disease, but by removing the natural predisposition to infection with antitoxin injections.

Dr. J. W. Steele, in some late statistics on the use of diphtheria antitoxin, has shown that the former death rate of 65 per cent. has been reduced to 16 per cent.,

and Dr. H. G. Jump reports excellent results from the inoculation of every child exposed to diphtheria with from 250 to 500 units of the antitoxin.

Some one has pointed out the fact that the virulence of the Klebs-Löffler bacillus is not a constant factor but has its periods of fluctuation, and that we may now be passing through a period in which the disease manifests itself in a mild form, and therefore antitoxin may not possess all the virtues that have been claimed for it. Of course, time alone can determine this point.

INTUBATION.

Dr. I. Dioniato, Turin, has introduced perforated intubation tubes in which he claims that the danger of sudden obstruction is almost entirely obviated by the circulation of the air through the perforations above the point of occlusion, and in 33 cases reported expulsion of the tube in only one case, whereas without perforation it occurred in about 18 per cent. of cases.

Dr. E. Collette of Anvers, Antwerp, reports the successful removal of intubation tubes with the electromagnet. The operation is easily performed, instantaneous and specially serviceable in cases of impending danger due to sudden obstruction of the tube.

Dr. Rudolph Matas of New Orleans has devised a graduated air pump for artificial respiration by direct laryngeal intubation with a modified O'Dwyer tube.

Dr. F. Kuhn of Leipsic has devised a flexible oral intubation tube which extends from the larynx out through the mouth. It is indicated during narcosis for operations on the upper air passages. It is said to prevent the aspiration of all secretions, and to make it possible to thoroughly pack the nasal and oral passages without interfering with the breathing. In cases of asphyxiation the air may be blown through the tube into the lungs.

ANESTHETICS.

Dr. H. P. Moser describes an apparatus for administering anesthetics, in operations on the respiratory tract, in which ether is forced through a tube by means of a bellows, the tube being held sufficiently far away from the mouth and nose of the patient to allow the operator to work unhampered by the administration and the patient is kept in a sitting posture.

Dr. William A. Briggs advises the mentholization of the mucosa of the air passages before, during and after etherization, and claims the following advantages: 1. Entire freedom from cough and the sense of impending suffocation, and comparative freedom from nausea, vomiting and retching. 2. The rapidity with which anesthesia may be induced and the ease and smoothness with which it may be maintained. 3. The entire absence or marked abbreviation of the period of excitement. 4. Economy both of ether and of time. 5. Profounder first anesthesia, under which minor operations may be done with more certainty. 6. Probably less post-operative nausea and vomiting.

Dr. George W. Crile has made some further investigations relative to the use of local applications of a weak solution of cocain and eucain in operations about the pharynx and larynx, and he claims that they prevent reflex respiratory inhibition, and that cardiac inhibition may be overcome by the hypodermic injections of atropin.

FOREIGN BODIES.

Dr. Roaldes has reported the results of special study of the technic of removing metallic foreign bodies from the air passages by means of a magnet. He is convinced that improvement of the technic would make it possible to remove such foreign bodies from the bronchus through the mouth by means of the combined use of a strong magnet and fluoroscopy and bronchoscopy.

Dr. A. Coolidge, Jr., Boston, speaks of the ease with which foreign bodies may be removed from the trachea and bronchi through a straight tube placed in a previously made tracheal opening, artificial light being reflected into the tube from a head mirror. This would seem to be a decided improvement over the old method of hunting blindly for such bodies. Dr. J. A. Killien reports the removal of a fishbone 22 mm. long from the left bronchus of a child three and a half years old, under control of the eye by means of bronchoscopy without injury to the tissues.

LOCAL ANESTHETICS.

Dr. Chas. A. Elsburg reports some cases illustrating the value of adrenalin chlorid, in the proportion of 1 to 5,000 to 1 to 20,000 solution, in conjunction with a sterile solution of eucain, cocain or Schleich's mixture for local anesthetics in minor surgical operations, to do away with the oozing of blood from the wound, and he claims that inasmuch as adrenalin is a cardiac stimulant it has the additional advantage of counteracting the depressing effect of either cocain or eucain, and it prevents congestion and pain after the anesthetic effects have worn off. A new local anesthetic, aconin, has been described before the French Academy of Medicine by Dr. Chauvel, and he claims that it is not toxic. Herter and Richards have shown that injections of adrenalin solution into the abdominal cavity of dogs has invariably produced well-marked glycosuria, and that 1 c.c. of adrenalin solution (1-1000 c.c. of water) applied to the surface of the pancreas was followed within ten minutes by the appearance of sugar in the urine.

WHOOPING COUGH AND ANGINA.

Dr. de Lamalleree reports remarkable results from the treatment of whooping cough with the inhalation of formic acid vapors.

Dr. William Cheatum, who has made a special study of the relation of angina to rheumatism, concludes that although the two diseases have many etiologic points in common their connection, although undoubted, is in many cases not yet clearly established.

Dr. Emil Mayer has been the first in this country to report a case of ulcerative angina in which was found the fusiform bacillus and the spirillum of Vincent. The difficulties and importance of making a differential diagnosis between this ulceration and chancre of the tonsil were clearly demonstrated.

THE TONSILS AND TONSILLOTOMY.

The function of the tonsil, and the indications for operative measures on the lymphadenoid tissue composing "Waldeyer's ring," still furnish a wide field for discussion. Opinions vary all the way from that of Bosworth, who stated some twenty years ago that practically there is no tonsil in the healthy throat, and who still is inclined to adhere to this view, to the opinion of those who claim that it is a normal physiologic structure with well-defined functions and that it should not be subjected to surgical interference except on evidences of the development of well-marked pathologic conditions. A careful review of the literature would seem to indicate that the latter is the more widely accepted view and that a wholesale removal of this tissue in the absence of any pathologic indications is not to be recommended.

That the complete removal of faucial tonsils may prove to be at least a temporary detriment to the voice has been shown in several cases coming under my own observation, and Dr. H. Lambert Lack of London claims that loss of the singing voice often follows the operation. I am convinced, however, that this is only a temporary loss due to the new condition in the pharynx, and that a little careful practice will always restore the voice and in those cases in which the operation has been well advised and skilfully executed there will be given to the voice additional beauty and power.

The various operations for the removal of the tonsil are beginning to be regarded with more and more trepidation on account of the danger of hemorrhage, both primary and secondary. Our present fear of accident is by no means a new thing, for the celebrated Italian surgeon, Fabricius, after describing the operation for tonsillotomy as performed by Celsus and Paulus Ægineta, says: "Wherefore we may gather that it is not entirely safe or easy to carry out the operation." "Consequently," to quote from Dr. Jonathan Wright, "he advises seizing the tonsil with a long forceps and drawing it out so that by skilfully making traction the tonsil as of its own accord will follow." Not many of us, I think, would be willing to submit our own throats to such a procedure or attempt to practice it on others. Damianos states that there are on record about 150 cases of severe hemorrhage following tonsillotomy, and that 7 of them proved fatal. He adds to the list another fatal case in which the incision passed through the plane of the outer capsule of the tonsil and divided the tonsillar arteries, which failed to contract or retract. He advises against the complete ablation of the tonsil on account of the danger from this source.

Dr. H. A. Leipziger also protests against regarding tonsillotomy as a minor operation, and thinks it should always be done in a well-appointed hospital, where ample opportunities exist for the control of hemorrhage. He is of the opinion that this accident is due to vasomotor influences which may be excluded by syncope or unconsciousness, and this he obtains by hypodermics of morphia. Secondary hemorrhages following tonsillotomy have also been reported by Drs. Homer M. Thomas, Henry Gradle, Otto T. Freer, W. L. Ballenger, N. H. Pierce, W. M. Casselberry, Lee Weber, Dunbar Roy and S. J. Knapp.

Dr. W. W. Keen, in reporting two cases of ligation of the external carotid artery for severe hemorrhage following slight operations in the pharynx and nose, takes occasion to emphasize the simplicity and effectiveness of the operation. It takes but a few minutes and it probably saved the lives of the two cases described. It would seem to follow that every throat and nose surgeon should be prepared to do this slight operation.

Dr. Crile has tried the experiment of temporarily clamping the carotid arteries in 19 dogs to prevent hemorrhage in operations about the head and neck. He also reports 18 clinical cases ranging in age from 7 months to 79 years in which this method was used with satisfactory results.

ADENOIDS.

The drift of opinion is more and more toward the early and complete removal of hypertrophied pharyngeal tonsils. Drs. E. J. Moure and Lafarelle, Bordeaux, France, have recorded the results of their examinations of 60 anatomic sections of the nasopharynx and the clinical study of 92 cases of adenoids, showing a great diversity in shape and size of this cavity and the impossibility of operating successfully in this region with instruments of fixed size and shape. They claim that digital examination should be made in all operative cases to ascertain whether the shape is, 1, arched; 2, contracted; 3, irregular with a recess; these being the varieties illustrated by cuts from actual preparations.

Dr. O. Stewart reports the removal of an adenoid mass measuring three-eighths of an inch in length by three-quarters of an inch in depth, from a child eleven days old, with immediate relief of the symptoms which were snoring and inability to nurse.

That there are still those who think that the removal of adenoids by operative measures is not necessary is indicated by the fact that Lapeyre reports the rapid disappearance of adenoid symptoms in twenty-eight cases by the internal administration of the tincture of iodin, in doses varying from 16 to 18 m. per day, in patients ranging from 5 to 9 years of age.

CLEFT PALATE.

Dr. G. V. I. Brown, in operating for cleft palate and harelip, advises approximation of the sides of the bony cleft by means of an apparatus for drawing the lateral halves of the superior maxillary bone toward each other and holding them there for some time prior to the operation for complete closure of the cleft. He also mentions a point to which your chairman has repeatedly referred, namely, that unless the operation is done early in the life of the patient the faculty of speech is not much improved, and that a complete change in the methods of articulation must be established by means of suitable mental and physical training.

W. Arbuthnot Lane, an English surgeon, recommends that the cleft be closed in the fourth or fifth week, and he mentions among the advantages of the early operation the fact that, the vessels being small, only a trifling amount of blood is lost, whereas in older persons the bleeding is often profuse. His method of operation when the cleft is large is to raise a flap of the mucous membrane and periosteum from one side and turning it over to suture it to the freshened margin of the other side, and he recommends the ligation of the palatine vessels to avoid hemorrhage.

Dr. George A. Raymond, a dental surgeon, asserts that the use of mechanical appliances is the best means for giving anything like perfect speech in cases of cleft palate, and this is probably true, unless the operation be done in the early weeks of childhood.

PARAFFIN INJECTIONS.

The saddle-back nose has received considerable attention during the year. Dr. F. W. Gwyer remedies this condition by means of a flap taken from the tip of the nose, and he renders the broadened alæ more shapely by removing a portion of the cartilage on either side. The operation that has attracted special attention, however, is the one devised by Gersuny. It consists in the subcutaneous injection of paraffin, and he has reported 40 cases successfully treated by this method. Broeckaert reports two successful cases of sunken nose greatly improved by Eckstein's method, which differs from that of Gersuny only in that the paraffin is of a higher melting point. He claims that the result is perfect, and that the operation will replace many of the tedious and delicate operations of plastic surgery. Dr. Scanes Spicer exhibited before the London Laryngological Society an interesting case successfully treated thus. Drs. Harmon Smith and F. J. Quinlan of New York City also report excellent results in many cases. Mr. R. Lake exhibited before the London Laryngological Society a case in which he injected paraffin into the inferior tur-

binate bodies for the relief of atrophic rhinitis, and the patient claimed to have experienced marked relief from all the symptoms.

Dr. John O. Roe has shown photographs of a patient kicked by a horse. The tip of the nose and the cartilaginous portion of the septum was torn away, and most excellent results were obtained by means of plastic surgery, using the inner portion of a thick upper lip.

Dr. John W. Murphy has exhibited some sections of a head previously hardened in a 3 per cent. solution of formaldehyd. The process of hardening continued over a period of three years, during which time the solution was changed every three months. Judging from the photographs of the plates the results were most satisfactory.

As a preliminary to intranasal operations Ostmann of Marbury recommends the obliteration of the blood vessels of the nose.

Dr. S. S. Bishop reports the removal of a rhinolith weighing seventy-one grains. On account of its great size he was obliged to take it away in sections after crushing it with powerful forceps. J. M. Ingersol of Cleveland reports the removal of a rhinolith weighing two drams. It was also removed in sections, and in one piece was found a bean which the patient recalled having put in his nose when a small boy about thirty years before.

Dr James Sawyer recommends a powdered desiccated suprarenal gland in the treatment of hay fever. Full pathologic effect has been obtained, and the drug is used for this purpose both locally and internally. Fink reports the apparent cure of eleven cases of hay fever by the insufflation of aristol into the maxillary antrum.

OPERATIONS ON THE SEPTUM AND TURBINATES.

Dr. Chas. H. Baker of Michigan reviews six so-called indications for the removal of the middle turbinal bone, and Chevalier Jackson regards the inferior turbinal of the concave side of the nostril as a frequent cause of deflection of the septum and recommends its removal at the time of operations of septal deflections. Dr. Walter J. Freeman has published an excellent thesis on the nasal septum.

Dr. Otto T. Freer describes the correction of septal deflections, after the manner of Krieg and Baenninghans, by the dissection of the deflected portion of the cartilage with no untoward results, such as tilting or falling in of the nose, and your speaker reports excellent results in the removal of the anterior two-thirds of the cartilaginous portion of the septum which was dislocated and projecting through the vestibule, presenting a somewhat unsightly appearance. Although a slight perforation was made in the mucous membrane of the opposite side during the dissection, it promptly healed and there is now scarcely any evidences of the operation. That this method will take the place of the Asch operation to any great extent is extremely doubtful. Dr. D. Braden Kyle has described some improvement on his own operation for correcting septal deflections by means of V-shaped incisions.

Flatau reports the cure of two cases of atrophic rhinitis by the implantation of a row of ivory pegs at the point of insertion of the inferior turbinated bone and that the operation under cocain was a very simple one.

Thomas H. Halsted of Syracuse, N. Y., reports a case of sudden blindness from empyema of the right maxillary and the ethmoidal and sphenoidal sinuses.

Not many of us will follow the example of Furet, who has gone through a healthy maxillary sinus for the purpose of trephining the sphenoidal sinuses. Bryan, Jansen and Luc have reported similar operations on the sphenoidal sinuses, but only when the maxillary sinus was also diseased. Furet claims that we are justified in doing this operation in all cases of sphenoidal sinusitis complicated with cerebral symptoms, and also in cases occurring of persons with narrow or malformed nasal fossæ.

THE ROENTGEN RAYS.

Mr. Lawrence of London reports a case of improvement of that rare condition, tubercular rhinitis, by the application of the Röntgen rays, a treatment which has proved to be of value in cases of lupus of the skin, and Mr. de Santi two cases of lupus of the interior of the nose, one treated by the Röntgen rays and the other by the internal administration of urea, ten grains to the ounce of water, combined with local curettage and lactic acid applications.

The *x*-ray has also been used by Dr. John H. Phillip to determine the location and size of the frontal sinuses, and the importance of this procedure is well illustrated by a case reported by Dr. Jonathan Wright, in which, the frontal sinus being absent, the frontal bone was perforated and the dura mater wounded with disastrous results. Dr. M. H. Cryer also speaks of a postmortem case in which the brain substance extended into the sinus and was partially removed before the nature of it was known. Drs. Chas. K. Mills and G. E. Pfahler reported some cases of clinical localization of brain tumors by the Röntgen rays.

Dr. Victor Alsen reports five cures of chronic empyema of the maxillary antrum by an operation through the canine fossa, which is intended to bring about a complete obliteration of the antrum by cicatricial tissue, and he claims that it is the only operation hitherto devised for the disease that can in any sense be called radical.

Dr. L. H. Pegler exhibited before the Laryngological Society of London a woman, aged 23, who was unable to breathe through her nose, although the passages were unobstructed, and who had a defective speech known as rhinolalia clausa. A large pad of adenoids and turbinal hypertrophies on both sides had been removed, leaving the nasal chambers entirely free, but after the operation the symptoms grew worse instead of better. It was regarded as a case of hysterical incoördination of the muscles of the soft palate and pharynx. A course of physical and mental training such as is used in hysterical aphonia would give, doubtless, the desired relief. Dr. Dundas Grant also reports a similar case, in which he considered the trouble to be due to anesthesia of the nasal mucous membrane. The patient could not feel the air and therefore thought she could breathe only through the mouth. This is probably the explanation of many cases of subjective obstruction.

DIAGNOSIS AND TREATMENT OF DEAFNESS.

Marage has invented an instrument for testing the hearing and massaging the drum membrane by means of the fundamental vibrations of the vowel sounds. As a therapeutic measure he claims for this practice marvelous results. Hearing was restored to normal in several cases of extreme deafness, and successful results in many cases of sclerotic otitis in which all other methods had failed. The special value of the procedure consists in the fact that the vibrations received by the ear drum approximate the normal vibrations of speech, and they serve the double purpose of massaging the ear drum and educating the auditory speech centers.

Dr. B. A. Randall emphasizes the value of binaural hearing, and thinks that because a person's ears may be engaged in hearing each a different thing from the other at one and the same time it is important that both should be kept in normal condition.

E. Amberg has invented an acumeter in which a steel ball of given weight falls on a metal plate. Great precision is claimed for the instrument, and examination of different patients by different physicians can be compared.

The use of the electric bougie for the dilation of strictures of the eustachian tube is still being held under judgment. While it may not have the wide application that some have claimed for it, and, like many good things, may be productive of great injury in unpracticed hands, it undoubtedly has its special indications.

Dr. F. R. Packard reports two cases of pus discharging from the parotid gland through the fissure of Santorini, the drum membrane being intact.

The importance of examining the ears in every case of severe acute pneumonia in children is pointed out by T. Stacey Bilson, who believes that otitis media is present in the majority of fatal cases of this disease.

Dr. M. G. Ward claims good results from the use of formalin in suppurations of the middle ear, and states that many of the disagreeable symptoms, such as fetid odor, discharge, etc., are promptly relieved.

Dr. H. Gaudier recommends the instillation of methylene blue in otitis media and fetid otorrhea of children. Dr. A. Ghon gives evidence to prove that the *Micrococcus catarrhalis* is pathogenic and that it closely resembles the pneumococcus and the influenza bacillus.

For more than a year Dr. E.P. Snydacker of Chicago has used the microscope as an aid to the diagnosis and prognosis of chronic suppuration of the middle ear, and he thinks that bacteriologic examinations of middle ear discharges have no value whatever in determining the outcome of the disease.

Dr. Chalmers Watson uses a preparation of bone marrow, which he calls myelocene, in the treatment of deafness from middle ear origin. He claims that this product produces an internal secretion which acts as a powerful prophylactic against the action of bacteria.

THE MASTOID.

The indications for surgical intervention in mastoid disease are not yet well defined, for the symptoms bear no distinct relation to the pathologic conditions within the mastoid process. Auscultation of the mastoid by means of a stethoscope and tuning fork is strongly recommended as being of a diagnostic value.

Dr. G. Alexander reports eleven cases of mastoid operation in Politzer's clinic, under cocain anesthesia, and so successful was the procedure that he recommends the method in all cases where the coöperation of the patient can be secured.

Dr. C. A. Ballence reports a case in which a ragged opening in the dura one-third of an inch in diameter, through which the brain was visible, and a clear fluid escaped, was successfully closed by a graft of epithelium. Skin grafting after mastoid operations has come to be an important feature of aural surgery.

FOREIGN BOOKS RECENTLY PUBLISHED.

The Accessory Sinuses of the Nose, Their Surgical Anatomy and the Diagnosis and Treatment of Their Inflammatory Affections. A. Logan Turner. M.D., F.R.C.S.

Purulent Nasal Discharges; Their Diagnosis and Treatment. Dr. Herbert Tilley, B.S., F.R.C.S.

A Handbook of Diseases of the Nose and Pharynx. Fourth Edition. James B. Ball, M.D.

Atlas of Diseases of the Nose, of Its Accessory Cavities, and of the Naso-Pharynx. Dr. H. P. Gerber.

Diseases of the Nose and Pharynx. Fourth Edition. J. B. Ball, M.D.

The Surgical Anatomy and Operative Surgery of the Middle Ear. A. Broca. Translated by Macleod Yearsley, F.R.C.S.

Diseases of the Upper Respiratory Tract: The Nose, Pharynx and Larynx. P. Watson Williams, M.D.

Diseases of the Nose and Throat. Second Edition. F. de Haviland Hall, M.D., F.R.C.S., and Herbert Tilley; M.D., B.S., F.R.C.S.

A Monograph on Laryngeal Phthisis; or Consumption of the Throat. Richard Lake, F.R.C.S.

Therapeutics of Diseases of the Ear. Drs. M. Lermoyez and M. Boulay.

History of the Diseases of the Larynx. Dr. C. Chauveau.

Diagnosis and Treatment of the Nose. Second Edition. Dr. J. Garcel.

Atlas of Diseases of the Nose. Dr. Robert Krieg.

Hare-lip and Cleft Palate. Dr. R. W. Murray, F.R.C.S.

Diphtheria: Its Definition, Pathogenesis, Diagnosis and Prophylaxis. Prof. E. von Behring.

AMERICAN BOOKS RECENTLY PUBLISHED.

A Text-Book of Diseases of the Nose and Throat. Second Edition. D. Braden Kyle, M.D.

Essentials of Diseases of the Nose and Throat. Dr. E. B. Gleason.

The Diseases of the Respiratory Organs, Acute and Chronic. Wm. F. Waugh, A.M., M.D.

The Eye, Ear, Nose and Throat Year-Book, Vol. III, of the Practical Medicine Series. Edited by Dr. G. P. Head, with the Collaboration of Drs. Casey A. Wood, Albert H. Andrews and T. Melville Hardie.

The Nose and Throat. New (2d) Edition. Dr. Cornelius G. Coakley.

A Text-Book on Diseases of the Ear, Nose and Throat. Drs. Chas. H. Burnett, E. Fletcher Ingals and James E. Newcomb.

Studies of the Internal Anatomy of the Face. Dr. M. H. Cryer.

A Chart of Diseases of the Lungs, Pleuræ, Bronchi, Trachea and Larynx. Dr. Edward C. Hill.

A Treatise on the Diseases of the Throat, Nose and the Associated Affections of the Ear. Dr. Chas. P. Grayson.

Original Articles.

ILLUSTRATIVE CASES OF CEREBROSPINAL FEVER.*

J. P. CROZER GRIFFITH, M.D.
Clinical Professor of Children's Diseases in the University of Pennsylvania.
PHILADELPHIA.

The tendency of infectious diseases to exhibit themselves in certain well-differentiated forms or types is perhaps particularly well seen in cerebrospinal fever. So true is this that although the complex of symptoms is exceedingly characteristic in the cases of average severity, the variations on the one hand to the malignant form, or, on the other, to the extremely mild or the abortive type are so great that the diagnosis may be rendered very difficult.

The title "Cerebrospinal Fever" has been chosen advisedly instead of cerebrospinal meningitis, because I have in mind here the disease which appears to be a specific infectious one, coming generally in epidemics, and having a certain definite though varying group of symptoms. It is by no means certain that this affection differs in any way from cerebrospinal meningitis not of an epidemic nature. From this latter point of view the cases are, of course, very much more numerous and the symptoms still more varying. All of the cases used in this paper with the exception of the last are, however, instances of the epidemic form of the disease, and in the last one the symptoms are so typical of one of the forms that I have used it for the sake of illustration.

Just a short sketch of the ordinary symptoms of the affection may not be out of place. The disease is not a very common one in this country as compared with some of the other infectious disorders. Its symptoms vary greatly in different epidemics and in different cases in the same epidemic. To follow one of the simpler methods of subdivision we may divide the cases into the following types: (1) the ordinary, (2) the malignant, (3) the mild, (4) the abortive, (5) the intermittent, (6) the chronic.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

1. In the ordinary form prodromes may be present, but are usually absent. When present they last a few hours up to a few days and are very indefinite in nature. The attack begins with headache, vomiting, fever, and in adults a chill. Children often have convulsions. The face has an expression of pain. Very soon stiffness and pain in the neck and back develop. This is very characteristic. Headache, photophobia, irritability and other evidences of meningitis are marked. The forearms are flexed on the arms, and the legs on the thighs, the head is often very much retracted, there is intense pain and decided general hyperesthesia. Delirium is common, the bowels are constipated, the abdomen often retracted, herpes is frequently seen and petechiæ often develop. Convalescence may begin in one or two weeks, but is often deferred much later.

2. In the malignant form the disease begins with extreme suddenness and the symptoms appear at once and in the most intense way. Collapse with coma soon develops. General convulsions are common. Death occurs in a few hours.

3. In the mild form the patient may be so little ill that he hardly needs to go to bed. There is severe headache, possibly nausea, rarely vomiting and but little or no fever. The neck may be slightly stiff. The diagnosis is almost impossible in sporadic cases.

4. In the abortive form the disease begins as in the ordinary type, but recovery suddenly takes place in two or three days.

5. The intermittent form exhibits intermissions in the symptoms which suggest malarial fever, but which do not occur with any definite regularity.

6. In the chronic form the case drags on for weeks. There is vomiting, irregular fever, sometimes temporary improvement followed by disappointing relapses and progressive and extreme emaciation. I have never seen greater wasting than may take place in this condition.

With the purpose of emphasizing the variation in the symptoms which this disease may show rather than with the thought of advancing anything new on the subject, it has seemed to me of possible interest to present to you the following histories of three different family epidemics or outbreaks of the affection, and of two chronic cases, one of which occurred sporadically. Though I have seen many other instances of the disease I will make no reference to them, as they illustrate no special point.

The first of the epidemics which I shall record occurred in two sisters whose parents fled with them from the board of health of one of the towns of Pennsylvania to Philadelphia. They entered the Children's Hospital and were found here by the local health authorities, but were allowed to remain with us. Their clinical histories are as follows:

Case 1.—Minnie W., 4 years, 4 months of age; admitted to the Children's Hospital, Philadelphia, May 2, 1893. She was one of three children, the youngest a baby of 1½ years, and the other entering the hospital at the same time as herself. Though weakly at first she became a strong child and had never had any serious illness until the present one. She was not at all well on the night of April 30. Awaking on the morning of May 1 she refused to eat, was thirsty and vomited. The vomiting continued throughout the day. The child lay on the lounge, constantly calling for water, was restless and dull, but recognized her parents. The bowels were moved twice on the night of May 1. On May 2 the thirst was still intense, although vomiting occurred every time that water was taken.

Examination on admission showed the child extremely restless and throwing herself about the bed. The mind was evidently not clear, the head was somewhat retracted, the tongue coated, the pupils dilated and not responding to light. Small purpuric spots about the size of a pinhead were scattered over the trunk, especially over the abdomen.

During the day restlessness continued. There was some cyanosis and the pulse was weak. Bromid of potash given by the mouth was vomited. By afternoon stiffness and retraction of the neck had increased decidedly; there was gritting of the teeth; the *tâche meningitique* was not well marked.

The child continued in much the same condition for about twelve days, with the mental state slightly improving. The head was then only slightly retracted, and the mind seemed for the most part clear, the pupils having been normal for several days. She slept much, though lightly, and she had been able for some days to lie upon the back. She continued to lie quietly most of the time, though sometimes fretful, with no retraction of the neck during most of the month of May. There was no stiffness of the neck. On June 1, i. e., about the thirtieth day of the disease, it was noticed that she was still irritable. On June 27, nearly two months from the onset, a note was made that she was, on the whole, steadily improving, talked to her father, tried to sit up, and fed herself, although still very weak.

The temperature had been elevated at first, reaching frequently 104, and then gradually falling, finally showing well-marked morning remission with evening rise. It did not remain continuously normal until about May 27, a period of twenty-five days from the date of admission.

The child was taken home shortly after the end of June, and some months later was brought back to the hospital on account of absolute deafness, which the aural surgeon reported to be due to the cerebrospinal fever.

Case 2.—Rose W., 3 years, 4 months; admitted to the Children's Hospital the same day as her sister—May 2, 1893.

She had always been well except for measles a year before and an attack of vomiting three months ago. She was taken ill with the present attack April 27, with pain in her foot. Swelling of the face then developed, but soon disappeared. Very soon after this the neck became stiff and the head retracted. On the first and second night of the disease she was extremely restless with constant jactitation. After that she was stuporous, calling for water at times, crying out when disturbed as though in pain, with opisthotonos, marked cyanosis, and small reddish spots on the trunk.

Examination on admission, the fifth day of the disease, showed the child stuporous, occasionally crying for water, and not putting out the tongue when requested. The head was much retracted, the pupils dilated and not responsive to light. The reddish spots mentioned were found on the back and chest. By afternoon there was a very marked arching of the back and retraction of the head. Efforts to straighten the body gave pain. The spots were not so numerous as on admission. They disappeared on pressure. The *tâche meningitique* was slightly marked on the abdomen. For over a week from this date the mental state improved somewhat and the retraction of the head seemed disappearing. By May 12, two weeks from the onset, the child was talking, and interesting herself with objects given her. By this time there was little retraction of the head, although passive movement of it caused pain. She had been excessively irritable for a time, but this had now nearly disappeared. The expression of the face was entirely intelligent. After this date up to the end of the first month she was not so well. The retraction of the head and the irritability had returned. Removal to the general ward had been followed by an increase of symptoms, and she was again put in a separate room. By May 22, the twenty-fifth day of the disease, she was comatose, with extreme opisthotonos, resting on her head and nates. By May 29 this was slightly better, but she lay entirely quiet, unconscious, with dilated pupils, staring eyes and frequent twitching of the eyeballs. The *tâche* on the abdomen was now very marked. From this time on she grew steadily worse. Emaciation was decided. Sensation to pin-prick seemed entirely absent. On June 27, two months after the onset, a note was made that she had continued lying almost like a log, with forearms extremely pronated, wrists flexed at a right angle, feet in extreme extension, ankles, elbows and wrists stiff, fingers and

thumbs flexed, pulse weak, swallowing difficult. Ecchymotic and purpuric spots, most of them minute, were scattered over the trunk and to some extent on the legs and arms. This condition continued until July 11, two and a half months from the beginning of the affection, the body becoming covered with a widespread purpuric eruption. Unconsciousness persisted, the child lying like a log. She died on this date.

These cases illustrate a grave form of the disease; the first recovering after a long illness and showing one of the sequels, absolute deafness, which is not an infrequent result in this affection. Both cases were treated with occasional doses of bromids and with the persistent administration of opium in fairly large amount. The second case illustrates very well the extreme opisthotonos which may develop, the head at times almost touching the back between the shoulders. It showed also the widespread purpuric eruption which sometimes occurs in this disease, and the temporary improvement followed by relapse, which unfortunately is not an uncommon occurrence.

The second epidemic was most interesting, showing three types of the disease: the malignant, the one of average severity and the very mild. All three were members of one family, two of them being admitted to the Children's Hospital on the same day.

CASE 3.—Charles K., 2 years old; admitted to Children's Hospital on Feb. 23, 1900. The child was taken ill the day before with symptoms not well defined or described. He was brought to the hospital on account of convulsions. There had been no irregularity of the bowels. On admission he was in violent convulsions, with a temperature of 101 degrees, which rose to 103 by 4 p. m., when he died, the convulsions having continued unabated.

CASE 4.—Joe K., 4 years old; admitted to the Children's Hospital on Feb. 23, 1900. He was taken ill February 15 with fever. The bowels had been regular. On admission, i. e., the ninth day of the disease, he was found to be unconscious, arousing slightly when disturbed. There was occasional gritting of the teeth. The pupils reacted to light, the face was pale, the neck stiff, the heart, lungs and abdominal viscera normal; a well-marked *tâche meningitique* was present; the knees were constantly drawn up; Kernig's sign was absent. During the night he was very restless, crying out almost continuously. On the morning of the 24th his pulse was somewhat weaker; there was twitching of the muscles of the face; the neck was very rigid. The child was extremely delirious and restless, either throwing himself about and climbing up in the bed, or lying on his side with his legs drawn up. The neck was only slightly retracted. He realized when milk was offered to him and drank it. On February 25 lumbar puncture was performed, but no fluid was obtained. By the 28th he was quieter and was more disposed to lie on the back. By March 1, i. e., two weeks from the onset, the legs were at times extended, and he was clearly much better in every way. On the next day he was able to take a glass of milk in his own hands. The *tâche* was still present, although the neck was not so rigid. No eruption had been present at any time. His mind was distinctly clear and the general condition better. From this time on the condition continued to improve until March 9, the end of the third week, when the temperature rose and the throat became red and the nose was discharging. By the end of the fifth week he was very much wasted, the neck was still rigid, a slight *tâche* was present, there was no pain except on moving. The child would smile feebly and put out his hands when approached, but looked weak and ill. From this time on he failed to improve. His neck remained slightly rigid, his appetite diminished, he cried if disturbed. His legs were again drawn up and could not be extended without pain, and the mind again commenced to be clouded, and by April 12, the end of the eighth week, he was unconscious. He again improved somewhat, and was removed by his parents. His after-history is unknown to us.

The temperature of this child was high on admission to the hospital and continued irregularly so until nearly the ninth of March, when, contemporaneously with the general improvement, it was on some days below 100. On the 12th it rose again to 104 or 105 and from this date onward showed great irregularities, reaching sometimes almost normal and sometimes 105. When the child was removed from the hospital it showed still the same irregularity.

CASE 5.—Mary K., 5 years old; admitted to Children's Hospital, Feb. 23, 1900, on the same day as her two brothers. Her previous history and the day of the onset of the disease are not recorded, but she was sent to us with the diagnosis of typhoid fever, and it is therefore probable that she had been ill for some days. On admission she was pale, lay quietly, or cried when disturbed. Her neck was rigid, the pupils reacted to light and were not dilated, the heart and lungs were normal, and the *tâche meningitique* was present on the abdomen. She slept much on this day and on the next. When aroused she was conscious and had an intelligent expression, and protruded the tongue when requested. The head was not retracted, and the legs were extended, although the neck was stiff. When lying on her side the back was slightly hollowed. By February 25 her intelligence seemed entirely good. The child lay comfortably on her back. Her neck was still stiff and passive movement of the head gave pain. On this date lumbar puncture was performed, but no fluid was obtained. On the 28th she had very greatly improved, and seemed to understand all signs made to her (she did not speak English), and her neck was no longer stiff. By March 3 she was entirely convalescent, and by the 10th was out of bed.

Her temperature ranged between 101 and 105 during the early days of her presence in the hospital. From February 26 to March 2 it was about 100, with only slight variation, and after this latter date was practically normal.

This epidemic illustrates, as stated, three types of the disease. In Case 3 the diagnosis could not possibly have been made had it not been for the family history. The course toward the fatal issue was rapid in the extreme. Case 4 illustrates one of the more chronic forms, yet differing from that of the case of recovery of the first epidemic (Case 1). There were never so marked cerebrospinal symptoms, but, as sometimes seen in this disease, the child seemed unable to progress, and the tendency to relapse was very evident. The third case was of so mild a type that a diagnosis could not have been made had it been an isolated instance. The rigidity of the neck was so trifling that it might easily have been overlooked. The child had not at any time seemed particularly ill.

The third epidemic illustrates another very interesting fact, namely, the relationship which this disease, cerebrospinal fever, bears to pneumonia. As is well known, the germ of the two diseases is very probably the same. The cases were seen in consultation with Dr. James C. Chestnut of Philadelphia.

CASE 6.—Frank B., 6 years old; seen for the first time Nov. 18, 1900. The child had been taken ill November 15 with headache, vomiting, high fever and slight cough. On examination nothing was discovered wrong with the respiratory apparatus. On the next day, the 19th, the child still had fever and was very restless and constantly delirious. Severe pain in the back of the neck was occasioned by any movement of the head. There was no *tâche*. On the 20th he was rather dull, delirious, seemed to dread the light, and continued to suffer from the pain in the back of the neck, and to cry out whenever the head was moved. At times there was arching of the body or jactitation. Respiration was rather rapid but easy, fever continued, examination of the lungs showed no positive changes. By November 21, i. e., after six days of illness, he was worse in every way, and the temperature was still high. On the next day he was noticed to be excessively restless nearly all the time, with continued unconsciousness, dilated pupils, high fever, occasional flushing of the skin, well-marked *tâche meningitique*, irregular and often slow pulse, and pain on passive movements of the neck. A blood count on this date gave 32,000 leucocytes.

From this time the child failed rapidly. The tongue grew dry, and inability to swallow developed. Attacks of sinking occurred and the temperature fell to about 102. Examination for Kernig's sign on November 25, the child lying on its back, gave a negative result. Death occurred November 26, after a week and a half of illness. No autopsy was permitted, and even a postmortem lumbar puncture was refused.

CASE 7.—Samuel B., 10 years; seen for the first time Nov. 20, 1900. The child was taken ill suddenly on November 19, four days after the onset of sickness in his brother Frank—with fever, vomiting, headache and restlessness. Examination showed him to be dull, sleepy and not responsive to questions or to the request to put out his tongue. He was irritable, resisted examination, and lay curled up on his side. On the 21st he was rather better, but still had fever. On the 22d his mind was clear; the temperature was still elevated; the *tâche* was present on the abdomen; there was no pain complained of; suspicious physical signs pointing to pneumonia of the right lung were discovered. On November 23, the fifth day of the disease, the temperature fell critically to normal; the *tâche* was still present and the right lung was found extensively consolidated. By the 28th the lung had apparently undergone resolution entirely and the child was quite convalescent.

CASE 8.—Clifford B., 4 years old; seen for the first time on Nov. 18, 1900. He was taken ill about November 11, four days before his brother Frank, with fever and cough. These symptoms had continued with some acceleration of respiration and slight delirium on waking from sleep. Examination showed consolidation of the left lung posteriorly. The abdomen was slightly distended; the liver and spleen normal in size. By November 20, the tenth day of the disease, the child was better in general condition, but the consolidation of the lung had extended. The *tâche* on the abdomen was marked. The child had had no nervous symptoms and his mind was entirely clear throughout. By November 22 the temperature had fallen to normal and the child was convalescing.

Here we have three children taken ill within a week of each other. The first to be affected (Case 8) suffered almost purely from croupous pneumonia, the only symptom suggesting meningitis being a *tâche cerebrale,* which was unusually well marked. Yet this was not, of course, positive proof that meningitis was actually present.

The last child to be taken ill (Case 7) exhibited a condition which could hardly be considered merely symptomatic of pneumonia. It suggested rather a cerebrospinal fever of mild type, such as the third case of the second epidemic (Case 5) exhibited, combined with an involvement of the lung. The remaining child (Case 6) gave a typical picture of severe meningitis with no involvement of the lung discoverable. It is greatly to be regretted that lumbar puncture was not permitted in these cases. Yet even in the absence of positive proof scarcely any other conclusion is justifiable than that all three children were attacked by the same infectious agent, which showed merely a difference in the point elected for its specially deleterious action.

The next case, although isolated, is clearly traceable to a known infection. It was seen in consultation with Dr. George B. Wood of Philadelphia.

CASE 9.—Roscoe L., male, 10 years old, was exposed some time during the autumn of 1898 to cerebrospinal fever while his father was in camp at Tampa, where several cases of the disease were known to exist. The exact details of the case are not known, since a record was not kept, but are about as follows:

The boy came to Philadelphia and about two weeks later developed the first symptoms of the disease and the diagnosis of cerebrospinal fever was made. The case ran a characteristically chronic course for about two months. At times the disease strongly suggested malarial fever, but close observation of the temperature showed an absence of regularity. There was a decided tendency, on the whole, for the temperature to resemble a septic fever, being elevated in the evening and depressed in the morning. With the elevation of temperature the mental state and the general nervous symptoms always became worse, the child being delirious and exceedingly irritable. Apart from these changes there repeatedly occurred periods where convalescence seemed established. In these the temperature remained practically normal, the mind quite clear, and the nervous symptoms absent. Then relapses would occur with fever, retraction of the head, vomiting, rigidity of the spin, and intense pain in the neck. As the disease progressed emaciation became appalling. Towards the end he complained of not being able to see distinctly, although hearing was still good. Vomiting finally became a very pronounced symptom and no food could be retained. He died, practically from starvation, after an illness of about two months.

This case illustrates especially well the repeated disappointing relapses which take place in some of the chronic forms, and the emaciation which may finally result. The boy was as wasted as the most marantic infant I have ever seen.

The last case was for a time a most puzzling one in the matter of diagnosis.

CASE 10.—Charlie W., 6 years old; admitted to the University Hospital on Aug. 9, 1901. Without previous symptoms he was noticed to be slightly dull on the morning of August 5, to refuse his food, and to complain of abdominal pain. The symptoms continued, and on admission to the hospital on the fifth day of the disease he was in a heavy stuporous state, not answering when spoken to, crying when disturbed, with the neck slightly rigid, and the respiration quiet. Examination of the blood showed a leucocytosis of 35,000 and a positive Widal reaction. The urine contained a trace of albumin. The temperature was over 105 F. This condition continued with very little change, with irritability and stupor alternating. The temperature remained elevated except when reduced by tub-baths. There were sometimes drops to 99 F., or thereabouts, without the agency of a bath, but this did not happen often. The child was frequently very nervous, and would cry out when touched. The *tâche meningitique* was present on the abdomen, and there was some photophobia. The leucocyte count reached as high as 43,620 to the cm. on August 11.

Examination on September 7, after a month's illness, showed the absence of any affection of the heart or lungs, and of discharge from the ears. The pupils reacted to light, there was partial paralysis of the muscles of the right side of the tongue and tenderness over the entire spinal column, although most marked in the cervical region. The *tâche meningitique* developed slowly. Babinski's reflex could not be obtained.

The repeated examination of the blood had shown always a high leucocyte count, never below 35,000. The temperature had grown gradually more irregular, and after August 27 hydrotherapy was no longer needed.

The child now improved, although almost imperceptibly. The temperature continued extremely irregular and generally considerably elevated. He was for the most part unconscious, but cried when disturbed. Sometimes he was very restless and fretful at night time. He took his nourishment fairly well. The leucocyte count on September 26 was 22,120. By this time the child was distinctly improving, being decidedly brighter, less fretful by day and sleeping more by night. By October 3, about two months from the onset of the attack, his temperature was often below 100, though occasionally slightly more elevated, and was seldom over 102. He complained frequently of headache and of pain in the abdomen. He seemed to understand everything that was said to him. A few days later the Widal reaction was for a second time positive. Now that he could protrude his tongue when asked to do so, it was noticed that the right side was very greatly atrophied, the left side being normal and the tip being turned to the right. He had great difficulty in masticating and even in swallowing soft food.

He was very tremulous and there was some pain in the neck in passive movement of the head. By November, after an illness of three months, he was still quite sick, although the mental condition was improved. The temperature was now generally below 100, although there were occasional rises to 103 or 104, for which there appeared to be no reason. The bowels, which for a long time had been opened once or twice a day, now be-

came less frequently moved. Early in December, i. e., after four months' illness, he commenced to sit up part of every day and was bright, frequently talking and singing. The condition of the tongue was unchanged. It was not until the early part of January, after five months of illness, that he was able to stand alone, although he was still unable to walk. During his illness he had grown very thin though not extremely emaciated. He was discharged from the hospital at the end of January, about five and three-quarter months from the time of the beginning of the attack. By that time he was apparently nearly well, although still thin and not strong, and still with occasional rises of temperature to between 100 and 101. The number of leucocytes by this time had fallen to 16,800 and the Widal reaction was negative.

The interesting feature of this last case is, as stated, the question of diagnosis. The Widal reaction and the high leucocyte count exactly contradicted each other. It was at first supposed that the child had typhoid fever with possibly some local inflammatory process which accounted for the increased number of white cells. As the case progressed, however, the diagnosis of cerebrospinal fever became more certain, and the remarkable hemiatrophy of the tongue seemed to assure it. From this point of view the Widal reaction must then either have been the result of typhoid fever which had occurred at some previous time in the child's life and had never been recognized, or of an attack of this disease occurring coincident with the cerebrospinal fever. Which of these two suppositions is the most probable can only be surmised.

DISCUSSION.

DR. J. V. KOFRON, Cleveland, Ohio—I should like to ask if Dr. Griffith searched for Kernig's sign, and how much reliance he places on it.

DR. C. F. WAHRER, Fort Madison, Iowa—I had a case in a girl of 3½ years, which had been treated by an intelligent country physician for typhoid fever. As we all know, the symptoms in these two diseases are not always very clear. The child was stupid and had a temperature reaching as high as 106 F., and remaining most of the time at about 102 F., without abdominal tenderness. There had been a slight rash, which had been mistaken for typhoid fever. At the end of two weeks I was asked to see the patient with the physician. From the spinal rigidity and from the application of Kernig's sign, as well as from the general symptomatology, I felt justified in changing the diagnosis to cerebrospinal fever. The subsequent history proved the correctness of this diagnosis. At times there was violent opisthotonos and severe spasmodic contractions were also present, with emaciation to a remarkable degree. While many times the patient seemed to be conscious, she was unable apparently to receive an impression or give one. At times this patient seemed better and at other times worse. I saw the child once or twice afterward and believed she would ultimately recover on account of having held out so well. For ten weeks the disease lasted, the child finally succumbing with symptoms such as have been described in this paper. Would a Widal's test for typhoid and the microscopic test of spinal fluid for the Weichselbaum's bacillus always determine this differential diagnosis?

DR. I. A. ABT, Chicago—What should be done with regard to the isolation of these cases? Should they be treated in the general wards of hospitals? I have seen them treated in the wards and in homes without any attempt at isolation. The experience of Dr. Griffith with this disease, especially as to its epidemic nature, should, I think, lead us to isolate them. The deafness which follows attacks of cerebrospinal meningitis has received attention. It has been shown in connection with a study of the subject of deaf mutism that this condition increases in those years in which cerebrospinal meningitis is epidemic in certain sections of the country. I have in mind a case of cerebrospinal meningitis occurring in a child of 2½ years. The duration of the disease was protracted, and lumbar puncture showed the presence of the *Diplococcus intracellularis*. The child eventually recovered with a marked hydrocephalus. This occurred five or six years ago, and I occasionally see the child now, and find that the hydrocephalus is on the increase. Recently I reported 90 cases of typhoid, which I studied in my hospital practice, and two of these very closely simulated cerebrospinal meningitis. One of them was looked on as an example of cerebrospinal meningitis for a period of one week after admission. The child entered the hospital with severe headache, vomiting and high temperature; opisthotonos was present as well as marked delirium. A lumbar puncture was made and the Widal test at the same time. The former was positive, while the latter gave no growth on the smears. The meningeal symptoms, however, were so marked that we were inclined to regard it as a case of meningitis. At the end of a week the meningeal symptoms subsided, and the typhoid symptoms became more prominent. I know that these cases of meningismus are common enough, nevertheless, when one has such a case under examination for an entire week, wondering whether the Widal test or the results of lumbar puncture will clear up the diagnosis, it seems worth while to emphasize the fact that meningeal symptoms persisting and striking in character may occur in several acute infectious diseases.

DR. T. M. ROTCH, Boston—This is an exceedingly interesting class of cases. In private practice it becomes a very serious matter at times what to tell the parents as to the diagnosis and prognosis. In hospital practice it is not of so much importance. I have had a number of these cases to treat, both in hospital and private practice, in Boston during the last two or three years. The first thing that is asked is concerning the diagnosis, and that is a difficult question to answer. The physical signs of cerebrospinal meningitis in the earlier periods of life are very indefinite at times. One does not get marked symptoms, just as one does not observe in babies marked signs in cases of tubercular meningitis. Nevertheless, we must make a diagnosis. These cases may occur in very young infants without any rigidity of the neck, opisthotonos or any special sensitiveness to touch. I have had a case in a baby three or four days old, in which there was nothing but slight irregular convulsions, and in which lumbar puncture proved conclusively, by the presence of the *Diplococcus intracellularis*, the importance of the case. Lumbar puncture is of great value for diagnostic purposes. Moreover, it is in the very early days—in fact, in the first week almost—that we must use lumbar puncture in order to get positive results. This diplococcus, unlike the bacillus of typhoid, passes away very quickly, so that if lumbar puncture is delayed its results are untrustworthy. This applies even to pronounced cases of cerebrospinal meningitis. In like manner the Widal reaction may show the presence of typhoid, but we do not know at what time, as in the case reported by Dr. Griffith. The Widal reaction lasts for months, and perhaps for a year, after an attack of typhoid. If there is a Widal reaction and a clear fluid following lumbar puncture, without evidence of meningitis, one may be pretty sure that there is a typhoid fever with only the symptoms of meningitis arising from the toxins of typhoid. Typhoid fever, being a benign disease, in the early months and years of life children will get well; on the other hand, cerebrospinal meningitis is an exceedingly dangerous disease. Lumbar puncture has so far not seemed to be curative in cases of meningitis, though most useful in diagnosis. I had a case in my wards last winter which had passed through the acute stages and become chronic. The child was practically idiotic and was failing. I had another lumbar puncture made, simply to see whether the condition could be relieved. There was no question that after the withdrawal of the fluid the child became brighter, and it eventually recovered. One case does not prove anything, but it is interesting, and I may say that I am about to advise this procedure in another case now under observation. I should advise practitioners generally to make use of this procedure more freely in these exceedingly severe and desperate cases. In the cases of stupor and progressive idiocy the lumbar puncture is especially useful. The fluid should be allowed to flow as long as it will drain freely. I do not aspirate it, but allow it to flow under its own pressure. Sometimes only a dram or two are removed; at other times much more escapes. The Widal reaction is very apt not to be found

in the first two weeks of typhoid fever in a child, but when found is positive. Lumbar puncture will also show whether or not there is a typhoidal meningitis. Meningeal symptoms are common in typhoid without meningitis, but there is also a true meningitis caused by the typhoid bacillus. These cases may show all sorts of disorganization of the brain or cord, which may be attributed to cerebrospinal meningitis, but which are really due to the typhoid meningitis.

The fulminating cases are certainly the most dangerous. Usually the favorable cases are those which linger until the second or third week. If the disease lasts longer than this, however, the parents should be warned that the prognosis is more grave. Having passed into the third or fourth week the parents should be told that the child will not die of the acute process, but that the disease has become chronic. Unfortunately, these cases are becoming more and more common, and, as a rule, the prognosis is bad. In Henoch's cases in Berlin, some fifteen years ago, recovery took place. My cases of about ten years ago all died, while within the last few years a certain number of the chronic variety have recovered. Statistics of this kind may, in time, enable us to make a fairly correct prognosis as the disease progresses. The chronic cases are very interesting. At times they go on until the child gets extremely emaciated. Not only this, but rigidity and contractures occur and the child becomes idiotic. Sometimes, however, all these symptoms pass off. I know of such a case in Boston, in which the disease lasted for months and was associated with great mental disturbance, and yet to-day this person is a very bright and intelligent man. We should, therefore, be cautious in giving the prognosis. There is a much better opportunity for recovery than in any other form of chronic central nervous disease. I have now under observation a young baby of twelve months, on whom I intend to resort to lumbar puncture. The case has lasted for three or four months; the child is dull and practically idiotic. These cases of chronic meningitis, as you know, run on with a temperature of 101, 102 or 103 F. for a week, and then the temperature will run for four or five days or more nearly normal, the child meanwhile improving. This will be followed, however, by another relapse. The child I have spoken of has had seven relapses, and, of course, each relapse adds so much more to the danger. It comes finally to a question of nourishment. This baby vomited everything it took after the third or fourth relapse. I then advised the physician to feed it with a tube, and it is now three months that the child has been fed every three hours with three or four ounces of milk introduced into the stomach by means of a stomach tube. The child had lost the power of swallowing, or at least regurgitated everything swallowed in the usual way, but this has not occurred since the food has been introduced by the tube.

To summarize: It is not unusual to find cases in which the diagnosis of cerebrospinal meningitis is not very evident; hence lumbar puncture is useful. Again, tell the parents that the first four or five days are very dangerous, and that another dangerous period comes in the second or third week, the danger then being not so much as regards the sacrifice of life as of the disease becoming chronic and the mental faculties greatly impaired. Lastly, we must keep up the nutrition by every possible means.

Dr. Edwin Rosenthal, Philadelphia—I should like to ask Dr. Griffith if the cases that recover are either right-handed or left-handed. Again, with regard to the treatment, I should like to know if, in the severe cases, hot baths were used. Still another question, is lumbar puncture practiced more than once in the same case?

Dr. Rosa Engleman, Chicago—I should like to ask Dr. Griffith whether any eye examinations were made to determine the condition of the fundus. I have in mind a case of cerebrospinal meningitis in which this was done, and the findings in the fundus were absolutely negative.

Dr. Thomas J. Acker, Croton-on-Hudson, N. Y.—My observation has been that the disease is usually ushered in during the night. The child will go to bed perfectly well, and the next morning will be found very ill. I have seen fifteen or twenty cases that have begun in this way. My experience has been that three remedies can be used with benefit One of these is the bromid of potassium for the convulsive stage; another is the tincture of gelsemium, and the third is Fowler's solution of arsenic. These three remedies judicially used have given me the best results in the treatment of cerebrospinal fever.

Dr. J. P. Griffith—In the title of my paper I used the words cerebrospinal fever rather than cerebrospinal meningitis, not because I am convinced that there is any essential difference, but because my cases, with one exception, were all illustrative of the epidemic type. I have seen a great many more cases in which I could not trace the disease to infection from another case.

Kernig's sign was searched for in some of the cases, but was not present. I am obliged to confess that I am becoming extremely skeptical as to the value of this sign, for I have found it repeatedly absent in many cases of meningitis of various forms. When present, it is of service as corroboration, but when absent we have no proof from that fact alone that the disease is not meningitis. Some of the cases reported occurred before our present interest in Kernig's sign developed.

In connection with the deafness in one of the cases reported, it is an interesting fact that in one institution for deaf-mutes in Germany more cases were due to cerebrospinal meningitis than to any other disease.

The resemblance of cerebrospinal meningitis to typhoid is sometimes particularly striking. I have seen cases which I was sure afterward were typhoid, but which at first I was positive were cases of meningitis.

In answer to the question asked about the likelihood of contagion in the disease, I would say that when the cases of the first family came to the Children's Hospital they were put into a separate room because we did not wish the board of health to take them from the hospital, but that after this danger had passed we put them into the general ward, for, I believe—and I think it is the general opinion—that the disease is no more directly communicable in hospital wards than is typhoid fever. There have been cases reported, it is true, in which the disease has been communicated, but these have been very few and exceptional.

I have been struck with the amount of opisthotonos present in this disease. Yet this alone is not sufficient to make a diagnosis of cerebrospinal meningitis. The most marked case of opisthotonos I ever saw was found afterward to have been due to tubercular meningitis, as shown by lumbar puncture. In another very extreme case there was congenital spastic diplegia present. Lumbar puncture showed no germs. An autopsy could not be obtained.

As regards the employment of lumbar puncture, I agree very thoroughly with what has been said by Dr. Rotch, but I am rather pessimistic as to the real therapeutic value of it. I have never seen any permanently good results from it. Yet as long as there is the slightest hope the procedure should certainly be persisted in. I have done it in cases of tubercular meningitis, hoping for nothing more than temporary relief, and this was, indeed, obtained. Not long ago I was called to do a lumbar puncture on a case at first of doubtful nature, but later found to be tubercular. The child was unconscious, and I removed a large test tube of fluid. A very little while afterward the child was able to speak its mother's name. A few days later I repeated the procedure because the child was again worse, and immediately after this the child was able to swallow food. A third time it was done, but without improvement. I had one case in which there had been a meningitis months before. The child had convulsions at times, lasting for days. These would always be relieved by lumbar puncture, and the child would be better perhaps for several weeks. The case went on in this way for months, but the exact termination I can not recall, except that the child did not eventually recover. This has been my usual experience: that no permanent good was to be expected. Nevertheless, I think it should always be done and the patient given at least the chance. I have not had any observations made on the eyes in most of my cases of meningitis, though it has been done in a few instances.

EPILEPSY—ITS PSYCHOPATHOLOGY, AND MEDICOLEGAL RELATIONS.*

H. A. TOMLINSON, M.D.
SUPERINTENDENT ST. PETER STATE HOSPITAL.
ST. PETER, MINN.

Epilepsy, independent of any gross disease or lesion of the brain, to which it is a sequence, has no distinctive morbid histology, so far as known. Gowers[1] says: "In considering, then, the pathology of epilepsy, we must seek other evidence as to its nature than that which is afforded by the negative anatomy of the idiopathic disease, and must draw our inferences from the morbid changes in organic disease attended by convulsion, from the results of experiment, and from the facts ascertained by the clinical study of the disease."

It is seldom that an opportunity is offered for the study of the histology of the brain in idiopathic epilepsy before the development of those changes which are common to all forms of degeneration, and which obscure everything else. The occasional epileptic who dies of some intercurrent disease, during the earlier stages of his epilepsy, does not present any brain changes different from those found in cases where death resulted from a similar condition, but where no epilepsy existed; and the morbid histologic changes in the cortex in those cases where epilepsy has followed gross disease or traumatism of the brain, do not present anything peculiar nor specific. Therefore we have practically no anatomic basis for the psychopathology of epilepsy. However, we have still to consider the probability that those individuals who become epileptic, do so because of some primary defect in the development of the brain which renders the cortical cells in the motor area abnormally unstable; so that causes of disturbance occurring in infancy, during the period of second dentition, or at puberty, may be sufficient to give rise to these explosive discharges of excessive motor activity, which we know as convulsions, and which have a tendency to become habitual. The fact that, in children, disturbances in the alimentary canal are the most common sources for the origin of the conditions which give rise to the convulsive outbreak, suggests that, as a result of the autointoxication, there are developed changes in the nutrition of the cortical cells, resulting in increased irritability and the production of these undue and untoward manifestations of motor activity.

This view of the pathology of epilepsy naturally suggests the mental status of the epileptic, his stability, and the extent of his cerebral potentiality. In accordance with current physiologic speculation, and the interpretation of the results of experiment, there are three general divisions of functional activity in the cortical portion of the brain mass. Impressions from the general surface of the body and tactile sensations are probably distributed indifferently, and coördinated with relation to such activities as they have previously given rise to. The special sense impressions are grouped in the posterior portion of the parietal, the temporal and occipital lobes; this grouping being the natural result of the necessities of their relation; because, to appreciate the significance of a visual impression, for instance, involves not only the necessity of its relation to a pre-existing similar impression, but also the recognition of the other attributes of the source of the impression, as they come through the other special senses; so that their coördination may result in the proper direction of the motor activity which results through the stimulation of the contiguous area in the superior and anterior portion of the parietal, and the posterior portion of the frontal lobes.

The one cerebral function which is least clearly understood, and yet which is the most important: the inhibitory and directory, almost certainly has its seat in the frontal lobes anterior to the precentral fissure; and the nature of this function necessarily implies that this portion of the brain is concerned principally with the function of intellection. We have direct evidence of this in the fact that mental reduction always advances *pari passu* with the destruction or atrophy of the frontal lobes; that is, the smaller the frontal are in proportion with the parietal lobes, the greater the instability of the individual. Considering the functions of the two portions of the brain, this should be obvious, for if the area for the reception of external impressions is disproportionately large so that the intellectual portion of the brain can not control nor direct them into the necessary channels of activity for the preservation of the organism, the result must necessarily be confusion and incoördination. How, then, shall we apply these deductions?

In order that we may understand the psychology of the epileptic, and appreciate what there is that is distinctive, it will be necessary to consider previously the dominant tendencies in his mental development. If he is congenitally endowed with a defective cerebral structure, we have a right to presume that which experience shows to be a fact: the tendency to the persistence of primitive characteristics, reduction in mental capacity, and the reversion toward the characteristics of a lower order.

Assuming that the individual who becomes epileptic during infancy or childhood, is born with an average cerebral potentiality; the development of some pathologic condition which is serious and persistent enough to bring about the phenomena of an epileptic seizure, and the formation of the epileptic habit; is also powerful enough to check or interfere with the development of the plastic brain mass of the child. Following the usual tendency of such processes, that part of the brain will be most affected which is latest in the order of development and most unstable. The result would therefore be the production of excessive instability, and the establishment of an abnormal irritability, with incoördination in the relation of the activities of the different parts of the brain mass. As the obvious result of this condition, there would be a constant tendency toward undue and irregular discharges of nervous energy; and in the presence of a sufficiently powerful stimulus, indefinite and explosive outbreaks of motor activity, instead of those which were uniform, coördinate, and habitual.

However, we are confronted with the fact that the pathologic or physical conditions which are supposed to be the basis of the epilepsy, are common in the life-history of most people. Prolonged high temperature, gastro-intestinal disease, and other causes of convulsion, are common to many infants; as chronic gastro-intestinal autointoxication and cerebral traumatism are to adolescents and adults: and yet relatively few become epileptic. The converse of this statement is also, in a measure, true; because the epileptic habit often owes its apparent establishment to some relatively trivial cause; but, at least in the majority of these cases, it will be found that the grand convulsion which apparently ushered in

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

1. Epilepsy—Gowers, 2d Edition, p. 214.

the disease was preceded for an indefinite period by attacks of petit mal; or even nocturnal convulsions, which were not severe enough to attract attention by their effects.

It seems necessary to assume, therefore, that no one ever becomes epileptic who has not, what for want of a better name may be designated the epileptic constitution; or, to express the same conclusion in physical terms, a brain mass in which there is a tendency in the cells of the motor area of the cortex, to respond unduly to slight stimuli; thus bringing about an irregular, incoördinate and explosive discharge of motor energy which, if extensive enough, will and does produce unconsciousness from ischemia and shock, just as a blow on the head would. Indeed, it is quite common for insane epileptics, after a convulsion, to insist that some one hit them, and they point to the bruise made by striking the head as they fell, as evidence of the truth of their accusation. It is not probable that so powerful an expression of nervous energy can take place without involving, to some extent, in its effects other portions of the brain particularly, as well as the whole mass generally, as shown by the production of unconsciousness; and this involvement is made apparent by the existence of those manifestations which are termed the epileptic aura; especially that particular form which concerns the subject of this paper, the psychic aura. This form of aura is most common among the epileptics who are hysterical or insane, and may be compared with a dream; as a series of pre-existing impressions incongruously arranged; the vividness of which will depend upon some anticipated or suggested experience of the individual. It is probable that in those cases of epilepsy in which the psychic aura occurs, the loss of consciousness is comparatively gradual, and that the picture formed follows the same course of development, as do hallucination and illusion. The confusion resulting from the approaching cerebral storm, results in the wrong relation of external impressions, to be followed by the formation of a picture in the fast-dimming consciousness, usually untoward, disagreeable, or malevolent; because the nature of the seizure necessarily forces upon consciousness the conception of violence or discomfort; and external impressions of no matter what nature, would liberate in consciousness preëxisting impressions of experiences which had been painful and alarming. There are some cases, however, where there develop out of the physical discomfort attending returning consciousness well defined beliefs with regard to the environment of the victim, and the responsibility of those about him for his condition.

It is true that epilepsy may persist indefinitely and the outbreaks be frequent and extremely serious, without there being any marked mental reduction, but commonly, even in those cases where there is no mental aberration, and especially when the epilepsy has begun early in life, there is a progressive mental reduction, so that some epileptic children are entirely demented by the time they reach puberty. In others the mental reduction is not marked until maturity, when there is developed, as a sequence, a premature senility. This is also true in those cases of epilepsy where mental aberration is associated with the convulsive process. The individual either breaks down during the period of adolescence, in consequence of some profound disturbance, during adult life as from disease, or, more commonly, at the approach of senility. So far, then, as the psychopathology of epilepsy is concerned, we can omit the consideration of those cases in which there is no aberration nor reduction of mental capacity, because the term psychopathology necessarily implies the presence of both.

The more rapid the mental reduction after the establishment of the convulsive habit, the greater the psychic perversion and the more frequent those manifestations of mental aberration which belong to the epileptic; the post-convulsive furor, and automatism. The study of these maniacal outbursts indicates that they are the response to the impelling suggestions of unreasoning fear, following vivid hallucination, usually visual, but sometimes auditory. Or in cases where there is much mental reduction it is the expression of brutal impulse to wanton cruelty, in response to the gross irritation of the convulsive seizure. This latter is, of course, only the persistence in an exaggerated form of the tendency which is one of the most conspicuous survivals of primitive human characteristics. Sometimes these outbreaks, especially in the procursive form, are mere "running amuck," without regard to anything which comes in the way, and with no purpose.

Epileptic automatism implies a lesser degree of mental reduction and the persistence of considerable intellectual capacity. From a psychic standpoint this condition involves the suspension of active consciousness and the projection of activities which have their origin in centrifugally generated stimuli; which in their turn respond, in a regular sequence, to external impressions, without regard to their nature or origin, as shown in somnambulism. The persistence of automatism after the convulsion constitutes what is known as double consciousness. From what we know of the development of the brain functions, it is certain that most ordinary cerebral activities have a definite hereditary representation in the cortex, so that, as the experience of the individual brings them into active use, they become habitual and automatic long before others which are wholly acquired. It is therefore possible, in the presence of some condition which dominates active consciousness, or some defect in the development of the cortical cells, which lessen their potentiality and reduce their capacity, that the functions of relation and coördination of external impressions are for the time being seriously interfered with or even annihilated; and habitual activities, whose acquisition has been aided by heredity, although centrifugally generated, become for the time being the life expression of the individual. In three cases of double consciousness known to the writer the characteristics manifested by the individuals affected were distinctly of the family type; aside from those primitive ones which had to do with immediate self aggrandizement, such as the imperious will, the low cunning, and the lack of moral sense. If chicanery, brutality, or aggressiveness are actively manifested during automatic states the history of the case if carefully studied will show that they are but the exaggeration of traits natural to the individual. Furthermore, it is worthy of note that epileptics in whom automatism or the so-called epileptic psychic equivalent exist will almost invariably be found to be hysteric as well. The term psychic epilepsy has no real significance, because it implies a condition which in the nature of things could not exist; that is, that there was a mental instead of a motor convulsion. It is almost certain that this condition is a post-epileptic phenomenon; where the initial attack is the petit mal, which is obscured by the mental aberration which follows, and is manifested as automatism or a maniacal outbreak. Therefore it is a sequence to the explosion and not its equivalent.

The medicolegal relations of epilepsy cover such a wide field that it is important to understand what we mean by the term before we attempt a classification of those conditions present in epilepsy, which may have a legal bearing or present a legal aspect.

Such relations would imply that, any act of the epileptic which interfered with the welfare of another, or jeopardized the welfare of the epileptic himself, might bring him within the cognizance of the law, to determine, first, as to the nature of the act; next, how far it was habitual under similar circumstances; then the extent to which the epileptic was capable to, and did appreciate the significance of the act or acts, with relation to his environment. Finally, how and to what extent he might be able to appreciate his relationship to his fellows and control his conduct so as not to jeopardize their welfare.

In order to understand these different aspects of the relation of the epileptic to his fellows it will be necessary to understand his position in the family, the community, in society, and those abnormal conditions resulting from his disease, which might interfere with his relations to those about him.

Aside from the convulsion itself, the acts of the epileptic do not differ from those of other men. The question then, is, not the nature of the conduct itself, but how far it is an unnatural and unusual response to the conditions in the environment of the individual which gave rise to it.

The relation of the epileptic to the family does not differ materially from those common to all who are defective or afflicted. Like the hysteric, the epileptic becomes self-conscious, egotistic, imperious in will, and exacting. On account of his condition the family is disposed to yield to him, and protect him so far as is possible from the consequences of his condition or from anything he may do as a result of it. If the parents of the epileptic child do not exercise good judgment, nor appreciate the tendencies which are sure to develop from the lack of proper restraint and judicious training, the result is always serious, so far as the relation of the individual to the community and society is concerned. This is especially true of those epileptics in whom the motor manifestations are transient and slight, while the psychic disturbance is considerable and persistent.

Having been accustomed in the family to dominating its members, to have his slightest desire always acceded to, and to suffer no punishment nor discomfort as the result of any outbreak of temper or aggressiveness which may follow or supplement his epileptic attack, the indifference and want of consideration for his desires and comfort which he finds when he gets out into the world, and is thrown on his own resources, naturally excites his resentment, increases his morbid self-consciousness, and prompts him to believe that the people by whom he is surrounded are not only indifferent to his welfare, but actively aggressive in the manifestation of their dislike toward him.

Under these circumstances the uncomfortable feelings which precede or follow his convulsions, the bruises or injuries he may receive in falling, or his failure to accomplish any set purpose, on account of the want of capacity and persistence, are attributed to the attitude of the community toward him, and he is to that extent a paranoiac.

The persistence of this attitude, with outbreaks of violent temper from slight causes, are usually the first evidences of mental reduction. The loss of intellectual capacity may never go any further, although the mental reduction continues.

If the epileptic has shown evidence of mental aberration preceding or following his epilepsy, and especially if the history of the case shows he has been markedly unstable and hysteric as well as epileptic, the mental reduction, to the point where self-control is easily lost, may be followed by outbreaks of excitement, or the development of persecutory ideas with depression, which characterize the insanity of epilepsy.

Again, none of these manifestations may be apparent, but there may be instead automatism, and its persistence in double consciousness; therefore, the medicolegal relations of the epileptic, paradoxical as it may seem, do not concern his epilepsy but rather the conditions associated with it; not necessarily growing out of it, but on the contrary, probably always due to progressive degenerative changes resulting from the primary condition out of which they both grew.

As a consequence, in determining how far the epileptic may be responsible for his acts, we have to consider, not his epilepsy, but the degree of primary defect in his mental make-up, as manifested by his cerebral potentiality and intellectual capacity.

EPILEPSY: ITS TREATMENT, HYGIENIC, MEDICINAL AND SURGICAL.*

DANIEL R. BROWER, M.D., LL.D.

Professor of Nervous and Mental Diseases, Rush Medical College, and Northwestern University Woman's Medical School, etc.

CHICAGO.

The want of success in the treatment of epilepsy arises from a variety of causes. First, from the speculative character of it, of the pathogenesis of the disease, from the want of careful study of individual cases and the failure to differentiate the various forms, such as the primary essential, the toxic, the traumatic, the accidental, etc., and from the further fact that there is soon established in the epileptic a habit, and this once established is not destroyed by the simple removal of the originating cause of the disease. Not only must the cause be removed, but the habit must be broken up; and then, again, there is present in every epileptic a peculiar mental state characterized by a want of stability, and it is extremely difficult to have him follow any line of treatment long enough and systematically enough to bring about a cure. His tendency is always to fly off at a tangent, reaching out for some kind of treatment that promises more rapid relief.

THE HYGIENE OF THE EPILEPTIC.

The hygienic treatment, so often neglected, is of the greatest importance, and in the primary idiopathic cases it should be disciplinary, pedagogic and dietetic. These patients, who have by inheritance a neurotic diathesis upon which epilepsy has been engrafted, should from the very beginning be taught self-control, restraint of passions and of appetites. They should be obedient, truthful and industrious. They are, as a rule, strongly inclined to indulgence in the stimulating narcotics, tobacco, alcohol and the like. These should be eschewed by them *in toto*. Another point: Their sexual organs are early brought into activity, and they should be warned against the evils of masturbatory and sexual excesses. Their pedagogic training should be carefully directed. As a rule, they do badly in the ordinary pub-

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lic school. Many of them are dullards; others are exceedingly brilliant. The ordinary mental condition is less common. Being liable to fits of ungovernable passion, they are often difficult to control, and constitute in their school discipline a very perplexing problem to the average school teacher. Fortunately, there are today a number of excellent private schools scattered throughout the country where these children can receive the special educational training so necessary for the removal of their abnormal instability. This educational training should include physical culture; indeed, this should be emphasized in every case. Through active muscular exercise they can find an outlet for their surplus nervous energies that otherwise might escape in their peculiar convulsive movements. The muscles concerned in the respiratory act can be developed with great advantage in these cases.

THE DIET.

The dietary in all cases of epilepsy should be arranged with care, and in order to do this each patient must be carefully studied as to his or her digestive capacity. The idea prevails among some that the animal proteids should be entirely cut off. My personal experience is against this conclusion, although I am well satisfied that the consumption of this form of nitrogenous food, as of all nitrogenous foods, should be minimized. But there are very few epileptics who are not really benefited by one meal of meat per day. Epileptics usually have a voracious appetite; they eat their food with rapidity and without proper mastication. This must, of course, be corrected, and from the dietary all indigestible articles, such as pastry, fried foods and coarse vegetables, should be excluded. My experience has taught me that sodium chlorid and sugar should always be minimized. I have no doubt that salt starvation results in a more perfect assimilation of the bromids, for I have conclusively ascertained that most of the bromids will control the paroxysms with the salt practically eliminated, and lessened sugar consumption results in more digestion of the nitrogenous foods. I usually furnish my patients with a diet table, of which the following is a model, striking out or adding to special things as the peculiarities of the case demand.

Breakfast.—Oranges; apples, baked; peaches; oatmeal; cracked wheat; hominy, to be thoroughly cooked and eaten with milk or cream; eggs, soft boiled, poached; toast; bread, white, graham, corn; coffee (moderate strength); milk.

Dinner.—Oysters, raw; soup, bouillon, tomato, vegetable, oyster; chicken or mutton broth; meats, roast beef, roast lamb, roast chicken or turkey; fish, fresh, baked; vegetables, potatoes, spinach, carrots, turnips, onions, string beans, lima beans, peas, squash, asparagus (all to be well cooked); bread, farina, rice, tapioca, cup custard; cheese, Edam, American cream; crackers.

Supper.—Toast; crackers; cornbread; eggs; stewed prunes; baked apples; apple sauce; milk; tea (weak); coffee (weak).

Avoid.—Pastry, cakes, nuts, pork, veal, fried foods. Eat moderately. Masticate thoroughly.

THE MANY DRUGS RECOMMENDED.

The medicinal treatment of epilepsy has a most interesting history. Almost every article in the materia medica, as we have it, or as it was known to the ancients, has been given in this disease, and more or less success reported attending its administration. The epileptic is emotional. He is very susceptible to suggestions, and often by the simplest placebo given with a positive suggestion of relief the paroxysms may be controlled for a variable space of time, and thus credit should be given to anything that might constitute a placebo for the relief of the disease. This peculiarity of susceptibility to suggestions is not only often overlooked in making up an estimate of medicinal agents, but it is certainly frequently overlooked in reporting the results of the various surgical procedures that have been employed. Careful attention to elimination should be the foundation of the treatment of every case. Insufficient renal elimination is not infrequently present. Elimination by the skin must be promoted by the use of baths, hydrotherapy and massage. I have a case under observation now in which very satisfactory results are being obtained. The patient had been treated with the bromids to the extent of saturation, without any results except marked mental impairment. The epileptic seizures continued. A careful study of his case, running through some days, determined the fact that before his paroxysms occurred especially there was insufficient elimination of urinary solids and a very marked defect in the amount of urea. Treatment addressed to this peculiarity of his case, the entire withdrawal of the bromids and the substitution of moderate doses of antipyrin, while it has not cured him, has yet given him the longest interval that he has had in ten years between his paroxysms, and has restored his mental integrity.

Intestinal elimination and intestinal cleanliness are of great importance. We should so regulate the diet as to produce a minimum amount of intestinal fermentation. Of the use of intestinal antiseptics, salol and the new salicylate, aspirin, are probably the best.

The use of lavage and of colonic flushing, thereby cleansing both ends of the chylopoietic viscera, is not to be overlooked in any case, and laxatives, of which the aloetics are my favorites, with occasional doses either of blue mass or calomel, are aids to intestinal elimination and asepsis.

THE AURA.

The next important thing in the matter of treatment is to determine whether or not there be present in a given case an aura. If an aura is present and can be successfully treated, it is a wonderful aid in breaking up the epileptic habit, while the other treatment may be correcting the cause upon which the neurosis depends. For this purpose the nitrite of amyl is the most successful agent, and the pearls of various sizes that are furnished to us by the pharmacist serve the purpose the best; and the amount of nitrite of amyl necessary to break up or prevent a paroxysm in any given case can only be determined by trial. Some aid in this matter is given by the use, where it is practicable, of counter-irritation. If an aura begins in the extremities, counter-irritation of that extremity by the actual cautery or by blisters, or sometimes by the use of some other irritation, is effectual. I had, a few years ago, a patient whose aura began in his hand. He wore around his wrist a bracelet of silk, which was so arranged that on the first approach of the aura it could be quickly tightened, and this suddenly-applied irritation was usually sufficient to prevent the development of the convulsive seizure. Anything that will produce a sufficiently powerful impression upon the sensory end organs of the place from which the aura seems to proceed will sometimes answer the purpose. But the aura should always be inquired into and never overlooked, if present, as an important means by which treatment can be instituted which will prevent the formation of an epileptic habit in recent cases and assist in breaking it up in the chronic cases.

THE USE OF BROMIDS.

I think we are all agreed that the most generally useful remedy for internal use is the bromids. The bromids give relief, more or less, in at least 80 per cent. of the cases. But there is a percentage of cases, certainly not less than 10 per cent., in which my experience teaches me that the bromids not only give no relief, but do damage. In the administration of the bromids in every case great care must be exercised that the dose is such as will not produce mental deterioration, for it is very much better for the average epileptic to have an occasional explosion with mental integrity, than it is to be relieved of all explosive efforts, with mental enfeeblement. The bromid which I prefer is the bromid of sodium. I have failed to see any particular benefit from a combination of the various bromids, and in my clientele I have seen no advantage from the use of bromid of strontium.

The bromid should be administered in some one of the mint waters, changing the vehicle from time to time, in order that distastefulness for the combination may not be established in any case. For children my rule in the administration of the bromids is to give a grain for each year of their age. In adults I rarely exceed twenty grains, three times a day, and in every instance advise that the bromids be taken after eating. In recent cases that have not been under the bromid treatment there may be reason for pushing the bromids to the extent of complete bromism, beginning with twenty grains, three times a day, and each week increasing the dose up to complete saturation. But this condition of things should in no case be maintained except for a short space of time, and, in my judgment, is only applicable to cases in which the disease has just recently developed.

If the dose of bromid that has been specified fails to relieve the patient, I add to the treatment the fluid extract of *Solanum Carolinensis*. It is a synergistic remedy. Beginning with half-teaspoonful doses it may be pushed to two-dram doses, and it will, without any mental deterioration, sometimes relieve the paroxysms. In some cases, especially where there is cardiac enfeeblement, and this is the case with very many epileptics, the fluid extract of *Adonis vernalis*, in from a half to five minim doses, may be added with advantage to this combination, and relief obtained without pushing the bromids beyond the sixty grains per day already indicated. If this combination fails to relieve the patient, and the other important aids to treatment have been carefully attended to, some one of the coal-tar analgesics may be added to the treatment, as acetanalid, phenacetin, antipyrin, and if these several combinations fail to produce the desired result, with the bromid and *Solanum Carolinensis* treatment may be added the use of belladonna, and probably the best way to administer the belladonna is according to the Trousseau method. Trousseau's formula is:

℞. Extracti belladonnæ .....gr. 1/5
Pulv. folia belladonnæ .....gr. 1/5
For one pill.

During the first month the patient takes one of these pills every day, in the morning, if his attacks occur chiefly in the daytime, or in the evening, if they are chiefly nocturnal. One pill is added to the dose every month. The drug should not be pushed beyond excessive dilatation of the pupils, and uncomfortable dryness of the throat. While the patient is under the bromid treatment, attention should be given from time to time to the condition of the blood and the anemia that belongs to the disease naturally, and which is often very much intensified by the use of the bromids, should be combated. The bromid of iron is a very good agent with which to do this, as is also liquor ferri et ammoniæ acetatis, and sometimes the correction of this anemia will make the treatment, otherwise unsuccessful, satisfactory. The anemia of these patients may sometimes also be combated by the use of cod-liver oil. Especially is this true of treatment during the winter months. The alkaline bromids produce, after a time, in some cases an irritable condition of the bladder, then the bromohydric acid should be substituted for a time, or the new combination of bromin with oil of sesame, called bromipin, may be used.

THE TREATMENT WHEN BROMIDS FAIL.

Where the bromid treatment fails, some have had success from adding to it borax in ten-grain doses, three times a day, but my experience with borax has not been very satisfactory. Occasionally, where the bromids fail with the combinations already suggested, the bromids may be continued and the oxid of zinc in from three to five grains may be added to the treatment with benefit. While under this treatment, even where only a small dose of bromid is administered, as I see in my own practice, the patients will, of course, complain very much of the bromid acne. Especially will this be the case with women, and this may sometimes be overcome by the use of preparations of arsenic. If the bromid of sodium is administered, the liquor sodii arsenatis in from three to five minim doses may be put in the prescription already indicated, and arsenic is not only a benefit to them for this reason, but as a tonic alterative to the nervous system it is often of very great service. In epileptics with poor circulation in the extremities, a condition that will be often very much exaggerated by the use of bromids, strychnia will be of service, in from one-sixtieth to the twentieth of a grain, administered three times a day, as a substitute for one of the adjuncts already suggested.

COUNTER-IRRITATION FOR HEADACHE.

In the cases that complain much of headache, as in some cases that do not, cauterization of the neck is of service. Counter-irritation is entirely too much neglected in our present therapeutic methods. Cauterization of the neck may be done by the actual cautery, and sometimes, when the medicinal treatment already indicated fails, the addition of the actual cautery to the neck, two or three times a week, will secure the results desired. Where the use of the actual cautery is not practicable, a silver wire suture inserted into the neck will accomplish the same purpose. In a percentage of cases in which bromids fail or are detrimental, relief may sometimes be had by treating the cases on the Tyrell plan, by giving strychnia in gradually increasing doses. I have had a satisfactory experience quite recently in a case in which abortive epileptic manifestations were occurring almost daily. Under the use of full doses of strychnia, twice a day, he has now had exemption from these attacks for about a year. I began with him with the sixteenth of a grain of strychnia, twice a day, and carried it up to the tenth of a grain, and along with that gave him aloetic laxatives, and with such hygienic and dietetic treatment as were indicated. In this man's case the bromids were positively detrimental.

OTHER DRUGS SOMETIMES VALUABLE.

I have already mentioned a case in which the use of antipyrin, with attention to renal elimination, is producing satisfactory results where the bromids were harmful.

Dr. G. Frank Lydston[1] has reported successful results from the use of santonin, beginning with two-grain doses, three or four times a day, and increasing the amount to the point of tolerance, which, in many cases, is about fifteen grains. A rather limited trial of Dr. Lydston's method indicates that in those cases where the bromids disagree it may be of great service, and a further trial of it is demanded.

The late Dr. Pepper of Philadelphia reported cases in which bromids had disagreed with patients, but which were benefited by the use of sodium salicylate and antipyrin.[2]

The syphilitic cases of epilepsy require, in addition to the moderate use of bromids, the most vigorous administration of the iodids that is compatible with the general nutrition of the patients, together with the hypodermic administration of mercury.

Some of the rebellious cases are benefited by the use of nitroglycerin, using a 1 per cent. alcoholic solution, and giving from two to ten minims morning and evening. Pellegrini has recently published some very satisfactory results from the use of nitroglycerin in these cases.[3]

SURGERY.

Surgical treatment, which offers to relieve primary idiopathic epilepsy by any operative procedure yet suggested, must necessarily always be a failure, and there is nothing whatever in the records of sympathectomy, or in ligation of the vertebrals, or in trephining that will justify us in recommending it in a single case of this sort. The traumatic cases can undoubtedly be benefited, not cured, by operative procedures, provided the epilepsy has not been of too long duration, and too many convulsions resulting. I should place the limit of time at which an operation would be successful at two years, and these traumatic cases that have received surgical attention require none the less the treatment that has been previously indicated for breaking up the habit and against the neurosis. But in all of these surgical procedures, no matter whether they be done for a primary idiopathic case or an acquired case, for reasons already given, temporary success will follow an operation by its inducing temporary inhibition of cortical cells, as has been suggested by Putnam. The literature of the subject is filled with alleged cures of epilepsy that have been affected within a short time after a surgical operation, and I have in my clientage to-day some of these cases of alleged surgical cures, and am treating them with benefit by the hygienic and medicinal treatment already indicated.

TREATMENT OF THE SEIZURE ITSELF.

As to the treatment of the epileptic paroxysm itself, but little need be said. The patient should be placed in the recumbent posture, with the clothes loosened about the neck and body, and efforts made to prevent biting the tongue. If the epileptic status becomes established, chloroform by inhalation and hyoscin hydrobromate by hypodermic injection will give the most prompt relief. An excessive amount of treatment applied to the epileptic attack itself, which we sometimes witness, is worse than useless.

1. Therapeutic Gazette, Feb. 15, 1900.
2. Southern Practitioner, vol. xx, p. 58, 1898.
3. La Riforma Medica, April 8, 1901.

Position of Ulnar Artery.—In making incisions in the wrist and forearm, always ascertain, if possible, whether the ulnar artery, instead of running under the superficial muscles, passes over them, as is frequently enough the case.—*Toledo Med. and Surg. Rep.*

INSTITUTIONS FOR EPILEPTICS.*

WILLIAM P. SPRATLING, M.D.
Medical Superintendent of the Craig Colony for Epileptics; Secretary of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.
SONYEA, N. Y.

HISTORICAL SUMMARY

As long ago as 500 years before the dawn of the Christian era epilepsy was known and described, but the epileptic as a public charge was completely neglected until the latter part of the seventeenth century, when individual efforts were made in continental Europe to improve his condition, though without any uniform results until about the beginning of the century just passed. In 1846 France took the lead in establishing a small colony for epileptics and other defectives at LaForce, near Bordeau, to be followed by Germany in 1867, when the now celebrated colony at Bielefeld, in the northwestern part of the empire was begun with four patients in one hut, and which is still the leading institution of its kind in the world, now caring for nearly 1,800 sufferers from epilepsy and over 3,000 defectives, including the epileptics, of various other kinds. Next came England in establishing in 1888 the Maghull Home for Epileptics near Liverpool, and later the same country created the very excellent colony at Chalfont St. Peter, some twenty miles from London; while still later the Meath Home at Godalming, in the beautiful country of Surrey, marked the third institution for epileptics in the British Isles, all of them, like their predecessors on the continent, being founded through private generosity.

Just prior to this, in 1887, Peterson discussed the advantages of the public care of epileptics in America on the colony or village plan, drawing his ideas and inspiration from a visit to the colony in Germany, and in 1890 Ohio took the lead over all other American states and founded the Ohio Hospital for Epileptics and the Epileptic Insane at Gallipolis, to be followed four years later by the state of New York, which set about at that time to create the Craig Colony at Sonyea, in Livingston county, the first institution of its kind for epileptics on the western hemisphere. Simultaneously with the movement in New York, Massachusetts and New Jersey took up the question, the former founding the Massachusetts Hospital for Epileptics, at Palmer, the latter the New Jersey Village, at Skillman, some five miles from the university town of Princeton. About the same time Pennsylvania established an epileptic colony and hospital farm at Oakbourne, not far from Philadelphia, and Texas felt a generous desire to join the fast-spreading movement by laying out an epileptic colony covering some 640 acres at Abilene. Other states, the most notable among them being Virginia and Illinois, have made strenuous attempts to take care of epileptics, and so earnest and persistent have been the efforts of Dr. Drewry and his colleagues in Virginia and Miss Lathrop and other members of the Board of Public Charities in Illinois, that it is only a question of time as to when these progressive states will have institutions for epileptics that will rank among the best.

To John Bost, in France, Von Bodelschwind, in Germany, Peterson, Letchworth and Craig, in America, and to the National Society for the Employment of Epileptics in England, belong the credit of taking the lead in

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seeking to improve the deplorable condition of this long-neglected class.

IN AID OF THE WORK IN FUTURE.

The great problem of devising and pushing forward a more wide-spread interest and system of state care for epileptics in the United States is a serious one, in which doctors and philanthropists might well labor together in perfect harmony and with unflagging zeal. No other class so strongly demands public aid, and no class has been subjected to such neglect.

Of the forty-five states in the Union, five only have made state provision for epileptics, and these five at the present time are caring for less than 2,000 patients —2,000 out of at least 150,000 scattered throughout the land; hundreds of them unjustly confined in hospitals for the insane; thousands in county poor and almshouses, the victims of neglect, constant suffering and despair; while by far the larger number remain in poverty-stricken homes, the subjects of solicitous and painful care on the part of those who refuse to send a human being, sick in this way, to a poorhouse intended only to give aid to paupers.

To further stimulate the work in this country, the "National Association for the Study of Epilepsy and the Care and Treatment of Epileptics" was organized in 1898 for these purposes: "To promote the general welfare of sufferers from epilepsy; to stimulate the study of the causes and methods of cure of this disease; to assist the various states in America in establishing a uniform system of care for epileptics; to advocate the care of epileptics in institutions designed for their especial needs;" and the transactions of the first annual meeting of this association, recently published, may be of value to those interested in the work, while "The Care and Treatment of Epileptics," by William Pryor Letchworth, LL.D., is a singularly complete treatise of the whole subject at this stage of its development, both here and abroad.

A LITTLE INDEFINITE CONSTRUCTION AT THE OUTSET UNAVOIDABLE.

The history of the building of institutions for the insane will be repeated in a measure in the building of institutions for epileptics. Methods that are satisfactory in every respect will not be adopted at first, for we require experience, and there has been but little opportunity for acquiring any to this time—that is, but little up to within a very few years ago, and we have found that however excellent foreign methods and ideas may be, they need to be remodeled to make them serve the best purpose under American conditions. Whatever mistakes, however, we may make will be in details only, for it has been quite conclusively shown that the colony system of caring for epileptics is correct; and while the work of building for this class is not yet a finished art, I know of no problem in it under present requirements that can not be satisfactorily solved if the opportunity is only given.

SOME KNOWLEDGE OF THE ECCENTRICITIES OF EPILEPSY OF FIRST IMPORTANCE.

Before an architect can successfully plan a house, he must know what it is to be used for, and since the epileptic stands so supremely alone in the form of his affliction and its results, his proper care demands special homes of many kinds. He represents marked differences in age, character and frequency of attacks, race, social status, habits and, what is most important of all, in forms and degrees of unsoundness of mind, and it is his mental condition in the main that fixes the manner in which he should live.

Fully 80 out of every 100 epileptics acquire the disease before they reach the age of 20 years, and affecting the brain, as essential epilepsy in time always does, we must expect some impairment of the mind, either fixed or temporary, slight or profound, in every case in which the disease is genuine. Out of every 100 epileptics studied at random, in institutions and out, 5 to 10 per cent. of them will have sound minds; 15 to 20 per cent. of them will be insane, while the remaining 70 to 80 per cent. will have mental enfeeblement in some degree.

On April 18 last the chief physician of the German colony at Bielefeld made a classification of the 1,771 epileptics under his care for us as follows: Sound minded, 98, or 5 per cent.; weak minded, 1,100, or 62 per cent.; minds diseased, 582, or 33 per cent.; and of the entire number, 800 only have their freedom, while at the Craig Colony the ratio of those kept in isolation to those who have full liberty is much less, because of greater care in selecting new admissions.

To build institutions for the epileptic without remembering that his disease is psychic as well as physical, is to invite serious disaster. The superintendent of the Massachusetts Hospital for Epileptics, in his report for 1901, says: "It is found to be more difficult to deal with epileptics than with the insane. In many ways our class of adult patients possess to a large degree the mental and emotional traits of children." Dr. H. C. Rutter, for many years superintendent of the Ohio institution for epileptics at Gallipolis, says: "While it can not be said that all epileptics are insane, still in a considerable majority of cases the mind is so frequently affected that a limited supervision is absolutely essential to prevent their entire submergence. It must be remembered that epilepsy is not altogether a physical disease; it is psychic also;" and were it necessary I might present facts in plenty to show that we can not afford to neglect the condition of irresponsibility common to epilepsy when we build institutions for them, no matter what may be the type of his disease.

THREE KINDS OF INSTITUTIONS REQUIRED.

To get the best results, epileptics should be cared for in institutions of three kinds: First, hospitals for those that are insane; second, colonies for selected cases only; third, colonies for all cases save the insane. (It is entirely feasible to merge the two kinds of colonies into one, but the results are then less satisfactory than if they are kept separate and distinct.)

The leading features of hospitals for insane epileptics need not differ much from those observed in building for the ordinary insane, although there are some things we ought especially to take into account, and of these classification comes first. No matter if the epileptic is insane, he is an epileptic still, his convulsions do not cease and he is most apt to make trouble during his seizure periods. Already violent to a marked degree, his violence is apt to increase at these times and efficient means are required for his safe keeping until his excessive frenzy passes away. It has been my experience that more durable forms of construction are demanded in the care of some insane epileptics than for the ordinary insane, and while hundreds of cases may be cared for in one building, or in a compact group of buildings, living apartments should be planned to admit of necessary classification. On this point Dr Flood, of the Massachusetts Hospital for Epileptics, says: "I do not believe in putting twenty-five people in one dormitory.

It works much better when we classify them by putting not more than four or five to sleep in one room." Congregate dining rooms for epileptics will not do. I have known a single fit in a dining room that seated 100 to lead to disastrous results through sympathetic shock in causing five or six other seizures in the room in rapid succession.

Some special features, such as broad, rounded corners on all woodwork, the breaking of stairways with two or more landings and the protection of all heating pipes and radiators should be provided for. Two-story buildings are infinitely to be preferred to those that are higher, and there is no objection to having some bedrooms on the first floor.

The problem of night supervision is as important as its solution is difficult, and this applies to epileptics of all kinds. I once saw the experiment made, through necessity, of having twenty-eight epileptics sleep in one large room. This made it easy for the night nurse to detect anything wrong, but in all other ways it could not possibly have been worse. Fits occurred almost hourly, and the noise incident to each seizure wakened all the sleepers, and after this had been done six or eight times in a night the frame of mind the next morning of those who had to endure it can be better imagined than described. In our opinion, it is not possible to devise any sort of night supervision that will entirely do away with the epileptic's liability to accident while he sleeps, unless every room is provided with a nurse in charge. I recall two patients during the past year who died in bed as the result of fits that occurred between the half-hourly visits of the nurse, and we have come to believe that it is much better not to put more than five or six to sleep in one room and run the risk of an occasional accident than to make vast numbers habitually uncomfortable by herding them in huge dormitories in which repeated attacks destroy the comfort of all the rest.

COLONIES FOR SELECTED CASES ONLY.

There are no colonies for selected cases only in this country at present, and because such institutions might seem to be too discriminative in the work they do the state might hesitate to build them. Such colonies have a high value, a value which they can, perhaps, best reach under the stimulus of private benevolence, and there is a splendid opportunity for people of means to take up such work in the United States at this time. There should be such a colony in easy reach of every city in this country having a population of half a million or more. They should not be large—big enough only for 100 to 200 patients; the one great valuable feature about them being individual attention to a class that promises most, under proper care, in the way of improvement or cure, a class that is now submerged in institutions that care for hundreds of cases to whom we can promise but little or nothing for to-morrow.

Colonies like these would bear the same relationship to other colonies or institutions for epileptics that psychopathic hospitals bear to other institutions for the insane. A type of such an institution is to be found in the English colony at Chalfont St. Peter founded by the National Society for the Employment of Epileptics. It has now about 135 patients, and Dr. William Aldren Turner has this to say about the manner of selecting cases: "It has been found advisable to carefully select the colonists from among a large number of applicants. The points to which attention is especially directed by the medical committee are: Has the applicant been unable to obtain employment, or has he been discharged from one or more situations by reason of his fits? Is he capable of work under direction? It has been found necessary to regard as ineligible those who from physical causes are not strong enough to undertake some kind of active work; those who from habitual irritability of temper and eccentricity of disposition would not live in harmony with their fellow inmates or be amenable to the rules and regulations of the institution, and especially those who are imbecile, demented or liable to dangerous impulses. Mere frequency or severity of fits, however, does not disqualify the applicant, provided the mental condition is satisfactory." This process of exclusion, we are told by Dr. Turner, shuts out about 60 per cent. of all who apply, and the work at Chalfont St. Peter has been entirely satisfactory. It seems to me that no finer plan can be devised for the care of epileptics who can do some work under proper supervision than this, and of the plan and probable cost of building and maintaining such colonies we will speak later on.

COLONIES FOR ALL SAVE THE INSANE.

The word "epileptic" conveys to one unfamiliar with the many types, causes and results of the disease but little information we ought to have before we can successfully plan for the epileptic's best care; and the epileptic who voluntarily seeks help of the physician at his office is seldom representative of the class most apt to come under state care, and in taking all epileptics save the insane into one colony many problems will engage our attention. The majority who apply will be mentally defective in some degree, either feeble-minded, or imbeciles, or idiots, while some will be demented and a few will have sound minds; and while we can not sharply separate them into like groups, because the lines of separation are so vague and so constantly shifting, we can approximate the groups fairly well.

In studying how we might best classify 1,200 mixed cases that have been admitted to the Craig colony to this time, we have found it feasible to put them in houses of three kinds. Houses in class one hold from 12 to 16 or 18 patients whose condition is good enough in every respect to enable them to assume the care of the household in all its details, under the general supervision of one competent nurse or employe, the chief duties of the latter being to look after sick patients and to make observations of seizures, to be reported to the physician in charge. Houses in class two should be large enough to accommodate from 25 to 35 persons of the great middle class, and each house should be in charge of two employes, nurse and cook, and the bulk of the colony would be made up of houses of this type. Houses in class three should consist of infirmaries; buildings combining home and hospital, for the use of perpetually bed-ridden, paralytic or otherwise helpless cases. These buildings need not be large at the outset if care is exercised in selection of cases, but they should be so constructed that they might be enlarged in future.

THE WORTH AND QUALITY OF EPILEPTIC LABOR.

In such a colony about 50 per cent. of all admitted can do work of a remunerative kind; about 25 per cent. will be able to do light housework only, and the remainder nothing at all; while the labors of 7 per cent. to 10 per cent. of the entire number will have a value equal to, or greater, than the cost of their support, and we have come to believe that under the best conditions colonies for mixed cases may be able to earn from 25 per cent. to 30 per cent. of the cost of their maintenance, while colonies for selected cases only may reasonably aspire to do about twice as well.

Epileptics can work at almost anything, though some can be employed at occupations that are hazardous with greater safety than others. In seven years at the Craig colony we have never known a serious accident to follow a risk in occupation, and our patients do everything from needlework to house painting and engine driving, though special cases are selected for special work.

Colonies for epileptics should therefore provide the fullest equipment of all industries common to normal communities and should employ skilled artisans to train and supervise epileptic labor, both for economic and therapeutic reasons, but especially for the latter. The epileptic who is idle is badly handicapped in the race for improvement in comparison with the epileptic who is kept at work, and colonies should be kept free from the atmosphere of invalidism.

LOCATION, SIZE, COST AND PLAN OF DEVELOPMENT IN THE CONCRETE.

Location.—In looking for a site it should be announced that gifts of land will not be considered, for when the state accepts such gifts embarrassments are apt to always follow, and in choosing a site two things should be prominently borne in mind: First, the natural advantages of the place, including water, climate, fertility of soil and drainage; second, reasonable proximity to centers of population; but if it is a question as to which should determine the matter, those named first have the greatest weight. It is impossible for a colony to meet with success unless its water supply is pure and abundant; its climate such as to insure the greatest number of pleasant days in which outdoor life is possible with comfort; in which the fertility of the soil under cultivation by epileptic labor insures the largest yield; and in which diseases due to faulty sanitation are lessened by perfect drainage.

Size.—It is difficult to say how large a colony should be, but as a rule an acre to each individual will be none too much. The epileptic's food should come almost exclusively from the farm, dairy and garden, which makes a large amount of fertile land a prime necessity.

Cost.—The cost of a colony equipped for use can now be pretty definitely ascertained before the work of its construction is begun, if the cost of the land only is known. Durable brick and stone houses for patients will cost about $500 per bed, while the cost of furnishing will vary from $30 to $50 per person. About one-half the cost of the colony will be in the houses, the balance in plants to supply heat, light and water, in administrative offices and hospitals, in furnishing, in industrial shops, farm stock and implements, sewerage system, roads, walks, grading and homes for officers and employes. There is no valid objection to building some houses of wood, if they can be made small, properly located and protected against fire, and they can be made ready for occupancy at one-half the cost of brick and stone buildings.

Plan of Development.—So far as possible a definite plan of development should be followed by making a complete topographic map of the land at the outset, always remembering the value of approximating the main features, and we may illustrate the method of doing this by drawing a circle of sufficient diameter and putting in it the office building, the hospital, the power plant, storehouse, laundry, schools, industries and other common necessities, then draw another circle and let that embrace homes for the better classes, and then a third, beyond which home for the poorer types of colonists should not go. By doing this it will be easy to heat, light, furnish with supplies and supervise the entire colony from a central point at less cost than if the essential features were scattered indiscriminately over the entire place. Local conditions may call for some modifications of this, but in the main the principle will be found correct. The exterior design and color of cottages for patients may be all alike, or no two may be the same, the determination of the point resting on individual preference. At Bielefeld and Chalfont St. Peter the buildings all differ; at the Craig colony the two main groups of fifteen to twenty buildings each are almost identical in form and entirely so in color. The cost of maintenance for mixed classes after the population reaches 600 to 700 will be less than for the insane, while colonies for selected cases only should not require more than $75 to $80 a patient a year, and under ideal conditions even less.

Young epileptics, whose minds admit of it, require some education, which needs to be simple, for, as a rule, they are unable to grasp and retain complicated ideas, and it has been our experience that purely intellectual knowledge acquired by them to-day is apt to be lost through the destructive effects of a fit to-morrow; but that when tissue grosser than the brain, like muscle, learns a thing well, that knowledge is not destroyed with each fit; therefore, we have come to believe that the combined use of muscle and brain should be the favored method of educating this class, the value of the former compared with the latter being fully as great as ten to one.

MONEY FOR RESEARCH WORK.

The clinical picture of epilepsy seems complete, but its two most important objects of study have as yet scarcely been touched upon: the morbid psychology and the etiology of this mysterious disease; and such work can best be done in institutions for epileptics, because it is only here that the necessary wealth of material can be found. It is well, however, for us to understand at the outset that such work, to be of value, can not be done without considerable cost, and in states in which expenditures for the maintenance of public charities are already of great magnitude, we ought to try and enlist the aid of private wealth, and I venture to add that the interest on an endowment fund of $100,000 in two or more states to-day would be most valuable gifts for the purpose.

In conclusion, it is unnecessary to add that my aim in this paper has been rather to try and lead into prominence some of the more important principles involved in the institutional care of epileptics, based on the epileptic's condition, than to recite material details that are only of value when the work of construction has commenced; nor to add that the sure test of time has conclusively demonstrated that institutions, especially colonies, for epileptics have so amply justified their creation as to make the establishment of one desirable in every state in the Union. Let us co-operate to help the work along.

DISCUSSION

ON PAPERS OF DRS. PEARCE,* TOMLINSON, BROWER AND SPRATLING.

ETIOLOGY.

DR. J. D. MCCARTHY, Philadelphia—So far as pathogenesis of epilepsy is concerned, I think we could better understand the subject by saying that we do not know anything about it. Several theories have been advanced, but they are purely theoretical in the present status of the anatomy and physiology of the brain. The theory that has been gaining ground in late years of the toxemic process can explain very little of the pathogenesis, if you do not assume the instability of the cor-

* The paper of Dr. Pearce was published elsewhere.

tical cell. Assuming this, it is a theory based on a theory, and so on until you finally arrive at a stage where you reach a conclusion based on several theories. The toxemic theory is probably the theory that best explains the development of the epileptic attack. There again, if you try to explain the individual elements of the attack you assume a former theory, i. e., the vasomotor theory. These theories have been separated by different observers and they all pass one into the other. I think that any one who has much to do with a large number of epileptics can not get away from the fact that whether the attack results from autointoxication of gastrointestinal type, whether it be one of the so-called alcoholic cases, or whether the origin of the condition is unknown, many of these are really of reflex character. The development of the convulsion in these cases is paroxysmal. There is usually before the spasm an instability of the cortex and an instability of the motor mechanism, followed by a discharge of motor energy. This groundwork of these explanations has been given to the profession by Dr. Jackson, who probably understands more about the subject than any other man. This instability, it seems to me, we see especially in the alcoholic cases. There is a certain defective organic development of the cortex, which you can not see microscopically, but there are other evidences of degeneration scattered throughout the brain, owing to its susceptibility to the action of the toxins. You can very easily see how, in a case where the motor mechanism is so finely balanced, it would be easily overthrown. You can easily see how a small amount of alcohol or a small amount of other intoxication could produce an epileptic attack under these conditions. In the cases where the patients will probably have an attack every four or five years these attacks will very often be associated with conditions of autointoxication. The cases resulting from intoxication from alcohol can probably best be explained on this same ground. These cases should be distinguished also from another sort of convulsion which should be differentiated from true essential epilepsy; i. e., cases rather of an organic affection (brain tumor, etc.).

THE MEDICOLEGAL ASPECT.

DR. A. B. RICHARDSON, Washington, D. C.—The mental deficiency or disorder connected with epilepsy or resulting from it may be naturally subdivided into several forms. The first is that congenital defect which shows itself in retarded and imperfect mental development and of which the epileptic attacks are only another expression. In these, while the convulsive seizures may have the effect of increasing the degree of the mental deficiency or disorder, the original defect is, after all, the chief point to be investigated, and this is not materially affected by the epileptic complication. In other words, imbecility without epilepsy and imbecility in which epilepsy develops as a complication, do not very materially differ in their symptomatology so far as the mental deficiency is concerned. The degree of legal responsibility is therefore to be determined in such cases rather by a study of the mental deficiency than by anything peculiar in it traceable to the convulsive attacks.

A second class of cases are those in which the first evidence of disease is the occurrence of epileptic attacks, commencing in the early years of life and apparently largely by their influence on brain nutrition resulting in imperfect mental development and in various degrees of mental disorder. Here the form of the deficiency or disorder is more likely to be influenced by the epilepsy and requires more consideration in this investigation. In such cases the mental disorder is more likely to vary in degree from time to time and to be accompanied by violent outbursts. The epileptic disposition, so marked in its characteristics in many cases of later development, is more noticeable. There is greater irritability, sometimes more extreme dementia, and there is more likely to be present also a greater degree of suspicion. There is, I believe, also more obtunding of the moral sensibilities of the patient. He is more unreasonable and less easily controlled. The influence of the epileptic seizures themselves is more marked, and the mental phenomena are more paroxysmal in character. It becomes necessary not only to consider the permanent imbecility present, but also the kind of variations in the mental state occurring periodically and bearing some sort of relation to the convulsive attacks. They may precede, follow, or take the place of these. There may be several days or weeks of excitement and changed emotional states followed by conditions of greater quiescence and continually increasing mental weakness. In all these cases, however, there can be but little trouble in determining the irresponsibility of the patient. The permanent mental defect makes this evident, and the only question remaining is usually how far the irresponsibility shall be extended in a given case. In the presence of a permanent mental deficiency, any given act should be studied especially in the light of the motives prompting it. It is seldom in such cases that these motives are not influenced by the defective reasoning arising from the permanent deficiency. In the cases where the imbecility is but slightly noticeable the temporary perversions of the state of mind accompanying the epileptic seizures become more important in their medicolegal aspect and call for careful study. In a small percentage of such cases a marked criminal propensity is developed in the child, a vicious disposition or a tendency to injure animals and playmates without any corresponding provocation. Those moral monstrosities arising now and then in a few instances have an epileptic history. I believe these are rare, however, and the rule is that epilepsy, during the developmental period, has a tendency to cause periodical excitement or irritability with outbursts of passion, and in these oftentimes homicidal impulses, but does not develop in the person fixed propensities toward crime. There is usually a gradually progressing dementia, a lessened capacity to reason correctly, greater impulsive tendencies, and often a more marked and more acute state of mental disorder.

The third class of cases are those in whom the mental development is up to the average and where the epilepsy occurs at a later period of life. Here there is great variation in the effect of the disease on the mind functions. As already stated, in a few cases it may exist for years with scarcely any untoward influence. Perhaps closely scrutinized, even in these there will be discovered slight impressions on the disposition of the patient. He is a little more querulous and impatient than formerly and slightly more emotional.

In the large majority of cases the mind functions suffer more decidedly. The destructive change is more marked. There is a gradual dementia, a very noticeable emotional tendency, marked irritability or a disposition to develop unjust suspicions of those about them. It has become almost proverbial with those familiar with such cases to remark on the disagreeable character of the change in disposition developed by the disease.

Epilepsy, which has its origin during the post-developmental period or in the latter years of adolescence, has none of the accompaniments of imbecility as described in those forms we have been considering. There is often a neurosis in the form of a suseeptible or unusually unstable nervous system, and this may have shown itself in other forms of nervous disease, such as chorea during childhood, night terrors, somnambulism, delirium from relatively slight causes and irregular convulsive attacks from reflex causes.

In other cases the epilepsy appears with very few or none of these previous manifestations and in persons with apparently stable nervous systems. The extent to which the disease, appearing at these periods of life, results in mental disorder or deterioration, and the character of this deterioration vary greatly in different individuals. There are a few epileptics throughout the country in whom the attacks are only occasional, where its origin is obscure, which sometimes, at least, can only be called idiopathic, where the mental deterioration is scarcely sufficient to be measurable. It may so exist for years, the individual discharging responsible duties in the meantime and with no perceptible change in disposition, or mental capacity, and with no disturbance of the mental equilibrium beyond the temporary unconsciousness of the epileptic attack. How large, or rather how small, a proportion these are of all the cases developing it is difficult to determine. In my opinion they are so few in number as to be considered exceptional. In a considerably larger number of cases so developing there is a general mental depreciation. Increasing

dementia, with more or less well-marked recurrences of periods of excitement, marks the progress of the damage to the brain as the epilepsy continues. These phenomena may be the accompaniment of any of the regular types of the disease, whether the attacks are chiefly of grand mal or petit mal or occur at night or during the day. The rapidity and extent of the mental deterioration does bear some relation to the frequency of the attacks, however, and also to their severity. There is a very strongly marked individuality in this disease as to the character of the mental changes produced by it. Sometimes these are very noticeable preceding, during and following the convulsive attacks, with slight disturbance at other times. In others the attacks are not accompanied by much exaggeration in the mind disorder, but it is constant and progressive at all times.

In the first of these classes, those showing no perceptible mental disorder, while the evidence of occasional epileptic attacks should cause a careful scrutiny of the probable motives resulting in criminal acts, it is exceedingly doubtful whether any great weight should be given to these as a relief from responsibility. The probabilities are that a study of any such case will disclose motives not different from those resulting in criminal acts in others and that the individual is only acting out his normal propensities. In my experience, if such persons were peaceable and law-abiding previous to the appearance of the disease, they continue so, and if possessed of criminal propensities, these are not especially affected by it.

In the other class, those which manifest mental disorder or depreciation, great conservatism should be used in maintaining responsibility before the law. In my view the presence of epilepsy should be held to still further diminish this responsibility over other cases with a like amount of mental depreciation and without the epileptic complication. This is because of its well-known tendency to explosions of violence, its disturbance of consciousness and its effect on the general disposition as displayed in the emotions.

By far the most difficult cases to locate in their medico-legal relations are those more or less irregular forms where the disease is not shown so much by regular convulsive attacks as by what are called psychic equivalents, masked or larvated attacks and periods of unconsciousness or unconscious or subconscious cerebration, without very evident implication of the muscular system. That such cases occur there is no doubt. That this form is more or less allied to true epilepsy I believe to be a fact. That cases of this nature may have very little evidence of mind disorder of a permanent character is also doubtless true. I think it very rarely happens, however, that we should be long at a loss to determine whether a given criminal, or apparently criminal act is or is not the product of such a condition. It is rarely if ever the case that acts in the unconscious state or of unconscious or subconscious cerebration are other than purposeless or such as have ordinary and innocent motives. They very rarely if ever have that method that leads to such criminal acts as would leave a doubt as to their criminal origin. Usually the absence of any adequate and reasonable motive and the incongruous nature of the act as compared with the known character of the individual are sufficient to indicate its origin in disease. It is very dangerous to the safety of the community to concede that such conditions may occur in cases of ordinary epilepsy and result in ordinary criminal acts in persons who might reasonably be supposed not to be above suspicion toward such propensities and in whom no other proof of unconscious states of like character is forthcoming. For instance, a few days ago a case was brought to my attention of a woman arrested for shop-lifting, who had had occasional attacks of epilepsy previously, but in whom the thefts were perpetrated with all the secretiveness and method and with the apparent purpose of the ordinary thief. A few months later she was discovered soliciting men for illicit sexual purpose for mercenary ends, in the ordinary way and in apparently full possession of her consciousness. In each case she pleaded entire unconsciousness of the act, and yet in each she was not above suspicion from formerly manifested characteristics. I can scarcely believe that unconscious states result in criminal acts under such circumstances.

It is true, however, that the presence of epilepsy has a tendency in some few instances to affect chiefly the moral qualities of the individual and to bring about a change in character more or less marked. The morbid character of this change is usually easily determined, however, by comparing the individual with himself at a period before the development of the disease.

Another problem, very difficult of solution in some cases, is to determine the influence of those periodical changes in emotional states that occur in epileptics which in no sense approach automatism and which are not accompanied by subsequent unconsciousness of the events occurring during them. It is well known that many epileptics vary greatly in their emotional states, and that this variation often has a relation to their convulsive attacks. During these periods of more or less emotional excitation the ordinary features of their environment affect them very differently from the influence they have at other times, and the degree of self-control of the patient is often very much lessened during these periods. Much consideration should be given to these variations in determining responsibility for criminal acts, and we will be aided greatly by a study of the history of the patient, for it is well known that while the peculiarities in the manifestation of these states are multitudinous in different cases, they incline to follow the same lines in the same case. If such emotional irritability exists in any instance, sufficient to be considered an excuse from responsibility for acts occurring during it, even when these have sufficient exciting motives, the history will disclose similar conditions previously.

The same is true of the influence of an actual psychic aura in causing apparently criminal acts. These auræ commonly follow certain lines and are prone to be repeated in like form in any given case. Proof ought scarcely ever to be wanting of such phenomena in the history of any case where there is a suspicion that a given act may be the product of such a condition, and in the presence of such auræ in the history of a case we should hesitate to insist on full responsibility.

TREATMENT.

DR. F. SAVARY PEARCE, Philadelphia—I believe thoroughly in antisepsis, intestinal antisepsis in particular, in cases of epilepsy. While we do not know the cause of epilepsy, as has well been said, we certainly do know that it is precipitated by intestinal autointoxication in many instances. I have seen cases in which constipation has undoubtedly been the cause of the patient having his attack of epilepsy. Hence in these epileptic states it is my practice to look to the intestinal tract and to at once administer some drug or other measure which will induce evacuation of the bowel and prevent the condition of constipation and autointoxication. First, then, the disease of the intestine, of course, must be looked into, and it goes without saying that mucous colitis, chronic gastritis and the like must be corrected. Papilloma of the intestine, while it can not be mastered very well, should be treated, if possible, for these growths may produce reflex epilepsy. Rectal irritation is another gastrointestinal symptom that should receive attention, and perhaps surgical correction of fistula in ano may have the effect of removing the cause of the attacks in a minority of symptomatic cases. All the antiseptic measures, such as lavage of the stomach and high enemata or flushing out of the colon, should be employed in these cases. I heartily approve of the use of salol in such patients. A full dose of castor oil occasionally is of value also to unload the bowel.

In reference to diet, I will only state that we should study the individual and see what is best suited as the diet of that particular person. I certainly believe that the proteids should not be withheld as much as they usually are, particularly in anemic patients. I am positive that I have seen patients benefited by the use of good beefsteak properly cooked. In those cases the use of iron would be of value. Predigestives, such as peptoids and the elixir of lactopeptin, are of value in correcting disturbance of the gastrointestinal tract.

Then the reflex causes, I repeat, should be looked to. I have seen a case in which I think phimosis in a boy, which was troubling him, was the cause of the epileptic exacerbations, and the removal of the prolonged prepuce aided in bettering his

condition. So with ovarian disease. So it would be with other reflex causes, such as from neuralgia or deafness. I have seen a woman in which I feel that the deafness was the cause of the epileptoid convulsions; she was getting on past middle life; so that progressive deafness, with sudden tinnitus and vertigo, it would seem to me to be more frequently seen as the exciting cause of epileptoid attacks than we give credit for. The ear should be carefully looked into in any case with vertigo. We all carefully look to the eyes of our patients for reflex causes, I think, and perhaps forget some of the other things that are just as important in producing an attack. Physical and mental work should be very carefully regulated. Certain it is that a great many patients pretend to, and their families try to have them, do the same amount of work that they have been accustomed to do before the development of the disease. The physician should insist on a suitable reduction in the amount of work, according to the state of the disease and the degree of the patient's resistance.

Now, in regard to the use of the bromids; while I use the bromids a great deal, the same as any other physician, I have seen so many untoward results following the administration of these remedies recently in dispensary practice that caution in their use has been indulged. All acnes develop from the excessive use of the bromids, and this is particularly true in regard to such patients as are the subjects of epilepsy who are in a feeble state of circulation. The physician is not always responsible for this, because the patients come to him and obtain a prescription; they get better and go on their way, very often continuing the use of this remedy for years. So that I think that it is important for the physician to urge on the epileptic patient, and especially on the family of the epileptic, that they should not continue the use of the bromids, except under the observation of the family physician. I certainly agree that solanum is a remedy of great value, and bleeding in the epileptic status I have seen do good. Eliminative measures, such as large draughts of water between meals, I have seen do great good. Hydrotherapy, such as hot baths and hot packs, frequently will aid when the patient is having a series of attacks. Elimination by the skin is thus added to bowel and bladder elimination. Castor oil, again I wish to urge, is one of the best drugs that we can use in the intestinal cases for its action on the toxins in the intestinal tract, over and above the cathartic action of the oil already indicated. This drug is therefore given with the idea of producing an antitoxic condition of the intestinal tract and thus neutralizing toxic products that are found there. Dilute nitro-hydrochloric acid is another drug of great value, especially when the patient is bilious. Then the diathesis of the patient must be looked into. If the patient has gout he must be treated for his gout. While I do not mean to say that the gout is the cause of the epilepsy, or that the uric acid diathesis is the cause of an epilepsy, yet these conditions are apt to introduce substances into the blood which cause malnutrition of the brain irritation. So in cases of traumatic epilepsy, the condition is bettered if the nutrition and general condition of the patient is improved.

The prognosis in these cases is very good, particularly if the patient is a child, and provided the treatment is faithfully carried out, especial attention being given to both hygienic and dietetic measures.

I would call your attention to digitalis (gtt. v to x) in combination with the bromids (gr. x to xv) t. i. d. I have seen cases in which the patient had not been getting along in which they did remarkably well on the bromids in association with the tincture of digitalis. It is especially valuable in cases where there is feeble circulation, with lividity of the skin. In some of these severe cases the use of 10 to 20 drops of the tincture of digitalis may have to be used in association with your bromids, and will often correct the difficulty, i. e., the poor circulation together with lessening the attacks. Thus combined with the bromids, then, I feel that digitalis is a valuable adjunct to the treatment of this condition of cardio-vascular weakness in the epileptic.

DR. T. D. CROTHERS, Hartford, Conn.—I wish to note a new treatment which appears to be valuable. A year ago I fitted up in my hospital a room with electric lights as an adjunct to the drug treatment. Some months ago an alcoholic epileptic was admitted and has been taking these electric-light baths twice a week ever since, with an entire cessation of the paroxysms and a marked improvement in every particular. Whether this improvement is temporary or permanent one can not say, but it is quite evident that the effect of the electric light on the body, with subsequent massage, has produced a change which is prominent. Has the electric light some specific power to produce a change in the organisms, or is it simply a depurative tonic? Whatever its action may be it is a powerful remedy beyond question or doubt. This patient had been afflicted with epilepsy for four or five years, and had a paroxysm every two or more days. Whether this was due to some constitutional condition or from drug-taking is unknown, but during the last six months there has been an entire cessation of the paroxysms. From the moment he took the first electric-light bath he has improved. This bath is made up of 100 16-candle power electric bulbs. Intense perspiration follows after from six to eight minutes of exposure, then a feeling of stimulation.

NOCTURNAL EPILEPSY.

DR. FRANK P. NORBURY, Jacksonville, Ill.—There has been very little said about nocturnal epilepsy, a condition in which I am greatly interested. I would like very much if some one more experienced than myself would discuss this special feature. For some years past it has been my misfortune, rather than my fortune, to meet a great many cases of nocturnal epilepsy, occurring especially in children during the school year, and more particularly during the latter part of the school year. I am frequently called on to see such cases in consultation. My experience, however, is not limited to children, for I have observed the same phenomena in adults; this past winter I saw two students, grown men, one from a conservatory of music, who only has an attack when under special stress. These attacks always occur at night. The other young man has on an average three a year. He is not himself aware of the occurrence of these attacks, but those near him know of them and report to me. It is especially noticeable that they occur the latter part of the school year. I have also under observation another case, that of a young man who has nocturnal epilepsy, but who is able to work every day; he probably may be off duty for a week out of the year. These attacks come on at irregular intervals; when they do occur he may have three or four attacks within a week. He is able to report for duty every morning. Another case is that of a dry-goods merchant, who in the town in which he lives is not known as epileptic; yet he has an attack on an average about once a week. These attacks do not interfere with his business capacity. Another case is that of a bank clerk, who during the past five or six years has had six or eight attacks of nocturnal epilepsy each year.

In none of these cases have I observed any mental impairment of any consequence. They are all of the same class and the patients are all markedly bright intellectually; the children stand foremost in their classes and are doing good work. This type of the disease seems to me to be a class of cases by itself, and not the ordinary depressing epileptic condition. The patients are all very bright and in good physical condition.

In the treatment of nocturnal epilepsy I have used biborate of sodium in conjunction with the bromids. In all cases I have insisted on thorough elimination by the bowels, using ordinary salts (sulphate of magnesium) daily in the morning before breakfast. This insures a thorough evacuation during the day, which I believe is successful in keeping away autointoxication from this source.

INSTITUTIONS.

DR. JAMES H. LLOYD, Philadelphia—We can only discuss from a very indistinct knowledge this whole subject of the pathology and the so-called pathogenesis of epilepsy. It seems to me that in the whole domain of pathology there is no condition which is so absolutely unknown as the pathogenesis of epilepsy. I do not wish to be pessimistic in discussing this subject, but I should like to call attention to one fact that has been brought out very prominently here to-day, and which I think is the most important thing that has been brought out

in this whole meeting, that, while we are in the dark and the prospects are that we are going to stay in the dark about the true pathology and the true histology and the true pathogenesis of epilepsy, and while we do not know what causes epilepsy, we can at least take care of the epileptic himself; and the paper which was presented here by Dr. Spratling to-day, giving us the details of the work which it is possible for us to do, was, to my mind, an exceedingly valuable one. Coming, as it does, from a man who is right in the midst of this work, that paper is educational. It ought to have great effect and influence in making every man in this Association, when he goes back to his own state, when he goes back to his own hospital, to make him an evangelist in this cause, in starting in every state, not one, but in close proximity to every one of the large cities, several institutions for the care of epileptics. I remember so well when I was at our Blockley Hospital in Philadelphia, the sight of our poor epileptics, sitting there doing nothing day after day, week after week, month after month; sitting there in absolute idleness; as we used sometimes to say, "sitting there doing nothing but waiting for the next fit." The next fit might come this afternoon or it might not come until next week or next month. After it was over it would be just the same thing; they would just simply sit there and wait. There could be nothing more demoralizing, and nothing more absolutely wretched, than the sight of these poor people sitting there with absolutely nothing to do, waiting for the next fit. It seemed to me this was the most forlorn sight in the whole hospital. I used to fear some of them would get fly-blown, sitting there without any occupation for either mind or body. And the degeneration which goes on in these epileptics is accentuated by this sort of idle life.

DR. C. H. HUGHES, St. Louis—I have heard no mention made of the epileptic floor, and I would like to suggest a suitable elastic rubber floor for epileptics. I recommended such a floor when I was superintendent of the Missouri State Hospital for Insane. We had about five hundred acres of ground and an epileptic colony then. Of course, we could not get all we wanted, but my plan was to construct a floor in such a way that the epileptic would be protected from falls. We should have the same regard for their condition that we have for the condition of other insane. We should not only protect them during their attacks, but also make the floors elastic and protect the heating apparatus, so that they may be guarded from the effects of such accidents belonging to epileptic seizures.

In regard to nocturnal epilepsy, I think it is the most difficult subject we have to treat. Suggestion has been made here in regard to the use of digitalis. My custom has been to use digitalis and strophanthus and other heart supporters for these patients, and I usually employ the bromid of ammonium instead of the bromids of sodium or potash for such cases. I take a more hopeful view of these epileptic cases than formerly. A large number of these patients have come to me for treatment since I left the Fulton Asylum. What we endeavor to do is to suppress the epilepsy. I expect some day to be able to publish some of my cases. A number of my cases of epilepsy have recovered, and I am not so pessimistic as some of the gentlemen on the subject of epileptic recoveries. The first case of epilepsy that I treated successfully was in 1859. I treated that case successfully with nitrate of silver, and that case has led me to the conviction that toxicity has something to do with exciting the paroxysm. Then there is an epileptic habit governing the neurons that produces proneness to attack of epilepsy, precipitated, I think, by autotoxicity. We should remember these two things in the treatment of epilepsy. Oppenheim has said that syphilis and civilization are the two essential factors in the production of paresis. I believe that the aptitude of the neuron, with the condition of toxicity, are the two essential factors that give us epileptic disease. I believe in the vasomotor theory of the production of the epileptic paroxysm. I believe in the theory of vasomotor spasm and alternate paralysis. I believe, so far as we can determine from the symptomatic condition, that nothing is better demonstrated.

DR. H. A. TOMLINSON, St. Peter, Minn.—According to the statements of some of the speakers we do not know anything about epilepsy, and if this belief is general any attempt on my part to answer Dr. Spratling's question would be futile. However, if I understand Dr. Spratling's point of view, he wants to make a distinction between the so-called psychic epileptic equivalent and what he considers to be a true epilepsy with only psychic manifestations. As stated in my paper, I do not believe in the so-called psychic equivalent. I believe that these states are not the equivalent of the convulsion, but that they are conditions of mental aberration following the disturbance in consciousness, which takes place as the result of an attack of petit mal, and which persists as a mental status.

As to whether there is such a condition as psychic epilepsy depends on the sense in which we use the term. Strictly speaking, I can not imagine a psychic seizure corresponding with the motor seizure. But if we accept the ordinary interpretation of the word epilepsy, I believe we must accept the existence of the condition referred to by Dr. Spratling, in which there is a state of suspension of consciousness with automatic conduct out of accord with the environment of the individual.

DR. W. P. SPRATLING, Sonyea, N. Y.—It is a question to my mind as to how far we should go in trying to differentiate between psychical epilepsy and the so-called psychical epileptic equivalent. Clinically they seem to me to be separate and distinct, while pathologically they probably spring from different parts of the brain. In all probability psychical epilepsy has its origin in the silent or intellectual areas of the brain, its chief peculiarity being that it does not produce muscular commotion of sufficient kind or degree ever to be at all noticeable. On the other hand, the psychical epileptic equivalent may begin in the same silent regions, but it quickly spreads to the motor areas, producing the wildest possible muscular commotion, general in character. If this is true, the two conditions are one and the same thing, differing in degree only, being local in effect in the former and general in the latter. One strong argument in favor of the seat of the discharge being mainly in the intellectual centers in psychical epilepsy is the fact that epileptics of this type oftenest and most severely suffer mental deterioration.

I am confident that the time will come when every state in the Union will have colonies or institutions suitably designed and constructed for the proper care of all grades of epileptics, for it has been amply demonstrated that the colony system of care and treatment is the system superior to all others for this terribly afflicted class.

DR. CHARLES K. MILLS, Philadelphia—I would like to emphasize what Dr. Lloyd has said. The colony method is the method of solving the problem of what to do with the epileptic. As is doubtless known to some of the members of this Section, I was engaged with others in the foundation of the epileptic colony which is located at Oakbourne, Pa. I would like to emphasize what has been said by Dr. Spratling in regard to the establishment of institutions for selected cases. Our Pennsylvania institution is not a state hospital; neither is it for selected cases. It probably comes between the two—the state hospital, which receives cases indiscriminately, and the hospital where cases of a selected kind only are taken. We have been fortunate in that several have given handsomely of their private means for its support.

TREATMENT.

Not much will be accomplished by electric light treatment that has been described. While epilepsy can scarcely be classed with the curable diseases, it is often relieved; the intervals between the paroxysms are often much extended, and what might be termed an approximate cure is effected. The hygienic conditions surrounding the patient should be regulated, and this can best be done on colony farms. The mental and physical habits of the individual should be regulated, and in addition he should be given certain drugs. Usually I employ certain drugs in connection with the bromids. One or two of these have already been mentioned; for instance, it has been my custom for some years past to use conium in conjunction with the bromids and arsenic. I use it either in the form of the juice fluid extract or in the form of coniin hydrobromate. Good results can also sometimes be obtained from the use of

digitalis, strophanthus and cactus in combination with bromids and other drugs. Cod liver oil and other nutrient remedies are also of much service.

DR. J. M. KENISTON, Middletown, Conn.—I would like to describe my experience with the treatment of status epilepticus, which is always an unfortunate and alarming occurrence. Over thirty years ago Kussmaul and Tenner advocated compression of the carotids from all severe seizures, whether singly or in groups. Without regard to the "congestion" theory of epilepsy, there are certainly cases which present long-continued congestion of the vessels of the heart, with marked pulsation in carotids, often visible at a distance of several feet. When this condition of increased blood pressure exists the convulsions are more severe and prolonged, and in such cases I have found great benefit from compression of the carotids against the transverse processes of the cervical vertebræ. The pressure is applied by the thumbs and may be relaxed at the end of two minutes and then resumed. I have successfully treated several cases of status in this way. In cases of status without marked pulsation in the carotids I have had good results from enemata of full doses of chloral, morphin and bromids repeated once or twice at intervals of one to two hours.

DR. WILLIAM H. WALLING, Philadelphia—Six cases successfully treated do not warrant me in saying that there is a cure for epilepsy. I have had good results with galvanism in such cases, passing three to five milliamperes directly through the head for ten to fifteen minutes every other day. The first case when he came to me was having attacks every two weeks; now he has not had an attack for two years. Another case was that of a woman, aged 40, who came to me at a time when she was having attacks every week or every two weeks. That was two years ago, and she has not had an attack since. In this case I used also suggestion with marked benefit.

DR. HAROLD N. MOYER, Chicago—We all recognize that underlying the epileptic constitution is a nutritional disturbance. Two years ago I had under my care an epileptic to whom I had given everything, just as we all do, without success. He was a dispensary patient, one of those for whom so little can be done, because you can not control their habits, and they can only eat what they can buy, and they think it better for their epilepsy to live on the diet that they can afford to buy than to starve to death on the diet that you recommend. I began giving this man glandular extracts. I wrote a prescription first for the suprarenal extract. Although he had been an epileptic for many years the attacks ceased after the administration of the first dose, and during the one and one-half years that have elapsed since there has been no attack. Acting on this experience I have given suprarenal extract, in 5-grain doses, three times a day, to about 25 patients, and three-fourths of them have been benefited. I can not give you any suggestions as to how you might say whether or not a given epileptic is likely to be benefited, but the results reached have been far ahead of any other drug that has come under my observation, and I am going to continue its use. There is a possibility that these glandular extracts may cure a number of cases. With the work of Dr. Ohlmacher on the involvement of the glandular system we are all familiar. The relation of the glandular and lymphatic system would lead one to believe that possibly in the glandular extracts we may have a remedy for a certain number of these cases. Like everything else in these cases, I don't know why it is, but it seems to me that nearly all the remedies benefit the first three or four cases that come to you, and the next dozen people do not seem to get any benefit. I do not know whether it is in the physician or in the patient, but it is generally a fact. Next year, after further study of these glandular extracts, I hope to present the subject again.

In the treatment of epileptic patients I have adopted the following plan: I make my private patients bring me a daily record of their condition; what they eat, how they sleep, bowel conditions, etc.; regarding their mental condition, whether they are irritable, whether they have been depressed and whether they have been troubled. On this daily record is based the treatment. Of those records I construct a chart, which is of the greatest aid in the treatment of epileptics, both in the clinic and in private practice. I just use an ordinary sheet of foolscap paper, turning it on the side and letting each of the lines represent a day of the month, then I draw transverse lines and allow one of these lines to represent a normal condition, then another the psychical state, and so on. By talking to the patients about these different classes of symptoms they begin to recognize the subdivisions themselves and are able to tell you that they have felt irritated, and also in what way their condition has differed from normal. There is no one thing that has helped my work so much as this simple scheme of charting.

DR. AUGUSTUS A. ESHNER, Philadelphia—I think that in accordance with current conceptions epilepsy is to be regarded as a paroxysmal disorder, with a predominance of motor manifestations of a convulsive character and a fairly well-defined symptomatology, recurring with varying frequency and in varying intensity. The convulsion is not the disease; nor does a single seizure necessarily establish the disease. There are other convulsive and paroxysmal disorders. The simplest conception of the underlying condition, it appears to me, is an unstable nervous system on the one hand and one or more of a large number of irritants on the other hand; so that the therapeutic problem that presents itself comprises on the one hand the correction, so far as possible, of the nervous instability, and this I take to be the more important of these two factors, and on the other hand the removal of any or all of the many and varied irritants that may be accessible.

In the papers but little distinction was made between the attacks of major and of minor epilepsy. It seems to me that such a distinction is most important. In my experience, which I take it concurs with the general experience, while one can, as a rule, diminish both the severity and the frequency of the attacks of major epilepsy with bromids, for instance, the same result can not as readily be brought with the minor attacks. In this connection I think it worth while again to emphasize the utility of digitalis in cases of petit mal; this has been referred to, but it seems to me that the matter is important enough to have attention directed to it again. In cases of major epilepsy also I have seen the conjoint administration of tincture of digitalis oftentimes subserve a most useful purpose when the bromids alone proved insufficient. In connection with the question of mixing the bromids, I think it is a matter of common experience that, after one has used for some time any of the drugs that are employed in the treatment of epilepsy the effect seems to diminish and some substitute or alternate becomes necessary, whether a sedative or an intestinal antiseptic or a vasomotor constrictor or dilator or what not. What I mean to say is, to first follow the law's demonstration that, in other words, almost any new remedy seems to have a distinct effect in inhibiting the attacks, at least temporary, and I believe that one may accomplish a useful purpose in a similar manner by alternating the bromids or by combining them. I have found that when a single bromid is no longer efficacious a combination of two or three or four bromids, even without increase in dosage, may subserve a useful purpose.

The cases of petit mal have, in my experience, been most resistant to treatment, as a rule not yielding to bromids. In some of these cases I have seen brilliant results from the administration of digitalis alone, without bromids or other sedative. I have heard no reference in the discussion to the use of chloretone, although it may have been made. In some cases that I have had the opportunity of observing it has seemed to yield good results. The dose preferably should not be large. I would prefer not to give any more than from one to three grains twice or thrice daily. In the case of a child recently under observation the attacks of petit mal, which were repeated many times in the day, at times more than a hundred being counted, subsided entirely for a time when the administration of this drug was begun. The attacks recurred in smaller number shortly afterward, but their frequency was much less than formerly. I have employed sodium biborate in a number of cases of epilepsy, particularly in alternation with the bromids, when these had to be suspended for one reason or another, and have been satisfied with the results. In cases

of nocturnal epilepsy I think it best to administer the bromid in a single large dose at night, instead of distributing the remedy over the day. A source of greatest anxiety is constituted by those patients in whom the attacks occur at long intervals and in whom therefore the seizures can not be anticipated. It is really a serious problem what to do with them, and it would seem that the best thing is to treat them symptomatically; to look after their general condition; to correct gastrointestinal derangement; to prevent or remove irritation from any and all sources. It is in this class of cases, among others, that the best results can be hoped for from institutional treatment, through which patients can be kept under careful observation, useful occupation be provided, and, so far as possible, the attacks anticipated and averted.

At the Infirmary for Nervous Diseases in Philadelphia there has been used for a long time a scheme for recording the number and the character of the attacks, not quite so elaborate as that Dr. Moyer has described, affording a ready means of noting the course of the disease. This consists simply of a chart, with a transverse line for each month in the year, and a series of vertical lines for the month. There is thus provided a square for every day of the year, and in any of these the number of major attacks are indicated by means of small crosses, and the number of minor attacks by means of small dots. Each epileptic is given such a chart, which he brings with him at successive visits. At the close of the year the patient receives a new chart and the old one is made a part of the permanent record of the case.

REPLIES OF THE ESSAYISTS.

DR. TOMLINSON—Before beginning the discussion of that part of the subject included in my paper, I would like to say something with regard to the attitude of those who first discussed the pathology of epilepsy. They were not only agnostic in their attitude toward the pathology of epilepsy, but also pessimistic with regard to its future. It is true, as stated by Gowers, that idiopathic epilepsy has no morbid anatomy nor histology, and from what we know of the disease, its origin and progress, none would be anticipated. But this fact does not deprive us of data on which to base reasonable and rational speculation as to what may be the true pathology of the disease. While it is true that there is no morphologic change in the cortical cells which is incident to epilepsy, it is equally certain that there is no evidence that the morphologic changes found postmortem in other forms of nervous disease are incident thereto. From what we know of the processes of degeneration, they are as likely to be the result. It seems to me that the conclusions from the study of these morbid changes are as much a matter of speculation and hypothesis in one case as in the other, and no better confirmation of this contention is needed than the history of the deductions made from the data of the morphology of nervous disease during the past ten years. So that if there is room for an agnostic attitude toward epilepsy particularly, there is equal room for such an attitude toward the pathology of nervous disease in general. Especially when we take into consideration the fact that every known form or kind of focal or systemic disease of the nervous system may be present in symptomatic form, without any more evidence of lesion than there is in epilepsy. Besides, we have the data supplied us by physiology and general pathology as a basis for our conclusions as to the morbid conditions which give rise to epilepsy and other convulsive disorders, so that they are not merely speculative.

With this general knowledge, supplemented by careful clinical observation of a large number of cases, it seems to me both reasonable and rational to consider that we have in epilepsy the manifestations of a tendency inherent in the individual which results from a defect which is chemical and physical, but not morphologic. Therefore, the unstable mass develops the tendency to respond excessively to slight stimuli, with the resultant explosive activity, usually extreme and followed by unconsciousness.

It does not seem to me difficult to understand why there is first the tonic and then the clonic convulsion in epilepsy. If you will carry out the simple experiment of holding the arm out straight and fully extended for an indefinite time, you will be able to appreciate why a convulsion occurs as it does. After a little time the muscles become tense, the tonus increases and the arm becomes rigid. Later the arm begins to tremble, the muscles twitch; and if the effort is persisted in, the twitching degenerates into a tremor, to be followed by complete relaxation. We have here examples of the tonic and clonic convulsion. The tonic contraction means irritation, the clonic commencing exhaustion. It does not seem to me that speculation of this kind, which is based on known facts in physiology, supplemented by what we know of the processes of development and dissolution, is futile in the study of epilepsy; and this is especially true when we come to consider the subject of treatment. For, after all, we are not treating the epilepsy, but the conditions which give rise to the epilepsy. In order to do this intelligently we must be able to appreciate the significance of these conditions, and the extent to which they are the result of defective development. It is because epilepsy has not been considered in this way that there have been so many vagaries in its treatment, and so much futile surgical interference with conditions which are essentially and necessarily hopeless from the beginning.

There is very little for me to say with regard to my part of the symposium, because my paper was not discussed. It is unfortunate that the terms used to express facts in science do not have the same significance to all who use them, and, in my experience, this laxity of definition is more marked in the terminology of psychiatry than in any other branch of medicine. This confusion is probably largely due to the fact that this terminology has been transferred from the language of metaphysics and the nomenclature is not used etymologically. So much depends on what we mean by the term epilepsy and what we understand by psychic. Then, too, a great deal of the criticism of that part of the symposium which dealt with the pathology of epilepsy, derived its force from the the fact that the speakers used the term pathology as if it was a synonym for morbid histology. In other words, they left us to infer that no disease had a pathology which did not present morphologic change in the structure of the organ apparently involved. The word pathology, properly speaking, means aberration or perversion of function. There may be structural degeneration or disintegration as a result, but it does not follow, if there is not apparent structural change, that there is no pathology.

My part in the symposium, of necessity, had to do almost entirely with deductions which were speculative, but this speculation is only the formulation in orderly sequence of the facts gained from clinical study, postmortem investigation and the comparison of these data with human facts in biology and physiology.

DR. SPRATLING—We have found *Solanum carolinense* (horse nettle berries) valuable in some cases. As with any new drug in the treatment of epilepsy, it is most important to study the case on an individual basis, for a drug that will do good in one will be actually harmful in another.

I believe the term epilepsy is too indiscriminately used; in fact, greatly overworked. Every convulsion is not epileptic, and it is my belief that the time will come when we will quit calling simple convulsions, due to reflex causes, epilepsy. I do not say that such cases may not in time create what we call habit epilepsy, but to my mind it is oftentimes not the genuine disease. I believe that the location, primarily, of genuine epilepsy is in the brain. Some physicians claim that epilepsy is caused by a derangement of the muscular apparatus of the eye, and proceed to cure the disease by clipping the offending muscle. Others claim that nasal adenoids act in the same way and that cures are effected by removing the foreign growths. I think we are still very far at sea in regard to knowing when the word epilepsy should be used. I don't think we should stigmatize people as being epileptics who simply have convulsions.

The causes of epilepsy come under two heads: heredity and stress; the former being similar or dissimilar. In a study of some 1,200 cases admitted to the Craig Colony we found similar heredity to have been the cause of the disease in 16 per cent. of all cases; that is, there was epilepsy in the parents in

these cases. Alcoholism, insanity and tuberculosis comprise the factors of dissimilar heredity; alcoholism in the parent being the cause in 15 per cent.; tuberculosis in 14 per cent., and insanity in 8 per cent. in males and 12 per cent. in females, giving a grand total of over 55 per cent. due to heredity. The causes that come under stress are almost legion and entirely too numerous to call up at this time.

We treat each patient, as far as possible, along four lines: medical, dietetic, surgical and moral, always endeavoring to individualize the treatment as far as possible, and you can never get good results in the treatment of this very obstinate malady until the individual is singled out and treated as well as the disease; and then all forms of treatment must be correct and carried out with the most scrupulous regard to details. Do not rely too much on the bromids; they have some value, it is true; they help some in some cases, but alone I do not believe they have the power to cure. Of late new remedies have come into use, such as bromipin and dormiol, that possess the good features of the bromid salts without any of their bad ones; bromipin, in our opinion, being especially valuable when given in the form of an emulsion.

I have but little to say about the surgical treatment of epilepsy. We have collected the records of scores of cases of operation on the brain, and in none of them have the beneficial effects been permanent. I recall the case of a woman, about 38 years of age, who had an impervious uterus up to the age of 37. She was operated on, the uterus and appendages removed, and she never had a convulsion afterward.

I believe that in every case of genuine epilepsy of any duration the mind is always affected. The institutional treatment of epilepsy is, to my mind, the most valuable method, because it is only by this method that you can absolutely control the patient in all his habits, and you have to do that if you get good results. We should have a record of every attack, with the date and hour that it occurred; of the character of the attack and whether it was followed by loss of consciousness or mental disturbance; how long each stage of the attack lasted, and the point of origin of the convulsions. Our records are complete. While we have not devised a diagram such as Dr. Moyer mentions, I want to speak a word in favor of the Doctor's system of keeping his records. I don't think we ought to be too pessimistic about the pathology of epilepsy. It is only during the past eight or ten years—a brief time in science—that we have been doing work in this direction, and I think there is a great field before us. We ought not to say that nothing can be done for epilepsy, for I know much good can be accomplished.

Dr. Tomlinson spoke about the "epileptic equivalent," and I think the whole thing might be summed up like this: the man who is an epileptic and is in a condition of automatism is not in a condition to receive new impressions; his mind is like a camera plate that has been exposed—it is dead to new impressions. He can only act on impressions, on knowledge previously acquired, but can not receive new ones. This condition is important from the standpoint of medical jurisprudence.

DR. J. H. MCBRIDE, Los Angeles, Cal.—Dr. Spratling said in the early part of his paper that about 8 per cent. of epileptics become insane. In another place I understood him to say that 16 per cent. of genuine epileptics became insane. It would seem, therefore, that much depends on what you include in the term genuine epilepsy. My own experience is that all habitual epileptics suffer some mental deterioration, and while not all of them can properly be called lunatics, neither ought they to be spoken of as sound in mind. We lay too much stress on the fit; the epileptic is usually in a morbid condition in the intervals of the fit.

DR. SPRATLING—I take it that in the first case the epilepsy was due to what we call a distal or reflex cause. The chances of cure in such cases are always better than when the cause is proximal or entirely within the brain. I did not say that 8 per cent. of all epileptics become insane, nor do I regard any epileptics as being perfectly sound in mind; and after that it is only a question of degree. Out of 1,200 cases studied at the Craig Colony 15 to 20 per cent. were found to be subjects for permanent hospital or asylum treatment, while a very much larger per cent. were feeble in mind to some degree.

SYPHILIS OF THE LARYNX.*

CHARLES M. ROBERTSON, A.M., M.D.
CHICAGO.

Syphilis of the larynx is the local manifestation in the larynx of constitutional lues. It is observed in all its different stages and may be either hereditary or acquired. It is classed as (*a*) the primary lesion, (*b*) the secondary, including the erythema, mucous patch and superficial ulcer, and (*c*) the tertiary, including the gumma, deep ulceration, perichondritis and stenosis. It is fortunately quite a rare manifestation in this disease, occurring in 2.9 per cent. of cases as observed by Lewin, 2.4 per cent. by Schrotter, 3.4 per cent. by McKenzie, 2.8 per cent. by Engelsted. These observations are not altogether unanimous, however, as some authors put the per cent. as high as 15. Its occurrence in the pharynx is given by these authors as 10 per cent., and in the nose as 2.8 per cent. The London Throat Hospital reports out of 10,000 cases of this disease, 308 affections of the larynx and 834 of the pharynx. Most of the cases cited were from 30 to 50 years of age. This is probably due to the fact that the individuals are more prone to infection after the age of 20 and seldom after the age of 50. Up to the present time but one instance of primary lesion has been observed, as stated in a case related by Moure,[1] in which he observed a chancre on the free edge of the epiglottis. When the disease is hereditary it occurs either in the early months of life or about adolescence. In the former we have the secondary and in the latter we encounter the tertiary manifestations of the disease.

SYMPTOMS.

There are mild cases who complain only of an inclination to clear the throat, and from this we have all grades of symptoms to severe dysphonia, aphonia or dyspnea, which latter may increase ultimately to such an extent as to require the performance of a tracheotomy. Cough may be present in the early stages, but rare in the latter ones. The vocal function is impaired, and while at the commencement of the attack it amounts only to hoarseness, later it may pass to complete aphonia. Swallowing becomes almost impossible and the absence of pain when not attempting to swallow is most characteristic. The stage of erythema may be confounded with catarrhal laryngitis unless we look for the secondary manifestations accompanying it and the absence of the great amount of pain characterizing the catarrhal laryngitis. Ordinary laryngitis should be considered suspicious, especially if red patches are found on the vocal cords and we are able to elicit a previous syphilitic history. The mucous patch usually occurs on the upper or lingual surface of the epiglottis, more rarely on the aryepiglottic folds or ventricular bands, in the shape of small, usually unilateral ulcerations, which are oval in shape, whitish or yellowish in color, surrounded by an angry red areola. They vary in size from 10 to 15 mm. in diameter. The edges are somewhat elevated, and if the secretion be wiped away the floor of the ulcer is found to be the seat of persistent granulations. It is distinguished from the ulceration of tubercle by being larger in size, unilateral, and surrounded by the areola, while the tubercular ulcers are usually bilateral, are white, with no areola and are from 1 to 3 mm. in diameter, and usually found on the laryngeal surface of the

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

1. "Lecons sur les Maladies du Larynx," Paris, 1890, p. 229.

epiglottis. The superficial ulcer may occur with the mucous patch, or it may appear at any time from the second to the seventh year after the primary lesion by the breaking down of a superficial gummatous infiltration. It is often known as a recurrent ulcerative laryngitis. The subjective symptoms vary as to the site of the ulcer, but neither this nor the mucous patch is found below the true cord.

The tertiary form of this disease is characterized by gumma, deep ulceration and cicatricial contraction. The gummatous infiltration is sometimes seen in the character of a smooth rounded tumor of a yellowish appearance, circumscribed, usually on the edge of the epiglottis, the aryepiglottic folds, the posterior wall of the larynx or the ventricular bands. It has also been observed below the true cord, when it is called subglottic. After a certain period varying in time this gumma breaks down into a deep ulceration, although cases are cited where the tumor has persisted for 20 months without ulceration. When ulceration commences we notice the center of the gumma begins to ulcerate first, the process extending to the periphera until all the gummatous infiltration has disappeared. The appearance of the infiltration is sudden and the ulceration is like rapid in progress.

If there be any doubt as to the diagnosis of the condition present, we can corroborate our opinion in a few days with the administration of large doses of iodids; for there is always a marked improvement after the beginning of this treatment, though it may be transitory. They are distinguished from cancerous growths by the latter being slow to grow and resistant to syphilitic treatment. The deep ulceration is a natural sequence to the gumma and should not be expected before five years after the initial lesion. It is probable that the gumma has broken down before the patient seeks relief, so the first thing we see is the well-developed ulceration. We have a certain amount of local pain, especially on attempting to swallow, a tenderness on pressure. We find abundant mucus secreted containing shreds of necrotic tissue and streaked with blood. Hemorrhage is sometimes so severe as to endanger life from the necrosis of vessel walls, and one or more cases of death have been reported from this cause. Edema is, in some instances, so marked as to interfere with respiration and tracheotomy may be necessary to save the life of the patient. The ulcer in order of frequency is found on the lingual surface of the epiglottis, the true cords, the ventricular bands and the arytenoid space.

When the ulceration occurs near a cartilage such, as for instance, the arytenoid, or cricoid, we have a perichondritis arising which may lead to destruction of the part. Thus Labbé[2] reports a case where the arytenoid of the left side became detached and was inspired, causing death by suffocation.

When the perichondrium becomes affected there is pain, tenderness on pressure, increased impairment of voice and dyspnea. When this process progresses we often find a sequestrum formed which gives rise to a permanent discharge, either into the larynx or to the outside of the neck through a sinus or direct. The sequestrum may lie embedded in the tissues for years, keeping up a discharge indefinitely, or it may apparently heal, to be renewed from time to time, being apparently a relapse or a renewed attack. This process gives rise to the last stage of the disease, stenosis.

After the sloughing has become complete or almost finished, we are confronted with the cicatricial stage, which is by far the most dangerous part of the diseased condition, owing to the great contraction and the danger of the parts being attached to each other, thus causing a closure of the passages. The epiglottis has an unhappy faculty of uniting with the aryepiglottic folds or the side of the pharynx and sometimes to the ventricular bands. The arytenoid articulations are liable to become stiffened or fixed by ankylosis, thus causing the cords to become fixed in their position, which may be in the median line or any other position. We often have a web of tissue formed between the cords, or the laryngeal structures become so distorted as to be hardly recognizable, so great is this process of contraction, and cases are on record where the larynx has been entirely obliterated. In this stage it often becomes necessary to perform tracheotomy, and while the immediate result of the operation is good, it must not be forgotten that these patients are required to wear the canula for the rest of their lives. In most cases the voice is completely and permanently lost. The diagnosis is mostly confused with tubercle and carcinoma.

Syphilis.	Carcinoma.	Tubercle.
Pain usually slight.	Pain constant, lancinating.	Pain severe on deglutition.
Attacks any portion of larynx and ulcerates very rapidly.	Attacks any portion of larynx and ulcerates more slowly than syphilis.	Favorite site is the interarytenoid space or the base of the arytenoid cartilages; ulcerates slowly.
Rarely seen in the stage of induration. First evidence usually a clear-cut, deep ulcer.	First appearance is that of a new growth occupying the laryngeal cavity; no clear-cut ulcer.	Usually the first appearances are small spots of induration which spread rapidly, followed by great edema.
Some induration around the ulcer, but usually very little edema.	The growth fills or encroaches on the laryngeal cavity.	Great edema of the arytenoids.
Ulcer extends deeply, often involving cartilage.	Growth extends in all directions, involving all tissues in its course.	Ulcer extends laterally, but not deeply.
Surface of ulcer covered with muco-purulent secretion and necrotic tissue.	Surface of growth covered by discharge.	Surface of ulcer covered with thick muco-purulent secretion and agglutinated mucus.
Mucous membrane hyperemic and injected.	Mucous membrane hyperemic.	Mucous membrane pale.
Laryngeal stenosis not common till cicatrization occurs.	Laryngeal stenosis common.	Laryngeal stenosis rarely occurs.
General health unimpaired.	Early in the disease no impairment of general health; later a marked cachexia.	Health impaired previous to laryngeal involvement.
Frequently evidences of syphilis in other tissues.	In primary laryngeal carcinoma no other involvement until later in the disease.	Previous and coincident pulmonary trouble common.
Rapidly improves under iodids.	Not influenced by iodids.	Not influenced by iodids.

In syphilis the development of the ulcer is acute, occupying only a few days; in phthisis its development is slow, generally after months of throat symptoms, while in cancer it usually occupies a few weeks in development and the ulcer is preceded by development of a growth and nearly always exhibits round excrescences on or around the ulcer. The ulcer is solitary, irregular in shape and 2 or 3 cm. in diameter. The accompanying table gives the main differences between these diseases.

TREATMENT.

The treatment of the disease is both general and local, and the same laws that apply to its treatment

2. Bull. de la Soc. Anat. de Paris, 1857, vol. xxxii, p. 210.

in other parts of the body are, of course, applicable here. We therefore push the dosage of iodids to their tolerance. If there be any tendency to iodid poisoning a combination with 5 or 10 grain doses of sodium bromid given with each dose will often prevent the rash appearing. It is well to start the iodid in 20-grain doses, increasing it 20 grains every two days, or as rapidly as possible till the tolerance is reached. We often experience patients who will be able to take very large doses who will not stand a smaller one. Thus it is possible to give doses from 100 to 150 grains three times daily. In combination with the iodid treatment we give inunctions of mercury, either in the shape of blue ointment or the oleate, and this is administered by rubbing a dram into different portions of the body daily, each rubbing being preceded and followed by a warm bath. After the fourth dose it is well to discontinue for a day or two on account of the liability of salivating our patient. If the gums are touched at all, which should be avoided. we can administer a few doses of potass. chlorate and use a mouth wash of the same. If it is thought best, tonics can be given with the iodids for the support of the patient and after the process of ulceration is passed we place the patient on a prolonged treatment of mercury, in the shape of the protoiodid or bichlorid, instructing him to continue its use indefinitely.

If the bowel is disturbed by the mercury, the addition of a small dose of opium may be added. A favorite prescription of mine is a combination of mercury, iron and phosphoric acid. This is an alterative tonic and will in no way disturb the patient.

The local treatment consists in keeping the ulcerations clean by the use of detergent lotions, followed by the free use of peroxid, applied on a cotton applicator and the cauterization of the ulcerated spots with a solution of iodin crystals in creosote (saturated solution), or the ulcer may be painted or touched with strong solutions, or the solid stick, of nitrate of silver. If the ulcer shows a tendency to spread fast it may be burned with the galvano-cautery. If we find the ulcer very deep or pieces of tissue loose, we should cut away, or curette the necrotic tissue.

After cicatrization has commenced it is hard to effect much in the way of treatment. Our object in this instance is to prevent as far as possible the occurrence of great stenosis which is so liable to occur, and to be ready at any time to perform tracheotomy, as the contraction may progress so far as to preclude respiration through the natural passage. After we have made a tracheotomy we may try to dilate the larynx with bougies and laryngeal dilators, but as yet we are unable to hold out much in the way of improvement by their use.

DISCUSSION.

DR. L. WEISS, New York—What little I have to say relates more to the palliative features. I had a case a few weeks ago of syphilitic laryngeal stenosis, and the pain the patient had in deglutition was something terrific. I had tried many local applications and finally I came across orthoform and an application of a 5 per cent. solution to the affected larynx acted wonderfully, so soothing that the patient for the next six hours could swallow almost without pain. Orthoform is not as poisonous as cocain so it works in a quite different way. Furthermore, I would emphasize local applications to the throat of unguentum hydrargy. I have used eucain and I found the pain little less, but it does not act as well as does orthoform to alleviate the difficulties of deglutition.

DR.. A. RAVOGLI, Cincinnati—A kind of syphilis of the pharynx to which I called attention a few years ago comes in form of round ulcers, sometimes isolated, sometimes multiple on the pharynx, with sharply-defined edges, and a yellow lardaceous bottom. I do not believe these ulcers have to be classified in the tertiary period of syphilis, but I believe they are only in the secondary period. The ulcers come in different parts of the pharynx, sometimes between the end of the pharynx and the beginning of the esophagus. These come on sometimes with an attack of fever, and with a great deal of pain. The patient claims he can not swallow, and on careful examination I have found one or two of these ulcers in the pharynx.



Fig. 1 (Article of Dr. Wallis).

They yield easily to the treatment, which must be general and local; they are healed up in a couple of weeks, and leave only a very superficial scar. I have at present a case in the hospital affected with this kind of ulcer, showing up about fifteen months after infection; this is located just back of the tonsils on the pharynx. The local treatment which gives me the best results has been washing the ulcer with dioxid of hydrogen, and covering the ulcer with iodoform two or three times a day. In ten or twelve days I have obtained the cicatrization of this peculiar kind of ulceration.

The pain a dentist causes is remembered longer than any suffering he may have prevented.—*Sat. Evening Post.*

WAX MODELS OF UNUSUAL TYPES OF SKIN DISEASES.*

J. FRANK WALLIS, M.D.

Instructor in Dermatology in the Philadelphia Polyclinic, and Dermatologist to the Southern Dispensary.

PHILADELPHIA.

Skin affections which deviate from the usual type afford the greatest interest for the dermatologist. These freaks are sooner or later recognized and, by the aid of the sensitized plate, become valuable records. Although the camera is a useful aid in registering these rare conditions, yet it can not always convey to the observer all



Figure 2.

the peculiar details of these exceptional lesions, nor can words sufficiently describe these anomalies.

The nearest approach to the ideal, and that which overcomes the deficiencies of the photograph, is the wax model. It is the truest means of illustrating the morphologic conditions, and with the assistance of pigment the natural colors displayed by the pathologic processes are imitated.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

The models here exhibited are part of a collection made by Dr. Schamberg and the writer from patients attending the Polyclinic Hospital and the Southern Dispensary, Philadelphia. Their descriptions follow:

No. 1 represents a case of dermographism. This phenomenon was evoked by the writing pressure made with the blunt point of an instrument. The patient was the subject of a



Figure 3.

spontaneous urticaria lasting over a considerable period of time.

No. 2 shows a cutaneous horn on the back of the hand of an aged woman. It has existed about two years. The location has been unfavorable to growth. The lesion when first observed was higher than at the time the impression was



Figure 4.

taken; this modification was the result of treatment. There is slight inflammation at the base due to constant irritation, and some induration suggestive of epitheliomatous change.

No. 3 is an unusual distribution of psoriasis in a little girl, showing a peculiar symmetrical patch involving the inner surface of both thighs and meeting over the pubic and lower abdominal region. The disease had a strong resemblance to a

chronic scaly eczema, and was differentiated therefrom only after close study of the reaction to various remedies and the presence of a psoriatic patch on the scalp.

No. 4 shows an acute granuloma of skin. At the time the impression was taken the disease had progressed four months. The first lesion occurred on the anterior surface of the right leg below the knee; three months later the posterior surface of the same leg, and the anterior aspect of the left leg above the ankle, became likewise affected. The disease began as ecthymatous pustules, but exhibited, after the rupture of the roof, a granulating mass, honey-combed in appearance and studded with numerous small openings exuding a greenish-yellow, slimy pus.

The disease progressed peripherally and in the older lesions displayed a disposition toward involution, but attacking the border with renewed energy. The epidermis was apparently not affected in the disease. The pathologic process undermined the superficial layer of the skin without materially involving it. At the time the case came under observation pustules were forming in the vicinity of the lesions which behaved in a similar manner, eventually coalescing with the older involvements. At the time last observed—one month ago—the process had extended to the greater part of the surface of both legs.

The principal subjective symptom was intense pain, interfering with the patient's sleep. The pain was greatly aggravated by ordinary applications of even moderate strength.

Stained smears suggested short threads or filaments. The cultures from exudate resembled the cultures of actinomycosis. The stained preparation presented branching mycelial filaments, and in old colonies these filaments interlaced until the structure could not be defined except by teasing the specimen. In young colonies the staining of the filaments was uniform, but in older colonies there was segmentation. These preparations resisted acid reagents. No clubs were found, but a suggestion of swelling at the end of filaments occurred. Inoculations are at present not completed.

DISCUSSION.

DR. W. S. GOTTHEIL, New York—Having done work of this kind myself, I am in a position to appreciate the very great amount of patience and skill that is required to make these models. Nothing in the way of a photograph or painting, and still less anything in the way of verbal description, can approach it as a means of recording skin lesions. It is not possible, however, for a practitioner to devote to it the time that is required; and until we have some one like Baretta of Paris here, it can only serve as an occasional means of record in the hands of younger and artistically inclined dermatologists. Years ago, when I made my models, I was invariably asked by some one when exhibiting them what they were worth. I always answered that it was a labor of love, and that hundreds of dollars would not pay me to make one. I am the more sorry to see that some of those here exhibited have been broken in transport, and would suggest that they are entirely too valuable to be carried about.

DR. WALLIS—It was largely through the suggestions of Dr. Schamberg and Dr. Gottheil that this work was undertaken. Dr. Gottheil is one of the pioneers in the work.

Iodin and Gangrene.—The *Indian Medical Record* tells of a patient whose fractured arm was treated by his physician and who was then sent to a hospital to rest for a few days. The hospital surgeon inspected him, insisted that gangrene had set in, and was about to begin an operation on him when the patient's physician arrived with the information that the signs of "gangrene" resulted from the iodin application he had made.

Resolution Against Physicians Bidding Against Each Other.—The following resolution was recently adopted by the Hillsborough (Fla.) County Medical Society: *Resolved*, That it is the sense of the Society that any member who accepts or continues to hold any already accepted contract, to the exclusion of any other physician or physicians, as physician to any society, company or association organized for the express purpose of securing the services of physicians for less than conventional fees, shall be considered guilty of unprofessional and unethical conduct.

GASTROJEJUNOSTOMY WITH THE McGRAW ELASTIC LIGATURE, FOR THE RELIEF OF GASTROPTOSIS.*

H. O. WALKER, M.D.
DETROIT.

If, as Meinert asserts, 90 per cent. of all women have gastroptosis, and knowing as we do the inefficiency of mechanical and medicinal treatment of this distressing malady in a great number of cases, one may be pardoned for presenting a method that offers features of benefit, whether it is mechanical, medicinal or surgical.

Surgically, little has been done, and that but recently, in the way of improvement of this condition. Gastroplication and gastrorrhaphy are the principal procedures, and have not been attended with very brilliant results, as they do not always relieve the chronic pyloric kinking, and although I may not be presenting anything new, yet, as far as I know, except by allusion, nothing has been presented along the lines that I offer. With this brief introduction I beg leave to make a somewhat detailed report of three cases in which a gastrojejunostomy was done for the relief of a chronic invalidism due to gastroptosis.

CASE 1.—Miss A., aged 24, music teacher, was sent to me by Dr. Henry, Northville, Mich., and admitted to Harper Hospital Oct. 21, 1901, with a previous history of having had a fall when 7 years of age, causing a left inguinal hernia. For the last ten years she has had a variety of abdominal disturbances referable to the pelvic region, accompanied with disturbances of the stomach, such as distress after eating, with eructations of large quantities of gas, occasional vomiting and chronic constipation. Within the last three years she has had attacks of pain in the right iliac region, and about three months ago had an attack that was quite severe, confining her to bed for about a week, accompanied with vomiting and elevation of temperature. This point has been quite sensitive ever since. She has had a chronic leucorrheal discharge for several years, also hemorrhoids, and a sensitive left ovary. In fact, she has been in a state of chronic invalidism for years.

Examination.—A reducible left inguinal hernia was quite in evidence. A sensitive appendiceal area, a retroverted uterus, with chronic endometritis, internal hemorrhoids and a prolapsed, sensitive, cystic ovary were found. These conditions in themselves were sufficient to produce stomach trouble, so that as careful examination as should have been made of the stomach conditions was not done.

First Operation.—Oct. 22, 1901, after due preparation, I first did a curettement; then a herniotomy, following with a median section, removing the cystic ovary and the appendix, which showed evidences of chronic infection, and, lastly, the removal of the hemorrhoids. The temperature never exceeded 100, and after three days it dropped to normal, and she made a good recovery from these operations.

Subsequent History.—Her stomach trouble, however, did not improve, and a more careful examination was made, which, with the symptomatology, showed irregular attacks of distention, gastralgia, eructations, nausea and vomiting, with the persistent, typical constipation of gastroptosis. Palpation and percussion gave a succussion or swashing sound of a large quantity of fluid in the stomach, and its lower border could be mapped out below the umbilicus. At times considerable pain was referable to the gall-bladder area. There had, however, never been any jaundice; right nephroptosis was slight, stomach analysis, after a test breakfast, showed total acidity of .35 per cent., mostly lactic acid, with free HCl .12775 per cent.; undigested starch granules and a large amount of mucus.

Second Operation.—After explaining to her the advisability of another operation, she consented, and after due preparation I operated Nov. 29, 1901, opening the abdomen from just

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* Read at the twenty-eighth annual meeting of the Mississippi Valley Medical Association, held at Kansas City, Oct. 15-17, 1902.

below the ensiform tip down to about five inches. No evidences of gall-bladder adhesions, constriction or thickening of the pylorus were apparent. The lower border of the stomach extended about two inches below the umbilicus, so that the pancreas was observable above the lesser curvature of the stomach as she lay on the table. On drawing out the stomach the transverse colon was down below that point, as well as a general enteroptosis.

My experience in gastroplication and gastrorrhaphy, in the few cases on which I have operated, has been far from satisfactory, and I conceived the idea that a direct opening from the stomach into the intestine would be better than an attempt to relieve the pyloric kinking by lessening the size of the stomach, or fixing it high up to the abdominal wall inside. I therefore concluded to

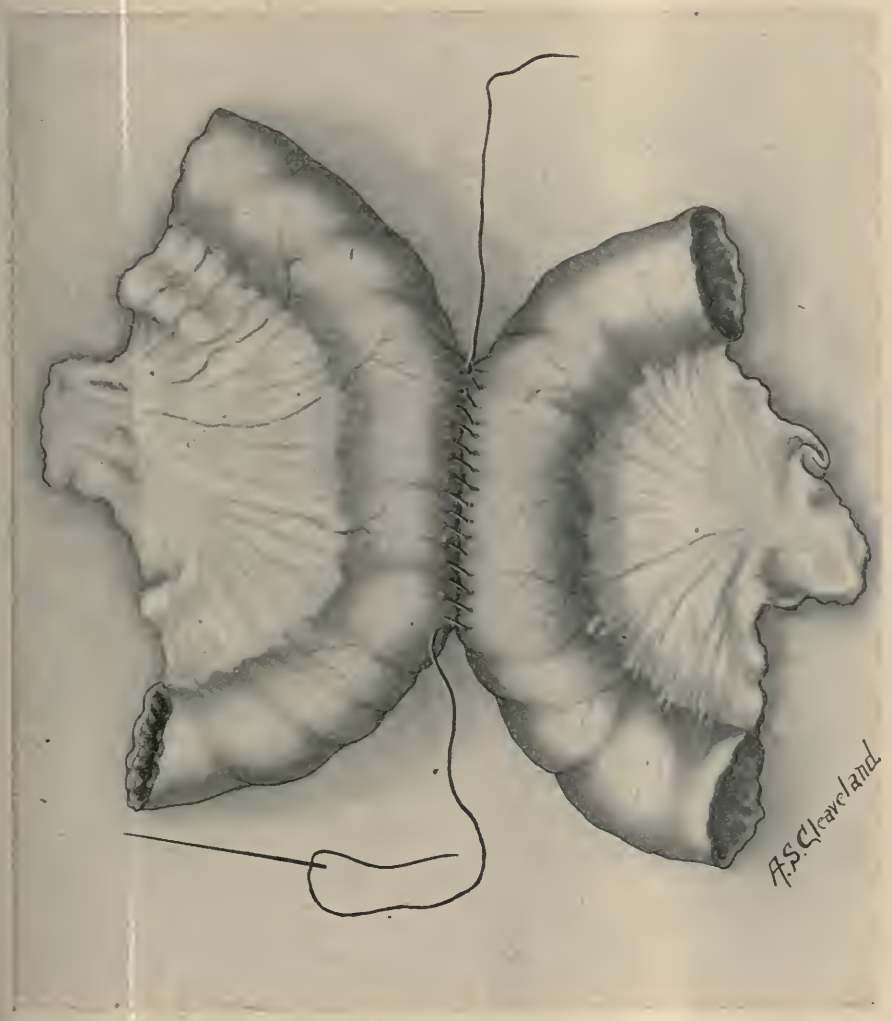


Fig. 1.—Approximation of serosa with continuous silk suture.

do a gastrojejunostomy by using the McGraw elastic ligature, in which the various steps of the method are shown in the illustrations that I herewith present.

Fig. 1 shows the approximation of the serosa by continuous silk suture. Fig. 2 shows the elastic ligature introduced. Fig. 3 shows one tie of the elastic ligature, with strong silk ligature underneath, ready to fasten the elastic ligature when it is drawn taut. As a matter of safety, before cutting off the ligatures, it is well to make another tie of each ligature. Fig. 4 shows the ligature tied; while Fig. 5 shows the operation complete with a continuous suture of the serosa entirely covering the knot. It is my custom in introducing the needle to take up full two and a half inches in the bite of both the stomach and intestines, thereby giving a large anastomotic opening.

This method was followed with this patient. I fed her mostly by the rectum for five days with beef and saline enemata every four hours, with occasional sips of water by the mouth. From this time on she was gradually fed by the mouth, taking solid food on the eleventh day. Her recovery was complete from the operation, and she left the hospital on the twenty-third day thereafter. I have seen and heard from her several times since, and she informs me that she rarely knows that she has a stomach.

CASE 2.—Miss M. P., aged 28, gives a family history of her father dying at the age of 48 from an accident; mother died at 33 after a long history of ill health. Her brothers and sisters, seven in number, are in good health. She has done housework ever since she was 14. At 6 she fell into a well, sustaining severe injuries, from which she apparently made a good recovery. At 15 she had facial paralysis; malarial fever twice, at the ages of 17 and 19, and a broken ankle at 20. In 1893 she had had her first attack of appendicitis, which was followed by recurrent attacks, when, in March, 1897, she was operated on during a severe attack, and the appendix removed, followed by recovery from the operation. Since 1890 she has had attacks of what she called indigestion or dyspepsia, with gas eructations, and pain referable to the liver and stomach, with more or less bloating. Her menstrual periods have been more or less painful. In 1898 she had what her physicians called nervous prostration, followed by acute articular rheumatism.

Examination.—In February, 1901, she consulted me for the first time since I had operated on her for appendicitis for pain over the region of the stomach and gall bladder, which had become unbearable, whether she had eaten moderately or not. She wondered whether an operation might be of benefit to her, and she expressed her willingness to undergo one if she could get relief. At this time her weight was much below normal. She had an anxious expression and was somewhat jaundiced. This jaundiced appearance had been noticed at intervals for some time. She had become habitually constipated; her tongue was coated, and there was constant eructation of gas. Inspection showed general tympany of abdomen, while palpation evinced pain referable to the stomach, but more particularly to the gall bladder. Percussion revealed a succussion sound over the region of the stomach extending to nearly the umbilicus. While it was apparent that she had gastroptosis, yet the preponderance of opinion was in favor of a gall-bladder lesion, in all probability calculi, with adhesions from previous attacks of cholecystitis.

First Operation.—Feb. 7, 1901, I operated on her, making a median incision, and the only lesion, aside from gastroptosis, that could be observed was a band extending from the gall bladder to the pyloric end of the stomach. This was relieved. The stomach could be readily brought out through the abdominal opening, and the lower border of the stomach extended below the umbilicus. Gastrectasia was not well marked, neither was there any thickening or apparent constriction of the pyloric orifice. Gastroplication did not seem to be indicated in this case, so I attempted fixation of the lower curvature of the stomach with several interrupted sutures to the ab-

dominal parietes on a line about two inches below the ensiform cartilage.

Subsequent History.—There were no untoward symptoms following the operation, and she seemed better for a while, but soon her condition became gradually worse, and continued so for more than a year, when she came to me again. I sent her to the Harper Hospital, with a view to attempting further surgical effort for her relief. At this time her pulse was 100, temperature 99, respirations normal, except for a slight bronchial irritation; appetite poor; bowels acting every day, with an occasional diarrhea; pain, especially when lying down, with nausea. She is very nervous.

On April 11, 1902, she was given a test breakfast, which was withdrawn one hour later; amount, 180 c.c.; reaction acid; undigested food from the previous meal; some mucus; total acidity, 0.225 per cent.; free HCl none. Lactic acid present.

Second Operation.—April 12 an incision was made in the same line as before. The previous fixation was satisfactory, except that it failed to accomplish the object for which it was intended, for the upper part of the stomach had rolled down and behind, making matters worse than before. I found (a statement which I neglected to make at the previous operation) a ptosis both of the liver and right kidney, together with general enteroptosis, which, however, was not marked. I first peeled off the attachments that I had previously made, so as to cause a perfect freeing of the stomach, then did an anterior gastrojejunostomy with the McGraw elastic ligature after the manner indicated in the report of Case 1.

Subsequent History.—The first three weeks of convalescence were satisfactory, as she did not complain of any of the old symptoms, but in the fourth week she began vomiting, which was preceded by pain in the back and right side, with an obstinate constipation. Vomiting became frequent and distressing. The symptoms pointed to partial intestinal obstruction or possibly a vicious circle, yet she did not vomit bile, but what seemed to be merely stomach contents from what she had eaten and drunk. The obstruction appeared rather to the left and above the point of anastomosis, or I could map out here an irregular intestinal outline.

Third Operation.—May 30, 1902, her abdomen was again opened, and extensive adhesions liberated. The intestine had assumed a horseshoe shape, and had become adherent on itself. The adhesions were freely relieved, and after satisfactory hemostasis I powdered the whole surface with aristol, as recommended by Morris, with a view of preventing their recurrence.

Subsequent History.—There was no vomiting for two weeks, when the situation became as before, with a return of the obstinate constipation, calling for vigorous catharsis and copious enemata. The abdominal distention and pain were unbearable, necessitating hypodermics of morphin.

Fourth Operation.—Having observed the reports by my friend Morris and others of the value of the Cargile membrane in preventing adhesions, I made another effort, July 26, to relieve her by using nearly a whole package containing twelve sheets of the membrane.

Subsequent History.—The adhesions were more marked than at the last operation, and after two weeks of comparative comfort the symptoms returned, with greater severity than before. Feeling through my efforts to relieve my patient that I had probably made her worse than she would have been, I felt that she demanded at my hands a further effort.

Fifth Operation.—So, on Aug. 29, 1902, I did what probably should have been done before, namely, made an enterostomy, using the McGraw ligature for the purpose. The point of anastomosis was made between the intestine, about eight inches below the gastrojejunostomy. It goes without saying that the adhesions were more extensive than at any previous time. The Cargile membrane had not been absorbed, but was firmly embedded in the cicatricial adhesions. I then, again, made a liberal peeling of all adhesions, and after causing hemostasis as much as possible, I filled the abdominal cavity to distention with normal salt solution, closing the abdominal wound with interrupted silkworm-gut sutures.



Fig. 2.—Elastic ligature introduced.

The Cure.—September 1 the vomiting had entirely ceased, and has not recurred. She eats anything and everything without any discomfort; she has daily natural evacuations of the bowels; in fact, she did not have an untoward symptom, and on Oct. 7, 1902, she called to see me at my office, presenting a perfect picture of health, to bid me good-bye, as she was about to leave for her home in Ontario.

CASE 3.—Mrs. K., aged 42, was brought to me by Dr. C. F. McDonald of Goodrich, Mich., with a history as follows, which he kindly furnished:

She was married twice, at the ages of 15 and 30 respectively, and was never pregnant. Her condition of health previous to four years ago was fairly good, except at irregular intervals. For eight years preceding 1898 she had distress in the region of the gall bladder and over the stomach. In 1898 these symptoms increased, pain radiating from the

ensiform cartilage in front to the right of the scapula behind and through the thorax. The pain was very severe and accompanied by chilly sensations, nausea, eventuating in vomiting, which was followed by immediate relief for a time. The vomitus consisted mostly of mucus and of whatever food was in the stomach, with bile at times. During these attacks there was never any elevation of temperature or undue circulatory disturbance. With these so-called attacks of indigestion there would be sometimes slight icterus and mental depression. One of these attacks lasted six weeks, followed with marked loss of flesh and strength. Following this severe attack she was fairly comfortable for nearly two years, although rarely a week passed without a reminder by uneasy stomachic sensations. About a year ago she had an attack that was more severe and prolonged than that of 1898. The interval symptoms continued until six weeks ago, when she had another severe attack. Medication and change of climate availed nothing. Dr. McDonald recommended an operation, with the expectation of finding gall-bladder trouble. Certainly the history pointed in that direction, yet with past experience I could easily make out gastroptosis, with characteristic swashing sound on palpation. In this instance no examination of the stomach contents was made, owing to a misunderstanding of instructions for preparations.

Operation.—The history of a gall-bladder lesion was so plain that I could not question its existence, yet on opening the abdomen there was no evidence whatever that it had ever been affected. The sagging of the stomach was very marked, for on withdrawing it and placing it on hot towels on the abdominal wall it easily extended to three inches below the umbilicus. The pyloric orifice was slightly lessened in size and thickened, due entirely to its long-continued kinking caused by the dragging of the stomach. There was ptosis of the liver, right kidney, colon and intestines generally. April 23, 1902, at the Harper Hospital, I did a gastrojejunostomy with the McGraw elastic ligature, in the manner heretofore described. This woman made a rather phenomenal recovery, in that she left the hospital on the fourteenth day after the operation. Dr. McDonald states that since her return home she has had none of the old symptoms; she has increased in weight, and appears perfectly well.

It must be apparent, except possibly in Case 2, where the band of adhesions was found, that the gall-bladder symptoms in all of these cases can only be ascribed to the dragging weight of the fluid-distended stomach.



Fig. 3.—One tie of the elastic ligature with a strong silk ligature underneath ready to fasten the elastic ligature where it is drawn taut.

In making gastrojejunostomy I resort to the anterior method, selecting a point in the intestine for attachment to the stomach fully twenty-four inches from the pyloric orifice, there being less possibility at this distance of causing a vicious circle. The symptoms of obstruction that occurred in Case 2 were entirely due to adhesions of the intestine to the anterior abdominal wall, and not a true vicious circle; yet as a means of prevention of this possible contingency it would be well to do an anastomotic enterectomy six or eight inches below the gastrojejunostomy. This was done in my last case, which I operated on three or four days before I left home, and the outcome of the operation I have not yet learned.

Of all the methods that have been suggested for the performance of lateral intestinal anastomosis, with most of which I have had a liberal experience, none, to my mind, possesses the advantages of the McGraw elastic ligature.

1. Its simplicity, which is far greater than any other method yet presented.
2. Ease and rapidity with which it can be done.
3. Less liability to sepsis than by any other method.
4. No danger of a foreign body.
5. A larger opening can be made without liability to cicatricial contraction.

In Case 2, where I had the opportunity of opening the abdomen three times after the gastrojejunostomy, I found the opening very large, with no tendency whatever to contraction. Although my experience with gastrojejunostomy for the relief of the distressing symptoms of gastroptosis is limited, yet the results thus far obtained are certainly encouraging enough to warrant further effort in this direction.

Orthoform in Differentiation of Painful Gastric Affections.—Orthoform has no effect on sound epithelium. Consequently, when it is taken into the stomach, if the epithelium lining is intact, it will have no analgesic action and the pains will continue as before. But if there is an ulcer or ulcerating cancer, the orthoform makes its action soon felt in the reduction of the pains.—Quoted in *Gaz. Med. Belge.*

THE MORTALITY FOLLOWING OPERATIONS FOR PUS IN THE PELVIS.

HUNTER ROBB, M.D.

Professor of Gynecology, Western Reserve University, and Gynecologist-in-Chief to the Lakeside Hospital.

CLEVELAND, OHIO.

In the course of his everyday reading, as well as in his own operative work, the busy surgeon is always meeting with new data, so that at the end of a certain time he finds his mind loaded up with a mass of undigested knowledge, much of which is of no practical utility, or even apparently contradictory. Under these circumstances he finds it necessary to pass in review from time to time all these accumulated ideas, and to sift out the chaff from the wheat so that he can once more start with a clear field and find himself in a position to answer the questions: 1. What have I learned lately which I can utilize in improving my surgical judgment? 2. What omissions from or additions to my operative technic will give me better results in the future? Probably the most satisfactory way by which he can attain this end is to make a careful classification of all his cases and as soon as he finds himself in possession of a sufficiently comprehensive series exemplifying a given pathologic condition to make a careful analysis of all the cases, and from the various data thus obtained to draw any conclusions that seem to be warranted, discarding what has proved to be worthless, and reserving for further consideration any points which may still be doubtful. It goes without saying that deductions based on a few isolated cases would be worse than useless and might be altogether misleading, and that the series should present instances of approximately all the various complications which may be met with in this particular class of operative cases.

During the past three years we have had in our clinic two series of unselected abdominal sections without a death. In the first there were 114 and in the second 108 cases. In the two together we encountered practically all the usual forms of pelvic lesions that occur in the female generative organs. From these cases, together with some prior and other subsequent instances, we have been able to make up a series of 100 consecutive abdominal operations for pus in the pelvis with two deaths. An analytical report of 72 of these cases has already appeared in a paper read before the American Gynecological Society in Chicago, May 30, 1901. Since the date of this publication we have had 28 additional instances. To-day I will briefly consider some of the bacteriologic questions connected with such pus cases, together with some points in the operative technic.

So far as I can gather from my reading, many surgeons would appear to still hold to the belief that the finding of pus in the Fallopian tubes and ovaries in a given case affords sufficient ground for assuming that the patient's chances of recovery following radical operative procedures are necessarily bad. So gloomy a prognosis, I feel sure, when based on the presence of pus *per se*, is by no means always warranted, and the general condition of the patient, as well as her capacity or inability to react after the shock of a severe surgical operation, are often of paramount importance. This is liable to be the case more particularly when dense adhesions have to be separated. Again, when pus is already present, not a few operators appear to assume that the carrying out of an aseptic technic, so far as they themselves are concerned, becomes no longer necessary, and when a fatal result follows an operation under these conditions or when the abdominal wound subsequently becomes infected, they are too apt to content themselves with the explanation that infective material was already present and its spread was only a natural result. Against such conclusions, however, we have the evidence of repeated bacteriologic examinations to prove that the pus found under such circumstances seldom contains living organisms. This observation has been demonstrated in my clinic in a large number of instances, in which no growths were obtained on the culture media, and the fact that the micro-organisms are dead undoubtedly plays a large part in contributing to the favorable results which often follow operative procedures. There is another point of interest connected with the treatment



Fig. 4.—Ligature tied. (Article of Dr. Walker.)

advisable in these cases, namely, the influence of the employment of palliative measures to the acute stages of purulent invasions of the Fallopian tubes and ovaries. I have long been convinced that it is an unwise routine to proceed at once to radical steps during an acute attack of pelvic abscess. Even if the patient does not improve somewhat in a short time under general hygienic measures and external applications together with the exhibition of suitable drugs, by simply opening up the cul-de-sac, in the great majority of instances the pus can be given an outlet through this channel, and the absorption of the toxic substances present in the pelvis can be diminished so that as a result the patient's condition will generally become better. She will then be able to withstand the shock if it should later become necessary to institute radical abdominal measures for the removal of the pus-sac contents. After having tried this plan of treatment in a considerable number of cases, and comparing the results with those following immediate radical operative procedures during the acute stage of pelvic abscess, I have become convinced of the great advantages of the former method in the majority of instances.



Fig. 5.—Operation complete, continuous suture entirely covering knot. (Article of Dr. Walker.)

The micro-organisms that are most frequently met with in cases of suppurative disease of the Fallopian tubes and ovaries are *Staphylococcus pyogenes aureus, Streptococcus pyogenes, Gonococcus* and *B. coli.* Other forms are occasionally met with, such as *B. tuberculosis,*[1] *Proteus zenkeri.* Of these organisms the one which is the most to be feared is undoubtedly *Streptococcus pyogenes.* But although its presence always makes the prognosis grave, it must be borne in mind that there are many instances on record in which this organism has been found during abdominal operations, and yet the patient has recovered. This favorable outcome is to be explained by the wide range of virulence possessed by *Streptococcus pyogenes.* In my experience a fatal peritonitis has sometimes followed operative procedures in which there were no macroscopic evidences of pus at the time of the operation, and I am inclined to believe that in such cases, with adherent lateral structures, the prognosis is often worse than when a considerable quantity of pus is met with. For this reason, and also because one can never be absolutely sure that the organism may not be very virulent, I have for a long time followed the rule of not performing more than one abdominal section on the same day, preferring to have more frequent sessions rather than to run risks. Whenever I find pus I always postpone carrying out any further abdominal work, except in emergencies, until 48 hours have elapsed.

Drainage.—The question of drainage in pus cases is always of great interest, and all operators are by no means in agreement as to its advantages and disadvantages. In my clinic we have not used a drainage tube during the past seven years, and we now, even in pus cases, seldom drain through the abdominal incision. When should we and when should we not carry out drainage in pus operations? As has already been suggested, the pus that is found in the Fallopian tube and ovary is in the great majority of instances sterile, and if this is the case, what advantage is to be obtained by the use of drainage? Again, if the pus encountered in a given case contains virulent organisms, will the use of drainage prevent a spread of the infection after a complete operation? After a thorough trial of both procedures, I have been forced to the conclusion that no form of drainage will prevent the occurrence of a certain amount of peritonitis if the organism present is virulent. There is, however, a class of cases in which drainage may possibly be indicated, namely, those in which it has been impossible to remove the adherent pus sac or structures completely. In these instances we employ for the purpose gauze sponges, which are introduced through the abdominal incision and carried out through the vagina. If the operation has lasted for a considerable length of time and the patient has been in a more or less marked condition of chronic sepsis, the drainage is kept up for from 24 to 48 hours. I must say, however, that

1. Recently my assistant, Dr. Howard H. Dittrick, has been able to grow the tubercle bacillus from the pus of a tuberculous salpingitis.

I do not feel altogether sure that even under these circumstances the procedure is always absolutely called for.

In passing, I might say that the only other cases which in my judgment call for drainage are those in which it has been impossible to control the bleeding that occurs after the separation of dense adhesions, or in which, during the separation of adhesions, a rupture of the bowel has taken place, and it has been an exceedingly difficult case to close the rent. In the former case the gauze is used more for the purpose of compression, while in the latter it serves to protect the bowel, and should a leakage of the contents take place they can find an avenue of escape by means of the opening made in the cul-de-sac through which the distal end of the gauze sponge is carried into the vagina. On the other hand, if we have not drained and symptoms should arise after an abdominal section, as the result of the absorption of septic material that has been introduced at the time of the operation, or from remnants of the retained diseased foci, we have plenty of time, as a rule, to reopen the abdomen and wash it out again, and then, if necessary, institute drainage in order to prevent the absorption of more septic material. Such cases are, however, fortunately very rare, and if we employ drainage as a routine in order to anticipate such a condition we may run many risks of infecting the patient.

THE TECHNIC TO BE EMPLOYED IN PUS OPERATIONS.

The technic to be carried out in operations for pus in the pelvis differs somewhat from that carried out in ordinary abdominal operations, and although the pus met with under these circumstances is, as a rule, sterile, practical experience has shown it to be a wise precaution to protect as far as possible from infection the portions of the pelvic contents which are apparently intact. In order, therefore, to limit the free distribution of noxious material throughout the abdominal cavity, it is our practice, as soon as the abdomen has been opened, to place large gauze sponges high up in the flanks on either side. If during our manipulations a pus sac is ruptured, we at once lower the patient and then make coverslips of the escaped pus, and, while these are being examined by an assistant, we try to remove as much as possible by mopping it up with gauze sponges. The pelvic cavity is then irrigated with large quantities of sterile salt solution in order to get rid of the greater part of the septic material and to dilute thoroughly any that may still be left. The enucleated mass is now surrounded with gauze which has been moistened in a solution of 1-1000 warm bichlorid of mercury. This gauze is not removed, if it can possibly be kept in place, until the structures have been cut away. If we unexpectedly encounter a pus sac before we have had an opportunity of applying our gauze protection pads, and if the contents escape into the pelvic cavity, the patient is at once lowered to the horizontal posture, and the pelvic and abdominal cavities are irrigated with hot sterile salt solution. The excess having been sponged out and the gauze protection pads placed in position, we then proceed with the enucleation of the mass. The pedicle is thoroughly cauterized with the Paquelin cautery, the abdomen is again washed out with salt solution and sponged dry, after which 300 to 500 c.c. of warm sterile salt solution are introduced and left in the cavity. The incision is closed without drainage. For 24 hours following the operation the lower end of the bed is elevated.

The situation of the pus in this series of 100 cases, the number of cases in which we were able to demonstrate organisms, and the classification of these organisms may be of some interest.

The pus was found as follows: In the ovary, unilaterally, 30 times; bilaterally, 6 times, including tuberculous cases. In the tube, unilaterally, 36 times; bilaterally, 52 times, with the tuberculous cases. In the appendix once. In the walls of the uterus, once. In almost every case in which the pus was unilateral the tube and ovary on the other side were found to be adherent. Infection of the tube and ovary together (tuboovarian abscess) was noted, unilaterally, 21 times, and bilaterally twice. The tubes were more liable to a bilateral infection; the ovaries, to a unilateral infection.

In the tubes and ovaries the following organisms were found: *Staphylococcus pyogenes aureus,* 3 cases; *Staphylococcus pyogenes albus,* 3 cases; *B. coli communis,* 4 cases; *Streptococcus pyogenes,* 4 cases; *Friedländer's bacillus,* 2 cases; *B. tuberculosis,* 2 cases; *Gonococcus,* 8 times positive (six others probable). Thus in 24 cases (24 per cent.) organisms were found.

We were not able to cultivate the gonococcus, except in one instance, and the diagnosis was made in the other cases entirely from the coverslip examinations of sections made from the tissues.

In the two cases in this series which terminated fatally, we had to deal with a streptococcus infection, as was demonstrated by the growth on culture media. In the first case there was a previous history of infection following a miscarriage which had occurred ten weeks before the patient was admitted to the hospital. At the time of the operation we were not able to demonstrate by coverslip examination any organisms in the pus that escaped. No drainage was employed. The infectious material may possibly have been introduced at the time of the operation, although it is quite likely that the process dated from the time of the miscarriage. In the second case the coverslip examination of the pus revealed no organisms, but on tubes inoculated from the pus streptococci were found. The abdomen was reopened on the second day after the operation under cocain anesthesia and washed out, drainage being afterwards instituted. The patient died on the third day. Cultures made from the lung at autopsy showed *Diplococcus pneumoniæ* and *B. coli communis;* in the liver, *B. mucosus capsulatus* was found, and in the peritoneum *Diplococcus pneumoniæ.* In this case, then, streptococci, though not demonstrable by coverslip examinations at the time of the operation, appeared in the culture tubes two days later. At the time of the autopsy only *Diplococcus pneumoniæ* was found in the peritoneal cavity.

CONCLUSIONS.

A careful analysis of this series, therefore, seems to justify the following conclusions:

1. The mortality following operations for suppurative diseases of the tubes and ovaries can be kept under 5 per cent.

2. The death rate is largely influenced by *a,* the virulence of the specific organisms present; *b,* the individual resistance of the patient; *c,* the time and manner of carrying out the operative technic.

3. The micro-organism most to be feared is *Streptococcus pyogenes,* but it must be borne in mind that this organism varies considerably in virulence.

4. Abdominal drainage following operations for pus in the tubes and ovaries is seldom called for, as the organisms are generally dead. Drainage becomes necessary only when it has been found impossible to remove the suppurative structures, or where perforation of the bowel

from the separation of dense adhesions is to be feared. Under these circumstances the best route is by the vagina.

5. The employment of sterile salt solution for irrigating the pelvic cavity will satisfactorily remove the pus or its products and the filling of the abdomen with salt solution will dilute and promote the rapid absorption of any inflammatory products that may be left behind.

6. The elevated position for 24 hours following the operation, with the abdomen filled with salt solution, tends to prevent the intestines and omentum from coming in contact with the immediate field of operation, and as a result adhesions are not so likely to form between the viscera and the incised surfaces.

7. Should symptoms of infection follow the closing of the wound in pus cases, we have, as a rule, sufficient time to reopen the abdomen and wash out the infective material that may have been left behind, or that may have been introduced at the time of the operation.

8. Operations for pus in the tubes and ovaries from the standpoint of the pus *per se* are not surrounded by more danger, as a rule, than those in which a purulent focus is not present.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.
Professor of Genito-Urinary Surgery, Medical Department State University of Illinois; Surgeon to St. Mary's Hospital.
CHICAGO.

1. HONOLULU.

There is but one way for a lazy doctor to enjoy himself, and that is to get aboard a sea-going vessel and keep going till his money gives out. He must select a far away destination, and get a through ticket so as to avoid the temptation to become industrious again, and insure against the necessity of swimming home. I selected Australia, via Hawaii, Samoa and New Zealand, and can confidently recommend the trip as the pleasantest and most healthful imaginable. The Pacific weather during September is ideal. Contrary to my expectations it was at no time too hot for comfort. Until Honolulu had been left far behind the weather was very cool. Even in equatorial regions the balmy trade winds redeemed the situation. I was informed that the trip was usually quite as pleasant as I found it. This is an important point for invalids, to whom the enervating effects of very hot weather are likely to be detrimental. My experience with Panama had led me to expect a similarly torrid heat at the corresponding latitude, and the cool breezes of the South Seas came as a most agreeable surprise. Indeed, just before reaching Auckland, and on the sea between New Zealand and Australia, the temperature was lower than I liked, and, now I recall it, it was here that the only unpleasant part of the voyage was encountered—of which more anon.

One of the advantages of taking a late vacation is the scarcity of physicians one meets. When you do meet them the temptation to talk shop is too strong to be resisted, and—away goes the rest you seek. There was only one aboard the steamer. He talked shop, but as he was a Britisher and couldn't talk English, and I carefully concealed my profession, no harm was done. He discoursed learnedly of King Edward's case, and I at first thought he might be Treves, traveling incog. He displayed so much unclassified misinformation on appendicitis, however, that I soon disabused myself of this fallacious notion.

The Hawaiian Islands are destined to become very popular for invalids, and unless Honolulu becomes overgrown—which is not likely in the near future—this city will always be a favorite resort for them. The equable temperature and facilities for out-of-door living and sea bathing the year round constitute most favorable conditions for the chronically sick. Honolulu is a beautiful city and most advantageously situated, but a description of its various attractions would be out of place here. I could not help being impressed with the fact that the fate of the Sandwich Islands exemplifies the rapacity of the Caucasian. The thought that this beautiful country was once the undisputed property and ancestral home of the poor Kanakas one sees about the streets is somewhat depressing. On the main street stands the regal palace of King Kalakaua, now occupied as an official building by the United States Government. On the opposite side of the street, facing the palace, is a heroic statue of King Kamahameha the Great, founder of the dynasty which the revolution, incited and conducted by alien whites, overthrew. To me the statue was most pathetic.

Not the least of the attractions is the magnificent high school building given to the cause of education by Princess Ruth. It was formerly her palace. Ruth was celebrated especially for her great size. She weighed something like six hundred pounds. One of the instructors at the high school says that he uses her bathtub as a swimming pool.

Walking down the principal residence street I chanced to see on the gateposts of a quaintly-artistic Japanese dwelling the names of Dr. Ninomiya and Dr. Oyama. Reposing peacefully on the mat in front of the office entrance were six pairs of sandals, which had been removed by the doctors' patients before appearing in their most august presence. The idea occurred to me as I saw the evidences of material prosperity which those sandals presented, that a similar custom might be popular in Chicago. We can imagine a situation like this: Dr. G. Randstand opens his front door one fine morning and glances at his rival's doorstep across the way. What he sees there almost causes him heart paralysis. Calling his major domo he cries:

"Fujiyama! How now? What is here? That fool, Dr. A. Gallery Play, has fifteen pairs of sandals at his door. What means this, villain?"

Whereat replies Fujiyama, with profound salaam:

"Most Concentrated and Multitudinous Knowledge of All the Centuries, it means simply this: his man, McGinnis, rose too early for me this morning. But bear with me, my liege, and I will make amends."

And next morning G. Randstand finds seventeen pairs of sandals on his own threshold. His honor is avenged, for there are French heels and golf shoes among the job lot purchased at the Fair by the faithful Fujiyama.

Honolulu just at present is enjoying a period of sanitary comfort. Recently harassed by the plague, the disease has practically disappeared, and the health of the city is excellent. Contrary to the usual belief, a few lepers are said to be at large among the natives. It is claimed that these cases are not severe, and so long as the victims do not make themselves conspicuous they are not disturbed. No cases, of course, are to be found in the hospitals.

The principal hospital of Honolulu is the Queen's. This has 120 beds and an average census of 70. Both Kanakas and whites are received here. The Kanakas should have the preference, for the hospital was founded by Kamehameha IV in honor of Queen Emma Kaledokalani. On the wall of the reception room hangs a certificate of Queen Emma's life membership in the "Queen's Hospital Corporation," founded by the first president, Kamahameha IV, June 15, 1859. Here also hang excellent life-size portraits in oil of Queen Emma and King Liholiho, who reigned some forty years ago. One can not fail to be impressed by the face of good Queen Emma, which is beautiful and kindly, even from the Caucasian viewpoint.

The hospital is a rather old-fashioned, two-story structure, somewhat the worse for time and wear. It needs a modern aseptic operating room more than anything else. Considerable surgery is done here, the emergency service being especially good. I inquired particularly in regard to appendicitis, and found not only that a fair number of cases are treated here, but that radicalism is distinctly in favor. The nurses are mainly from San Francisco training schools. I asked one of

them if they had a training school at The Queen's. She replied: "Thank God, no." The nurses are mainly American. There is no obstetric service at Queen's. Such cases are sent to the Maternity Home.

The hospital is under the direct control of a lay superintendent, Mr. Eckhart, to whom I am indebted for much information regarding the hospital. The staff is composed of one resident physician, two visiting surgeons and two visiting physicians. There is the usual ornamental, i. e., "consulting" staff, twenty in number. Dr. G. B. Wood, one of Honolulu's successful physicians, is surgeon-in-chief. No contagious diseases are admitted to Queen's.

The spirits of the staff are buoyed up by the promise of a new and well-equipped modern hospital in the near future. With such a building the institution will be ideal. The grounds are a dream of Fairy Land. Giant royal palms, cocoanut trees, pampas grass, the Pride of India—huge trees ablaze with scarlet bloom—passion trees, date palms, and every conceivable variety of tropic plant and flower serve to make the spacious grounds a paradise for the convalescent sick. A drive or walk through the main isle of stately palms can not soon be forgotten.

There is a small Japanese hospital in Honolulu, but it is unworthy of more than bare mention. The Army and Navy Hospital really deserves but little more attention. Patriotism, and the desire to give Uncle Sam a "hunch" impel me, however, to say something about it.

The hospital was established in 1898. It is now occupying "temporary quarters," which are about as good as Uncle Sam's sick are likely to get for some time to come. The institution consists of several low, one-story buildings built bungalow fashion. There are no separate rooms, only wards. The capacity of the wards is thirty-five. There were only nine patients at the time of my visit. All classes of cases are taken, but were it not for the venereal cases, the hospital, like Othello, would soon find its occupation gone. An occasional surgical case drifts in, however. Three or four cases of appendicitis have been treated there. Radicalism is the watchward, and the cases have all terminated favorably. Even Uncle Sam has awakened, and it is high time for "conservatism" to drop its fetiches. The surgeon in charge is Col. J. B. Girard. I had expected to find our old friend, A. C. Girard, formerly of Fort Sheridan, not noticing the difference in initials, but was doubly disappointed in finding, not only that the surgeon was absent, but that he was not the Girard whom I knew.

(To be continued.)

Clinical Report.

A CASE OF SCOTOMA AURIS PARTIALE CENTRALE ET PERIPHERICUM.*

EMIL AMBERG, M.D.
DETROIT.

Miss J. Sch., aged about 40, has been for some time under treatment for otitis media catarrhalis chronica, which may have set in, as patient thinks, after an attack of grippe two years ago, on which occasion she took quinin. There did not seem to be anything unusual in her case.

When patient consulted me again, Nov. 12, 1902, she told me that she was surprised to find out, accidentally, that she could hear a clock at home when the clock was in a position upward from her right ear, but that she could not hear the same clock, at the same distance, when the clock was on a level with the ear. I examined the patient with a watch, which can be heard normally at a distance of about 100-150 inches, and could confirm the patient's own observation. At a distance of about 3¾ inches the watch was heard at a height corresponding about to the top of the auricle, whereas the watch was not heard at the same distance directly opposite the canal and below. On the left side I found that the watch was heard, at very reduced hearing distance, opposite the canal and not above and below the auricle.

November 18 I examined the patient again, repeatedly, and found she almost constantly heard the watch (+) or did not hear it (—) when the watch was in places indicated in the diagram.

(Diagram.) 1. + 2. +a 3. + 4. + 5. +

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1 to 3, before treatment with Eustachian catheter, Nov. 18, 1902:
1. Right ear. Watch in a frontal distance of about three inches.
2. Right ear. Watch in a frontal distance of about two inches. (*a*) Very loud; (*b*) not so loud.
3. Left ear. Watch in a frontal distance of about two inches.
4 and 5. After treatment with the Eustachian catheter.
4. Right ear. Watch in a frontal distance of about 3½ inches.
5. Left ear. Watch in a frontal distance of about 2¼ inches.

The findings in the case reported are extraordinary. All I can find in the latest edition of Politzer's text-book are a few lines on page 629: "Brunschwig gave the name of scotoma auris, an anomaly of perception, to a phenomenon consisting in the fact that in single cases a source of sound, e. g., a watch, is heard at a certain distance; that it is not, however, heard at a certain point when brought nearer to the ear. Guye (Records of Conference at Brussels, 1888) finds the explanation in the prevention of perception of the sound by the normal ear by the 'shadows of sound' which are created when the source of sound is brought nearer to the affected ear."

Gradenigo, on page 552, of the second volume of Schwartze's Handbuch der Ohrenheilkunde, says: "I will mention here another phenomenon which has been observed for the first time by Brunschwig in Baratoux's clinic, and which has been described later in five cases by Longhi. This consists in the fact that there exists a negative field of perception for a certain sound (watch, tuning fork, etc.) in the hearing distance of an ear: E. g., the sound of the tuning fork was heard in a distance of 25-15 cm. from the ear, from here until to a distance of 10 cm. perception suddenly ceased, and appeared again immediately near the concha (in a case of Longhi). In these cases there existed a very marked diminution of hearing in the other ear, but it did not seem to have any influence on the phenomenon. (Shadows of sound of Guye.) There existed catarrhal lesions of the middle ear, and portions of the drum membrane were atrophic and cicatricial. Longhi was, therefore, inclined to explain the symptoms by considering the difference in tension of the various segments, by which there would be created an interference of the sound waves. He also thinks that the muscles of the tympanic cavity are probably of influence. In these cases there was no phenomenon present which could be referred to the inner ear."

If we consider these remarks we see that no report is given about the phenomenon observed in my case. Furthermore, it appears to me that the name scotoma auris does not cover the symptoms. At least, we do not learn, from these reports, that the examination has been extended to this lateral periphery of the field of hearing. It would, therefore, seem appropriate, in my opinion, to propose, for the phenomenon reported by Longhi, the name: "Scotoma Auris Centrale Partiale," whereas I should like to name the phenomenon observed in my patient: "Scotoma Auris Partiale Centrale et Periphericum." The probable cause may perhaps be looked for:

1. In the formation of the auricle and the concha.
2. In the formation of the meatus.
3. In the changes in the membrana tympana corresponding to similar changes which we find in the eye and which we name astigmatism.
4. In changes in the tympanic cavity.
5. In affections which we call functional neuroses.

I do not attempt to explain the phenomenon in our patient, but I am inclined to attribute it to the formation of the concha and meatus, and the quality of the membrana tympani.

November 27 the symptom was less constant, and on December 2 it could not be demonstrated. The patient reports, however, that the clock at home is still heard better in the right ear when held higher. It is not impossible that the symptom may be attributed to a disturbance classifiable under the fifth cause enumerated above.

* Read before the Wayne County (Detroit) Medical Society, Nov. 20, 1902.

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CATARACT IN INDIA.

The enormous number of operations done for cataract by the ophthalmic surgeons of India is amazing. In a recent article R. H. Elliot,[1] of the Government Ophthalmic Hospital, Madras, reports a series of 500 consecutive operations for primary cataract performed in five months. A little over a year ago several of the great cataract operators of India published articles[2] on this subject. At that time T. H. Pope based his conclusions on the subject of cataract extraction on 5,290 operations between 1896 and 1901, and over 4,000 done before 1896. Mr. Henry Smith, of the Jullender Civil Hospital, reported 1,804 extractions of cataract from June 1, 1899, to May 1, 1900, and 1,650 extractions from May 1, 1900, to April 2, 1901. Mr. J. Lewtas wrote of 147 extractions during the "past three months." Mr. Park of Jaipur reported 2,414 operations in five years. Mr. Collins, the assistant surgeon of the Madras Government Hospital, who helped Mr. Elliot in his operations, has seen about 12,000 extractions.

To make these numbers more appreciable, it is interesting to compare the number of cataract operations done in the largest eye hospital in America. At this hospital,[3] with its 25,000 to 30,000 new eye patients per year, 180 extractions were done in 1899, 182 in 1900 and 162 in 1901. And it is striking to compare the numbers reported by the Anglo-Indian surgeons with those of the greatest cataract operator in America. This surgeon, who began as long ago as 1868, when he reported 200 extractions, speaks, in a private letter, of having done over 4,000 cataract operations, and of his despairing of living long enough to do another 1,000.

When Mr. Smith's report appeared we were, of course, astonished at his statement that he had done 44 extractions on each of two days, and the conclusion seemed fair that a record of 44 operations for cataract in one day would for years remain unbeaten. Mr. Elliot has broken this record. On one day he did 53 extractions. This certainly is the record for cataract operations in one day, and will probably stand for a while. On three other occasions Mr. Elliot did more than 40 extractions in one morning.

Noting this immense number of operations, the idea occurs to one's mind that maybe the very numbers would make these operators careless. The reading of these articles banishes this idea. For instance, Pope, in his general remarks, gives it as his opinion—after 9,000 operations—that the surgeon should refrain from being in a hurry to publish his views in regard to what he thinks is the best method of operation and as to what are the causes of different complications. The article from Elliot, which, by the way, we imagine may be considered as a report of the latest methods and views from the Government Ophthalmic Hospital, Madras, is full of interest. Of course, anything on cataract coming from the Madras hospital must command attention; a few of the procedures practiced by Elliot are particularly worthy of note. That of lacerating the capsule of the lens, as he does it, by means of a Bowman stop-needle, before the section is made, appears to have advantages over the method as practiced in this country and Europe, of doing the capsulotomy after the section is made. He also calls attention to the value of morphia given hypodermically when the patient is nervous and will not obey. As a routine procedure, iridectomy is performed, and at the time of the extraction; in the 500 cases iridectomy was done in 484 of them. He washes out the cortical debris by irrigation, using MacKeown's irrigator, and says he owes a great debt to Professor MacKeown for allowing him to witness his method of using his apparatus. This irrigator, according to Elliot, by removing debris expedites recovery and minimizes the need for subsequent capsulotomy, dispenses with the introduction of instruments into the eye after the escape of the nucleus, and has enabled him to operate fearlessly on a large number of very immature cataracts, in which, without it, he would not have ventured to interfere.

It would seem that an operation like that of extraction of cataract (we might modify this statement by speaking of the operation in the hands of the average operator) could have been perfected by this time. This has not been done, and argument over different methods and procedures continues in the highest quarters. In the final adjustment of this operation, we venture the opinion that the methods of the Anglo-Indian ophthalmic surgeons will have an important place.

1. The Lancet, Nov. 8, 1902, p. 1252.
2. Indian Medical Gazette, June and July, 1901.
3. New York Eye and Ear Infirmary Reports, 1900, 1901, 1902.

THE PROFESSIONAL SPIRIT.

Very few of us probably ever really give any very serious thought to what constitutes the difference between the professions as such and the other means of getting a livelihood. That there is a certain social distinction made we are all aware, but it might puzzle some of us to give an adequate accounting for its existence. This distinction is not in externals, though they have their effect. Perhaps most of us would first assume that it is based on the educational culture that the professions are supposed to require of their members. This has also, beyond question, its influence in creating the popular distinction, but it alone does not account for it altogether. We have had learned black-

smiths, stonemasons and shoemakers, but no one included them among professional men so long as they followed their occupation. Mere learning does not inspire popular respect to more than a very limited extent; there must be something more. Not all professional men are respected or respectable, but there is certainly a sort of prestige that exists of the professions as such.

Perhaps the best explanation, at least as regards the profession of medicine, is that given in a recent address by Professor Smart[1] of the University of Glasgow, which seems to us to contain some ideas that are well worthy of our consideration. He asks what differentiates the professions from the trades, and answers his question by quoting Ruskin, who "with all his extravagances saw right through to the heart of things." Ruskin asked why the common consent of mankind gives the precedence to the soldier over the merchant, and gave as the reason that the former held his life at the service of the state. We know that "put him in a fortress breach, with all the pleasures of the world behind him and only death and duty in front of him, he will keep his face to the front." It is the same with the true professional man, and more than all with the physician, who, like the soldier, but much more constantly, risks life and health for others' sake. It is not in this, however, that we are to find the true secret of the professional spirit and the reason of the honor in which it is held. There are plenty of men who risk life daily for a wage, and who think of nothing higher. The mere risk of the occupation is a secondary matter, the real distinction is, as Smart says, the putting of the work before the wage. There are, as he says, many physicians who will disclaim this, who will say that they do their work for the pay, but it is a poor-spirited physician and also an exceptional one whose practice coincides with this, whatever may be his professed theory. The professional spirit influences conduct even of those who would disavow it; professional pride and self-respect make the interests of the patients superior to one's individual interests and convenience. The Code of Ethics is only a formulated statement of the principles that unconsciously influence every medical practitioner worthy of the name. The public, therefore, puts confidence in the physician and regards him in a very different light from the tradesman and mere wage earner, whose business morals have personal interest as the chief good. Of course, there are many exceptions, tradesmen and mechanics and others who put their conscience into their work and these, too, have the true professional spirit, but they do not to the public represent their class or earn for it the regard that is given to the professional man.

It does not follow that we should neglect our interests, the laborer in these fields as in others is worthy of his hire, but we must keep ourselves clear of the taint of commercialism, the spirit that makes the tradesman's motto, at least too often, *"caveat emptor"*—let the buyer look out for himself. With us the word should be, as Smart suggests, *"caveat venditor"*—let us see first that we do good service for our wage. In times like these, with the present tendencies of labor agitations on the one hand and of combinations and trusts on the other, it is especially needful that we should keep up and live up to our best traditions and continue to earn the honorable estimation that has heretofore been given us.

1. Lancet, December 6. "Address on the Meaning of a Profession," delivered at the opening of the winter session at Anderson's College Medical School, Oct. 17, 1902.

THE CLINICAL SIGNIFICANCE OF LEUCOCYTOSIS.

Study of the blood has within the past two decades come to be an important aid in clinical diagnosis. Microscopic examination and culture methods often disclose the presence of parasites in the blood, and the specific agglutinating influence of the serum on colonies of certain bacteria constitutes a most valuable diagnostic guide, while a determination of the specific gravity, of the hemoglobin percentage and of the number of red and white corpuscles respectively, frequently furnishes useful information. An increase in the number of colorless corpuscles had long been known to occur physiologically during the digestive process, and pathologically in conjunction with leukemia. Under the condition first named the leucocytosis is transitory, while under the latter it is persistent. Increasing experience, however, showed that an increase in the number of leucocytes occurs in association with various inflammatory disorders, such as pneumonia, suppurative processes, etc., while the number remains unchanged or even undergoes reduction under other conditions, as, for instance, in the presence of uncomplicated typhoid fever. A distinct advance was made when it was learned that the colorless corpuscles were not all alike, but really consisted of several varieties that could be readily differentiated by means of their size, the number and form of their nuclei and their reaction to special stains. Thus, it has been found that the small mononuclear lymphocytes are increased after the ingestion of food and in cases of lymphatic leukemia, while myelocytes are characteristic of splenomedullary leukemia, in connection with which they may be present in large numbers. The eosinophile cells undergo marked increase in cases of trichinosis and probably other forms of animal parasitism. As a rule, however, the increase in the number of white blood corpuscles constituting leucocytosis involves especially the polymorphonuclear cells, which appear to play an active part in the process of phagocytosis. According to the commonly accepted definition leucocytosis consists in an increase in the number of white blood corpuscles in the peripheral blood, generally with a marked absolute and relative gain in the polymorphonuclear cells, but in a recent communication, Dr. Robert N. Willson[1] questions the correctness of this

1. Proceedings of the Philadelphia County Medical Society, December, 1902, p. 396.

definition, maintaining that the proportion of polymorphonuclear leucocytes may be increased without increase in the total number of leucocytes, and vice versa. To the former condition he applies the designation relative leucocytosis, and from his experience he concludes that when this is present it is suggestive of the existence of suppuration or of some other active inflammatory process in conjunction with marked depression of the resisting forces of the body. As to the clinical significance of leucocytosis, Dr. Willson points out that it must be looked on as only one clinical sign that should receive consideration in relation to all of the other phenomena in the case.

ACUTE AND CHRONIC INFLUENZA.

The diagnosis of influenza, even in times of epidemic, is not always easy, and by no means certain, in the absence of bacteriologic evidence. Catarrhal symptoms referable to the respiratory and digestive tracts, articular and muscular pains, elevation of temperature and other manifestations supposed to be more or less distinctive of influenza are not rare, singly or collectively, as a result of a variety of causes, particularly during the cold season. It would, therefore, seem that the demonstration of influenza-bacilli in the discharges or the blood is, at the present time, as important a factor in the diagnosis of influenza as is the demonstration of tubercle bacilli or of diphtheria bacilli in the diagnosis of tuberculosis or diphtheria.

The following method for staining the sputum for various bacteria is described by Dr. Wm. H. Smith,[1] in whose hands it has proved most serviceable. The dried and fixed cover-glass preparation is first stained with anilin-oil gentian-violet, the excess of which is washed away with a solution consisting of 1 part of iodin, 2 of potassium iodid and 300 of water. The specimen is then covered with this solution and heated. It is next decolorized as much as possible with 95 per cent. alcohol, then washed for a few seconds in a mixture of 4 parts of 95 per cent. alcohol and 6 parts of ether, and next in water, and exposed for a few seconds to the action of a saturated solution of eosin in water. The excess of eosin is washed off with Löffler's alkaline methylene-blue, the specimen again heated, decolorized slightly with 95 per cent. alcohol, washed in absolute alcohol, cleared with xylol and mounted in Canada balsam. The protoplasm of the leucocytes, lymphocytes, erythrocytes and other cells is stained red by the eosin, the nuclei of the cells blue. Micro-organisms that do not take Gram's stain appear black or deep violet, while those that take this stain appear blue. Capsules and cilia when present are stained red by eosin.

Tubercle bacilli require special staining by one of the usual methods. The special stain described was employed by Dr. Frederick T. Lord,[2] in a study of the sputum in 100 cases for the purpose of determining the cause of the cough and expectoration present, and in which examination for tubercle bacilli had failed to disclose their presence. In 60 of these cases influenza bacilli were found in varying numbers, and in 29 of these the bacilli were present in overwhelming numbers. As a result of his observations Dr. Lord concludes that infection with influenza bacilli is prevalent apart from an epidemic of influenza, and that there is nothing distinctive in the clinical manifestations to which the disease gives rise apart from their epidemic occurrence, so that the diagnosis can be made with certainty only by examination of the sputum for influenza bacilli. The duration of the cough and expectoration after an attack of acute influenza does not usually exceed six weeks, but in some cases it may be extended over months and years. Many of the cases heretofore classified as chronic bronchitis are in reality examples of chronic influenza. Cases of this character with paroxysmal dyspnea may closely resemble asthma. Chronic influenza is not infrequently mistaken for pulmonary tuberculosis.

1. Boston Medical and Surgical Journal, Dec. 18, 1902, p. 659.
2. Boston Medical and Surgical Journal, Dec. 18, 1902, p. 662.

IMPROVED TREATMENT OF EMPYEMA.

The medical treatment of empyema has long been a disappointment and the operative treatment has not been all that could be desired. Though old as Hippocrates operative intervention has come to be considered more in the sphere of the surgeon than the physician, and anything, therefore, that will render it more practicable for the practitioner and a more early and general recourse is a boon to mankind.

In a paper on the subject of the treatment of suppurative pleurisy, read before the Illinois State Medical Society, Dr. E. Fletcher Ingals[1] recommends an operation which can be performed by the average practitioner and which seems in many respects to be an advance on the methods heretofore employed. It consists in the introduction of a double drainage tube through a trocar inserted in the intercostal space and secured there after withdrawal of the instrument in such a way that it is perfectly under the control of the operator. Ingals gives an analysis of the cases in which this method was employ with the percentage of recoveries of 100 in early cases and 64 in those of long duration. He thinks if this operation can be performed early, in cases of empyema caused by the pneumococcus, from 95 to 98 per cent. of recoveries can be expected, and in all other cases in which the side is not retracted it will give as good results as any other operation. It does not require general anesthesia and is no bar to subsequent exsection of the rib if that is thought advisable. He advises the latter operation if after a few months a cavity remains that can not collapse because of induration or rigidity of its walls. Exsection of the rib, of course, of itself is the elective method where the intercostal

1. Illinois Med. Jour., January.

spaces are greatly narrowed by chest retraction, but in other cases in which such has not occurred, the double drainage tube and exclusion of air for several days has much greater advantages. So far as we have seen, this particular operation has not been recommended by any other operator, but it is with the results attained a decided advance over other methods. The outcome of empyema, whether in the form of early fatality or prolonged chronic disturbance without any expectation of an ultimate cure, is such that an easy operation like the above described, performable in the early stages and hardly more serious than aspiration, should be welcomed. Ingals believes, however, that aspiration should precede any operation for empyema and should be repeated at intervals of several days until the cavity is emptied, and then, after allowing a short time for reaccumulation of matter, a radical operation should be done. In this way we may expect successful results.

APPENDICITIS IN FASHION IN ENGLAND.

Sometime ago The Journal prophesied a probable greater extension of the disease of appendicitis in British high life through the example set by the king. This prophecy is reported by the daily press as having been fulfilled. Appendicitis is increasing, it is said, in Great Britain by leaps and bounds so that operations for this disease are becoming more and more common. The Countess of Dudley, one of England's noted beauties, is one of the latest who has gone through the operation, and if we had recourse to all the records perhaps we would find, as is said by newspaper writers, that aristocratic appendices are being amputated at very short intervals. What will be the outcome and how long the epidemic will last is beyond knowledge, and we have stopped foretelling.

THE NEW INDEX MEDICUS.

A circular has been issued announcing the renewal of the publication of the *Index Medicus* by the Carnegie Institution, Washington, D. C., subscription price paid in advance $5.00 per annum in the United States and Canada, and in foreign countries 25 shillings or marks, or 35 francs or lire. The plan is to follow out much the same course as in the earlier publications, giving the titles in full of books, pamphlets, theses, contributions to co-operative work, and original articles in the journals, transactions of medical and scientific societies, all arranged under subject headings. The titles in certain languages, such as the Russian, Polish, Swedish, Danish, Turkish, Hungarian, Bohemian, Roumanian, Japanese and Chinese, are to be translated into English. Other languages which are presumably more generally known will be left untranslated. A good point in the new publication is the promise of the editor that while indexing all real original matter it will not include reports of progress or all copies of an article which may appear in other journals. It was somewhat of an embarrassment in utilizing the *Index Medicus* formerly published to find so many cases of repetition of the same title owing to the common habit of cumbering the record by certain authors, a notable instance[1] of which has recently been commented on in The Journal and elsewhere. The profession is to be congratulated on the fact that the Carnegie Institution has thus undertaken the republication of the *Index Medicus*.

1. See The Journal A. M. A., Nov. 22, 1902, p. 1326.

CORRESPONDENCE SCHOOLS FOR NURSES.

Short cuts into medicine and its allied professions are becoming numerous. Before us is an advertisement of the Chicago Correspondence School of Nursing of Pierre, S. D., licensed to transact business in Illinois with a state capital of $2,500. If there is any occupation that would seem to us to require direct special object-teaching and experience, it is nursing, and what class of products the correspondence school will turn out is a matter of some interest. Nursing is a practical handicraft, as little theoretical in many respects as anything can be, and any part of it that can be taught by didactic teaching or correspondence is comparatively minute and unimportant. The value of well-trained nurses is appreciated, not only by physician and patient, but by the general public, and it is very natural that attempts should be made to furnish a cheap imitation; but we as physicians, knowing what poor nurses may be, are interested in forestalling such attempts as far as possible. If there is to be a correspondence school of nurses let us make sure that we do not get any of their graduates among our aids. She would be a very exceptional one who would be of much use.

COSMIC MICROBES.

Those who have read Mr. H. G. Wells' ingenious fiction, "The War of the Worlds," in which the superior beings from another planet threatened to destroy the existing population of the earth, but were overcome by the microbes which they found, will be interested in the recent speculation of the reverse of this by a Western scientist. He asks, is there any reason why small living bodies, such as spores or microbes, should not be floating about by themselves in the interstellar space and, in some ways which are easily conceivable, from time to time enter into our atmosphere and infect our planet? In this way the origin of new diseases and possibly of many other phenomena which we can not foretell might be accounted for. The idea is not an altogether new or extravagant one; Sir William Thomson (Lord Kelvin) theorized on the introduction of life into our planet by meteoric bodies. He suggested that spores floating about in the atmosphere of this or some similar planet might easily become detached in the upper regions where we know perpetual hurricanes exist and, if shot off on a tangent, might wander through space beyond the reach of gravitation until sometime they come within our own or some other sphere of attraction and develop under the conditions that they find. Recent experiments have shown that the greatest degree of cold that can be artificially produced, probably fully as great as that in the interstellar space, does not have an effect on bacterial life, at least not on all forms of it. In this way the prospects of the possible morbidity on our earth, and perhaps of some things that are much better, is illimitable. The speculation is one that is at least respectable and perhaps might be seriously considered.

Medical News.

ILLINOIS.

Vital Statistics.—Peoria reports 745 deaths during 1902, a death rate of 10.64 per 1,000.——Danville's death rate for the year was 18.3 per 1,000, consumption, accidents and heart disease leading in the order named.

Typhoid Rife in Elgin.—More than fifty school children of Elgin are ill with typhoid fever, and the president of the board of education has issued a proclamation urging boiling of water and individual drinking cups. The water supply of Elgin is taken from Fox river, which is said to be not above reproach.

Proposed Legislation.—A bill to be introduced abolishes the office of coroner and transfers his duties to some other officer—another provides for a board of medical examiners, separate from the State Board of Health—a third looks to state isolation and care of consumptives—a fourth recommends the establishment of a state home for epileptics.

Personal.—Drs. Charles W. Compton, S. R. Hopkins, John W. Kelly, Herman H. Tuttle and Edmund A. Walsh have been added to the attending staff of St. John's Hospital, Springfield.——Dr. Thomas W. Keyes, Leroy, after a rest of two years, has resumed practice.——Dr. Myron L. Huntington, Moline, dreaming he was attacked by burglars, seized a revolver and shot himself in the right leg.

Chicago.

Fire Damage.—An explosion of gas followed by fire, January 2, destroyed the library and office equipment of Dr. Orrin B. Hayden.

Smallpox.—During last week 6 smallpox patients, none of whom had ever been properly vaccinated, were sent to the isolation hospital. Three of the patients were waiters in restaurants, one of whom claimed to have contracted the disease in Toronto, and another in Cincinnati.

Personal.—Dr. and Mrs. Daniel R. Brower left Chicago, January 12, on a silver-wedding trip to the West Indies. They will return in about four weeks.——Dr. David O'Shea has returned from Europe.——Dr. Franklin C. Wells has gone to New York City, where he will be chief of the medical inspection department of the Equitable Life Assurance Society.

The Week's Deaths.—During the week ended January 10 625 deaths were reported, equivalent to an annual mortality rate of 17.29 per 1,000, which compares unfavorably with the rate for the corresponding week of 1902, which was 14.79 per 1,000. There was a marked increase in the deaths over 60 years of age and in bronchitis, consumption, pneumonia, typhoid fever, and especially in scarlet fever, as compared with the previous week.

Street-car Colds.—Under this heading the department of health offers the following seasonable advice:

"Street-car colds" are, in the experience of every physician in general practice, increasing with frightful rapidity. Pneumonia and bronchitis, as direct results, are endemic in every part of the city. Since the first of the year there has been a 22 per cent. increase in the deaths from these two diseases, and, as compared with the first ten days of 1902, the increase is a little more than 41 per cent.

Again the department urges that every able-bodied person shun the street cars, both surface and elevated, as far as possible.

The Coal Situation and Public Health.—The department of health thus summarizes the effects of the present fuel situation on the public health:

Fully 10 per cent., or nearly 200,000 residents of Chicago, are to-day suffering from ailments of a grave character caused by privation and exposure resulting from the coal famine. Already these ailments are reflected in the enormous increase of deaths among those at the extremes of life—the young and the aged, in both of whom the powers of vital resistance are at the lowest. Since the first of the year there has been an increase of nearly 20 (19.2) per cent. in the number of deaths among those under 5 years of age over the number in the corresponding period of last year, when this death rate was about normal. Among those over 60 years of age the increase is much greater—24 per cent. last week over the week previous and 36.7 per cent. over the normal rate of the corresponding period of 1902.

This excess of increased death-rate among the aged is caused chiefly by the effects of cold and exposure in hastening to a fatal termination many of the chronic diseases, the sufferers from which under ordinary conditions might have survived for many years.

MARYLAND.

Smallpox in Allegany County.—James M. Spear, health officer of Cumberland, has discovered that a case of smallpox has been concealed there since Dec. 7, 1902. Two new cases in the same house led to the discovery. Dr. Spear will take the case before the grand jury.

Tuberculosis Data.—The tuberculosis commission of the state of Maryland, Dr. William S. Thayer, president, met, January 10, at the office of the State Board of Health. Dr. Marshall Price was appointed medical officer of the commission. He will have charge of all statistics and the general work of the commission. Inquiries will be sent at once to institutions and physicians, with blanks for regular reports. Dr. William H. Welch has endorsed the work of the commission with the following letter addressed to the medical profession of the state:

The Tuberculosis Commission of Maryland has permission, under certain necessary restrictions, to use the laboratory and death records of the State Board of Health for the purpose of its investigation. The State Board of Health also commends in the strongest possible manner the work of this commission to the interest and aid of practicing physicians. If every physician in the state will, to the best of his ability, answer the few inquiries which the tuberculosis commission will make in the next year, we shall obtain what all of us feel is a pressing need—an accurate view of the amount and distribution of tuberculosis in Maryland.

Baltimore.

A memorial meeting in honor of the late Dr. Martin B. Billingslea was held January 12, at which addresses were made by the representatives of the various organizations to which he had belonged.

Measles and Mortality.—The epidemic of measles reached the high-water mark last week, 300 cases being reported. There were 5 deaths directly attributed to measles and about 50 from respiratory diseases, many no doubt caused by measles. The total mortality, 217 for the week, was unusually large, 20.39 per 1,000.

Presbyterian Eye, Ear and Throat Hospital.—The twenty-fifth anniversary of the founding of this special hospital, one of the largest of its kind in America, took place January 9. The report shows that 11,317 patients were treated during the year, representing 40,204 visits. The patients were divided as follows: Eye department, 7,137; ear department, 2,007; throat department, 2,103. The question of endowment was discussed, and the secretary announced that offers amounting to $15,000 had been made conditional on the collection of an equal sum. Dr. Francis M. Chisolm was re-elected secretary, and Drs. Hiram Woods and John A. Winslow members of the board. The institution owes its origin to the energy of Dr. Julian J. Chisolm, at present emeritus professor of eye and ear diseases in the University of Maryland, who has retired from practice and resides at Petersburg, Va.

Purity of Ice Cream.—Miss Henrietta M. Thomas, a student at the Woman's Medical College, has been conducting an investigation in the City Bacteriological Laboratory under Dr. W. Royal Stokes, with reference to the purity of ice cream. The primary object was to discover the typhoid bacillus, but none of these were found. Other germs, however, were discovered, as *B. coli*, *Bacillus annulatus*, gas bacillus, *Bacillus arborescens*, pneumococcus, streptococcus, yellow, lemon and cream-colored tetrads and yeast. About 25 specimens of "hokey-pokey" and high-priced ice cream from all parts of the city were examined. The colon bacillus was omnipresent. In one specimen injected into the abdominal cavity of a guinea-pig, death ensued from general peritonitis in 24 hours; the only organism recovered was *B. coli* from the blood of the liver. Several specimens of snowballs all contained *B. coli*, indicating contamination. The specimens were extremely poor in fat, especially the cheaper sorts, the percentage being never higher than 11.2, and in one case as low as 1.25. The number of bacteria in 1 c.c. varied from 378,000 to 36,600,000, being practically the same as in fresh cream. This remarkable result is probably due to the fact that there are certain kinds of bacteria which are reduced by freezing (Prudden). The conclusion is either that the cows from which the milk was obtained were infected or that the handling of the ice cream was very careless, thus rendering it unsuitable for food. Both of these causes of contamination can, and ought to be obviated.

NEW YORK.

Needs Hospital.—The Auburn Board of Health has asked the common council for an appropriation of $25,000 for a new isolation hospital for smallpox patients.

Personal.—Dr. Montgomery E. Leary, Rochester, has resigned as coroner's physician of Monroe County, and Dr. Irving E. Harris has been appointed in his stead.——Dr. Francis P. O'Neil of Elmira, N. Y., has been appointed on the resident

staff of the City Hospital, Baltimore, attached to the College of Physicians and Surgeons.

The Coroner's Office.—The annual report of the board of coroners shows there were last year 2,820 deaths which called for investigation; that as a result of such investigation 543 persons were held to the grand jury; that 1,236 inquests were held and 644 autopsies performed. The board asks for a chemical and bacteriologic laboratory and for a larger clerical force. The committee of the county medical society appointed to consider the advisability of abolishing the coroner's office reported in favor of so doing, but the coroners and their friends made such a vigorous protest that, after a special evening devoted to a discussion of the subject, the society finally voted to reject the report of its committee. On the other hand, it is announced that the counsel for the New York county and state medical associations has submitted to the district attorney the draft of a bill, to be introduced in the legislature, which calls for the abolition of the coroner's office, and the substitution of experienced pathologists. The district attorney is reported to approve of the bill.

State Hospitals for the Insane.—The governor, in his message, devotes considerable space to the state hospitals for the insane, and particularly to the workings of the new system which he inaugurated a year ago. He asserts that the new law has resulted in the separation of the medical from the business administration of these institutions; has saved the state about $20,000 per annum; has limited the cost of new buildings to $450 per capita, and, above all, has absolutely fixed the responsibility for the administration of these institutions in the State Commission in Lunacy. The recoveries during the past year have been only 1,125, as against 1,200 for 1901, but this is thought to be largely accounted for by the fact that certain local hospitals are now caring for the early and acute cases, so that a larger proportion of the cases coming to the state hospitals belong to the incurable class. Moreover, though the percentage of cures is less than in 1901 it is equal to the average for the preceding six years, and the death rate has been lower. He recommends the establishment of tuberculosis hospitals at six of the institutions at a cost of $90,000, thus reducing the danger of communicating this disease to other inmates. The commission in lunacy suggests that a new hospital for the care of recent cases of insanity be established in New York City.

New York City.

Beth Israel Hospital Aided.—The recent fair in Madison Square Garden realized about $25,000 for Beth Israel Hospital.

Addition to Harlem Hospital.—An extension for this overcrowded hospital has at last been secured in the shape of a three-story house. In it will be housed the dispensary, which at present is in a ramshackle structure built out over the river. It will also provide 30 beds for children and 20 beds for maternity cases.

Personal.—Dr. Albert H. Brundage, Brooklyn, has been elected president of the New York State Board of Pharmacy. ——Dr. Emily Duhning, on January 1, commenced a two years' term of service as interne and ambulance surgeon at Gouverneur Hospital.——Dr. Henry P. DeForest, Brooklyn, has been appointed a police surgeon, vice Dr. Benjamin Wood, retired on pension.

Croton Water Not Responsible.—The examinations of the Croton water made by the health department do not indicate that the water supply is responsible for the prevalence of typhoid. The health authorities are disposed to lay the blame on the use of oysters, clams, and some vegetables and milk. During the week ended January 3, 68 cases of typhoid fever were reported, which is in excess of the number for the corresponding period of last year.

Old Bellevue Landmark Gone.—Many medical students, as well as the physicians who in past years have had occasion to frequent the vicinity of Bellevue Hospital, will be interested to learn that the "coffee house," or more properly the Manhattan East Side Mission, which has long been situated opposite Bellevue Hospital, is a thing of the past. This mission was maintained by the New York Bible and Fruit Mission, an association originated by Mrs. Collins. The newer members of the association have lacked the enthusiasm which spurred on the original workers, and, as a consequence, the necessary funds have not been forthcoming. The Supreme Court has granted the petition of the directors for permission to wind up the affairs of the association.

Buffalo.

Bequest to Hospital.—Through the bequest of W. C. Mills the Buffalo General Hospital received $10,000.

Personal.—Dr. Frederick Zingsheim was elected to fill a vacancy in the department of children's diseases and Dr. Pietro Tartaro a vacancy in the department of skin diseases at the German Hospital.

Resolutions.—At a special meeting of the medical staff of the dispensary of the German Hospital, resolutions were adopted deploring the death of Dr. Jacob Kraus and eulogizing the many good qualities of the deceased.

Election of Staff.—At the annual election of officers of the staff of the German Hospital the following were re-elected: President, Dr. Charles A. W. Auel; vice-president, Dr. Marcello Hartwig, and secretary, Dr. Charles Weil.

Health Commissioner's Annual Report.—In the annual report of Health Commissioner Greene the following recommendations are made: A fumigation plant so that the department of health may supplement its work of discovery of infection by prevention of its spread; a filtering plant, as while the city water supply can be considered fairly good, it is not wholly free from danger because of the fact that the lake and the rivers are polluted to some extent by the cities draining into the lake above Buffalo. The possibility of typhoid fever from lake water must necessarily be present during certain periods of every year; its cause is one beyond present control, and therefore it is pertinent to consider practical means of overcoming the conditions and results as stated. During 1901-1902 there were 438 cases of smallpox in Buffalo, whereas at present there are but 5, and in each of these cases the contagion came from without.

PENNSYLVANIA.

Sued for Damages.—Dr. Louis H. Fackler, East Berlin, has been sued for $30,000 damages by W. G. Leas, for alleged neglect in the last illness of his wife.

Only One-Sixth Rejected.—Of the 77 applicants who recently took the examination before the State Medical Board 64 received license to practice—a failure of 16.5 per cent.

Typhoid at Bellefonte.—Bellefonte has an epidemic of typhoid fever, which is causing considerable local alarm. About 40 cases have already developed, with two deaths, and a number of patients critically ill.

Bacteriologic Laboratory for New Castle.—Councils have reported in favor of the establishment of a municipal bacteriologic laboratory, as suggested by the Lawrence County Medical Society, to be maintained from the public funds. The equipment of the laboratory will cost about $1,000, and $50 a month will be paid to a physician to be on duty at specified hours.

Health Board Resigns.—All the members of the board of health of Chester, Pa., have tendered their resignations, to take effect when their successors are appointed. The board, consisting of five members, have been accused of inefficiency in connection with the smallpox situation. The members claim, however, that they have no authority to enforce vaccination, and that their plans are not carried out.

In Trouble and Out.—A clergyman of Altoona was recently arrested at the instance of the secretary of the local board of health, charged with failing properly to fill out returns of marriages.——A verdict of not guilty has been returned in the case of D. C. Hancher against Dr. William A. Shannon, Ellwood, who was charged with being a "public nuisance" for not having reported a case of smallpox to the secretary of the Ellwood Board of Health. The costs were placed on the county.

The Quarantine Report.—According to the recent report of Dr. Heller, port physician to the State Quarantine Board, last year was an unusually busy one at the quarantine station. The total number of persons examined and detained was 73,090. Deaths reported on inward-bound vessels, 14; births, 5. Medical cases numbering 780 were treated at the hospital, and 405 surgical cases were treated by the quarantine surgeons. It is announced that the state has purchased the site on which the Marcus Hook Quarantine Station is located.

Philadelphia.

University Hospital To Be Enlarged.—The University of Pennsylvania Hospital is to be enlarged and improved. About $300,000 is to be expended, which will nearly double the capacity of the institution.

Expectoration Prohibited.—An ordinance has been passed by the common council making expectoration on the sidewalks, in public places and conveyances, a nuisance, and providing a penalty of $5 for violation of the ordinance.

Hospital Ordinance Signed.—Mayor Ashbridge has signed the ordinance for the purchase of the Macalester farm, in the Thirty-third Ward, for a site for a new municipal hospital. The farm contains 58 acres and will cost $1,160,000.

A Low Death Rate.—Statistics of the bureau of health for 1902 show a death rate of 17.67 per 1,000. This is the lowest rate since 1879, when it was 17.17 per 1,000. The prevalence of smallpox throughout the city last year added materially to the death rate.

Vacancy on House Staff.—A vacancy exists on the staff of the assistant visiting physicians to the Methodist Episcopal Hospital. Candidates must have the degrees of both A.B. and M.D. The assistant visiting physician is chief of the medical clinic for three months of each year.

Lectures on Tropical Hygiene.—Arrangements have been made by the trustees of Jefferson Medical College for Captain Charles F. Keifer, assistant surgeon, U. S. A., to deliver to the senior class of the college a series of eight lectures on tropical hygiene, limited to a consideration of purely tropical diseases.

More Money for Hospitals.—By the will of the late James Wilson a bequest of $1,000 is made to the Presbyterian Hospital.——In the distribution of a balance from the estate of Thomas Elkinton the following institutions receive $5,000 each: Jefferson Hospital, Orthopedic Hospital, Polyclinic Hospital, and Hospital of the University of Pennsylvania.

Staff Reappointed.—At a meeting of the Board of Charities and Correction, held December 30, the entire medical and surgical staff of the Philadelphia Hospital were reappointed for 1903. The following new appointments were made: Bacteriologist, as associate to Dr. L. Napoleon Boston; Dr. Randle C. Rosenberger; neurologist-registrar, Dr. T. H. Weissenberg.

College of Physicians Election.—At the annual election of officers by the College of Physicians, held January 7, the following were chosen: President, Dr. Horatio C. Wood; vice-president, Dr. Arthur V. Meigs; censors, Drs. Richard A. Cleeman, S. Weir Mitchell, Horace Y. Evans, Louis Starr; secretary, Dr. Thomas R. Neilson, and treasurer, Dr. Richard H. Harte.

Children's Hospital Staff.—At a meeting of the board of directors of the Children's Hospital, recently held, Dr. C. Y. White was appointed pathologist to take the place of Dr. Alfred Hand, Jr., who lately resigned; Dr. D. J. Miller was appointed visiting physician, instead of Dr. Alfred Stengel, resigned; and Dr. J. Claxton Gittings was appointed physician to the dispensary.

Death and Disease.—Scarcity of coal and the low water supply are perhaps largely responsible for the unusual number of cases of pneumonia and typhoid fever. During the week ended January 3, there were 90 deaths from pneumonia, 144 new cases of typhoid fever, and 13 new cases of smallpox. Orders have been issued to the vaccine physicians to begin a house-to-house canvass for the purpose of vaccination.

Typhoid, Smallpox and Pneumonia.—Typhoid fever may be said to be epidemic. For the week ended January 10, 217 new cases were reported. During the eight weeks previous to this date, 906 new cases developed. The low condition of the water in some of the reservoirs is thought to be a large causative factor. Within the week mentioned, 33 new cases of smallpox developed, and 108 deaths from pneumonia occurred.

Bequests to Charities.—Fifty-nine charitable institutions of Philadelphia were left sums of money, amounting in all to $69,500, by the will of Henry C. Cochran. The charitable bequests do not become operative until after the death of the benefactor's mother. The Pennsylvania Hospital is to receive $10,000, $5,000 of which is to be applied toward improving the accommodations for the insane. The Presbyterian Hospital receives $5,000 to endow a bed, the trustees of the University of Pennsylvania $5,000 for the endowment fund of the hospital and the Medico-Chirurgical Hospital $1,000.

WISCONSIN.

Physicians and Midwives Profit.—The county clerk of Milwaukee County has begun the annual payment of fees to physicians and midwives for filing certificates of births and deaths during the year ended Nov. 1, 1902. Nearly 600 orders will be issued, calling for $5,292.50.

Irregulars and Irregularities.—Henry Spencer, who practiced medicine in Rozellville under the name of Dr. Charles A. Clark, and was charged with making false representations to the State Board of Medical Examiners, to secure a license to practice, pleaded guilty, January 5, and was sentenced to one year's imprisonment in the House of Correction.——Adolph W. Dude, Milwaukee, under arrest on suspicion of having performed an illegal operation, has acknowledged that he is not a regularly licensed practitioner in the state.

Personal.—Dr. Alfred Elliott, who recently returned from Germany, has been appointed assistant house physician at the Oakwood Sanitarium, Lake Geneva.——Dr. H. Browall, assistant at Raon's Hospital, Merrill, has resigned.——Dr. Solon Marks, Milwaukee, for over a quarter of a century a member of the State Board of Health and for the greater part of that period president of the board, has been succeeded by Dr. Cornelius A. Harper, Madison.

The Right to Quarantine Smallpox.—On January 7, a temporary injunction was granted by the Outagamie County Circuit Court restraining the board of health of Appleton from removing to the pesthouse Mrs. Elizabeth Leonhardt, alleged to have smallpox. The complaint in the case, made by the woman and her husband, alleges that the board of health is not legally organized under the statutes of the state, and has no authority to quarantine or to confine in a pesthouse. There are now more than 20 cases in the pesthouse, and if that is closed by permanent injunction, it is threatened that a shotgun quarantine may be instituted.

GENERAL.

Mazatlan Plague Severe.—There is no spread of the plague yet reported from Mexico. Mazatlan is, however, unable thus far to stop the ravages of the disease in the city itself. Wholesale disinfection by burning all infected houses has been begun.

Chicago Most Healthful City.—For the seventh successive year, Chicago's death rate is lower than that of any other city of first magnitude. The death rate per 1,000 inhabitants of New York City (Manhattan and Bronx) was 19.18; of Boston, 18.58; Greater New York, 18.28; Philadelphia, 17.85; Chicago, 14.49. Chicago's infant and child mortality is the lowest of any city of its size.

Danish Tuberculosis Commission.—The royal commission which has been investigating tuberculosis recommends rigid laws. Some of the points proposed are: Reporting of cases, compulsory confinement of recalcitrant patients in special institutions, prohibition of infected persons from acting as nurses, teachers or physicians, erection of municipal phthisis hospitals, the state bearing half the cost and the extremely poor being treated free of charge.

Medical Member of the Isthmian Canal Commission.—The following is the text of the resolutions which we stated last week were adopted at the meeting of the American Association for the Advancement of Science, in Washington:

WHEREAS, The construction of the Isthmian canal is through a region in which without energetic sanitary control there is sure to be enormous loss of human life from preventable diseases, particularly from pernicious malaria and yellow fever, as well as great waste of energy and of money from disabilities caused by such diseases, and

WHEREAS, The measures for the restraint of these diseases, which have already achieved even their partial extermination in Cuba under American administration, require expert knowledge based on practical familiarity with tropical diseases, experience in the application of these measures, and large authority in their administration,

Resolved, That the American Association for the Advancement of Science begs most respectfully and earnestly to call to the attention of the President of the United States the importance of appointing as a member of the Isthmian Canal Commission a medical man possessed of the qualifications indicated. The association is convinced that the mere employment of such a sanitary expert by the commission will not be likely to secure the desired results.

Resolved, That the permanent secretary of the association transmit a copy of these resolutions to the President of the United States.

CANADA.

British Columbia Plague Quarantine.—Dr. A. T. Watt, superintendent of the British Columbia quarantine, has given notice of the establishment of new regulations on account of the epidemic of bubonic plague at San Francisco. The various steamers plying between San Francisco and Canadian ports have been notified and are warned to use funnels on their mooring lines at San Francisco to prevent rats coming on board.

Appointments at Trinity.—The Anatomy Department of Trinity Medical College has to a great extent been rearranged. Dr. George A. Bingham is now professor of anatomy as well as lecturer on surgical anatomy; Dr. Charles B. Shuttleworth, who recently returned from England, where he secured the Fellowship of the Royal College of Surgeons by examination,

has been appointed associate professor; Dr. T. Bedford Richardson, first senior assistant; Dr. George Elliott, second senior demonstrator, and Dr. Charles P. Lusk, third senior assistant demonstrator.

New Brunswick News.—About 800 patients were treated at the General Public Hospital of St. John during 1902.—— Dr. Thomas Walker has resigned as vice-president and treasurer of the General Public Hospital Commission of St. John.—— During the year 1902 there were reported 219 cases of contagious disease to the St. John Board of Health. The number of deaths in 1902 was 27 less than in 1901.——Dr. W. L. Ellis, the newly-appointed physician at the port of St. John, on December 31, ordered the deportation of some sixty immigrants who came over on the Elder-Dempster Line. Most of them were afflicted with trachoma.

FOREIGN.

The London influenza epidemic is rapidly decreasing.

Many British Insane.—The lunacy returns for 1902 show 148,631 in the United Kingdom and 110,713 of these were in England. The official view is that the increase is more apparent than real; that the case is rather one of accumulation; that if there be an increase it is not out of proportion to the increase of population. Mr. W. J. Corbet, however, thinks there is an alarming actual increase, and in an article in the January *Westminster Review* recommends an international conference to discuss means to check insanity.

Sydney Plague Prophylaxis.—In view of the state of affairs at San Francisco with regard to bubonic plague, the Sydney Board of Health decided, December 2, to enforce the regulations, without exception, concerning ships that have touched at plague ports. San Francisco has been made an exception, but the board fears to continue this plan. Vessels, however, that have consular certificates as to supervision of loading and as to having been properly fended off from the wharf to prevent rats from boarding, may be admitted as free from suspicion. Sydney does not want another taste of the plague.

LONDON LETTER.

A Galloping Field Hospital.

In distributing the prizes to the successful members of the Manchester Royal Army Medical Volunteers, Sir F. Treves put forward a novel proposal. The conflict in South Africa, he said, had shown the impossibility of supporting any army medical corps on a war footing. Wealthy as the country was, it could not bear the expenditure. The comparatively slight alteration that the recent commission had introduced into the corps would cost $500,000. In time of war the Army Medical Service must turn to volunteer aid, which, to be of any use, must have been organized. In connection with the Ladysmith relief column, to which he was attached, he felt how infinitely more serviceable the surgeons with the volunteer aid column would have been had they had a volunteer medical training. One weak point in the Army Medical Service was shown in the late war. There was no unit or outfit capable of following a rapidly moving cavalry column. He hoped that some rich philanthropist would provide means for experimenting in that direction and organizing practically a galloping field hospital. The problem had to be solved and it would be an exceedingly expensive one unless assistance was given by the generosity and enterprise of some wealthy man.

Sleeping Sickness.

Dr. Low, research scholar of the London School of Tropical Medicine and leader of the Royal Societies' Commission sent out by the government to investigate sleeping sickness, has returned to England. He states that the epidemic of sleeping sickness now raging in Uganda is of serious importance to that protectorate, and to the adjacent one of British East Africa. Though only detected a few years ago, it has now extended over a large area and is computed to have killed 20,000 to 30,000 people. It is spreading to new areas, and its virulence is apparently on the increase. The scientific reports of the commission are the property of the Royal Society and will be published in due course, but in the meantime it may be stated that the commission believe they have isolated the microbe that causes the disease. A scheme for the isolation of fresh cases occurring in new districts has been adopted. So far no white person has been attacked. Necropsies have demonstrated that one of the features of the disease is inflammation of the brain and its membranes. The course may be acute or chronic; in the latter case the duration may be six or seven months.

PARIS LETTER.

Microbiology of Gonococcic Arthritis.

Professor Vaquez and Dr. Laubry have had occasion recently to study the condition of joints affected by gonococcic arthritis, and the results obtained show that the bacteriologic condition is not the same in all cases. In two patients suffering from plastic mono-arthritis, and in a case of hydrarthrosis there were no gonococci, but in a purulent arthritis the gonococci were found. In another, where the examination of the synovial liquid had shown no gonococci, a culture inoculated with the synovial fungosities gave a large number of colonies of gonococci. This has already been demonstrated by Burci, and shows that the microbe may die quickly in the synovia and remain localized in the solid tissues.

Permanganate of Potash in Local Tuberculosis.

Dr. Bayeux, a former house physician of the Paris hospitals, and who is well known for his work on diphtheria and intubation, has been advocating the use of permanganate of potash in suppurative lesions of tuberculous origin. On recent ulcerations he uses a concentrated 2 per cent. solution. Chronic abscesses are washed out three times a week with a 1 in 500 or a 1 in 1,000 solution. He also employs as dressing compresses dipped in 1 per 1,000 solution of permanganate of potash.

Operation for Cancer of the Esophagus.

Dr. J. L. Faure, surgeon at the Hotel Dieu, performed two or three weeks ago an operation for cancer of the esophagus, which, I believe, has never been undertaken before. The tumor was situated in the mediastinum, and the patient had already been operated on for gastrotomy and was in an emaciated condition. Dr. Faure began by making an incision in the anterior cervical region and liberating the esophagus, a catgut being placed around it. The patient was then turned over on the back, and an incision made between the right scapula and vertebral column. Five or six ribs were excised, including the first, and through the deep aperture thus made, the esophagus was dissected and removed. The patient died the next day. Dr. Faure is a clever operator; it is, however, a question whether the operation was justified by the condition of the patient.

Bad Bread in Paris.

Dr. de Lavarenne, the editor of the *Presse Médicale*, has recently published an article on the quality of the bread sold in Paris, in which he shows that the latter is far from nutritious and not easily digested. New methods have been discovered whereby the albuminous and fatty part of bread may be more readily retained, and by comparing the analysis of the two kinds of bread, one is struck by the following figures: Albuminous bodies, 10.25, as against 6.75. Fat, 5.02, as against 0.8, and dextrine, 10.61, as against 3.43. Mineral salts, 3.13, as against 0.4. These figures are quite convincing, and show how justified are the complaints which one so often hears in connection with this subject.

Importance of Medical Men in Politics.

It is a noteworthy fact that medical men play a much more important political rôle in continental countries than in either England or the United States. Such an illustrious example as Virchow illustrates this. In the French republic there are fully forty or fifty deputies who are physicians, and the minister of the interior, Dr. Combes, is a medical man. The president of the Swiss confederation, Deucher, is also a physician, and is about to begin his third term of office.

The Figaro's Sanatorium Subscription.

The *Figaro*, one of the most important French dailies, has just started a subscription list for the establishment of sanatoria for consumption, and already over a million francs have been contributed. Emma Calvé, the celebrated singer, has long furnished the funds for a sanatorium situated in the Aveyron a part of France from which she comes. This sanatorium is built for about forty girls from 6 to 12 years old suffering from some chronic disease. They are kept for about two months and then returned to their parents. Another well-known sanatorium for children has been established at Hendaye, on the southern coast of France, and is for scrofulous and tuberculous children.

Eichhorst's Opinion on the Treatment of Diabetes.

At a meeting held by the Medical Society of Zurich, Dr. Eichhorst gave an "exposé" of his ideas on the treatment of diabetes by drugs and mineral waters. Dr. Eichhorst has tried various drugs on patients who were either following their usual

regimen or else a special antidiabetic diet, and he has come to the conclusion that they were of no efficacy. The drugs employed were salicylic acid, salol (which has been recommended by Ebstein), phenic acid, antipyrin, and even mercury and the iodids when there was syphilis. As for the results obtained at Carlsbad and Neuenahr, they would be due to the strict mode of life followed. Dr. Eichhorst considers there is but one real treatment of diabetes, and that is the special diet. He never advocates changing the diet suddenly, as he has seen diabetic patients in whom the sudden suppression of farinaceous food has caused the appearance of acetone in the urine. He prefers that a diabetic patient should be in good condition and have a little sugar in the urine, rather than one who is growing thin and weak on account of too severe a diet. His patients are weighed regularly, as this is one of the best means of noting any change. He does not favor the use of alcohol, which can be advantageously replaced by various fats such as butter, cream, ham, cheese. Light tea or coffee are permissible. Eichhorst's treatment, therefore, consists in the progressive use of a special diet.

Too Many Physicians in France.

The *Temps*, the most important daily published in Paris, published an article recently on the number of physicians in France. Professor Debove, the dean of the Paris faculty, had said there were too many physicians in France, as quoted in THE JOURNAL last week, page 109. The author of the article in The *Temps* remarked that what was needed was to have good physicians, and not to create a special profession for those who are favored by fortune. Moreover, if one examines the list of great physicians in France, one does not find that many began life with a capital to fall back on. Professor Peter, for instance, was a journeyman printer, and to come to those of more recent fame, a well-known physician of the hospitals was formerly an employe of the Bon Marché, and a surgeon whose name is seen very often was a simple usher in a public school.

Smallpox at Nice in 1901-1902.

At a meeting of the Academy of Medicine, held December 16, Dr. St. Yves-Menard, the well-known vaccination specialist, read a report by Dr. Balestre on the recent epidemic of variola in Nice (1901-1902). There were 1575 cases and 549 deaths. The disease began in the poorer quarters, and the vaccination of the regiment quartered in the town had a good effect, there being fewer cases of contagion among the men than among the women.

There was a vacancy for a seat in the section of medical pathology, and Dr. Chauffard, who is specially known for his work on the liver, was chosen by 65 votes out of 75.

Correspondence.

Was It Beri-beri?

NEW YORK, Jan. 10, 1903.

To the Editor:—For the information of Dr. Frank Fenwick Young, whose interesting experiences with "Beri-beri in Louisiana" you have published in THE JOURNAL, kindly print the fact that beri-beri has been found on ships reaching this port, all with carbon-producing cargoes (sugar, graphite, burnt Java coffee, etc.), whose crews had as their dietary *no rice at all* for the entire voyage. Dr. Judson Daland also found such an outbreak of beri-beri, on a sugar ship, too, which reached Philadelphia, whose crew were Lascars; that is, pork eaters.

In an interesting investigation which I made many years ago with Col. John Screven of Savannah, Ga., the largest rice grower in the world, we found no beri-beri in those connected with the culture of rice, but plenty of malarial rheumatism (multiple neuritis, perhaps,) in those who did not take proper precautions while cultivating the flooded grounds. The feet of all rice cultivators are especially exposed to infections, but I did not find any of those who ate rice to have "multiple neuritis," or anything else that other people might not have had. Nor in Japan, where I treated thousands of rice cultivators from the province of Owamori (the farmers' province) there was no more beri-beri than in and about Tokio itself.

I have made a comparison of "Rice Culture in Japan, Mexico and the United States," which was published by the *Sei I Kwai*, some years back, in which I showed that the main danger from rice fields and rice culture was typhoid fever from human excrement, which was used as manure. Therefore, eating rice, even imperfectly cooked, could not produce beri-beri by itself; it would be accompanied by typhoid fever. But in the Orient all rice is most thoroughly cooked, which destroys every germ. If rice was, as diet *per se*, the cause of beri-beri, it should affect as well those who live on high grounds and mountains. Beri-beri never attacks even the higher wards of Tokio, which shows that the poison of beri-beri is heavier than air. Rice diet is not, therefore, the cause of beri-beri. Dr. Young will not find his "beri-beri" in those Louisianians who eat even nothing but rice and who live on high ground; that is, if the disease he describes is true beri-beri and not some foot infection. Beri-beri does not limit itself to "a radius of 20 miles," and could not have an outlined geographical limitation if it was due to the eating of rice. Beside this, there is no anemia, no fever in beri-beri. ALBERT S. ASHMEAD, M.D.

Method of Yellow Fever Transmission.

NEW ORLEANS, Jan. 7, 1903.

To the Editor:—In THE JOURNAL (Jan. 3, 1903, page 50) is a report of the discussion, at the recent session of the American Public Health Association, of the method of transmission of yellow fever. THE JOURNAL can not, of course, publish a full report of such a discussion, and the report published, therefore, must necessarily be incomplete and imperfect. Your reporter has placed me in a position which I do not desire to occupy. I am sure the error would ordinarily be considered a matter of small importance not worthy of correction, but my convictions on the subject of quarantine against yellow fever are so strong, and my interest in the subject so intense that I beg the privilege of correcting your report in so far as it refers to myself.

What I said was that "Quarantine should be *most* strenuous against that which has been *proven* infectious even at the expense, if necessary, of those measures employed against that which is only *suspected;* where measures against both fomites and mosquitoes can be operated no valid excuse can be urged for neglecting the mosquitoes."

The idea intended to be conveyed was that quarantine against yellow fever *should be* what it *was not*. While the treatment for fomites in transportation may or may not be important, the treatment for mosquitoes undoubtedly is of the greatest importance, and should be given the highest consideration by quarantine authorities. To neglect the obvious application of the mosquito theory to quarantine practice is an unpardonable mistake. Whether or not fomites may convey the disease, the quarantine of the future to be efficient against yellow fever *must* afford protection against the mosquito.

Respectfully, QUITMAN KOHNKE, M.D.,
Health Officer of the City of New Orleans.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

DOES NOT ENDORSE GOAT LYMPH COMPANY.

PHILADELPHIA, Dec. 31, 1902.

To the Editor:—You will greatly oblige me by stating in your columns that the endorsement by me set forth in the circular of the Goat Lymph Sanitarium Association of Chicago, is fictitious, and any mention of my name in connection with the enterprise, is entirely unauthorized. ALBERT MCCONAGHY.

RELATIONS OF DIAMETERS IN O. L. A. POSITION.

Dec. 22, 1902.

To the Editor:—Please mention in your query column what diameters of the fetal skull are engaged in the oblique diameters of the pelvis in L. O. A. cases. Y.

ANS.—When the head is O. L. A. and in moderate flexion, the occipito-frontal diameter lies in the right oblique diameter of the pelvis. The biparietal diameter of the head which lies at right angle to the occipito-frontal does not lie in the left oblique because the two oblique diameters of the pelvis do not cross at right angles.

With moderate flexion and synclitism the diameter of the head which lies in the left oblique of the pelvis is one that passes from the left parietal protuberance (or boss) through the right frontal protuberance (or boss).

Marriages.

WILLIAM RUPP, M.D., to Miss Eleanor M. Turner, both of Chicago, Dec. 24, 1902.

HARRY W. WARDLE, M.D., to Miss Helen Prince, both of Chicago, Dec. 25, 1902.

PATRICK J. MURRAY, M.D., to Miss Mary F. Murray, both of Brooklyn, Dec. 30, 1902.

EUGENE CLOWER, M.D., Moultrie, Ga., to Miss Pearl Wight of Cairo, Ga., January 7.

C. G. HOLLAND, M.D., to Mrs. Dan Franklin, both of Newport, Tenn., Dec. 16, 1902.

PAUL S. SCHOLES, M.D., to Miss Bertha Chapman, both of Canton, Ill., Oct. 15, 1902.

JAMES J. BURCH, M.D., to Miss Lula Bussey, both of Double Branches, Ga., Dec. 23, 1902.

T. E. BRADLEY, M.D., Nashville, Ga., to Miss May Combs of Adairsville, Ga., Dec. 30, 1902.

OSCAR N. CARTER, M.D., to Miss Annie Laura Hosey, both of Brookline, Mo., Dec. 24, 1902.

JOHN M. NEELY, M.D., Elmwood, Neb., to Miss Edna Perry of Ashland, Neb., Dec. 30, 1902.

SMITH HOLLINS MCKIM, M.D., to Miss Margaret Emerson, both of Baltimore, Dec. 30, 1902.

HANSELL CRENSHAW, M.D., to Miss Carolyn Proctor Ollinger, both of Atlanta, Ga., January 1.

FRANK B. MAYNARD, M.D., to Miss Emma Marie Lester, both of Rochester, N. Y., Dec. 17, 1902.

JAMES G. HARRISON, M.D., to Miss Lillian Middlebrooks, both of Sparta, Ga., Dec. 17, 1902.

A. WALTER JONES, M.D., to Miss Vida Luena Wingerter, both of Akron, Ohio, Dec. 31, 1902.

CLYDE O. DONALDSON, M.D., to Miss Nettye W. Burns, both of Kansas City, Mo., Dec. 17, 1902.

FREDERICK S. HAEBERLE, M.D., St. Louis, to Miss Helen Carter of Nashville, Ill., Dec. 17, 1902.

ARNE OFTEDAL, M.D., Bisbee, N. D., to Miss Josephine Olson, at Cando, N. D., Dec. 10, 1902.

DUNCAN C. MCLEAN, M.D., Deckerville, Mich., to Miss Libbie McNair of Worth, Mich., Dec. 18, 1902.

OSCAR B. BELLER, M.D., Garrison, Iowa, to Miss Alfreda Stocker of Vinton, Iowa, Dec. 30, 1902.

JOHN VINCENT LITTIG, M.D., to Miss Bessie Barr Cassell, both of Davenport, Iowa, Dec. 17, 1902.

LAWRENCE B. COHNE, M.D., Baltimore, to Miss Becky Esther Bernstein of New York City, Dec. 16, 1902.

THOMAS PINCKNEY WARING, M.D., to Miss Martha Gallaudet Backus, both of Savannah, Ga., Dec. 24, 1902.

GEORGE F. POTTRIGER, M.D., Hamburg, Pa., to Miss Florence L. Ritter of West Reading, Pa., Dec. 28, 1902.

HARVEY BURTON UPCHURCH, M.D., Carrollton, Ala., to Miss Mary Edna Spragins of Jackson, Tenn., January 7.

HARRY SHERWOOD ALLEN, M.D., Gallipolis, Ohio, to Miss Alma Roberts Thomas of Ironton, Ohio, Dec. 30, 1902.

JULIUS STERLING LOOMIS, M.D., South Windsor, Conn., to Miss Nellie Bean of New Haven, Conn., Dec. 24, 1902.

EDWIN J. CHAMBERLAIN, M.D., Grand Rapids, Mich., to Miss Margaret d'Hays Walker of Louisville, Ky., Dec. 31, 1902.

GEORGE T. DRENNON, M.D., Clarksville, Tenn., to Miss Cyrenne Stephens of Thompson Creek, Tenn., Dec. 17, 1902.

ELBERT LOGAN WRIGHT, M.D., Parkersburg, W. Va., to Mrs. Anna Dusenberry of Buffalo, N. Y., at Parkersburg, W. Va., Dec. 16, 1902.

Deaths.

Irving S. Vallandingham, M.D. University of Maryland, Baltimore, 1862, died at his home in Middletown, Del., Dec. 30, 1902, aged 62. He served in the Confederate Army as assistant surgeon, and had been a member of the State Board of Health, secretary of the State Medical Council and a trustee of Delaware College, and was a member of the American Medical Association.

Julius Kohl, M.D. St. Louis Medical College, 1859, a member of the American Medical Association, formerly a member of the Illinois State Board of Health, and for 36 years a resident of Belleville, Ill., died at his home in that city, January 4, from a cancer of the stomach, after a long illness, aged 64.

Henry H. Howland, M.D. University of the City of New York, 1878, a member of the American Medical Association, and at one time a prominent laryngologist of Denver, died instantly in that city as the result of a self-inflicted gunshot wound, while despondent from ill health, Dec. 27, 1902, aged 53.

Marcus A. Bogie, M.D. Long Island College Hospital, Brooklyn, N. Y., 1864, chief surgeon of the Kansas City Belt Railway and a member of the International Association of Railway Surgeons, died at his home in Kansas City, January 4, from apoplexy, after an illness of two days, aged 62.

Colin A. McPhail, M.D. Trinity Medical College, Toronto, 1892, vice-president for Prince Edward Island of the Canadian Medical Association and treasurer of the Maritime Medical Association, died suddenly at his home in Summerside, Dec. 3, 1902, from apoplexy, aged 39.

Charles Edmond Chase, M.D. University of Vermont, Burlington, 1873, president of the Middlesex East District Branch of the Massachusetts Medical Society, died at his home in Woburn, Mass., Dec. 26, 1902, after a lingering illness, from Bright's disease, aged 53.

Henry Van Ostrand, M.D. Geneva (N. Y.) Medical College, 1843, assistant surgeon to the First Michigan Engineers and Mechanics during the last two years of the Civil War, died at his home in Yankton, S. D., Dec. 26, 1902, after an illness of about one year, aged 84.

John B. Amiss, M.D. New York University, 1858, a member of the National Association of Railway Surgeons, and local surgeon of the B. and O. Ry., at Harrisonburg, Va., died suddenly at his home in that place, January 4, from angina pectoris, aged 68.

William C. Gallagher, M.D. Bellevue Hospital Medical College, New York, 1886, for several years on the house staff of St. Francis' Hospital, New York City, died at the New York Hospital, January 5, from typhoid fever, after an illness of nine weeks, aged 40.

Byron Chapman, M.D. Western Reserve University, Cleveland, 1847, a member of the American Medical Association and a pioneer citizen and practitioner of Summit County, Ohio, died at his home in Copley, Dec. 6, 1902, after an illness of six days, aged 81.

Ralph Brooks, M.D. University of Pennsylvania, Philadelphia, 1897, first assistant physician at the National Soldiers' Home, Hampton, Va., died in the hospital of that institution, January 4, five days after an operation for appendicitis, aged 27.

Robert E. Williams, M.D., late captain and assistant surgeon, U. S. V., University of Georgetown, Washington, D. C., 1870, died at the U. S. General Hospital, Presidio of San Francisco, from cirrhosis of the liver, Dec. 30, 1902, aged 58.

Charles A. Osborne, M.D. Buffalo Medical College, surgeon of the Eleventh Michigan Cavalry in the Civil War, died at his home in Owosso, Mich., January 2, from paralysis, after a long period of invalidism, aged 70.

Lewis P. Wheat, M.D. Medical College of Virginia, Richmond, 1881, died at his home in that city from heart disease, Dec. 29, 1902, after a short illness, aged 42. He was formerly assistant to Dr. Hunter McGuire.

Alexander Young Scott, M.D. Trinity Medical College, Toronto, 1887, died suddenly, January 3, at his home in Toronto, from myocarditis following an attack of typhoid fever two years before, aged 41.

James Beahan, M.D. Jefferson Medical College, Philadelphia, 1852, who had been out of health for a long time, died at his home in Rochester, N. Y., January 3, from the effects of a fall two weeks before, aged 80.

Nesbitt Frederick Jordan, M.D. Medical College of Ohio, Cincinnati, 1884, died at his home in Bloomington, Ill., Dec. 28, 1902, from pneumonia following typhoid fever, after an illness of four weeks, aged 45.

C. W. Hopkins, M.D. McGill University, Montreal, 1901, medical superintendent of the Montreal Maternity Hospital, died, Dec. 28, 1902, in that city from typhoid fever, after an illness of five weeks.

William H. Haviland, M.D. Starling Medical College, Columbus, Ohio, 1889, died at his home in Columbus, Dec. 30, 1902, from tuberculosis, after an illness of eighteen months, aged 38.

Charles J. Bell, professor of chemistry in the University of Minnesota medical department, Minneapolis, died at Somerville, Mass., January 4, from Bright's disease, aged 48.

Waldo E. Clark, M.D. Detroit College of Medicine, 1887, is supposed to have committed suicide by drowning, Dec. 29, 1902, aged 45. His body was found in the ice at Saginaw, January 6.

Harrison S. Walrath, M.D. College of Physicians and Surgeons, Chicago, 1883, an invalid for many months, died suddenly at his home in St. Paul, Minn., Dec. 21, 1902, aged 60.

Charles H. Black, M.D. Jefferson Medical College, Philadelphia, 1875, died at his home in Turtle Creek, Pa., January 2, from stomach trouble after an illness of ten weeks, aged 53.

Sherburne Choppin, M.D. Tulane University, New Orleans, 1886, died from pneumonia in the Charity Hospital, New Orleans, Dec. 30, 1902, after an illness of eleven days, aged 44.

Louis Charette, M.D. Albany (N. Y.) Medical College, 1852, who retired from practice in 1895, died at his home in Glens Falls, N. Y., from gastroenteritis, Dec. 26, 1902, aged 87.

Allen George Berry, M.D. Kentucky School of Medicine, Louisville, 1886, died at his home in Ashland, Ky., from tuberculosis, after a long illness, Dec. 30, 1902, aged 43.

Charles W. Hedges, M.D. Vanderbilt University, Nashville, Tenn., 1901, died at his home in Newkirk, Okla., Dec. 21, 1902, ten days after an operation for appendicitis, aged 26.

Ralph G. Morgan, M.D. Medical College of Indiana, Indianapolis, 1898, died at his home in that city, January 1, from peritonitis, after an illness of two weeks, aged 29.

D. B. Hall, M.D. University of Michigan, Ann Arbor, one of the earliest graduates of that institution, died recently, aged 75, and was buried at Ithaca, Mich., Dec. 24, 1902.

John Emil Palmquist, M.D. University of Minnesota, Minneapolis, 1896, died from tuberculosis at his home in Holdredge, Neb., Dec. 21, 1902, after a long illness, aged 32.

John Stevens, M.D., Philadelphia, 1872, the oldest practitioner of Bangor, Me., died at his home in that city from dilatation of the heart, Dec. 21, 1902, aged 67.

William E. Brownell, M.D. New York University, 1879, died at his home in New Bedford, Mass., Dec. 27, 1902, from uremia, after an illness of nine days, aged 45.

James H. Lowe, M.D., Philadelphia, for many years a practitioner of New York City and Atlanta, Ga., died at his home in the latter city, January 2, aged 82.

William Scott White, M.D. University of Virginia, Charlottesville, 1875, died at his home in Lexington, Va., Dec. 29, 1902, from Bright's disease, aged about 50.

William Scott, M.D. University of Virginia, Charlottesville, died at his home in Lexington, Va., after a long illness, from Bright's Disease, Dec. 29, 1902, aged 50.

L. E. Towne, M.D. Rush Medical College, Chicago, 1868, died at his home in Broadhead, Wis., January 6, from paralysis, after an illness of two years, aged 76.

Schuyler F. Shidler, M.D. College of Physicians and Surgeons, Chicago, 1888, died a few hours after a fall from his horse, near Sheridan, Mo., January 3.

Carl Schumacher, M.D. Cleveland University of Medicine and Surgery, 1883, died at his home in Syracuse, N. Y., after an illness of nine months, January 3.

H. S. Osborn, M.D. Cincinnati Medical College, for many years a practitioner of Bozeman, Mont., died at Denver, Nov. 22, 1902, after a long illness, aged 80.

Daniel P. Buckey, M.D. Baltimore Medical College, 1894, Flemington, W. Va., was run over by a train and instantly killed at Flemington, Dec. 29, 1902.

Angus C. McDonnell, M.D. McGill University, Montreal, 1852, one of the leading physicians of Montreal, died from pneumonia, January 2, aged 74.

Robert G. Petway, M.D. Nashville (Tenn.) Medical College, 1855, died suddenly from heart disease at his home in Nashville, Dec. 24, 1902, aged 68.

Charles S. Hoover, M.D. University of Maryland, Baltimore, 1884, was found dead, January 4, in his office in Ottawa, Ill., from an overdose of cocain.

Simon M. Landis, M.D. American College of Medicine in Pennsylvania, Philadelphia, 1854, died at his home in Boston, Mass., Dec. 25, 1902, aged 73.

William C. Cole, M.D. New York University, 1843, died at his home in Van Wert, Ohio, January 1. He served through the Civil War as surgeon.

William H. Middleton, M.D. Washington University, St. Louis, 1866, died at his home in Camden Point, Mo., after a long illness, Dec. 25, 1902.

James E. DeWolf, M.D. Harvard University, Boston, 1866, died suddenly at his home near Baraboo, Wis., from heart disease, January 5, aged 60.

Joseph Huff, M.D. Western Pennsylvania Medical College, Pittsburg, 1901, died from smallpox at the Municipal Hospital, Pittsburg, Dec. 30, 1902.

J. Henry Rider, M.D. Missouri Medical College, St. Louis, 1870, died from pneumonia at his home in Cape Girardeau, Mo., Dec. 23, 1902, aged 61.

T. L. Webb, M.D. Georgia College of Eclectic Medicine and Surgery, 1889, died at his home in Cookeville, Tenn., Dec. 24, 1902, aged about 50.

J. W. Summers, M.D., an old practitioner of Cameron, S. C., died at his home in that place, after a long illness, Dec. 28, 1902, aged 65.

Ernest W. Bradley, M.D. Hahnemann Medical College, Chicago, 1879, died suddenly, Dec. 28, 1902, at Grass Valley, Cal., aged 48.

W. W. Watkins, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, died at his home in Carthage, Mo., January 2, aged 75.

Ephraim W. Gantt, M.D. College of Physicians and Surgeons, New York, died at his home in Lockport, N. Y., January 5, aged 72.

William J. Deane, M.D. University of Buffalo, N. Y., 1895, of Buffalo, died at Kingston, Dec. 31, 1902, from tuberculosis, aged 36.

H. Van Gerhart, M.D. Missouri Medical College, St. Louis, died in San Diego, Cal., Dec. 28, 1902, from heart disease, aged 29.

William R. Grove, M.D. University of Maryland, Baltimore, 1865, died at his home in Columbia, Pa., January 3, aged 65.

William L. Dennison, M.D. Detroit College of Medicine, 1894, died at his home in Clarkston, Mich., Dec. 28, 1902, aged 30.

James T. Scott, M.D. Missouri Medical College, St. Louis, 1854, died at his home in Paynesville, Mo., Dec. 28, 1902, aged 70.

William Bevier, M.D. Eclectic Medical Institute, Cincinnati, 1852, died at his home in Waterloo, Ind., Dec. 29, 1902, aged 80.

William A. Looney, M.D. Rush Medical College, Chicago, 1868, died at his home in Vienna, Ill., January 5, aged 74.

William R. Freeman, M.D. University of Nashville, Tenn., 1871, died at his home in Bellbuckle, Tenn., January 1.

J. J. Arendale, M.D. University of Tennessee, Nashville, 1894, was shot and killed at Waller, Texas, January 5.

David Jacobson, M.D. New York University, 1887, died, Dec. 31, 1902, at his home in New York City, aged 38.

D. D. Davisson, M.D., the oldest practitioner of Madison County, Iowa, died recently at Winterset.

Arthur J. Padron, M.D., died at his home in New Orleans, Dec. 30, 1902, after a lingering illness.

Miscellany.

Blue Toes.—Dr. Arthur Hall, Sheffield, England, has described cases of blue toes which at first were completely baffling to all attempts to learn their cause. It was found that acid perspiration decomposed the black dye of the stockings. The discoloration appeared between the toes. In another case a woman who wore a dark purple blouse had discoloration of the axillæ, while the arms and parts of the body in contact with the blouse were uncolored. These facts led to the suspecting the dye and proving it to be, in connection with the sweat, the source of the phenomenon.

Official Warning Against Charlatans.—The local board of health of Carlsruhe has issued two official announcements warning against a certain herb doctor who has been advertising in the lay press and an electric institute advertised to cure all kinds of diseases. The warning states that it is

impossible for the herb doctor to make a correct diagnosis by letter, as he claims, and that his tea, liqueur and ointment have no curative value, while they cost twice as much as a physician's advice and prescription. As his practices defraud suffering persons the board urgently warns against applying to the herb doctor in question. The electric institute, it also explains, was at first under the supervision of a regular physician, but he has retired, and the proprietor, originally a butcher, is now in charge.

End of Garnault's Experiment.—THE JOURNAL has mentioned Garnault's two inoculations of his arm with fragments from a tuberculous lesion in the liver of a cow with advanced tuberculosis. Indurated nodules developed at the points inoculated, and the pus contained tubercle bacilli virulent for guinea-pigs for several months. Garnault thinks that he has established his contention that bovine tuberculosis inoculated into man will produce human tuberculosis. He therefore considers the experiment at an end and has had Tuffier extirpate the nodules. They were examined at the Pasteur Institute and found to be typical specimens of local tuberculosis, restricted to the points inoculated. Garnault is exceptionally robust, free from the slightest tuberculous antecedents, inherited or acquired, and he ingested 400 gm. of raw meat every day during the experiment. He is convinced that the inoculation would have induced general tuberculosis in a less resistant subject. No virulent bacilli were found after September at the points inoculated in June, but the bacilli were still virulent in the nodules inoculated in July. No reference was made to his experience at the recent Tuberculosis Conference except Koch's general statement that the local tuberculous lesions observed occasionally on persons handling bovine tuberculous material, were arguments against the transmission of bovine tuberculosis to man, as they are never followed by general infection, but always remain a mere circumscribed lesion, becoming more and more attenuated and gradually healing in time. Garnault's communications have been published in the *Gaz. Med. de Paris*.

The State Board and the Ohio Medical Colleges.—The *Cleveland Medical Journal* says editorially in its December number: The *Eclectic Medical Journal*, of Cincinnati, in its November issue publishes an editorial entitled "A Wrong to Ohio Colleges." By this caption it denotes the action of our State Board of Medical Registration and Examination in adding a little history, a little mathematics and a little English to the requirements for admission to the medical colleges of the state. It joins hands with the *Lancet-Clinic* in the effort to keep the educational standard of our profession at as low a notch as seems compatible with the well-recognized general professional demand for a high standard. The increase in required studies made by the board is too slight to justify the strong language of the two Cincinnati objectors. In a discussion of this sort it is well to lay bare the real facts at issue. The *Eclectic Medical Journal* is owned by the Scudder Brothers Company, who are also proprietors of the Eclectic Medical Institute of Cincinnati. This college, along with the other medical schools in Cincinnati, has felt keenly the effect of the raised entrance standard required by the present medical-practice act. This is, however, the first convenient opportunity for a public expression of alarm at diminishing classes. "It's the galled jade that winces." When the profession demanded a higher standard it knew very well that the medical colleges were to suffer, because we all knew that there were too many in the state and that they were graduating ill-prepared physicians. That the process now going on is painful for the colleges none can deny, but the profession can only point to the record of the colleges' own failure generally and materially to improve educational conditions. It is evident, too, that Cincinnati colleges have suffered more promptly from the raised standards, for the reason that their former large southern student clientele has been driven to the less exacting Louisville schools. Very fortunately the question is not at all one of therapeutic "schools," as the regular profession is in a minority on the state board. All this shows clearly enough to the disinterested observer that the rank and file of all branches of the profession favor a high educational standard, while many of those connected with the schools feel themselves compelled to adopt a different attitude. Nor is any question of intellectual or moral dishonesty involved—it is merely natural self-interest. However, the logic of the situation is evident and inexorable. There must be fewer schools. It is "up to" the colleges to determine how the reduction in number shall take place, and in Cleveland the problem is now practically solved. For years we have had too many colleges in Ohio, and it was expected that when the profession demanded a reduction there would be some shrieks of pain—and now we have them.

Book Notices.

THE PHYSICIAN'S POCKET ACCOUNT BOOK, Consisting of a Manila-Bound Book of 208 Pages and a Leather Case. By J. J. Taylor, M.D. Price, $1.00 Complete. Subsequent Books to Fill the Case 40 Cents Each, or 3 for $1.00. Philadelphia: Published by The Medical Council.

This is strictly a business account book without the obstetric tables, tables of poisons, etc., which are common in these publications. It is well arranged and convenient. The business suggestions in the first part of the work are the only printed matter and these are useful and suggestive. The book is arranged in a sort of single-entry ledger form, without dates, so that it is good for all time.

ATLAS AND EPITOME OF ABDOMINAL HERNIAS. By Privatdocent Dr. Georg Sultan of Göttingen. Edited, with Additions, by William B. Coley, M.D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 Illustrations, 36 of Them in Colors, and 277 Pages of Text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This little book belongs to the Saunders' series of atlases, and is a translation from the German. The text does not profess to be exhaustive, but it is clear and concise, and the common varieties of hernia are well described. The editor has added an occasional note to the text. One, condemning the injection method of treating hernia, and another condemning the use of buried non-absorbable suture materials in the radical operation, are to be commended. Since the mortality of the radical operation is only 0.5 per cent. (5,418 cases, 28 deaths), and the recurrences only about 4 per cent. (2,853 cases, 114 recurrences), there is little reason why the ordinary individual should be burdened with the wearing of a truss. The illustrations, many of them in colors, are works of art and are the chief value of the work. Post-operative ventral hernia has received no attention, and the method of operating on umbilical hernia by overlapping from above downward, as has been so satisfactorily practiced of late by some American operators, has not been mentioned.

ATLAS AND EPITOME OF TRAUMATIC FRACTURES AND DISLOCATIONS. By Professor Dr. H. Helferich, Professor of Surgery at the Royal University, Greifswald, Prussia. Edited, with Additions, by Joseph C. Bloodgood, M.D., Associate in Surgery, Johns Hopkins University, Baltimore. From the Fifth Revised and Enlarged German Edition. With 216 Colored Illustrations on 64 Lithographic Plates, 190 Text-Cuts, and 353 Pages of Text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The chief point to be said in favor of this work are the colored plates and illustrations, as the text is little more than a setting for the plates. However, many excellent little points will be found scattered through the text, as, for instance, the condemnation, as a rule, of the primary permanent fixed dressing; the dangers and advantages of the ambulatory treatment, etc. The editor has added a number of notes, most of which are good, but at times he is too positive, as, for instance, the statement that "The functional result of a proper resection of these joints (shoulder and elbow) is always excellent," and in operative reduction of old dislocations of the shoulder, "Even in cases in which perfect reduction is possible, ... the function of the arm is never as good as after a resection." Again, under dislocations of the hip we find the statement, "In very old cases all hope of obtaining a movable joint must be abandoned, and a resection or a subtrochanteric osteotomy performed to correct the position of the limb." There are a number of cases on record where a very good movable joint has been obtained after operative reduction of old dislocated hips. While the work can not take the place of the more extensive treatises on fractures and dislocations, still the plates give to it a distinct value.

MANUAL OF GYNECOLOGY. By Henry T. Byford, M.D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago. Third Revised Edition. Containing 363 Illustrations, Many of Which Are Original. Cloth. Pp. 598. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The subjects in this work are arranged in the order followed by the author in his lectures. The wording, paragraphing, marginal notes, etc., all indicate, as is stated in the preface, that the work is primarily intended for the student. The chapter on cystitis is very primitive, and such terms as "spurious cystitis" should be avoided by a teacher. Under lacerations of the perineum we find hardly any mention of laceration of the muscles forming the true pelvic floor, and no reference is made to any of the modern operations on these muscles. The subject of gonorrheal infection is clearly handled, but the statement that "gonorrhea always begins as an acute inflammation" in the female can not be sustained. The advice to transfuse salt solution in the collapse of ruptured extra-uterine pregnancy before the bleeding points have been secured is dangerous, because if the hemorrhage has temporarily ceased, the increased tension produced by the salt solution may cause its renewal. The treatment of many questions on pathology would not stand a critical review, but as the subjects are not entered into extensively, but are more to give the student a general idea, their treatment answers the purpose. As a student's reference book it will continue to hold a leading place.

DICTIONARY OF PHYSIOLOGY AND PSYCHOLOGY. Including Many of the Principal Conceptions of Ethics, Logic, Esthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science and Education, and giving a Terminology in English, French, German and Italian. Written by Many Hands and Edited by James Mark Baldwin, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University. With the Coöperation and Assistance of an International Board of Consulting Editors. In Three Volumes, with Illustrations and Extensive Bibliographies. Vol. II. Cloth. Pp. 892. Price, $5.00. New York and London: Macmillan & Co., Ltd. 1902.

The second volume of Baldwin's great dictionary of philosophy and psychology is considerably more bulky than the first and maintains well the character and general excellence and fulness that were so noticeable in the earlier published portion. There are very few things which we looked for and failed to find; the omissions were the more notable for their rarity. We find, however, by close searching here and there, an oversight, such as is inevitable in any work of this kind; thus, among modern Italian philosophers we see no mention of Rosmini, for example, who has not received a biographical note. Such omissions, however, are very few and the book will be a most valuable work of reference and of study to the professional man who takes an interest in the more abstruse problems of his work. The various articles on mental diseases and other medical subjects in this volume are excellent. This book completes the text of the work, which, however, will not be complete for the student without the coming volume containing the bibliography. The work as a whole fills most satisfactorily a long-existing gap in our literature.

Societies.

Chatham County (Ga.) Medical Society.—This society was incorporated Dec. 12, 1902. The objects are the advancement of medical science, social culture and the promotion of a high standard of ethics among its members.

Marion County (Ohio) Medical Society.—At the regular annual meeting of this society, held January 6, at Marion, the following officers for the ensuing year were duly elected: President, Dr. Oliver W. Weeks (re-elected); vice-president, Dr. Robert Ramroth; secretary Dr. Herman S. Rhu; treasurer, Dr. Francis B. Sawyer, all of Marion; and board of censors, Drs. Lewis D. Hamilton, and Elmer O. Richardson, Marion, and Dr. John I. King, Martel.

New York Academy of Medicine.—The newly-elected officers of the academy are as follows: President, Dr. Andrew H. Smith; vice-president, Dr. M. Allen Starr; treasurer, Dr. Herman L. Collyer; trustee, Dr. Arthur M. Jacobus; member of committee on admissions, Dr. J. Milton Mabbott, and member of committee on library, Dr. Joseph Collins. The newly-elected officers of the Section on Pediatrics are Dr. Henry Heiman, president, and Dr. Linnæus E. La Fétra, secretary.

Columbus and Franklin County (Ohio) Medical Society.—At the meeting of the Columbus Academy of Medicine, Dec. 1, 1902, a new constitution and by-laws were adopted, which provide that the society shall embrace Franklin County and that in the future its relations with state and national medical societies shall be closer. At the annual meeting, Dec. 15, 1902, Dr. Francis W. Blake was elected president; Dr. Hugh Hendrixson, vice-president; Dr. John D. Dunham, secretary, and Dr. William C. Davis, treasurer, all of Columbus.

Canton (Ohio) Medical Society.—This society held its third annual banquet January 9, covers being laid for 100. Dr. Dan Milliken of Hamilton, Ohio, made the chief address. The officers elected for the ensuing year are: President, Dr. Allen B. Smith; vice-president, Dr. Frank E. Hart; corresponding secretary, Dr. D. F. Danker; recording secretary, Dr. Harry A. March; treasurer, Dr. Frank DaHinden; censors, Drs. James Fraunfelter, Odo E. Portmann, and Austin C. Brant. The society is in an exceedingly prosperous condition, and has been granted an alcove room in the Carnegie Library in process of construction.

Boulder County (Colo.) Medical Society.—This society held its annual meeting in Boulder, January 1. The retiring president, Dr. Emley B. Queal, Boulder, delivered the annual address on "Gastric Digestion," in which he reviewed the recent studies on the subject, as carried out by means of the *x*-rays and subnitrate of bismuth. The following officers were elected for the ensuing year: President, Dr. Emley B. Queal; vice-president, Dr. Oscar M. Gilbert; secretary, Dr. W. W. Reed, and treasurer, Dr. Martin E. Miles; censors, Drs. George H. Cattermole, Lafayette Z. Coman, and Oscar M. Gilbert, and delegate to the state society, Dr. George H. Cattermole, all of Boulder.

Academy of Medicine of Toledo and Lucas County, Ohio.—This society, January 9, completed its list of officers as follows: President, Dr. Julius H. Jacobson; vice-president, Dr. Samuel S. Thorn; secretary, Dr. Herbert E. Smead; financial secretary, Dr. Charles P. Wagar; treasurer, Dr. Willis W. Grube; board of censors, Drs. William H. Fisher, Oscar Hasencamp, William J. Gillette, John A. Wright, and Seth W. Beckwith; members library board, Drs. Samuel S. Thorn, Harrison Hathaway, William J. Gillette, Park L. Myers and A. L. Steinfeld, and committee on legislation and public health; Drs. William C. Chapman, Charles L. Van Pelt and William G. Dice, all of Toledo.

Association of College Gymnasium Directors.—This association held its sixth annual meeting in New York City, December 30 and 31. An interesting feature of the proceedings was the presentation by Dr. J. E. Raycroft, Chicago University, of a plaster model, one-quarter life size, representing the average American college athlete. This statuette was modeled from data obtained from the records of 400 athletes in the gymnasiums of Harvard, Yale, Cornell, Columbia and elsewhere. A significant fact was that this composite figure showed no abnormal display of muscle, but a good all-round development. Dr. W. A. Lambeth, of the University of Virginia, urged that the physical work done by college students should be credited to them just as the other work of the curriculum. Considerable time was given to the question of fatigue and overexertion in physical culture. Dr. R. T. McKenzie, McGill University, read a paper on the "Effects of Overexertion in Athletics and Gymnasium," and Dr. W. G. Anderson, Yale University, dwelt at great length on what had been accomplished toward determining when overexertion begins. The following officers were elected: President, Dr. Watson L. Savage, Columbia University; vice-presidents, Drs. Jay W. Seaver and W. A. Lambeth, Virginia; secretary-treasurer, Dr. James A. Babbitt, Haverford College. The next meeting will be held Dec. 31, 1903, at Princeton University.

SOUTHERN COLORADO MEDICAL ASSOCIATION.

Second Annual Meeting, held at Colorado Springs, Dec. 2 and 3, 1902.

The President, Dr. W. A. Campbell, Colorado Springs, in the Chair.

Among the papers read were the following: "Prostatectomy," by Dr. R. K. Hutchins of Colorado Springs.

DR. GEORGE F. LIBBY, Colorado Springs, read a report of a case of monocular blindness of fifty years' duration, with restoration of sight following hemiplegia. This case showed the influence of disease or injury of one part of the body on another organ or part of the body. Dr. Libby thought the blindness was psychic.

DR. GILLETT, Colorado Springs, read a paper on the "Medical Embryo from Conception to Inception," giving an outline of the embryo physician from start to finish.

A paper was read by Dr. Epler, Pueblo, on "Diseases of the Rectum." All these papers were freely discussed.

DR. M. BESHOAR, Trinidad, read a very interesting paper on the "Treatment of Typhoid Fever," giving his experiences of nearly fifty years' practice. This paper was thoroughly discussed and many new ideas were brought out.

DR. A. T. STODDARD, Pueblo, read a paper on "Diagnosis and Pathology of Pelvic Inflammations."

DR. DENNIS, Colorado Springs, read a paper on "Anesthetics and Anesthetizer."

A paper by Dr. J. W. Rambo, Florence, on "What Are We Prescribing for Our Patients?" showed how easy it is for physicians to get into a routine of prescribing and use the proprietary medicines and even nostrums.

The President's address was on "Colorado Climate and Eastern Patients." This paper was full of good ideas and bright things.

DR. W. A. SWAN, Colorado Springs, reported a case of rupture of the membranes two months before delivery; twins, males, breathing feebly for a few minutes, with a common membrane and two sacs. The mother made a slow recovery. In the discussion which followed many reported cases of rupture of membranes which were carried to full term or nearly so.

DR. H. W. HOAGLAND, Colorado Springs, reported a most interesting case of "General Secondary Carcinoma."

DR. SOLLY, Colorado Springs, delivered an address on the relation of rhinology to general medicine.

DR. A. C. MAGRUDER, Cripple Creek, showed a splint of his own devising for holding in apposition a fracture below the knee when putting on splint, wiring ununited bones, putting on plaster splint, or, in fact, in adjusting any apparatus or moving patient from place of injury to hospital or home without pain.

Membership Open to the Whole State.

A resolution was introduced by the President, changing the limit of membership to any part of the state, as follows:

WHEREAS, Our society bears the name of "The Southern Colorado Medical Association," which name leads many physicians of the state to believe that its membership is to be limited to those living south of the Great Divide, and

WHEREAS, There are a considerable number of physicians in the southern part of the state who believe our association is beneficial to them in many ways, and does not at all interfere with the meetings of the state society, but, on the contrary, is a benefit to the same in holding the profession together and providing an autumn meeting for them where they can meet, interchange experiences and mingle socially, and thereby throw off the responsibilities of practice in a degree.

Be It Resolved, That we accept membership from all sections of the state, and invite co-operation of the profession throughout the state in making the autumn meeting a success.

New Officers.

The list of officers for the ensuing year is as follows: President, Dr. Michael Beshoar, Trinidad; vice-presidents, Drs. Alexander C. Magruder, Cripple Creek, and Rutherford H. Paxton, Florence; treasurer, Dr. John A. Black, Pueblo, and secretary, Dr. Cyrus F. Taylor, Pueblo.

The society adjourned to meet at Cripple Creek Oct. 20, 1903.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twelfth Annual Meeting, held at St. Joseph, Mo., Dec. 29 and -30, 1902.

The President, Dr. James E. Moore, Minneapolis, in the Chair.

(Concluded from page 119.)

Lung Surgery—Historical and Experimental.

DR. B. MERRILL RICKETTS, Cincinnati, discussed this subject and illustrated his remarks with a series of stereopticon views.

The Pathology that Remains After the Non-Surgical Treatment of Peritonitis.

DR. H. D. NILES, Salt Lake City, stated that 95 per cent. of all survivors of non-surgical treatment of peritonitis are left with infection outside the peritoneal cavity and adhesions inside of it. The anatomic peculiarities of the gall bladder, appendix and Fallopian tubes favor the imprisonment of infection, and about one of these organs the surgeon usually finds pathologic conditions, unless it has been mechanically removed. The author's experience leads him to believe that about 40 per cent. of the possessors of infection and adhesions suffer from recurrent attacks of acute and subacute peritonitis, and less than 1 per cent. from mechanical obstruction of the bowels. He believes that the pathology that the remaining 59 per cent. carry within their abdomens is responsible for much distress and many deaths attributed to other causes or to no well-defined cause.

Surgical Treatment of Tubercular Peritonitis.

DR. D. S. FAIRCHILD, Clinton, Iowa, reached these conclusions:

1. If an intra-abdominal focus of tuberculosis is diagnosed or is suspected, an abdominal section should be made with the veiw of a more efficient treatment.
2. If a chronic tuberculosis of the peritoneum with ascites is diagnosed, or believed to exist, a laparotomy is indicated as soon as it is found that medical and hygienic treatment has failed.
3. In fibrous tuberculosis of the peritoneum, the same course should be pursued, and if cheesy degeneration has not commenced, or progressed too far, a certain percentage of recoveries will follow.
4. In acute tuberculous peritonitis, with ascites, and high temperature, laparotomy is useless.
5. In extensive adhesive tuberculosis, with matting of the intestines, laparotomy is useless, and the attempt to separate the adhesions is dangerous in its immediate results.

Injury to Nerves Following Fractures.

DR. A. L. WRIGHT, Carroll, Iowa, reported a fracture of the humerus through the middle third, with injury to the musculospiral nerve between the ends of the bone or by pressure by the callus.

Treatment of Nevi.

DR. JOHN P. LORD, Omaha, discussed the varieties of nevi, their etiology and pathology, and reported several interesting cases. He said the hot water treatment of cavernous angiomas, as suggested by Wyeth, is under trial, and will doubtless have a place in the treatment of selected cases. The treatment of port-wine marks by electrolysis is too tedious and painful for large areas. The results are not perfect, in that they are seldom complete, and leave some scarring. The *x*-ray promises better, and hot air would seem to have possibilities. Electrolysis occupies first place in hairy nevi, and will probably continue to do so unless the *x*-ray will produce permanent atrophy of the hair follicles. The operation of excision of very large tumors will probably never be supplanted by anything less radical; and hitherto inoperable tumors are rapidly yielding to the control of the operators of the new century.

Hypernephroma.

DR. M. L. HARRIS, Chicago, summarized his points thus:

1. The hypernephromata are tumors of adrenal tissue and therefore probably neither sarcomatous nor carcinomatous.
2. Such tumors may or may not form metastases. When they do, they are distinctly malignant.
3. When they are within the kidney capsule, or have perforated it by extension, the kidney should be removed.
4. When they originate in the adrenal proper, they are usually separated from the kidney tissue by a connective tissue capsule, and however much the kidney may be flattened, or fixed, to the tumor, a line of cleavage may usually be found which will allow of the kidney being separated from the tumor and saved to the patient.

In the discussion Drs. C. W. Oviatt, Oshkosh, Wis.; Van Buren Knott and A. C. Bernays, St. Louis, reported cases.

DR. J. E. SUMMERS, JR., Omaha, reported "Two Cases of Acute Intestinal Obstruction Following Contusion of the Abdominal Walls."

DR. HENRY T. BYFORD, Chicago, described "A New Method of Shortening the Round Ligaments Intraperitoneally for Retroversion of the Uterus," which will appear in full in THE JOURNAL.

Dermoid Cysts of the Intestinal Tract.

DR. WILLIAM JEPSON, Sioux City, Iowa, presented a paper on this subject and reported an interesting case. The points of interest which these cysts have for surgeons are: 1. That in a large per cent. of the cases the cysts, although innocent in themselves, ultimately lead to a fatal issue, either through

obstruction of the intestinal lumen, or because of their contents becoming infected from the intestinal canal, terminating in peritonitis. 2. If their removal is undertaken before such complications have resulted, a favorable termination can be looked for.

Appendicitis—Operation and Indications.

DR. A. C. BERNAYS, St. Louis, read a paper with this title. The author laid stress on the fact that we can know nothing definite about the pathologic process which would warrant delay in operating. He believes many lives are lost because the physician is lulled into hopeful security by an amelioration of symptoms which can not be depended on to last; it may change and the favorable time for operation be missed. In so-called intermediate cases a waiting policy is justified because the system is immunizing and fortifying itself against the toxins. An operation after the body has been immunized, which means that the pus has been made less virulent, is less dangerous. Dr. Bernays thinks that an operation is likely to be less dangerous on the seventh or eighth day than on the third or fourth, but pleads strenuously for operation on the first or second day of the attack, and claims that 98 per cent. of all cases operated on at that early period will be saved.

Hyperplasia of the Uterus.

DR. C. G. GEIGER, St. Joseph, Mo., discussed the causes and varieties. The treatment of the various conditions is so dependent on their causation that each case demands a separate investigation. The ideal way of approaching this subject lies in the direction of prevention, which, in a great many cases, the attending physician is able to do. But gynecologists must meet the disease already developed and devise methods which, if not curative, are palliative. Iodin and caustics in the hands of the essayist have not been of much service. He believes that caustics do more harm than good. In neurotic patients nothing is better than a change of climate and scenery. In some cases a change in the surroundings accomplishes much good. To sum up the treatment briefly, the patient should be given rest, the cause removed, the diseased organ depleted and, if possible, the patient's general health improved.

DR. J. N. WARREN, Sioux City, Iowa, contributed a paper entitled "Some Questions in Abdominal Surgery."

AMERICAN ROENTGEN RAY SOCIETY.

Third Annual Meeting, held in Chicago, Dec. 10 and 11, 1902.

The President, Dr. G. P. Girdwood, Montreal, Can., in the Chair.

(Concluded from p. 120.)

Radiotherapy in Pulmonary Tuberculosis.

DR. GORDON C. BURDICK, Chicago, contributed this paper. Much of his work was based on a series of experiments conducted on guinea-pigs inoculated with the tubercle bacillus. He found that when a culture of the bacillus is exposed to the Roentgen ray its development is checked considerably, although it in every case failed to kill the germ. Pigs exposed to the ray lived much longer than pigs not so exposed. When the ray was used in cases of tuberculosis in man a slow but certain improvement took place and eventually a good recovery. Cases of fibroid tuberculosis yielded very slowly. Abdominal tuberculosis requires longer treatment than the pulmonary form. In a few cases a tendency to relapse has been noted. In the cases of mixed infection improvement is delayed and there is a very marked tendency to the sudden development of toxemia. Joint tuberculosis, in which only the bones are involved, offers the best results, but permanent relief can not be obtained until complete ankylosis has occurred, and the author advises that nothing should be done with the *x*-ray until this ankylosis has occurred. He used the ray in a total of 43 cases of tuberculosis in all parts of the body with uniformly good results, except in one case, in which death occurred. This was a case of advanced general tuberculosis, and even here the improvement was at first marked.

He does not believe that this is the method of treatment of tuberculosis that the profession has been looking forward to, but that it is only an extremely useful adjuvant in the treatment. For the purpose of gaining a certain end unquestionably good results have been attained with this treatment, but not an absolute cure.

DISCUSSION.

DR. J. RUDIS-JICINSKY, Cedar Rapids, reported 4 complete cures out of 20 cases. In joint tuberculosis he cautioned against idiosyncrasy. In glandular tuberculosis he said the results were bad, as recurrence followed in each case.

DR. RUSSELL H. BOGGS, Pittsburg, reported decided improvement in 6 cases of pulmonary tuberculosis and an apparent cure after a year in one case.

DR. GIBSON, Birmingham, Ala., also reported good results.

DR. PHILLIPS, Cincinnati, found that he got better results in treating joint tuberculosis when he used a static cataphoresis instrument, using such remedies as formaldehyd and creosote.

X-Ray Treatment in Intra-Abdominal and Other Deeply-Located Malignant Growths.

DR. CLARENCE E. SKINNER, New Haven, Conn., said that the effect of electricity on cancer is due to the specific influence of the *x*-light on the tissues. He reported 38 cases of malignant growths treated with the *x*-ray with a mortality of 34 per cent. In 3 cases there was a complete disappearance of the tumor; continuous reduction in size of the tumor in 15; temporary reduction in size with subsequent increase ultimately, resulting fatally in one; complete apparent arrest in 4; no effect demonstrable on size of growth in 15; complete permanent relief of pain in 16; complete temporary relief in 3; partial in 8; no relief in 4, and none at all in 10. General condition improved in 14; temporarily in 8; apparently not influenced in 9; in 7 the general condition was not noticeably impaired when the patient came for treatment. Gain in weight in 6; no influence apparent in 32. Hemorrhage lessened in 9; not influenced in 2, and no hemorrhage observed in 27. Toxemia of varying degree in 15 cases. Out of 38 cases there were three apparent cures; 17 continuously benefited and are still improving, with prospects of an ultimate cure; 13 temporarily benefited; 2 not benefited, and in 3 treatment was discontinued by the patients regardless of any benefit.

Every one of these cases was inoperable because of advanced disease and offered a hopeless prognosis by any other method of treatment. Three applications of the ray were made weekly, five minutes at a time, taking into consideration the patient, apparatus and the result obtained from the treatment. The *x*-ray should be used only by skilled operators, as they alone are able to appreciate all the conditions which may arise in the course of the treatment. The application of the rays in different parts is fully discussed and also the methods and attention called to possible dangers.

The author arrives at the following conclusions:

1. The pain of deeply-seated cancers is affected by the *x*-light from slight amelioration to entire disappearance.
2. In many cases the *x*-light is capable of exercising an influence on deeply-seated cancers of sufficient intensity to retard the disease and prolong life considerably.
3. In a certain proportion of cases it possesses sufficient power to entirely overcome deeply-seated malignant processes.
4. A small number of deeply-seated malignant processes exhibited absolutely no indication of being susceptible to the *x*-light.
5. Phenomena indicating toxemia not infrequently accompany the treatment of malignant disease by the *x*-ray. This is due to the elaboration or development of toxins dependent on a retrograde metamorphosis of the tissues insusceptible of regeneration. The effect of the *x*-ray light is due to a stimulation of the reparative functions of the tissues dependent on an inflammatory reaction. Its destructive influence is always exhibited on tissues which are low in vitality.

DISCUSSION.

DR. J. P. MARSH, Troy, N. Y., reported a case of uterine carcinoma referred to him for a hysterectomy, on which he used the rays to a favorable termination.

DR. J. RAWSON PENNINGTON, Chicago, described his shield for application of the rays to growths in the rectum. He favors the high tube for this work on deep-seated growths.

DR. J. N. SCOTT, Kansas City, Mo., believes that all patients operated on for malignant growths should be exposed to the *x*-ray as soon after the operation as possible. It hastens the process of healing in addition to giving the patient the benefit of the ray. It will also stop any tendency to hemorrhage.

Diagnosis of Calculi by X-Rays.

DR. RUSSELL H. BOGGS, Pittsburg, Pa., concludes that the *x*-ray is the only means by which calculi can be diagnosed absolutely, especially as calculous conditions are often very obcure, pointing to other conditions. Even minute particles of uric acid can be radiographed. Many gallstones can not be radiographed because of the position of the gall bladder, change in its position and the composition of the stone. For radiographing gallstones a large amperage should be used for a short time only, however. The apparatus must be a suitable one and the preparation of the patient is as essential as in a surgical operation and is the same. The time of exposure need not exceed from two to eight minutes, depending on the size of the patient. The author reported a number of cases and exhibited skiagrams of cases of renal calculi.

DISCUSSION.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, advised that in skiagraphing for renal calculi a plate large enough to cover not only the kidney, but also the ureters, should be used. The stone may be located in the ureter. The plates should be examined beforehand to ensure their freedom from spots and imperfections. Skiagrams should be made from front and side so that an accidental air bubble in the plate will not be mistaken for a stone.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Ringworm.

The *Indian Med. Record* advises the following procedures in treating ringworm of the scalp: The hair should be clipped closely surrounding the ringworm and all the diseased hairs should be depilated. The parts should then be thoroughly washed with carbolic soap and warm water, followed by an application of the following ointment:

℞. Acidi carbol.
Ung. citrine
Ung. sulphuris, āā 3iss 6

M. Sig.: Apply locally.

This is said to cause no pain. The sulphur in the foregoing prescription should be doubled in cases of children under ten years of age.

Uses of Sulphur.

W. O. Bunnel, in *Med. Council*, recommends sulphur in sexual impotency and for hemorrhoids; in ulceration involving the anal region sulphur ointment dram one (4.00)) to the ounce of adeps (30.00) should be used, applied internally and externally. He also recommends it in incontinence of the urine and chronic catarrh of the bladder. It is useful in anemia, accompanied by amenorrhea, in chronic rheumatism and in scrofulous conditions of the glands or joints. It is of value in the treatment of all skin diseases of parasitic origin such as scabies, etc., applied as follows:

℞. Sulphuris .....ʒi 30
Potassii carb. 3ii 8
Adipis .....ʒv 150

M. Sig.: Anoint the parts two or three times a day after having cleansed them with soap and water.

He recommends sulphur locally in diphtheria, blown or dusted on the membrane. It is of service in the treatment of skin diseases, given in the form of a sulphur bath by allowing the fumes to envelop the body by sprinkling the sulphur on a hot iron after first placing the patient on a cane bottom chair, enveloping him with an awning.

As a hair tonic it is recommended in the following combination:

℞. Lactis sulphuris 3i 4
Olei bergamot .....gtt. x 65
Triturate and add:
Glycerini 3ii 8
Triturate well again and add:
Aquæ rosæ .....ʒx 300

M. Sig.: Apply with a soft sponge once a day. This is said to produce a growth of hair if the follicles are not dead. It is also recommended in all slow healing ulcers, accompanied by an offensive discharge.

Chilblains.

In the treatment of chilblains which have not ulcerated, the *Rev. Méd de Normandie* recommends to those parts where the skin is simply red and tense that compresses saturated in decoction of walnut leaves be applied. The decoction may be made up as follows:

℞. Walnut leaves 3iiss-3iiiss 10-14
Aquæ (boiling) .....Oii 1000

M. Fiat decoctio. Sig.: Apply on compresses to the affected parts.

The compresses should then be covered with oiled silk. Following these moist compresses the following may be applied locally:

℞. Acidi borici .....gr. xv 1
Acidi tannici .....gr. ivss 30
Petrolati 3iiss 10

M. Sig.: Apply locally thoroughly to the affected parts; or the following may be applied as a powder:

℞. Amyli 3iiss 10
Lycopodii 3iiss 10
Acidi tannici .....gr. v 30

M. Fiat pulvis. Sig.: Apply locally. If the hands are involved gloves may be worn to retain the powder.

The following outline of treatment taken from an abstract in *N. Y. Med. Jour.*, is recommended: Bathe the hands night and morning in a decoction of walnut or eucalyptus leaves, or in dilute plumbi subacetas. Then rub them with camphorated alcohol, eau de cologne or aromatic vinegar and dust with the following powder:

℞. Bismuthi salicylatis 3iiss 10
Amyli .....ʒiii 90

M. Sig.: Apply locally; or:

℞. Acidi tannici .....gr. xxx 2
Glycerini
Alcoholis camphoratæ, āā.....ʒiss 45

M. Fiat linimentum. Sig.: Apply locally; or:

℞. Acidi carbol. .....gr. viiss 50
Menthol 3ss 2
Petrolati 3v 20
Lanolini 3iiss 10

M. Fiat unguentum. Sig.: Apply locally; or:

℞. Salol
Xeroform, āā 3iiss 10

M. Sig.: Apply locally.

The following is recommended to be taken internally:

℞. Quininæ sulph. .....gr. xv 1
Ext. ergotæ aqueous .....gr. viiss 50
Pulv. digitalis .....gr. iss 09
Pulv. belladonnæ rad. .....gr. 3/4 45

M. Ft. pilulæ No. xl. Sig.: One pill three times a day for three or four days.

Worms.

M. B. Pollard, in *Med. World*, recommends the following in the treatment of worms:

℞. Olei chenopodii anthel. 3i 4
Ext. spigeliæ flu. et sennæ .....ʒss 15
Santonin .....gr. viii 50
Pulv. acaciæ 3i 4
Syr. rhei arom. q. s. ad.....3i 30

M. Sig.: Shake and take one teaspoonful three times a day one hour before meals, to be followed three hours after taking the last dose by one tablespoonful of castor oil and ten drops of turpentine.

Urticaria.

The *Indian Med. Record* recommends the following outline of treatment of urticaria: If there is reason to suppose that the stomach contains indigestible matter, a mild dose of vinum ipecacuanhæ and castor oil followed by alkalies, and a simple diet for a few days. In the chronic form the diet must be

carefully regulated and all stimulants must be avoided. The chief remedies should consist of laxatives, antacids, vegetable tonics, and warm or tepid baths. In the acute form, olive oil should be applied to the affected parts or the following combination may better answer the purpose:

℞. Zinci oxidi 3i 4
Glycerini .....ʒss 15
Aquæ calcis .....ʒvi 180
M. Sig.: Apply locally to relieve the itching and irritation.

Avoid meat and eat ripe fruit and vegetables, drink milk and alkaline waters.

Salt Pack in Rheumatic Gout.

According to the *Polyclinic* the treatment employed successfully by Hutchinson, in getting rid of the synovial effusion which may accompany rheumatic gout consists in soaking flannels in a saturated solution of sodium chlorid and applying them to the affected joints and covering them with oiled silk and bandages. This method should be repeated every night until the joint becomes normal again.

Herpes Zoster.

The following combination has been recommended in the treatment of herpes zoster:

℞. Morphinæ sulph. .....gr. iv 25
Collodii (flexible) .....ʒi 30
M. Sig.: Paint over the affected areas.

The foregoing, it is said relieves the burning and pain and aids in rapid return to the normal of the tissues thus protected.

Poulticing Gonorrheal Arthritis.

According to the *Med. Press and Circular* poulticing is a much more successful method of dealing with gonorrheal arthritis than is the application of ointments, ice or salicylic acid. In order to obtain the best results the poultices must be applied as hot as possible and require changing frequently day and night. Experience has shown that surgery is seldom needed in order to open and drain the joint if the foregoing simple method is properly carried out.

Dysentery.

J. B. Brandon, in an abstract in *Tropical Medicine*, recommends the following mixture in the treatment of dysentery when there are frequent movements of the bowels accompanied by pain and the presence of blood and mucus.

℞. Acidi sulph. dil. arom. .....ʒss 15
Tinct. opii .....ʒss 15
Sol. magnes. sulph. arom. q. s. ad.....ʒiii 90
M. Sig.: Take a teaspoonful every three hours in water until the blood and mucus have disappeared from the stools.

He recommends also turpentine stupes to the abdomen and a light diet, consisting of rice, soups, and broths given in small quantities, and repeated frequently.

After the blood has disappeared, pepsin and bismuth may be prescribed in small doses.

In cases of frequent evacuations accompanied by tenderness over the abdomen and a rise in temperature the following may be given:

℞. Hydrarg. chloridi mitis.....gr. ii 12
Sodii bicarb. .....gr. ii 12
Salol .....gr. xxiv 1 60
Bismuthi subnit. .....gr. xxxii 2 12
M. Ft. chartula No. i. Sig.: One such powder every three hours until the tongue cleans. This may be alternated with bismuth subnitrate in two dram doses in the form of a mixture, given every three hours.

[In the foregoing prescription, containing salol, we trust the author has been misquoted as to the dose of that preparation. One should never give a single dose of salol containing twenty-four grains, to say nothing of repeating it once in three hours for perhaps several doses.]

Sulphur in Typhoid Fever.

Vorochiesky, in *Amer. Med.*, has employed sulphur in typhoid fever with the idea of ameliorating the ulcerative processes. He administered sulphur in doses of grains 20 (1.30) every two hours, and to children in doses of grains 5 to 8 (.30-.50) every two hours. According to his observations at the end of three days the symptoms were improved; the temperature had dropped, the tongue was more moist, the diarrhea had disappeared and the sleep and appetite improved. An enema given occasionally will overcome the constipation brought on by the use of the sulphur. He is of the opinion that it forms a protective coating, and thus reduces the danger of irritation to the ulcerated and inflamed mucous membranes. It is also a vasomotor constrictor, thus reducing the hyperemia and is a splendid intestinal antiseptic.

Medicolegal.

Liability for Smallpox Started from Pesthouse.—A pesthouse having been located 300 yards from the boundary line of the city, and 250 yards from the house of Mrs. Clayton, whose child contracted smallpox from the pesthouse, the Court of Appeals of Kentucky held, in the City of Henderson vs. Clayton, reported on page 582 of THE JOURNAL of Sept. 1, 1900, that Mrs. Clayton, who took the smallpox from her child, might recover damages therefor on the ground that the purpose of the statute in forbidding the pesthouse being put within one mile of the city boundary was to prevent the communication of contagious diseases to other persons from the pesthouse, and that it was the natural result that the mother should take the disease from the children living in the family with her. This is brought out by the court in the case of the City of Henderson vs. O'Haloran, just decided, in which it says that it is just as natural, and to be as reasonably expected, that other persons who were members of the family, whether temporarily or permanently, would take the disease. In this latter case, Nannie O'Haloran was a guest at Mrs. Clayton's house, and contracted the disease while there. She went there at Mrs. Clayton's invitation, and spent the night, sleeping in the same bed with the child, Mrs. Clayton answering her inquiry as to what ailed the child, who was broken out with some eruption, that she supposed it was chicken-pox. A judgment for $500 damages against the city is affirmed by the court. It says that if she had been cooking for Mrs. Clayton, whether by the day, week or month, and while cooking there had contracted the disease, which had been brought there from the pesthouse, plainly such a result would be no more remote than Mrs. Clayton's contracting the disease; and no sound distinction could be made between a person who lived in the house for 24 hours and one living there longer, if they both took the smallpox while there. The guest was a member of the family as much as the servant would be. And while it was not to be anticipated, perhaps, that a particular person would visit at this house at this time, or would be engaged there as a domestic, or be there for any other reason, still it was to be anticipated that persons would come there for various purposes, and the communication of the disease from the persons living in the house to these persons was a result as naturally to be expected as its communication from one member of the family to another. The purpose of the statute is to require the persons having the contagion of these diseases separated from the rest of the community, so as to prevent the spread of the disease. It was a result naturally to be expected when the statute was violated that the disease would be communicated to the persons living in the neighborhood, and that not only regular members of the family would take it, but also those who might, for any reason, for the time, be living with them. The court therefore concludes that the damages to this guest were not too remote to be recovered for.

Injury to One Already Diseased—Defective Sidewalk—Damages.—In Jordan vs. City of Seattle (Wash.), an action brought to recover for personal injuries alleged to have been sustained by reason of a defective sidewalk, the jury were instructed that if they believed from the evidence that the party suing was injured through the negligence of the city, and that, at the time of the injury, she was suffering from a varicose condition of the veins in the lower part of the left leg, and that such injury aggravated, augmented and accelerated such varicose condition, and the suffering occasioned thereby, then

their verdict would be for the party suing, unless they found that these conditions not only might have arisen, but must have arisen, if the negligence of the city (if they found it negligent in the premises) had not intervened. If the original act of the city was wrongful, and would naturally, according to the ordinary course of events, prove injurious to some other person or persons, and did actually result in injury, through the intervention of other causes which were not wrongful, the rule was that the injury should be referred to the wrongful cause—pass by those which were innocent. If one is reasonably responsible for the act, he is chargeable for direct result of the act, however surprising. The rule is, if by reason of delicate condition of health the consequences of a negligent injury are more serious still, for those consequences the defendant is liable, although they are aggravated by imperfect bodily conditions. The duty of caring and of abstaining from the unlawful injury of another applies to the sick, the weak, the infirm as fully as to the strong and healthy; and when the duty is violated the measure of damages is for the injury done, even though the injury might not have resulted but for the peculiar physical condition of the person injured, or may have been augmented thereby. The proximate cause of an injury is the efficient cause; the one that necessarily sets the other cause in motion. The public streets and sidewalks in a city are not constructed and maintained for the sole use of the healthy and robust people, but for the use of the infirm, the sick and decrepit as well. They may lawfully be traveled by every citizen, without regard for age, sex or physical condition. If the city negligently permits such streets and sidewalks to remain out of repair, and any person, who is free from negligence, is injured, the city is liable for the injury. The city is chargeable with the knowledge that people of different bodily conditions travel its streets, and that among those are the weak, the decrepit and those with organic predisposition to disease. It is reasonable to expect that in certain cases, if an injury happens to one of the latter class, full recovery therefrom may be retarded or prevented by such predisposition or tendency to disease, and the city is chargeable with knowledge that such tendency to disease might greatly aggravate a bodily injury, etc. The Supreme Court of Washington thinks no error was committed by the instructions given, which it thinks are sustained by the great weight of, if not by universal, authority. Furthermore, it refuses to hold a verdict for $6,090 excessive, as it says sufficient testimony went to the jury that the ulcerations formed by reason of the accident were permanent, and that the party suing was partially disabled, and probably would be for life, in addition to which an exhibition of the affected parts was made to the jury, so that they had a better opportunity to determine the malignity and baleful effect of the injury than this court.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

January 3.

1 *Gastroptosis: A Critical and Clinical Study with Reference to 100 Cases. Albert P. Francine.
2 A Report of a Case of Chronic Splenic Anemia. James E. Talley.
3 *The Perineum. James D. Love.
4 A Local Electric Light Bath. C. C. F. Nieschang.
5 A New Reducing Cyrtometer. Robert P. Elmer.
6 A Case of Traumatic Rupture of the Bladder—Recovery. Edward A. Schumann.

1. **Gastroptosis.**—Francine's lengthy article discusses all divisions of the subject. It refers to a similar article by Drs. Steele and Francine in THE JOURNAL, Nov. 8, 1902, p. 1173, which was based on 70 cases. The present article discusses 100 cases. The etiology, symptoms and diagnosis are discussed at length, and he finds the etiology difficult to explain. He objects to gastric inflation by carbonic acid and to Einhorn's gastrodiaphane and Turck's gyromele. Inflation of air according to Runeberg's suggestion is the method recommended. The indications for treatment are to relieve the stagnation and fermentation and increase the motor power and peristaltic activity of the organ, to furnish support to the stomach and other abdominal viscera, relieving local congestion, to tone up the general health and mental attitude. He gives formulas to combat fermentation in the stomach, and mentions abdominal supports and operation, which last he hesitates to recommend except in extreme cases.

3. **The Perineum.**—Love comments on the evils following perineal injuries and thinks they are usually inadequately treated. Many cases of perineal laceration may be due to faulty position of the mother during childbirth. It is his custom to deliver all primiparæ, at least, in the left lateral prone position, which makes the obstetrician master of the situation. Immediate repair, when possible, is insisted on, but he does not think it necessary to enforce the dorsal position or bind the knees together. He objects to the vaginal douche after operation, both on account of the possible risk to the sutured parts and for the danger of infection.

Medical News, New York.

January 3.

7 *Disappearance of Yellow Fever from Havana, Cuba. W. C. Gorgas.
8 *Tabes Dorsalis: A Study of 140 Cases of Locomotor Ataxia. Joseph Collins.
9 A Case of Supernumerary Breast in the Axilla of an Adult Male. Frederick Griffith.
10 The Diuretic Action of Rectal Irrigation—The Specific Action of Normal Saline Solution in the Production of Diuresis. Robert Coleman Kemp.
11 *Hematocele. W. C. Bowen.
12 *Why Chloroform Should Be Used in Puerperal Eclampsia. Douglas H. Stewart.

7. **Yellow Fever in Cuba.**—Gorgas gives the history of the Havana work, calling attention to the peculiar habitat of yellow fever, the conditions which will stop its spread, and prophylaxis by quarantine. He remarks that Havana since the American occupation has averaged over 17,000 non-immune immigrants every year, a constant source for renewing the disease. In this respect it differs from other localities excepting perhaps Rio Janeiro. He describes the methods used, as narrated in THE JOURNAL, Nov. 15, 1902, page 1274. As a result, while in 1900, the year previous to the beginning of mosquito work, there were 344 deaths in Havana from malarial fever, in 1901 there were 151 deaths, and for the first nine months of 1902 there were only 68 deaths, which would give an average of 90 for the whole year if the ratio were continued, showing that the anopheles, which was especially a suburban mosquito, was pretty thoroughly decimated. He thinks that if the same measures were adopted in Rio Janeiro yellow fever would gradually become a disease of the past.

8. **Tabes Dorsalis.**—This first paper of Collins reviews the history of the disease and its etiology, with special reference to syphilis. He points out the large percentage of cases in which a positive knowledge of syphilis can be ascertained and the difficulties of making the statistics absolutely complete. He says that all we know of the etiology of tabes may be said in a line; it occurs in civilized, mature men and women who have had syphilis and in children who have inherited syphilis. It is a marvel, considering the prevalence of syphilis, how a few are chosen for tabes and the rest spared. The bacteriologist must discover the cause of syphilis, or if it has been discovered, corroborate it, and in co-operating with the physiologic chemist, discover the immediate cause of locomotor ataxia and of general paresis.

11. **Hematocele.**—Bowen describes diagnosis, effects and treatment.

12. **Chloroform.**—Stewart remarks that sugar is an antiseptic, that glycosuria counteracts the tendency to eclampsia by delaying the alkaline decomposition, that chloroform is a producer of temporary glycosuria and brings about a condition which is antagonistic to puerperal eclampsia. Therefore, chloroform is the anesthetic of preference in puerperal convulsions. It will limit the production of the chief poison causing the disease.

New York Medical Journal.

January 3.

13 *Dr. Adolf Lorenz at the Hospital for Ruptured and Crippled, Monday Afternoon, December 15. V. P. Gibney.
14 *The "Lorenz Hip Redresseur" and "Lorenz Spica." Charles H. Jaeger.

15 A Case of Ovarian Fibroma. H. A. Royster.
16 *The Present Status of Treatment of Hypertrophy of the Prostate. N. P. Dandridge.
17 *The Diagnostic Value of Abdominal Rigidity. Joseph A. Blake.
18 *Morphin Habituation and Its Treatment by Hyoscin Hydrobromid. S. Ormond Goldan.
19 *Bronchial Phthisis. Albert Abrams.
20 *The Successful Treatment of Pulmonary Tuberculosis—Mechanical and Medicinal. David Wark.
21 The Physician and the Pharmacopeia. M. I. Wilbert.

13. **Hip-Joint Dislocation.**—Gibney gives his impression of the Lorenz operation. He was not prepared to see him break down the adductors so quickly and bring the limb into complete abduction. This was accomplished by pulling with one hand and deep pressure on the muscle by the thumb and finger followed by blows with the ulnar border of his hand. The next move was to make extreme flexion of the thigh, the leg being extended; adduction, rotation and pulling until the head of the bone was on a level with the rudimentary acetabulum. A wedge-shaped piece of wood, covered at the top with kid, seemed to be the most important element in the reduction, giving a fulcrum behind the trochanter major, which enabled him to bring the head from its old position forward until it rested under the femoral vessels and could be distinctly felt. Lorenz goes farther than this and forces the abducted thigh back of the plane of the pelvis until he has stretched the capsule so that the slipping back and forth is easily accomplished. The amount of stretching and tolerance of the tissues was remarkably shown, and demonstration of the stability of the bone after reduction was admirable. In placing the thigh in complete outward rotation and abduction a plaster-of-paris application was made extending from the internal condyles to the free ribs, cut out above the genitals and below the stomach, but very thick across the lower part of the abdomen. Lorenz places most stress in the after-treatment on the function of bearing weight. The child is taught to walk, and in this way the head of the femur, more or less imperfectly formed and misshapen, induces a certain amount of irritation and encapsulation. The demonstration was so clear that the following morning Drs. Whitman, Warren and Gibney were enabled to replace eight dislocated hips within an hour and a half. The subsequent treatment is comparatively simple. The different positions must be maintained for months, and Lorenz makes this a strong point.

14. **Lorenz Hip Redresseur.**—Jaeger describes and illustrates this instrument, and states its advantages; also the advantages of the "Lorenz spica," among them its inexpensiveness and absence of inconvenience to the patient.

16.—See abstract in THE JOURNAL, XXXIX, p. 1338.

17. **Abdominal Rigidity.**—The diagnostic significance of abdominal rigidity in cases of peritoneal involvement from various causes are emphasized by Blake, who summarizes as follows:

Abdominal rigidity is a constant symptom in all irritations and inflammations of the peritoneum, and is, therefore, a valuable sign in the diagnosis of the presence of foreign materials in the peritoneal cavity, even before inflammation has ensued. It is a fairly accurate index to the severity and extent of a peritoneal implication, and is, therefore, valuable in observing the course and estimating the severity of a peritonitis. It is a more reliable sign than pain or tenderness in the diagnosis of perforation occurring in typhoid fever. On the other hand, we must remember that the determination of rigidity in the upper part of the abdomen is not always easy, and that it may be present in inflammations of the pleura, the peritoneum being normal.

18. **The Morphin Habit.**—The hyoscin treatment originated by Lott has proved perfectly satisfactory in Goldan's hands. It consists in frequent hypodermic injections of hyoscin hydrobromid, beginning with 1/400 to 1/200 of a grain to determine the idiosyncrasy, and then slowly increasing and repeating it often enough to keep the patient under its influence for two days or more; later the length of time between the doses may be lengthened from one to two or three hours. A nurse must be in constant attendance and attention given to the respiration, heart, and mouth, which becomes dry. The room must be darkened and food given by enemata. The patient should be protected from changes in temperature, as he is liable to perspire profusely. Active delirium is apt to occur, and friends should be kept from the room as far as possible. All his cases have been successful; two are reported in detail.

19. **Bronchial Phthisis.**—Abrams describes this condition as closely resembling pulmonary phthisis when the bronchi are perforated, but the progress is slower. Pulmonary phthisis may coexist. Dulness over the manubrium sterni may extend to the right and left sternal line and often along the course of the bronchi. It is wise, he says, to accentuate dulness by percussion at the end of forced expiration. It is also important to have an assistant press forcibly on the lower end of the sternum. The posterior dulness will correspond to the fourth, fifth and sixth dorsal vertebræ and some distance on either side. Auscultation signs are nearly always present. If the main bronchus is obstructed, the vesicular murmur on the affected side is diminished or abolished, and the same is true as regards vocal fremitus and respiratory excursions. More often whistling sounds are heard during inspiration and expiration. A subjective feeling of weight in the upper chest region and spasmodic cough are observed in all these cases. Swelling of the cervical veins, edema and cyanosis of the face or arms, etc., may be present. The Roentgen ray signs are characteristic, showing enlarged bronchial glands and the lung negative. The diagnosis is not difficult, though syphilis may give some trouble. The course of the disease is long unless pulmonary phthisis coexists. In only one of his cases was a positive cure effected. Four patients are under observation who have had symptoms of cough and expectoration for more than ten years without any material involvement of their physical well being. Most dated their disease to some acute infection, notably measles and pertussis. The treatment is much the same as that of pulmonary tuberculosis. Residence at the seaside should be tried. Syrup of iodid of iron seems to have some effect. Potassium iodid was employed in the only case in which a cure was effected; the patient gave a history of syphilis. He has lately been employing inunctions of sapo viridis, one dram, rubbed in daily in different portions of the body, usually with good results. He has picked this point up somewhere in the literature, but can not give the reference.

20. **Pulmonary Tuberculosis.**—Wark insists on the general measures of treatment, improvement in respiration and circulation by proper exercise, change of climate, improvement of nutrition, especially when there is defective assimilation of fats. He mentions two drugs which he thinks will restore the ability to develop the fatty materials from the carbohydrates and other food elements. These are *Verbascum thapsus* and *Sticta pulmonaria*. Of the former he can not speak too highly as a weight increaser in this disease.

Medical Record, New York.

January 3.

22 *How to Study Anatomy. Stephen Smith.
23 *Headache in Its Relation to Disorders of the General Health. William M. Leszynsky.
24 Why the Open-air Treatment of Consumption Succeeds. M. A. Veeder.
25 *Cold and Disease. H. Randolph Tuthill.
26 The Close Analogy of Trachoma to Adenoids. Ralph Opdyke.

22. **How to Study Anatomy.**—Smith lays down a plan of teaching anatomy according to the developmental method, studying the several systems and tissues theoretically and systematically, instead of learning the subject by rote as at present.

23. **Headache.**—The various forms of headache are noticed by Leszynsky as the result of a clinical study of over 5,000 cases during the last twenty years. In a large majority headache is due to toxemia either from constipation or intestinal or gastric indigestion. In these cases it is usually frontal, but may be general. Gastric indigestion may produce it reflexly through the pneumogastric nerve, and headache due to both gastric and intestinal causes is frequently an accompaniment of stomach dilatation. Headache due to renal disease may be either uremic or congestive. The importance of urinary examination for uremic headache is specially remarked on. There are two kinds of rheumatic headache, one due to suboxidation and autotoxemia, and the other a muscular rheumatism or myositis of the scalp. The latter may be induced by exposure to cold like other forms of muscular rheumatism. Gouty patients are specially subject to headache as

are also diabetics, and in them it is often accompanied by hebetude and depression of spirits. Headache is a common symptom of nearly all the infectious diseases and fever; is often due to the toxic action of alcohol, coffee, lead, etc., and it is an important symptom of neurasthenia, though not always present. Its importance in epilepsy is at times very great, especially in diagnosis of obscure cases. He considers a constant general headache with optic neuritis and frequent attacks of vomiting, invariable signs of intracranial disease. [This is a rather general statement which should be considered open to exceptions.] Syphilitic headache is a matter of importance. He insists on the necessity of careful examination of the entire organism in every case to clear up the cause. The treatment is briefly noticed.

25. **Cold and Disease.**—The action of cold and draughts in producing disease is explained by Tuthill as due to the arrest of secretion from the mucous glands, allowing the pathogenic bacteria present at the time to become active. Ordinarily they are restrained by the normal secretions. This is the philosophy of taking cold, according to his views.

Boston Medical and Surgical Journal.

January 1.

27 *Notes on Multiple Primary Tumors. Paul G. Woolley.
28 *Percentage Modification of Milk in Infant Feeding. Maynard Ladd.
29 Foot-and-Mouth Disease. Langdon Frothingham.
30 *Chlorid of Ethyl as a General Anesthetic. Charles G. Cumston.

27. **Primary Multiple Tumors.**—Woolley argues for the existence of a systematic neoplastic tendency, which may produce multiple primary malignant tumors otherwise than by metastases. He begs observers to watch for cases of multiple primary growths and record them, with careful statistics of the general conditions, as well as the special ones surrounding the patient.

28. **Infant Feeding.**—Ladd gives formulas and tables and explains them in detail.

30. **Chlorid of Ethyl.**—Cumston gives the history of chlorid of ethyl narcosis and its methods of administration, and claims for it that it is safe so that an experienced anesthetist is not required. It can be given by any careful physician, thus having special advantages for operations of short duration. When used as a preliminary to ether, it avoids the period of excitement and on account of its pleasant odor and non-stifling effect, the most nervous patient can take it. The amount of ether afterward used may also be much reduced. Transition from one anesthetic to another is quite insensible. Thus far no contraindications have been pointed out, though they may yet be discovered. He finds kelene and antidolorin very pure and reliable, and he has recently tried anodynone and found it also satisfactory. He concludes with brief reports of over forty cases. He has used the drug in 153 cases without the slightest accident and with much comfort to the operator and patient.

American Medicine, Philadelphia.

January 3.

31 *Some Cardiorespiratory Phenomena Revealed by the Roentgen Rays. Albert Abrams.
32 A Case of Subacute Combined Sclerosis of the Spinal Cord. Charles S. Potts.
32½ The Etiology of Uterine and Pelvic Disease. Clarence L. Wheaton.
33 Transverse Position of the Child with Prolapse of the Arm and Impaction. Stricker Coles.
34 Two Examples of Parasitic Hematuria. L. Napoleon Boston.
35 Exophthalmic Goiter: Report of Case. K. S. Howlett.
36 The Gynecologic Examination. James H. Burtenshaw.

31. **Cardiorespiratory Phenomena Revealed by the X-Ray.**—Abrams describes the cardiac changes and movements as revealed by the *x*-rays, showing the position of the heart, as varied by attitude and respiration, aneurism, position of the diaphragm, dislocation of accommodation in aortic aneurism, old age, etc., the relation of the stomach and the colon to its position, the effects of coughing and laughter, amyl nitrite, rarefied and compressed air, etc. He does not think an *x*-ray study of heart pulsations supersedes the conventional physical signs unless it is in the diagnosis between enlarged heart and pericardial effusion. In the former the pulsation may be discerned, but not in the latter. He does not like to diagnose aneurism with no other aid than the rays. He points out that paroxysmal laughter causes the heart to bob up and down, and might be dangerous in cardiac disease, by inhibiting the return of the venous circulation and dislodging thrombi. The heart reflex consists in myocardial contraction from cardiac irritation in the precardial region. He finds that this can not be elicited when the cardiac muscle is beyond restitution in myocarditis, and it can be noted not only in transverse but in the sagittal diameter, and will often aid in excluding the murmurs of relative insufficiency. Here vigorous rubbing of the pericardium will temporarily dispel the latter murmurs. It can also be elicited from the nose, and he suggests the expediency of cocainization of the nasal mucosa before using an anesthetic, on account of possible affections of the heart. Many cases of death during anesthesia may be caused by undue stretching of the neck during chloroform or ether anesthesia. The lung reflex of Cherchevsky has been investigated by Abrams, who does not find it important in the diagnosis of arteriosclerosis. The lung reflexes of contraction and dilatation will be discussed in a future paper. He thinks they can be explained only by supposing two distinct functions of the vagus, one enabling it to dilate and one to contract the bronchioles.

Cincinnati Lancet-Clinic.

January 3.

37 Lung Surgery, Historical and Experimental. Benjamin M. Ricketts.
38 The Ups and Downs of a Physician's Life. (Concluded.) George J. Monroe.
39 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

December 27, 1902

40 Practical Points in the Treatment of Floating Kidney. W. B. Davis.

Medical Fortnightly, St. Louis.

December 25, 1902.

41 *Burns and Scalds in Railroad Accidents. W. M. Piquard.
42 *The Neurologic Diagnosis of Traumatic Lesions of the Spinal Cord. Frank. P. Norbury.
43 Syringomyelia. F. Savary Pearce.
44 The Treatment of Respiratory Diseases, with Especial Reference to the Employment of Terp-heroin. C. H. Powell.

41. **Burns and Scalds.**—A few points mentioned by Piquard in injuries from railroad accidents are: 1. The frequency of serious complications; 2, the need of thorough sterilization of the parts after removing the first of the temporary dressings. He uses a mild carbolic solution here for its anesthetic qualities. Moist dressings of saturated solution of picric acid are very useful in suppurating cases. In bad scalds of the hand it is very essential that the hand be straightened and placed in that position on a flat splint and kept there until well, otherwise the strong flexors will so contract the fingers as to make the hand useless. The same must be remembered as regards burns or scalds of the popliteal space, the elbow and the wrists, where mechanical appliances must also be used to prevent deformity.

42.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 91, p. 1346.

Illinois Medical Journal, Springfield.

December, 1902.

45 *Senile Pneumonia. David W. Reid.
46 *Pathology of the Kidney in Croupous Pneumonia. E. C. Franing.
47 *The Treatment of Pneumonia. N. S. Davis, Jr.
48 *The Use of the Colpeurynter in Obstetric Practice. Joseph B. De Lee.
49 *Deep Transverse Arrest of the Head as an Indication for Forceps. C. B. Reed.
50 *The Accidents of Anesthesia; Their Prevention and Treatment. Daniel N. Eisendrath.
51 Professor Lorenz's Bloodless Reduction of Congenital Dislocation of the Hip-Joint. Edmund Andrews.

45. **Senile Pneumonia.**—Reid remarks that the characteristic features of the disease may be entirely changed in elderly persons. The disease is insidious from the beginning. The symptoms may all be mild and yet the condition prove fatal. Pyrexia is never excessive; cough may be slight, and respiration not difficult in some cases. The crisis may not be well marked. Expectoration may also be absent. When an old person has a slight rigor followed by a rise of temperature, attended by great prostration, for which there is no explanation,

pneumonia may be suspected, though all the symptoms are absent. Reid thinks the increased mortality from pneumonia may be largely due to the diagnosis of senile pneumonia, which was formerly overlooked. He thinks that most of the fatal cases of influenza are complicated by pneumonia. After 40 each decade has a death rate of its own; after 60 the outlook is always unfavorable. In diagnosis we should look to the lungs; but in prognosis the heart is everything. As regards treatment, he advises caution in the use of digitalis, if it is used at all. Alcohol, if it is ever of service, should be in senile cases. Carbonate of ammonia has failed to hold its own in recent practice. Creosote has its advocates, but many doubt its effects. Strychnin has more friends and fewer enemies than any other drug in the pharmacopeia for these cases. Rest, quiet, ventilation, uniform temperature, easily-digested liquid food and intelligent conservative treatment of the symptoms will suffice for a cure in the great majority of uncomplicated cases under 50 years of age. Beyond this limit the mortality will be doubled and quadrupled. In his opinion heroic treatment has no place in the disease and the conservative course will save more lives than the opposite.

46. **Pathology of the Kidney in Croupous Pneumonia.**—Franing describes the conditions in the kidney, remarking especially on the congestive signs, granular degeneration of the epithelioma, fatty degeneration, edemas, etc. He says congestion is more or less marked in 70 per cent., and edema in practically all the congested cases; granular degeneration more or less marked in all and hyaline material in 60 per cent.; swollen tufts in practically all cases; infiltration of lymphocytes and plasma cells in 89 per cent., and of polymorphonuclear leucocytes in 25 per cent.; bacteria in a great majority of cases; hyaline casts in 80 per cent. and granular in a few, Pneumonia, he thinks, can no longer be considered a local infection of the lungs, but frequently a general bacteriemia.

47.—This article appeared in THE JOURNAL, xxxix, p. 1.

48. **Colpeurynter.**—De Lee gives the uses of the colpeurynter in obstetric practice and a historical sketch of the instrument. Its value is noted in induction of premature labor, hastening delivery or preparing for rapid delivery after symphysiotomy or version; in stenosis or rigidity of the cervix or weak pains; in cases of dry labor; in shoulder presentation as a substitute for the bag of waters which has ruptured; in prolapse of the cord; in lifting up the pregnant uterus for hyperemesis, or to replace a retroflexed incarcerated uterus; and especially in placenta previa, particularly in cases where the os is not fully dilated. He urges a wider employment of the rapid, simple procedure.

49. **Transverse Arrest of the Head.**—Reed concludes his article with the following summary:

Deep transverse arrest of the head is a relatively common complication in labor. The diagnosis is easily made from the position of the sagittal suture and the fontanelles. The normal termination of the case can not be awaited in most instances, but forceps should be applied as soon as it is evident that rotation will not occur spontaneously. The blades should be applied in that pelvic oblique diameter toward which the occiput lies. Location of the occiput must be determined before the blades are applied. Traction and rotation must be simultaneous.

50.—This article appeared elsewhere. See THE JOURNAL, xxxix, ¶4, p. 1416.

Washington Medical Annals, Washington, D. C.

November, 1902.

52 *Personality in Medical Education. Edward A. Balloch.
53 *The Treatment of Weak Feet and Flat Feet. A. R. Shands.
54 Case of Extra-uterine Pregnancy in Fourth Month; Operation. J. Taber Johnson and Robert Reyburn.
55 Case of Aneurism of Abdominal Aorta. E. W. Reisinger.
56 *Chronic Pancreatitis; with Report of a Case. B. L. Hardin.
57 *Chronic Interstitial Pancreatitis. I. S. Stone.
58 Traumatic Stricture of the Esophagus; Operation by Abbey's Method. W. C. Borden.
59 Congenital Hydronephrosis. G. N. Acker.
60 Case of Abscess of Brain. D. Percy Hickling.

52. **Personality in Medical Education.**—Balloch urges that the personal influence of the teacher should be impressed on the student. He thinks that in the future the great medical school of the country ought to be located in Washington, where the research, laboratory and other advantages are so great.

53. **Flat Foot.**—Shands points out the difference between flat foot and weak foot. Congenital flat feet are not here discussed. The static variety, he says, is most commonly seen in young persons at the time of approaching puberty, with weak muscular development and occupations requiring great strain on the muscles or ligaments that support the arch of the foot. Rapid growth favors it. Injuries of the ankle, ordinary strains, are often the cause of the condition and impairment of the strength of the ligaments and muscles, especially those that support the arch and those of the calf or tibials, the peroneous longus on the outer side in particular. Long standing causes them to tire, and in time to give way, thus flattening the arch. Ill-fitting shoes and acute rheumatism of the muscles are frequent causes, also osteitis, phlegmons about the sole of the foot and contracted tendo Achillis. The diagnosis of flat foot is easily made, but weak foot is not so easy. It is the primary stage of flat foot, and if recognized early and properly treated, flat foot will be avoided. He says a line let fall from the center of the knee cap should fall normally just to the outer side of the second toe, and any deviation from this is apt to indicate a weak condition of the supporting structures of the plantar arch. Eversion of the foot is the most common position of weak foot. Pigeon toe is often due to it also, and can be cured by support. The prophylactic treatment of flat foot should be begun as soon as the weakness is discovered, and he insists on the value of strapping the foot, especially in cases of sprained ankle, preventing serous infiltration and giving support until nature replaces the fibers of the tendons and ligaments. The treatment of flat foot is simple, but the ordinary shoe never properly conforms to the condition. The principal thing is to have the sole of the shoe slightly raised on the inner side. In the mild form of weak and painful foot about all that is necessary is to apply the adhesive plaster strips and then support the arch with a soft pad, fitted so as to conform to the arch as nearly as possible. He applies a pad over the adhesive plaster, holding it in place with two strips of the plaster, and over all applies a snug roller bandage. This is changed once a week, increasing the thickness of the pad each time until the arch is somewhat exaggerated and the painful symptoms have subsided. Then the treatment is continued by leaving off the adhesive plaster and applying a soft pad attached to an inner sole, being careful that the pad is high enough to support the arch in its normal position. In the severer cases, the Whitman flat-foot plate will be of use. In conclusion he insists on prophylaxis as the most important thing.

56 and 57. **Pancreatitis.**—The papers by Hardin and Stone are of interest as summaries of the subject and reports of cases, but contain nothing especially new.

Iowa Medical Journal, Des Moines.

December 15, 1902.

61 *The Gastrointestinal Type of Arteriosclerosis. Walter L. Bierring.
62 Pathology and Symptoms of Appendicitis. A. Siewert Weber.

61. **Gastrointestinal Arteriosclerosis.**—Bierring reports a case and discusses the condition. His conclusions are:

1. That arteriosclerosis produces definite and characteristic changes in the digestive organs, associated with well-marked clinical manifestations, so as to warrant the distinction of a gastrointestinal type. 2. On account of the fact that clinical symptoms closely resemble at one time gastric carcinoma, again intestinal obstruction and chronic diabetes, makes its recognition a matter of importance, especially on account of the influence that a diagnostic error may have on the treatment and in the lowering of the standard of family record transmitted to progeny. 3. Considering the pathologic anatomic changes peculiar to the gastrointestinal type and its possible sequelæ, the more general treatment suggests rest in bed, outdoor life and moderate exercise, indicated in other forms of arteriosclerosis as appropriate.

Merck's Archives, New York.

December, 1902.

63 *A Monograph on the Use of Cinnamic Acid and Sodium Cinnamate in the Treatment of Tuberculosis. (Continued.) William J. Robinson.
64 *Home Treatment for the Morphin Habit. H. A. Moody.

63. **Cinnamic Acid.**—In the conclusion of his article on the cinnamic acid treatment of tuberculosis, Robinson says that to regard the drug as a specific is ridiculous, and it is not so claimed by Landerer or Cantrowitz, his most ardent follower, but it is probably a useful adjunct in the treatment of the first stage of tuberculosis. The doses must be small to begin with and be very gradually increased. Landerer insists on this

point. It is contraindicated in cases inclined to hemorrhage, and soon after hemorrhage, and when the temperature is above 101 F. Should a rise of temperature follow its injection the dose is too large, and the next dose should be diminished one fourth or a half. There is no justification for mistrusting Landerer's statements, but it must be remembered that similar results are obtained without the use of this drug. The treatment is harmless if directions are followed. Too large doses may cause excessive serous exudation around the tubercle foci and carry some bacilli into the circulation. Given by the mouth the doses of sodium cinnamate may be large, but it remains to be shown whether, thus administered, it has any effect on the tuberculous processes. Taken altogether, Robinson's impression of sodium cinnamate as a curative agent in tuberculosis is a negative one. It is probably a useful stimulant, but he prefers creosote or some of its derivatives.

64. **The Morphin Habit.**—Moody's home treatment is mainly use of the bromids, with hyoscin and spartein as adjuvants.

Bulletin of the Johns Hopkins Hospital, Baltimore.

December, 1902.

65 *Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology. William H. Welch.
66 *The Importance of a More Radical Operation in Carcinoma Cervicis Uteri as Suggested by Pathological Findings in the Parametrium. John A. Sampson.
67 *Nitrogen Excretion in Pneumonia, and Its Relation to Resolution. Henry W. Cook.

65.—See editorial in THE JOURNAL, xxxix, p. 1116.

66. **Carcinoma of the Cervix.**—Sampson insists on a more radical operation in these cases, and gives the details. The operation is similar to that of Wertheim. The lymphatics along the pelvic vessels, and also the parametrium, should be removed en masse with the uterus, because an enlarged gland is not necessarily an invaded gland, and cancer may be present in very small lymph nodes, making it impossible to always diagnosticate cancerous lymphatics. If the ureter should be adherent to the parametrium, the lower portion of it should be sacrificed and all the tissue from the cervix to the pelvic wall removed. If the ureter is dissected free, two things are very apt to occur: The disease will probably return and a ureterovaginal fistula will probably occur from injury to the blood supply of the ureter. The lymphatics should be removed from the pelvic vessels from above downward, together with the uterus and all the tissues lateral to the cervix from pelvic wall to pelvic wall undisturbed, including the lower 4 cm. of the ureters; and the ureters should be implanted in the bladder.

67. **Pneumonia.**—Nitrogen excretion in pneumonia is specially discussed by Cook, who sums up as follows:

1. In cases of pneumonia a surplus amount of nitrogen must be excreted during the days of resolution that will correspond at the least to the original quantity of exudate poured into the involved lung. In most cases there is more, the rest representing in great part a continuation of the formation and an absorption of inflammatory exudation, plus other tissue destruction.
2. In cases of marked delay in resolution the continued high nitrogen output indicates a continuation of the local inflammatory process, so that in those cases of several months' persistence we might speak of a chronic pneumonia.
3. In cases of rapid resolution the leucocytosis curve follows the curve of nitrogen excretion with a very striking parallelism, and would seem to point to a causal relation between leucocytes and resolution.

California State Journal of Medicine, San Francisco.

December, 1902.

68 *Necessity of Standardizing Materia Medica Products. F. E. Stewart.
69 Report of a Case of Bubonic Plague. E. L. Wemple.
70 *Points in the Management of Cleft Palate Cases, Before, During and After Operation. Harry M. Sherman.
71 Suturing of Muscles and Tendons. D. D. Crowley.

68. **Standardization of Drugs.**—Stewart illustrates the importance of the subject and recalls a former article published in THE JOURNAL of April 27, 1901, on a proposed national bureau of materia medica, giving the objects of such a bureau and its utility.

70. **Cleft Palate Cases.**—Sherman notes certain special points: the necessity of proper preparation of the patient, accustoming the child to the use of the spray, removal of adenoids, care of defective teeth, and in every way securing a clean mouth before operation. Chloroform is the anesthetic which he prefers, and he uses the position of Rose, holding the child's head on a towel pinned across the operator's knees, so that it can be rolled in either direction by raising one knee or the other, while the larynx and throat are easily kept free from blood. He illustrates the instruments. The operation he generally uses is the uranostaphylorrhaphy of Trelat. Occasionally he has followed the method of Ferguson of Chicago. He has used in the nose Dobell's solution, to which the child, who has been trained, submits with little resistance. He has used where this was not applicable in the mouth a 1 per cent. chloral solution, and for staphylococcic infection a 2 per cent. salicylic acid solution in alcohol. The child should be fed by the rectum. He had 13 patients and 26 operations. All the successes were by uranostaphylorrhaphy.

Brooklyn Medical Journal.

December, 1902.

72 Factors in the Ordinary Treatment of Eye Diseases. James C. Hancock.
73 *Some Peculiarities of Pelvic Pain. John Cowell MacEvitt.
74 *Points of Similarity and Difference in the Onset of Typhoid Fever and Appendicitis. William F. Campbell.
75 A Case of Multiple Ulcers of the Stomach in a Child; Sudden Death. C. F. Barber.
76 Report of Epileptiform Attacks Cured by Nasal Operation. Stephen H. Lutz.

73. **Pelvic Pain.**—The pain attending menstruation is especially noted by MacEvitt, who thinks that we can distinguish between ovarian and uterine pain by the constant and dull character of the former and the more intense and intermittent nature of the latter. The most puzzling thing about it is the inconstancy of the pain in relation to pathologic conditions. He has invariably met with the fact that the pain exists in inverse ratio to the size of the tumor cyst and the cystic degeneration of the ovary, the larger tumors often being comparatively painless even in their incipiency. He reports cases and considers that the sympathetic plays a more important rôle in the production of these pains than the cerebrospinal. The causes are, he holds, increased cell production, destructive processes affecting the nerves and the functional disturbances of sensibility, all three acting according to the condition.

74. **Typhoid and Appendicitis.**—Campbell points out the differences between typhoid and appendicitis, the prodromata and often apparently sudden onset of the former. The dry glazed tongue, stationary elevated temperature, comparatively slow pulse, general tenderness of a particular region, and general rigidity, if it exists, with the absence of leucocytosis, indicate typhoid. All these symptoms are the reverse in appendicitis. The only thing which seems to be common to the two is pain in the right iliac region, but this is limited to a special point in appendicitis, while it is more general in typhoid.

Therapeutic Gazette, Detroit, Mich.

December 15, 1902.

77 *The Treatment of Typhoid Fever. H. A. Hare.
78 *The Medicinal Treatment of Gallstones. H. Richardson.
79 *The Treatment of Rheumatoid Arthritis; with Special Reference to the Specific Action of Ferrous Iodid. J. R. Clemens.
80 Some Experiments as to the Best Manner of Administering Aspirin. E. C. Hill.
81 *The Treatment of Football Injuries Based on an Experience of Six Years. J. B. Carnett.

77. **Typhoid Fever.**—Hare is conservative in his treatment of typhoid, discouraging too active medication, yet he says the skilful use of drugs is not more needed in any other disease. To keep up the action of the kidneys he would give pure water in small quantities. There has been too little attention paid to the function of these organs in this disease. He is skeptical as regards intestinal antisepsis. The drugs used for this purpose are nearly all more or less directly eliminated by the kidneys. Possibly acetozone may prove to be an efficient intestinal antiseptic. He is also not enthusiastic as regards the cold bath, and especially deprecates the simultaneous use of the antipyretic coal-tar products. He finds the cold rubbing even more effective, though it requires more skill on the part of the assistant, and he speaks well of the use of the warm bath (85-90 F.) as a temperature reducing agent in this condition. It does not slow the heart or alarm the patient. Turpentine is an occasional remedy in advanced cases when the tongue is dry and the belly tympanitic. He thinks that in fear of heart failure we often stimulate too early. Aside from the favorable effect of the bath, he thinks most practitioners believe alcohol

is the stimulant par excellence in this condition, and that cold applied over the precordium is valuable in slowing a too rapid pulse. He is doubtful as to the value of digitalis, excepting in unusual cases. Strychnin is often overdone. For diet the patient does not need milk alone, but easily digested starchy foods, or foods of this type, helped in the digestive process by takadiastase or pancreatin. He also allows one or two soft-boiled eggs. With such a diet he thinks the patient is better able to resist typhoid infection. Medical treatment for hemorrhage is not effective. He does not see why a bleeding vessel in the intestine should be regarded differently from a bleeding vessel in the leg, and it is hard to see how remedies given internally can reach the spot. Saline infusions may be employed with advantages within certain limitations.

78. **Gallstones.**—Richardson advocates the use of glycocholate of soda as a solvent for gallstone, besides being the only real cholagogue we possess, purging the liver and assisting in the assimilation of fats from the intestine.

79. **Rheumatoid Arthritis.**—Clemens offers the following treatment as effective in rheumatoid arthritis: The use of syrup of iodid of iron in dram doses three times a day, which will remove the disease in two or three months. Iodism may occur, necessitating diminishing or withholding the medicine for a time. A generous diet should be an adjunct to the treatment.

81. **Football Injuries.**—Carnett describes the various injuries to which football players are liable and which he thinks are usually not serious. The fatalities that occur in football usually take place in smaller colleges and with men who are novices at the sport and physically unfit. The preliminary practice, with hygiene, regulated habits, proper diet, etc., hardens the players so that the injuries which may be serious to others are comparatively slight with them, and the use of proper apparatus for guards minimizes the danger of some of them. He reviews the more formidable injuries and their treatment. Many of them may be painful and yet not absolutely disabling.

International Journal of Surgery, New York.

January.

82 Prostatic Hypertrophy. W. B. Jones.
83 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
84 Congenital Deformities of the Prostate. G. Frank Lydston.
85 The Technics of Amputations. (Continued.) Robert H. Cowan.
86 *Stone in the Kidney, with Report of Two Cases. Max Rogers.
87 The Surgical Assistant. Walter M. Brickner.
88 A Case of Volvulus with Torsion of the Entire Mesentery—Operation; Recovery. George T. Vaughan.
89 A Case of Chronic Gastralgia Due to Adhesions Following Perforating Peptic Ulcer—Operation; Recovery. A. L. Bennett.
90 Laminectomy for Fracture Dislocation of Fourth and Fifth Cervical Vertebræ. Joseph R. Eastman.

86.—See abstract in THE JOURNAL, xxxix, p. 1411.

Carolina Medical Journal, Charlotte, N. C.

December, 1902.

91 *The Present-Day Mortality of Pneumonia. Alex. G. Brown.
92 Hydrotherapy; with Reference to the Mineral Water from the Vade Mecum Spring of Vade Mecum, N. C. H. H. Kapp.

91.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 45, p. 1547.

Medical Review of Reviews, New York.

December 25, 1902.

93 Disinfection and Disinfectants. A. H. Doty.

New Orleans Medical and Surgical Journal.

January.

94 Cancer of the Breast. E. D. Martin.
95 A Case of Prolonged Gestation. B. A. Colomb.
96 Multiple Urethral (Perineal) Fistulæ of Eight Years' Duration—External Urethrotomy, Modified Cook's Procedure—Anamnesis—Preliminary Observations. B. A. Terrett.
97 Congenital Absence of Rectum; Gut-track Opening in Bladder. J. E. Doussan.

Toledo Medical and Surgical Reporter.

January.

98 Effect of Study upon the Eye, with Question of Proper Lighting of Rooms. Charles Lukens.
99 Report of a Case of Gunshot Wound of the Abdomen with X-Ray Demonstration of Bullet and Exhibition of Case. William H. Fisher.
100 Hysteria. J. T. Woods.
101 School Hours from Standpoint of Teacher. Elvene C. Hard.

Journal of Medicine and Science, Portland, Me.

December, 1902.

102 State Laboratories of New England. F. N. Whittier.
103 Criticisms on Christian Science. E. H. Judkins.

Clinical Review, Chicago.

January.

104 A Surgical Clinic (Epithelioma Involving the Temporal Region, Etc.) N. Senn.
105 Glimpses at European Gynecology and Obstetrics. (Continued.) Henry F. Lewis.
106 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Columbus Medical Journal.

December, 1902.

107 Some Applications of the Principles of Infection and Immunity. (Continued.) George F. Zinninger.
108 Points for the Insurance Examiner—Obligation of Examiner to Applicant and Company. G. M. Waters.
109 Indications of Incipient Phthisis. J. H. J. Upham.
110 Differential Diagnosis of Inorganic, Functional, Anemic, or Hemic Cardiac Murmurs. N. R. Coleman.
111 Signs and Symptoms Which May Prognosticate Grave Nervous Degeneration. W. D. Deuschle.

Oklahoma Medical News-Journal, Oklahoma City.

December, 1902.

112 The Effect of Estivo Fever on the Muscular System, with Special Reference to the Heart Muscle. Ira B. Bartle.
113 The Treatment of Hysteria. John W. Duke.

Texas Medical News, Austin.

December, 1902.

114 Therapeutic Reports of Saloquinin. J. P. Oliver.
115 Sexual Neurasthenia. J. A. Holloway.
116 Hysteria. J. W. Torbett.
117 Parenchymatous Nephritis. Wm. P. Fleming.
118 The Medical Society—Its Relation to the Profession. E. P. McKinney.

Vermont Medical Monthly, Burlington.

November 25, 1902.

119 Address on Gynecology, Vermont State Medical Society. A. Lapthorn Smith.
120 Medicolegal Autopsy. M. J. Wiltse.
121 Cerebral Apoplexy. J. W. Jackson.

Canadian Journal of Medicine and Surgery, Toronto.

January.

122 The Ethical Value of Education in Preventive Medicine. Peter H. Bryce.
123 Prevention and Treatment of Tuberculosis. J. F. MacDonald.
124 Report of a Case of Fracture Through the Site of an Excision of the Knee. H. P. H. Galloway.

Dominion Medical Monthly, Toronto.

December, 1902.

125 President's Address—British Columbia Medical Association. R. E. Walker.
126 Presidential Address—Executive Health Officers' Association of Ontario. E. E. Kitchen.
127 Excision of Shoulder for Myeloid Sarcoma. G. Silverthorn.
128 Case of Fibrocystic Tumor of the Uterus Filling Left Broad Ligament; Removal, Recovery. A. Lapthorn Smith.
129 Perforating Ulcer of the Duodenum—Report of a Case. George Elliott.

Canadian Practitioner and Review, Toronto.

December, 1902.

130 President's Address, Toronto Clinical Society. Edmund E. King.

Southern Practitioner, Nashville, Tenn.

January.

131 Visceral Syphilis—Hepatic. J. A. Witherspoon.
132 Nose and Throat Affections. C. H. Powell.

Denver Medical Times.

December, 1902.

133 Some Observations on the Home Treatment of Insanity. C. H. Solier.
134 Some Thoughts on Syphilis. Melville Black.
135 The Cure of Strabismus. Edward Jackson.

Southern California Practitioner, Los Angeles.

December, 1902.

136 General Sanitation. J. M. Wheat.
137 California State Board Examinations. Smith L. Walker.
138 American Oculist in Berlin. A. C. Rogers.
139 An Antispasmodic. John Dickson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

December 20, 1902.

1 *The Transference of Bovine Tuberculosis to Man. Robert Koch.
2 *On Malaria. William MacGregor.
3 Report of a Case of Bilharzia from the West Indies. P. Manson.

4 *Serum Reaction of "Bacillus Pestis" in Plague. R. Row.
5 Unrecognized Influenza. J. W. Washbourn and J. W. H. Eyre.
6 *On "Dysphasia" or Aphasia as an Initial Symptom of Tuberculous Meningitis. M. McIntyre Sinclair.
7 A Note on Some Cases Mistaken for Smallpox During the Recent Epidemic. Charles Fraser.

December 27, 1902.

8 *On the Growth of Bacteria in the Intestine. J. Lorrain Smith and J. Tennant.
9 *Two Cases of Obscure Abdominal Pain: Operations; Results. Eric Pritchard and William Bennett.
10 *Note on the Value of Roux's Operation for the Radical Cure of Femoral Hernia. J. Crawford Renton.
11 On the Treatment of Glycosuria and Diabetes Mellitus with Aspirin. R. T. Williamson.

1. **Bovine and Human Tuberculosis.**—This address at the Congress of Tuberculosis in Berlin was reviewed in the original. See THE JOURNAL, Dec. 20, 1902, page 1625, title 48.

2. **Malaria.**—MacGregor reviews the subject and the methods of combating it with special reference to the experience at Lagos. He shows Koch's preventive method of using quinin to be of real utility and says objections to it largely rest on misapprehension. The superstition, as he calls it, that quinin, even perhaps in moderate doses, produces black water fever, he says, dies hard. Mechanical prophylaxis by screens and drainage and otherwise destruction of breeding places are treated at some length. He believes that much can thus be accomplished and he does not see the utility or necessity of Europeans isolating themselves from the natives. At Lagos they attacked malaria at all points, by Koch's method and by defensive and offensive measures. He believes that considerable amelioration of the disease in this excessively malaria infected region has been attained.

4. **Bacillus Pestis.**—In this preliminary communication Row gives the results of experiments with the serum of convalescents from plague and finds that it has a remarkable bactericidal efficiency against *Bacillus pestis*. This has been observed in convalescents of over six weeks and has been maintained, though to a less extent, in two patients who had had the plague twelve to eighteen months previously. The serum of patients in the very early stage of the disease is certainly inhibitory to the growth of *Bacillus pestis* while that from normal individuals gives very good growths, though varying in different individuals, but not one instance has been found where the blood had completely destroyed the growth. The value of the serum reaction, therefore, is of scientific interest, but Row thinks it is of doubtful value from a diagnostic point of view, since the observation takes at least twenty-four hours to give a pronounced opinion and the clinical features of the disease develop with such rapidity as to allow no question as to its nature. Yet in a suspected or convalescent new arrival, a positive reaction—that is absence of *Bacillus pestis* in drop cultures—would be of value in giving definite information on which to take preventive measures. He is still studying the reaction in Haffkinized subjects at the various stages before and after inoculation, but his results are not yet ready for publication.

6. **Tuberculous Meningitis.**—Sinclair reports a case characterized by the appearance of transient early aphasia and dysphasia and reports two others from the literature. In each case the trouble was in the initial stages of the meningitis, though secondary to tuberculous disease existing elsewhere, and he suggests that the occurrence of aphasia even of transitory character in a person already suffering from any form of tuberculous disease should be looked on with grave suspicion.

8. **Growth of Bacteria in the Intestine.**—Smith and Tennant report experiments on dogs and rabbits in which they made direct observations of the number of bacteria in the contents of the intestine at short intervals in its course using careful aseptic precautions, opening the intestine with a sterilized knife. They also had an opportunity of studying an example of the human intestine in conditions favorable for the purpose of research in a case of accidental death a few hours before the examination. The results of investigation and their bearing on the pathology of a number of diseases are discussed. They show that the small intestine through most of its course is comparatively sterile while the focus of bacterial disturbance is in the region of the ileocecal junction. The power of inhibiting bacterial growth having become impaired, the bacteria which occur naturally in the large intestine become more abundant and approximately similar changes occur in the small intestine. These occur to a greater extent near the ileocecal valve than in the higher portions of the small intestine and this is just the region which is liable to be subject to attacks of inflammation, as in appendicitis, typhlitis, typhoid fever, and intestinal tuberculosis, etc. Pathogenic bacteria taken by the mouth will be restrained from multiplying until the lower ileum has been reached. In the human subject exactly the same condition was found as in animals.

9. **Obscure Abdominal Pain.**—Bennett reports two cases, both puzzling as to the diagnosis, in which operation revealed no adequate cause for the symptoms. In one there was before operation no doubt as to there being obstructive jaundice, either simple or complicated, and yet operation showed that there was nothing to support such a diagnosis in either the liver, gall bladder or gall duct. It is a curious fact, too, that anodynes of the nature of phenacetin had more complete control over the pain than morphin injections, and it is noticeable also that after the urine and feces had become perfectly normal, the main features of the case showed very little alteration. The subsidence of symptoms after operation suggested functional nervous disturbance, but it is hard to see how this could account for all the symptoms of illness and of high temperature lasting nearly four months. In the second case diverse diagnoses were made, including gastric catarrh, duodenal ulcer, gallstones, gastroptosis, cancer, etc. There was found a perfectly normal gastric mucous membrane and a normal pylorus with no signs of chronic catarrh and no scars of ulcers, though old fibrous adhesions were found. He suggests a possible edematous condition of the duodenum or pylorus with disturbed innervation and neuralgic pain might account for the fibrous hyperplasia that was found. In a note to the article Sir William Bennett suggests that complete relief, which at the time of the writing was not apparent, will ensue later, as the result of treatment, and Pritchard, in a later note, says that this prediction has been partially realized.

10. **Hernia.**—Renton calls attention to Roux's radical method, the peculiar feature of which is the holding down of Poupart's ligament by a metal staple passed obliquely through it over the crural canal and into the pubic bone. It must be driven in securely but not tight enough to injure the ligament, and gives no trouble, remaining *in situ* in over 60 cases operated on by Roux. Renton has found the method very satisfactory.

The Lancet, London.

December 20, 1902.

12 *Acute Poliomyelitis and Encephalitis. Frederick E. Batten.
13 *Congenital Hypertrophic Stenosis of the Pylorus and Its Treatment by Pyloroplasty. E. Cautley and C. T. Dent.
14 *On the Treatment of Diphtheria by the Intravenous Administration of Antidiphtheria Serum. D. Louis Cairns.
15 *Some Facts Bearing on the Vaccination Controversy Drawn from the Recent Epidemic of Smallpox in Southwest Essex. Charles Fraser.
16 Volvulus of the Small Intestine. Arthur H. Burgess.

December 27, 1902

17 The Relation of the Members of the Medical Profession to Each Other and to the Public. John Campbell.
18 *The Prevention of Typhoid Fever in Armies. H. E. Leigh Canney.
19 *Reflexes: Their Relation to Diagnosis in Rheumatoid Arthritis. R. Llewellyn Jones.
20 Operation for Chronic Ulcer of the Stomach. C. W. Mansell Moullin.
21 Congenital Hypertrophic Stenosis of the Pylorus. Clive Riviere.

12. **Poliomyelitis.**—Several cases are reported by Batten illustrating the different forms of superior and inferior polioencephalitis and poliomyelitis. He discusses the pathology and considers that there are decided evidences in favor of its being directly due to primary vascular thrombosis and that its direct bacterial origin is supported by the fact of its prevalence during certain periods of the year and its occurrence in epidemics. His arguments are drawn chiefly from pathologic examination of the spinal cord, but he thinks they apply equally to the cerebral cases.

13. **Congenital Hypertrophic Stenosis of the Pylorus.**—Cautley and Dent have seen a number of cases, two of which are detailed; they discuss the operative treatment. They see

decided objections to pylorectomy, considering that it is too severe an operation. Gastroenterostomy has been employed in nine cases, with four recoveries. Their objections to this operation are stated as follows: That it necessitates considerable exposure of the abdominal contents, must necessarily be protracted and that there is increased risk of protrusion of the intestine, and the incision has to be extensive. Anterior gastroenterostomy has been adopted in all cases; posterior gastroenterostomy, the better operation of the two, is still less practicable in children. Dilation of the pylorus, some form of Loreta's operation, has been performed in six cases with four recoveries. Pyloroplasty was performed in the two cases reported, and in another recent case. It would appear that the balance of opinion is decidedly in favor of gastroenterostomy, that pyloroplasty is not so much an unsuitable as an impracticable operation, but this is contradicted by their experience. The operation is really much easier when fixation is due to muscular hypertrophy as in congenital pyloric stenosis, and they describe their technic. They think in these cases it is preferable to dilation because it can be done at least as quickly, it is a more definite proceeding and allows more range. The lumen of the tube can be examined, and if desirable the longitudinal fold of mucous membrane can be removed. The exact amount of injury to the parts is known. There is no advantage, they think, in performing what is called "submucous pyloroplasty," and it is better to divide all the coats. The etiology of the condition is considered, on the whole, not very clear. The balance of evidence is in favor of the hyperplasia being primary.

14. **Diphtheria.**—Cairns parallels plague and diphtheria in their reaction to serum treatment and sees a striking analogy. There is the same local action at first, followed by a tendency to dissemination of the organism. Special involvement of the lungs is particularly noted and the advantages of intravenous injections of antitoxin pointed out. In 20 out of 50 consecutive cases this method was followed, and in a fairly severe type of the disease, 31 of the 50 being laryngeal cases, 15 of them complicated by bronchial pneumonia of more or less severity. In 17 tracheotomy was performed. The mortality was 6 per cent. as compared with 10.7 per cent. in the previous year, in spite of the greater severity of the cases. The three deaths were respectively due to malignant diphtheria, to paralysis complicated by chorea in the sixth week of illness, and to double bronchopneumonia in a marasmic child aged 2. The high rate of recoveries is, he thinks, to be attributed to the intravenous injections, and the dose employed varied from 20,000 to 35,000 units. The largest amount injected was 82,000 units in three separate doses, and in spite of the large quantities no untoward results beyond the usual serum rash and pyrexia were observed. The method was first employed in only apparently hopeless cases and later in cases which, though very severe, promised some chance of recovery. It has not yet been employed in the milder cases of the disease. The general indications for its use were considered to be the following: 1. Malignancy, with hemorrhage from the nose or into the skin by glandular enlargement, and by extreme blanching of the skin; 2, any marked involvement of the lungs, either on admission or subsequently; 3, a moribund condition on admission; 4, a profoundly toxic condition of the patient. In such cases an initial dose of 20,000 to 25,000 units is perhaps not excessive. If the patient fails to respond the dose can be safely repeated. While the number of cases was small they were strictly consecutive and not selected cases.

15. **Smallpox.**—Fraser gives some statistics of the recent epidemic in Southwest Essex, dividing the cases into those which had been once vaccinated, and those which had not been vaccinated at all. Of the former there were 271 cases, of the latter 857. The proportion of mild cases was 36 per cent. vaccinated and 8 per cent. unvaccinated; the discrete were alike 45 per cent. in each, while the confluent cases were 19 in the vaccinated and 47 in the unvaccinated. This shows the protective power of even a single vaccination in infancy as regards the incidence and severity of the disease.

18. **Typhoid in the Army.**—Canney reviews the experience in typhoid fever during military operations, in the recent British and United States wars, and considers that the aerial connection and that by flies must be considered as only of secondary importance to the water conveyance of the disorder. He gives a plan of water supply for armies involving a special water force to see that boiled water alone is used and also for the training of sanitary officers and the medical corps of the army in sanitation.

19. **Reflexes in Rheumatoid Arthritis.**—Jones shows that the increase of deep reflexes is not uniform, while the superficial ones show a marked variability. He has studied them especially in asymetrical cases, and discusses their bearing on the pathology. He thinks the evidence in favor of the infective theory is strong, still proof of spinal change is wanting. He does not, however, believe that specificity can be claimed for any one particular microbe. Given any source of auto-intoxication the resulting toxemia may, through its action in the cord segments, produce what is called rheumatic arthritis, nor does he consider the disease confined to the anterior segments, as does Bannatyne. There is an undue tendency, he says, to centralize all the disease in the joints, to the unfair exclusion of the muscular and sensory symptoms. Increased myotatic irritability is not the only symptom pointing to affection of the muscular system and the changes in the muscular and sensory realms at an early stage of the disorder merit more careful attention.

Australasian Medical Gazette, Sydney.

November 20, 1902.

22 A Cerebral Hydatid Cyst: Removal; Recovery. George E. Rennie and W. H. Crago.
23 Notes on Gastroenterostomy. C. S. Hawkes.
24 A Case of Tumor of the Spinal Cord with Necropsy. Sinclair Gillies and Dr. Flachman.
25 Congenital Hypertrophic Stenosis of the Pylorus. Alfred A. Lendon.
26 Note on a Specimen of Ecchinococcus Multilocularis—A Rare Form of Hydatid Disease. William J. Munro.
27 A Complicated Hysterectomy: With a Few Remarks on the Desirability of Early Operation in Uterine Fibroids. J. A. G. Hamilton.
28 A Case of Eclampsia. R. W. McCredie.
29 Acute Colitis. F. S. Hone.
30 Acute Colitis. H. M. Evans.

Intercolonial Medical Journal of Australasia, Melbourne.

November 20, 1902.

31 Eczema: Ancient and Modern. A. Lewers.

Annales of Dermatologie, Paris.

33 (III, No. 11.) Anatomie pathologique du verrucome de Carrion (verrugas of Peru). E. E. Escomel (Lima).
34 Contribution à l'étude des sarkoides de Boeck. H. Hallopeau and Eck.

Bulletin de l'Academie de Medecine, Paris.

35 (LXVI, 39.) *Gelo-diagnostic des selles (stools) dans la fièvre typhoide. Chantemesse.
36 (No. 40.) Sur une mission en Algérie au sujet de la vaccination. Saint-Yves Menard.
37 Sur le traitement de l'appendicite. L. G. Richelot.
38 La médication arrhénique dans la peste, le nagana, le mal de Cadera, la fièvre du Texas, la malaria. A. Gautier.

35. **Gelose Diagnosis of Typhoid Fever Stools.**—Chantemesse announces that by means of his gelose diagnosis he was able to differentiate typhoid fever in eighteen to twenty-four hours, and in some cases even before the disease had progressed sufficiently to allow serum diagnosis. He also states that this gelose method revealed the presence of typhoid germs in the stools for more than a month after the patients had completely recovered. He thinks that the early diagnosis possible by this method justifies the establishment of central headquarters for it, similar to those for the diagnosis of diphtheria, with a view to serum treatment, which is the more effectual the prompter it is instituted. The technic of the gelo-diagnosis was described in No. 27 of the Bulletin (July 8). It is based on the relatively greater resistance of the typhoid bacillus to phenic acid, and the absence of fermentation of lactose. The suspected material is sown on appropriate culture media and gelose then inoculated with superficial colonies of the bacilli. They are then treated with phenic acid which destroys all but the typhoid and colon bacilli. These two germs are then differentiated by cultivating them on a medium containing lactose and litmus. The colon colonies are reddish, while the typhoid are blue. The diagnosis is completed by agglutination.

Presse Medicale, Paris.

39 (II, No. 97.) Les enfants débiles. P. Budin.
40 *La communication des abscès par congestion avec les bronches. Bentz.
41 *Technique actuelle de la rachicocainisation. T. Tuffier.
42 (No. 98.) Examen des yeux (eyes) au point de vue médico-légal (accidents du travail). F. de Lapersonne.
43 *De l'emploi du massage chez les tabétiques. G. Constensoux.
44 *Traitement du diabète. R. Romme.
45 (No. 99.) *Pathogenie du tabes dorsal. J. Nageotte.
46 Le phosphore et ses dérivés dans la tuberculose. A. F. Plicque.
47 (No. 100.) Acquisitions récentes sur la digestion intestinale. Sécrétine et entérokinate. E. Enriquez and L. Hallion.
48 *Le radium. Application au traitement du lupus. F. Trémolières.
49 Les pesées (weighing) régulières chez les cardiaques. R. Romme.
50 (No. 101.) Les conditions de l'intervention dans la chirurgie urinaire. Guyon.
51 L'uimarène dans les affections rheumatismales. A. Mesnard.
52 (No. 102.) Les nucléines en thérapeutique. A. Martinet.
53 Nouvel apparat pour la chloroformisation (Appareil du Dr. Roth-Draeger). F. Jayle.
54 Les principaux dissolvants de l'acide urique. V. Griffon.
55 (No. 103.) *Serothérapie de la fièvre typhoide. Chantemesse.
56 Les ferments du lait (milk). P. Merklen.

40. **Communication of Abscess with Bronchi.**—Bentz was treating an abscess in the right iliac fossa due to the production of pus in a tuberculous focus in the spine. Iodoformed vaselin was injected at various times, and a solution of hydrogen dioxid. After four months of this treatment, one day as the wound was being dressed the child coughed up a quantity of the foaming hydrogen dioxid, which was being injected in the iliac fistula. The phenomenon occurred only once, but the child has developed a tuberculous lesion in the lungs which had previously appeared to be sound. Fraenkel and Remy have published each a similar case of communication with the bronchus of an abscess appearing at a distance from the place where the pus is formed. Both children recovered. In Remy's case the child had had a vomica, but in the other cases no symptoms before or afterward indicated an opening into the bronchi. The small rupture in the wall must have closed spontaneously after the passage of the fluid, which was probably injected into the iliac or hip fistula with more force than was realized. Caution is necessary in making injections in a case where the location of the primary focus suggests possible communication with the air-passages.

41. **Technic of Spinal Cocainization.**—Tuffier has adopted the modification of using the patient's own cerebrospinal fluid as the vehicle for the cocain, but he considers it dangerous to mix them exposed to the air for fear of possible infection from germs in the air. He sterilizes according to Tyndall a sealed vial containing 4 cg. of cocain dissolved in 7 drops of sterilized distilled water. This makes a 12 per cent. solution. He breaks the tip of the vial and aspirates its contents into the syringe, allowing no air to enter with it. He then makes the lumbar puncture with the needle detached from the rest of the syringe. As soon as the cerebrospinal fluid is flowing through the syringe he adjusts the body of the syringe to the needle, and the cerebrospinal fluid flows into it, slowly pushing up the piston as it enters, until the receptacle is full, and blends with the concentrated solution of cocain already in it. He then injects the mixed fluid. The anesthesia does not extend so high as by his previous technic; it is of shorter duration, is slower in appearing and is less perfect, but on the other hand, the after-effects are infinitely less. He performed more than 1,200 operations of all kinds on the abdomen by his old technic, but with the new the radical operation for hernia is the highest intervention possible with the present method of anesthesia. For interventions above this he resorts to his former technic. He has been using the present technic for more than a year now, after thorough tests had established that the two fluids blend perfectly.

43. **Massage in Tabes.**—Costensoux regards massage in tabes as a general tonic, and a means of combating certain sensory troubles and certain complications. It must always be gentle and brief, as tabetic subjects are unable to bear fatigue, and for this reason massage of the muscles should be avoided. It should be restricted to the skin and should be done by a physician conversant with tabes or by a masseur strictly obedient to instructions. Passive mobilization of joints is contraindicated and active movements should be along the lines of re-education. All massage in tabes must be scrupulously individualized to the case, bearing in mind that what may benefit one patient may harm another.

44. **Eichhorst's Treatment of Diabetes.**—Romme reviews the results of Eichhorst's experience recently published (see The Journal, xxxix, p. 1217, title 93). He proscribes absolutely all medication and alcohol, and attributes but little if any value to mineral waters. He regards the diet as of paramount importance and adapts it to the individual case with frequent weighing to determine progress. He says that he would rather have a diabetic in good condition even at the expense of a little sugar in the urine, rather than to completely banish the sugar and have the patient growing thinner and weaker all the time. He does not alter the diet abruptly, but proceeds gradually, allowing for beverages weak coffee or tea, water or an alkaline water to which lactic or citric acid is added.

45. **Pathogenesis of Dorsal Tabes.**—Nageotte describes and illustrates the invasion of the nerve roots by the syphilitic meningeal inflammation which he has previously described under the name of interstitial transverse radicular neuritis. The radicular neuritis is not an inevitable but merely a frequent consequence of syphilitic meningeal lesions, but it invariably accompanies tabes. This radicular neuritis may also occur in the course of non-syphilitic affections.

48. **Radium for Lupus.**—Trémolières states that several of Danlos' patients treated more than a year ago have shown no sign of recurrence of the lupus. The radium is applied in the form of a powder in a small celluloid or rubber bag or sachet, containing a mixture of barium chlorid and radium chlorid. It is held in place over the lupus patch with a strip of gauze and left for six hours to five days. The area ulcerates in one to three weeks and heals with a smooth supple scar in twenty to twenty-five days. (See The Journal, xxxix, p. 728.)

55. **Typhoid Serotherapy.**—This communication from Chantemesse was hailed as marking an epoch when presented at the Egyptian Medical Congress which has just closed its sessions. Chantemesse compares the results of the treatment of typhoid fever during twenty months at all the hospitals of Paris with the results obtained by him at "Bastion 29" where he had 186 typhoid fever patients during the same interval. At the other hospitals the mortality was 286 in 1,192 cases, that is, an average proportion of 19.3 per cent. Even in the hospitals with the lowest mortality it never fell below 12 per cent. At Bastion 29, on the other hand, where the serum treatment was combined with balneotherapy, there were only 7 deaths, or a mortality of 3.7 per cent. in 186 cases. Three of the patients were practically moribund when received. To this 186 he adds the 70 reported last year, with 4 deaths, and the 100 of the year before, with 6 deaths, a total at Bastion 29 of 356 typhoid fever cases with an average mortality of 4.7 per cent. The method has also been applied in 151 cases at Toulon and even in inexperienced hands reduced the mortality to 13 cases. This brings the total to 507 cases of typhoid fever, all in adults, with 30 deaths, a total mortality below 6 per cent. One of the finest examples of the power of the serum is shown in the rapid healing of typhoid osteitis and periosteitis after local injection of the serum. He has witnessed several cases in which inflammatory osteo-perfostitis, suppurating for years, soon healed under the influence of a drop or two of the serum repeated every fifteenth day. The difference between the aspect of the organs of treated and non-treated animals is apparent even to the naked eye. In the latter, after inoculation of typhoid infection, the spleen and marrow are intensely congested, and the lymphoid apparatus exhibits a slight deleterious reaction. In the animals treated with the serum the spleen and marrow are likewise swollen, but the tumefaction is not caused by congestion, but by an enormous reactionary hypertrophy of the lymphoid and myeloid tissue. The corpuscles in the spleen are unusually large and the lymphatic cells unusually numerous. The trabeculæ are also in active reviviscence. The fat is absorbed, and the trabeculæ are crowded with a large number of young cells, generally with basophile protoplasm. Typhoid bacilli injected into the ear of a rabbit continue to grow and flourish as in a

culture medium. But if the animal has been injected with 2 or 3 c.c. of the serum a few hours beforehand, the majority of the bacilli are taken up by the phagocytes and rapidly destroyed. The effect of typhoid toxin, injected in the place of the bacilli, is neutralized in the same way by a previous injection of the serum. In short, the serum acts by stimulating to extra activity not only the phagocytes but also the apparatus which produces them, if the latter is still capable of responding to the stimulus. The serum is, therefore, most useful at the onset of the disease. After the system is saturated with the infection, the serum must be applied with caution and weak doses given not to do harm by the reaction invoked. Consequently experience and skill in its administration are required to judge of the proper dose when the disease is in an advanced stage. Even if the presumptive diagnosis of typhoid fever at the onset proves to be erroneous, and the patient is found later to be suffering from some other disease, no harm can follow the injection of a dose of 2 c.c. of the serum. Chantemesse always supplements serotherapy with balneotherapy, and considers the latter an indispensable adjuvant.

Revue de Chirurgie, Paris.

57 (XXII, 11.) Report of French Congress of Surgery. Main Addresses on Surgery of Heart and Treatment of Tetanus.
58 (No. 12.) L'hérédité des ganglions synoviaux. Ch. Féré.
59 Du mécanisme des luxations de l'humérus causées par action musculaire. A. de Hints.
60 *L'ulcère simple du gros (large) intestin. E. Quénu and P. Duval. (Commenced in No. 11.)
61 Le chlorure d'éthyle (ethyl chlorid) en anesthésie générale. H. Girard. (Commenced in No. 11.)

57. **Surgery of Heart.**—Terrier's address was reviewed in THE JOURNAL of Nov. 22, 1902, p. 1355.

57. **Treatment of Tetanus.**—Vallas' address was reviewed in THE JOURNAL of Jan. 3, 1903, p. 42.

60. **Simple Ulcer of Large Intestine.**—Quénu gives the details of 26 cases of simple ulcer which he has found in the literature, mentions 3 more of American origin, known only by title, and describes a case personally observed and 4 communicated to him by Tédenat. He discusses the history, etiology, pathology, symptomatology and treatment, assuming that simple ulcer, such as is common in the stomach, may occur at any point along the entire alimentary tract. The cause is undoubtedly a dystrophic condition of the intestinal wall due to lesions in the arterioles and these due in turn to some general intoxication of bacterial or other origin. An ulcer in the colon has no pathognomonic symptoms, but the existence of painful spasmodic constipation with a fixed pain, spontaneous and provoked, always the same, even in the midst of radiating pains, suggests a subjacent local lesion and differentiates the ulcer from simple constipation. Colitis, on the contrary, whatever its nature, is accompanied by a more diffuse pain and palpation is painful along the entire length of the intestine. In colitis, also, pus, false membranes, bloody slime, etc., may be noted in the stools in case of ulceration of the mucosa, but they are not found with simple ulcer on account probably of the small extent of the lesion. Experience to date indicates that slight hemorrhage locates the ulcer in the colon while severe hemorrhage locates it in the rectum. Whether the lesion thus located in the colon be an adhesion, a neoplasm or an ulcer, all require exploratory laparotomy, and in the latter case as prompt as possible to forestall perforation. Parker's patient had been treated for appendicitis six weeks before perforation of an ulcer in the colon. There are only five operations on record for simple ulcer of the large intestine, with three recoveries. The surrounding tissues are usually sound and treatment of a perforated simple ulcer may be restricted to suturing the edges together after turning them in. Resection of the edges does not seem to be necessary. In case the ulcer is merely suspected and has not perforated, simple invagination of the affected zone or economical resection of the ulcer is advisable if the aspect of the serosa allows its site to be determined. If the serosa is of normal aspect it is impossible to locate the ulcer from without. Perforation occurred in 19 of the 27 cases he reviews.

Deutsches Archiv f. Klin. Medicin, Leipsic.

62 (LXXIV, Nos. 1-2.) Blood Pressure in Disease. Buttermann. —Ueber das Verhalten des Blutdruckes bei Kranken.
63 Zur Pathologie der Bronchitis fibrinosa. H. Hochhaus.
64 Klinische Beiträge zur Frage der Hämolyse. E. Hedinger.
65 Inoculation of Animals as Aid in Diagnosis of Tuberculous Pleuritic Effusions. J. A. Grober.—Der Thierversuch als Hulfsmittel zur Erkennung der tuberculösen Natur pleuritischer Exsudate, seine Methodik und die Bewerthung seiner Ergebnisse.
66 Ueber multiple Divertikel-Bildung im Dickdarm (large intestine). L. Schreiber.
67 Vorkommen und Verbreitungsweise der Bacterien bei der Pneumonie. W. Müller.
68 Alloxur Bodies and Gout. M. Kaufmann and L. Möhr.— Beitrage zur Alloxurkorper-Frage und zur Pathologie der Gicht.
69 *Injurious Action of Salicylic Medication on Urinary Passages. H. Lüthje.—Ueber die Wirkung von Salicylpräparaten auf die Harnwege nebst einigen Bemerkungen über die Genese der Cylinder und Cylindroide.
70 Ueber die Beeinflussing (influence on) der Aciditat des Harnes (urine) durch Rhodan-Verbindungen. A. Hausmann.
71 Ueber abnorme Sehnefäden (chordæ tendinæ) des Herzens. B. Rössle.
72 Jerking Respiration. Henssen.—Ueber saccadirtes Athmen.
73 Ueber ein Myxom des Herzens (heart). Eichhorst.
74 Pleuritis im Verlauf von (in course of) Typhus abdominalis. Pfeiffer.

69. **Injurious Action of Salicylic Medication on Urinary Passages.**—Lüthje has been investigating the condition of the urinary apparatus after the ordinary therapeutic administration of the salicylates. He found that in every case without exception there were evidences of a desquamative irritation in the kidneys and urinary passages, and the bladder was also seen to be inflamed. The conditions did not return to normal until after an interval of two or three weeks. The urine invariably contained tube casts and cylindroids. There can be no question of an idiosyncrasy on account of the large number of patients examined (33), and the results of experimental tests. He therefore warns that the salicylates should never be given for more than three or four days and the daily dose not exceed 5 gm. even in acute articular rheumatism.

Deutsche Med. Wochenscrift, Berlin and Leipsic.

75 (XXVIII, No. 49.) Ueber den Werth "functioneller" diagnostik. F. Kraus.
76 Extraction of Metabolic Products in Bodies of Bacteria. E. Levy and F. Pfersdorff.—Ueber die Gewinnung der schwer zugänglichen in der Leibessubstanz enthaltenen Stoffwechselprodukte der Bakterien.
77 Delirium Tremens, etc. G. Feldmann.—Ueber 71 Anfälle von acuter Geistesstörung der Trinker (bei 50 Personen).
78 Gekreuzte Adduktoren-Reflexe bei Syringomyelie und Neuritis. L. Huismans.
79 Casuistischer Beitrag zur Genese der Gummata syphilitica. G. Kulisch.
80 *Suffocation from Ascarides in Throat. M. Wagner.—Fall von Erstickung in Folge von Verlegung des Kehlkopfeinganges durch Spulwürmer.
81 L. Landois. Nekrolog.
82 Meat Preservatives. E. Harnack.—Einige Betrachtungen über Fleischpräservesalze.
83 Nicolicin. C. T. Mörner.

80. **Suffocation from Ascarides.**—The case was remarkable in that the child, a boy of 8, was under constant supervision in a hospital on account of scarlet fever. He had been given santonin and evacuated and vomited numbers of worms. A large clump was found after death in the entrance to the esophagus. A small amount of air could be breathed so that the intense dyspnea did not prove fatal until after two hours had elapsed.

Mittheilungen a. d. Grenzgebieten, Jena.

84 (X, No. 5.) *Tetanus chronicus. J. A. Grober.
85 Ueber Perityphlitis acuta. L. Moszkowicz.
86 Beiträge zur Localisation und Verbreitungsweise der eitrigen (mode of spreading of suppurative) Peritonitis. L. Rauenbusch.
87 *Casuistisches und Experimentelles zur Cholangitis calculosa. L. v. Mieczkowski.
88 Tetanus nach subcutaner Gelatine-Injection. Eigenbrodt.
89 *Weitere Mitteilungen über die Resultate der Diphtherie-Behandlung, mit bes. Berücksichtigung der Serum-Therapie. A. Wettstein.
90 Successful Extirpation of Tumor in Spinal Cord. S. E. Henschen and K. G. Lennander.—Rückenmarkstumor mit Erfolg exstirpiert.
91 *Ueber Ulcus ventriculi traumaticum. A. Gross.
92 *Ueber Syphilis visceralis und deren Manifestationen in Form von chir. Erkrankungen. N. Trinkler.
93 Perimysitis crepitans. L. Brauer.

84. **Chronic Tetanus.**—Grober has had occasion to observe a case of chronic tetanus similar to the three reported by De Brun from his practice at Damascus. The tetanic contractures persisted in the latter for three and four months and five years. Mastication and deglutition could be performed only with difficulty. Grober's patient was a lad of 12, who apparently recovered from a typical attack of traumatic tetanus under treatment with salicylate, narcotics and sweats. A month later the former symptoms recurred with no evidences of fresh infection and tonic spasms developed in arms and thighs. Various mus-

cles became chronically contracted, with risus sardonicus, the teeth rigidly set with a space of .5 cm. between them. Internal organs apparently sound. When first seen by Grober, nine months after the first symptoms, this condition still persisted. The upper part of the trunk is most affected, the shoulders drawn together, the patient unable to sit or turn over in bed. No antitoxin treatment was instituted as Grober assumed that the primary infection had induced a gradually extending myositis fibrosa, substituting the contractile tissue. No improvement has been noted in the two years since, except that the patient is less emaciated, and the arms are more easily moved. An attempt is now to be made with orthopedic apparatus.

87. **Cholangitis Calculosa.**—Mieczkowski reports that a patient at Mikulicz's clinic discharged 2300 c.c. of bile in twenty-four hours through the fistula left after a cholecystectomy on account of lithiasis. The urine diminished in quantity meanwhile to such an extent that uremia was indicated by the vomiting. The fistula soon healed.

89. **Serotherapy of Diphtheria.**—Wettstein states that the mortality from diphtheria at the Zürich clinic has been less by two-thirds during the last five years than previously. At the same time the mortality throughout the province has been scarcely one-half less, probably owing to the fact that antitoxin is not so readily procurable outside of the cities.

91. **Traumatic Gastric Ulcer.**—The experiments and four cases described by Gross indicate that a contusion affecting the stomach may be the starting point for an ulcer. But it does not develop unless the healing tendency in the subject is defective. Hyperacidity, of course, favors its development. The stomach may be injured while the abdominal wall and other organs are intact.

92. **Syphilis of the Viscera.**—The viscera are affected in about the same proportion in hereditary as in acquired syphilis. A syphilitic process in the stomach is in many points identical with that of a round ulcer. Its diagnosis is still a weak point. Bobrow's case has demonstrated the value of appropriate surgical treatment of syphilitic affections of the stomach too advanced to yield to mercurial treatment. Thirteen operations on the liver are on record, including the one described. The three deaths occurred in persons of 40 and over. In several cases the tumor was not resected when its syphilitic nature was discovered on operation. In others a gummatous tumor too large for spontaneous absorption was resected, or a lobe of the liver, which had become, as it were, "tied off." In one case a severe diarrhea which had persisted for eighteen months was cured in a week by mercurial treatment after its syphilitic nature was surmised. Trinkler has observed only 12 cases of syphilitic diarrhea in his practice. He is inclined to operate in case of syphilis visceralis as soon as mercurial treatment proves ineffectual. He has found that ascites may accompany gumma in the liver and be absent in case of cancer of the organ.

Muenchener Med. Wochenschrift.

94 (XLI, No. 49.) Ueber das Verhalten der Leucocyten bei Appendicitis. Coste.
95 *Operative Correction of Extreme Curvature of Legs. M. Reiner (Lorenz's Clinic).—Ueber ein Operationsverfahren zur Beseitigung hochgradiger Unterschenkelverkrümmungen.
96 *Experimenteller Beitrag zur Behandlung der Perforationen und Zerreissungen der Gallenblase (lacerations of gall-bladder). L. Baldassari and A. Gardini (Ferrara).
97 Experimentelles über Adrenalin. Lehmann.
98 Meat Preservatives. R. Boehm.—Zur Beurteilung der Borsäure und des Borax als Fleischkonservierungsmittel.
99 (No. 50.) Ueber ein bequemes (convenient) Object zum Studium der Mastzellen (Clasmatocyten). L. Schreiber.
100 Mesotan, ein äusserlich anzuwendendes Salicyl Präparate (for external use). H. Röder.
101 Beiträge zur Mechanik des Hörens (hearing). G. Zimmermann.
102 New Method of Warming Carbonated Mineral Waters. K. Vanselow.—Die neue Erwärmungsart der kohlensauren Soolbäder im Kissingen.
103 Diagnostic Significance of Leucocyte Count. A. Kühn.—Zur diagnostischen Bedeutung der Leucocytenwerte bei Typhus abdominalis und bei chirurg. Elterungen. (Commenced in No. 49.)
104 Official Vaccination Report. L. Stumpf.—Bericht über die Ergebnisse der Schutzpockenimpfung im Bayern im Jahre 1901. (Commenced in No. 48.)

95. **Correction of Extreme Curvature of the Legs.**—Reiner incises the soft parts down to the bone and then cuts the bone nearly across at the deepest point of the concavity or inner angle. He then applies manual extension and later the extension screw. The results are surprisingly excellent in several cases he illustrates. In one each leg was shaped almost like a Z below the calf. He cuts the Achilles tendon if too resistant.

96. **Treatment of Perforation and Lacerations in Gall Bladder.**—Baldassari reports successful experimental results from the application to the defect of a flap cut from the abdominal wall near the incision. Such a flap contains a layer of serosa and also a layer of striped muscle which is turned toward the interior of the gall bladder. When the dogs were killed later the gall bladder showed merely a very slight depression at the spot. In the more recent cases the transplanted flap was moderately stained with bile. By using a flap of this kind the surgeon will be able to operate on the gall bladder with greater assurance, not hesitating to excise a part that is firmly fastened by adhesions or degenerated, knowing that the defect left can be easily remedied.

Wiener Klin. Wochenschrift.

105 (XV, No. 42.) Significance of Rhodan Reaction in Saliva in Ear Affections. G. Alexander.—Zur Frage der Verwerthbarkeit der Rhodanreaction bei Ohrerkrankungen.
106 Erfahrungen über die Janet'sche Methode der Urethral- und Blasen- (bladder) Behandlung.
107 Zur Casuistik der metastatischen Carcinome des Gehirns (brain), nebst Bemerkungen zu dem Symptom der Perseveration. R. Barany.
108 (No. 43.) *Ueber congenitales Myxoedem und infantiles Myxoedem. F. Pineles.
109 Ueber die sogenannten scarlatiniformen Serum-Exantheme bei Diphtherie. K. Leiner.
110 Zur Etiologie des Dünndarm- (small intestine) Volvulus. L. Kirchmayr.
111 (No. 44.) Ueber erbliche Belastung (hereditary burdens). Wagner v. Jauregg.
112 *Zur Symptomatologie des stenokardischen Anfalles (angina pectoris). R. Kaufmann and W. Pauli.
113 *Zur Klinik der Angiosklerose der Darmarterien (Dispragia intermittens angiosklerotica intestinalis). N. Ortner.
114 Address on Assuming the Chair of Dermatology. G. Riehl.—Antrittsvorlesung bei Übernahme der Lehrkanzel für Dermatologie und Syphilis an der k. k. Universität in Wien.
115 (No. 45.) Study of Behavior of Peritoneum. P. Clairmont and H. Haberer.—Ueber das Verhalten des gesunden und veränderten tierischen Peritoneums.
116 Zur Frage der Immunisierung gegen Eiweiss (albumin). F. Hamburger.
117 Periurethale Infiltrate und Abszesse beim Weibe (in woman); chronisch gonorrhoische Induration der weiblichen Urethra. R. Matzenauer.
118 (No. 45.) Zur Klinik der durch atmosphärische und technische Elektrizität verursachten Gesundheitsstörungen (disturbances of health). S. Jellinek.
119 Zur Pathologie der grossen Hirngefässe (cerebral vessels). O. Marburg.
120 Noch einmal der Meningokokkus intracellularis. H. Albrecht and A. Ghon.
121 Ueber das Verhalten der Leucocyten bei Elterungen (suppurations). M. Blassberg.
122 Beitrag zum Vorkommen der "punktirten Erythrozyten." K. Reitter.
123 Gleichzeitige (simultaneous) Gravidität beider (of both) Tuben. K. Kristinus.
124 (No. 48.) Struma tuberculosa. P. Clairmont.
125 Beiträge zur cystoscopischen Diagnostik. J. Halban.
126 Differenzierung der Diphtherie-Bacillen von den Pseudodiphtherie-Bacillen durch Agglutination. J. Schwoner.
127 Zur Lösung der Variola-Varizelien-Frage (question). N. Swoboda. (Commenced in No. 47.)
128 (No. 49.) Beiträge zur Lungen-Chirurgie. E. Rochelt.
129 Zur Kenntniss der Paratyphus-Bacillosen. R. Schmidt.
130 Ueber Hemmungserscheinungen (phenomena of inhibition) bei frischen immun-Sera. R. Volk and H. de Waele.
131 (No. 50.) Wahre Hypertrophie des Gehirns (brain) mit Befunden an Thymus-Drüse und Nebennieren (suprarenals). G. Anton.
132 Zur radiographischen Diagnose der Nierensteine (kidney stones). R. Kienböck.
133 Ueber osteoplastisches Carcinom. E. Comisso.

108. **Congenital and Infantile Myxedema and Endemic Cretinism.**—Pineles regards these conditions as three distinct entities. The first is liable to occur anywhere; the second is mostly confined to Great Britain and Belgium. These both affect the female sex mostly, while endemic cretinism shows a slight excess of the male sex. The first displays symptoms during the second half of the first year of life or later, while the second does not become manifest until after the sixth year, and cretinism is evident in the earliest childhood. The congenital variety is generally severe and causes marked disturbance in the growth, while the infantile variety is usually mild; cretinism may be either mild or severe. The thyroid gland in congenital myxedema is defectively developed, while in the infantile form there is atrophy of the gland, and in

cretinism there is strumous degeneration and occasionally atrophy. The etiology of congenital myxedema includes chronic alcoholism, tuberculosis or neuropathologic heredity and sometimes consanguinity. That of the infantile form includes the factors which determine idiopathic myxedema in adults. Endemic cretinism is due to some unknown infectious injurious influence. The so-called sporadic cretinism belongs in the group of congenital myxedema.

112. **Symptomatology of Angina Pectoris.**—Kaufmann has witnessed a number of cases in which the pains were more or less limited to the epigastrium and would have been diagnosed as a stomach affection by the inexperienced, notwithstanding the absence of nausea and vomiting. The success of treatment addressed to the assumed angina pectoris confirmed the true diagnosis. He explains the pains as the subjective perception of colic of the vessels emanating from arteriosclerotic lesions of the vessel wall, with which secondary radiating pains may be associated. As the bile duct or ureter contracts with a painful cramp above the point where a calculus is irritating its walls, the arteries are similarly liable to cramps of the same nature when lesions of an arteriosclerotic vessel become irritated by over-distension, increased pressure or vigorous vasodilation. As digitalis increases the blood pressure it only adds to the pains in such cases. Morphin arrests the attack by diminishing the sensibility of the point that is being irritated. Diuretin, on the other hand—like atropin in case of spastic contraction of the intestine—exerts an inhibiting, soothing action on the spastic contraction of the vessels and is the sovereign remedy in these cases. The gastric pains are distinguished by being brought on by physical exertion, change of position, etc., with no direct connection with eating; also by the localization of the pains and the influence of medication addressed to the circulation. The attack recurred in one patient whenever he lay down.

113. **Intermittent Angiosclerotic Dyspragia of the Intestines.**—Ortner reports a case of what he describes as a hitherto unobserved form of angiosclerosis of the intestinal arteries. The symptoms and cause were similar to those of intermittent claudication, as established by the autopsy. He therefore applies to the syndrome observed the term intermittent claudication, or the more general expression which can apply to all the organs, intermittent angiosclerotic dyspragia (painful functioning). It may be paretic, spastic or painful. The case described was of the paretic form. The attacks occurred two or three hours after a hearty meal and lasted for two or three hours. The patient, a man of 55, suffered from burning pains in the abdomen, shortness of breath and distension of the right lower part of the abdomen, with obstinate constipation. After two months all the symptoms ceased for a year, then recurred for a week every four months for a year or two, when the attacks became progressively worse and he succumbed to peritonitis. The autopsy disclosed severe sclerosis of the intestinal arteries.

Gazzetta degli Ospedali, Milan.

134 (XXII, 129.) Identità della tubercolosi bovina ed umana. A. Cipollina.
135 Nota sull'inizio delle febbri estivoautunnali. G. Perrod.
136 Carcinoma e malaria. F. Orta.
137 *Un caso di sutura del cuore (heart) e del polmone (lung). D. Pomara.
138 (No. 132.) Angina intermittente? G. B. Gasparini.
139 In qual modo va intesa la specificità dei sieri precipitanti? M. Ascoli.
140 *Effect on Digestion of Experimental Transplantation of Pancreatic Duct. L. L. Ardizzone.—Sul trapianto del dotto di Wirsung.
141 La terapia elettro-magnetica. V. Maragliano.
142 Mecanismo di azione (action) dell' antipirina. G. Ferrarini.
143 *Sulla cura chirurgica del cancro dell'utero. L. M. Bossi.
144 *Sul potere disinfettante della calce viva (quicklime) riguardo agli sputi tubercolari. I Boni.
145 (No. 134.) Report of Italian Congress of Internal Med. See Nos. 129, 131.
146 (No. 135.) Le coree dai moderni punti di vista (views of chorea). S. Mircoli.
147 *Blood Cells in Cases of Heart Defects. R. C. Regolo.—Le cellule dei vizi cardiaci.
148 L'alessina (alexin) nell'inanizione sperimentale. M. Collina.
149 Contributo alla chirurgia dei tumori sacro-coccigei. T. Pozzan.
150 Per la genesi del lipoma. D. Della Rovere.
151 *Snail Broth as Culture Medium. D. R. Domenico.—Nuovi mezzi di coltura ricavati dall' helix pomatia.
152 *Successful Experimental Hypodermoclysis of Hydrogen Dioxid in Case of Asphyxia. G. Campanella.—La ipodermoclisi di acqua ossigenata nelle asfissia.
153 Di un nuovo trapano (trephine) par la formazione di un lembo osteo-periosteo-cutaneo. O. Cantelli.
154 (No. 138.) Sul siero neurotossico. G. Boeri.
155 Casuistico di neurofibromi multipli. P. L. Pellegrino.
156 Sulla presenza dell' anchilostoma nel pellagrosi. G. Binetti.

137. **Case of Suture of Heart and Lungs.**—Pomara's patient was too severely wounded for survival to be possible, but the prompt suture of the wound postponed the fatal termination for a few days. His incision and the resulting flaps differed from those hitherto in vogue, as the incision was in the shape of a reversed T, the base line 12 cm. and the perpendicular 6 cm. in length.

140. **Transplantation of Pancreatic Duct.**—Ardizzone transplanted the duct in dogs to a distance of about 50 cm. from its normal orifice in the small intestine. The specific gravity and amount of urine diminished, the feces increased in quantity and the proportions of nitrogen, fats, ash and organic substances. The animals showed marked oligemia when killed after long observation.

143. **Surgery of Uterine Cancer.**—Bossi thinks experience is demonstrating that irritation from any slight cause may transform a simple solution of continuity into a malignant growth. He therefore advises a plastic operation to cover such a lesion and states that in 1,000 patients with various lesions of the uterus, treated by curettement and a plastic operation on the cervix, not a single case of cancer has occurred. On the other hand, 21 cases of cancer have developed in 1,000 patients with similar uterine affections, treated by curettement alone, without a plastic operation. He hopes that the prophylaxis of cancer will be one of the questions on the order of the day at the next international congress of gynecology.

144. **Lime as Sputum Disinfectant.**—In Boni's tests lime in chunks did not disinfect the sputa even on long contact. Pulverized lime had an attenuating effect on the Koch bacillus, in the course of several days, but still some of the guinea-pigs succumbed who had been inoculated with the sputa after eleven days of contact. The pneumococci and other bacteria were rapidly destroyed by the lime.

147. **Blood Cells in Cardiac Defects.**—Regolo has been investigating a number of patients with various affections in regard to the presence of cardiac cells (Herzfehlerzellen). He found them frequently in cases of congestive affections of the broncho-pulmonary apparatus, even with the heart intact. They were constant in cardiac affections and were important for the diagnosis when masked by a respiratory affection. They were most numerous in case of a mitral defect.

151. **Snail Broth as Culture Medium.**—Mollusks contain the largest proportion of glycogen in their muscles, and consequently are peculiarly adapted for a culture medium.

152. **Subcutaneous Injections of Hydrogen Dioxid.**—Campanella reports a single experiment on a rabbit who was restored to health after profound asphyxia by the subcutaneous injection of a total of 50 c.c. of a solution of hydrogen dioxid. The control animal died in a few minutes. No inconveniences or disturbances of any kind were noted. He thinks that hypodermoclysis has the advantages without the disadvantages of the endovenous route for the life-saving administration of oxygen in severe cases of asphyxiation, bronchial cramps, emphysema, loss of compensation in cardiac affections and in what is called local asphyxia of the extremities.

Roussky Vratch, St. Petersburg.

157 (I, No. 33.) K role pneumokokka v klinitcheskoi patologii conjunctivy tchelovyeka (in man). T. T. Rymovitch.
158 Construction of Nose Out of Finger. N. M. Volkovitch.—Obrazovanie nosa iz paltza.
159 Successful Sterilization of Catgut with Dry Heat. M. P. Krivoshein.—K. voprosu o sterilizatzii ketguta sukhim zharom.
160 Etiology of Endemic Anthracoid Ulcer. K. Y. Shulgin.—K voprosu ob etiologii Penjdinskoi yazvy.
161 (No. 34.) "Blennorrhea of the Lachrymal Sac" in Neonatorum. G. A. Rabinovitch.—O t. naz. blenorrheye myeshka u novorozhdennykh.
162 Sudan iii for Staining Fat and Fatty Degeneration of the Formed Elements in Fluids and Semifluid Media. Y. B. Lewinson.—Okraska sudanom III.
163 Paraffin Prothesis. O. K. Aue.

164 Experimental Data in Regard to Importance of Trauma in Localization of Tuberculosis in the Joints. N. N. Petroff.—Experim. dannya po voprosu bogortchatkye sustavov v svyazi s povrezhdeniyami.

New Patents.

Patents of interest to physicians, December 16, 23 and 30:

715748. Making acetic acid. Paul Boessneck, Glauchau, Germany.
716221. Hernial truss. Francis J. Hage, Sr., Goldsboro, N. C.
716040. Applicator. Wm. C. Holt, Oakley, Kan.
716240. Syringe. Thomas L. Jones, Kansas City, Mo.
716265. Blister plaster. Elbert W. McAllister, South Bend, Ind.
716304. Fountain syringe. James H. Stearns, Brooklyn.
716329. Antiseptic protector for telephone mouthpieces. Robert I. Willmarth, San Francisco.
36172. Design, hot water bag or similar article. Victor C. Van't Woud, Brooklyn.
716526. Syringe bulb. Richard H. Eddy, Providence, R. I.
716426. Syringe. Alcinous B. Jamison, New York.
716448. Movement cure apparatus. Gerald J. Macaura, Hartford, Conn.
716756. Surgeon's operating table. Timothy B. Powers, New York.
716474. Apparatus for manufacturing and dispensing carbonated beverages. Orrin J. Price, Detroit.
716789. Manufacturing chlorates. Richard Threlfall, Birmingham, Eng.
717072. Magnetotherapeutic apparatus. John Burry, Brooklyn.
717085. Casein compound. Henry V. Dunham, New York.
716878. Making caffein. Benjamin R. Faunce, Philadelphia.
717407. Ear-massage apparatus. Miller R. Hutchinson, Upper Montclair, N. J.
717436. Inhaler. Stephen A. Morse, Oklahoma, O. T.
716931. Nasal irrigator. Charles H. Pattison, Chicago.
717448. Sterilizing apparatus. R. R. Pease and P. J. Tucker, Hartford, Conn.
717474. Atomizer. George S. Tolman, Winthrop, and G. K. Jones, Somerville, Mass.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., from Dec. 22 to Dec. 26, 1902:

Adair, Geo. F., contract surgeon, U. S. A., is relieved from further duty in the Division of the Philippines, and will report in person to the commanding general, Department of the East, for assignment to duty.

Anderson, Robert A., contract surgeon, U. S. A., is granted leave of absence for two months, to take effect about Jan. 1, 1903.

Brownlee, Chas. Y., first lieut. and asst.-surgeon, U. S. A., is granted leave of absence for twenty days.

Dale, Frederick A., first lieut. and asst.-surgeon, U. S. A., is granted leave of absence for ten days.

Edwards, James F., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty in the Division of the Philippines, and on the expiration of his present leave will proceed to Ft. Leavenworth, Kan., for duty at that post.

Powell, Dwight C., contract surgeon, U. S. A., will proceed to Ft. Barrancas, Fla., and report to the commanding officer of that post for duty to relieve Captain Thomas J. Kirkpatrick, asst.-surgeon, U. S. A., who will proceed to San Francisco, and report to the commanding general, Department of California, for assignment to duty with troops en route to the Philippines.

Reynolds, Charles R., first lieut. and asst.-surgeon, U. S. A., now at San Francisco, will proceed to Ft. Washington, Md., for duty, relieving First Lieut. Frederick F. Russell, asst.-surgeon, U. S. A., who will proceed to Ft. Wingate, N. M., and report to the commanding officer of that post for duty.

Thorp, Chas. W., contract surgeon, U. S. A., will proceed to Ft. Grant, Ariz., to relieve Captain Charles E. B. Flagg, who will proceed to San Francisco, for assignment to duty with troops en route to the Philippines.

Van Poole, Gideon McD., first lieut. and asst.-surgeon, U. S. A., is granted ten days' extension of leave.

The following named officers, now at San Francisco, will proceed to their respective homes to await their honorable discharge from the service of the U. S., Feb. 1, 1903: Captains Robert E. Caldwell, Joseph L. Sanford, Percival S. Rossiter, Elmer S. Tenney, Wm. H. McPherson and Francis J. Pursell, asst.-surgeons, U. S. V.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended Jan. 3, 1903:

Asst.-Surgeon J. M. Brister, detached from the *Frolic* and ordered to the *El Cano*.

Asst.-Surgeon U. R. Webb, detached from the *Iris* and ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon H. A. Dunn, detached from the *Vicksburg* and ordered to the *Frolic*.

P. A. Surgeon C. A. Crawford, detached from recruiting duty and ordered home to wait orders.

P. A. Surgeon G. L. Angeny, detached from the *Lancaster* and ordered to the *Essex*.

Asst.-Surgeon R. W. Plummer, detached from the Naval Hospital, Chelsea, Mass., and ordered to duty at Chattanooga, Tenn.

Asst.-Surgeon G. F. Freeman, detached from the *Essex* and ordered to duty at Naval Hospital, Chelsea, Mass.

Asst.-Surgeon W. H. Ulsh, Dec. 22, 1902, retired from active service, by reason of disabilities incurred in the line of duty.

P. A. Surgeon H. C. Curl, ordered to the Naval Hospital, Mare Island, Cal., for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service, for the seven days ended Jan. 1, 1903:

Surgeon Preston H. Ballhache, leave of absence for seven days on account of sickness, under Paragraph 179 of the regulations.

P. A. Surgeon H. S. Mathewson, granted leave of absence for seven days from Dec. 2, 1902.

P. A. Surgeon S. B. Grubbs, detailed to represent the service at meeting of the American Public Health Association at New Orleans, Dec. 8-12; to proceed to Ensenada, Cal., for special temporary duty, Dec. 12, 1902; to proceed to Mazatlan, Mex., for special temporary duty, Dec. 30, 1902.

Asst.-Surgeon W. A. Korn, granted leave of absence for seven days from Dec. 25, 1902, under Paragraph 181 of the regulations.

Asst-Surgeon J. W. Schereschewsky, to proceed to Charleston, S. C., and assume temporary command of the service during the absence, on sick leave, of A. A. Surgeon F. F. Sams.

Asst.-Surgeon H. McG. Robertson, relieved from duty at Chicago, and directed to proceed to New York (Stapleton), and report to medical officer in command for duty and assignment of quarters.

BOARDS CONVENED.

Board convened at Washington, D. C., Dec. 26, 1902, for the physical examination of Chief Engineer Howison, R. C. S. Detail for the Board: Assistant Surgeon-General H. D. Geddings, chairman; Asst.-Surgeon B. S. Warren, recorder.

Board convened at Washington, D. C., Dec. 27, 1902, for the physical examination of Chief Engineer Maher, R. C. S. Detail for the Board: Assistant Surgeon-General H. D. Geddings, chairman; Asst.-Surgeon B. S. Warren, recorder.

PROMOTIONS.

John Achenbach and E. S. Maguire, to be pharmacists of the first class.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 3, 1903:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 14-21, 7 cases.
Colorado: Denver, Dec. 6-20, 11 cases.
Illinois: Chicago, Dec. 20-27, 3 cases.
Indiana: Dec. 20-27, Evansville, 1 case; Indianapolis, 37 cases, 4 deaths; Kokomo, 1 case; South Bend, 1 case.
Kentucky: Lexington, Dec. 20-27, 1 case.
Maine: Portland, Dec. 20-27, 1 death.
Massachusetts: Dec. 20-27, Boston, 13 cases, 6 deaths; Somerville, 1 case.
Michigan: Detroit, Dec. 13-27, 93 cases, 1 death; Grand Rapids, Dec. 20-27, 8 cases.
Mississippi: Natchez, Dec. 23, 10 cases.
Missouri: St. Louis, Dec. 14-21, 26 cases.
Nebraska: Omaha, Dec. 20-27, 9 cases.
New Hampshire: Dec. 20-27, Manchester, 7 cases; Nashua, 8 cases.
New Jersey: Camden, Dec. 20-27, 1 case; Jersey City, Dec. 21-28, 1 case.
New York: Binghamton, Dec. 20-27, 1 case; Buffalo, Dec. 13-20, 2 cases.
Ohio: Cincinnati, Dec. 19-26, 15 cases; Cleveland, Dec. 20-27, 7 cases, 4 deaths; Toledo, Dec. 6-27, 24 cases, 2 deaths; Warren, Dec. 6-27, 5 cases, 1 death.
Pennsylvania: Altoona, Dec. 20-27, 1 case; Erie, Dec. 20-27, 3 cases; Philadelphia, Dec. 20-27, 25 cases, 3 deaths; Pittsburg, Dec. 20-27, 23 cases, 3 deaths; Warren, borough and county, Dec. 10-17, 5 cases.
South Carolina: Charleston, Dec. 13-27, 4 cases.
South Dakota: Sioux Falls, Dec. 20-27, 1 case.
Tennessee: Memphis, Dec. 20-27, 4 cases.
Utah: Salt Lake City, Dec. 11-27, 20 cases.
Washington: Tacoma, Dec. 15-21, 3 deaths.
Wisconsin: Green Bay, Dec. 21-28, 1 case; Milwaukee, Dec. 20-27, 5 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 29-Dec. 6, 24 cases.
Belgium: Brussels, Nov. 29-Dec. 6, 1 death; Ghent, Nov. 22-29, 3 deaths.
Canada: Winnipeg, Dec. 13-20, 1 case.
Great Britain: Leeds, Dec. 6-13, 6 cases, 1 death; Liverpool, Dec. 6-13, 34 cases, 1 death; Manchester, Nov. 29-Dec. 6, 3 cases; Sheffield, Nov. 29-Dec. 6, 5 cases.
India: Bombay, Nov. 25-Dec. 2, 2 deaths; Karachi, Nov. 23-30, 1 case.
Italy: Palermo, Nov. 29-Dec. 6, 6 cases, 2 deaths.
Malta: Nov. 23-30, 1 case.
Mexico: City of Mexico, Dec. 7-14, 2 cases, 3 deaths.
Russia: Moscow, Nov. 22-29, 2 deaths; Odessa, Nov. 29-Dec. 6, 5 cases; St. Petersburg, Nov. 29-Dec. 6, 13 cases, 2 deaths.
Straits Settlements: Singapore, Nov. 1-13, 5 deaths.

YELLOW FEVER.

Colombia: Panama, Dec. 8-22, 9 cases, 2 deaths.
Ecuador: Guayaquil, Dec. 6-13, 10 deaths.
Mexico: Vera Cruz, Dec. 13-20, 14 cases, 3 deaths.

PLAGUE.

India: Bombay, Nov. 25-Dec. 2, 120 deaths; Calcutta, Nov. 22-29, 12 deaths; Karachi, Nov. 22-30, 11 cases, 10 deaths; Madras, Nov. 22-28, 1 death.

CHOLERA.

India: Calcutta, Nov. 22-29, 42 deaths.
Japan: Osaka and Hiogo, Nov. 8-23, 3 cases, 2 deaths.
Straits Settlements: Singapore, Nov. 1-15, 22 deaths.

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Original Articles.

SURGERY OF THE STOMACH.

ARTHUR DEAN BEVAN, M.D.

CHICAGO.

It is the intention of this paper to present a brief review of the history and the present status of the surgery of the stomach.

Although gastrotomy for the removal of a swallowed knife was done as early as 1602 by Matthis of Brandenburg, and gastrostomy for stricture of the esophagus was done by Sedillot in 1849, the surgery of the stomach can very properly be said to date from Billroth's successful pylorectomy made in February of 1881. Stomach surgery, therefore, has reached its majority; it is twenty-one years old. It has reached a stage in its development which enables us to estimate its present value and draw conclusions probably approximating the truth. Let us very briefly sketch its history.

A BRIEF HISTORY OF STOMACH SURGERY.

Billroth's successful pylorectomy of 1881 was preceded by an unsuccessful attempt by Pean in 1879, and by Rydygier in 1880. In September of 1881 Wölfler suggested and performed the first gastroenterostomy by making an anastomosis between the anterior stomach wall and the jejunum. This is known as the Wölfler method. In 1882 Loretta introduced digital divulsion of the pylorus for benign stricture. In 1885 Von Hacker performed gastroenterostomy by making an anastomosis between the posterior wall of the stomach and the jejunum. Although Courvoisier had made a posterior anastomosis in 1883, the operation is known as the Von Hacker method.

In 1884 Charles T. Parkes of Chicago made a series of experiments on dogs, showing the feasibility of operative repair of both intestinal and stomach wounds, and this valuable knowledge was almost at once put to practical use. A short time after this Nicholas Senn introduced his decalcified bone plates for intestinal anastomosis, and these were used for a short period quite extensively in doing gastroenterostomy. In 1886 Heineke, and in 1887 Mikulicz, independently of each other, introduced pyloroplasty, which has since been known by their name, the Heineke-Mikulicz operation of pyloroplasty. In 1890 Bircher introduced the operation of gastroplication.

In 1892 Murphy introduced his anastomosis button, which has since then been very extensively used in stomach surgery, both here and abroad. In 1893 Frank introduced the now most generally employed method for gastrostomy. In 1894 Wölfler introduced gastroplasty and gastroanastomosis for hour-glass stomach. In 1894 Jaboulay performed the first gastroduodenostomy.

In 1897 Schlatter performed the first successful complete gastrectomy, although as early as 1883 Connor of Cincinnati had planned and unsuccessfully performed the operation. Comparatively recently Maydl has introduced the operation of jejunostomy as a palliative procedure in stomach carcinoma otherwise inoperable.

In 1880 Mikulicz, then an assistant of Billroth's, operated, but unsuccessfully, for perforating stomach ulcer. In 1892 Heusner operated for the first time successfully for perforating ulcer. Rydygier made the first successful excision of a gastric ulcer as early as 1881. Naturally in the early history of stomach surgery in the eighties and early nineties, the number of operations performed was small, but in the last five years especially this number has increased very rapidly, and we can now find a number of clinics where more than twenty-five stomach operations are done each year. My statements in this paper are based on a study of results of the work in these clinics where stomach surgery has been cultivated and my own rather limited work.

I desire to acknowledge my indebtedness to the reports from the clinics of Czerny, Mikulicz, Wölfler, Von Eiselsberg, on the Continent, the work of Mayo Robson in Great Britain, and W. J. Mayo, Nicholas Senn, John B. Murphy and E. Wyllys Andrews in this country, and for the medical aspects to Hemmeter, Osler and Fütterer. I am also indebted to the very instructive symposium on the surgery of the stomach presented at the American Surgical Association meeting of 1900.

In discussing stomach surgery let us do so under four heads:

1. Operations for malignant disease:
   - *a.* Pylorectomy.
   - *b.* Partial or complete gastrectomy.
   - *c.* Gastroenterostomy.
   - *d.* Jejunostomy.
   - *e.* Gastrostomy for malignant stricture of esophagus.
2. Operations for benign pathologic conditions, especially ulcer and its consequences:
   - *a.* Gastroenterostomy.
   - *b.* Partial gastrectomy; excision of an ulcer.
   - *c.* Repair of perforation.
   - *d.* Pyloroplasty.
   - *e.* Gastroplasty.
3. Operative treatment of:
   - *a.* Perforative wound of stomach.
   - *b.* Subcutaneous rupture.
4. Operative removal of foreign bodies. Gastrotomy.

OPERATIONS FOR MALIGNANT DISEASE.

Pylorectomy and Gastrectomy.—An analysis of results, both immediate and final, of operations done for malignant disease makes mournful reading, although

our improvement in technic has vastly bettered the immediate results as compared with those first obtained; the mortality is still large and the final results in gastroenterostomy and pylorectomy and partial and complete gastrectomy are such as to almost warrant the statement that all operations for malignant disease of the stomach are but palliative, and not curative in character. In view of this fact one is not surprised at the conclusions reached by Reginald Fitz in a recent paper on "Some Surgical Tendencies," in which he practically condemns operative treatment for malignant diseases of the stomach. One may, in the face of the facts, ask himself the question, is it worth while—the short questionable prolongation of life offered to these sufferers? Death is, after all, not always such a dreadful thing; may it not come to these poor victims of carcinoma as a blessing and relieve them from their sufferings? I have often asked myself in watching some of these cases, when I had prolonged the life for three or four months, have I not prolonged, not life worth living, but suffering for that period, and would it not have been better if I had not postponed the inevitable for the few months, but had let the patient pass away earlier with the euthanasia which morphin affords?

And yet, on the other hand, when I have had a patient who, after a pylorectomy for carcinoma, is relieved entirely of her symptoms and gains thirty pounds in weight, and beams with apparent restored health and the happy hope of cure, as I look at that patient I can not doubt that the surgeon's work was in that case worth the while. Following somewhat this line of thought, I have concluded that the hope of the future of stomach surgery for carcinoma lies either in some means to establish a diagnosis sufficiently early to enable the operator to remove widely and completely the disease, or more probably the cure of carcinoma by yet undiscovered means, and that for the present, aside from the necessary exploratory operation, to confirm or make the diagnosis, that operations for carcinoma of the stomach should be limited to such cases as permit of apparent entire removal of the disease, and these cases are at present few in number, and also that in a few well-selected cases a gastroenterostomy is warranted, cases where radical removal is not impossible and still where marked relief for a considerable period may, with some confidence, be expected. As a type of such a condition one might mention a case where there was marked obstruction of pylorus with invasion of surrounding organs preventing radical removal, and still with little invasion of the stomach tissue and with fair general condition of the patient.

Gastroenterostomy.—W. J. Mayo, of Rochester, Minn., who has probably done more work in stomach surgery than any other American surgeon, on analyzing his own results in 21 cases of gastroenterostomy done for carcinoma, says: "I regret to say that, with few exceptions, the palliation has been of such short duration as to hardly justify the operation," and he adds, "The hope of the future for cancer of the stomach is early exploration and extirpation."

Mayo Robson, the recognized authority in Great Britain on surgery of the stomach, in his excellent monograph on surgical treatment of diseases of the stomach, reports 23 gastroenterostomies for malignant disease; of these 10 died and 13 recovered; of these 13 5 are stated as living less than four months. In 8 cases the exact date of death was either not given, or is greater than four months; the longest period stated is nine months, and the reports from the Czerny, Mikulicz and other German clinics give about the same results. My own results in gastroenterostomy for malignant disease have given a large immediate mortality, and unsatisfactory palliation of short duration. Three deaths in eight cases, and short and unsatisfactory palliation in the other five. Chlumsky's statistics give a mortality of 41.6 in gastroenterostomy for malignant disease. When we turn to an examination of the results of pylorectomy and partial and complete gastrectomy for carcinoma, we again meet with discouragement, but with less discouragement possibly than in the results of gastroenterostomy for the same condition.

Analyzing the results of Krönlein, Maydl, Kocher, Rydygier, Czerny, Morrison and Mayo and my own, we find 190 cases, with 50 deaths, about 26 per cent.; 140 recoveries, about 74 per cent., and 17 cases who lived more than three years, about 8 per cent. Some of these, however, already presented recurrences, and some had died later than three years of recurrence, these facts cutting down the cases which we could accept as cured of carcinoma to about 5 per cent., or one in each twenty submitted to radical operation, and even here again comes the doubt as to diagnosis in some of the successful cases. Surely such a showing is one which must make the conscientious surgeon hesitate to urge surgical treatment to a patient suffering from carcinoma, on the ground that such treatment offered much hope of radical cure. The palliation, however, furnished by radical removal is more marked, more satisfactory and more lasting than that furnished by gastroenterostomy, and without doubt the operation produces in a small per cent. of cases a radical cure. Inasmuch, therefore, as the condition calling for relief is necessarily fatal, we are warranted in performing it, and we should not hesitate to advise it in the few carcinoma cases early diagnosed. We are forced to admit that the present-day surgical treatment of carcinoma of the stomach is not satisfactory, and leaves much to be desired; this statement applies, however, with almost equal force to carcinoma in general, and surely one of the greatest discoveries, let us hope that it will come soon, will be that of a successful treatment of malignant disease, and probably when it does come it will be on other than our present surgical lines.

Before leaving the subject of carcinoma, let me emphasize the fact that it is in early carcinoma very difficult for the surgeon, macroscopically, and at the time of operation, to make a differential diagnosis between this and other lesions, such as scar tissue and tuberculosis, and this fact adds sometimes to the difficulties of selecting the proper operative procedure, and also throws doubt on some of our statistics. Both Fütterer and Billings have recently emphasized the fact that carcinoma very often develops in an ulcer, and these cases naturally give a confusing picture, both to the medical diagnostician, as here we are apt to find free hydrochloric acid even in excess, and to the surgeon at the time of the exploratory operation. In some cases the surgeon at the time of operation may find no way of determining conclusively whether he has ulcer or carcinoma to deal with. Even the enlargement of the mesenteric glands can not be relied on as pointing to carcinoma, as Mayo and others have pointed out that we can and do have enlargement of these glands in simple ulcer and other benign lesions.

That mistakes are frequently made is demonstrated by the fact that not infrequently supposed benign obstructions which have been relieved by gastroenterostomy

die later of carcinoma, and, on the other hand, supposed malignant cases which have been supposedly merely palliated by a gastroenterostomy go on to permanent recovery, demonstrating conclusively the benign nature of the lesion.

The operation of complete gastrectomy has now been done a number of times since Schlatter's successful case. Mayo Robson collected from the literature 12 cases; of these 4 died as a result of the operation, and the earliest death of the other 8 was eleven months after operation. These results must be regarded as encouraging, and yet too much confidence should not be placed on these statistics, because without question many unsuccessful cases have not been reported. The operation has to-day a very limited field, and must be regarded as being still in the experimental stage.

Jejunostomy.—This procedure, which was advocated as a rival to gastroenterostomy, has little to recommend it. It certainly should not be employed where a gastroenterostomy would meet the indications, and the cases where the palliation of a jejunostomy is to be preferred to the palliation of morphin and rectal feeding must be extremely rare.

Gastrostomy.—A word in regard to gastrostomy for malignant disease of the esophagus and esophageal end of the stomach. From a limited experience and from an analysis of the literature, I believe that gastrostomy for malignant disease is seldom worth the while, and that the patient, if he could know both the palliation of rectal feeding, dilatation with a soft bougie and morphin on the one hand, and the dangers of the operation, with its almost equally short palliation and unsatisfactory existence, with the feeding through a gastrostomy fistula, on the other, would decide almost invariably against an operation.

OPERATION FOR BENIGN CONDITIONS.

Let us turn now from this glimpse of the distressing picture of carcinoma before which we have confessed the limitations of surgery, to the brighter picture of the surgical treatment of benign lesions of the stomach, and here we find one of the greatest triumphs of modern surgery.

Treatment of Ulcer.—Gastroenterostomy.—Let us review, in the brief time at our disposal, the surgical treatment of ulcer and its complications. Ulcer of the stomach occurs in from 2 to 5 per cent. of the population. The treatment of uncomplicated ulcer is distinctly medical, and probably 80 per cent. will recover under the modern rational medical treatment of rest and rectal feeding. In probably 20 per cent. the ulcer will persist in spite of treatment, or complications occur, either obstruction of pylorus, hour-glass contraction, hemorrhage or perforation. In this 20 per cent. surgical interference should be or must be employed. Uncomplicated ulcer of the stomach which resists properly employed medical treatment should be treated by a gastroenterostomy. The results are very satisfactory, both from the small immediate mortality, which is less than that to be expected from the uninterfered with lesion. Heydenreich states that the mortality from gastroenterostomy in these cases is 16 per cent., and the mortality from the disease 25 per cent. And, again, the patient is usually permanently cured by the procedure.

An argument in favor of the gastroenterostomy is advanced by Fütterer, in a recent article on the origin of carcinoma of the stomach, from chronic round ulcer, where he states that the dangers of a carcinoma developing in chronic ulcers are considerable, and this might be avoided by early gastroenterostomy with cure of the ulcer.

It would appear, at first glance, that a partial gastrectomy, removal of the diseased wall containing the ulcer, should be the operation of choice in these cases. Clinical experience, however, argues quite forcibly for gastroenterostomy; first, because excision of the ulcer gives a higher mortality, and, second, because the gastroenterostomy gives a higher percentage of cures so far as the relief of symptoms is concerned.

Pyloric Obstruction.—Of the three common complications of ulcer demanding surgical interference, obstruction of the pylorus with resulting dilation and often compensatory hypertrophy is the most important and frequent. An analysis of the literature demonstrates that here, again, gastroenterostomy has won for itself the position of the operation of choice. It has supplanted Loretta's divulsion, the Heineke-Mikulicz pyloroplasty and pylorectomy. The Loretta divulsion gave rather brilliant results, but they were but temporary, and such as we might expect; for just as a stricture of the urethra is temporarily relieved by the single passage of a sound and subsequent contraction occurs, so here the divulsion of the strictured pylorus was followed by relief of but short duration, and in almost all cases by subsequent recurrence. In the same way the Heineke-Mikulicz pyloroplasty has been largely discarded because in a considerable per cent. of the cases recurrence follows the rather brief relief of symptoms. The pylorectomy gives a larger mortality and not as good symptomatic cures as gastroenterostomy for benign obstruction of the pylorus, and is not to be employed except to meet some special indication.

Hemorrhage.—The second common complication of ulcer which demands sometimes surgical interference is hemorrhage. Hemorrhage, at the time of its occurrence, is to be treated medically by rest, both general and local, and the use of injections of normal salt solution and possibly combined with chlorid of calcium, with the idea that this may hasten the time of coagulation of the blood, which, in many of these patients, is distinctly slower than normal, and in this way aid in checking the bleeding. The shock present during and immediately following severe stomach hemorrhages is, as a rule, a clear contraindication against immediate operation, and clinical experience seems to show that the medical treatment offers the patient greater chances of recovery than surgical interference. However, a few surgeons advise immediate operation in severe hemorrhages. The choice of operative procedures lies between excision of the ulcer, ligation of the ulcer *en masse,* ligation of the bleeding vessel or vessels, cauterizing the ulcer and a gastroenterostomy. Of these, rather strange to relate, simple gastroenterostomy has given the best clinical results. The excision of the bleeding ulcer has given a high mortality. The ligation of the ulcer *en masse,* with the strengthening of the stomach walls at point of ulcer by Lembert suture, as advised by Andrews, seems a rational procedure, and one which has given fair results in the few cases in which it has been employed.

Rodman collected 13 gastroenterostomies for hemorrhage, with 3 deaths, or 23 per cent. mortality. The analysis of the reported cases would seem to favor the following procedure in cases of hemorrhage demanding an immediate operation: First, a gastrotomy utilized for locating and cauterizing the ulcer. As suggested by E Wyllys Andrews, in *Annals of Surgery,* 1899, the greater part of the stomach can be passed in review be

fore the anterior gastrotomy incision by passing two fingers through the gastrocolic cmentum and invaginating the stomach wall into the incision. Then the gastrotomy can be utilized in making a gastroenterostomy. In by far the greater number of cases of hemorrhage, inasmuch as Rodman's statistics show that but 8 per cent. of the cases which bleed die, the treatment of election would seem to be a gastroenterostomy, done in the interval between attacks, when the patient was free from shock. When done at this time, the operation gives very satisfactory results, both immediate and permanent, inasmuch as the gastroenterostomy is usually followed by the healing of the ulcer. Some of these patients suffer from profound secondary anemia. I have had one such case, where the hemoglobin find was but 19 per cent. In such cases a preliminary treatment by rest and rectal feeding, salt solution and iron and chlorid of calcium should be employed for three or four weeks, bringing, if possible, the hemoglobin find above 35 per cent. before operation.

Repair of Perforation.—The third complication of gastric ulcer which I shall discuss is that of perforation. This is a rare complication as compared with stenosis and hemorrhage. Finney has collected 268 cases in the literature which have been operated on; of these 139 recovered and 129 died, giving a mortality of 48 per cent., and of the 21 more recent cases 13 recovered and 8 died, a mortality of but 38 per cent. Tinker's statistics give a mortality of but 16 per cent. in the cases operated on early within twelve hours, and reported within the last three years. This must be regarded as a most brilliant showing, when we remember that without surgical relief perforating gastric ulcer gives a mortality approaching 100 per cent., and that practically we are entitled to regard each case recovering under surgical operation as a life saved by the procedure. The picture of perforation is, as a rule, one easily recognized, both by the competent internist and the competent surgeon, and if it is confusing, it is only to be mistaken with other serious lesions, such as acute pancreatitis and rupture of the bile tracts, which also call for immediate operation. A careful analysis of the facts demands an immediate exploratory operation in cases of suspected perforation of stomach ulcer. Frequently this can best be done under infiltration anesthesia. In the single case of stomach perforation on which I have operated I employed a general anesthetic, ether. I operated within five hours after perforation, and, in spite of the fact that the patient was in extreme shock and that the general peritoneal cavity contained at least a quart of stomach contents and peritoneal fluid, the patient made an uninterrupted recovery. The method of procedure will vary with the conditions found, but as a general proposition will consist of locating the perforation and closing the opening, without resection of the ulcer, with a double row of Lembert sutures, and then, if the condition of the patient warrants, a gastroenterostomy is made with the purpose of permanently curing the lesion. The escaped fluids are removed by irrigation of the peritoneal cavity with warm salt solution, and closure of the abdominal wall with, as a rule, provision for drainage down to the point of closure in the stomach wall, and often of the general peritoneal cavity. A discussion of the many complications of perforating gastric ulcer, such as perigastric abscess and subphrenic abscess, empyema, phlebitis, etc., would require more time than we have at our disposal. I would refer you to Mayo Robson's paper, read last year by invitation before the American Surgical Society, for a clear exposition of these subjects.

Hour-Glass Contraction of the Stomach.—Gastroplasty.—This condition may be congenital or the result of contraction following ulcer or other lesion. The condition is one usually not diagnosed before operation, as the symptoms resemble closely those of obstruction of the pylorus. I have operated on but one such case, and am rather inclined to believe that in that case I had to deal with a simple ulcer occurring in a case of congenital hour-glass stomach. Where hour-glass stomach produces symptoms warranting surgical interference, a gastroplasty or gastroanastomosis establishing a very free communication between the two stomach pouches, combined with gastroenterostomy, where we find evidences of obstruction of the pylorus also present, is the procedure indicated. Watson has collected from the literature 20 cases of congenital hour-glass stomach; 20 cases of hour-glass stomach of the acquired type not operated on, and 29 cases of hour-glass stomach submitted to operation. Of these, 3 were handled by a gastroenterostomy, no deaths; 17 gastroplasty, with 3 deaths; 6 cases, a gastroanastomosis, 1 death; inversion of ulcer, 1 case, 1 death; establishing gastric fistula, 1 case, 1 death. The gastroplasties referred to are practically made on the same principle as the operation of pyloroplasty, and the gastroanastomoses are practically lateral anastomoses between the two pouches. After a careful analysis of the reported cases, including his own, Watson concludes that gastroanastomosis should be the operation of choice.

OPERATION FOR WOUNDS AND RUPTURE.

Let us now turn to the surgery of perforating wounds of the stomach and subcutaneous rupture of the stomach.

Perforating Wounds.—Immediately following the experimental work of Charles T. Parkes, in 1884, and the work of Nicholas Senn, which shortly followed, surgeons generally accepted the dictum that all perforating stomach wounds should be immediately submitted to operative repair, and for some years little exception was taken to this opinion. An analysis of this subject, especially in view of the experience obtained by military surgeons in our late Spanish war and in the present South African war, has compelled us to adopt a somewhat different view of these cases. We were for a while working under the mistaken view that penetrating wounds of the stomach were so generally fatal that the cases recovering under operative procedures were to be regarded as cases saved. The Spanish and South African wars have shown conclusively the fallacy of this reasoning, because the perforating stomach wounds made by the modern military rifle, carrying a small-calibered bullet with great velocity, have not been very fatal; when let alone, the large majority of the cases recovered, but when operated on the large majority died. We can, therefore, no longer accept the dictum that penetrating wounds of the stomach must be immediately operated on. At least, this rule can not be applied to military practice. In civil practice, as a rule, bullet wounds of the stomach are made with revolver bullets, made of soft lead and of low velocity; these produce a more ragged wound with greater danger of leakage than the metal-jacketed, small-calibered, high velocity bullet of the modern military rifle, and from this fact most of the surgeons, who have studied closely the facts, still advise an immediate exploration in penetrating wounds occurring in civil practice. Personally, I am inclined to accept the same views, and yet we must admit that the treatment of penetrating wounds of the stomach can no longer be regarded as a closed chapter,

and that it is quite possible that a wider experience will limit still further operative treatment in these cases.

Subcutaneous Rupture of the Stomach.—This is a condition which calls for immediate operative repair, provided that the traumatism causing the rupture has not produced other serious lesions which make any interference hopeless. A few cases of rupture of the stomach from over-distention are reported, most of them found at postmortem; if diagnosed the indications for operation are, of course, imperative. A few cases of acute ulcer following trauma have been noted. Rupture of the stomach may be limited to one or more of the layers of the stomach walls, and occur without extravasation of the stomach contents. An interesting case of this kind was recently reported at the Chicago Surgical Society by Carl Beck, where, as a result of trauma, a cicatricial stenosis of the pylorus demanded a gastroenterostomy.

OPERATION FOR FOREIGN BODIES.

Lastly, perforations of the stomach may be caused by the passage of esophageal bougies, sword-swallowing, and from the accidental or intentional swallowing of knives, nails, screws, pieces of glass, etc., as has occurred in the insane and among the museum performers who make a business of swallowing such articles. In this same connection should be mentioned the operative removal of swallowed and retained foreign bodies which give rise to symptoms. My own experience has been limited to a single case of this kind, where a gastrotomy for the removal of a swallowed hat-pin was easily performed. It is in such cases that the *x*-ray can be employed with great advantage in making a diagnosis. In my own case I tried to convince the parents of a three-year-old child that it was impossible for the little patient to swallow a rigid steel hat-pin six and a half inches in length. The *x*-ray, however, showed the pin clearly, the head being in the stomach and the shaft in the esophagus. The experience with the Murphy button has taught us one interesting fact in regard to foreign bodies in the stomach, and that is that they may be tolerated for years without producing any injury or any symptoms. A large proportion, from one-fourth to one-half, of the Murphy buttons used in performing gastroenterostomy fall back into the stomach and remain there permanently; out of the now hundreds of cases in which this has occurred, very few have given rise to any disturbance or symptoms. In view of this fact we should hesitate to urge a gastrotomy for a foreign body, such as a tin whistle, or coin, or other body of smooth contour, which was not giving rise to symptoms. However, the operation of gastrotomy for the removal of a foreign body, where no complications exist, can be done with but slight risk to the patient.

THE OPERATIVE PROCEDURES DESCRIBED.

The technic of the operative procedures employed in stomach work has reached a stage of development which, although not perfect, is very satisfactory; so satisfactory, indeed, that the old great danger of this work, i. e., peritonitis, has been largely eliminated. Let us describe the purely surgical management of these cases under the following heads:

1. Preliminary preparation of the patient.
2. Question of anesthesia.
3. Operative technic.
4. After-treatment.
5. Complications.
6. Causes of death.

Preparation of the Patient.—The preliminary preparation of the patient involves, in addition to that necessary for other laparotomies, two special points. First, the point already referred to, that many patients demanding stomach operations are the victims of severe secondary anemia, and in these cases, where the hemoglobin find is below 35 per cent., if there is any possibility of increasing it to this point, or above, by three or four weeks of iron feeding and rest, this should be done before attempting the operation. In cases of benign disease this is usually possible. In cases of malignant disease, such secondary anemia usually shows that the case is inoperable, and when it is still operable, such attempt to correct the secondary anemia means usually valuable time wasted.

The second point in preliminary preparation is most important, and it is the complete emptying of the stomach immediately before operation. This must never be omitted, if possible, and must be most thoroughly carried out by competent hands. I have lost one case on the operating table because this step in the preparation, although attempted, had not been successfully performed. While the patient was being anesthetized she vomited large quantities of material from a greatly distended stomach, and drowned herself in spite of every effort to resuscitate her. A number of similar cases are reported, and this must be regarded as a quite possible accident, and must be most carefully guarded against. In addition to the dangers of drowning, a considerable amount of fluid in the stomach at the time of operation adds to the difficulty of keeping the peritoneal cavity clean and to the dangers of peritonitis.

The Question of Anesthesia.—Shall we employ a general or a local anesthetic? For a time a number of surgeons were rather enthusiastic over the use of infiltration anesthesia in stomach surgery, and some still are. There can be no question but that it is fairly satisfactory, and can fairly claim a certain limited field for itself. However, the special reason advanced for its employment in stomach surgery has been shown by trial to be erroneous, i. e., that it would eliminate the occurrence of one of the chief causes of death after stomach operations—pneumonia. Surgeons were inclined to regard these pneumonias as aspiration, chloroform and ether pneumonias. A considerable trial with the local anesthetic has shown, however, that fully as many pneumonias develop after operations done with cocain as after operations done under general anesthesia. This is certainly a very interesting fact, and leads one to the conclusion that these pneumonias are to be regarded as terminal infection pneumonias, made possible by the lowered resisting powers of the patient, and not to the use of a general anesthetic.

The operative technic can be fairly fully presented if we describe the technic of gastroenterostomy, pylorectomy, gastrostomy and gastrotomy.

Technic of Gastroenterostomy.—In gastroenterostomy the questions to be answered are, shall we use suture or button, and shall we make an anterior or posterior operation? I quite agree with Mayo, it does not make much difference, provided the operation is well done, whether we use button or suture, or whether we make an anterior or a posterior operation. My own preference, however, is an anterior operation with suture, and for these reasons: First, the anterior operation is the simpler and easier, and, as has been so well emphasized by Mayo, if we make the anastomosis at the lowest point of the anterior wall of the stomach, close to the greater curvature, the opening will be at about the same point as

a properly made posterior anastomosis, and will be at the lowest point of the stomach, thus securing the best drainage. I employ suture because, in spite of the fact that such excellent results have been obtained with the button, my analysis of the literature shows that now equally good results are being obtained with the suture. Again, in spite of the fact that a button retained in the stomach seldom gives rise to symptoms or complications, it nevertheless does sometimes do so, and as stated we know that from 25 to 50 per cent. are permanently retained. Again, the argument of saving time by the use of the button no longer carries very much weight, as with a little practice the anastomosis with suture can be made in about fifteen minutes. The argument that an anterior anastomosis is more apt to be complicated with the development of a "vicious circle" does not seem to be borne out by the comparison of cases of anterior anastomosis made at the lowest point with posterior anastomosis. In the early history of gastroenterostomy, when most of the cases were anterior operations, the mistake was made of making the anastomosis about midway between the lesser and greater curvatures, and as we might now expect a considerable number of cases develop vicious circle.

Taking all the facts into consideration, the simplest and best method of making a gastroenterostomy is to make the anastomosis between the lowest anterior point of the stomach and the jejunum, about eighteen to twenty inches from its beginning; unite three and a half inches of the bowel to the stomach; this prevents angulation and spur formation; make the opening one and a half to two inches in length; unite with two layers of continuous suture, the first layer including all the coats of the bowel, the second a continuous Lembert suture; silk, not too fine, seems preferable, although I can see no objection to using fine catgut for the Lembert suture. The two rows of simple continuous sutures, the first including all coats, the second a Lembert, to my mind, have solved the problem of all stomach and intestinal wound closure. Such continuous sutures are very easily applied; they effectually guard against leakage, and they bring all the layers into accurate approximation. The interrupted suture has no place in stomach work. It is difficult to employ it. It does not guard against leakage effectually, and, as often used, does not approximate the mucosa accurately, and the clinical results obtained are distinctly bad as compared with the results secured by the continuous suture. Whether an enteroanastomosis should be made is a question which has been answered in the affirmative by the Wölfler clinic. Personally, I have not employed it. Mayo says on this point: "In the future we will make an enteroanastomosis in every case in which gastroenterostomy is performed, if there is no obstruction to the pylorus." He comes to this conclusion from an analysis of his own cases, which showed that "vicious circle" developed only in those cases where the pylorus was not obstructed, and did not occur in any case of distinct obstruction. I am inclined to believe that his point is well taken, and shall give his advice a trial. The Y-shaped gastroenterostomy of Roux is anatomically the more perfect operation; it has, however, the great disadvantage of being long and tedious and is not therefore to be generally recommended.

Technic of Pylorectomy.—In making a pylorectomy we have practically the choice between the Kocher and the second Billroth method. I regard the second Billroth method as the operation of choice, because it enables us to remove the lesion as extensively as we may desire, and is easy of performance. After ligating off the omentum above and below the pylorus to the desired extent the portion to be removed is included between clamps and the duodenum and stomach beyond are closed with clamps. The duodenum is closed by invagination with a purse-string suture, and the stomach closed with the double layer of continuous suture above described. The simple anterior gastroenterostomy is then made, completing the operation. The Kocher pylorectomy has given excellent results, but it can not well be employed where a great amount of stomach tissue is removed. In the Kocher operation the diseased pylorus and portions of duodenum and stomach are removed, the stomach wound closed by two rows of sutures and the duodenum approximated to the posterior wall of the stomach, making an end-to-side anastomosis.

Technic of Gastrostomy.—The gastrostomy of Frank, made by pulling up a nipple-like process of the stomach through an opening in the split rectus, suturing the base of the process to the peritoneum and sheath, and bringing the apex out through a small opening in the integument an inch removed from the original incision, gives excellent results, both from the standpoint of immediate mortality and from the standpoint of obtaining a fistula lined by epithelium, and one which will not leak. It is the operation of choice. In some cases, however, it can not be used, as the stomach is too small and contracted. Here either the Senn method or Witzel method of obtaining a competent fistula should be employed.

Technic of Gastrotomy.—Little need be said of the technic of gastrotomy, but I think that little of importance; it is simply the advice to use the double row of continuous sutures in the closure.

After-Treatment.—The after-treatment to be employed in all cases of stomach surgery, except gastrostomy, should be rest to the stomach, obtained by rectal feeding for, if possible, six or seven days. Four ounces of peptonized milk every four hours and twelve ounces of salt solution every four hours, alternating injections therefore every two hours. As a rule, these are well borne. If they are not, however, liquid diet in small quantities can be begun earlier. I am inclined to believe this is the safer plan, although some surgeons begin feeding as soon as they recover from the effects of the anesthetic. The recumbent position is to be maintained, as a rule, for twelve days. Some surgeons adopt a semi-recumbent position, with the idea that it will reduce the dangers of pneumonia. The point is well worth consideration. Mayo uses buried silk in closing the abdominal wound in malignant cases, and allows the patient to sit up within a day or two and leave the hospital within a week.

The most frequent causes of death in stomach surgery are pneumonia, vicious circle, peritonitis, perforation of carcinoma or ulcer, shock and drowning from vomited stomach contents. Our time will hardly permit an analysis of these conditions, an example of each of which has occurred in my own work. Let me here merely call attention to this surprising and interesting fact, that in clinics where stomach surgery is extensively practiced peritonitis is no longer the common cause of death, but is, in fact, an unusual accident. This fact shows clearly the high degree of efficiency against leakage reached by our present methods of closure of stomach and intestinal wounds.

CONCLUSION.

Permit me, in closing, to make a plea for a wider application of surgical procedures to lesions of the stom-

ach. Disappointing as is the surgery for malignant disease, yet it is to-day our only ray of hope in these cases. Certainly the surgery of benign lesions has given us brilliant results and accomplished much good. It is capable of doing much more good than it is doing to-day. In almost every community cases of ulcer of the stomach die from obstruction, perforation or hemorrhage, which could be saved by timely operative procedure. These cases are entitled to the benefits of modern surgery, and they can obtain it if the surgeon can convince the general practitioner of the possibilities for good in such radical treatment. These cases are on the borderland between medication and surgery, and the best results, the greatest good can be obtained only by the helpful co-operation of the surgeon and physician; not by indiscriminate operating, nor by protracted routine medical treatment, but by the judicious selection of the treatment required to cure the individual case.

ACUTE ARTICULAR RHEUMATISM.

THE STATISTICS OF A SERIES OF 270 CASES FROM THE SERVICE OF DR. OSLER IN THE JOHNS HOPKINS HOSPITAL.*

THOMAS McCRAE, M.B., M.R.C.P.
Associate in Medicine, the Johns Hopkins University, and Resident Physician, the Johns Hopkins Hospital.
BALTIMORE.

The cases in this series are those of acute articular rheumatism which have been admitted to the medical service of the Johns Hopkins Hospital during a period of thirteen years (1889-1902). During this period the total medical admissions were 14,567, and of these 294 were for acute rheumatism, which equals practically 2 per cent. These 294 admissions represent 270 patients, some of them being admitted several times in different attacks. During the same period there were 54 cases diagnosed as subacute rheumatism, 39 as chronic rheumatism, 35 as gout, and 86 as arthritis deformans. The figures from the Montreal General Hospital have been sent me by Dr. Campbell Howard. In a period of 10 years (1891-1901) among 9,992 medical admissions there were 388 for acute articular rheumatism, which equals 3.8 per cent. During the same time there were 154 cases of subacute rheumatism. A comparison with the figures of some of the London hospitals is interesting. In St. Thomas' Hospital, during a period of ten years (1890-1899), there were 18,998 medical admissions, of which 997 were for acute rheumatism, which equals 5.2 per cent. In St. Bartholomew's Hospital, for a period of thirteen years (1888-1901), there were 31,085 medical admissions, of which 1,241 were for acute rheumatism, nearly 4 per cent. Church[1] gives figures for various London hospitals which give the proportion of acute rheumatism as being from 3.5 to 7 per cent. of the total admissions. There is probably little doubt that this disease occurs less frequently with us than it does in England. It may be said that in this series any doubtful case has been classified as subacute rheumatism.

INCIDENCE.

Sex.—Among the 270 cases there were 198 males and 72 females, a proportion of 2.7 to 1. This is almost exactly the proportion of males to females in the medical admissions.

Color.—There were 223 white and 47 colored, a ratio of 4.8 to 1. The proportion in all admissions of white to colored is about 7 to 1.

Age.—The number of cases and percentage in each decade are as follows:

Age.	Cases.	Percent.	Age.	Cases.	Percent.
1-10	7	2.6	41-50	36	13
11-20	70	26	51-60	15	5
21-30	93	34	61-70	3	1
31-40	46	17			

It has to be kept in mind that we have a comparatively small number of children admitted to the wards. Nearly 20 per cent. of the patients were over 40 years of age. The oldest patient was aged 66 years.

Occupation.—Only 93, or 36 per cent., worked out of doors and were therefore usually exposed to weather. This group comprises laborers, drivers, stevedores, etc. Of the others, 25 per cent. of the total were engaged in house work, 11 per cent. were mechanics, carpenters, etc., 10 per cent. were attending school, 10 per cent. were barbers, tailors, etc., and only 8 per cent. were in the higher walks of life, merchants, etc.

Time of Year.—The incidence in the various months is as follows:

Month.	Cases.	Percent.	Month.	Cases.	Percent.
January ...	23	8.5	July	19	7
February ..	36	13.3	August	11	4
March	35	12.9	September .	8	3
April	38	14	October ...	11	4
May	39	14.4	November ..	11	4
June	22	8	December ..	17	6

It will be noted that 55 per cent. of the cases occurred in the four months, February, March, April and May, and that three-quarters of the total number were in the first six months of the year. This is in direct contrast to the figures from the London hospitals, where, as Church points out, the maximum is in the autumn months, September, October and November. Prevalence in the spring months has been noted in Montreal by Howard.[2]

Family History.—A family history of rheumatism was given in 69 cases, which equals 25.5 per cent. It was about equal on the father's side, mother's side and in the immediate family. No special relationship between a family history of rheumatism and an especially severe attack could be made out. There was a family history of tuberculosis in 39 cases, which equals 14.5 per cent. Rheumatism and tuberculosis were associated in the family history in 12 cases. There was a family history of gout in 2 only. Of course, it is to be kept in mind that a family history of "rheumatism" might be more correctly termed one of arthritis. Other than true rheumatic arthritis is usually included by patients under the general heading of rheumatism.

Previous History.—This was practically negative in 66, or 25 per cent. There was a history of previous acute articular rheumatism in 121, or 45 per cent. Patients had tonsillitis previously in only 10 instances, which equals 3.7 per cent., and gave a history of chorea in only 7 instances, which equals 2.6 per cent. There was a previous history of both tonsillitis and chorea in only one instance. These figures appear to be rather small when we consider the generally accepted view that tonsillitis and chorea are so intimately associated with rheumatism. There was a previous history of lues in 12 cases. Fairly marked alcoholic history was given in a rather large number, nearly 39 per cent., all of whom had been moderate or heavy drinkers. It is of interest to note that a very much larger percentage of all our cases of gout gave a marked alcoholic history. The number of the attack with which the patient was first admitted is given as follows:

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

1. Church: Allbutt's System of Medicine, vol. iii.

2. Howard: Pepper's System of Practical Medicine, vol. ii.

Attack.	Cases.	Percent.	Attack.	Cases.	Percent.
First	140	52	Fifth	3	1
Second ...	72	26.6	Sixth	1	.3
Third	26	9.6	Uncertain ..	18	6.6
Fourth ...	10	3.7			

It will be noted that 52 per cent. of our cases were admitted with the first attack. In the cases from St. Thomas' Hospital previously noted, 54 per cent. were admitted with the first attack and 27 per cent. with the second attack.

Age at the Time of First Attack.—This was known definitely in 255 cases. It will be seen that in three-quarters of the patients the first attack occurred below the age of 30. It is interesting to note, also, that in over 11 per cent. the first attack occurred after the age of 40. In 3 per cent. the first attack was over the age of 50, which is to be noted in connection with the statement sometimes made that acute articular rheumatism never occurs for the first time after the half century is passed. In our oldest case the initial attack was at the age of 66. The figures are as follows:

Age.	Cases.	Percent.	Age.	Cases.	Percent.
1-10	22	8.6	41-50	22	8.6
11-20	93	36.4	51-60	7	2.7
21-30	76	29.8	61-70	1	.3
31-40	34	13.3			

Complaint Made by the Patient.—Arthritis was complained of by 167, "rheumatism" by 84, various other symptoms by the remainder. It is of interest to note that of these 6 complained of sore throat; 2 of chills and 2 of chorea.

Onset.—There was a definite history of exposure to wet or cold immediately before the onset of the attack in 32 cases, or 12 per cent. Arthritis was the first symptom noted by the patient in 194 cases, or 82 per cent. Chills at the onset occurred in 18 cases, practically 6 per cent. This is rather an interesting point, as little stress is usually laid on chills at the beginning of rheumatic fever. Tonsillitis was the symptom of onset in 10, in only one of which was it associated with chill. Various other symptoms were first noted in a few cases, such as fever, sweating, nose bleed, skin rash, etc. There was only one instance in which trauma was an apparent etiologic factor. This patient was struck on the shoulder by a piece of timber and was severely injured. The next day other joints were involved with arthritis, but not the injured one, which escaped entirely.

SYMPTOMS.

Arthritis.—This, of course, was by far the most prominent symptom and was present in every case of the series. It is of interest to note the relative frequency with which the joints were involved. Taking all the cases the knee was involved far more frequently than any other joint, viz., in 142 cases, or 53 per cent. The ankle was next, in 88 cases, or 33 per cent. As is usually the case, the lower extremity was involved more frequently than the upper extremity; in this series in a proportion of about four to three. The order of frequency of involvement of the joints is as follows: knee in 142, ankle in 88, shoulder in 75, wrist in 62, elbow in 54, hip in 52, the hand in 47 and the foot in 42 instances. It is interesting that in all the joints of the lower extremity both sides were more often involved than one alone; for example, in the case of the knee more patients had both knees involved than one. In all of the joints of the upper extremity the contrary was the case; one wrist, for example, was much more often involved than both. Fluctuation was noted in the joints in 47 cases.

Fever.—The average duration of fever in 254 cases was 12 days. It is, however, to be kept in mind that a certain number of the cases were admitted late in the disease, and in some of these the fever dropped very rapidly after admission. The fever persisted for a period of over four weeks in 26 patients, the longest duration being ten weeks, which occurred in two patients.

In studying the temperature records there are two types of cases which rather stand out, as has been noted before in studies of series of cases, those in which the temperature is perhaps at an average of about 103 for a few days and then rapidly goes down to normal, and those in which the temperature is never so high, perhaps averaging only 101, but continues elevated for a very much longer time. The joint symptoms in these two cases may be identical. In many cases these persisted after the temperature had fallen to normal. There was no instance of hyperpyrexia in the series. In only 10 cases was the fever above 104. In only 29.5 per cent. did it reach 103 or over. This leaves 70.5 per cent. of the cases with a temperature not above 102.5. There is a fairly general impression among those who have had hospital experience, both in the north and in Baltimore, that the general type of rheumatic fever in the latter place is not so severe. Certainly one does not see the very severe acute types of the disease so frequently as in the north.

There are various symptoms of common occurrence, such as general malaise, loss of appetite, sweating, constipation, etc. These require no special consideration.

Cardiac Conditions.—These, of course, are of special interest and are worthy of being considered in some little detail. It is convenient to divide the cases into three groups: (1) those cases in which the heart sounds were clear throughout; (2) those in which there was no question of the presence of an organic cardiac lesion, and (3) a group of doubtful cases in which it is very difficult to say how much cardiac involvement was present.

1. *Cases with Clear Heart Sounds.*—Of these there were 100, or 38 per cent. In 86 of these there was throughout no departure from normal conditions. In 6 there was a reduplication of the second sound at the base on admission, but no murmurs were made out at any time. In 4 there was reduplication of the second sound at the apex on admission, but no murmur was made out at any time. In 2 there was pericarditis, but the sounds were unchanged; in 1 there was gallop rhythm on admission, and in 1 marked irregularity of the heart's action on admission, both disappearing later. As these cases were all discharged with perfectly clear heart sounds and no other signs of cardiac involvement they may be regarded as practically having escaped. Of course, it may be said that myocarditis was present in the cases with gallop rhythm or marked irregularity. This may be the case, but on discharge they showed no signs of any cardiac affection either valvular or muscular.

2. *Cases with Undoubted Organic Lesions.*—In this group there were 85 cases, or 32 per cent. In 95 per cent. of these the mitral orifice was involved and in 23 per cent. the aortic orifice. In 18 per cent. both the aortic and mitral orifices were involved. In the St. Thomas series out of 535 cases the mitral valve was involved in 97 per cent. and the aortic valve in 12 per cent. It is interesting to note that in our series the aortic valve was involved in practically double the relative number of cases in the St. Thomas series. One would be inclined to say from general impression that the reverse might have been expected because the writers on cardiac disease in Great Britain lay rather

more stress on rheumatic involvement of the aortic orifice than is usually done in this country. Of the 85 cases with organic valvular lesions mitral insufficiency was found in 54, mitral stenosis in 3 and mitral stenosis and insufficiency together in 8. This gives 76 per cent. of all cases with the mitral valve alone involved. Mitral insufficiency with aortic insufficiency occurred in 12; mitral insufficiency and aortic stenosis in 1; mitral stenosis and aortic insufficiency in 1. In 2 double lesions of both aortic and mitral orifices were thought to be present and in only 4 cases pure aortic insufficiency without mitral involvement. This gives a percentage of 4.7 for an aortic lesion alone. In the St. Thomas series the aortic orifice alone was involved in 3 per cent. It may be noted that so far as known no case of ulcerative endocarditis occurred in this series.

3. *Doubtful Cases.*—In this group are 78 cases, or 28 per cent. Of these 60 were discharged with a cardiac murmur present, the exact nature of which was doubtful. In 18 there was a murmur present at some time during the course of the disease, which disappeared and the patients were discharged with clear heart sounds. These latter cases are included with this doubtful group because it is impossible to say just how much involvement of the endocardium there had been. It may be said that practically the only sign of cardiac involvement in all the cases of this series was the murmur. The heart was not enlarged, its rate was normal, there was no thrill or any other sign suggesting cardiac disease. By far the largest division of these 60 cases is that in which the first sound was heard at the apex accompanied by a soft murmur, not carried to the axilla and not heard over the base of the heart, while the second pulmonic sound was not accentuated. There were 24 cases in this group. In 3 additional cases the only difference was an accentuated second pulmonic sound. In 3 others a reduplicated second pulmonic sound was present only on admission. In another group comprising 6 cases the first sound was heard at the apex accompanied by a soft systolic murmur heard out as far as the mid-axilla. In 8 cases there was a soft systolic murmur at the apex not carried to the axilla, but heard over the body and in the pulmonic area. In 5 cases the first sound was heard at the apex accompanied by a soft murmur not carried to the axilla and not heard over the body, but present in the pulmonic area. In 8 cases the first sound was clear at the apex, but there was a soft systolic murmur heard only in the pulmonic area. In 2 cases the first sound was clear at the apex, but there was a soft systolic murmur over the base. Of the 11 cases in which a murmur was heard at the base or in the pulmonic area only, one would be inclined to say that the murmur probably did not mean any definite cardiac involvement, and this especially in the cases where it altered with a change in position. In reference to the larger group of 49 cases, in which the principal feature was a soft systolic murmur heard at the apex, one has more difficulty in arriving at any sure conclusion. In many of them probably only time enables one to know with certainty. In some instances patients were discharged with a murmur thought to be only functional, but returned subsequently with undoubted signs of an organic lesion. Others, again, who went out with a suspicious condition returned with a normal heart and clear sounds. It may be noted that cases like those here described occurred in the group in which the murmurs appeared and disappeared under observation.

In the second division of this group are 18 cases in which there were murmurs which appeared and disappeared while the patient was under observation, the heart being otherwise perfectly negative. In 7 of these there was only a soft systolic murmur at the apex which was not carried to the axilla. This murmur persisted for periods varying from 2 to 14 days. In 1 case it was accompanied with pericarditis, in 1 other case with pericardial effusion. In 7 cases there was a soft systolic murmur at the apex, which was carried to the axilla and also heard in the pulmonic area or over the body. This murmur persisted for periods of 10 to 30 days. In 2 cases a soft systolic murmur was heard only in the pulmonic area, and in 1 only over the body of the heart.

The conditions that occur in the course of an acute rheumatism which may cause these murmurs are various. The most important are (1) fever, (2) toxemia, (3) anemia, (4) myocarditis, (5) dilatation and (6) endocarditis. The first two are probably often operative in the early stages of the disease and may have been a cause in some of the cases in which the murmur cleared up with the subsidence of the acute symptoms. But they hardly explain a murmur which persists, unless we believe that they may mean more or less permanent change, most probably in the heart muscle. Anemia may have been a factor in some instances, but was not a prominent one. The incidence of myocarditis is difficult to estimate. It would be impossible to give any positive symptoms and signs for minor grades of it. Yet the toxemia of acute rheumatism may affect the heart muscle more than we imagine. Dilatation of the heart stands in much the same relationship. It was possible to recognize its presence in some cases, but how frequently the lesser degrees occur would be impossible to state. Yet it may be taken for granted that few of the patients were discharged with any degree of dilatation, and hence while it may explain some cases of temporary murmur, it does not explain the cases with more or less permanent murmur. Endocarditis is probably the most important factor in the production of these murmurs. How extensive this process may be in such cases we are unable to say, but it is quite possible that in many of this group there were small vegetations near the margins of the mitral segments. Such may be associated with but little actual regurgitation of blood and be of but little immediate importance. These vegetations may be gradually absorbed until only smooth elevations remain. How far such cases may undergo a gradual progressive change in the valves, with subsequent marked regurgitation, without any definite further rheumatic infection, is a question. But we must remember the tendency to slow progressive sclerotic changes under any circumstances. It would seem reasonable to suppose that in any event a subsequent attack of rheumatism would find such valves more readily affected. When we remember that in some cases with undoubted acute endocarditis a murmur may only appear late or not at all, the difficulties in the exact diagnosis of endocarditis are evident. The symptoms and physical signs may be very variable and uncertain. These murmurs are probably akin to those transitory ones noted in chorea. A positive verdict as to the exact nature of many of them can only be reached by time. Yet in general terms it would seem reasonable to suppose that in many of these cases the slowly advancing process leading to definite change in the mitral valves has begun, and that years later such patients come again under observation with the undoubted signs of organic mitral disease.

The question of the treatment of these cases is an important one. How long should such a patient be kept

in bed and at rest? Certainly until as many as possible of the etiologic factors noted before can be excluded. It is in our power to do this usually in the case of fever, toxemia, anemia and dilatation, but in a less degree with myocarditis. As to endocarditis we can speak with little certainty. The only safe rule is to consider them all as possible cases of this condition. We have treated these cases much after the method so strongly advised by Caton.[3] The first essential is, of course, prolonged, complete rest. How difficult this is in private practice and how often impossible in hospital work we all know. The average hospital patient will rarely consent to remain at rest after the acute symptoms have subsided. With children it is not easily done. The second is the application of small blisters over the precordia. We believe this to be often of considerable value in all the cardiac complications of rheumatism. The third is the administration of sodium or potassium iodid in small doses for some time.

It may be said in reference to the present series that of the 85 cases with definite organic disease on discharge, in 5 this developed under observation. In the remainder the murmurs were present on admission. Of these 5 cases in 3 the attack was the first, in one the second and one had numerous attacks in childhood, but had been free for 23 years before the present attack. All these patients were over 20 years of age. Of the 60 cases with a doubtful murmur on discharge, in 4 this came on under observation, 3 being in the first attack and one in the second.

To sum up, it seems reasonable to suppose that in many of the cases classed as "doubtful" there had been some changes in the mitral valves likely to be progressive. Such patients years later will probably be found to have organic lesions.

Murmurs Which Developed Under Observation and Which Persisted.—There were 9 cases in this group. Of these 5 were regarded as cases of definite organic lesion, all being mitral insufficiency. Two of these came on within a period of 24 hours; that is, from perfectly clear heart sounds a murmur developed in one day which was permanent. In one case the first change noted was reduplication of the second sound in the pulmonic area. In a few hours this was followed by murmurish quality of the first sound at the apex, which rapidly became a positive murmur. In the other case within a few hours the transition was noted from a clear first sound to a murmurish quality and very soon a definite murmur. It is worthy of note that in all these cases the pulse was not affected in any way that could be made out at the time of development of the murmur. It was little above normal in any of them. The remaining four of these nine cases were doubtful and are included in the third group given before.

The influence of the age of the patient at the time of the first attack is a well-known factor in the development of endocarditis. The comparison of the ratios of the cardiac conditions is given for two periods, below and over the age of 20 years. The large percentage of doubtful cases is to be regretted, but there seems no other way of disposing of them:

Age at First Attack.	Heart Clear.	Organic Lesion.	Doubtful.
Below 20 years....	33.6%	44.5%	21.8%
Above 20 years....	50	21	29

The comparison is striking, and the nearly double percentage of the cases with organic lesion in those with the first attack below 20 years is to be noted.

If the cases be arranged by decades the high percentage of cases with organic lesion in those coming within the first ten years is very marked. The figures give the percentages:

Age at First Attack.	Heart Clear.	Organic Lesion.	Doubtful.
1-10	18	64	18
11-20	37	40	23
21-30	46	18	36
31-40	41	12	47
41-50	60	24	16
51-70	25	37	38

Pericarditis.—This occurred in 16 cases, or 5.9 per cent. These figures agree fairly closely with those of the St. Thomas series, namely, 6.1 per cent., and the figures from the St. Bartholomew series, namely, 7.5 per cent. These percentages are very much lower than those given by the older writers on the disease, the most common explanation given for the diminished frequency being that it is due to the use of salicylates. The age of the patients with pericarditis varied from 12 to 51 years, 6 were below the age of 20 years and 10 over it. Contrary to the experience of many writers, relatively few cases, only 3, occurred with the first attack, 7 occurred with the second attack and 5 with the third. As to the time of onset of the pericarditis the earliest was on the fifth day, the patient being admitted with the pericardial rub present. The latest time of onset in the disease was on the 61st day in one case. All but two were within the first four weeks. There was one case with pericardial effusion present on admission. The duration of the pericardial rub was very variable. The shortest period was five days, when effusion occurred. The longest period was 18 days, observed in two patients. Delirium occurred with pericarditis in only one case. This is rather surprising, considering the emphasis which is usually laid on the association of the two conditions. The temperature did not go above 102 in 9 of the patients, in 2 being below 101. In 3 it was irregular, not going above 103, in 2 not above 104, and in only 1 reached 104.5. The pulse rate was below 100 in 2 cases, went up to 115 in 4, up to 125 in 5, and from 136 to 140 in 4. Leucocytosis was present in the 7 cases where a count was made. In the majority the number varied between 15,000 and 19,000 per c.mm. The highest count was 35,000 per c.mm.

It is probable that in the majority of these cases there was some involvement of the myocardium. This, however, may be difficult to estimate. In cases with definitely associated pericarditis and endocarditis, the myocardium is probably always involved. Among these 16 cases there seemed undoubted associated endocarditis in 8, in 4 there was doubtful evidence of it, and in 4 no evidence of endocardial disease. As already noted, it may be impossible to accurately estimate the amount of involvement of the heart muscle.

Results.—Effusion occurred in 2 cases, in 1 of which it was present on admission. The pericardium was tapped in one of these with some temporary relief, but death occurred later. Adherent pericardium, of the presence of which there could be no doubt, was present in 3 cases. Death followed in 3, in 1 with effusion, in all with endocarditis, and, of course, probably with myocarditis as well.

Adherent Pericardium.—This was found to be present in 6 cases, in 3 of which it apparently followed pericarditis, which occurred under observation. None of the patients with adherent pericardium were admitted in the first attack, 3 of them being in the second attack and 1 each in the third, fourth and sixth. In one patient, who was continuously under observation, a period of four months elapsed between the pericardial rub and undoubted signs of adherent pericardium.

3. Caton: British Medical Journal, Oct. 12, 1901.

Pulse.—The general impression on going over the figures of the pulse rate is one of surprise that the average is not higher. In 59 per cent. of the cases the pulse rate never rose above 100. In only 3 cases was it above 130, and in only 14, or 6 per cent., was it over 120. More than half of these were cases of pericarditis. When one considers the fever, the toxemia and the not infrequent endocardial and myocardial involvement it is certainly surprising that the pulse rate is not more increased than these figures indicate. As has been noted, we have observed cases with endocarditis and the development of definite organic lesions in which the pulse rate was practically unchanged. It is important to remember this and not attach much importance in a doubtful case to the absence of any disturbance of the pulse as being against endocarditis. Yet the contrary may be true, as in one patient who, during recovery in his first admission, had a persistently rapid pulse, about 120. His heart was negative and the sounds were clear. Five days after discharge his symptoms returned and he was admitted with arthritis and a soft systolic murmur at the apex, which persisted without any other signs of cardiac disease. On discharge this murmur was very soft and the pulse was 100. There may have been endocarditis throughout without any cardiac signs at first or the rapidity may have been due to myocarditis.

Urine.—This was apparently clear throughout in 130 cases, or 48 per cent. Albumin was found only on admission or once subsequently in 96 cases, or 34 per cent. Of these cases casts were found in 18, while no casts were discovered in 78. Albumin was found occasionally, but was not constant in 14 cases, or 5 per cent. Casts were present in 6 of these, and in 8 none were found. Albumin was present throughout in 31 cases, or 11 per cent. In 22 of these casts were found, in 9 no casts. It has to be remembered in connection with the finding of casts that in the great majority the urine was alkaline in reaction. The diazo-reaction was positive in 3 out of 91 cases where it was looked for. Bile was found in 2 cases and sugar in 2 cases. Quantitative uric acid estimations were made in some cases without any special departure from normal being found.

Blood.—The average hemoglobin percentage in 77 cases was 65.9 per cent. The average count of the red corpuscles in 69 cases was 4,532,000. These counts were, as a rule, taken when the patient came under observation. Later counts give rather lower counts in some cases, but the drop is not as marked as might be expected. The most marked drop in hemoglobin percentage was of 20 per cent. in twelve days, but with this the number of red cells was practically unchanged. As soon as possible the majority of the patients are put on iron, which may have some influence in diminishing the reduction. The anemic patients are probably better put on iron from the beginning. The average leucocyte count in 83 cases was 11,776. Of these, however, in 29 the count was below 10,000, and taking the average of the remaining 54 cases the count is found to be 14,260 per c.mm. This represents the total of the average count of the leucocytes in these cases, but if the highest leucocyte count in each case be taken the average for the whole is 15,380 per c.mm. In 17 cases the count was over 15,000, and in 4 over 20,000. The highest count obtained in any case was 38,000. A full differential count was made in 11 cases. These were practically all normal and the average count was polymorphonuclears 76 per cent., small mononuclears 13 per cent., large mononuclears and transitionals 8 per cent., eosinophiles 2 per cent., Mastzellen less than 1 per cent. It may be noted that leucocytosis occurred in all the cases of pericarditis where a count was made, but that many of the undoubted cases of endocarditis had normal counts. No constant connection could be traced between endocarditis and leucocytosis.

Miscellaneous Symptoms.—While the patients were under observation there was a variety of rarer symptoms, some of which may be noted. Tonsillitis occurred in 10 cases, chills or chilly sensations in 14, erythema in 8, urticaria in 2, a bullous eruption in 1 and herpes in 6 cases. Delirium was noted in 5, in 4 of which it occurred with the administration of the salicylate and was thought to be due to that. Chorea occurred in 4 instances at the same time as the rheumatism. Severe abdominal pain occurred twice without any evident cause. Both the patients recovered. In one there was marked leucocytosis. One may possibly ask if the severe abdominal pain in rheumatism is comparable to that sometimes seen in gout, as in a case reported at this meeting by Dr. Futcher. Double parotitis occurred in 1 case with recovery. There was some swelling of the tonsils. The condition of the heart was doubtful and it was impossible to say that there was endocarditis. The possible etiology of the parotitis is interesting in comparison, for example, with the same complication in pneumonia where an endocarditis is usually stated to be present. Iritis in one eye occurred in only one instance.

Subcutaneous Fibroid Nodules.—These were found in 4 cases, or 1.5 per cent. It is interesting to note that in the series from St. Thomas' Hospital only 9 instances were found in 997 cases, which is slightly under 1 per cent. Comparison between the figures of the two hospitals does not warrant any definite conclusion, but it is certainly surprising to find that these nodules apparently occurred as frequently in our experience as in one of the London hospitals, and this despite the fact that we have comparatively few children admitted to the wards. At St. Bartholomew's, during a period of six years for which records could be found, there were 16 instances among 662 cases, which gives a percentage of 2.4.

Nervous Complications.—Delirium occurred in 5 cases, in 4 of which apparently with the administration of salicylates, and in the remaining case with pericarditis. It was not due to high temperature in any case. It was in all active in character. Coma and convulsions did not occur. Chorea was associated with the attack of rheumatism in 4 cases. These were all children aged 14, 12, 8 and 6 years. In the first two there was definite endocarditis, and while the latter two are included in the group of "doubtful" cardiac cases, it is probable that they also had endocardial involvement. Only one had chorea previously. There was only one patient who showed symptoms of meningitis. This was a boy aged 12, who was admitted in his first attack. His mind was clear. There was marked rigidity of the neck muscles and the chin could not be brought near the sternum. There was no marked retraction and Kernig's sign was not typically present, although a suggestion of it was noted on both sides. The condition persisting, lumbar puncture was done and 40 c.c. of clear fluid obtained. Cultures from this were negative. The condition persisted for nearly two weeks. A second lumbar puncture gave 15 c.c. of clear fluid. During this time the leucocytes varied from 14,500 to 36,000 per c.mm. There was irregular fever varying from 99 to 105. He recovered after a protracted attack.

Pulmonary Complications.—These were comparatively few in number. In a number of cases some dulness was noted, usually at a base, and with this some blowing

breath sounds, but no tubular breathing. This occurred in several of the cases with pericarditis. Of true lobar pneumonia apparently only one case is recorded. In this the pneumonia was double and associated with both endocarditis and pericarditis. One patient was just convalescent from pneumonia when the attack of rheumatism began. Pleurisy was not of common occurrence. In the 16 cases with pericarditis it was present only in 3, while a pleuro-pericardial rub was heard in 3 others. Severe bronchitis occurred once, and also pulmonary hemorrhage with pulmonary tuberculosis in one case.

Duration.—The average stay of the patients in the hospital for the whole series was 26.4 days. The average duration of the attack for the whole series was 38 days, which rather supports the idea that "six weeks" is one of the essential points in the treatment of acute rheumatism. This, of course, is longer than the average stay in the hospital, as many had been ill for some time before admission, often without treatment.

Relapses.—It is difficult to say definitely what constitutes a relapse in acute rheumatism. If by a relapse we mean a return of the symptoms after a period during which they were completely absent, there were 12 cases in this series, or 4.4 per cent. But if the term is applied to cases in which the symptoms partially subside, to be followed by a period of recrudescence or exacerbation, it is most difficult to estimate the number. There were many prolonged cases with exacerbations, and it would be very hard to know where to draw the line, which to call relapses and which recrudescences.

Cultures.—It is disappointing to report that our results throughout were practically negative, cultures from the joints, the blood and the urine yielding nothing positive. Cocci were grown in cultures from the tonsils. In one case the colon bacillus was obtained from the urine. The results have some negative value, especially in reference to the absence of streptococci and staphylococci from the cultures. All cultures made in the line of the work of Achalme were quite negative.

TREATMENT.

This will be referred to very briefly. The patients, of course, are kept absolutely at rest, are usually put on a milk diet and given large quantities of water, preferably alkaline. They wear flannel and are between blankets. The usual custom is to give the sodium salicylate in doses of 15 grains every two or four hours for one or two days or until the pain is relieved. Then oil of wintergreen in doses of 15 drops four times a day is usually substituted. With this the potassium salts are given in doses sufficiently large to render the urine alkaline. The local treatment of the joints usually consist in the application either of lead and opium lotion or of the oil of wintergreen. The latter we have found especially helpful. Fixation of the joint was frequently employed. Special conditions receive indicated treatment. Pain was the most frequent of these. One of the coal-tar products or morphia was most often used for this. The majority of the patients are put on iron at some period of the treatment. The special treatment of the cardiac cases has been referred to before.

DIAGNOSIS.

It is instructive to note the conditions which we have most often mistaken for acute rheumatism. This mistake we should say is much more frequently made than the error of taking rheumatism to be something else. Of polyarticular conditions gout has been the most difficult disease to distinguish. In four cases which afterwards were proved to be gout we mistook the polyarticular manifestations for those of acute rheumatism. This is a mistake, the possibility of which has probably not been sufficiently impressed on the profession of this country as most of us regard gout as being relatively infrequent and forget that the acute polyarticular form may be very difficult to distinguish from acute rheumatism. The age, sex, occupation and habits of the patient are all important in making a diagnosis of gout. In the absence of tophi, probably the systematic examination of the urine will be of much assistance.

The acute form of arthritis deformans may be often a cause of difficulty in diagnosis. Several instances of arthritis deformans were admitted to the hospital with the diagnosis of acute rheumatism. Here, as is well known, the differential diagnosis may be most difficult. Probably changes in the joints, especially the small joints, which are very apt to remain after the acuteness of the attack of arthritis deformans is over, are one of the best aids in making a diagnosis. The previous history and the presence of other suggestive signs of arthritis deformans are sometimes of help. The multiple gonorrheal arthritis, of course, frequently offers difficulties in recognition. All cases with atypical features are always carefully examined with the possibility of gonorrheal origin in mind. It is well to have a suspicious attitude of mind toward all cases of doubtful arthritis. We have regarded several cases as acute rheumatism which were afterwards proved to be gonorrheal arthritis. One case is of rather especial interest. It was that of a woman who was near the full term of pregnancy. She was admitted to the medical wards with a multiple arthritis which we thought was rheumatic. Before delivery she was transferred to the maternity ward, and after the birth of the child cultures made from the uterus yielded gonococci. The various forms of septic arthritis probably give most difficulty in children.

Of the monarticular conditions the gonorrheal arthritis may give difficulty, but the mistake most often made was in distinguishing between the rheumatic and acute tuberculous joint. The tendency was rather to regard monarticular rheumatic joints as tuberculous than the contrary. In a recent case in which the only joint involved was the hip, all the ordinary signs of tuberculous involvement of that joint were present. We regarded the case as one of tuberculosis until with the appearance of subcutaneous fibroid nodules there were symptoms in the other joints. The patient subsequently came under observation with a second well-marked attack of acute rheumatism. The monarticular form of arthritis deformans is rarely likely to lead to error.

MORTALITY.

Of the 270 cases only 3 died in the hospital, which equals 1.1 per cent. The St. Thomas series gave exactly the same rate, and that from St. Bartholomew's 2.2 per cent. All the fatal cases had endocarditis and pericarditis, or one might better say carditis. One died on the 13th day of the disease, the second on the 30th day with aortic and mitral endocarditis and pericarditis with effusion, and the third on the 37th day with aortic and mitral endocarditis and pericarditis. All were in the second attack.

This figure—1.1 per cent.—is small, but it does not represent the actual mortality from the disease. Of many of this series it may be said that the end is not yet. Most diseases are given their full due in the mortality returns, but acute rheumatism is an exception. The books would have to be kept open too long, and it might be 1910, 1920 or 1930 before the returns of the acute rheumatism of 1901 could be completed.

THE SALICYLATES IN ACUTE RHEUMATISM.*

JAMES J. WALSH, M.D., PH.D.
NEW YORK CITY.

It is generally conceded that the salicylates in some form constitute the most satisfactory remedy for acute rheumatism. These drugs are no longer considered a specific for rheumatism in the sense that quinin is a specific for malaria, but they have some very definite action with regard to the general symptom-complex known as acute articular rheumatism that makes the patient more comfortable than any other set of remedies. It is even allowable, in a certain sense, to use the expression that the employment of salicylates constitutes a therapeutic test for true rheumatism. The salicylates do not affect secondary infectious complications of joint structures, due either to the pus cocci, or to the influenza bacillus, or to the microbe of mumps or other such affections, nor to the arthritis that is due to the gonococcus. It is true they do not affect all cases of rheumatism favorably. But there is very good reason to suspect rheumatic cases that are uninfluenced by the salicylates to be dependent on some other etiology than that of simple acute rheumatism.

DOSAGE OF THE SALICYLATES.

All those who consider that the salicylates have a use in rheumatism are agreed that they must be employed in large doses. No matter in what form the salicylates are employed, from 90 to 120 grains per day must be administered during the continuance of the acute symptoms. There are many patients with an idiosyncrasy for the salicylates who can not stand this amount of the drug. Certain nervous individuals develop distinct neurotic symptoms that may even proceed to the extent of delirium. In acute rheumatism without hyperpyrexia, if delirium develops at a time when the patient is being given salicylates freely, the first rule must always be to stop the salicylates and note the result. Almost invariably the delirium will subside. The salicylates are not well borne by many stomachs. This might seem an unimportant element in the case, since rheumatism must be brought under control and the disturbance of normal digestion for a week might appear a trifle. Rheumatism is, however, one of the severest of the infectious diseases in its effect on the blood. A rapidly developing and severe anemia is a constant concomitant. Disturbance of digestion will further add to this important symptom and so make the case much more liable to serious sequelæ.

CONTRAINDICATIONS TO THE SALICYLATES.

Besides the nervous and digestive symptoms already mentioned, there is at least one other extremely important contraindications to the use of the salicylates. The derivatives of the salicylates in the system are distinctly irritant to the kidneys and yet they are all eliminated by these organs. If there is nephritic trouble present this will almost surely be rendered worse by the irritative conditions set up because of the presence of the salicylic derivatives. This will react to increase the anemia and make heart complications more serious. As a rule, then, the first thing to do in nephritis is to examine the urine carefully for any signs of nephritis. When it is present it seems advisable to exclude the salicylates from the list of remedies to be employed. If taken in amounts that are not sufficient to produce marked irritation of the kidneys they do no good to the rheumatic process. It is to be remembered after all that they are symptomatic remedies and not specifics. Whenever in the course of rheumatism signs of kidney irritation develop with considerable albuminuria, besides casts and smoky urine, then it seems better to substitute some other sedative drug for the salicylates.

Young persons particularly are liable to suffer from nervous symptoms because of the administration of salicylates. Young girls quite often develop a delirious condition, which does not of itself, however, constitute a contraindication to the further continuance of the salicylate treatment unless it should become very severe and make the patient so restless as to endanger the spread of the disease because of the movement of affected limbs.

There may be in certain cases the development of salicylic dyspnea. This state is characterized by rapid though deep breathing. It is often a source of worry to the patient's friends, and while not of itself an absolute contraindication, if persistent, or if the breathing becomes very rapid, it must lead to the substitution of some other remedy.

FORMS OF SALICYLATES.

Salicylic acid was the original form of the drug employed in the treatment of rheumatism, and gave excellent results. It proved, however, rather irritating for many stomachs, and so other forms of the salicylates came to be employed. The salicylate of sodium is perhaps the most used form in which these remedies are now administered. There are many, however, who still employ the original salicylic acid and obtain more satisfaction than with any other preparation. Strümpell suggests the use of sodium salicylate whenever the primary symptoms are very acute and an immediate effect is desired, because this drug can be given in large quantities, a dram, or even more, at a dose. He suggests in addition, however, that the alternation of sodium salicylate and salicylic acid will sometimes give more satisfaction than either of these drugs alone.

In England salicin is rather popular and is said to disturb the stomach less and also to be less irritative for the nervous system. It should not be forgotten that some form of extract of willow—a remedy containing the principles of the salicylates—has been in use in England for a century. Salicin must be used in somewhat larger doses than salicylic acid or sodium salicylate. Many other forms of salicylates have been suggested. Kinnicut has obtained excellent results without the usual annoyance from oil of wintergreen. Certain of the other salts of the salicylic acid are employed. Each of them is for a limited number of clinicians the best possible form for the administration of these remedies. The state of affairs in this respect reminds one very much of the similar claims with regard to various compounds of bromid that are used for epilepsy. It is the bromid itself, however, that does good and that has to be employed despite the inconveniences attached to it, and the same thing is true with regard to the salicylates, and it would seem to be only by accident or individual idiosyncrasy that a special preparation seems to prove any better than the other.

There are three forms of salicylic acid that may be obtained for remedial purposes. One is confessedly a synthetic product, a second is derived from synthetic oil of wintergreen and may therefore also be considered a synthetic product, and the third is derived from genuine oil of wintergreen. There are good therapeutic authorities who insist that the difference of reaction of

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these three forms of the acid is in certain persons very marked. The synthetic products are not well borne at all by the stomach, prove more irritating to the kidneys and as at times a sufficient amount of the drug can not be taken under these circumstances, they may fail to affect the symptoms. This is a matter of clinical observation that each one must decide for himself, but the criticisms are sufficiently numerous and authoritative to make it clear beyond a doubt that the subject is well worthy of consideration.

METHOD OF ADMINISTRATION.

With regard to the time at which the salicylates should be given there is some variance of opinion. There is no doubt that in accordance with the daily rhythm of temperature the temperature of rheumatic patients is higher in the afternoon and evening and they are almost sure to be more uncomfortable and to present more symptoms of the affection at this time.

It has been suggested, then, that the salicylates in whatever form they are given should be administered so that the daily dose is given before 4 o'clock in the afternoon. The patients then usually pass a quiet night, or, if necessary, may be given some opium and most of the symptoms of salicylism will have begun to remit before further doses of the drug need be given the following morning. Strümpell says that when called in the evening he always administers a dram to a dram and a half of the salicylate of soda, so that the patient may not be disturbed during the night and may be left at rest as much as possible. The following day he usually uses salicylic acid in divided doses of fifteen grains every two or three hours.

THE SALICYLATES AND HEART COMPLICATIONS.

When the salicylates were first introduced, their prompt results in the relief of pain and reduction of fever raised great hopes of their effectiveness, also in introducing the number of heart complications from rheumatism. These hopes were sadly disappointed. Careful collation of statistics by Professor Pribram in his book on acute rheumatism in the Nothnagel series shows that at least there are no fewer heart complications from rheumatism since the introduction of the salicylates, and the statistics seem even to show that heart complications are a little more frequent. English statistics particularly appear to justify the conclusion that the use of the salicylates by relieving the pain and so tempting patients to movement sooner than is proper for them has actually led to more serious heart complications than before. There are a number of the older clinicians who insist that they saw fewer heart complications under the old alkali treatment for rheumatism. It seems advisable, then, that alkalies should always be used in conjunction with the salicylates. Sufficient of the alkalies must be employed to render the urine alkaline. They are not employed with any thought of the presence in the blood either of uric acid or lactic acid, but entirely on clinical grounds.

THE SALICYLATES AND THE RHEUMATIC PROCESS.

There is no doubt that the salicylates relieve the pain, lessen the fever, diminish the restlessness and so make the patient very comfortable. There is considerable doubt, however, as to whether the remedy affects the rheumatic process itself. There are some therapeutists who believe that the salicylic acid acts as an antiseptic in the system and so is directly curative of the rheumatism, because it makes the tissues an unsuitable place for the further growth of the organism which now admittedly causes rheumatism. Unfortunately for this theory a careful study of the records of hospital cases treated with or without the salicylates shows that the disease is not shortened by the administration of the salicylates and that it is only the patient's comfort that is consulted. There are even those who say that the relief of the pains in the joints tempts patients to use their limbs somewhat and by disturbing Nature's reactive and protective mechanism favors the development of heart complications. Old practitioners insist, however, that they no longer see the very severe cases of rheumatism that were quite common in the early days of their practice thirty and forty years ago. Then it was not unusual to have patients lie in agony for days and even weeks with high fever and intense restlessness with no possible means of affording relief.

Hyperpyrexia is one of the complications that is undoubtedly much less frequent in acute rheumatism than before the introduction of the salicylates. This constitutes one of the most serious immediate complications of the disease. The mortality from acute rheumatism is not very high, but a considerable proportion of it is due to hyperpyrexia. In recent years Strümpell says, and Eichhorst agrees with him, that he has seen hyperpyrexia very rarely, and then only in cases where the salicylates were not used or where an insufficient amount of these remedies was employed.

SUBSTITUTES FOR THE SALICYLATES.

The salicylates are not a specific for rheumatism and the beneficial effects obtained from them may also be derived from cognate coal-tar products. Antipyrin has been very extensively used in Germany for this purpose. It was, for a time at least, and is, I believe, yet the routine drug employed in the first medical clinic of the Charité Hospital of Berlin. This is under Professor von Leyden's direction, which is of itself a guarantee that the treatment is thoroughly conservative. Like the salicylates, antipyrin must be used in large doses. From sixty to ninety grains per day are employed for three or four or more days, until the painful symptoms of the rheumatic condition have subsided. With our prejudices against antipyrin in this country this dosage seems enormous. No bad results have been noted, however, and it seems to be well understood now that when antipyrin is badly borne it is not due to any special toxic quality of the drug, but to an idiosyncrasy in the patient. Phenacetin in similar doses to those already mentioned for antipyrin has also been employed with good results. Either of these drugs may prove effective when the salicylates fail. If the salicylates are going to do good, decided improvement will be noted on the second or third day. If pain continues after this time one of these substitutes should be employed.

Investigations of New Remedies.—The London *Lancet* says: Our experience proves that it is becoming almost impossible to admit articles in the columns of the *Lancet* from the pens of general practitioners and others dealing with the results of their therapeutical investigations into the value of new preparations because all the favorable passages will at once be pounced upon by the enterprising purveyor, perhaps garbled, almost certainly dissociated from their context, and scattered broadcast over the land. We are thus, perhaps, prevented, and by the very people who would profit by the publicity, from putting before our readers papers the practical value of which may be great. The public, the medical profession, and the purveyors alike suffer. The only way to remedy the position is not a satisfactory one, but it is one to which we must have recourse.

TYPHOID FEVER IN AN INFANT UNDER ONE YEAR OF AGE.*

E. F. BRUSH, M.D.
MT. VERNON, N. Y.

In this age of serotherapy and prophylaxis the question of immunity is one of prominence. Typhoid is a prevalent and constant disease. Its causation and its avenues of attack are comparatively well known. No one to-day disputes the fact that a characteristic bacillus most commonly water borne and cultivated in the intestinal canal is the prime cause, but there has been a question in the literature of typhoid regarding the immunity of infants under one year old.

Previous to 1840 infantile intermittent fever was a commonly described disease with nurslings. About this time, 1840, Rilliat and Taupan each independently published articles to show that what was previously described as infantile intermittent fever was in truth typhoid fever. I have not been able to discover exactly on what Rilliat and Taupan based their deductions.

We find, however, in 1847, Condie, in his book, "Diseases of Children," saying: "It is more than probable that typhoid will be found to be a much more frequent disease among children than has heretofore been supposed. The memoirs of Rilliat and Taupan afford sufficient evidence that many of the cases of what was formerly considered as enteritis in children, as well as of that form of fever which has been vaguely denominated worm or gastric, are in fact cases of genuine typhoid fever."

Condie also quotes the "Vital Statistics of Philadelphia from 1835 to 1845," which gives four cases of typhoid fever in children under one year of age out of a total of 57 cases. Still Condie does not say that he himself ever saw a case of infantile typhoid.

Charles West, in his lectures on "Diseases of Infants and Children," in 1850, quoting Rilliat and Barthaz, says that "the postmortem evidence in what was formerly called remittent fever you will find enlargement, tumefaction and ulceration of Peyer's glands." Nor does West say that he himself had seen a case of infantile typhoid.

In 1864 Murchison exhibited at the London Pathological Society the intestines of an infant six months old who had been attacked with typhoid fever at the same time with her mother. This I find quoted in Keating's Cyclopedia of the Diseases of Children. Wilson, who wrote the article in the cyclopedia, says that cases in the first year of life are exceedingly rare, and, quoting Murchison, also affirms, basing his statements on the reports of Rilliat and Taupan, "that previous to 1840 the opinion was universally held that infants enjoyed an immunity from typhoid." Excepting that Rilliat and Taupan may have had some cases this of Murchison is the first case that I can find on record.

Austin Flint, in 1868, says that typhoid fever occurs but rarely in infants, and he quotes Murchison's case. There is no evidence that he himself had ever seen a case.

Steiner, who had been physician to Francis-Joseph Hospital for Children for fifteen years, in his interesting and useful compendium on "Diseases of Children," published in 1871, states that there had been 1,180 cases of typhoid fever in the hospital, but that this disease is not commonly seen in very early life, though some observers, Bedanar, Buhl and Loschner have recorded its occurrence in children a few weeks, or even a few days old. But Steiner does not report that he himself had ever witnessed a case in an infant.

I find in the *British Medical Journal* of April 19, 1902, a report of enteric fever in an infant four months old. It was nursed by a mother who also had typhoid; the child died; and J. R. Lowe, L. R. C. P. & S. Edinburgh, adds to this report: "This case is of interest because on looking up the literature on the subject I find there have only been two recorded cases of enteric fever in infants under one year old."

W. G. Thompson, in his text-book of "Practical Medicine," 1900, says: "The fever is very rare earlier than the second year, and from its etiology its occurrence is impossible in a breast-fed infant." Thompson says that he saw, at the Presbyterian Hospital, in 1896, an undoubted case in an infant nine months old, but he fails to state whether or not the infant was nursing.

So it may be readily seen that typhoid fever is an extremely rare disease in infants under one year of age. Murchison's case is quoted everywhere, also Rilliat and his compeers are quoted by nearly all the compilers. Therefore, I will be excused for bringing before this Section a case which I saw and reported in mass with the rest of an epidemic occurring in the backwoods of Maine. Briefly stated, my case occurred in a family of nine persons, two adults and seven children, domiciled in a log house with two rooms. There were four other families in the settlement, but there was considerable distance between the houses. They were completely isolated; there was neither store, church, school, physician or privy in the entire hamlet. No one had visited this family from April, when the first case occurred, until October, when the writer saw them. There was no medication. The only food in the house was flour, pork and beans. The source of contagion was from a polluted spring. The mother was nursing an infant six months old when she herself was attacked in August. She continued to nurse the baby until her milk dried up by the fever, about one week, then the baby was put on a diet of flour paste. This was made with the water from the polluted spring, and the child also drank the polluted water. About the first of October the baby sickened. When I first saw her she had been sick ten days, and was doing fairly well, and I believed she recovered, because I left an addressed envelope with the parents to send me word if anything serious happened, and I have not heard from them. In this case it will be seen that the baby used the polluted water for nearly three months before she sickened. The mother had used the water nearly four months before she was attacked, but two other members of the family did not sicken until September, and therefore had been using the water for six months previous to their attack.

Here was a nursling, under one year of age, who, though living in the same house where there was some one sick with typhoid fever from April until the middle of August, had been nursed by a fever-stricken mother, escaped until exposed to the same conditions as the other members of the family, then took the disease.

"One swallow does not make a summer," but one can not often find just the conditions that exist in this humble house where all the inmates when exposed to the same danger all alike, nursing mother and infant, took the disease. This is one instance showing that the infant did not resist typhoid contagion when the conditions were the same as with the adult members of the family.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

DISCUSSION.

DR. A. C. COTTON, Chicago—I do not know of any subject that has appeared on our program for discussion during the past few years, aside from feeding and nutrition, that presents more interest to-day than typhoid fever among children and infants. It is only a few years since some of our best observers questioned the possibility of typhoid fever in infants under two years of age. It can not be more than eight or nine years since Dr. Charles Warrington Earle, Chicago, read a paper, reporting 13 cases of typhoid fever occurring in infants and children. This caused considerable discussion, and the general opinion seemed to be against the diagnosis made by Dr. Earle. No less an authority than Dr. W. P. Northrup, New York, basing his experience on a large number of autopsies in the New York Foundling Hospital, said that he had never met the postmortem lesions of typhoid fever there, though many diagnoses of typhoid fever had been made in that institution at the bedside. Clinical evidence has been frequently presented in favor of typhoid at all ages, but they have been apparently met by the statement that lesions were not found postmortem. Within a very few years a number of papers, presenting in the aggregate a large number of cases of unmistakable typhoid in infants and children, have appeared. We are all familiar with the able paper by Dr. J. Lovett Morse, Boston, and two papers have been presented by members of this section, Dr. J. P. Crozer Griffith, Philadelphia, and Dr. I. A. Abt, Chicago. These show that with proper clinical tests we can not escape the positive diagnosis of typhoid. This brings up the question as to why errors in diagnosis have been made in the past. The fact is that infants and children do not show the pathognomonic intestinal lesions formerly considered necessary for the diagnosis of enteric fever. We also know that the clinical history of the cases in children differs from that in adults. The Widal test is the only absolute test to-day, and it seems to be very generally accepted. That children react as readily as adults to this test I believe is also generally accepted. The type in children is no more widely different from the adult type than was the typical American typhoid different from the typical German typhoid fifteen years ago. I remember listening to an interesting discussion at that time of notable authorities at the New York Academy of Medicine. At that time they were only just willing to admit that typhoid fever could occur along with constipation because the old German description insisted on the necessity for the occurrence of diarrhea in cases of typhoid fever.

DR. J. P. CROZER GRIFFITH, Philadelphia—I believe thoroughly that this disease is much more frequent in early life than most of us think. In regard to the statement one often reads that in 2,000 autopsies at the New York Foundling Asylum the lesions of typhoid fever were found in no instance, it is to be noted that the same writer in another place stated that the lesions of the disease in infancy could not be distinguished from those of enterocolitis. The conclusion from those statements would be perfectly legitimate that all the enterocolitis cases were really instances of typhoid fever! The force of the first statement is destroyed by the second.

In the adult when there is continued fever we suspect typhoid fever, whereas in the child continued fever often leads to the suspicion that the child is "teething," or has indigestion. The possibility of the presence of typhoid seems to be forgotten. I have within a few weeks had a case of the disease in an infant in which the true diagnosis was hardly suspected until a Widal test was made and was found to be positive. I then found that the mother of this baby was sick with typhoid fever in another part of the hospital.

In a recent investigation by Dr. Maurice Ostheimer and myself 418 cases of typhoid fever were collected from medical literature and from our own experience, occurring in children of 2½ years and under. Twenty of those cases were born with typhoid fever. There were about 180 cases of typhoid fever in the first year of life. The greater number occurred in the second year, and a smaller number from 2 to 2½ years. I do not think, therefore, that we can truthfully say that this is a rare disease in early life. We may say that, as compared with the frequency in adult life, it is uncommon, but it is only relatively uncommon. I have seen typhoid fever at the age of 3 months, and at 7 months, and the case just referred to was 9 months old. The case occurring at 7 months I did not recognize until death occurred. That is the trouble—the diagnosis is often exceedingly difficult, even if we are alive to the possibility of the presence of the affection.

DR. ROSA ENGELMANN, Chicago—Dr. Rotch told us recently that the Widal reaction was often not positive in children before the fourteenth day, but I think it can be usually made available earlier. I have been in the habit of making it as early as the third day. In one case it was negative on the third day, and positive on the fifth day. I teach now that the Widal test is one of the means of making the diagnosis in typhoid fever in children especially.

DR. H. L. K. SHAW, Albany, N. Y.—I agree most heartily with Drs. Cotton and Griffith as to the frequency of typhoid fever in infancy. I heard Dr. Northrup read a paper some years ago in which he stated that he had never seen a case in a child under three years, and made the same statement about the autopsies at the New York Foundling Hospital. Last winter I saw a baby of 13 months in whom the symptoms were absolutely typical of adult typhoid. The spleen was very distinctly enlarged and the temperature ran a typical course. The Widal reaction was positive. The child even at that time was being breast-fed, and there was not a case of typhoid within a mile of the house, so we were entirely at a loss to discover the source of infection. I think we can safely claim that typhoid in infants varies very little from that seen in adults.

DR. H. M. MCCLANAHAN, Omaha—In reading the current literature of the past few months I was astonished to learn that there were only ten or eleven articles on typhoid fever in infants, a very important subject as compared with appendicitis in infants, with which we are all familiar, and about which a great many articles were written.

DR. E. F. BRUSH, Mt. Vernon, N. Y.—There was no doubt, in my mind, about this case being typhoid. What I can not understand, from the discussion, is, if typhoid is a water-borne disease, how the nursing babe can get it. I do not believe it can get it from its mother. My object in writing this paper was to call attention to the fact that the nursing infant did not contract the disease until it took the contaminated water, and that then it contracted the disease just as did the adults in the family.

DR. A. C. COTTON, Chicago—I do not think we should let this subject go out with the impression that children are exempt from typhoid, because they do not drink water. Children at the breast have typhoid fever; this has been demonstrated. A child may develop typhoid in utero, and nursing children have responded to the Widal test. That typhoid may be nursed from the mother's breast there seems to be little doubt; hence immunity for the breast-fed infant can not be claimed.

THE CLINICAL RESULTS OF SERUM THERAPY.*

EDWIN ROSENTHAL, M.D.
PHILADELPHIA.

A brief résumé of the various steps by which artificial immunization was finally brought about will prove one of the most interesting stories of medical history. To start with, the very first steps will bring us back to biblical lore, and in the Talmudical lore of the ancient Israelites we will find some striking rules that prove to the zealous investigators that the question of infection and contagion was equally as well known to them as it is to us. The rules of hygiene as set down by Moses have not been altered by time, and though the observations in that ancient period were not made with the exactness of the present time, the results were about the

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same, and if the rules were disregarded the same diseases were the results. The question of exactness is what is always necessary in any science, and though theory held sway for a considerable period, it was to the modern scientist that facts proved the truth of such theories.

THE GERM THEORY OF DISEASE.

The question of the germ origin of disease is not now a new one, and when Tyndall discovered in dust various microscopic objects it was not very long before the objects were isolated and their purposes investigated and proven. Probably immunity would remain at the present time the same theoretical subject had not Jenner made his "matchless operation" of vaccination and proven to the medical as well as to the intellectual world the wonderful efficacy of vaccination. From Jenner to Pasteur was but a step of time, and to Pasteur alone should credit be given for leading the way to practical serum therapy. We are all familiar with the various discoveries of this matchless investigator, and no greater honor can be given to such discoveries than having attached to them the name of their discoverer, and by that name to alone make known its object.

The Pasteur institute for the treatment of rabies demonstrates most practicably the clinical law of the application of serum therapy. For here to the most ignorant is demonstrated that rule: the early application of the remedy. Pasteur often applied his method of treatment to cases that he knew were hopeless, not so much for gain, nor for the failure that a failure should entail, but because he was such a whole-souled, noble-hearted man that he never could refuse. And hence, had Pasteur refused the use of his method to cases that have come to him too late the whole fallacious objection of those who do not understand the methods of his treatment would have fallen to the ground. As with Pasteur, so with Behring's, Roux's, Kitasato's, Marmorek's and the rest of these noble investigators' discoveries. History repeats itself.

THE AUTHOR'S FIRST EXPERIENCES WITH SERUM.

After Pasteur comes Koch, and when the discovery of this lymph was heralded to the world how entirely too much was expected of it! I remember when I had received a bottle of this priceless fluid, so rare and so difficult to obtain, I received offers of thousands of dollars for it. What I had received was enough for probably 300 injections. But, wishing that it should be placed to the best use, and not being so situated as to apply it as its value should direct, I gave half of my package to the University of Pennsylvania Hospital and the other half to the Home for Consumptives under the charge of Dr. William Muir Angney of Philadelphia. I can not tell with what anxiety I, with others, watched the results of these clinical experiments and what was our disappointment.

It was with the same feeling of disappointment that I welcomed the addition to our list of remedies: the antitetanus serum, then the diphtheria serum, the antistreptococcic serum, the antipneumonia serum and the like. I used the tetanus serum in a case of trismus neonatorum and the failure resulting dimmed my ardor for further clinical investigations on this line.

THE DIPHTHERIA SERUM.

But reading and studying never will cease, and when I read of the various investigations of Professor Behring I was as anxious to use this remedy as I had been with Koch's lymph. I wrote to my relative (one of the well-known alienists of Germany, Dr. A. Baer, physician to the Moabait) to get me some; it came; I was successful with my first case, and then even the cable was too slow. Now, was there an error in the method of my using the former remedies or was this one different? From Behring I obtained a personal monograph and this I followed, and the great truth came to me: that to use these remedies we must always use them in time. It is a mistake, or, I might say, the greatest mistake of all, to use any remedy of this class after a certain time. As an example, we should use the diphtheria serum in cases of diphtheria from its period of inception or incubation until that period where changes begin to take place, that is, in the first, second, third, fourth, or—even in a laryngeal case—the eighth day, or up till the time when the blood becomes changed and we no longer treat diphtheria, but its results. This is the greatest rule in the laws of immunity: we immunize against the disease, not its results. If we cure the disease we have no results. If we fail we have failed because the disease has changed, or, in other words, has become so far advanced that where we at first had a simple case of infection we now have an overwhelming result of blood change.

I have never failed with the use of the antitoxin if I have used it early enough and in sufficient quantities.

THE ANTISTREPTOCOCCUS SERUM.

Since the advent of the antitoxins other serums have come to our attention, notably Marmorek's serum. This serum is different from the antitoxin, for where in the former it was truly antitoxic, in the latter it is antimycotic. I have used this serum in many diseases the causative factor being the germ, that when properly prepared and injected into the horse or ass will give us a serum equally antagonistic.

I had greater opportunities to watch the results of the antistreptococcic serum than the diphtheria antitoxin. The simple reason is that in the case of diphtheria contagion the rules of the various boards of health interfere greatly, and in addition, there is the natural fear of the caretakers. No such conditions exist in sepsis, and again, the quality of the patients is different. In diphtheria we have children who have been suddenly infected. In septic cases we have the results of other conditions.

Now, while in diphtheria antitoxin we have had uniformity of results, it is not so with Marmorek's serum. Why is this? Take, as an example, erysipelas. This is the special disease that Marmorek originally reported as being treated and cured by his serum. It is true I have treated erysipelas—and I termed the cases "idiopathic erysipelas"—with this serum and have had very good results; but then again I have had a whole series of cases of erysipelas that I termed "surgical erysipelas," and have had such good opportunities of applying it, as, for instance, at the very beginning and at its height, but the results have been failures.

Now I have used this serum in puerperal fever and have had such good results that I reported the cases. I am persuaded that the serum was the factor of cure, as I permitted others, notably a well-known obstetrician (Dr. W. H. Wells) to make the diagnosis and prognosis. When again I used this serum in a case otherwise infected—probably of the same order as the surgical erysipelas, for the infection was made during an instrumental labor—and in a general hospital, my results have been failures. My attention being thus drawn to the peculiar method of this remedy acting, you can not charge me with being uncertain and again in doubt.

THE ANTITETANUS SERUM.

So with the antitetanus serum. I used it in an infant aged 6 days and in a quantity I thought sufficient, but

the results were always unfavorable. Dr. Biggs, to whom I always write regarding my serums and whom more than any one in America the profession should thank for his work in these lines, looks on these results as to be expected at this time. For example, the bacilli of tetanus multiply with such astounding rapidity that truly enormous amounts of the antitoxin should be used and in increasing ratio. As I used in proportion such small quantity the result otherwise could not be expected. Time will show us why this serum should give such good results in some conditions and failures in others; at present the theory of Biggs is the best propounded and should be accepted.

THE ANTIPNEUMONIC SERUM.

The last of the serums used by myself has been the antipneumonic serum. Now in my cases I chose the ones that I felt were somewhat hopeless—for instance, an infant who had suffered from measles and then from pneumonia. My second case was somewhat similar. Two instances were croupous pneumonia, simple—that is, with no complications—the others were pneumonia with pleurisy or bronchitis. In all there were nine cases. All good results. That is, all recovered; some may have taken longer than others, but such cases as pneumonia and measles I considered so very unfavorable that, since they had recovered, no matter how long the time, I was brought at once into the camp again of the serum-therapist. Then came a case of croupous pneumonia in an alcoholic. What now? My experience had been so uniformly unfavorable with this class of cases that I was glad indeed to have a remedy (?) on which I could place some little reliance. To this case I called Dr. J. C. Wilson, who has had a greater experience than mine with this serum. We used it according to the methods in vogue and used it fearlessly. After the ninth bottle (each one contains 20 c.c.) I desisted, and Dr. Wilson (we were making daily consultations) coincided. Now, in this case, the serum demonstrated its utter failure. We both knew all about the remedy and how to apply it. Why should it fail? This is one of the remarkable peculiarities of serum treatment. The remedy in many instances refuses to act. Wherein the trouble lies I have not been able to see or learn.

CONCLUSIONS.

This much I can say as a conclusion:

Diphtheria antitoxin is a specific and its standing is assured. It is only in exceptional and very, very rare instances that failures are to be seen, and this may be the result of the operator even as of the remedy.

Marmorek's serum is erratic and not to be depended on. It may be harmless as the originator asserts. Experience has also demonstrated this. If the method of its originator be followed in its application a favorable result or an unfavorable result may be equally expected. I think the failure of this remedy should be sought in the very original streptococcus used in the make of the serum. If this be found, and then the disease be isolated as well as the germ, we may have the same uniformity of results as in diphtheria. But so long as septic diseases depend on many germs, one germ in particular can not immunize.

I think the same failure results in pneumonia. Where the infection is mixed, failure results, not so much by reason of the remedy in the strepto-infection, but because the disease is complicated and the complication should require an especial addition to the serum, and this should be especially known. As long as this is uncertain so long should the rule be: Serum therapy should be applied under special conditions, and for special indications, and not empirically, as I fear the diphtheria antitoxin is being given.

517 Pine Street.

DISCUSSION.

DR. J. P. CROZER GRIFFITH, Philadelphia—At the time of the first interest in tuberculin a commission was appointed by the University of Pennsylvania to test its value. The investigation was carried on with the greatest precision and attention to systematic detail. It was my province to examine frequently the condition of the lungs in the patients under treatment. There was no case in which any decided alteration for the better was observed; and I am sure that in one case, which had for months been quiescent, the results were absolutely disastrous.

DR. A. C. COTTON, Chicago—I wish I could share the optimistic ideas of the essayist, but my experience with antitetanus serum has almost convinced me that its effect is practically *nil*. The fact that we treat a case of tetanus with serum and it recovers is little proof of the efficacy of such treatment. All of us who have seen many cases of tetanus, or who have watched the reports of such cases, know that many cases of tetanus recover. Most of us know, too, that there are cases of the so-called pseudotetanus of Escherich—a variety in which the symptoms are less marked and the case seems more amenable to treatment. Personally, I do not think that this good result indicates either the efficacy of the serum treatment or the necessity for this refinement of nosology. Tetanus may be intense and startling, or mild and subacute, and tetanus may recover under the ordinary sedative treatment. With an extended experience with tetanus I have come to the conclusion that my cases do just as well without the serum as with it, and this, too, although I tried diligently to convince myself of the value of this serum.

With regard to pneumonias in children, I must say that I do not consider croupous pneumonia the formidable disorder that many physicians believe it to be. If I can definitely locate a lobar pneumonia in a child I feel justified in making a favorable prognosis, and I am always glad to find that I am not dealing with a catarrhal pneumonia; hence it seems to me that serum treatment in croupous pneumonias yields clinical evidence of no great value. The large majority of these cases should recover with good hygiene and very little therapy. On the other hand, the uncertainties of catarrhal pneumonia are familiar to us all, and this disease, with its complications and sequelæ, renders serum treatment of questionable value.

DR. EDWIN ROSENTHAL, Philadelphia—I think the serums have proven themselves in the main misleading and disappointing.

THE USE OF GELATO-GLYCERIN BOUGIES IN THE TREATMENT OF ACUTE EARACHE IN YOUNG CHILDREN.*

GEO. L. RICHARDS, M.D.

OTOLOGIST AND LARYNGOLOGIST TO THE FALL RIVER UNION HOSPITAL.

FALL RIVER, MASS.

It is commonly stated that remedies applied to the external canal in the treatment of acute earache are of very little use, since, owing to the fact that the canal and tympanic membrane are lined with epithelium, which is an extension inward of the skin, the absorption is so slight that remedies of this class can do but very little good. While it is true that absorption is much less and slower than is the case when remedies can be applied to a mucous membrane, I am nevertheless fully persuaded that absorption of medicaments can take place through the external surface of the tympanic membrane, and that many remedies can be exhibited in this way to the comfort of the patient. In my early experience I

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

often used morphin and atrophin solutions in the form of drops, and various oils and other external ear drops are in universal use.

Acute earache in young children is sudden and severe in its onset, and a remedy to be universally applicable should be one capable of quickly giving relief and easy of administration. When the inflammation has lasted for any length of time probably nothing short of a paracentesis will relieve; but there are many cases of sudden onset in which the timely exhibition of the remedy which I am about to describe will cut short the attack, relieve the child and effect a cure.

I refer to the use of gelato-glycerin bougies, in which the medicaments desired to be used have been dissolved. For their introduction I claim no originality whatever. They were first originated by the late Prof. Joseph Gruber of Vienna, and are familiar to those physicians who have been his students. He, however, does not tell how they can be made, either in his book on diseases of the ear or in his division of the Vienna formulary as given in Landesmann's *"Die Therapie an den Wiener Kliniken,"* and physicians who have obtained them of the Vienna apothecary recommended in Landesmann's book have not been able to get them made in a satisfactory manner in this country. In the *Journal of Laryngology,* January, 1898, R. H. Woods of Dublin gives a formula in which liquid extract of opium, cocain and atropin are combined with gelato-glycerin, and states that in his experience many cases of acute earache in children have been aborted by their use. He does not give in his article the proportions of gelatin and glycerin, but says they should be such that while remaining solid at the ordinary temperature of the air the bougie should melt at or a little below the body temperature, thus insuring their ready dissolution when placed in the ear.

I have taken the formula of Woods' as to the main ingredients, added thereto 3 per cent. of carbolic acid, for its anesthetic and antiseptic properties, and with the aid of my apothecary have overcome the pharmaceutic difficulties in their manufacture. I first described their use in the *Boston Medical and Surgical Journal* of July 28, 1898, and later wrote in regard to them in the *Laryngoscope,* August, 1899. My experience in their use now covers four years, besides which they are extensively used for the relief of earache by many physicians of my acquaintance, and in general with very gratifying results. Further experience has convinced me more than ever of their value, especially in the early stage of acute otitis media and in acute otitis externa.

It is on account of the extreme prevalence of earache in children that I have brought the subject before this Section, in the hope that you will try these bougies. They can be made by any druggist and have the advantage that they can be used without the slightest difficulty.

The bougie when prepared is either kept in a neutral powder like lycopodium or wrapped in tinfoil. To use, the lycopodium powder is washed off in warm water, or, if wrapped in tinfoil, they are dipped in warm water. The warm water aids in their solution. The bougie is then very slippery, and the affected ear being placed uppermost it can easily be slipped down into the external canal without the slightest discomfort to any child. Here the bougie soon dissolves, the anodyne is brought directly into contact with the inflamed surfaces and the pain is relieved. Beside being a medium for the exhibition of the opium, cocain and atropia, the glycerin is of itself distinctly curative, in that it tends to draw out serum from within and lessen the tension. A certain amount of osmosis takes place and there is, I think, absorption of the medicine contained in the glycerin. After insertion the ear should be stopped with absorbent cotton or gauze and a hot water bottle placed at the side of or over the ear. Even when paracentesis has been required and done I have found the insertion of a bougie immediately after the paracentesis to be of great relief to the patient in lessening pain and withdrawing serum and to have distinctly curative value.

Cases which have gone beyond an early stage are, of course, not relievable by this remedy, and demand treatment appropriate to the condition, whether paracentesis or otherwise; but many a case of acute earache will at once subside without going on to severe inflammation if promptly treated in this manner. Many mothers of my acquaintance keep these bougies in the house and use them at the slightest sign of earache.

The formula here given is a correct working formula and one that any pharmacist can use. My own druggist made them in a mold intended for urethral bougies and then divided each one into three. As this mold held just 14 urethral bougies the odd number of 42 is accounted for. After making they are covered with lycopodium powder or tinfoil and dispensed in a bottle, as, of course, they are somewhat hygroscopic.

℞. Acidi carbolici	minims	7
Fl. ext. opii	minims	6
Cocaini	grains	3
Atropini sulphatis	grains	3
Aquæ	minims	52
Gelatini	grains	18
Glycerini	grains	158

To make 42 bougies.

If desired the equivalent of morphin sulphate or acetate can be substituted for the fl. ext. opium.

In regard to their manufacture, dehydrated glycerin should be used. Several apothecaries have failed to make them, being unable to get the gelatin and glycerin to stiffen properly; but the problem is not a difficult one, as the bougies have been made with success in different cities by different apothecaries.

DISCUSSION.

DR. JOHN C. COOK, Chicago—I think the glycerin and carbolic acid combination has been used for a long time, and there is no question about its value, particularly when it can be so conveniently employed as in the form described.

DR. RICHARDS—When I showed these aural bougies at the Otology Section one gentleman said that there could be absolutely no absorption in the ear, while another gentleman said that these bougies were dangerous because there would be too much absorption. Another suggested that the gelatin and glycerin could be used separately, but it should be remembered that most of these cases are seen in the night, and these substances are not usually at hand, and the drug stores are closed, hence it is desirable to have something ready at hand.

Electrocution in a Public Bath.—The dangers of electric lighting were illustrated by a most deplorable accident in a London public bath. The attendants at the institution in question were attracted by the cries of one of the bathers, and on going to the spot found him in an agony of pain and suffering from shock, which shortly afterward proved fatal. Another man was found dead in an adjoining bath. The cause of death in both instances appears to have been electric shock. Pending an official inquiry into the occurrence, the probable explanation is that the baths became connected in some way with the wires conveying the current for lighting purposes. It is difficult to imagine any other way in which a powerful electric discharge could have reached the bath. The incident should attract the attention of all responsible for baths, both public and private, in every part of the United Kingdom. If the use of electrical lamps is to involve the risk of electrocution, then the public will undoubtedly prefer the substitution of less dangerous illuminants.—*Med. Press and Circular.*

A CONTRIBUTION TO THE SURGERY OF THE GALL BLADDER AND DUCTS.*

ALEXANDER HUGH FERGUSON, M.D., C.M.
CHICAGO.

ANATOMY.

The advancement of surgery to include the biliary passages has awakened a new interest in these structures and their relations. The surgeon found it necessary to go into the dissecting room and familiarize himself with the normal structures in this region. With this object in view, George Emerson Brewer,[1] M.D., New York, dissected and studied 160 subjects to which I wish to refer you. Mr. Morrison[2] has drawn attention to the lesser sac of the peritoneum in which the gall bladder exists, and many others have made valuable observations.

The ninth costal cartilage is the external landmark of the gall bladder; in making an incision to expose it, the lower intercostal nerves should be avoided if possible. By making the perpendicular incision below the costal arch, and through the outer border of the right rectus muscle, only the ninth intercostal nerve is severed. There is not much variation in the normal position of the gall bladder. In some instances (5 per cent.) it may have a double fold of peritoneum forming a distinct mesentery, affording considerable mobility. It is occasionally found almost buried in the liver, in the fissure between the right and quadrate lobes, so deeply as to be almost surrounded by liver tissue. Brewer observed it between two folds of the gastrohepatic omentum; I found it in this position in one case while operating.

Hochstetter[3] recorded a case in which the gall bladder was attached to the left of the median line and there was no transposition of the viscera. The position of the cystic, common and hepatic ducts, as well as that of the artery and vein, is fairly constant and so is the relationship to one another.

The greatest variation is in the arterial system; an arterial branch may be found crossing the ducts at any part of their course, or may run parallel with and to the outside of the common duct. The variation in length of the cystic (5 cm.), hepatic (4 cm.) and common (6.5 cm.) ducts, although considerable, is not important from a surgical standpoint. In diameter the ducts are as follows: Cystic, 2.3 mm.; hepatic, 4 mm.; common, 6.5 mm. This is important from a clinical standpoint. A stone that with difficulty passes the cystic duct, finds its way with ease through the common, till it reaches the duodenal orifice of the duct, which is smaller than any portion of it (3.8 mm.).

Owing to the spiral valve formation of the mucous membrane of the cystic duct, a probe can be passed only when it is pathologic, whereas a probe readily passes through the hepatic and common ducts.

On opening the duodenum, it is difficult to locate the ampulla by sight or touch on account of the valvulæ conniventes in this region. This may be faciliated by dilating the common duct with air or water.

It is well to remember that the gall bladder may be bifid, hour-glass shaped or absent; that the ducts may be represented by fibrous cords. A tongue-like process of the right lobe (Riedel) of the liver is a deformity to be considered as being occasionally present when making a diagnosis of tumors in this region.

DISPLACEMENTS.

In displacements of the liver the gall bladder is carried with it, and when it is tilted from above downward and backward, it presses on the gall bladder, also on the colon, giving rise to discomfort and pain, which vary with intestinal distention. One case of this nature was relieved by stitching the gall bladder to the upper angle of the wound opposite the ninth costal cartilage, which acted as a suspensory ligament to the liver. Although gallstones were suspected in this case before the operation, the gall bladder was not drained because it felt normal, and by pressing it on the under surface of the liver with my fingers its contents readily passed through the ducts, and by palpation no stones were felt in it, or in the ducts. In cases where the gall bladder is entirely surrounded by peritoneum there is great latitude of motion of this viscus. I have repeatedly demonstrated this by pushing it into the loin below the kidney, then bringing it just beneath the umbilicus, and finally to the left of the median line of the body. Such a gall bladder, owing to its dependent position and inability to completely empty itself, is prone to have stones form within it. For this reason it had better be anchored and drained. The most frequent displacements are due to some pathologic condition within the gall bladder itself, as in hydrops, or to outside adhesions to the stomach, duodenum, abdominal wall, omentum, appendix, or some portion of the intestines. The gall bladder that is held below its normal level by adhesions must necessarily contain more or less residual bile. The fixation and position prevent its regular evacuation. The result is that the bile becomes inspissated, cholesterin, bile pigments, germs and the other constituents of gallstones precipitate and become agglutinated together. This affords an explanation of cholangitis, there being incomplete emptying of the bile—residual bile—precipitation of stone-forming substances, trauma to the mucous membrane of the gall bladder, and finally infection, mild or severe, depending on the virulency and kind of germs present. Adhesions always begin at the area of inflammation. Should the gall bladder be inflamed, adhesions formed with contiguous structures tend to drag these to it. The contrary is the rule when an inflamed appendix, bowel, etc., come in contact with the surface of the gall bladder. There are many other factors that displace the gall bladder, such as occupation, tight lacing, etc.

GALLSTONES.

The life history of a gallstone from its formation to the time of its impaction has not yet been fully written. Cholelithiasis is materially within the scope of laboratory workers and clinicians, and we look to both to unravel the etiologic mysteries of its prodromal stages. This much may be said regarding their formation: Catarrhal conditions of the mucous membrane of the gall bladder and ducts, excited, of course, by the presence of microbes, produce both cholesterin and calcium salts (Naunyn). Germs and gallstones are very frequently associated together (Welch)—the germs occupying the center of the stones. It has been shown that *B. coli, B. typhosus,* the staphylococcus and streptococcus occur and live in the gall bladder for a long time (seven years for typhoid according to Blachstein). Gallstones can be produced experimentally by injecting germs into the gall bladders of dogs (Gilbert). There are other causes accessory to the above.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

1. Johns Hopkins Hospital Reports, vol. ix, p. 337.
2. British Medical Journal, Nov. 3, 1894.
3. Arch. f. Anat., Leipsic, 1886.

Age.—While they have been found in persons of all ages, they are rarely met under 25 years. Fully 50 per cent. of all the cases occur about 40 years of age.

Sex.—Gallstones are over three times more common in females than in males, and more common in women who have borne children.

Occupation and Habits.—Certain kinds of work which require the forward bending of the body, thereby causing enteroptosis, displace the gall bladder and predispose to the formation of gallstones. Gastrointestinal disturbances, indigestion and constipation play a passive part in their formation. Tight lacing comes in for a good share of the blame. The lithic diathesis is prominent in those who overindulge in food, or are mentally depressed or insane.

CLASSIFICATION AND COMPOSITION OF STONES.

They may be classified: 1, cholesterin stones; 2, cholesterin-pigment stones; 3, biliary-pigment stones; 4, carbonate of calcium stones. This is according to their composition. The cholesterin-pigment stones are the most frequent, as might be expected from the larger amount of cholesterin (75 per cent.) and pigment present in bile. A pure cholesterin stone is rare, and so is the calcium carbonate one. Although gallstones may form in any part of the biliary passages, even within the liver itself, in the shape of small ovoid greenish-black grains, still the vast majority form within the gall bladder and there remain or find their way into the larger ducts.

Special Properties.—Gallstones vary in color, size, shape, consistency, number and weight. When composed of pure cholesterin they are almost colorless, and the color darkens according to the amount of pigment entering into their composition. One calculus or several thousand stones may be packed into the gall bladder and ducts, varying in size from that of a grain of sand (gall sand) to several inches long. They may be round, ovoid, barrel-shaped, bullet-shaped, triangular, nonfaceted or faceted in one or many places. I have seen them take the shape of the gall bladder or portion of the duct where they were impacted. If composed principally of amorphous cholesterin the stone is soft, and can be broken between finger and thumb, but when the cholesterin is in a crystalline state, and especially if earthy salts enter into its composition, it is quite hard and can not be broken as above mentioned. A mixed gallstone is not much heavier than the bile itself, hence feeble contractions of gall bladder and ducts and a slow flowing stream of bile are sufficient to carry it to and fro in the passages.

A gallstone increases in size by additional layers forming on its external surface. It is not uncommon to find a stone in a duct a dozen or more times larger than the normal size of the duct in which it is contained. The last stone I removed from a common duct was ¾ inch in diameter and 1¼ inches long.

Intestinal obstruction is sometimes caused by a large gallstone. The manner of growth is best manifested by making a section of a gallstone. The center shows a nucleus consisting usually of bile-pigment and cellular debris. Around the nucleus are concentric laminæ with radiating lines from center to periphery. These layers are principally composed of the envelope-shaped crystals of cholesterin held together by mucus.

SYMPTOMS AND SIGNS OF CHOLELITHIASIS.

The routine recitation of the symptoms and signs of cholelithiasis, as found in the medical and surgical textbooks, is of very little value to the practitioner, student or clinician. The most characteristic evidences of the disease are manifested by suffering and jaundice, with their associated symptoms and signs. The sudden onset of regional pain and tenderness, with or without apparent provocation, lasting from a few minutes to several hours, with little or no pyrexia and normal or slow pulse; the pain and tenderness stubborn in yielding to applications of moist heat or internal medication and subsiding as suddenly as they began, *is a clinical picture of a stone or stones becoming impacted in the cystic duct and again receding into the gall bladder.* The posture sense of the pain is undoubted by the patient, and the higher sensibility in the gall bladder guarded by a tense right rectus muscle is easily demonstrated by the surgeon. The pain usually is sudden in its onset; its seat is sometimes far distant from the gall bladder; it often follows some exertion which increases the intra-abdominal pressure; may last for ten or more days; fever may be high from the start; and the subsidence of the pain quite gradual. In my experience the following order of frequency of pain may be referred to: (*a*) pit of the stomach; (*b*) the back near the angle of the scapula; (*c*) umbilicus, and (*d*) to different parts of the abdomen and body. But when the surgeon makes pressure over these places, very little or no tenderness is complained of, at which the patient expresses surprise. *Pressure over the gall bladder during an attack of colic always elicits local tenderness and increases the intensity of the local and referred pain.* The pain is intense while the stone is traversing the cystic duct, and suddenly becomes less severe in character when the concretion has either dropped back into the gall bladder or entered the common duct. Should the pain continue and jaundice ensue, the stone is evidently obstructing the main duct, but if sudden relief is experienced no doubt the stone has found its way into the duodenum. The pain usually becomes excruciating when a calculus is passing through the ostium duodenalis, the narrowest part of the ductus communis choledochus. The attack is now over and the jaundice clears away in a few days. There is a wonderful variation in the character and severity of the pain, and the constitutional effects differ very materially in individuals. It saps the courage of the bravest patients and "doubles up" the most robust and strong-minded individuals. Like many other acute suffering affections, where pain is the prominent subjective symptom, it disturbs all the great systems of the body, some to activity and others to retardation of function, and even death ensues at times.

In cases demanding operation, biliary colic may be present without gallstones, and gallstones may be present without biliary colic. I have opened the abdomen several times in search of gallstones and found none. In some of these the gall bladder was distended with bile and displaced medianward. The colic was well marked, severe in the one case, while in another, an aged lady of 70 years, it was so marked as to cause collapse and grave symptoms of sudden dissolution. A cholecystotomy cured them. I have termed this condition[4] in these cases "flexion of the gall bladder."

In several cases, inspissated bile, dark in color, and of a tarry consistency, filled the gall bladder and occluded the cystic duct. It was thick and tenacious and had to be scooped and mopped out. No gallstones were present. These had suffered repeated attacks of colic, some of them for years.

In other instances the gall bladder was converted into a retention cyst and it contains principally clear mucus.

4. British Medical Journal, Nov. 6, 1897.

The gall bladder is very tense and hard, there being a fibrous occlusion of the cystic duct.

In sixteen of my cases there was no clinical history of gallstones except gastrointestinal disturbances; twelve of these had dropsy of the gall bladder and the stone or stones in each were very large and latent, producing no pain. The gall bladder was greatly enlarged in each. An interesting case of gallstones without biliary colic was one of partial empyema of the gall bladder, with an extramural chronic abscess situated in the lumbar region, very much resembling a sarcoma. A large stone was impacted near the fundus of the gall bladder, dividing it into two cavities, a proximal space containing normal bile with large and small latent calculi, and a distal cavity at the fundus containing pus and communicating with the abscess cavity in the lumbar region. In 6 per cent. of my cases of chronic obstruction of the biliary passages, pronounced colic was absent, but in all of these there was a history of indigestion, constipation and colicky pains years ago, of short duration and judged to have been caused by food or exposure to cold.

It may be said that one attack predisposes to subsequent attacks. A variable time may elapse between them, even years. It appears to me that the more chronic a case is the more frequent and less severe is the colic. In several cases of chronic impaction the pain became almost constant, but not severe. From two to eight or ten attacks per day were not uncommon, the patient becoming completely incapacitated.

The causes of advanced biliary colic are: (1) spasm of the muscular fibers of the gall bladder and ducts; (2) forcible stretching of the duct wall; (3) spasms of the rectus abdominis muscle; (4) emotional disturbances; (5) inflammatory swelling of the mucous membrane of the ducts (Riedel), and (6) one authority goes so far as to say that "The so-called gallstone colic is suppuration of the gall bladder." This is a mistake. If it were so we should meet more frequently with cases of inflammation, ulceration, empyema and gangrene of the gall bladder. The fact is that in over 50 per cent. of my cases of gallstone colic no germs were found in the bile taken from the gall bladder and ducts. In my opinion, the local pain of cholelithiasis is mainly caused by two factors: first, by spasm of the muscular fibers of the ducts and gall bladder; and, second, by the stretching of the ducts and gall bladder. When the gall bladder and ducts become fibrous and so pathologic as to lose the power of contraction, then the stretching is the sole cause of the pain. There is no hollow viscus or tube in the whole body that can be forcibly over-distended or over-stretched without causing pain, whether that organ or passage be normal or diseased.

DEMONSTRATIONS.

I have repeatedly tested the sensibility, distension and contractibility of the gall bladder and ducts.

The first case on whom I demonstrated the cause of the colic to be over-stretching of the gall bladder and cystic duct was a Mrs. C., on whom I performed a cholecystotomy April 20, 1895. The operation was performed in the then recognized way, and an external biliary fistula followed, which I cured by a plastic operation August 10 of the same year. Between April and August I repeatedly sounded the cystic duct, mechanically irritated the inside of the gall bladder and over-distended it with water. Any quantity of warm water would pass through the ducts under low pressure, but whenever the douche bag was elevated, rapidly increasing the pressure and quantity of water entering the fistula, the gall bladder became filled to over-distension, because the inflow was greater than the outflow through the cystic duct, producing there and then her old-time typical gallstone colic. The pain was local, over gall bladder, and referred to the umbilicus and between the shoulders, just the same as before the operation. The passage of a small flexible bougie into the cystic duct gave rise to no pain until stretching occurred. The rubbing of the inside of the bladder with probes and bougies gave no inconvenience, but just as soon as an olive-pointed bougie or sound a little larger than the caliber of the cystic duct entered its orifice the typical colic of gallstones suddenly came on. These experiments I have repeated many times. From this I conclude that the spasm is an etiologic factor in gallstone colic when the power of contractibility is still present. When the bladder and ducts are fibrous, hard and firm, no pain is produced in them except by stretching. The etiology of the biliary colic may be schematically presented as follows:

CAUSES OF BILIARY COLIC.

The primary causes are: 1. Over-distension and stretching of the gall bladder and ducts. 2. Spasm of muscular fibers of the biliary passages. The secondary causes are: 1. Tonic contraction of the right rectus abdominal muscle, pressing an over-distended gall bladder. 2. Infection, causing inflammatory swelling. 3. Cancer of the gall bladder and ducts intensifying and continuing pain.

Vomiting is a common sign of biliary colic and is often very troublesome. It usually follows the pain, and is acute, the stomach contents, mucus and often bile coming up. When bile is vomited in jaundiced cases it shows that the obstruction of the common duct is not complete, and then biliary pigment can be found in the stools. When blood is vomited some gastric disease may be looked for. The vomiting in twelve of my chronic cases of gallstone impaction with jaundice became a daily occurrence and so easily provoked that no solid food could be taken. When the kidneys are diseased the vomiting is more persistent and frequent. If large gallstones are found in the vomited matter it is evidence of a fistula having formed between the gall bladder or biliary ducts and the stomach.

Nausea accompanies some chronic cases of vomiting and is provoked by the slightest pressure over the impacted stones. Clay-colored stools have long been recognized as caused by complete obstruction to the flow of bile. If small gallstones are found in the stools during or following the attack of suffering, they have escaped from the gall bladder and ducts per via naturales. If they are larger than what possibly can pass the ducts, then most likely they have come into the bowels through a fistula formed by means of pressure atrophy or ulceration. Enteroliths composed principally of gallstone material (cholesterin, etc.) sometimes obstruct the bowels. Indigestion, constipation, irregular tympany, cough, nervousness, emaciation, etc., are other signs of cholelithiasis.

In cholelithiasis jaundice is either acute or chronic, caused by absorption of the bile by the lymphatics. It is the most certain and frequent sign of an obstructed common or hepatic duct. It occurs in rare instances when no stones are in these ducts. I have seen the hepatic duct blocked with echinococcus cysts causing jaundice. Cases are reported where a large stone or stones in the gall bladder or cystic duct pressed on the common duct so as to obstruct the flow of bile. It is frequently caused by inflammatory swelling of the mucous membrane. It is not my experience that two-fifths of the

cases occur in this way, as stated by Riedel. On removal of the obstruction by operation, air or water may be forced into the duodenum. Immediately after relieving impaction of the ducts the quantity of the bile pigment in the urine decreases in some cases before inflammatory swelling could subside. I must say I have seen the jaundice deepen for two or three days after an operation. I have also noticed "suppression of bile" for several days after cholecystotomy. This may have been congestive swelling obstructing the ducts or caused by shock.

Beautiful theories as to the cause of jaundice have been advanced, based on the disturbance of liver cells (Liebermeister) and reflex nervous influences (Pick). When jaundice is not present in gallstone colic, we should not wait for its appearance before recommending an operation. It may never appear. The patient may suffer attacks for years with no jaundice, and it is often found that the stones in the gall bladder were too large to ever pass through the ducts. An interesting case was met by myself and others in which the common hepatic and large branches of the intrahepatic bile ducts were filled with calculi and still distinct jaundice never appeared. The bile must have trickled through between the stones. It is not an infrequent occurrence for bile to escape for a time around a large stone in a duct. The disappearance of jaundice in an acute case of colic does not, in the vast majority of cases, mean that the stone or stones have passed into the intestines and that spontaneous cure has resulted. Repeated attacks of jaundice with absolute freedom from it between the attacks is rather indicative of a supply of calculi within the gall bladder. Chronic obstructive jaundice, with attacks of colic, is necessarily incomplete; hence it may last for months or even years without causing death. Repeated acute exacerbations of jaundice engrafted on a chronic jaundice are indicative of a stone shuttling to and fro in the common or the hepatic duct. It is known as ball-valve action (Fenger). In one of my recent cases a stone was plying in the cystic and common ducts, causing colic and jaundice, the latter entirely disappearing between the attacks. The chronic jaundice of gallstone obstruction is characterized by improvements and relapses lasting indefinitely without producing profound cholemia, which is of clinical value in contradistinction to the chronic jaundice due to malignant obstruction of the common duct. The presence of bile in the urine is often the first sign of approaching jaundice.

Itching is a symptom of jaundice and universally affects the skin, frequently disturbing the patient at night. It is not always present and is obstinate to local applications.

In acute biliary colic, arising from a stone in the cystic or common duct, the liver dulness is increased. I have seen it extend to the level of the umbilicus. A local perihepatitis manifested by local pain and friction is sometimes present in cholecystitis and cholangitis. When the liver is enlarged, but not tender, the increased size is evidently due to the engorgement of the intrahepatic bile ducts.

Enlargement and distension of a normal gall bladder are always present in acute impaction of a stone in the cystic duct. In dropsy of the gall bladder, in retention cyst, in acute and chronic empyema of the gall bladder, in acute phlegmonous inflammation of it, and in impaction of many stones in the gall bladder it is enlarged. I have seen the gall bladder enlarged by great fibrous thickening resulting from colon bacillus, making it difficult to differentiate it from carcinoma macroscopically. In chronic impaction of the ducts the gall bladder becomes contracted and tender. It is well to recollect that in cases of chronic jaundice with or without a history of cholelithiasis and the gall bladder enlarged, the obstruction of the common duct is usually malignant.

The rise of temperature during biliary colic took place in about 52 per cent. of my cases. The fever begins after the pain and a chill may accompany it. It usually ranges from 99 to 101 F., but may reach 103. The pulse rate is not accelerated in proportion to the rise of temperature, but is often lowered. This biliary fever is still an enigma. It sometimes exists when no germs are present in the bile, but this does not exclude infection. The absorption of biliary constituents may account for it. In partial support of this view I wish to refer to a case[5] operated on on the 6th of July, 1896. In this case the gall bladder was perforated by a stone and the peritoneal cavity filled with bile. The temperature ranged from 99 to 100 F. for six days before the operation, and it subsided on washing out the peritoneal cavity and emptying the gall bladder of stones and bile. No germs were found in the bile. The "intermittent hepatic fever" of Charcot is found in certain chronic cases. In the presence of jaundice it is to be distinguished from malaria. The "chills and fever" occur sometimes with ague-like regularity (Osler). The fever is not changed by quinin, the spleen is not enlarged and no parasites are in the blood.

MEANS OF DIAGNOSIS.

1. *Evidence, Direct and Indirect.*
2. *Inspection, Palpitation and Percussion.*
3. *Deep Prod.*—Mr. Jordan Lloyd tersely described the value of giving a prod over the gall bladder with the closed fist, and if gallstones are present, considerable pain may be caused. It is a procedure of considerable value.
4. *Auscultation.*—By listening over the gall bladder the friction sound of local peritonitis and perihepatitis is detected, and thus the extent of recent inflammation may be defined. During the acme of colic the gallstones can occasionally be heard striking against each other. I did not believe this until 1889. I had a patient who passed through the hands of "Christian science healers" who did not consent to surgical interference. For twelve years she had suffered from gallstone colic in an intermittent manner and the last fourteen months of her life with persistent jaundice. The gall bladder was enormously enlarged, and the "rattling of the stones" could be heard while standing by the bedside. This peculiar sound was to her mind an omen of Nature's effort to break up and melt the stones.
5. *Examination of Blood and Urine.*—An examination of the blood for leucocytosis is of value in differentiating cholelithiasis, or in recognizing infection of the gall bladder and ducts as a complication. Examination of the urine very frequently reveals a trace of bile in obstruction of the cystic duct, even when there is no jaundice present, which is of value in making an early diagnosis of gallstones.
6. *The X-Ray.*—The Roentgen ray has not been of very much aid in my cases, but it appears to have been of value in the hands of others. It is to be hoped that this means may become of more value.

GANGRENE OF THE GALL BLADDER.

Gangrene of the gall bladder is sufficiently uncommon to justify me in reporting two cases, one due to infec-

5. Medicine, August, 1897.

tion and the other caused by over-distension of the gall bladder.

CASE 1.—Mr. J. W. S., age 59, merchant of Syracuse, Ind., April 3, 1898, was seized with biliary colic and called Dr. B. F. Hay of that town to relieve him. His pulse and temperature were normal, the pain was intense, only relieved by frequent hypodermic doses of morphin and local applications of hot moisture. A tender swelling, dull on percussion, was felt under the right costal arch. The liver dulness was enlarged and the area tender. On the evening of the third day the smouldering pain became infuriated to intense seizures of suffering, causing him to complain even when profoundly narcotized with morphin and abdomen covered with hot stupes. Slight tympany, a rise of temperature to 102, an increased pulse rate of 110 to 120 per minute and slight jaundice ensued. On the sixth and seventh days the tympanitis increased and extended over the tumor and lower border of the liver, the pulse and temperature remained about the same. I was summoned on the seventh day, and on arriving found that he had died about half an hour previously.

The temperature was at its lowest degree (100 F.) an hour before death, and the highest (105.2) ten hours previously, at which latter time the pulse was 120 and the respiration 32. His urine passed involuntarily, and he was unconscious nearly all the time, speaking distinctly once, eighteen hours before death.

Previous History.—With the exception of occasional slight and insignificant colicky pains in his stomach during the last two years, lasting but a few minutes, he has enjoyed the best of health.

Postmortem.—The findings in the abdominal cavity were as follows: A full length median incision allowed coils of distended bowel, normal in color, to protrude. On passing the hand adhesions were felt in the right lumbohypochondriac region, and nowhere else. A transverse cut through the right abdominal wall to the lumbar region fully exposed the pathologic condition. The right and upper border of the omentum was red, swollen, covered with thick lymph, overlapping the colon and gall bladder and adherent by delicate adhesions to these structures and to the parietal peritoneum and liver. An abscess was situated in the right lumbar region a little below the end of the twelfth rib, and contained about an ounce of pus. A suppurating track led from it to a perforation in the gall bladder on its anterior surface near the end. The edges of the perforation in the gall bladder were black and gangrenous looking. The gall bladder was about twice the normal size, tense and edematous to the touch, livid in appearance, with black spots showing through in many places. It had the manifestations of an advanced stage of acute phlegmonous inflammation. It was sausage-shaped and extended along the under surface of the liver beneath the costal arch. The adhesions surrounding it were very friable, and these being broken down, dark-colored fluid oozed from the surrounding tissues. The gall bladder was now opened. It was filled with dark-colored bile and 776 stones, varying from the size of half a grain of wheat to a large bean. The mucous wall of the gall bladder was gangrenous in many places, which here and there showed through all the coats of the viscus.

The ducts were laid open and found normal. All the other organs in the abdominal cavity appeared normal, even the vermiform appendix.

Bacteriologic Examination.—In Professor Kleb's laboratory at the Postgraduate the contents of the abscess and the fluid contents of the gall bladder were subjected to a bacteriologic examination. The former contained many slender bacilli of different lengths, mostly in chains, streptobacillus of pus and a few cocci, and the latter was found to have in it the *Bacillus coli communis.*[6]

CASE 2.—Mr. A. M. P., age 43, referred by Dr. Gentles; entered the hospital March 22, 1902, complaining of:

1. Slight pain in the right hypogastric region.
2. Tumor in region of gall bladder increasing in size.
3. Temperature 102 F. (rose from 99 in 3 hours).
4. Loss of appetite.

6. This case was published in Chicago Medical Recorder, May, 1898.

History of Illness.—March 12 patient came to Dr. Gentles complaining of uneasiness in the stomach. Tongue slightly coated. The uneasiness bore no relation to the digestion of food. On palpation a small tumor was discovered at the site of the gall bladder, the size of a walnut. This was almost painless on deep pressure.

March 16 patient returned unchanged. March 20 the gall bladder was somewhat increased in size. March 21 patient had an attack of acute pain which was relieved by morphin sulph. gr. ⅛. On the morning of March 22 the bladder was distinctly enlarged. Operation was advised and patient removed to the hospital.

Physical examination revealed a tumor in the region of the gall bladder, hard on palpation, movable and directly traceable from an inch above the level of the umbilicus to the lower border of the liver. The patient is a large corpulent man who has always been healthy.

Operation.—An incision was made over the tumor. The gall bladder easily found, very much enlarged and the upper third gangrenous. In color it was black, the luster of its peritoneal coat lost and in two places its coats were thin and would certainly rupture before long. The gangrene was evidently caused by over-distension of the gall bladder. On aspiration about 15 ounces of a black thick fluid were removed. Then several scoops of small gravel were removed. The gangrenous portion was cut away and the healthy part sutured to flaps of peritoneum and transversalis fascia.

Drainage tube inserted into the gall bladder surrounded by plain gauze. Gauze strips were placed from the anterior wound to the foramen of Winslow. Another drainage tube was inserted through the lumbar region to the foramen of Winslow. The incision was closed with silkworm gut.

After-treatment.—On the first day the temperature was 102.2 and pulse 112. On the third day the temperature was 99, and remained normal throughout. The wound was dressed first on the sixth day, and after that daily. During the last week in the hospital a slight quantity of pus was discharged from the superficial tissues.

Four weeks after the operation the patient left the hospital with a small fistula. Ten days later a slough of a major portion of the gall bladder came away through the fistula, and six days later it was completely closed. The contents of the gall bladder were sterile. His recovery is complete.

OPERATIONS DURING THE ATTACK IN BILIARY COLIC.

Waiting for the attack to pass off proved fatal in two cases that came under my observation, one of acute phlegmonous cholecystitis and gangrene of the gall bladder.[7] The man was ill for seven days with exaggerated symptoms and signs of obstruction to the cystic and common ducts, and also with undoubted evidence of infection, although he had for a couple of years colicky pains in his stomach, off and on, not deeming them of sufficient importance to consult a physician. This attack was his only severe one, and it killed him because he would not consent to an operation.

In another case death was caused by the severity of the colic. I had removed several small myomata from her uterus three days previous to the attack of colic which ended her life in six hours. This woman had a history of cholelithiasis, but refused operation. While waiting for the attack of the colic to pass off she sank and died from shock. The only pathology revealed by a postmortem examination was an over-distended gall bladder which contained bile, mucus and three enormous gallstones.

If infection is present, the sooner the gall bladder is uncompromisingly attacked and drained the better. In a well-marked case of biliary colic let it be even the first attack, the gall bladder enlarged, tender, etc., I can see no scientific or reasonable objection to the removal of the gallstones there and then during the attack.

7. Chicago Med. Recorder, May, 1898.

Early operation shortens suffering, prevents complications and obstruction of the ducts. No case should, in my opinion, be allowed to become chronic. Early gall-bladder surgery is safe and easy, while late operations are dangerous and difficult. The physician has no assurance from clinical experiences or pathologic findings that in a given case the attack will subside without causing (*a*) jaundice by obstruction of the common duct, which may remain until relieved by a serious operation; (*b*) rupture of the gall bladder; (*c*) ulceration and perforation by pressure of the stones; (*d*) death by the severity of the colic; (*e*) empyema, and (*f*) acute phlegmonous inflammation and (*g*) gangrene.

Treatment.—I shall not discuss the treatment at length, because it is fairly well established from a surgical point of view.

Incision.—The straight incision through the abdominal wall entering opposite the ninth costal cartilage and extending perpendicularly downward through the external border of the right rectus muscle is the one I make in preference to all others. It gives sufficient room in dealing with all conditions of the gall bladder. In removing stones from the cystic and especially from the common duct more room is often required; then from the upper angle of the straight incision cut upward and inward to the ensiform cartilage, severing skin, anterior and posterior sheaths of the rectus muscle, but not the muscular fibers or peritoneum, for they will stretch. This extension from the upper end of the straight incision affords ample room for all surgical procedures on the cystic and common ducts except the duodenal orifice.

PALPATION OF THE GALL BLADDER AND DUCTS.

The abdomen being opened the gall bladder is best palpated by two forefingers of the right hand. It feels soft and resilient when it is normal, and then by gentle but firm pressure on it against the liver it is readily emptied of its contents. Abnormal positions of the gall bladder are then looked for, and should flexion at its neck be detected it must be corrected by fastening it to the upper angle of the wound and thereby prevent it from again doubling on itself. It is astonishing the grave attacks of colic that may be caused by simple flexion of the gall bladder. Should the case be chronic, even though no stones are felt in the gall bladder and its contents readily pass through the ducts into the duodenum, biliary sand, catarrhal cholecystitis or atony of the muscular coats of the gall bladder is likely present and then the gall bladder should be drained externally. When gallstones are present in the gall bladder they can usually be palpated; should the gall bladder be very tense, aspiration of its liquid contents may be necessary before the stones can be felt. The gall bladder is in certain chronic cases so thick from inflammatory attacks that nothing can be felt but a cicatricial mass in the region of the gall bladder with old adhesions surrounding it, through which no stones are detectable. The mass must be split open to find them.

PALPATION OF THE CYSTIC, HEPATIC AND COMMON DUCTS.

This is best performed by the left hand, the surgeon stationing himself on the left side of the patient. The two forefingers of the left hand are passed into the foramen of Winslow behind the ducts with the thumb coming immediately in front of them when a stone in the cystic, lower portion of the hepatic, or in the common duct, except at the ampulla of Vater, is palpable between the thumb and fingers.

HOW TO ASCERTAIN THE PATENCY OF THE DUCTS WHILE OPERATING.

Probe.—A probe will not pass through a normal cystic duct on account of the spiral valve-like formation of its mucous membrane, but it can be easily passed through the common. On opening the gall bladder and emptying it of stones, bile, etc., it is often necessary, before complete work can be carried out, to ascertain whether the ducts are obstructed or not. A probe may detect a stone in them, but should you be unable to pass it through the cystic it may be open for all that, i. e., it may be normal or strictured, and for this reason the probe is unreliable.

Water.—I have frequently proved the patency of the ducts by forcing water through them. It will pass through ducts that allow the conduct of bile. An ordinary rubber bulb syringe is all that is required for this purpose. It is easy to use water by inserting the nozzle of the syringe into the incision in the gall bladder and tightening the viscus around it so as to prevent the water from returning and thus test the patulency of the cystic and common ducts. The quantity of water that passes into the bowel can be reckoned. For this purpose I have devised a special instrument which I here exhibit. On completing the test some care is required to prevent wetting the surrounding parts.

Air.—Dr. Van Hook was the first to employ air for testing the patency of the bile ducts, and he devised an instrument for this purpose. Air has the advantages of being always available, practically pure and it quickly balloons the duodenum. One squeeze of the same rubber bulb that I used for water will at once bulge up the bowel with air when the ducts are open. No special apparatus is necessary. The air test is the quickest, most satisfactory, and any rubber bulb that holds four or six ounces may be employed. It also requires less force to pass it.

CHOLECYSTOTOMY.

Incising, emptying, draining and suturing the gall bladder in place is usually not difficult. Of all the operations at our command for the treatment of gallstones, cholecystotomy has the widest range of usefulness. When properly performed with an understanding of its indications and limitations the results are excellent. In emptying the gall bladder of mucus, bile and pus a suitable trocar and cannula is the most efficient. I then wash out the gall bladder with an instrument so constructed as to allow a return flow, with water at the temperature of 115 to 118 F., and finally force the water out with air and thus prevent the water from wetting the wound or surrounding packing. No soiling of the peritoneum or wound should be allowed no matter what may be the contents of the gall bladder. Let the operator take it for granted that everything within it is capable of infecting the patient.

For the removal of stones I find that scoops of different sizes do the work most quickly and safely. The gall bladder should, in order to prevent a biliary fistula, be sutured to the inner aspect of the abdominal wall and at the upper angle of the wound. It should not, as we used to do, be sutured to the skin, nor to the lower angle of the wound. It is my practice to drain most every gall bladder that I open. There are several reasons for doing this. The first is that virulent germs may be present, and this can not be ascertained while operating. Second, catarrhal, ulcerative and inflamed conditions are also often present, which are best treated by drainage. The traumatism caused by the operator to the gall bladder itself, while removing gallstones from it, produces a

certain amount of hemorrhage and oozing of blood serum which had better be allowed to escape externally.

The drainage rubber tube is protected with gauze, and care is taken that it does not engage the cystic duct. If the end of the tube is grasped by the duct, the patient suffers from colic immediately after the operation. The operation of cholecystotomy by two stages seems to me quite uncalled for. It is not suitable for the most difficult cases of impacted gallstones, where deep jaundice or infection is present, and for the easy cases I can see no object for delaying the opening of the gall bladder at once. The drainage tube may be removed in four or five days should the bile be sterile. The indication for the permanent removal of the drain is the sterility of the fluid material coming away. The gall bladder should not be packed with gauze.

Cholecystopexy and cholecystendysis are fast becoming obsolete, and are procedures hardly worthy our deliberation.

CHOLECYSTENTEROSTOMY.

This procedure has a limited field of application. The chief indication for which this operation was devised—the cure of biliary fistula—no longer pertains because it is prevented by the proper performance of cholecystotomy. Should, however, the common duct be completely obstructed by cicatrization or malignant growth and a permanent biliary fistula thereby inevitable, then cholecystocolostomy should be performed.

CHOLECYSTECTOMY.

The removal of the gall bladder is indicated in primary carcinoma of that viscus, and when it is perforated in many places by a phlegmonous (gangrenous) inflammation. It is not even necessary to remove the gall bladder for retention cysts, because Drs. Mayo of Rochester, Minn., first published and demonstrated that the removal of the mucous membrane is all that is required. It is a simple and safe procedure. In cases of large retention cysts, and especially in hydrops of the gall bladder, its removal with its contents is surgical and comparatively easy to perform. When it is deemed best to give rapid escape to the bile, as in cholemia, the gall bladder had better be used for drainage purposes if for nothing else.

CHOLEDOCHOLITHOTOMY.

This is the removal of a stone or stones from the common duct. It has been performed in three different ways: First, by attacking the duct from the right of the duodenum, known as the external route. The second is exposing the duct from the left of the duodenum, and the third method is the transduodenal. The second of these has been properly discarded. So much has been written and said about choledocholithotomy that it is unnecessary to repeat it here, and the transduodenal route is only suitable when the stone is impacted in the ampulla of Vater. Stones in any other part of the common duct can be removed by exposing it to the right of the duodenum. Suturing of the common duct, after the removal of a stone or stones from it, is not at all necessary. I have demonstrated to my own satisfaction that the duct will close within three or four weeks, and all that is required is to have Morrison's pouch and the opening in the duct completely drained.

In removing stones from the cystic duct an effort is first made to force them back into the gall bladder; failing in this even after dilatation of the neck of the gall bladder, the stone or stones must be cut out. It is best to cut the peritoneum parallel to and above the duct and then open the duct on its upper surface. The peritoneal flap is then returned and sutured in place.

HEPATOTOMY.

Incising and draining the liver in certain cases of gallstone impaction with jaundice and cholemia is a procedure advised and practiced by Dr. W. E. B. Davis[8] of Birmingham, Ala. Dr. Davis said: "The point I want to make particularly is this, that in those cases where we can not reach the gall bladder or the main ducts, we should open the liver and drain it for biliary obstruction. After the patient has recovered from the cholemia and exhaustion, if the duct has not been cleared, a radical operation should be undertaken for the removal of the obstruction." It is a procedure worthy of further trial. It served me well in one case of cholemia.

DISCUSSION.

DR. W. J. MAYO, Rochester, Minn.—As to the question of exposure: Robson is in favor of making a space large enough to draw the liver well up and out with the hand, exposing the ducts; Lange severs the costal cartilages to increase the room; in our experience, by cutting the gall bladder loose from the liver it can usually be drawn out of the wound, exposing the ducts. This allows the liver to recede and gives more room. As to adhesions: I would warn against their extensive division in acute infections, if they are not giving trouble, as they are a good barrier to the extension of the infection. In stones in the common duct we locate the stone without too much exposure and, following the suggestion of Dr. Elliott of Boston, place a suture in the duct each side of the stone, using it like a stocking ball in darning. This gives control of the duct and also by tying across acts as sutures. Davis of Birmingham first called attention to the necessity of drainage of the hepatic ducts. This is very important. These cases sometimes die from lack of free drainage from the liver. The drains should be tied in place with catgut, causing it to remain *in situ* until adhesions take place, otherwise they become displaced.

DR. W. E. B. DAVIS, Birmingham, Ala.—Dr. Ferguson has referred to the operation—hepatotomy—which I have recommended in a class of cases of biliary obstruction. As stated in my paper on this subject, the operation is indicated in cases of obstruction with enlarged liver, where the gall bladder or ducts can not be isolated, or the patient's condition from exhaustion and cholemia will not permit of a protracted search for the bladder or ducts. It will be only exceptionally called for and the cases will be fewer as the surgeon's experience increases in choledochus operations as he will then be enabled to better locate the bladder and ducts so much changed by inflammatory processes. After the patient has been relieved of cholemia by the escape of bile from the incision in the liver, an operation with less danger may be done for the removal of the obstruction in the duct. In addition to the above indications I think the operation should be resorted to in hepatitis before it has reached the stage of pus formation, if the liver does not rapidly become smaller after drainage of the biliary reservoir or the ducts. My attention was first attracted to the value of the procedure in a case in which the amount of pus removed was not more than one-half ounce, but in which the division of the biliary canals resulted in the escape of large quantities of bile for many weeks.

DR. JAMES E. MOORE, Minneapolis—We are still interested in all cases that are not very well understood and in the diagnosis of those in which the cause is obscure. We can naturally make parallels between stones in the gall bladder and stones in the bladder. Recently I heard some very interesting points bearing on this condition, and it was suggested that in Minnesota there must be some climatic cause for gallstones, as there were so many operations, but the truth is that a diagnosis is made. Local tenderness is a prominent feature, and we should lay great stress on this. Dr. Robson pays great attention to this point, and the Mayo Robson point should be as familiar to us as the McBurney point. I have one interesting experience in the matter of pain as a diagnostic feature. A

8. Southern Surgical and Gynecological Transactions, vol. xiv, p. 246.

man 35 years of age had repeated attacks of pain about 2 o'clock in the morning. The pain was excruciating and was accompanied by vomiting. If he would lie down on his left side a tumor appeared in the median line. I made a median incision and found a large gall bladder full of stones with abundant adhesions. I removed the gall bladder through this incision. As to the attachment of the gall bladder at the upper end of the wound, Dr. Ferguson says this should always be done in order to avoid a sinus, but I think this depends on the size of the liver. I remember one case where it could not have been done on account of the right lobe of the liver coming so low, so that there are exceptions to this statement. I fastened the gall bladder low down in this case and no sinus resulted. I am sure that a sinus depends on the manner in which the gall bladder is attached to the abdominal wall and not to the location.

DR. DUDLEY P. ALLEN, Cleveland, Ohio—Two years ago I had, during a period of about five weeks' practice, five cases of suppuration of the gall bladder. That cases of this kind occur frequently and are so serious when they do occur, is a strong argument in favor of early operation. Not only are cases of acute suppuration serious, but also those in which there has been long-continued inflammation so that all of the tissues surrounding the gall bladder and ducts are firmly united to them by inflammatory adhesions. On the other hand, inflammatory conditions of the gall bladder, whether associated with stones or not, if taken early are usually operated on without serious risk. Beside, there are many cases in which there are indefinite symptoms of distress in the epigastrium, often long continued, and sometimes supposed to be due to malignant disease, which on exploration are found to be due to the presence of gallstones. In a very considerable number of such cases I have found on exploration conditions which could be entirely relieved. Frequently gallstones exist for a long period, and although they do not give the classical symptoms of jaundice, colic and vomiting, they still may cause grave disturbances of digestion and depression of the general health. I would strongly urge, therefore, the importance of exploration in cases where the symptoms point toward difficulty in the region of the epigastrium, even although a positive diagnosis can not be made. The dangers of an exploration are slight; the chances of benefit have, in my experience, been far in excess of what I could have anticipated and inasmuch as late operations are beset with greatly-increased severity and danger to life it would seem to me that we are warranted in taking a strong position in favor of early exploration.

DR. JOSEPH RANSOHOFF, Cincinnati—As to the diagnosis of gallstones, we often operate on the kidney and find nothing wrong, but this does not often happen with the gall bladder. We have no single positive symptom indicative of gallstones, and yet there is something about a case in which we suspect gallstones that, when operated on, will certainly show something. If there is nothing in the upper portion that is positive, particularly where the symptoms are especially developed on the part of the stomach itself, it is probably safe to come to the conclusion that there is something wrong with the gall bladder. As to recurrences, secondary operations have had to be done in some cases, but as to whether there had been a recurrence of the gallstones is an interesting question. Years ago I read a paper on this subject. I then said, and say now, that almost all gallstones that one finds in the gall bladder are nearly alike in shape and size; everything seemed to indicate that they were formed at one and the same time. If we do have to operate a second time it is usually because one or more stones have been overlooked. We occasionally promise our patients, where their gall bladder is emptied, that they will be freed from their disease, and as we are reasonably certain the operation has been complete, there is but little danger of a return of the condition.

DR. R. H. GIBBONS, Scranton, Pa.—Dr. McBurney did not offer the operation through the duodenum as a matter of choice, but as a matter of election. It is only when the stone is low down in the common duct next to the intestinal wall that he recommends it. This operation, transduodenal, was given to the profession only after thorough trial by McBurney himself, as has been given all the other surgical procedures of this not only distinguished but remarkable surgeon. The place that he has given to the method it still maintains, and in no other route can a stone, situated low down in the duct, in the ampulla, be removed by so easy, hence safe, a method as by this. The one great danger, it seems to me, in dealing with a stone low down in the duct, is injury to the duct of Wirsung, which is now looked on as being the chief cause of hemorrhagic pancreatitis. In what safer way can we keep from injuring this important territory, the ampulla, where the duct of Wirsung empties through its mouth, than by this cleverly-designed operation of one of our great American surgeons, the transduodenal operation for stone in the common duct, or, more strictly speaking, McBurney's operation for gallstones?

DR. MILES F. PORTER, Ft. Wayne, Ind.—The place at which the gall bladder is attached is not so important as is the manner of its attachment. The manner and not the location is important. Pull it out and stitch it to the skin and you will have a fistula for a long time. Stitch the gall bladder to the peritoneum only and the fistula will soon close.

DR. ROBERT F. WEIR, New York—I am in accord with those who have advocated leaving the wound of the common duct open and not sewing it up. Let it drain and supplement the drainage by the use of Cathcart's or Dawbarn's apparatus. I use a large glass tube through the abdominal wound down to the wound in the common duct, and in this a smaller tube is carried, through which siphon suction, if used, is resorted to. Another point is that in some cases where we have not been able to determine previously whether the common duct is patent or not, or when you have operated on a case where you have found a stone in the gall bladder and you do not know whether there is another blocking up the passage, I resort to a little method of my own. At the closure of the opening, when the gall bladder has been fastened to the peritoneum and just before the drainage tube has been put in position, which I secure with a purse-string suture, I place a small pellet of methylene blue into the gall bladder. If the tube is patent it will escape promptly into the intestines and color the feces, and this doubtful point will then be settled.

DR. HENRY O. MARCY, Boston—I disagree with one of the speakers, who said that this question is comparatively a settled one, as the conditions are always questionable until the abdomen is opened. We should make our diagnosis sufficiently correct to warrant an exploratory operation, and then be governed by the conditions actually existing. I believe that a large share of these doubtful cases, such as come to the majority of us, are of neglected conditions, due to unwarranted delay. If we operate early everything gives promise of an easy cure. I am glad to feel that I am growing more and more enthusiastic in reference to the surgery of the gall bladder, and yet the last case on which I operated a few days since died. The pathology seems to show that it was simply an obstructed duct from a paralyzed and dilated gall bladder without any calculi. The gall bladder was extremely dilated and filled with very thick bile, the duct being patent. The woman died from cholemia. It was easy to determine that we had a patent duct, but the cholemic conditions were so marked and the operation had been so long delayed, because it was thought to be cancer, that the end was fatal.

DR. FERGUSON—I have three cases where the gall bladder was sutured to the abdominal wall at the lower angle of the wound and three fistulas followed, one in Johns Hopkins, one in Cincinnati, and one in Chicago. The gall bladder should always be attached to the upper angle of the wound, as this will enable us to drain while the patient is lying down. I never saw a case of recurrent gallstones. I had one sent to me as being such a thing, but it turned out to be a large roll of silk used in the operation. I have operated on the gall bladder and found no stones. Colic had been very severe, and was due in two of the cases to flexion of the gall bladder, it being downward and inward. Overdistension occurred, as it could not empty itself. By fastening it to its proper place the patients were cured. I believe in draining every gall bladder I open, so that it may

contract down and act as a tube draining the liver. I do not condemn cholecystectomy when it is indicated, but I believe in leaving the gall bladder there when you can, as it will act as a drainage tube.

Suturing of the common duct I have practically discarded, as it prolongs the operation, and you do not get the proper drainage. If you have infection present and you suture, you do a bad piece of surgery. The very cases where you can suture the common duct are those where the bile is sterile, and in all these cases it is necessary to drain. I use the Packard string in my operations, and it has fulfilled all the indications for me. I would like to say a word about the severe cases. You have all the clinical evidence of fulminating appendicitis and perforative appendicitis. These cases should be operated on instantly.

VENEREAL PROPHYLAXIS THAT IS FEASIBLE.*

LUDWIG WEISS, M.D.
Attending Physician to the Skin and Genito-Urinary Department of the German Poliklinik, Consulting Dermatologist Hebrew Orphan Asylum.
NEW YORK CITY.

In attempting to speak on the prophylaxis of venereal diseases before so highly a representative body, the reader is conscious of the fact that he has only very little to offer that is new and that has not already engaged the minds of his peers assembled here. The topic is of vast importance to the well-being of the people, whose working and earning capacity is encroached on, not so much by the active accidents caused by those diseases, but much more through their chronic manifestations, especially in women. My object is that the profession as a whole should take cognizance of this ever-present scourge and its dangers to society, through the medium of the American Medical Association, and that a propaganda of action should be instituted by the members in their different states to devise measures for diminishing the spread of and for reducing the morbidity and mortality from venereal diseases.

In New York City we had occasion to witness two efforts within two years dealing with this question. The one emanated from representative and public-spirited citizens forming a Committee of Fifteen, to institute a search of inquiry into the causes of prostitution, especially in the tenement houses. This wave of reform stirred the medical profession from its latent endeavor into action, and as a result the President of the Medical Society of the County of New York, in pursuance of a resolution adopted by the society Feb. 25, 1901, appointed a Committee of Seven for the "study of measures for the prophylaxis of venereal diseases."

The able report of its chairman, Dr. Prince A. Morrow, has no doubt been perused by you. The writer enjoyed the privilege of serving as secretary to the committee and of analyzing and classifying the returns which came as answers to the circular letter sent to the profession of Greater New York. He is therefore somewhat acquainted with the ideas held by the profession here on this topic.

In attempting to deal with the prophylaxis of venereal diseases I am well aware that I am dangerously near to a very delicate topic, prostitution, and that I am running the risk of becoming engaged in the maelstrom of arguments for and against its reglementation, its segregation or its tacit toleration, and of an array of opinions which have been recommended and condemned by their exponents in good faith. At the same time, I would have to take issue with the state authorities for their inaction in reference to our topic and for their neglect to take notice of a class of diseases which inflicts severer misfortune to the population than all other scourges together.

I would have to cross arms with those Utopian moralists who interfere with every attempt of sanitary intervention in venereal diseases, by their sincere but bigoted hyper-puritanism and utterly misdirected efforts of trying to change human nature under the prevailing socio-economic conditions. Let me emphasize in anticipation of the following that the reader, as well as every one of us, no doubt, would hail with delight that advent of the expected millenium when the moral sense of humanity will have developed into that sublime conception of purity of thought and action which looks on the consummation of marital relations as the solemnized and only legitimate means of satisfying physical love for purposes of mutuality and procreation.

But if we study the natural history of mankind from its primeval states of herding of clan and kinships up to the foundation of orderly communities, under self-imposed restrictive laws, we find that the individual who renounced his rights for the good of the common weal, reserved polygamy, of which he would not suffer himself to be deprived. With the dawn of civilization the innate sense of jealousy became more conscious in men, developing in them the desire for possession, and urging them on toward polygamy. But the very same moral shortcomings gradually paved the way towards monogamy also. It was now the ardent desire for sole possession engendered by the nobler traits physiologically inherent in the female which appealed to the awakening moral sense of man.

Christianity fostered these sentiments and monogamy became the status of all civilized peoples. However, by the law of atavism, an occasional retroverting into the barbaric state of remote ages, a dormant inclination or propensity towards polygamy is dimly extant in man. This defect must be looked on as a physiologic weakness. These polygamic proclivities, attenuated as they are by the influence of religion, education and science, and through the monogamic conditions of many thousand years, are not as yet entirely eradicated in man.

Women possess a higher sense of morals, developed in them through ages by the physiologic process of child-bearing, engendering in them that supreme motherly love, limitless self-denial and readiness for sacrifice which we all admire so much. In women polyandric tendencies are almost extinct, as a rule. If present, such atavism is of infinitesimal proportion and a factor well-nigh negligible.

In those rare instances where such atavism in women manifests itself in a marked degree we are justified to see stigmata of degeneration, caused probably by the presence of aberrant cell formations in the brain of primeval origin. A life of vice in women indicates therefore a deeper downfall and a retroverting into primitive conditions out of which Nature has elevated her.[1] If we add to these atavistic abnormalities the influence of adverse socio-economic conditions, we will at once perceive how such tainted characters of lesser value might succumb, producing as a type a fallen woman. The evolution of prostitution therefore is a biologic as well as a social phenomenon.

While the above views are in line with those held by such authorities as Lombroso and Tarnowsky, there are

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

others who attribute to this theory of evolution some, but not the main, importance. It is held by them that the prostitute is in the main the outgrowth of environment, of socio-economic conditions and of the sexual hyperactivity of man. Be that as it may, prostitution must be regarded as the fountain head from which venereal diseases originate. It forms the main source from, through and toward which courses in an unbroken vitiated stream the poison which inoculates the living and contaminates those yet unborn. In comparison to this, all other modes of propagation are *nil.* In order to stamp out venereal diseases absolutely prostitution must be annihilated first. No prostitution, no venereal diseases. To prevent them some measures must be instituted against it. Any prophylaxis instituted against their spread must necessarily begin with measures directed toward either the suppression or repression of prostitution.

SUPPRESSION.

But since prostitution *can not be suppressed,* and history shows that it resisted every onslaught, it should not, but it must be regarded as an inevitable evil, a phenomenon as old as the legends and the history of humankind itself; and so long as man must be defined as an "intellectual being limited by sensuality," so long will the absolute "crucifixion of the flesh" be an impossibility, contrary to the spiritual perceptions of the dominant mind.

REPRESSION OR REGLEMENTATION.

The sanitary supervision by reglementation of prostitution endeavors to influence the inevitable evil, by searching for diseased prostitutes and subjecting them to police surveillance and compulsory hospital treatment when diseased. While such measures would in a way undoubtedly diminish the sources of contagion, yet the vastly larger number of the yet more dangerous unregistered clandestine prostitutes would remain exempt from its provisions. Furthermore, registration carried out with thoroughness will, in order to escape degrading sanitary police measures, invariably diminish the number of public prostitutes and augment the ranks of the clandestine ones. Regulation of any kind, at first glance so easy and seductive, is in reality one of the most complicated problems with which the best elements of continental countries have tried in vain to cope. Paris has a century of unsuccessful experience with it. It always strikes home and jeopardizes the very condition for the relief of which it was created.

Besides, the registering of prostitutes, so alien to the American idea of consideration even toward fallen women, meets, as it did in St. Louis in 1872, with an abhorrence of public sentiment against legal recognition of vice. But besides sentimental notions there are, as stated before, more valid reasons which complicate the question.

In the social order of to-day so many factors converge in the make-up of this complex question—constitutional rights, restriction of personal liberty, infringement of private rights, moral considerations, and so forth—that reglementation proved futile and suppression a Utopian idea. While looking on prostitution as a vice, and not as a crime, the punishment of which is not strictly within the province of the government, prostitution will, when regarded with a sense of tacit toleration, work out its own destiny. As the law forbids the existence of any disorderly house in tenements or within a certain radius of a school, a church or a young men's club, such resorts will, with their well-known tendencies of aggregation, occupy less conspicuous quarters, and a natural self-evolved segregation will take place, excluding police interference and blackmail, with a possibility of better sanitary conditions. Furthermore, laws should be enacted for the suppression of quacks and dispensing druggists. Sick-benefit societies should be compelled not to exclude, as they do now, diseased venereal members from the benefits granted by such organizations.

SOCIAL, ECONOMIC AND LEGISLATIVE MEASURES.

The entrance of women into self-supporting industrial life has surrounded her with dangers, against which she must yet develop defensive measures; but it is the duty of the state to lend her a helping hand to cope with a new condition. To this end the existing labor laws (mercantile and factory laws) must contain some new provisions, such as the minimum rate of wages for female employes over 16 years of age shall not be less than a sum sufficient to keep such a person in food and clothing according to the prevailing social conditions to which such an employe is reasonably entitled. Division of the sexes in workshops. Working women's and men's compulsory sick-benefit, accident, invalid and old age insurance societies and mutual aid and loan associations for industrial workers, to tide them over in time of non-employment. Asylums where friendless working women could find accommodations at nominal rates, or where in temporary embarrassment or if out of work they could be accommodated gratuitously in lieu of some work exacted from them, such benefit to be accorded only on recommendation of a charity organization society. Better housing facilities,[2] shorter working hours, extension of the eight-hour law as constituting a day's work. In addition, industrial schools, cooking and servants' schools should be established.

A provident educational law,[3] like the one introduced in Prussia in 1900, should be created, which endeavors to minimize the dangers to minors, putting those of evil propensities under responsible guardianship until they have reached their twenty-first year.

EDUCATION.

Education is the most potent of all factors and the most difficult to yield immediate results. A campaign of education instituted along all social lines will bear fruit slowly but surely. For those of both sexes whose schooling terminates on entering into industrial life—in New York the fourteenth year—evening reading classes, lectures on sexual hygiene, on abuse of alcohol, etc., should be furnished by the board of education and delivered by school physicians of the respective sexes.

Trade schools with gratuitous instruction and labor employment offices connected with the above-mentioned asylums should be founded. Respect for women, such a great factor to enhance purity of thought and action and to promote self-restraint, is sadly neglected nowadays; this is due to the promiscuous intermingling of sexes in industrial life. There is a tendency in the male element of losing its chivalry towards a female since the latter has entered into competition with him. This is one of the unforeseen stages in the evolutions of character, a symptom of new conditions.

For both sexes whose curriculum of education extends to high schools and colleges, a course of obligatory lectures delivered by teachers of their respective sexes and dealing with the dangers of venereal disease with rare tact and delicacy, will prove a great educational factor for disseminating a necessary knowledge of nonprurient character. Physicians, as the sanitary counselors of families, can find a promising field for ex-

plaining and teaching on these delicate topics, when parents would feel a natural reluctance of proceeding. As a thorough education of the medical profession on the topic of venerology is one of the greatest allies for combating venereal diseases, students should be given a broader instruction in venerology. It should be included in the curriculum as compulsory, and a rigorous examination required as an essential requisite for obtaining a diploma.

As a step in the right direction must be regarded the delivering of lectures at the German universities, in which students are recommended to lead a chaste life and impressed with the dangers of sexual diseases and of the intercourse with prostitutes, and that continency is perfectly compatible with health. Eminent professors have issued a warning appeal to the students, which is handed to them at the time of the matriculation and otherwise distributed broadcast and given a place on the bulletin boards.

As police regulations have proven irksome and unpromising,[4] and continental sanitary regulations do not yield the results expected from them, we must try to reach the point of advantage by a rather indirect road. Measures almost paternal in their conceptions are the somewhat circuitous but safest routes to accomplish something. Results will not show at once—it took ages to develop what we have, and only succeeding generations will harvest the fruits of our labors—but commence we must, even if the liberty of some individuals is encroached on. I declare most emphatically that the state can not afford to neglect to take cognizance of the plague with impunity, and that between the unwholesome conflict of sanitary and moral interests we have found that morality is in no way increasing by relegating the sanitary aspect of the question to the background.

Some state legislation, not necessarily reglementation, is needed, and constitutional objections will have to be removed by previous amendments. The law, however, should interfere where vice exhibits itself in a shameless and provocative manner in streets, low resorts and shows; it should suppress low-grade sheets devoted to the exploitation by word and lascivious illustrations of scandalous gossip and glorification of adventuresses and the demimonde.

According to Blaschko,[5] of 573 unmarried syphilitic men the source of infection could be traced in 487 instances, i. e., in 81 per cent., to prostitution. In Fournier's 873 cases of syphilis, 671, or 77 per cent., were due to prostitution. In St. Petersburg, Tschikchajeff found that out of 500 cases of venereal diseases 73 per cent. could be traced to prostitution. In Budapest 85 per cent., in Braila (Roumania) 80 per cent. of all venereal diseases were due to the same source. It has been found by Hammer in Stuttgart that every prostitute becomes infected with gonorrhea at least once in a year, and that according to Blaschko one-third to one-half of all prostitutes of Berlin are continually afflicted with gonorrhea. Jadassohn in Berne came to the same conclusion. Sperk in St. Petersburg found 83 per cent. of all prostitutes syphilitic after the first year. Schulz, Budapest, found 65 per cent. infected with gonorrhea. Neisser found that in Breslau of 572 prostitutes 217 had gonorrhea. Blaschko found that two-thirds of 200 males get their syphilis from public, one-third from clandestine, prostitutes. There are, according to the same authorities, 150,000 syphilitics in Berlin, or 12 per cent. of the inhabitants; in Paris, according to Le Noir and Fournier, from 13 to 18 per cent.; in Copenhagen one of every 55 young men of the age between 20 and 30 has syphilis and one in 8 has gonorrhea. In the city of New York Morrow[6] estimates the number to reach 200,000. The same ratio holds good with very little oscillations in every capital or large city.

In their returns to the circular letter sent out by the Committee of Seven of the Medical Society of the County of New York, 678 physicians reported 23,196 cases of venereal diseases, of which 11,968 were traceable to prostitution. Among a student body of 600 in Berlin belonging to a sick-benefit association, Blaschko found 25 per cent., Neisser in Breslau 10 per cent., Strohmberg in Dorpat 24 per cent. afflicted with syphilis; all students of the latter town, however, had had gonorrhea traceable to prostitution.

These numbers could be multiplied infinitely, but enough has been shown to convince any one open to conviction that we have to look on prostitution as the main causative factor for the spread of venereal diseases. The moral regulation of vice presupposes an adaptability of the human character to lofty ethical requirements, to which the inherited taint of ages and the reigning socio-economic conditions have ill-fitted it. It is true that prostitution poisons both mind and body, but it is not clear why the physical aspect of its consequences should be treated as a secondary consideration. The endeavor of the moralist to regulate vice by exclusively ethical means is a too rigid adherence to abstract reasoning, the results of which are slow of materializing. The present status of things needs a quicker remedy. Moralists and sanitarians must meet by mutual concessions on a common platform. There are good points in each system, but better ones yet in a blending of both.

It is in this sense that we must hail with delight the excellent report of the Committee of Fifteen of New York,[7] in which men of the highest standing in the community and of unimpeachable character recommend for the first time sanitary steps also. While not recommending sanitary regulation *per se,* it voices the necessity of increased hospital facilities for those afflicted with venereal diseases, and in recommending so-called moral regulation of vice, it does not entertain the delusive hope of seeing human nature changing in a single generation, but with the ultimate end of moral redemption from the degrading evil. This deviation from the inflexible standpoint of the moralist, with his adage, "Let them rot in their own vices," so alien to the teachings of the highest humanity, will imbue the sanitarian with hopes that a mutual understanding is possible. Until such combined efforts will meet the realization we must try to add to our armamentarium any measures that have proved efficacious in preventing venereal diseases.

And this brings me to the consideration of individual prophylaxis, which, under the present conditions, is the nearest measure available.

GENERAL INDIVIDUAL PROPHYLAXIS.

The danger of acquiring syphilis or ulcus molle is a remoter one than that of gonorrhea. Its contagion not being perfectly known, neutralizing agents could not as yet be devised. Until science places at our disposal an immunizing and healing agent like Behring's diphtheria antitoxin, we are compelled to utilize the meager results of clinical experience.

It seems as if circumcision would diminish somewhat the chances of acquiring syphilis. The statistics given by Joseph and Hutchinson must be taken, as they themselves guardedly say, with precaution. But future sta-

tistics on this topic might prove of interest.[8] I may be permitted to allude here to the dangers of ritual circumcision when performed with no regard to asepsis whatever and to the possibility of transmitting syphilis. As this operation is as yet performed in a great many instances, a law permitting physicians or graduated circumcisors only to do the operation would prove to be a prophylactic step that is feasible.

The entire class of syphilis insontium, so ably dealt with by Bulkley of New York,[9] showing us the manifold routes by which extragenital lues is acquired, gives us an incentive to warn people against the most common sources of such unfortunate infections. Infection has been carried by ragged-edged drinking glasses and knives, cigar holders, cigars, the tips of which were molded between the lips of syphilitic workers; by razors, powder puffs, shaving cups, strops, towels; by dental, ear and laryngoscopic instruments; by glass-blowers' pipes; by the mouth pieces of speaking tubes and telephones; by the use of common drinking mugs and communal cups;[10] by lead pencils; by vaccination; by hypodermic needles, and by manicurists' tools. The latter class, through their indocility, are a menace to health and second only to the dirty-tooled and dirty-nailed dentists abounding unpunished among us. These economic brephotrophic and technical infections (Bulkley), every source of which can not be mentioned here, form a legitimate field for feasible prophylactic measures. Trade sanitary laws for glass blowers, barbers, manicurists, cigar makers, etc., are urgently needed. Concerning wet nurses, a medical examination of both wet nurse and infant must be made obligatory, and a law, making it a punishable offense for each party to knowingly impart syphilitic infection, must be put on the statute books. This is a truly necessary and feasible prophylactic step.

In the recent and most successful crusade against tuberculosis in New York a spitting and more recently a smoke ordinance was promulgated, which can not be too highly commended.

It is with a feeling of regret that I mention the great gulf that separates our endeavors from the community, which, like most of the states, take no interest whatever to institute a sanitary prophylaxis of venereal diseases. Tuberculosis we all know to be one of the greatest scourges that afflict humanity, but the hecatombs exacted by the sequelæ of venereal diseases in guilty and innocents alike, cry towards heaven. Certainly we do not envy the poor tuberculous patients their state and communal sanitariums, but we should like to see a modest mite come our way also, in the form of larger hospital facilities and of asylums.

SPECIAL INDIVIDUAL PROPHYLAXIS.

The aim of individual prophylaxis consists in destroying the pathogenic germ before incubation has set in. Generally, the condom is too rarely used. As to syphilis, the use of ointment has been recommended long ago as offering some protection, and lately mercurial ointment has been recommended by Behrman,[11] and P. Cohn[12] looks on it as a useful prophylactic. There is some reason to expect that it might act preventatively as a protecting film, and as a local immunizing agency by virtue of its antidotal qualities.

Acting on this principle, Richter[13] has devised a melting bougie of the formula, unguenti cinerei 40 per cent., resorcini 0.25 per cent., the tip of which is introduced into the urethra, broken off and left there to melt. He reports encouraging statistics. As to ulcus molle, caused most probably by the streptobacillus of Ducrey-Unna, general prophylactic measures, washing with permanganate solution, ointing of the membrum as before said, and in case of its appearance, excision or cauterization with pure carbolic acid are feasible prophylactics.

Gonorrhea is the only one of the trio of venereal diseases where individual prophylaxis is efficient with a promptness almost bordering on security. Its contagion being a fixed one—the gonococcus—agents for its destruction have been devised with success.

While lues can be acquired in an innocent way, gonorrhea is most closely allied to prostitution. If we could annihilate prostitution, gonorrhea would disappear. But as we can not reach that goal under the present moral evolution of the race, it is our duty to lessen the ravages of an evil which we can not inhibit, try as we may. Here we must act as sanitarians mainly, considering it moral to intercede and criminal not to prevent infection, when in the largest number of cases we are well able to do so.

We know that about 80 per cent. of all men have had gonorrhea once or several times; that gonorrhea is not only a local but in many instances a systemic disease, attacking almost every structure, as pointed out by Bernutz in 1857,[14] and especially by Noeggerrath in 1872,[15] and the causative factor—especially in its latent form—of the most severe kind of pelvic diseases in women, produced by the gonococcus or its toxins.[16] It causes sterility in both sexes,[17] ophthalmogonorrhea[18] and blindness in the new born, and often mutilation of the female generative organs. Gonorrhea being most obstinate of curing—the modern one-minute cures notwithstanding—usually leaves behind more or less extended structural changes of the urethra, its follicular apparatus, or the accessory glands. The dangers to health and to the capacity for work and earning are greater than that of syphilis.

The proportion of gonorrhea to other venereal diseases is, according to Neisser, 47.3 per cent. of the whole number, according to Blaschko 70 per cent., syphilis representing respectively 42.4 and 22 per cent., and soft chancre respectively 10.4 and 8 per cent. This cursory allusion to the social danger of gonorrhea is sufficient cause for advising individual prophylaxis that has proven both successful and feasible.

It is, to my knowledge, the first time that the topic of personal prophylaxis has been brought before an American Medical Association audience, and it is with a feeling of reluctance that I try to interest you in this branch of preventative medicine. You may feel assured to find yourself in harmony with the best authorities of our branch and in enviably good company. Let me quote some references to this end and in a casual way. According to Neisser 50 per cent. of all involuntary childless marriages are due to gonorrhea of the female genital organs, of which at least 45 per cent. are due to gonorrheas of the men. Kehrer found that in 96 sterile marriages 33 per cent. were due to perimetritic exudations, 30 per cent. to azoöspermia after gonorrhea, and in 227 women Lier and Asch found 121 sterile in consequence of gonorrhea. Greenwald, Kammerer and Chroback report 53, 83 and 40 per cent. of metrides, all of gonorrheic origin causing sterility.

Ten to 20 per cent. of all blindness is due to gonorrheal infection of the new born; from 40 to 60 per cent. before the Credé method was instituted.

Prof. A. Neisser, the discoverer of the gonococcus, in a paper,[19] "Attempts to Avoid Gonorrheic Urethral In-

fection," read before the Silesian Society for Home Culture, March 15, 1895, recommends instillations into the urethra, similar to Credé's, introduced by Blokusewski to check the enormous propagation of gonorrhea. He says:

I know that such endeavors emanating from physicians will be condemned by others who are of the opinion that fear of infection might be conducive of diminishing the frequency of intercourse in young men. . . . Even he, who looks on moral influence as the main prophylactic agency against venereal diseases, must stop to think that gonorrhea is not a simple, troublesome or painful affection passing quickly, but that in many cases it proves to be the source of a severe, tedious sickness for innocence. If we could familiarize this prophylactic method with the "interested circles" surely countless infections would be nipped in the bud, countless gonorrheas could be prevented.

At the Conference for the Prophylaxis of Syphilis and Venereal Diseases, held at Brussels, September, 1899, Neisser again convincingly pleaded for the most extended use of these prophylactic instillations.

Lederman[20] says:

Great credit is due to Neisser for having recommended these measures. . . . I am ready with all my powers to work for a most extensive use of these prophylactic instillations.

Ernest R. W. Frank,[21] Berlin, in a paper read before the Sixth Congress of the German Dermatologic Society, says on this topic:

He who comes before the public with a proposition trying to prevent venereal diseases by some preventative remedy will not escape a conflict with those moralists who see a moral coercion in the fear for infection. This aim is very distant from the standpoint occupied by the physician and hygienist.

Prof. M. Zeissl,[22] Vienna, says:

Since innocents are also threatened, it is desirable to counteract energetically the spread of gonorrhea and to prevent the possibility of a man acquiring gonorrhea at all. There is no doubt that the safest and most moral means to attain this end is the avoidance of illegitimate intercourse. But this is a pium desideratum, the fulfillment of which will hardly ever come to pass. . . . It would be desirable if the method of Frank (protargol instillations) would come into general use. . . . I believe that, in view of the safety of this method, it is the duty of every physician to recommend its use.

Prof. C. Kopp,[23] Munich, says:

I would emphasize that the interested parties should make use of the prophylacticum in every instance. The measure speaks well as regards its efficacy and safety.

Prof. Th. Marschalko,[24] Klausenberg, in a paper read before the Royal Hungarian Medical Society, Budapest, January, 1901, says:

I regard the general use of prophylactic instillations as the only means to limit with success the enormous spread of gonorrhea.

Max Joseph, Berlin, in reply to an inquiry from the reader, writes thus:

Your inquiry as regards prophylaxis is, as you yourself state, difficult to answer. One thing is sure, state prophylaxis has proven very inefficient. I think we must rather rely on personal prophylaxis, which will undoubtedly be the future ideal. What can be attained by it you will find in the May number of my *Centralblatt*. I believe that no kind of state prophylaxis can show such favorable results.

Other continental authorities hold the same views. American authorities whom I have interviewed speak favorably of it and encourage individual prophylaxis in their clientele.

The article alluded to by Joseph is by Dr. R. Michels,[25] ship surgeon on a German steamer, showing the great efficacy of individual prophylaxis. On arrival in Yokohama 150 of the crew obtained leave of absence. Anticipating an expedition into the domain of Bacchо and Venere, and knowing that 5 per cent. of them usually returned infected, he gave each of them a vial of a 10 per cent. protargol-glycerin prophylactic for instillation and a square piece of unguentum hydrargyri, to be used before and after coitus. The result was surprising Not a single case of venereal disease developed.

To return to the individual prophylaxis of gonorrhea. The idea to employ remedies to this end did occupy the minds of generations past. Decoctions of aromatic herbs, of powdered parts of animals and other bizarre quack nostrums were recommended and sold as highly-prized secret remedies. Later on acidulated water or light potash solutions were recommended with a somewhat more valid reason. Also ointing the membrum and urinating post-coitum. In 1810 Eichhord[26] recommended the injection of diluted hydrochloric acid, and Diday constructed a small syringe for that purpose. Zeissl the elder endorsed such measures, recommending first cooling the penis by a local bath before the use of the prophylactic injection.

But a scientific preventative was possible only after the curative gonococcus was found. Haussman[27] of Berlin, in 1885, recommended the injection of ten drops of a 2 per cent. solution of nitrate of silver into the urethra; but this proved to be too irritative. Ten years later Blokusewsky,[28] acting on the principle that a 2 per cent. solution of nitrate of silver destroys the gonococcus, was the first to devise a miniature medicine dropper, enclosed in a metal cap, for the instillation into the urethra post-actum of two drops of such a solution. A third drop to be applied alongside the frenulum to eventually reach the gonococci outside in the para-urethral ducts. Although very useful and endorsed by Neisser, the silver solution through its somewhat irritating effect made its general use inhibitory.

In 1897 Ullmann[29] of Vienna, to avoid the irritating silver solution, recommended a bichlorid solution of 1 to 10,000 with the addition of bicarbonate of soda. But Welander has demonstrated that this solution does not possess any gonococcidal powers.

The eminent gonococcidal properties of protargol have appealed to Ernest R. W. Frank of Berlin in his search for a substitute for the nitrate of silver solution. He has found on the strength of irrefutable experiments that a 20 per cent. protargol-glycerin solution will also destroy gonococci within five seconds. His series of experiments were not made from gonococcus cultures, but from urethra to urethra of a microscopically determined gonorrheal discharge. All individuals experimented on remained free from infection, while those not treated with the protargol prophylactic became infected with gonorrhea.

In these preventative instillations we possess almost an exact measure to stop the development of gonorrhea, when applied early enough, i. e., immediately or within an hour after coitus. It may not succeed in every case, but even so it is a formidable weapon against the spread of the disease so troublesome in its remote effects. It should be recommended as the most feasible of all remedial prophylactics. The objections of the moralist of inciting by it licentiousness can not be entertained seriously. If the profession would entertain such sophistical reasoning it would be equally as immoral to stop the hemorrhage from an uterus containing the unexpelled secundinæ in a case of malpractice, or to apply a 2 per cent. solution of nitrate of silver in a case of ophthalmogonorrhea. In Germany, where things are called by their right names without bias, these portative

little apparatuses are publicly sold and with excellent results as to their efficacy.

The student in this country is greatly handicapped when attempting to deal with the morbidity and mortality of venereal diseases by the utter absence of statistics on this topic. The board of health in the great city of New York—and I believe this to be the case through the whole Union—controls contagious diseases with great vigor and success. Hospitals for contagious diseases of all kinds are ready to receive patients at a moment's notice, but for the housing of venereal diseases we witness a dissolving-view picture of meagerness of resources unbelievable. The vital statistics of contagious diseases hardly make mention of venereal diseases. In the year 1900 the vital statistics of the city of New York record 31,145 cases of contagious diseases in all, with 11,368 deaths, among which there are only 177 from syphilis. While the late manifestations of syphilis figure under various diagnoses regardless of their etiologic factor, gonorrhea and its sequelæ are not mentioned at all as causes of death. Venereal diseases are ignored by our sanitary authorities!

I would advise that venereal diseases be made reportable like other contagious diseases. No names and addresses need be mentioned, simply the diagnosis and source of infection should be reported by the physician for purposes of registration. This would supply an excellent if only an approximate basis to ascertain the morbidity from venereal diseases, and would prove of great utility to the sanitarian. In death returns, bound to contain names and addresses, the diagnosis of syphilis would mostly remain concealed, as is the case now; the primary or remote cause of the fatal disease could not, therefore, be made available for purposes of mortuary statistics. But registration of the morbidity alone would already mark a vast progress by elevating venereal diseases to the dignity of official recognition. Out of such a condition facts could be deduced for a feasible prophylaxis.

One of the greatest factors for diminishing the deleterious consequences of venereal diseases is the prophylaxis by treatment. It endeavors to hospitalize, isolate and treat gratuitously, as is the case in the northern countries of Europe, as many sources of contagion and as near their inception as possible. To this end a generous supply of hospital and dispensary facilities are needed. I do not encourage the erection of special hospitals. Venereal patients are very sensitive on this point, and hate to be recognized by the world as the carriers of a "shameful disease." Every hospital, especially those receiving state or municipal assistance, should have a venereal ward in proportion to its bed capacity, and their charter should contain a clause to that effect. Those already in existence must, if possible, be compelled to do so. The out-door department of every hospital should have a competent venereal service. Every dispensary should be bound to have a class for venereal diseases conducted by competent specialists. Some one of the staff should understand the necessary rudiments of the different tongues which the people in such quarters speak. In order to facilitate attendance without tell-tale loss of time to the wage-earner, evening classes should be held. Morrow relates that 70 per cent. of those admitted to the surgical night class of the New York Hospital are venereal patients.[30]

It seems that the advertising quack derives most of his ill-gotten gain by assuring perfect privacy to this class of patients. They fear keenly, as no others do, of being afflicted with a "private disease." They are very apprehensive on this point.

Venereal departments in dispensaries should be called "department for contagious diseases," or for "external diseases." ("Ausserliche Krankheiten" in Germany.) They should have separate waiting rooms for men and women. Each patient should be examined separately, unobserved by others. In my class at the German Poliklinik I have four little compartments so arranged that patients coming and going do so unseen by each other. The utmost seriousness should prevail, no cheap jokes made—there are many sinners against this injunction—and the disheartened patient made to feel, as I try to do, that he is not before his judge, but before his helper.

Morrow[31] reports the almost incredible condition that the great city of New York provides for the reception and treatment of venereal women just 26 beds, and for venereal men 56 beds in the city hospitals at Blackwell's Island. Not one women in two thousand, certainly not one man in five thousand, can obtain treatment for the active accidents of their maladies. In Berlin there are, according to Lesser, 153 beds for men and 410 for women available. In all Germany only 7 per cent. of venereal diseases are admitted. As the largest number of venereal patients are in need of ambulatory treatment only, dispensaries with venereal service should be multiplied. Morrow reports that there are only 7 dispensaries in the city of New York in which there is a venereal or genito-urinary service; ten others contain dermatologic classes where venereal diseases are also treated. Thus it will be seen how inadequate are the dispensary facilities in the city of New York as elsewhere. I presume that the same condition. if not a worse one, prevails in all larger cities of the Union.

In addition to the improved hospital and dispensary facilities a campaign of education of the patient should be instituted. Patients should be instructed by word of mouth and by the distribution of printed slips of the details of treatment and of the dangers to themselves and others.

Some moralists might see an incentive to vice in such charitable steps; not so the physician, who is imbued in no minor degree with the ideals of purity than they are, but regards even human turpitude as not outside the scope of his samaritan efforts. It would be cruel to abandon the meritorious afflicted; it would be criminal to permit innocents to suffer. To cleanse society from venereal disease we have to treat the affected ones first.

In the foregoing I have tried to outline some feasible measures for venereal prophylaxis. As some of the recommendations are of a socio-economic character, their realization will be slow to come. Our social conditions are the outgrowth of economic conditions evolved since countless centuries; and a peaceable revolution needs yet other centuries as so many stepping stones toward amending the present social iniquities. I have studiously avoided, taking in account the present moral evolution of the race, to ventilate Utopian ideas. In voicing individual prophylaxis I was conscious of its probable moral shortcomings. But while moral sterilization may save future generations, it behooves sanitarians to be mindful of the sources of acquisition of disease, for the sake of those innocents that are exposed through marital relations, for the sake of those that are deformed and lost before birth, and for the sake of those born tainted and with the curse of spreading misery in their veins.

CONCLUSIONS.

Prostitution is the main source for venereal diseases. Its suppression during the present moral evolution of the race is impossible.

Moral regulation of vice solely is a desirable ideal, but impossible of realization.

Reglementation as practiced in continental countries is impracticable here on constitutional grounds and on the ground of its limited hygienic value.

Moral efforts (social, economic, educative and legislative) combined with sanitary measures are promising of results.

As sanitary efforts under existing circumstances can step in only after infection has already taken place, a liberal supply of hospitals and dispensaries with free treatment must be provided for purposes of treating and sterilizing sources of contagion.

Individual prophylaxis is at present the only feasible means of preventing in part the spread of venereal diseases.

It is the duty of every physician to recommend it.

The Section on Cutaneous Medicine and Surgery of the American Medical Association should strive to bring about a uniform nomenclature, and the Association should institute through this Section a propaganda of action in the different states; to bring about under its auspices a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases which meets again this year in Brussels.

77 East Ninety-first Street.

BIBLIOGRAPHY.

1. Nobiling-Jankau: Handbuch der. Prophylaxe. Abteilung xi. Die Prophylaxe bei Krankheiten der Harnwege u. des Geschlechts-Apparates, von Dr. A. von Notthafft u. Dr. Arthur Kollmann. München, 1901, p. 565.

2. According to Rev. Dr. Walker Laidlaw, in the Eleventh and Thirteenth Assembly Districts of New York the average is 3.7 rooms to a family. Of 13,657 families, 13,079 are without bathing facilities. New York Medical Record, May 31, 1902, p. 861.

3. Des Fursorge-Erziehungs-Gesetz, July 2, 1900.

4. A special body of morals police as recommended by the Committee of Fifteen of New York City, is apt, as in Paris, to make unfortunate mistakes. "The Social Evil," etc. A Report Prepared Under the Direction of the Committee of Fifteen. G. P. Putnam's Sons, New York and London, 1902, p. 157.

5. Dr. A. Blaschko: Hygiene der Prostitution u. venerischen Krankheiten. Jena, G. Fischer, 1900, p. 65, et seq.

6. Prince A. Morrow: Report of the Committee of Seven on the Prophylaxis of Venereal Diseases in New York City. The Medical News, N. Y., No. 25, 1901.

7. The Social Evil, with special reference to conditions existing in New York. A report prepared under the direction of the Committee of Fifteen, G. P. Putnam's Sons, New York and London, 1902, page 175.

8. Nobiling-Jankau: Abteilung II, Die Prophylaxe bei Haut und Gechlechtskrankheiten, von Dr. Max Joseph, Berlin, page 113.

9. Syphilis in the Innocent, Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. By L. D. Bulkley, A.M., M.D. New York: Bailey & Fairchild, 1894, p. 142 and seq.

10. In many churches the common use of the communion cup has been abolished.

11. Dermatolog. Centralblatt, March, 1900.

12. Ibid., May, 1900.

13. Dermatologisches Centralblatt, May, 1902.

14. Bernutz and Goupil: Archiv. Géner., 1857, Mars-Avril, i, pp. 285 and 419. Also Archiv de Tocologie, Mars-Octobre, 1874.

15. Noeggerath: Die latente Gonorrhoe im weiblichen Geschl. Bonn, 1872, and Amer. Gynec. Tr., vol. i, p. 392.

16. Saenger considers 12 per cent. of his gynecologic material as suffering from gonorrhea. Robert Asch found 14 per cent. Zweifel 10 per cent. "Gonorrhea, Its Dangers to Society," a paper read at the Conference Internationale des Bruxelles, Sept. 1899, by A. Neisser, The Medical News, No. 2, 1900.

17. Ibid., No. 3, 1900.

18. Ibid., No. 3, 1900.

19. Deutsche Medizinal Zeitung, 1895, No. 69.

20. Zur Behandiung der acuten Gonorrhoe. Berliner Klinik, November, 1899, p. 7.

21. Zur Prophylaxe des Trippers. Allg. Med. Central Zeitung, 1899, No. 5. Also, Deutsche Medizinal Zeitung, 1901, No. 31.

22. Die Prophylaxe des Trippers. Wiener Med. Wochenschrift, No. 8, 1901.

23. Persönliche prophylaxis und Abortive Behandiung der gonorrhea beim Manne. Münchener Med. Wochenschrift, No. 48, 1900.

24. Prophylaxis der Gonorrhoischen Infection. Die Heilkunde, No. 6, 1901, Berlin.

25. Dermatologisches Centralblatt, May, 1902.

26. Cited by R. W. Frank, see Note 21.

27. Zur Verhülung des Trippers. Deutsche Med. Wochenschr., 1885, No. 2.

28. Dermatolog. Zeitschr., 1895, Bd. 2, p. 235, and Allg. Med. Central-Zeitung, 1898, Nos. 100-101.

29. Wiener Med. Blätter, No. 46, 1897.

30. The Prophylaxis of Venereal Diseases. Philadelphia Med. Jour., April 6, 1901.

31. See Note 6.

DISCUSSION.

DR. A. D. MEWBORN, New York—I would like to suggest one point in regard to the statistical duplication of venereal diseases or other diseases attributable to venereal origin, and that is that the dispensaries and hospitals should make an annual report so that the profession and public could be educated to know the extent to which those diseases exist. I think the Section should take action in adopting a uniform nomenclature, and I think the nomenclature of Bertillon would be desirable instead of X and 3X and all sorts of hidden devices which tend to make the matter secret. The hospital and dispensary reports should show the extent to which those diseases exist.

DR. C. W. ALLEN, New York—I think this is a most important subject. There has been a great deal of work done in this direction in foreign countries and some has been done here. I think the New York County Medical Society has made an honest effort to do something. I did not think when the Committee of Seven was appointed to carry out the investigation mentioned that it would amount to very much and so expressed myself. I based my opinion on efforts which had been made in the past. It takes years and years to get anything done in this particular field. The public never seems to be ready for it, never seems to be willing to act on any suggestion coming from medical men, but I think such papers as we have listened to should continue to be written, suggestions should continue to be made, and the time will come when some useful measures will be adopted toward the prophylaxis of venereal disease.

DR. E. L. COCKS, New York—Dr. Allen has struck the keynote of the situation. It has been my experience that all writers treat this disease too lightly and why they do I do not understand. It is a disease that has always existed, and always will, and if instead of looking up statistics we will appoint ourselves a committee of one, and as a general practitioner take the father in hand, and if he has not the courage of his convictions, then the son, tell him what is before him, we will accomplish a great deal toward the desired end. The prophylaxis that Dr. Weiss has presented here is all very well, but I would not put it into the hands of any man. The whole trouble has been, especially in New York, that the physicians, and more especially the ministers, periodically have a streak of over-conscientiousness and try to do something, and the result has been, so far as the other part of New York City is concerned, that prostitution, which was confined to Dr. Allen's neighborhood, viz., the tenderloin, has been scattered all over the city. Everyone knew that when a young man entered this territory he had but one object in view, and this knowledge caused many a man to hesitate, then turn back. Under the new order of things prostitutes are now our neighbors, and the above barrier to indulgence has been removed. All the legislation in the wide world will not do one particle of good, but heart-to-heart talks will. I do not know whether it is simply my experience, but it seems that the advice given by physicians in New York City when a young man has had one or more nocturnal emissions is to advise him to gratify his sexual appetite. One case I have in mind now of a young fellow only sixteen who was given that advice, and three weeks later he came to me with a chancre. What I want you to do is to appoint yourselves a committee of one and give the advice that we know ought to be given, either to the parents or to the young men themselves, and by so doing I think we can to some extent eradicate the evil. Where there is a demand for sexual intercourse it will be met,

and if by our advice we can cut down the demand the supply will diminish.

DR. W. S. GOTTHEIL, New York—I am sure that we are all very much obliged to Dr. Weiss for presenting this subject. The venereal portion of our dermatologic "disciplin," as the Germans would say, has been rather neglected in the past; and I assume that we are all desirous to limit the spread of venereal disease, and must therefore agree in the main with most of what the writer has said. We must not forget, however, that we always have had, always will have, and always must have prostitution in one form or another; and that, whatever the moralists may tell us, history and common sense show it to be a social necessity. It is a mistake to regard the prostitute as a criminal, and to adopt exceptional measures against her as such. Her calling is socially undesirable, and would have no place in an ideal society. But the same can be said of gambling, which in many places is regarded as a legitimate occupation; and there are entirely proper business occupations that can only with difficulty be differentiated from gambling. I am firmly of the opinion that the English method of dealing with the social evil is the proper one, and that municipal regulation, as practiced in many European cities, is neither successful nor desirable. It must be tolerated like many other necessary evils, and should be interfered with only when police reasons for such a course exist. I am in accord with Dr. Weiss as to individual prophylaxis, but that is a matter that lies with the patient and his physician.

DR. F. H. MONTGOMERY, Chicago—We must all, even those of us most strongly opposed to some of the measures advocated in this paper, recognize the courage—evidently born of conviction—and the great care with which Dr. Weiss has presented this subject. His suggestions regarding the regulation of tenement houses, stores and factories are exceedingly valuable and important. Few who have not studied the situation realize to what extent in some of our large cities the reputable poor of all ages are compelled to associate, not only in their work, but also in their homes, with those who make crime and sin their means of livelihood.

The measures of individual prophylaxis recommended by Dr. Weiss should be unqualifiedly condemned. They are wholly wrong in principle and opposed to the progress we wish to make along educational lines; and, moreover, I believe their use would lead eventually to an increase rather than a diminution of venereal disease. The average man who exposes himself to venereal disease is going to exercise much less self-control and expose himself much more frequently if he thinks he is armed with a means of protecting himself. That the protection afforded by these measures is not complete, but only partial and more or less uncertain, must be admitted by their most ardent advocates.

I agree fully with one of the previous speakers in believing that the prevention of venereal diseases must be accomplished very largely through the proper education of the young. It is a sad fact that practicing physicians are found not infrequently who have never been educated properly along these lines, and whose advice to young men is often pernicious if not criminal.

DR. H. G. ANTHONY, Chicago—I think one of the ways to solve this problem is through education. Young boys I find have ideas in regard to venereal diseases and the sexual organs, which they obtain from comrades and coachmen; it is far better to have them listen to intelligent lectures in universities and colleges and let them get an intelligent idea of venereal diseases, their dangers and the difficulty of prophylaxis. In this way I think a great deal can be accomplished to limit the spread of venereal diseases. Another thing of great importance, when a man has once contracted gonorrhea he thinks when the discharge ceases he is entirely well, while we know that for a long time the gonococcus is contained in the urethra and is a source of infection, and that should be pointed out by the physician and the danger of infection of women while the gonococcus is present. I think these antiseptic measures are harmful. When a physician places such things in the hands of a young man he thinks he is safe when he is not. You can not prevent the contagion of syphilis by any such means as these antiseptic solutions. Just as soon as the syphilitic virus touches a surface we know that infection takes place. Neither do I believe that any of these various means will prevent gonorrhea. I think if the gonococcus is present in the vagina of the woman and comes in contact with the mucous surface these antiseptic means are not sufficient to prevent contagion.

DR. DAVID LIEBERTHAL, Chicago—Four years ago I wrote a paper on this subject, and I find myself in general agreement with the views of Dr. Weiss. The statistics quoted seem to be plausible, although they may be unreliable, as are a good many other statistics. It seems at least probable that a far larger percentage of infections originates from other sources than from prostitutes. The suggestions offered by Dr. Weiss are to the point, although some can not easily be carried out. Especially the question of educating the young in this direction is very well worth considering, even admitting that religious objections might frequently prevent it. I recollect a conversation with a gentleman leading up to this topic, who said he would not permit anybody to mention such a subject to his boy, and this boy was 21, and there are thousands of people similarly disposed. What seems to be of greater importance is the necessity of well-equipped institutions for the treatment of venereal diseases. A sufficient and competent staff should be employed and well remunerated in order to be able to afford time to properly care for these cases. The funds for such hospitals and dispensaries should be provided by the state. I listened with great interest to this paper, and believe that more papers on the subject should be written.

DR. H. W. STELWAGON, Philadelphia—I feel as several speakers have expressed themselves, that we will never make headway in the control of venereal diseases by legalizing prostitution or by recognizing it as a legitimate calling. I protest strongly against such an expression. We must cease to look on gonorrhea or syphilis as a joke, which is done over and over again by laymen and physicians. The young man must be plainly advised in his college days as to the dangers of such maladies, not only the serious consequences but the moral degradation resulting. I am sure if colleges would take this in hand at the beginning of each session and the students be talked to plainly, seriously and in good earnest, it would limit the contraction of such diseases very materially. They should be made to understand that such diseases are not only dangerous to themselves, but to others, and to their children. I have no sympathy with anything looking to the legalization of prostitution; I have no sympathy with the expression regarding it as a legitimate calling. We are not here to condone any crime; we ought to stand up against crime every time.

In regard to statistics: we all know that statistics are wrong. We have heard a great deal about the number of patients calling at dispensaries, hospitals, etc., but we all know that one patient frequently goes to four or five dispensaries. I have seen the same patient at three dispensaries. At my dispensary services we put one patient down as two patients if he has two diseases. If, for example, he has eczema and acne we put him down as two patients, in order that proper records of both diseases can be kept. The number of people applying to dispensaries is not so large as some would suppose.

DR. R. R. CAMPBELL, Chicago—I think Dr. Montgomery has sounded the keynote of prophylaxis of venereal diseases. In connection with education the first step is to educate the physician, and I do not hesitate to say that 85 per cent. of the profession who treat gonorrhea do not know when gonorrhea has been cured. They still follow the old idea that when the discharge ceases the disease is cured. They do not realize that having gotten the patient over his uncomfortable symptoms they are just reaching that point when it becomes hard for the attending physician to relieve him of the more serious condition resulting from an attack of gonorrhea. The gonococci can lie dormant for years and then be readily excited into activity. One case in the practice of Dr. R. W. Taylor that had laid dormant for 28 years, then became active. The same applies to syphilis. It is a matter of education. In the first place the education should begin with the medical student. The genito-urinary and dermatologic work of undergraduates in

colleges is considered of secondary importance, and as a consequence the student feels at perfect liberty to cut the clinics or cut the lectures that pertain to venereal diseases and dermatology, for he thoroughly appreciates that he does not have to pass an examination in these branches. If we could only make the members of faculties in our colleges realize this important point, to require an examination in those different branches as well as in others, we could then begin our education at the right point. To try to educate men who have gone into the country and are dependent for their further education on post-graduate work we will never make any progress toward venereal prophylaxis.

DR. WEISS—I wish I had the eloquence of a Demosthenes so that I might answer properly all these questions. I think I have sounded a note of warning about a dozen times, if not more, that if we expect to hasten the coming of the millenium and with it the moral evolution of the race, we will have to do something. I have emphasized the fact that social economic laws should be enacted in every state to diminish vice and the spread of venereal diseases. It is for the first time that individual prophylaxis is brought before an American medical audience, and I do so with a sense of reluctance. I need not defend my standpoint, as individual prophylaxis will in no way encourage profligacy or licentiousness, and I would like to call it out with a voice that could be heard all over; that we must drop this mysterious prudish standpoint of ours *because* we are on the side of morality; and at the same time we should quickly recognize the fact that things need a quicker remedy, a more tangible one than moral persuasion only. The physician should look on personal prophylaxis as a legitimate field of his interference without the least hesitation, as do continental authorities. I am sure to voice the sentiments of those assembled here when I emphasize the fact that physicians never neglect to admonish, to advise, to reprove, to blame, yea, even to chide their clients for indiscretions committed. They inculcate the necessity of chastity in the half-matured young man; they prevail on the eager candidate to postpone marriage until cured, and warn the erring young woman of her evil ways, urging her to amend. A profession that deals with the otherwise remunerative effects of sin so unselfishly and against its own material interest, surely can not be charged with promoting profligacy by holding sanitary measures paramount—to say the least—to moral regulation of vice. A profession that can not be outdistanced by any other regarding charity, devotion and purity of conception, need not, I am sure, be afraid to unfurl its flag of preventive measures to minimize what it could not avoid.

RESOLUTIONS ADOPTED.

After discussing Dr. Weiss' paper, the Section adopted the following preamble and resolution:

WHEREAS, There is a burning necessity to check the spread of venereal diseases, and assuming that the states can not with impunity ignore the condition, it lies in the province of the medical profession the task of recommending to the respective state legislatures and municipalities means, not reglementative, but social, economic, educative and sanitary in their character, to diminish the danger from venereal diseases;

Resolved, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invites the Section on Hygiene and Sanitary Science to co-operate with the Section on Cutaneous Medicine and Surgery to bring about a propaganda in the different states looking toward the proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases similar to the International Conference for the Prophylaxis of Venereal Diseases which meets again this year under the authority of the Belgian government at Brussels.

HENRY W. STELWAGON, *Chairman*.

This was later submitted to the House of Delegates, which endorsed the action of the Section and adopted the following:

Resolved, That a joint committee of six from the Sections on Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the President to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases, and to present to the American Medical Association a plan for a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels under the auspices of the Government of Belgium.

The Committee on Prophylaxis of Venereal Diseases consists of the following: Drs. Henry D. Holton, Brattleboro, Vt., chairman; George M. Kober, Washington, D. C.; W. H. Sanders, Mobile, Ala.; Ludwig Weiss, New York, secretary; L. D. Bulkley, New York, and Frank H. Montgomery, Chicago.

DETERMINATE FACTORS IN THE CAUSE OF INSANITY.*

EUGENE G. CARPENTER, M.D.†
COLUMBUS, OHIO.

It is questionable if there is any problem which has occupied the thought of medical men so diligently as that of the etiology of disease. It is one of the fundamental principles of our cult to determine the cause by the employment of every possible known means of diagnosis before applying our therapeutics or means of cure. A half century of time has been lost in the effort of medicine to make the etiology of general disease apply to or explain the clinical appearances as found in the insane condition. (I speak of insanity thus, for it is but an evidence of an abnormal brain state.) After a decade's experience the thought has constantly forced itself upon the writer that, in our endeavor to explain cause, too great stress has been placed on some so-called causes and too little on others. If the ordinary principles of etiology applied to the symptoms as found, then by ordinary knowledge of these principles we should be able to recognize the real status of the condition, and the usual remedial means employed should bring the usual results. But experience has taught us that this does not obtain, for to this time we have much to learn of etiology, and the employment of our best known treatment has resulted in the betterment of but 33 to 40 per cent. Out of this number 70 per cent. will recur, 20 per cent. will die before the opportunity for recurrence arrives, and 1 per cent. will possibly remain permanently well. These figures hold no comparison with the treatment of disease in general.

HEREDITY AS A CAUSAL BASIS.

In recent years it has been found by close detailed examination of the insane that many stigmata can be found pointing to predisposing cause as a primary factor, and as containing an explanation of the instability of those successfully reinstated in their normal state. In reviewing the statistical tables contained in the official reports of the hospitals for the insane, the proportion of cases credited to hereditary influences varies from 25 to 90 per cent., the average of all countries being about 60 per cent. Mercier says: "The tendency of late years has been to lay increasing emphasis on the hereditary factor in the production of insanity, but it is doubtful whether even yet the true bearing and significance of this factor has been recognized."

In a special examination of one thousand cases by the writer, made with particular reference to the stigmata of degeneration, it was found that at least 75 per cent. exhibited various signs of anatomic defects. Other investigators have placed them as high as 90 per cent. This finds a responsive remark by Berkley, who states in his "Mental Diseases," in speaking of the hereditary predisposition, that "This tendency, although it may sometimes be acquired, is much more frequently born with the individual, so that in the majority of the mentally afflicted we find directly inherited predisposition to insanity." Granting this basal factor to exist in this ratio in the etiology of all those who actually fall a victim to this disease, it does not argue that one so predisposed of necessity must ultimately become insane. Is it not our common knowledge that all persons predisposed to the development of tubercle bacilli within

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

† The author of this paper died Oct. 19, 1902. See THE JOURNAL, xxxix, p. 1125.

their organism may escape through a lifetime, if not exposed to the conditions favorable to its propagation? Therefore, we are justified in holding that notwithstanding one be under the "tyranny of organization," there are after all determining etiologic factors, if exposed to which, certain psychopathologic conditions are sure to become established.

It is intended in this paper to call attention to what I take occasion to call *determinate causal factors.* Mercier declares "The causation of insanity may be summed up in two words, 'heredity' and 'strain.'" The former is responsible for instability of the nervous system, while in the latter the causes are multiform in character, comprising all sorts of stresses, physical and mental, direct and indirect, having to do with antecedent influences and environmental conditions; in brief, all those factors which attack the integral organic structure upon which normal mentation is dependent and tend to undermine the nervous constitution, lessen its resistance, cause a reduction in its potentiality, and thus bring about a mental collapse.

ALCOHOL AND DRUGS.

Among these stress causes are found the determinate factors already alluded to and to which I wish to call your special attention. At the head of the list must be placed alcohol and drugs. All authentic observers have yielded the palm to alcohol as ranking next to heredity in cause. Clouston credits it with 25 per cent. of all insanity; Peterson from 18 to 20 per cent. in males; Berkley, more conservative, with 10 to 30 per cent.; Kræpelin 10 to 30 per cent. in Germany; the British Lunacy Commission gives 22 per cent. in males and 9.1 per cent. in females. The writer's observation has shown it to have 12 per cent. of the annual admissions. This is a cause upon which we can place our finger. We know it to be toxic in its effects upon the human organization, and the pathologic changes it brings about in the various tissues of the body are well known. We see them in evidence upon the autopsy table, and what we can not see with the naked eye there we can see under the searching glance of the microscope. There is no chance for guess or cavil there. The misuse of alcohol is one of the preventable causes, and yet it contributes 12 to 20 per cent. of the inmates of our asylums. Not only that, but the law of heredity is ever providing communities with dependent clientele for the future through a progeny, the result of the participation of the alcohol misuser and inebriate in the marital relation. This legacy in the way of defectives propagated by the alcohol habitué is distributed generously as well among the feeble-minded, the correctional schools and the penal institutions. From this estimate of the extent it is figuring at present in the production of the degenerate classes, alcohol is one of the greatest factors menacing the perpetuity of the American race.

SYPHILIS.

While syphilis figures largely in the etiology of disease in general, amounting to two-thirds of those treated in some of our large city hospitals, it is difficult to estimate how important a rôle it plays as a causal factor in mental disease. It takes up its position in all regions of the brain, and its morbid process may take on different degrees of extension, and at the same time, with a few exceptions, there is no characteristic of its presence, this frequently depending upon its intensity and its position in the organ. Hughlings Jackson has shown syphilis of the nervous system to be a misnomer, and proved that the poison never attacks the nerve tissue proper at all, but only neuroglia, fibrous tissue, blood vessels, lymphatics, membranes or bony covering involving nerve tissue and its functions generally. In the Royal Edinburgh Asylum out of 3,145 cases there were found 16, or 1-6 per cent., of cases of syphilitic insanity. This small ratio might obtain in an aggregation from a Scottish district, but I believe 1 per cent. would not be placing it too high for the hospitals of the continent and of the United States. I take it that this small percentage has reference to those cases of insanity occurring in the secondary stages of the disease, and which in reality are rarely found in the wards of the hospitals for the insane. To paretic dementia, essentially a syphilitic brain disease, may be accredited about 5 per cent. of the insane population. The prevalence of antecedent syphilis in this disease has been stated differently by different observers. Magnan placed it at 4 per cent.; Siemerling at 11 per cent.; Kræpelin at 90 per cent.; Westphal at 40 per cent. in women; Binswanger at 50 per cent. to 69 per cent.; Erb at 52 per cent.; Mendell at 75 per cent.; Connolly Norman at 80 per cent.; Savage at 80 per cent. Dr. Stoddart in the July, 1901, number of the *Journal of Mental Science,* thinks 75 to 90 per cent. represents more closely the facts, and concludes, "that syphilis is so frequent an antecedent of paretic dementia that the non-syphilitic cases, if such exist, may for the present be regarded as a negligible quantity and that hardly anybody runs the risk of acquiring the disease who has not had syphilis." Crediting 4 per cent. to organic changes due to luetic arteritis, meningo-encephalitis, syphilomatous deposit and inflammations in membranes, bones, etc., a conservative estimate of insanity due to syphilis would be 8 to 10 per cent. Thus is recorded a second prevalent, preventable, determinate cause of insanity.

CEREBRAL TRAUMA.

Injuries to the head seem to hold a prominent place in the profession as an etiologic factor in insanity. Were this true as often as alleged, great weight would need to be given to it in the consideration of causes. In an inquiry as to the frequency with which injury causes entered into insanity two years ago, I found it greatly overestimated. Among those who had gathered data on the traumatic cause of insanity were Kiernan, who had found 45 cases among 2,200 patients; Hay 60 cases in 2,500; Starr regards 2 per cent. as a fair estimate; Clouston 1-3 of 1 per cent.; Krafft-Ebing found 1 per cent. in 462 cases. Out of 1,400 cases the writer found 10 cases, or .7 per cent. The consensus of opinion in regard to traumatic insanity, so-called, is that it may, and does, operate as a determinate cause in a small number of cases, ranging from .3 to 2 per cent.; that it follows an injury to the cranium where superimposed upon an alcoholic basis, or positive neuropathic predisposition.

TUBERCULOSIS.

Tuberculosis is found to be more prevalent among the insane than the sane. As long ago as 1863 Clouston, after making a close investigation of this subject, in a large number of cases, described a symptom complex as especially characteristic of what he calls phthisical insanity. This author ascribes a ratio of at least 2.7 per cent. of the admissions to Morningside to this cause on account of the uniform array of mental and bodily symptoms.

Comparing the symptoms of this class of patients with his picture of it as a special form, there does seem to exist a justification for his opinion. When con-

fronted with the fact that insanity is rarely found in hospitals for the tubercular, he argues that the mental symptoms appear long before the disease has advanced to any great degree, and the patients are committed to asylums instead of the special hospitals for the treatment of that disease. He insists that the physical conditions of brain anemia, viz., malnutrition, cachexia, blood poisoning, insufficiency of blood, which are always present antedating the appearance of the tuberculosis, are the cause of the early physical phenomena in some cases. The data gathered by myself tends to substantiate the position of this authority, for from the findings of 51 autopsies there were found five cases in which the cause of death was not tuberculosis, although active tubercular lesions were found. In seven cases there were no tubercular lesions in the lungs, but the bronchial lymph glands were either actively tubercular or contained evidence of old lesions. That 37 examinations of sputum revealed germs in 35 per cent. of the cases examined. That tuberculosis was the cause of death in 27.7 per cent. of the females, while 10.6 per cent. of the males died from this cause. Total deaths from tuberculosis being 12.26 per cent. From these proofs of its great prevalence among the insane, and that it is a positive entity in type, there is certainly reason in regarding it as a decisive etiologic factor.

PROGRESSIVE DEGENERATION.

There are individuals in whom the die of degeneracy has been cast in the first hours of the cellular arrangements of the ecto, meso and hypoplastic layers of their embryonic existence. From the very necessity of this fact beings are projected into life, anatomically, physically and psychically atypical and at certain crises of their lives indicate by their mental collapse that the wheels of evolution have been reversed and dissolution has been inaugurated. I refer to the insanity of pubescence, adolescence, paranoia and senility. The first three are forms of the so-called developmental insanities. In these persons a normal evolution of the body and brain apparently progress to a point where suddenly all the inherent potentialities seem to have become exhausted as evidenced by marked mental reduction. Not infrequently do these cases manifest unusual brilliancy in their earlier years of pubescence and adolescence, only to make the difference more striking when their hopeless dementia follows. Here, if sufficiently probed, antecedent history would throw a flood of light upon cause, and the frequently alleged vagary, masturbation or some other assigned cause equally incorrect, would not need to be so conveniently produced.

Senile insanity for the most part is expressive of terminal dissolution of the brain tissues. The atheromatous arteries, the atrophied convolutions, indicative of nutritional changes, call for little logic to explain diminished mentality of the aged, common physical signs of which are their restlessness, depression, dizziness and insomnia, accompanied by a corresponding loss of memory, inappreciation of time and place, while their thoughts and acts have reference only to things long past.

TOXEMIA.

Not a little literature has been offered of late years in reference to toxemia, dependent on external and internal causes. To such external causes as alcohol, morphin and cocain, already alluded to, may be added lead and mercury, each of which, in addition to the usual physical manifestations, also takes on an array of somewhat characteristic mental symptoms. Others to be mentioned are coal gas, carbonic acid and bisulphid of carbon. In Egypt hashish is a common cause of insanity. We can not note tobacco to be an active causal factor, although one case came under my observation in which there was a nicotin amaurosis that appeared to be positively caused by the excessive use of this narcotic. Emphasis has been given auto-intoxication as an etiologic factor, not only of disease in general, but also as a specific factor in morbid mental states, and has been rather warmly received by the profession. In support of this theory, conditions and symptoms have been referred by some investigators to the presence in excess of lithates, ptomains, xanthin, para-xanthin, uric acid and other chemical poisons. As a result of the absence of hydrochloric acid and other normal digestants in the stomach through faulty metabolism, fermentation and other abnormal processes takes place in which a series of chemical poisons develop. Wagner and Jaksch have attributed certain types of mental disease to certain nerve poisonous substances in the urine, viz., acetone, diacetic acid and oxybutyric acids.

The decomposition of albumin by the influence of bacteria in the intestines has been found by the physiochemist to result in the formation of such putrefactive products as indican, indoxyl, potassium sulphate, skatol or skatoxyl-potassium sulphate. These elements, it is claimed, are found in large quantities in the obstructive intestinal conditions.

Notwithstanding the vagueness and incomprehensiveness of the data at hand on the subject of auto-intoxication, and that the wise are asking "what is it" when it is mentioned, every practical medical man feels he sees enough clinically to justify him in the conviction of the truth of this theory, and the results of the investigations to date that it plays an important rôle in the cause of this disease. Apropos to this, the prominence given by some authors to rheumatic, choreic, diabetic, podagrous, puerperal and lactational insanities as special forms, is suggestive that all these might be indicated under auto-toxic types if our advancement in chemical pathology would allow it. In this branch of our medical knowledge is our future hope, and when that shall have been developed, no doubt toxemia and auto-intoxication shall have taken a prominent place in the list of determinate causes of insanity.

KIDNEY LESIONS.

From the fact that so large a percentage of our cases yielded positive pathologic nephritic conditions of various kinds, we are forced to the position that there is some connection between kidney disease and insanity. Both the cause of the disease and the mode of death are in keeping with this view. Again, chemical and histologic findings lend a strong color to this position. Of the 422 specimens examined the past year in our laboratory, 36 per cent. contained albumin, 11.6 per cent. contained casts, 20 per cent. contained hyalin and granular casts without albumin. Sugar was found in three cases. Fifty per cent. of the kidneys showed interstitial increase, 18 per cent. showed parenchymatous changes, 64.6 per cent. exhibited some kind of kidney impairment.

ACUTE INFECTIONS.

Infectious diseases, as typhoid fever, pneumonia, influenza and malaria, should be reckoned as decisive causal factors. In the acute psychoses changes in the vascular system and the effect of the toxins upon the nervous centers act as positive exciting causes. Not infrequently are these cases admitted to an asylum during a period of temporary delirium, after which the dis-

ease runs its usual course without any particular mental disturbance.

NERVOUS EXHAUSTION.

The investigations of Hodge, Mann and others have proved that positive changes take place in the nerve cells as a result of excessive exercise and fatigue as compared with rested cells. These proofs lead to the strong probability that like changes take place under the stress of such physical causes as mental overwork, overstudy, insomnia and others kindred to these, which induce nervous exhaustion. Again, the lowest point of exhaustion may be overreached, so to speak, and absolute cell degeneration follow, placing what was a remedial condition outside the pale of restitution. Moral causes appear to act in a majority of instances as direct causes of alienation, but the histologic evidences are that a pathologic basis is always established previous to its manifestation. While the moral features of a case of insanity frequently attract the attention, and are very alluring in the consideration of causes, they should not be permitted to overshadow all others as is frequently the case. In the light of the advancement of the psychiatry of to-day it is not sufficient to explain the circumstances of a mind diseased by assigning "grief," "domestic trouble," "religious excitement," "love affairs," etc., as the probable determining etiologic factor. Much of this sounds legendary, and should be allowed to pass by with the ancient myth of the moon.

DISCUSSION.

DR. J. H. MCBRIDE, Los Angeles, Cal.—The Doctor's statement that Hughlings-Jackson has said that the nerve cell is not directly attacked by the virus of syphilis is not quite correct, in that Dr. F. W. Mott was the first to make this generalization. Dr. Mott says that the syphilitic virus never attacks the nerve cell, but that it attacks the mesoblastic tissues only, namely, the blood vessels, lymphatics and neuroglia.

In regard to tubercular insanity: there is some merit, I suppose, in an etiologic classification, but I can not believe that the type of insanity described by Clouston in 1876 as tubercular insanity is really a distinct form. I should be glad to hear from Drs. Tomlinson and Dewey on this point. As a curiosity in this connection I have observed three cases of epilepsy during the past year in which the fits were associated with incipient pulmonary tuberculosis. Bright's disease is, of course, associated with insanity and bears doubtless an etiologic relation to it. Dr. Alice Bennett first called attention to it and Dr. Tomlinson has, I believe, written on the same subject.

DR. H. A. TOMLINSON, St. Peter, Minn.—Ten years ago, in a paper read before the American Neurological Association, I made the statement that I did not believe all of the influence of heredity was included in the direct transmission of any particular form of disease from parent to child; and I laid particular emphasis on this contention in connection with insanity. Since then I have continued my observations in this direction, and have taken special pains to verify the family history in every case coming under my care. It is my belief that no one ever becomes insane who is not primarily either unstable or defective; and that any constitutional condition present in the parents, which may have lessened their vitality, may bequeath to their offspring an unstable nervous system; while defect is particularly apt to be present in the children of the alcoholic, syphilitic and consumptive. It is probable also that the reason the nervous system is most affected is on account of the natural tendency of degeneration to begin first in those parts of the organism which are last in the order of development and most complex in their structure. I have observed further that the children of the insane are usually unstable, and that tuberculosis is more common among them than is insanity; while the primarily defective individuals have behind them a history of syphilis, alcoholism or tuberculosis; and singularly enough, not uncommonly cancer. The children of the insane suffer from the simpler psychoses and the recurrent forms of insanity, with entire absence of, or very slowly developing, mental reduction. Comparatively few of the children of the insane become insane, but a great many of them die of tuberculosis. It is equally common for the children of the tuberculous to become insane. In the hospital at St. Peter we have a great many cases of tuberculosis develop among our patients, but the subjects of the disease are not the children of the tuberculous, but of the insane and neurotic, thus showing a tendency to transmutation between two generations. I have never found anything in my experience to warrant the conclusion that tuberculosis is ever a direct cause of insanity. On the contrary, during the past ten years we have had only five people committed to the hospital who were suffering from tuberculosis at the time of the onset of the mental disturbance.

I was interested in what Dr. Carpenter said about injuries to the head. Every one who has had much experience among the insane knows that they have no significance in a causative sense with relation to insanity. Very few children grow up without having had some injury to the head, and severe traumatism is not uncommon; but how few of those injured ever become insane. These head injuries are given as the cause of the insanity because the relatives do not wish to admit, even to themselves, that they have an unstable or defective member of the family. I have occasionally, in my postmortem work, found evidence of cranial injury, but no degenerative change in the cortex beneath. There was, however, marked degenerative change in the cortical area covering the insula. This is the point where degenerative change begins, because it is the place where development ends, the area of the most complex functional activity in the cortex. Just why the blood vessels in this region should be the first to undergo degenerative change I do not know, but it is a fact in my experience that the middle and anterior cerebral arteries are the first to show evidence of atheroma—just as atrophy of the frontal lobes anterior to the precentral fissure is always in proportion to the degree of mental reduction present.

DR. RICHARD DEWEY, Wauwatosa, Wis.—The question that Dr. McBride asked as to whether there was a special form of psychosis developed as a result of tubercular disease is one of especial interest. It is my view from what experience I have had in this direction that there is not a characteristic tubercular insanity. It may be said that there is a melancholia that is very typical and very uniform among patients who have an active tubercular process going on in the lungs, and there are many cases which are strikingly similar in their development, in very many of which it would seem that the tuberculosis was a sequel to the insanity and the melancholia, and that the existence of the depression and stupor and inactivity of the body established a cessation of the ordinary exercise of the respiratory muscles, and that the change of the blood in the lungs and lack of aëration of the blood, led to the development of tubercular disease, which probably previously existed in the germ, but I do not myself believe that there is a special form of tubercular insanity. The general questions of causation, it seems to me, tend to resolve themselves more and more into larger and broader categories in which subordinate variations can be grouped, and there seems to be much truth in the remark which Dr. Carpenter quoted from Mercier, that heredity and stress were the two factors. Of course, we are still very much in the dark as to what is meant by heredity and there is still very much to be learned in this connection about the embryologic states, and the very much greater activity which is at present evident in the study of the brain changes, in the embryo, and in the ingrowing subject and in the adult, will lead to more definite knowledge than we at present possess as to what it is that is transmitted. We are much in the dark in this connection and do not know anything except that a certain tendency is transmitted, but what is the physical basis or structure on which it depends is something that remains to be sought out. Heredity means practically everything included within the individual's vital processes, physically and psychically, and strain refers to environment. Thus, if you take two individuals exactly alike, and subject one of them to prolonged and severe stress, and the other escapes it, one of them will

become insane and the other will not, though each may be of neurotic or insane diathesis, and probably none become insane who have not this defect. I think that the laws that are laid down in this matter are very instructive and will serve as a guide to much more accurate and broader views than we have heretofore been able to formulate.

DR. H. H. HOPPE, Cincinnati—A few years ago a friend who was studying nervous and mental diseases in Vienna returned and told me that Krafft-Ebing was so imbued with the idea that syphilis was the cause of paresis that he inoculated a series of 60 cases of paresis up to that time with the virus taken from fresh syphilitic chancres. Not one of these 60 cases of paresis developed syphilis. This tended to prove that they had all previously had the disease. I would like to ask Dr. Carpenter whether or not the results of this series of experiments have been made public.

DR. J. T. SEARCY, Tuscaloosa, Ala.—In the matter of heredity as an important factor in insanity, I would like to make the following suggestion: It is an established biologic principle that in those organs and structures in which hereditary variation is going on, most instability of structure is found. This is abundantly illustrated in domesticated plants and animals. While hereditary variability has improvement as its object, in the way of improved adjustability to a changed environment, still the very morphologic changes that are made are new structures, and consequently there is instability. Newness of structure means, in a certain sense, weakness; so that while variation is meant for improvement, it at the same time is a frequent cause of weakness. In degenerating individuals and families in the biologic world, we find frequent defects, abnormalities, and aberrances as well as more liability to disease in their newly varied acquisitions. Improvement of function comes by way of variation of structure; still, variation, in those families that do not continue the same efforts that beget the improvement, may be a source of ready deterioration. In our present-day civilization and for several hundred years, there has arisen much changed and excessive exercise of the cortical brain; very different from what was the case when we were rude savages roaming over the plains of Europe, when muscularity rather than brain-ability was our most prominent accomplishment. The requirements for brain-work have been for a long time increasingly a necessity that is very exacting. All of our early life is now taken up in study, and our adult life is strenuously occupied in brain-work. The result is, hereditary cortical variation in the way of improvement. But, following the general biologic rule, the newly varied brain structures fail readily, particularly in those individuals or families that do not keep up the same ancestral improving exercises. There are, therefore, nowadays, in brain structures and capabilities seen frequent signs of deterioration, of degeneracy, of defectiveness, and of disease. The increase of modern insanities, in this way, has hereditary cortical variation as one cause—if not its principal cause. The eyes, in conjunction with the cortical brain, are organs that are much worked in new ways in our modern civilization. We have largely changed from far-vision to near-vision in the uses to which we subject them with most strain and effort. Consequently we find them varying and their instability of structure occasions frequent abnormalities, asymmetries and tendencies to disease. The cortical-brain is varying, and so are its windows, the eyes; and we see increasing exhibitions of the defective instability of both in our most civilized communities. In this way, as Dr. Tomlinson quoted, "where evolution ends, insanity begins"; because when and where improving variation of structure stops, deteriorating and defective variation sets in.

DR. CARPENTER—In the first place, I do not know that Dr. McBride understood my paper exactly. What I meant to say was that syphilis did not attack the nerve cell or the neuron, but that it did attack the approximate tissue; the blood vessels, the connective tissue and the fibrous tissue; and that the damage to the nerve tissue was secondary. If it is proven that the nerve cell is attacked by the syphilitic virus, that is something more recent than has come to my knowledge.

In regard to tuberculosis and insanity, I think it should be kept in mind that tuberculosis is a destroyer of nutrition and in that way may do much damage to the system as a whole, in which the brain may participate especially, and in due time manifest itself in insanity by presenting a special picture. In the paper you may have noticed that a large number of the deaths were proven by the postmortems to be due to tuberculosis. I wish to remind you that these autopsies were not of cases recently admitted to the hospital. We should always keep in mind the fact that a large ratio contract the disease while in the institution. I think if there is anything characteristic of this form of the disease it is the depression of which Dr. Dewey spoke, and which I think is characteristic in all diseases due to infection, as is usually noted in typhoid fever, and in la grippe particularly. I would regard tuberculosis as a determinate factor in insanity much as I would regard bad hygiene and bad hygienic surroundings, poor food, and similar factors which tend to have a devitalizing effect on the constitution of the individual.

I understood my worthy colleague, Dr. Tomlinson, to make the statement that he believed all insane people to be possessed of a hereditary predisposition. It is my conviction, on the other hand, that there is a certain small percentage of cases of insanity due to infectious disease, and toxic conditions in which heredity play little or no rôle; that is, that infection may be the direct cause of insanity where there is no predisposition. We know that a small percentage of the cases of acute mania do recover and remain permanently cured. Berkley speaks of 4 per cent. that had remained permanently well after ten years. I believe that a small percentage of the cases of acute mania and acute melancholia do recover and remain perfectly well, and I believe these are the cases which are due solely to the infection without the element of predisposition entering into them. In regard to the most vulnerable point in the brain, I believe it is the district to which the cerebral artery distributes its branches. It is an accepted principle, as my colleague has intimated, that "dissolution begins where evolution leaves off," but it seems to me that it should be remembered that those parts of the body which are the most abundantly supplied by blood, and which contain the largest number of blood vessels, are the most frequently attacked by the neoplasms or degenerative processes, and it occurs to me that in these cases of insanity from infection the flood-tide of the blood is in the cerebral artery through whose branches infections and toxins are most probably carried. Hence the region most likely to be affected by the degenerative processes is the district supplied by the cerebral artery and its branches.

In regard to Krafft-Ebing and his syphilitic tests in paresis: from such information as I have been able to glean, I believe none of these cases that were tested showed any manifestation of the primary or the secondary symptoms of specific disease.

PRELIMINARY NOTE ON AN EXPERIMENTAL RESEARCH INTO THE MEANS OF CONTROLLING THE BLOOD PRESSURE.

GEORGE W. CRILE, M.D.
CLEVELAND, OHIO.

When the vasomotor center is exhausted stimulants such as strychnin are either valueless or harmful, because if the center is wholly exhausted it can have no effect, and if partially exhausted the stimulation will be followed by a deeper depression. Shock may be as readily induced by vasomotor stimulants as by injuries or operations; the former belong to the class of internal stimulants, the latter to that of external stimulants. Neither can be employed with advantage in the treatment of a shock produced by the other. Alcohol should be classed as a depressant. Nitroglycerin is of advantage only in certain diseases of the arteries. In digitalis the vasomotor factor in its effect is objectionable on the same grounds as that of strychnin. As to the cardiac factor in the action of digitalis, an increase in the heart's action, *per se*, has but a limited effect on the blood pressure in normal cases, but when the peripheral

resistance is lost, an increase in the heart's action has practically no effect on the blood pressure.

Normal saline solution is not in any considerable quantity retained in the blood vessels. When approximately 320 c.c. per kilo has been given, it causes death by asphyxia, due to the accumulation of the solution in the splanchnic area, mechanically fixing the diaphragm and the ribs.

Uniform mechanical pressure on the limbs and trunk by means of a pneumatic rubber suit gives a definite control of the blood pressure of from 25 to 40 mm. There are no unfavorable side effects. By this means patients may be placed in any posture during operations, because the pneumatic pressure creates an artificial peripheral resistance, causing the blood to flow back to the heart regardless of the posture of the patient. Adrenalin chlorid acts on the heart and the blood vessels, but not on the vasomotor center. In the normal animal, in every degree of depression, when the cervical spinal cord has been severed, or the medulla destroyed, or the animal decapitated, adrenalin gave a definite control within certain limits over the blood pressure—raising it even twice as high as the normal. It must be used carefully and in great dilution with saline solution. It was usually used in 1 to 50,000. In large doses it may over-stimulate the inhibitory mechanism in the heart. This may be prevented by atropin. A decapitated animal was kept alive for 10½ hours by adrenalin and artificial respiration. The effect of adrenalin on the heart and blood vessels may be obtained after death. Most animals could within certain limits be brought back to life again.

In one experiment 15 minutes after a dog's heart and respiration had entirely ceased adrenalin in 1 to 50,000 solution was introduced into the jugular vein, artificial respiration was given, and rhythmic pressure was made on the thorax over the heart. Normal respiration and blood pressure were re-established.

A remarkable effect on a patient was obtained by a combination of the pneumatic rubber pressure suit and adrenalin. The research extended over three years, and is based on observations on more than 200 animals and many clinic cases.

275 Prospect Street.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.
Professor of Genito-Urinary Surgery, Medical Department, University of Illinois; Surgeon to St. Mary's Hospital.
CHICAGO.

2. SAMOA.

As one approaches the equator he instinctively begins to shrivel a bit in anticipation of a pitilessly hot sun and sweltering nights—suggestive of a blazing moon. This unpleasant prospect is usually realized, but in entering the South Seas during the season of the "South West Trades" it is different, quite. The trade winds make the air delightful, night and day, unless one happens to have a state room on the lee side of the ship. Here, it is a bit stuffy, but not so much so as in a little cage of a room at home in summer. Weather which can be said to be really warm, is first encountered within three days of the equator—north, and on the third day after crossing the equator it is positively cool. The experience of increasing cold as one goes south, is odd when experienced for the first time.

I rather regretted that Neptune no longer boards vessels crossing the line. There was not even a ripple of excitement, and as for fun, it was entirely absent save for the evident apprehension of one young Englishman, who really more than half believed the statement of the waggish first mate, to the effect that vessels often bumped the line pretty hard in crossing.

It is not surprising that Robert Louis Stevenson should have selected Samoa as the ideal home spot of the world. The Samoan Islands are as beautiful as a dream of Paradise. Pago Pago, the principal seaport—after Apia—has a landlocked harbor surrounded by high, verdure covered hills, which is ideal. One is especially impressed with the virile greenness of the landscape, which suggests a blending of the tropical with the characters of that of our own eastern states. Imagine the scenery of portions of the Hudson, bordered above and below with palms and giant ferns, and the picture is complete. It is a pity that there are no hotel accommodations at Pago Pago, for the climatic conditions are peculiarly favorable for invalids.

The physique of the Samoan islanders attracts attention at once. The men are magnificently proportioned—rather better than the women. As I looked at these natives, I understood Mark Twain's comparison of white and brown skins. I chanced to see a half-naked fellow, as stalwart as possible and with a head like a Greek god, standing side by side with a good-looking young white man. The magnificent physique, clear brown skin, and noble features of the semi-savage made the white man look like a pretty poor specimen of the *genus homo*. Much depends on the point of view. The white man, as seen here, on the native heath of the Samoan Islander, has no occasion for self-conceit. I was promised still handsomer brown folk in New Zealand, and, as will be seen later, I was not disappointed. I saw but one incongruous thing among these primitive folk—a little native boy dressed in conventional civilized garb. He was an awful discord.

There is much of interest that might be said of picturesque Samoa, but I fear the blue pencil of the mighty editor; who is not in sympathy with non-medical articles in medical journals. At first sight it might be supposed that one would have some difficulty in gathering items medical in a crude little semi-savage community like Pago Pago. Indeed, the prospect of gathering something which might afford a *raison d'être* for a contribution to THE JOURNAL seemed to me at first rather gloomy. After poking about the place for a few hours, however, I changed my mind. The first thing I noticed was the "up-to-dateness" of the Samoans. Uncle Sam had ordered all of the natives to be vaccinated, and the entire population was nursing sore arms. I was informed that secondary axillary glandular infection was frequent. I saw several cases of this kind. Pus infection is frequent there in all sorts of surgical conditions, especially among the natives. Another "hall-mark" of civilization was a native with a saddle nose and deformed superior maxilla from syphilitic necrosis. As one intelligent native expressed it, "the white sailors bring plenty of both diseases." Among a crowd of natives whom I saw at Pago Pago, was a typical albino. He was a pure-blooded Samoan, and his pink skin, light eyes, blonde hair, bushy white eyebrows and scanty white mustache looked weird enough beside the dark skins and black (or chemical red) hair of his fellows. Apropos of blonde hair, I was amused to note that even Samoa has its "bleached blondes." Blonde and red hair among the natives—both men and women—is frequently seen. They bleach it to varying shades with quicklime. The feminine combination of a single, none too ample garment, a very ample figure, brown skin and bushy reddish blonde hair would give a State Street dude heart failure.

The prevalent diseases of Samoa are pneumonia, simple continued fever, and elephantiasis. Fully 15 to 20 per cent. of the natives have elephantiasis in one form or another. Pneumonia is frequently met, and despite the ignorance and superstitious malpractice of the natives, most cases recover. It is very fatal, as with us, among the aged. Meningitis or nephritis usually occurs as a complication in fatal cases. The natives think that the disease is due to a devil within the chest, who keeps the patient from breathing. The devil is exorcised by exercising the patient—forcing him to walk about, or at least sit up.

Pago Pago has a government hospital, a little one-story

affair that looks unpromising enough. But it is a good service, all the same, and although it has a capacity of only about fifteen in-patients, good work is being done there. The clever young naval surgeon in charge displayed a trophy in the form of an appendix, and showed a recovered patient. The case was that of a sailor, taken suddenly with characteristic abdominal pain. He was operated on 36 hours later. The appendix was gangrenous and had sloughed off. It contained several fecal stones as large as a date seed, and lay free in the abdominal cavity. There was no walling off. A portion of omentum was gangrenous and adhered to the appendix. No drainage was used primarily, but the wound had to be reopened and drained because of necrosis of a small area of bowel. Gas escaped, but no feces. Recovery was perfect. The surgeon thought he should drain next time—and I quite agreed. Appendicitis in the South Sea Islands! Verily, the world do move.

Among other cases I saw the successful result of a recent Pirogoff amputation, and a complicated hare lip and cleft palate operation in which resection of the jaw and formation of an osteal flap from the intermaxillary bone were resorted to. I saw a number of cases of elephantiasis. Among the recent operations was a case of tracheotomy for edema glottidis, apparently following some simple throat infection. Through the ignorance and maltreatment of the patient's native friends, this case was lost—an entirely unnecessary result.

There are many eye cases—corneal ulcers largely. Iridectomy is a frequent operation to remedy defective vision resulting from these. Much to my surprise I saw one case of bronchopneumonia in a child. Apropos of pneumonia, the explanation of the favorable results which occur, despite native superstition and ignorance, is probably the practically out-of-door treatment it receives. This point is not without its lesson for physicians of more civilized communities.

Laying aside professional enthusiasm for the moment, what most impressed me at Samoa was the fact that it belongs to our Uncle Samuel. The Navigator Islands are a long way off, but they are pretty, and they fly Old Glory.

(To be continued.)

Clinical Report.

A CASE OF DIPLACUSIS MONAURALIS.*

EMIL AMBERG, M.D.
DETROIT.

Mr. G. T. N., aged 28, consulted me in the beginning of May, 1902, and complained especially that he was hard of hearing in his right ear and that some tones sounded double.

The hearing test showed: 1/100-150 i; watch 6.5/100-150 i; + Rinné +; Weber = After use of catheter; 3/100-150 i; watch 16/100-150 i.

Between the time mentioned and Aug. 16, 1902, the patient was treated at irregular intervals. His main complaint was ringing in the right ear, impaired hearing in same and the very annoying and irritating phenomenon that he heard certain tones double. When the left ear was tightly closed and a tuning fork was sounded, patient heard two distinct tones in his right ear; one seemed to be just the octave of the other.

Under treatment with the Eustachian catheter and sodium bromid, and incidental nasal treatment, the symptoms disappeared. Later I understood that the patient noticed the phenomenon first one morning when his little child was yelling, at which occasion he heard sounds of a certain pitch double. Under date of Nov. 17, 1902, the patient writes me, in part:

> I am pleased to add that since my last visit to your office everything seems entirely normal. No double tones, no ringing, and my hearing is as good as it ever was in the past. I am naturally very much pleased, etc.

This case is apparently one which must be classified as diplacusis harmonica monauralis.

According to Politzer,[1] diplacusis is a rare disease. We discriminate between, 1, diplacusis binauralis (*a*) dysharmonica, (*b*) echotica; and 2, diplacusis monauralis. According to Barth[1] diplacusis binauralis is an affection of the middle ear, and he thinks that the affected ear does not hear another tone than the sound ear, but that it hears it only with a different pitch. Jacobson[2] refers the affection to the labyrinth. Kayser[3] says:

> The explanation of diplacusis dysharmonica is somewhat difficult. The most simple way is to base our explanation on Helmholtz's theory of the function of the membrana basilaris of the cochlea and to regard it as a condition of this membrane, which is out of tune perhaps by a change of tension (Wittich, Knapp).

The diplacusis binauralis echotica consists in the phenomenon that a sound is heard later and weaker in the affected ear. The diplacusis monauralis, illustrated by the case reported, and apparently a very rare affection, is confined to one ear, as the name implies. Alt of Vienna, in an exhaustive essay[4] entitled "Disturbances of Musical Hearing," says, on page 222:

> I regard diplacusis monauralis in which tones are heard double or multiple in the affected ear as a disturbance of musical hearing in neurasthenics in the sense of nervous symptoms, because it has always been observed in nervous people when there was an ear affection present, and because it disappeared spontaneously within a few days or weeks.

I may add that diplacusis in rare cases may, perhaps, be of interest from a forensic point of view in declarations of witnesses, and furthermore, that we may well remember the symptoms in mental disturbances.

270 Woodward Avenue.

* Read before the Eye, Ear, Nose and Throat Section of the Wayne County (Detroit) Medical Society, Nov. 24, 1902.

1. See Politzer, 1901 Edition, p. 628.
2. Lehrbuch der Ohrenheilkunde, 1898, p. 86, and following.
3. Blau Encyclopaedie der Ohrenheilkunde, 1900, p. 85.
4. Monatsschrift für Ohrenheilkunde, etc., June, 1902.
5. See THE JOURNAL A. M. A., July 29, 1893.

New Instrument.

A NEW INSTRUMENT TO PROTECT THE BRAIN WHILE DOING CRANIOTOMY.

F. C. SCHAEFER, M.D.
Professor of Surgery in the Post-Graduate School and Hospital; Gynecologist to St. Elizabeth's Hospital; Surgeon-in-Chief to St. Hedwig's Hospital, Etc.
CHICAGO.

Every surgeon who has used the Gigli saw in opening the skull is cognizant of the fact that there is great danger of



Fig. 1.—2, Watch spring; 3, brain protector; 4, Gigli saw.

sawing through the dura mater, arachnoid and pia mater into the brain tissue. The longer the cut the greater the danger, on account of the convexity of the brain surface. The saw forms the string of a bow, the latter being represented by the arched skull bone. It is practically impossible to make an incision much over three centimeters long without damaging the brain or its coverings. Having known this accident to occur in the hands of experienced operators, I concluded to make an effort to overcome this difficulty and devised a brain protector, or shield, which is herewith illustrated.

Fig. 1 shows the parts of the mechanism.

Fig. 2 represents my method for controlling hemorrhage from the scalp.[5] A rubber tube or cord is wound twice around the head and pulled taut; stitches b. b. of silk thread are carried through the scalp and tied around the constrictor at three or four points, to prevent the latter from slipping. I have used this method for ten years with satisfaction. Fig. 2 shows the first step in using the brain protector. The watch spring (2)

and brain protector (3) connected are passed between the skull and dura mater from the first through the second trephine opening.

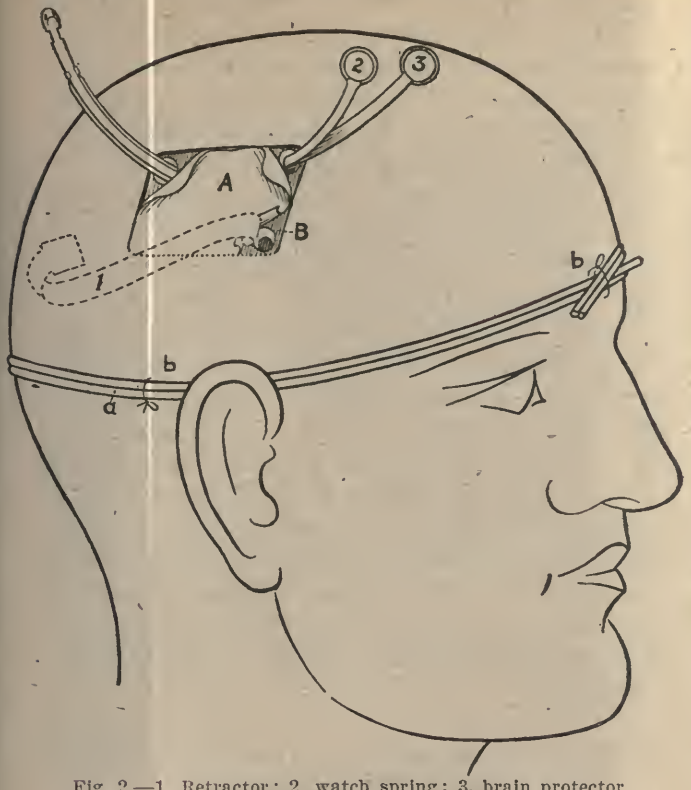


Fig. 2.—1, Retractor; 2, watch spring; 3, brain protector.

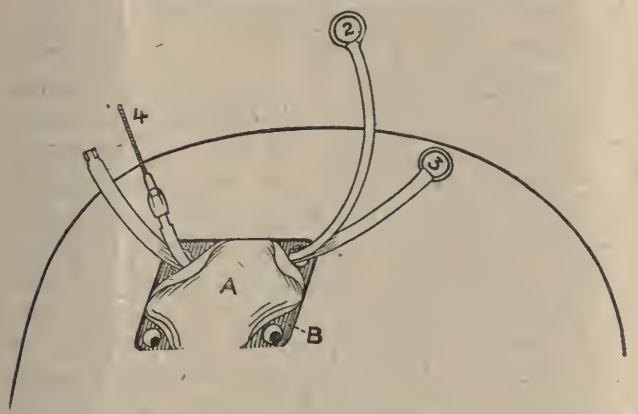


Fig. 3.—2, Watch spring; 3, brain protector; 4, Gigli saw; *A*, scalp; *B*, skull bone.

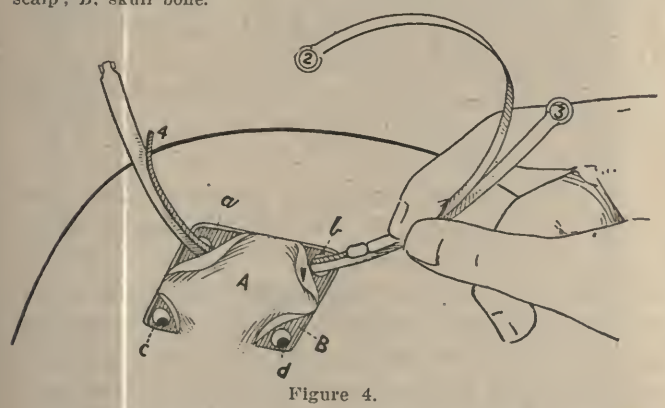


Figure 4.

Fig. 3 shows the second step. The brain protector (3) and watch spring (2) are separated, and the Gigli saw (4) is attached to the nub of the spring.

Fig. 4 shows the technic for pulling the watch spring (2) with Gigli saw (4) attached through the openings of the skull, leaving the brain protector (3) in position. The saw having emerged from the cavity is detached from the watch spring (2) and is now in position between the skull and brain protector, ready to cut through the bone. See Fig. 5, B, bone; 3, brain protector; 4, Gigli saw; C, dura mater. In sawing bring the saw obliquely through the bone so as to make a

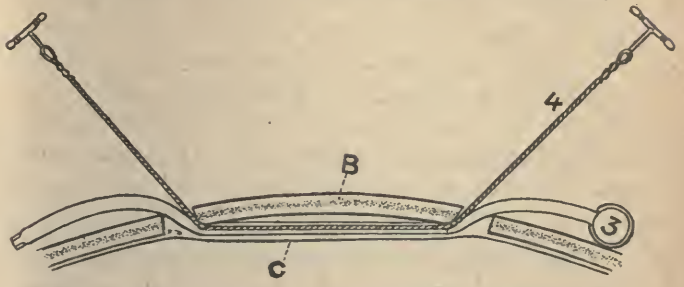


Fig. 5.—*B*, Bone; *C*, dura; 3, brain protector; 4, Gigli saw.

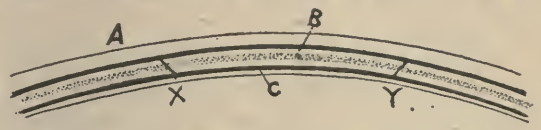


Fig. 6.—*X*, *Y*, Oblique cut; *B*, bone lid; *A*, scalp.

ledge (Fig. 6, X Y) for the bone lid to rest on. After having cut through one side of the intended lid, the same procedure is carried out as in Fig. 4 from a to c, and b to d. From c

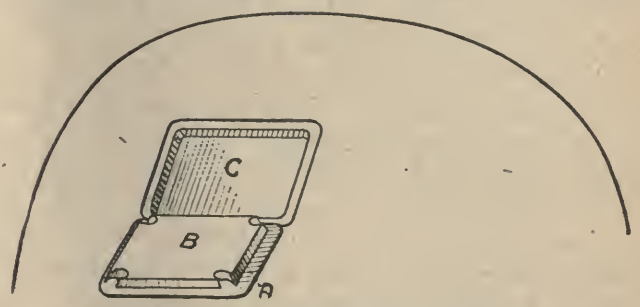


Fig. 7.—*A*, Scalp; *B*, bone; *C*, dura.

to d the saw is carried through the inner table only, indicated by dotted lines in Fig. 2.

Fig. 7 shows the lid of the skull turned down: B, bone; C, dura; A, scalp.

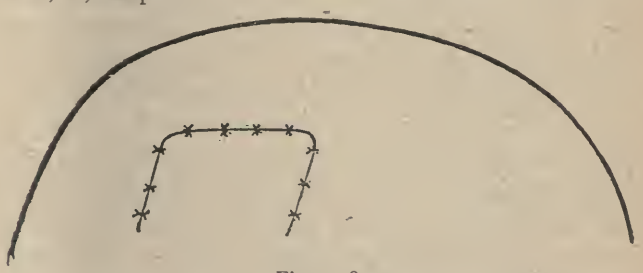


Figure 8.

Fig. 8 shows the lid replaced, and Fig. 6 a vertical section showing lid resting on ledge X Y.

The advantages of this instrument are apparent at a glance. There is absolutely no danger of sawing into the dura mater, an accident which frequently occurs when the Gigli saw is used without the protector. By sawing obliquely a beautifully even trap-door is formed, leaving a substantial ledge for it to rest on when closed. Any trephine with ¼ inch lumen may be used with the instrument.

To Destroy Odor from Ulcers.—If iodoform gauze be saturated with a solution of the compound tincture of benzoin and applied in cases of foul-smelling cancers and open malignant ulcers, the odor which renders life a burden, both to the patient and attendants, will be completely destroyed.—*Toledo Med. and Surg. Reporter.*

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THE INCREASING PNEUMONIA MORTALITY.

Nearly three years ago[1] we called attention to the fact that statistics showed that pneumonia was causing more deaths than tuberculosis. We believe that we were the first to call attention to this fact, but it is becoming generally recognized.

The circular issued by the health department of Chicago for the week ending January 17 begins with the statement: "Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago; one-third more than consumption and 46 per cent. more than all other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough, the total of which deaths was 4,489 as compared with a total of 6,562 deaths from pneumonia." This statement is a striking one and certainly confirms our earlier assertions as to the predominance of pneumonia over other infectious diseases as a cause of mortality. While consumption has steadily decreased in its mortality, pneumonia is taking its place, and what was then first shown by us to be true of the vital statistics of Chicago and a few of the northern states, has, as shown by the figures here presented by the Chicago Health Department, been proven true of the country as a whole. While pulmonary tuberculosis has decreased from 18.21 per 10,000 population in 1880 to 14.44 in 1900, pneumonia has increased from 12.56 in 1880 to 13.49 in 1900, thus making a decrease of 20.7 of the deaths from consumption and an increase of 7.4 per cent. from pneumonia during the twenty years. Going still farther back, the deaths from consumption in 1860 were 25.28 per 10,000; in 1900 they were 15.30 per 10,000, a decrease of nearly 40 per cent. in forty years. From pneumonia the 48 deaths in 1860 in Chicago represent a rate of 4.40 per 10,000. In 1900, the 3,389 deaths within the city of Chicago represent a rate of 19.95 per 10,000, an increase of over 350 per cent. of pneumonia mortality.

It is customary to regard the increase in pneumonia mortality in the last decade or so as mainly due to the influenza infection which has been prevailing throughout the land. To a certain extent this is true, but the figures published by us in 1900, as well as these later ones, show it is not altogether the case, and we do not think that it can be so considered at the present time. Why some diseases increase in prevalence and mortality and others decrease is still one of the problems medicine has to meet, and we do not know of any more important one at the present time than those involved in the questions of the relative fatality of tuberculosis and pneumonia. The so-called "great white plague" may soon be considered a very secondary scourge to the human race if the increase of pneumonia mortality continues.

In conclusion we can not do better than quote from our former editorial: "While we are giving our attention to tuberculosis, a disease that is apparently on the wane, if only to a slight extent, we might divert our minds with one that is apparently increasing among us. It is not necessary to excite alarm, but a little more attention to a disorder that has, we have reason to believe, a widely varying range of virulence and which, in our northern climate, is our most fatal disease for at least half the year, would not be out of place. The fact that it is so closely related in its morbidity to climatic conditions would seem to indicate the chief line of prophylactic endeavor, but there are other factors also to be considered. At the present time it appears to be getting a little the better of us, and it is for us to find the reason why."

1. See Editorial, Journal A. M. A., April 14, 1900, p. 942.

CONSERVATIVE METHODS IN THE TREATMENT OF PROSTATIC HYPERTROPHY.

Within the past few years operative methods of treating nearly all cases of prostatic hypertrophy have found many enthusiastic supporters. The Bottini operation and the different forms of prostatectomy have largely come into fashion, replacing castration and vasectomy, which were in vogue a few years ago. The fact that the question of operative treatment is still unsettled is attested by criticisms by good men of all the operations which are at present in general use. The adherents of prostatectomy condemn the Bottini operation with some justice because of the uncertainty and possibility of cutting through the bladder when operating in the dark. The adherents of the Bottini operation point out the dangers of so extensive an operation as prostatectomy in old men much weakened by disease. Bier's operation of ligation of the iliac arteries has practically gone into entire disuse, and we hear but little of the old-fashioned method of treatment of extreme cases of suprapubic or perineal cystostomy.

Thorkild Rovsing,[1] professor of surgery at the University of Copenhagen, has recently published an article giving the results of his own experience in various methods of operation and speaking strongly in favor of more conservative methods than are now in general use. He finds that various operators have placed the mortality of the Bottini operation from 5 to 33 per cent., and even Freudenberg, one of the strongest advocates of the operation, admits a mortality of 8.5 per cent. in 318 cases which he has collected from the literature.

1. Archiv für Klinische Chirurgie, 1902, lxviii, 934.

Prostatectomy gives an even larger mortality, and the less severe operations of castration and vasectomy show a comparatively small per cent. of cases permanently benefited. Rovsing, in concluding his article, advocates that patients who are not in specially bad condition, who have only a moderate amount of residual urine and who have intelligence and facilities for catheterization, be treated by systematic catheterization in preference to any of the operative methods. Those cases in which there is total retention or in case of severe cystitis and other complications he believes are preferably treated by suprapubic cystostomy. He performs the operation under local anesthesia with cocain solution, inserting a drainage catheter which can be left for an indefinite time, and by the apparatus which he employs soiling of the patient's clothing is avoided. Out of a considerable number of cases in which he has employed this method of treatment none of the patients have died as result of the operation, and in many cases in which the patients were in an apparently desperate condition so complete a recovery resulted that they were able to get about and resume their employment.

It would seem from this and from other recent articles on the subject that there is a tendency to protest against the ultra-radical operative methods that have been so strongly advocated.

PROPHYLAXIS OF BALDNESS.

If anyone had insisted 25 years ago that tuberculosis was only slightly hereditary, but distinctly communicable, they would have been laughed at. The germ theory has now become a doctrine of ever-widening scope, and we realize that many affections are directly communicable and only a few hereditary. At the present moment it seems that even for so old-fashioned an affection as baldness a complete change of opinion as regards etiology is taking place. As with tuberculosis, so it has long been noted that baldness is likely to run in families. The sons of bald fathers are all the more likely to become bald young, and it is not the rule to find a single bald brother where there are a number in a family. On the other hand, daughters seldom become bald, but then the women folk rarely use the combs and brushes of the male members of the family, while boys not only use such articles in common, but often exchange hats, have their hair cut frequently at barbers, and in general are not rarely in circumstances in which they are likely to contract the disease, if it is communicable.

It is nearly ten years now since Sabouraud at the Pasteur Institute pointed out that premature baldness is practically always associated with the presence of certain bacteria. The seborrheic condition causing what is known as dandruff, on which early baldness probably often depends, he demonstrated to be a very probable result of the presence of these micro-organisms. Bacteriologic investigations made since have tended to confirm this opinion, and while they have failed to show the existence of any specific germs, they have made it appear probable that microbes play an important rôle in causing the increased desquamation of the epithelium which chokes up hair bulbs and finally leads to their obliteration. Undoubtedly the ordinary conditions of scalp hygiene among men are favorable to the development of these germs. The circulation to the scalp all comes from the vessels of the neck and finds its way over the bony skull to be distributed to the hair bulbs. It is especially likely to be interfered with by the pressure of the hat band, and that this is an important factor in the etiology of alopecia can be seen from the fact that baldness always begins just above the occipital prominence at the back or above the frontal bosses anteriorly, that is, just where the pressure of the hat band on blood vessels is most likely to be occlusive. This interference with the circulation lowers the resistive vitality of these parts of the scalp and consequently provides opportunities for the growth of micro-organisms. It must not be forgotten, moreover, that these three points mentioned are especially liable to infection. The comb and brush are used particularly in arranging the whorl of hair in the occipital region and in parting the hair and brushing it back over the frontal bosses anteriorly. If infection plays an important rôle, then, in the production of baldness, these are just the parts that, theoretically, should be first affected, and from which infection should spread to the other parts of the head. As a matter of fact this is what occurs in practice.

Greater care should be taken with regard to brushes and combs, especially in families in which early baldness is the rule. The hair brush should be dipped in an antiseptic solution several times a week. Combs should be boiled regularly and frequently, and under no circumstances should members of precociously bald families use other combs or brushes than their own, or allow them to be used on them, in barber shops, unless they are assured of their sterilization beforehand. These precautions may seem a high price to pay for the prophylaxis of premature baldness, and many will prefer to take the chance of becoming bald, but some have such a horror of the affliction that they will willingly put themselves to much trouble to prevent it.

A RUSSIAN LIBEL ON PHYSICIANS.

A Russian writer of fiction, one Veresayeff, or Smidovitz, has recently made something of a sensation by a libelous work on the medical profession. He claims to have studied medicine, but relinquished practice because he had not the nerve to use the knife and open an abscess, and consequently lost his patient by septicemia. Accepting this as a fact one can allow something for such an individual's idiosyncrasies, yet they do not justify his publication of his libelous fancies as facts, and making such statements as that human vivisection is a common practice; that every medical discovery is

made at the expense of the lives of scores of hospital patients ruthlessly sacrificed in experiments, and that murder in the name of science is constantly being performed. This work will probably be soon put in a form accessible to American readers, but we need not go abroad for all of this class of literature. We have plenty of ingenious fiction writers with an abundant lack of conscience to stimulate their mischief-loving propensities. A recent communication in one of our great dailies is an instance of the point, and we have before us a clipping from a local Iowa paper which makes the statement with apparent full belief in its truth, that it is a regular practice of the medical colleges in Chicago to purchase from gypsies healthy children for the purpose of clinical experiments and demonstrations.

However ridiculous or improbable, these stories find some believers, and these not always among the most ignorant. The antivivisectionists take them up at once and make the most of them for their purposes, and there are yet others who accept them without criticism from the mere habit of credulity. Some of the mud, of course, sticks, and it helps the quacks, the faith curers and all the tribe that fatten on human delusions. They, of course, encourage it, and it is easy to perceive the taint of their influence in the anti-vaccination and other tendencies of the antivivisectionists and all the other slanderers of the profession. As the only object of experimentation is to obtain what may be of benefit to mankind, we may claim, in some measure, the reward of those who have all manner of evil said against them falsely for righteousness sake. The scientific devotee to whom human life is nothing, and who is devoid of all human sympathies, is, we believe, unknown among physicians; we have never met him outside of fiction.

Whatever is said or done, one thing is certain, the public does not lose faith in the honest physician. It may go astray on quackery and a part of it may be joined to its idols for a time, but our profession will be in demand till that happy time—which only the rainbow chasers foresee—comes, when preventive medicine has done its perfect work and disease is abolished. That is an ideal which we may approach but can never attain.

PRIZE ESSAYS ON TUBERCULOSIS SANATORIA.

The first number of the London *Lancet* for this year fills its original department with the three prize essays in the competition for the plans of the king's sanatorium. The first, by Dr. Arthur Latham, is a practical monograph on tuberculosis sanatoria. Beside the very complete architectural details on the modified pavilion plan, it gives elaborate statistics and an historical introduction, and a discussion of the questions of immunity and infection as regards tuberculosis, and full comparative statements of institutions in various parts of the world, not only as to their physical features, but their methods of treatment, sanitary arrangements, etc. The other essays, by Drs. F. J. Wethered and Egbert C. Morland, are also meritorious and elaborate, but, in our opinion, less so than the first, though all three supplement each other and cover the subject very thoroughly. As a whole the number is a valuable contribution to the sanatorium treatment of tuberculosis and will be, in a measure, a standard document for some time.

THE TRANSPORTATION OF ANIMALS.

A bill is proposed in Congress to allow animals, while being transported in cars, to be kept for forty hours without being unloaded. The statute which this bill is proposed to amend places a limit of twenty-eight hours. It is easily realized that meat suffers a great deterioration when animals suffer as they will under such cruel regulations. It is often made unfit for food. There are other good reasons for a protest which do not concern us as medical men—for example, the cruelty to the animals. Further, if this measure purports to be for the purpose of saving in the cost of meat to the consumer, it is not likely to accomplish this while the combine is free to put the saving into its own coffers. The proper way to transport meat is in refrigerator cars. The proper place to kill cattle is as near as is possible to their free and healthy life on the field and with as little exhaustion, fright and suffering as can be. The less of these forty-hour runs such as this bill would legalize the better for those who eat the meat, as well as for the animals.

SECTARIANISM IN MEDICINE.

A deep, dark and dangerous conspiracy has been unearthed by a member of the homeopathic medical department of Michigan University.[1] It is, in short, an attempt under the auspices of the American Medical Association to amalgamate and ultimately annihilate the homeopathic school of practice. This is being done by the publication of the fact that any reputable and legally qualified physician who will agree not to profess or practice medical sectarianism is eligible through the county societies to membership in the Michigan State Medical Society. This does not seem at first sight nor after due consideration to be a very criminal proposition. Nor is there anything in the past professions of the homeopathic school to permit it consistently to object. It has flourished on its *soi disant* reputation of being a "new school," and inferredly a broader, better and more liberal body of practitioners than the "old school," whose alleged persecutions have been its best capital. The sudden wiping out of this stock in trade is naturally a blow to the invested interests of homeopathy—hence these tears. They mean that homeopathy has been existing on a name, that its progressive practitioners recognize the fact and that the higher principled among them, in fact, all who are worthy, are ready to honestly admit it. We believe that there are many such and that they are the very cream of the homeopathic profession. The same is true of the eclectics, one of whose journals also prints a similar tirade from one of its contributors. The offering of an olive branch, however, to the medical editors, medical professors and other official members of the irregular schools is a most uncomfortable and unwelcome local

1. The Medical Century, January.

application of coals of fire to their heads. We could ask no better indication that the liberal policy is likely to be effective than just such utterances from those whose financial interests are involved in the continued existence of the sectarian schools and journals.

METHOD OF INFECTION IN TYPHOID IN INFANTS.

We publish in this issue an article[1] with its discussion on typhoid fever in infants, in which the method of infection seems to cause more difficulty than we consider justified. Thompson is quoted as saying concerning typhoid fever that "from its etiology its occurrence is impossible in breast-fed infants." Brush says, "What I can't understand . . . is, if typhoid is a water-borne disease, how the nursing babe can get it." Cotton remarks, "I do not think we should let this subject go out with the impression that children are exempt from typhoid because they do not drink water. . . . That typhoid may be nursed from the mother's breast there seems to be little doubt." These remarks suggest a valuable field for clinical observation, namely, whether or not typhoid may be transmitted through the mother's milk, but in this discussion there seems to be left out of consideration the fact—it seems to us to be a fact—that almost every child imbibes water in different ways. If we are to believe there is a basis for the warnings given by those authorities who emphasize the danger of washing utensils in typhoid-laden water, these babies have many possibilities of being infected. But allowing that to be an almost impossible source, may we not consider that the majority of these babies are frequently given medicine in unboiled water? The most common way, however, would seem to be the use of water as a drink, since mothers are continually advised to give their babies water between nursings. In what way may we be sure that a given child never has had water to drink?

Medical News.

DISTRICT OF COLUMBIA.

No Action on the Army Canteen.—The committee on military affairs of the House of Representatives has decided to take no action during the present session of congress on the canteen question.

Physicians to the Poor Enjoined.—The board of charities has sent the following report and recommendations to the commissioners of the District urging their adoption:

A report having been received by the board of charities that physicians to the poor have occasionally made charge for issuing to poor patients certificates for illness to enable them to draw benefits from insurance companies, on investigation, was found to be true. The board is of the opinion that a physician to the poor should not be allowed to collect fee of any kind from patients treated by him as physician of the poor and carried on his list as such and to whom medicines are supplied at the cost of the district. They recommend to the commissioners the adoption of the following: "Physicians to the poor while acting in capacity of such are forbidden to receive fees for any service rendered their patients whether such service is in the nature of issuing certificates or otherwise."

Reed Memorial Meeting.—A memorial meeting of the Medical Society of the District of Columbia in honor of the late Major Walter Reed, U. S. Army, was held Dec. 31, 1902. The president, Dr. Samuel Adams, read an address in which he referred to Dr. Reed's career in the District of Columbia as a member of the society. Medical Director Robert A. Marmion, U. S. Navy, presented a biographical sketch; Lieutenant-Colonel Jefferson R. Kean, U. S. Army, considered him as a medical man in the Army; Dr. Albert F. A. King mentioned his qualities as a teacher; Dr. Chas. W. Stiles commended him as a medical writer. General Leonard Wood, U. S. A., spoke in laudatory terms of Dr. Reed's medical work in Cuba, and Dr. William H. Welch, Baltimore, referred to him as a scientific investigator.

Consulting Staff, Government Insane Hospital.—Dr. Alonzo B. Richardson, superintendent of the Government Hospital for the Insane, appointed the following physicians to the consulting staff: Internal medicine—Drs. Samuel S. Adams, G. Wythe Cook, Sterling Ruffin and James D. Morgan; general surgery—Drs. J. Ford Thompson, George T. Vaughan, William C. Borden and William P. Carr; gynecology—Drs. Joseph Tabor Johnson, Henry L. E. Johnson, J. Wesley Bovée, and Isaac S. Stone; ophthalmology—Drs. Swan M. Burnett, D. Kerfoot Shute, William K. Butler and E. Oliver Belt; laryngology—Drs. Charles W. Richardson, J. Julius Richardson, Walter A. Wells, and Frank T. Chamberlain; genito-urinary—Drs. D. Percy Mickling, Albert F. King and Wallace Neff; medical zoology—C. W. Stiles and Thomas A. Claytor; bacteriology—Drs. William B. French and Henry D. Geddings.

Washington Post-Graduate Medical School Opened.—The opening exercises of this school were held in the public hall of Columbian University January 12. Addresses were made by Professor Needham, president of Columbian University; Gen. George M. Sternberg, president of the school, and Dr. William H. Welch of Johns Hopkins Hospital, Baltimore. The officers and directors of the school are Gen. George M. Sternberg, president; Dr. J. Ford Thompson, vice-president; Dr. George M. Kober, secretary and treasurer, and Surgeon-General Walter Wyman, Surgeon-General Robert M. O'Reilly, Drs. Alonzo B. Richardson, Dr. Samuel S. Adams, Swan M. Burnett, Joseph T. Johnson, Sterling Ruffin, Edward A. Balloch, E. A. de Schweinitz, Henry L. E. Johnson, and William C. Woodward, directors. The clinics will be held at the several hospitals every week-day from 9 a. m. to 2 p. m. Laboratory work will be conducted daily from 2 to 5 o'clock. The teaching force numbers 104.

ILLINOIS.

Personal.—Dr. and Mrs. LeRoy O. Jenkins, Paris, left for a European trip, January 20.

City Hospital Contract Let.—The contract for the erection of the Rockford City Hospital has been let. It is expected that the building will cost about $50,000.

Officers of Cook County Hospital Staff.—At the meeting of the staff, January 15, Dr. Frank Billings was unanimously chosen president, and Dr. L. Blake Baldwin was re-elected secretary.

Harlem Schools Closed.—The board of education of Harlem has decided to close the public schools indefinitely on account of diphtheria, 20 cases of which have been reported to the board, with 6 deaths.

Re-Elected on Board of Health.—At the annual meeting of the State Board of Health, January 13, Dr. George W. Webster, Chicago, was re-elected president and Dr. James A. Egan, Springfield, secretary, each for a term of two years.

Scarlet Fever at Lake Forest.—On account of the prevalence of scarlet fever at Lake Forest, a temporary hospital has been opened for the care of those suffering from the disease. It has been decided that it will not be necessary to close the college at present.

Needs of State Charities.—The omnibus appropriation bill for the fifteen state charitable institutions calls for an expenditure of $5,005,890 for the two years beginning July 1. Of this amount $3,647,000 is required for ordinary expenses and $1,358,890 for special purposes, including new buildings at the Bartonville Hospital, an addition to the hospital at Watertown, a new building at the Anna Hospital and a hospital at the deaf and dumb institution.

Neely Made General Superintendent.—The president of the Board of County Commissioners of Cook County has appointed Dr. John R. Neely general superintendent of the county institutions at Dunning. This position is a new one. Its creation is a part of the work of reorganization which the president of the board has undertaken. Under it, the position of medical director is abolished, and the insane hospital, poor-house and consumptive hospital are all placed under the sole supervision of the general superintendent.

Chicago.

Keen Will Hold Clinic.—Dr. William W. Keen of Philadelphia will hold a surgical clinic at Mercy Hospital, Wednesday, January 28, from 9 to 11 a. m.

Alleged X-Ray Injuries.—John Bortoli has sued Lakeside Hospital for $25,000 on account of injuries alleged to have been received as a result of an *x*-ray examination in 1901.

1. See pages 219 and 220.

Hospital of St. Anthony de Padua.—The report of this institution for 1902 shows that 969 patients were treated during the year, with 96 deaths, 31 of which occurred within 72 hours after the patients' admission to the hospital.

Personal.—Drs. Nicholas Senn and Henry P. Newman are on a month's cruise in the West Indies.——It is announced that Dr. G. N. Stewart, professor of physiology in the medical department of Western Reserve University, Cleveland, has been appointed to succeed Dr. Jacques Loeb at the University of Chicago, and will enter on his duties April 1.

Deaths of the Week.—During the week ended January 17, 626 deaths were reported, 110 more than for the corresponding week of 1901, and one more than for the preceding week. The death-rate per annum was 17.31 per 1,000. Pneumonia caused 131 deaths; consumption, 55; heart disease, 49; Bright's disease, 34, and violence, 34. Bronchitis caused 27 deaths, and diphtheria, scarlet fever and whooping cough 9 each.

Dominant Pneumonia.—The health department, in its report for last week, sums up the pneumonia situation as follows:

Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago, one-third more than consumption and 46 per cent. more than all the other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough, the total of which deaths was 4,489, as compared with a total of 6,562 deaths from pneumonia.

During the first seventeen days of the current year, out of the total 1,436 deaths reported up to the close of record hours last Saturday, 299 were from pneumonia—or a little more than one-fifth of the total deaths from all causes. During the first seventeen days of last year 227 pneumonia deaths were reported, the figures showing an increase of nearly one-third (31.7 per cent.) this year over last.

How to Check Pneumonia.—The commissioner of health, after showing statistics of the increase of pneumonia, sums up the measures whereby this increase may be checked, as follows:

1. It is well known that pneumonia is a highly contagious disease, the cause of which is a micro-organism in the sputa of those suffering from the malady, and that it is contracted by inhaling this germ. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis, or in diphtheria or influenza.
2. During the illness the greatest pains should be taken to prevent soiling bed-clothing, carpets or furniture with the sputa, and after the illness the patient's room should be thoroughly cleansed and ventilated.
3. The fact that the disease is most prevalent in the winter season, when people are most crowded together and live much of the time in badly ventilated apartments, makes obvious the necessity of thorough ventilation of houses, offices, factories, theaters, churches, passenger cars and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.
4. Laymen should be taught not to be afraid of a patient who has pneumonia, influenza or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly-ventilated apartments during the season when these diseases most prevail.
5. Since pneumonia is most fatal at the extremes of life—the young and the aged—special care should be taken to guard children and old persons against exposure to the infection of those already suffering with the disease and against cold, privation and exposure to the weather, which are potent, predisposing causes.

INDIANA.

Malpractice Suit.—Dr. N. Howard Thompson, Wabash, is being sued for $10,000 by Fred Garrett on the charge of alleged negligence. By the explosion of a torpedo a piece of tin was forced into the cheek of Garrett, who says it was not removed properly.

Photographic Identification of Candidates.—The State Board of Medical Examination and Registration now requires that each applicant for examination shall hand in with his application, a photograph of himself. The reason for this new rule is that it will prevent substitution of one candidate for another in the examination. Some cases have been brought to the attention of the board, in which substitution is claimed to have been practiced.

Mortality and Morbidity.—The total deaths in the state during December was 2,634, 228 more than for November, the respective death rates per annum being 12.3 and 11.6 per 1,000. In November tuberculosis caused 309 deaths; in December, 319; typhoid fever, 146 and 91 respectively; pneumonia 181 and 267; influenza, 7 and 19; smallpox, 2 and 17. Smallpox was the most prevalent disease in both months, 441 cases being reported in November and 642 cases in December.

The Board's Good Work.—During the year 1902 the Board of Medical Examination and Registration issued 196 licenses; refused licenses to 14 applicants who failed to pass examination; revoked two licenses, one for drunkenness and the other for non-residence in the state, and brought and defended many lawsuits with the satisfactory result that it has won in every instance. The greater part of the suits against the board were brought by "magnetic physicians," "osteopaths" and other irregulars who had been refused licenses.

MARYLAND.

Personal.—Dr. W. Clement Claude, Annapolis, suffered last week from sepsis, arising from a scratch on his finger in an operation. He is said to be improving.

Hospital Incorporated.—Incorporation papers have been taken out for the "Union Hospital of Cecil County" at Elkton. Among the incorporators are Drs. Charles M. Ellis and Howard Bratton, Elkton, and George S. Dare, Rising Sun.

State Board's Annual Meeting.—The State Board of Health met at Baltimore, January 14, in annual session. Dr. William H. Welch was re-elected president; Dr. William R. Stokes, bacteriologist; Dr. C. W. G. Rohrer, assistant bacteriologist; W. D. B. Penniman, chemist, and C. W. Mitten, inspector.

Peninsula Hospital Report.—The fifth annual report of the Peninsula Hospital, Salisbury, shows 276 patients treated. Only 183 patients were residents of the County (Wicomico); 115 operations were performed. The buildings were strained to their utmost capacity to accommodate the demands. A new hospital building is in course of construction.

Smallpox.—Dr. John S. Fulton, secretary of the State Board of Health, reported two cases of smallpox at Stockton, two at Berlin, and two in Belair, also a number of "concealed cases" at Cumberland. The outbreak at Snow Hill has been subdued. A case of smallpox is reported at Kingsville, Baltimore County, in a man running on a boat between Baltimore and Southern Maryland, where the disease exists. Seven negro "suspects" gave themselves up to the police January 17. They had been employed on Little Gunpowder River, where one of their number became infected with smallpox. They were driven out of camp and their shanty burned. They immediately came to Baltimore and disappeared. One of the seven was found to have the disease and all were sent to the Detention Hospital.

Baltimore.

The Friedenwald Estate.—The personal property of the late Dr. Aaron Friedenwald is appraised at $76,071.36.

Vital Statistics.—The number of deaths for last week was 230. Measles is still very prevalent, 317 new cases being reported, but no deaths. There were 40 deaths from pneumonia.

Personal.—Dr. Morris Wiener celebrated his ninety-third birthday on January 15. He is a native of Berlin and a graduate of the University of Berlin.——Dr. George W. Dobbin has returned from a visit to Jamaica.

Alumni Meet.—A general meeting of alumni of the various schools of the University of Maryland was held, January 21, to devise ways and means of upbuilding the university and placing it on a modern footing as to government and endowment.

Hospital for Consumptives.—The annual meeting of the directors of the Hospital for Consumptives was held January 12. The hospital is located on an estate of 75 acres near Towson, the county seat of Baltimore County. It had during the year an average of 30 patients. It is dependent on the help of the city and state and also on private subscriptions. The woman's board connected with it contributed $1,100. Funds are needed for further cottages, also for a suitable entrance. Dr. Henry Barton Jacobs is to be the future president.

NEW YORK.

New York City.

Appeal for the Insane.—According to the report of the State Charities Aid Association, there is such urgent need for increased accommodations for the insane that the legislature is to be asked for an appropriation of at least $6,000,000.

Lectures on Spirit and Drug Addictions.—Dr. Thomas D. Crothers, Hartford, Conn., will deliver a course of lectures on alcoholism, morphinism and other drug manias, at the New York School of Clinical Medicine, 328 West Forty-second Street, on the first Tuesday of every month at 11 a. m. and 8 p. m. The profession is invited.

Hospital Closed.—The Williamsburg Hospital, which has been in existence for thirteen years, and which, prior to 1895, was known as the Brooklyn Throat Hospital, has been forced by the financial stress resulting from the unusually high price of coal and food, to close its doors. Its ward patients have been transferred to the Eastern District Hospital and the ambulance has been sold to the Bushwick Dispensary.

Mental Clinic.—The past few days in New York City have seen a novel clinic, namely, the utilization of the vast material of the Manhattan State Hospital by Dr. Adolph Meyer, the director of the State Pathological Institute. Eighty physicians from the various state hospitals for the insane gathered to study mental disease, and make themselves familiar with the latest developments in their special field of work.

Formalin Injections for Septicemia.—The daily papers have been stirred up for the past few days over the news that Dr. Barrows laid before the New York Obstetrical Society a treatment for septicemia, which had yielded an unexpectedly brilliant result in one case at Bellevue Hospital. The method consists in the intravenous injection of a 1 to 1,500 solution of formalin. We are not informed how the pernicious effect of the formalin on the blood corpuscles is prevented. Dr. Barrows tried this treatment on a second case, this time at St. Vincent's Hospital, January 16, and the same evening the method is said to have been tried at the Hahnemann Hospital. Dr. Barrows' first patient is said to be out of danger; his second case is improving, while the patient at the Hahnemann Hospital is reported to be slightly better. All three were looked on as practically hopeless cases before the formalin injection was tried.

Buffalo.

Personal.—Dr. Dennis J. Constantine has resigned as tenement-house inspector in the department of health.——The following additional appointments have been made to the staff of the Emergency Hospital; Drs. E. J. Meyer and E. M. Dooley, surgical department; Dr. L. G. Hanley, gynecology; Dr. J. J. Mooney, throat and ear; Dr. D. M. Keiser, ear, and Dr. B. H. Dagnett, genito-urinary.

Hospital Overcrowded.—Superintendent of the Poor Lafayette Long has reported to the County Board of Supervisors that the County Hospital was overcrowded, having 385 patients, whereas its capacity is limited to 350 patients. It is necessary to send 40 or 50 patients from the County Hospital to the Almshouse to sleep. The air space of the hospital is also inadequate, and is detrimental to the patients.

December Mortality.—The monthly report of the department of health for December shows an annual mortality rate of 16.31 per 1,000. The principal causes of death were pulmonary consumption, 46; diphtheria, 12; typhoid fever, 14; debility, 44; apoplexy, 23; valvular heart disease, 32; acute bronchitis, 20; pneumonia, 63; nephritis, 19; violence, 35. Total deaths for December were 503, as compared to 446 for December, 1901.

PENNSYLVANIA.

Hospital Bequest.—By the will of Susanna H. Thomas the Chester County Hospital receives $1,000.

Workingmen's Hospital Planned.—Plans are being matured for the erection in Pittsburg of a hospital, with branches throughout the city, particularly for the treatment of workingmen. At least $2,000,000 is needed for the project, and it is said that Andrew Carnegie has promised substantial aid.

Outbreak of Smallpox.—A recent outbreak of smallpox occurred at Bristol. The funds of the borough treasury are exhausted, more than $3,000 having been spent in fighting the disease. There is talk of a mass meeting to devise means for raising a fund to establish a municipal hospital and to fight the contagion. On January 1 Henry Althouse, Duquesne, died of what was diagnosed measles, but which proved to be smallpox. Three of his brothers have since died, on the same day, of smallpox, and a fourth is critically ill.

Re-Establishment of Emergency Fund Urged.—The associated health authorities of Pennsylvania are urging on the members of the legislature the pressing need of immediate re-establishment of the emergency fund to be used in coping with epidemics of contagious disease. It is especially needed in stamping out smallpox. Dr. Samuel T. Davis, chairman of the association's legislative committee, says that there is also crying need of legislation to protect streams from unnecessary pollution; that typhoid fever, because of such pollution, is costing the state thousands of lives and hundreds of thousands of dollars every year.

Philadelphia.

New Pavilions for Consumptives.—On January 16 ground was broken for the six new pavilions for consumptives to be erected at the Philadelphia Hospital.

Additions to St. Agnes' Hospital.—Improvements and additions are to be made to St. Agnes' Hospital at a cost of some $200,000. The new buildings will include a nurses' home, an operating room, a children's ward and an isolation ward.

Episcopal Hospital Improvements.—At its recent annual meeting the board of managers of the Protestant Episcopal Hospital decided to erect a dispensary building at a cost of $75,000. A ward for contagious diseases is also to be constructed.

Advocates Higher Standard.—Provost Harrison of the University of Pennsylvania, in connection with his review of the year's work of the institution, suggests, for promoting a higher standard of medical education, the appointment by the state of a board of examiners to pass the qualifications of those seeking admission to medical colleges.

Bequests and Donations.—A woman, who desires that her name shall not be made public, has given the University of Pennsylvania Hospital $10,000 for the founding of two free memorial beds.——Bequests of $1,000 each to the Jewish Hospital Association, the Jewish Foster Home, and the Jewish Maternity Association are made in the will of Jacob M. Engel, recently deceased.

Typhoid and Variola.—During the week ended January 18, 323 new cases of typhoid fever were reported. It is officially estimated that 2,000 cases are now under treatment in the city. Thirty-five new cases of smallpox, with two deaths, were reported for the week. The Masonic Home, which has 76 inmates, is quarantined because of the development of smallpox in an employe of the institution.

The Phipps Gift.—There is an obstacle to the immediate acceptance of the munificent gift of Henry Phipps of New York, a former partner of Andrew Carnegie, who proposed to establish in Philadelphia an institute for the study, treatment, and prevention of tuberculosis, and to endow it with $1,000,000 or more. There is a state law which prohibits the establishment or maintenance of any additional hospital in the built-up portions of cities. It is believed that the legislature will promptly repeal the law. The action of the legislature will probably determine whether or not Philadelphia will become the beneficiary of Mr. Phipps.

GENERAL.

Consolidation of Inebriety Journals.—The *Bulletin* of the American Medical Temperance Association and the *Journal of Inebriety* have been consolidated. The former was a quarterly medical review, the latter is the well-known monthly, the only publication devoted exclusively to liquor and drug diseases.

National Leper Colony at Hawaii.—The Senate special committee on Hawaiian affairs, in regard to leprosy, recommends the establishment of a National home for lepers of the United States on the island of Molokai and that the management be transferred to the U. S. Public Health and Marine-Hospital Service.

Manila General Hospital.—Mass meetings of citizens of Manila have been agitating the subject of a general hospital, of which there is need. The hospitals supported by voluntary contributions are not sufficient to meet the need and are not sure of support. The Philippine Commission was petitioned to take up the matter.

The Enno Sander Prize of the Association of Military Surgeons of the United States for 1903, will be awarded to the author of the best essay on "The Differential Diagnosis of Typhoid Fever in Its Earliest Stages." The board of award will consist of Dr. Austin Flint, New York; Col. Calvin DeWitt, U. S. A., and Dr. Victor C. Vaughan, Ann Arbor. Full information may be obtained from Major James Evelyn Pilcher, Carlisle, Pa., secretary.

A Philippine leper colony will be established on the island of Camalian, at a central point. The colony will be somewhat self-governing in its internal affairs, as some lepers are persons of high standing and ability, according to the *Manila American*. No marriages will be allowed, recent and mild cases will be separated from those that are severe and of long standing, relatives will be allowed to live near and see their kin at stated times, each person will be given a plot of ground and tools and it is planned that all vegetable produce necessary shall be raised on the island.

The Plague in Mexico.—During the first 15 days of January 107 deaths from plague occurred at Mazatlan, Mexico, and 106 houses have been burned. Money for relief and to furnish food and supplies is being contributed from California and other adjoining states. The Mexican congress held an extra session and that government is endeavoring to control the disease. The plague was rumored to be present in Mexico, Guadalajara and Sonora, Mexico, and Ensenada, Lower California, which reports were emphatically denied. Many towns in that part of Mexico are undergoing a most rigid sanitary overhauling, but there is no proof that the disease

has spread beyond Mazatlan. Quarantine is reported as rigid.

Proposed Army Hospital Corps Changes.—Surgeon-General O'Reiley has prepared a bill for the reorganization of the Army Hospital Corps, which has received the approval of Secretary Root and been presented to Congress. It provides for the Hospital Corps 300 first-class sergeants at $450 per annum, 300 sergeants at $300 per annum, 20 corporals at $240 per annum, 1,600 privates, first-class, at $216 per annum and 875 privates at $129 per annum, making total cost $770,400. By this arrangement the Hospital Corps will gain 95 men. The proposed classification of enlisted men is for the purpose of giving them titles more in accord with those used to designate the enlisted men in other branches of the service. Secretary Root's indorsement says General O'Reiley's proposed legislation will be a material benefit to an important branch of the military establishment.

The Senate Committee on Military Affairs has reported favorably on the bill providing for the promotion to next higher grade on retirement of those officers who served during the Civil War, but have been retired since Aug. 11, 1898. Among those affected by this bill, should it become a law, are Surgeons-General George M. Sternberg and William H. Forwood, who would consequently be promoted to the rank of major general. As this promotion was recommended to Congress by resolutions of the American Medical Association at Saratoga last year and the Committee on National Legislation was directed to secure this action by Congress, the committee earnestly requests each member of the Association to write at once to the committee on military affairs of both the House and Senate and also to his individual senator and congressman to vote for the passage of this measure.

The Bubonic Plague Conference.—The first conference of the U. S. Public Health and Marine-Hospital Service with state health officers was held January 19 at the office of the department in Washington. The meeting was called to order by Surgeon-General Wyman at 10:30 a. m. Those in attendance were:

California, Dr. Mathew Gardner; Connecticut, Dr. C. A. Lindsley; Colorado, Dr. H. R. Bull; Delaware, Dr. C. W. Cooper, Dr. Alex. Lowber; District of Columbia, Dr. Wm. C. Woodward; Indian Territory, Dr. M. R. Thompson; Iowa, Dr. T. L. Kennedy; Indiana, Dr. J. N. Hurty; Louisiana, Dr. Arthur Nolte; Maine, Dr. Charles D. Smith; Maryland, Dr. John S. Fulton; Minnesota, Dr. H. M. Bracken; New Jersey, Dr. Henry Mitchell; North Carolina, Dr. R. M. Lewis; Pennsylvania, Dr. Benj. Lee; Rhode Island, Dr. G. T. Swarts; South Carolina, Dr. T. G. Simons; Vermont, Dr. H. D. Holton; Virginia, Dr. P. A. Irving; New York, Dr. Daniel Lewis; Tennessee, Dr. J. A. Albright.

STATEMENT OF SURGEON-GENERAL WYMAN.

Dr. Wyman, in his introductory remarks, gave the object of the conference and stated that requests for conference had been received from and invitations to attend had been extended to the boards of health of the following states and territories: Colorado, Connecticut, Delaware, District of Columbia, Indiana, Iowa, Kentucky, Louisiana, California, Maine, Maryland, Minnesota, Mississippi, New York, New Jersey, North Carolina, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Wisconsin and Virginia.

SURGEON GLENNAN'S MISSION.

Dr. Wyman referred to the New Haven Conference and the inspections made at that time. He told of the appointment of Surgeon Glennan to investigate matters in California. Surgeon Glennan, until a short time ago, was chief sanitary officer of the Public Health and Marine-Hospital Service in Cuba, having been the chief quarantine officer of that island and detailed on General Wood's staff during the American occupation. He was given instructions of which the following are a part:

As soon as possible after your inspection at San Diego, you will call upon His Excellency, Henry T. Gage, Governor of California, and present the following matter for his consideration, viz.: that there have been reported to the bureau 18 deaths from bubonic plague in San Francisco during the months of August (9) and September (9), and that from the reports received during these months and prior thereto, there are indications that three of the cases within the present year may have been brought into San Francisco from other places. This and the increased number of cases reported in San Francisco make it desirable that a careful inquiry be made with regard to several localities.

From former expressions, the bureau feels assured that the governor will approve of this measure, and may designate a representative to co-operate with a bureau representative in making these inquiries.

After consultation with the governor, you will report to the bureau as to any arrangements which may be effected.

In the opinion of the bureau this inquiry should be conducted in a deliberate and thorough manner, without haste or agitation, and the findings should be fortified by bacteriological examination. Furthermore, the inquiry should be so conducted that in the possible event of affirmative findings, nothing done during the inquiry would prove an embarrassment in the prolonged measures of extirpation which would be necessary; for it should be remembered that in the eradication of the disease the measures relating thereto, while they need not be of a character to disturb business or cause excitement among the people, must be very thorough, continuous, and of probable long duration.

An arrangement was effected, in accordance with the above instructions, by which Dr. Gardner, chief surgeon of the Southern Pacific Railroad, who, so far as could be ascertained by the bureau, had taken no attitude antagonistic to the recognition of plague and its eradication, together with Surgeon Glennan, should inspect the places named. Reports have been received of the investigations made at Oakland, Berkeley, Alameda, San Jose, Sacramento, Davisville, Stockton, Fresno and Bakersfield. No plague was found in said places.

Dr. Wyman further says: "These inspections are to be renewed from time to time as practicable. They had not yet been completed when I left Washington for New Orleans to attend the meeting of the American Public Health Association, and while there I determined to personally visit San Francisco to become acquainted, from personal observation, with the state of affairs."

DR. WYMAN'S PERSONAL VISIT.

After narrating the visits and inspections he personally made and the conferences held with officials from December 17 to 22, Dr. Wyman summed up as follows:

"In my opinion the resolutions of the state and provincial boards of health at New Haven have been productive of good, and I found a generally expressed desire to have the demands of the situation fully met. Governor Gage announced his intention of standing by his statement, but offered to assist in any way possible in the elimination of the disease which prevailed in Chinatown. A more important assurance was that given by Dr. Pardee, who seemed to fully realize the gravity of the situation and expressed his determination to leave nothing undone in the matter of giving aid and support to the necessary measures. Mayor Schmitz admitted to me in the presence of a witness that the disease was plague, and though he pointed out that he was not in harmony with his city board of health, he would nevertheless do everything possible to rid Chinatown of the disease and would give his best efforts in that direction.

"The city board of health, who deserve a great deal of credit for the work which they have done under trying circumstances, were informed that in all possible ways the service would assist them, that it was understood that the work going on in Chinatown was practically their (the city board's) work, and that while Governor Gage had offered, in illustration of his desire to assist in the elimination of the disease from Chinatown, the services of two inspectors to aid in that work, they were declined, inasmuch as it was deemed unnecessary in view of the inspectors already employed by the city board and the Public Health and Marine-Hospital Service, and I also informed the city board that in case of difficulty being experienced in obtaining means or persons for the prosecution of the work in Chinatown assistance would be rendered them by this service.

"I asked Dr. Williamson, the then president of the city board, his opinion as to the amount of plague which might be existing in Chinatown, and he expressed the opinion that it was not great. Of course, we both agreed that nevertheless it exists, and that careful and persistent inspection and sanitation would be requisite for an indefinite period, extending possibly over one or two years.

"As to the appearance of Chinatown itself, as observed during my two inspections, it was evident to myself that the great work which had been carried on there under Dr. Joseph H. White, now Assistant Surgeon-General, had been of permanent value, and it was evident, too, that the City Board of Health had been at work in Chinatown in the meantime. I tried to impress on all concerned that the work of attending to plague in Chinatown is properly the work of the City Board of Health, and that this service would aid both in a substantial manner and with counsel and advice. The activity of the state board in Chinatown, San Francisco, does not appear to be necessary unless there should be a laxity on the part of the city board.

THE PRESENT CONDITION.

"With regard to the present status, since my visit to San Francisco the new Governor, Dr. Pardee, has been installed, Dr. Williamson's term as president of the City Board of Health has expired and the mayor has appointed a new man in his place, Dr. Stinson, a temporary chairman has been elected, but a new president has not been chosen. It remains to be seen what the attitude of the City Board of Health under the

new régime will be, but if the mayor has an influence over his new appointees, and maintains the attitude toward the plague in Chinatown which he plainly expressed to me, I see no reason why the work should not be successfully pursued.

"In the meantime, from newspapers which have been sent me, I learn that the city council has appropriated money for the destruction of rats, and has also authorized the appointment by the Board of Health of an additional physician for duty in Chinatown, the City Board of Health then undertaking the sanitary surveillance of Chinatown and inspection of the sick, assisted at present by Assistant-Surgeon Currie, in charge of the laboratory of the service in San Francisco, who, with Mr. Wong, the Chinese interpreter, makes inspections twice a day of Chinatown, and similar inspection is made by another detailed officer of the service, Assistant-Surgeon Lloyd."

Dr. Wyman gave a report from Surgeon Glennan of the investigation of rats. From Nov. 8, 1902, to Jan. 12, 1903, 481 rats were examined, 446 being caught alive and 35 found dead. Of these, 4 live and 11 dead rats, or percentage of 0.9 and 31.4 respectively, were found to be infected with the pest.

THE DECISIONS OF THE CONFERENCE.

The conference adopted the following:

I. The presence of plague in California is established beyond debate by:

1. The investigations of Kellogg of the San Francisco Board of Health, Ryfkogel for the California State Board of Health, and Kinyoun for the United States Marine-Hospital Service.

2. By the later investigations of Pillsbury for the State Board of Health, and by those of J. White, M. White, Flint, Currie, Carmichael, Blue and Glennan for the United States Marine-Hospital Service.

3. By the findings of Flexner, Barker and Novy, composing a special committee acting under Federal authority.

4. By the findings of independent and disinterested investigators (supplied with materials from autopsies made at San Francisco, and working in San Francisco, Chicago, Boston, New York, Washington, Baltimore, Philadelphia and Ann Arbor).

5. By the occurrence of a case of human plague in Ann Arbor due to an accident in the manufacture of Haffkine's prophylactic fluid with a culture of plague bacillus obtained in California.

6. By the autopsy records of 90 cases of plague, now in the possession of the United States Marine-Hospital Service and of the San Francisco Board of Health, and published in part in the *Occidental Medical Times* of San Francisco. [NOTE.—See previous issues of THE JOURNAL for many of these.—ED.]

II. The presence of plague in any community where proper restrictions are not taken to prevent its spread is an injury to the best interests of that community. Such injury is in any case avoidable by the proper co-operation of all interests involved, commercial, professional and governmental. This conference regards the habitual publication of the actual facts relative to infectious disease and preventive procedures as the surest route to popular confidence, and is one of the means best adapted to minimize the injury liable to result from the presence of such diseases.

III. The present danger to California and to the United States lies primarily in the persistence, during nearly three years, of a definite nidus of plague infection in that part of San Francisco known as Chinatown; but the gravity of this circumstance is greatly increased by the gross neglect of official duty by the State Board of Health of California and the obstructive influence of the recent Governor of California, by the failure of the city government of San Francisco to support its city board of health, and by the obstacles opposed to the operations of the U. S. Public Health Service.

IV. The conference will consider the safety of the country sufficiently assured as soon as satisfied that a competent City Board of Health of San Francisco, and a competent State Board of Health, in co-operation with the U. S. Public Health Service, will proceed under definite, harmonious and effective laws and ordinances; that they are provided with ample funds; and that they are jointly and severally in the free exercise of their lawful powers.

V. The conference expresses its conviction that the U. S. Public Health Service has deserved well of the state of California and of the country, and that it would go far toward the restoration of popular confidence if the U. S. Public Health officials were admitted to the same relations with the State Board of Health as have been steadily maintained with the City Board of Health of San Francisco.

The praise of this conference and the gratitude of the city of San Francisco are due to Drs. John M. Williamson, Vincent P. Buckley, W. B. Lewitt, Rudolph W. Baum, Louis Bazett, and Dr. McCurtley, of the City Board of Health of San Francisco. These men possess the unreserved confidence of the executive health officers of the country.

A vote of thanks is extended to General Wyman and a vote of confidence in the Public Health and Marine-Hospital Service.

CANADA.

Personal.—Dr. L. W. Cook, Truro, Nova Scotia, has gone to Newfoundland to take the practice of Dr. Herbert Smith of Buren, who will take a post-graduate course abroad.

Proposed Children's Hospital, Montreal.—It has been decided that this hospital shall be an adjunct to the Montreal General, the Royal Victoria and other hospitals of the city. This will relieve the over-taxed general hospitals and allow them to extend their spheres of usefulness, more particularly to those suffering from acute diseases.

Quebec Bad School Conditions.—At the regular meeting, January 14, of the St. Francis Medical Association, which comprises physicians of the eastern townships of the province of Quebec, Dr. Stevenson, inspector of public buildings, Coaticook, proposed a memorial to the provincial government protesting against certain prevailing conditions in the Protestant elementary schools, viz.: 1, pupils are required to take up too many subjects and their health suffers; 2, a very bad system of ventilation prevails in nearly all public school buildings he has visited in the eastern townships.

Montreal's health report for November showed 168 new cases of contagious diseases, with 26 deaths; 34 of diphtheria, with 4 deaths; 36 of scarlet fever, with 6 deaths; 28 of typhoid fever, with 8 deaths; 55 of measles, with 4 deaths; 2 of whooping cough, both fatal; 9 of chicken-pox and 3 of smallpox, no deaths. At the scarlatina and diphtheria hospital 29 patients were admitted, of whom 20 had scarlet fever and 9 diphtheria; 7 of these died. The district physicians made 606 primary and 63 secondary vaccinations. The number of deaths in Montreal during November was 484.

Vaccination by the Laity in New Brunswick.—The law in this province requires that before children are admitted to any public school they must show certificates of successful vaccination within three years preceding. Certain boards of health have required that these certificates must be signed by physicians, but the attorney-general has recently ruled that a certificate of a parent or guardian, verified by a solemn declaration, will be sufficient. This is considered to be important because it has been the habit in country sections of the province for parents to procure vaccine points and vaccinate their children themselves.

FOREIGN.

German Venereal Prophylaxis.—The first congress of the German Society for the Prevention of the Spread of Venereal Diseases will convene at Berlin March 8 to 10, 1903.

Plague Extinct at Odessa.—The *St. Petersburg Med. Woch.* announces that no new suspicious cases have occurred at Odessa since October, and the city is now declared free of the plague.

Nothnagel a Senator for Life.—Prof. Hermann Nothnagel, director of the first medical clinic at Vienna, has been appointed a member for life of the upper house of the Austrian parliament.

Germ of Hydrophobia.—Professor Sormani of the University of Pavia, Rome, is reported in the daily papers to have discovered the hydrophobia microbe, which has so long eluded absolute demonstration.

Abuse of Ether in Russia.—Our German exchanges mention that the custom of using ether for a beverage is spreading from Russia into eastern Prussia. At a recent wedding feast at Trossno a large quantity had been provided, and as it was being poured it exploded and killed 7 and injured 14 persons.

Posner a Professor.—Dr. Carl Posner, one of the proprietors and editors of the *Berliner klin. Wochenschrift*, and of the *Jahresberichte der Fortschritte der Medicin*, has been raised from the rank of privat docent to that of professor at Berlin. He is one of the leading minds in the medical press of Europe.

Scientific Instruction of Italian Police.—Professor Ottolenghi has been delivering a course of lectures with demonstrations to the police officials at Rome and Siena to instruct them in scientific means of identifying criminals, determining the nature of the crimes and other points of importance in their service.

Bureau of Medical Information at Paris.—The city council has appropriated $750 for the equipment of a bureau of information in regard to scientific matters, for the benefit of strangers. It is to be installed in some public building, the Sorbonne or the Faculté de Médecine, and officials speaking the current foreign languages will be in charge.

Individual Communion Cups.—The presidents of the medical societies in Denmark and all the high medical functionaries signed a declaration published Dec. 28, 1902, protesting against the use of the common communion cup as fraught with danger from the point of view of contagion. They recommend a special chalice with individual cups, filled in turn by a special mechanism.

Chair of Experimental Therapy Founded at Berlin.—The privat docent A. Wassermann has been appointed professor of experimental therapy, and will lecture in the Institute for Infectious Diseases, with which he has been connected as Koch's assistant since 1891. His researches on the biologic blood test,

serumtherapy and immunity have carried his name far and wide. He is now in his thirty-eighth year.

Donath the Recipient of the Craig Colony Prize.—The prize offered by the Craig Colony, Sonyea, N. Y., for the best original work on the pathology and treatment of epilepsy, has been awarded to the privat docent of neurology at Budapest, Dr. Julius Donath. The title of his work is "The Importance of Cholin in Epilepsy." Last year an Italian, Dr. C. Ceni, received the prize for his research on the serum treatment of epilepsy.

Jubilee of the Muenchener Med. Wochenschrift.—Our Munich exchange is to be congratulated on attaining its fiftieth year of efficient and dignified service to science and to the profession. The new volume is to be opened by works from the pens of its ten founders and proprietors, v. Angerer, Bäumler, Bollinger, Curschmann, v. Leube, Merkel, v. Michel, Penzoldt, v. Ranke and v. Winckel. The new heading for the title page portrays the physician in his study and at the bedside.

Increase of Ankylostomiasis in Germany.—In the Bochum district the number of cases of ankylostomiasis has increased from 286 in 1900 to 1,029 cases in 1901, with 5 deaths. Attempts to disinfect the running water in the mines have hitherto proved fruitless or have obstructed the pipes. The addition of a solution of copper vitriol seems to be the last resort, but is expensive. All sanitary precautions meet with passive resistance on the part of the miners, and the local medical press regards the outlook with apprehension.

Government Insurance Against Industrial Accidents in Sweden.—A bill has passed the Swedish parliament and been signed by the king which provides for insurance against accidents incurred in wage-earning work. The first expense, treatment, etc., is borne by the employer. After the sixtieth day an indemnity of 27 cents is paid daily during convalescence. Later the indemnity for complete loss of working capacity is 300 kronen, about $81. An official insurance bureau is to be organized to have charge of the details. Railroads, tram lines and mines are included in the list.

Centennial of the Dorpat University.—On the occasion of the celebration of its centennial the Russian university at Jurjew, better known by its former Polish name of Dorpat, conferred honorary degrees on 20 prominent medical men. The list of 5 Russian names includes, as a matter of course, Pawlow and Bechterew. Among the foreigners are E. v. Bergmann and Naunyn, who were formerly professors at Dorpat; Ziegler, Baumgarten, Waldeyer, Flechsig, Gegenbaur and v. Köllicker, in Germany; Brouardel and Cornil, in France; Lord Kelvin and Horsley, in England; G. Rezius of Stockholm, and Ramon y Cajal of Madrid. A large number of important works were also dedicated to the university on the occasion, among them Truhart's work on the pathology of the pancreas.

Suggestion for Legislation to Favor Large Families.—A French army officer and assistant director of the military School, M. Toutée, proposes a new means of endeavoring to raise the birth rate in France. He suggests that the laws of inheritance be modified so that the estate be divided in equal parts, to be awarded to children and grandchildren alike. A son of the family, for instance, under such a law, could claim not only his own share, but also an equal amount for each of his children. An only child could inherit only half of the property, the balance going to the heirs after him. He thinks that legislation along these lines would accomplish its purpose automatically and lead to the rearing of large families by the cupidity of the parents, sons and daughters of capitalists.

Opening for Physicians at Peru.—The American consul, C. V. Herdliske at Callao, the port for Lima, writes in reply to an inqury as to the prospects for physicians in Peru, that the candidate who applies for leave to practice must pass an examination in Spanish before the National Medical Board, regardless of the degrees he has obtained elsewhere. "When he has passed this examination the prospects of success seem very good. There is a large English and American colony at Lima and Callao, and the Peruvians seem to have special confidence in the American, English, German or French physicians who have settled there." The South American medical schools, however, graduate a large number of doctors every year. At Buenos Ayres alone 1,964 matriculated at the university medical school in 1901.

Third International Congress of Thalassotherapy.—The Biarritz Association has organized six international congresses of hydrology, climatology and geology and two of marine therapy. It now announces that a third international congress of marine thalassotherapy will be held at Madrid on the occasion of the approaching International Medical Congress, the date April 19 to 21. Addresses are prepared by A. Robin and M. Binet of Paris on the "Influence of a Stay at the Seashore on the Inner Phenomena of Nutrition," by Lalesque of Arcachon on the "Effects of the 'Marine Treatment from the Standpoint of the Generalization of Tuberculosis." and by Huchard and Feissinger on the "Influence of the Seashore on the Cardiovascular Apparatus." The membership fee is 10 francs, or $2.50, to be remitted to M. Raynaud, pharmacist at Biarritz. The secretary for the foreign department is Dr. Seguel, 68 boulevard Malesherbes, Paris.

Jubilee of El Siglo Medico.—Our Madrid exchange, in entering on its fiftieth year with the current number, reviews the history of medicine in Spain during the half century, and cites many names of at least national fame. It describes the great change that has come over the profession of late years, dividing it into two widely separated classes, the "high speciality," the medical aristocracy, with successes and emoluments hitherto unparalleled, and the lowly members of the profession contending at every step with enemies and abuses, the machinations of charlatans, sick benefit societies, pseudo-charitable organizations, etc., with poverty and despair threatening to engulf them. "The 'promised land' is still far ahead, but with co-operation and good counsel the profession will win it at last. In this campaign the medical press must play an important rôle, as wise leadership was never needed so much as now, and the achievements and experiences of the past will spur it on to higher ideals, a continuous growth and evolution to conform to the necessities of the hour."

Prizes Offered by the Paris Academy of Medicine.—We give below the list of endowed prizes which the *Académie de Médecine* of Paris opens to the competition of the world. The lists are closed the end of February for the current year. All works must be in French or Latin. The academy had for distribution in 1898 84,000 francs, the total for 42 prizes, and in 1902 62,000 francs for 38 prizes, exclusive of the Audiffred prize. This year the prize endowed by the surplus left after the XIII. International Medical Congress of Medicine, at Paris, will be placed in the hands of the executive committee of the approaching International Medical Congress at Madrid, to be awarded in a single prize.

The academy prize of 1,000 francs will be awarded in 1903 for the best work on "Means of determining the eliminating power of the kidney"; in 1904, on "Cirrhosis of the liver; clinical and experimental"; in 1905, on "Oxydases in pathology." Alvarenga, 800 francs, annual, for best work in any branch of medicine. Capuron, 1,000 francs, 1903, "Action of saline waters in general on the digestion"; 1904, "Applications of radiography to obstetrics"; 1905, "Complications of pregnancy due to lesions of tubes and appendix." Civrieux, 800 francs, 1903. "Cerebral troubles in sclerosis in patches"; 1904, "Rôle of syphilis in affections of the encephalus"; 1905, "Deliriums in epileptics." Daudet, 1,000 francs, 1903, "General medications in treatment of cancer"; 1904, "Surgical treatment of neoplasms of large intestine with exception of rectum"; 1905, "Epitheliomata of the neck of branchial origin." Falret, 700 francs, 1904, "Neurasthenia, pathogenesis and treatment." Lefèvre, 1,800 francs, 1905, "Melancholia." Louis, 3,000 francs, 1904, "Serum treatment of typhoid fever." Mège, 900 francs, 1904, "Etiology and pathogenesis of arteriosclerosis." Orfila, 6,000 francs, 1904, "Alkaloids of belladonna, hyoscyamus and datura." Portal, 600 francs, 1903, "Pathologic anatomy of salpingitis in its relation to the producing causes"; 1904, "Comparative hematologic study of variola and vaccine"; 1905, "Pathologic anatomy and pathogenesis of cancer." Pourat, 700 francs, 1903, "Microbian secretions and their physiologic action in the genesis of diseases"; 1904, "Circulation of blood in the lungs"; 1905, "Effects of mechanical actions on the morphology of the locomotor apparatus."

All articles competing for the above prizes must be anonymous and accompanied by the name and address of the author in a sealed envelope. In addition to these prizes the list below is open to MSS. or printed works:

Amussat, 1,000 francs, 1905, for best work or researches based simultaneously on anatomy and experimentation, which has realized or prepared the way for the most important progress in surgical therapeutics. Apostoli, 600 francs, annual, for best work on electrotherapy. Argenteuil, 6,800 francs, 1905, for most important progress during preceding six years in treatment of strictures of the urethra, or for best work on treatment of other affections of urinary passages. Audiffred, income of 24,000 francs, for the discovery before 1921 of a sovereign remedy for tuberculosis. Baillarger, 2,000 francs, 1904, for best work on treatment of mental diseases and organization of insane asylums. Barbier, 2,000, annual, for complete means of cure for hitherto reputed incurable affections, such as cancer, hydrophobia, epilepsy, scrofula, typhus, cholera morbus, etc. This prize may be divided. Boullard, 1,200 francs, 1904, for best work or best curative results in mental affections. Bourceret, 1,200, annual, for best work on circulation of blood. Bulsson, 10,500 francs, 1904, for discoveries having for result the cure of maladies hitherto reputed incurable. Duplerris, 2,300 francs, 1904, for best work in anesthesia or on affections of urinary passages. Chevillon, 1,500, annual, for best work on treatment of cancerous affections. Clarens, 400, annual, for best work on hygiene. Desportes, 1,300 francs, annual, for best work on practical medical therapeutics and on practical and therapeutic natural history. Godard, 1,000, annual, best monograph on internal and ex-

ternal pathology. Guzmann, income of 1,328 francs, for really effective treatment of the most common forms of organic heart disease, or prize of same amount for best work in this line. T. Herpin, 3,000 francs, annual, for best work on epilepsy and nervous diseases. Itard, 2,400 francs, 1903, for best book of practical medicine or applied therapeutics, published at least two years previously. Jacquemier, 1,700 francs, 1904, for work on some obstetric subject that has realized important progress. Labordie, 5,000 francs, annual, for author who has notably advanced the science of surgery. Larrey, 500, annual, for best work on medical statistics. Lefort, 300, 1903, for chemical study of mineral and drinking waters. Lorquet, 300, annual, for best work on mental diseases. Meynot, 2,600 francs, annual, for best work on eye and ear affections, or, exceptionally, for some great medical discovery. Monbinne, 1,500, annual, for scientific mission, medical, surgical or veterinary. Nativelle, 300, annual, for extraction of some active, definite principle of some medicament, hitherto unisolated. Perron, 3,800, 1905, for monograph "most useful to the progress of medicine." Ricord, 600, 1903 and 1905, for best work appearing in the two preceding years on venereal diseases. Saint-Lager, 1,500, 1904, for experimental reproduction of endemic goiter. Saintour, 4,400, 1904, for best work, MSS. or printed, on any branch of medicine. Stanski, 1,400, 1904, for research on epidemic diseases. Tremblay, 7,200, 1903, for best memoir on affections of the urinary passages, catarrh of the bladder and affections of the prostate in particular. Vernois, 700, annual, for best work on hygiene.

A franc equals 19½ cents.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

RUHEMANN'S URIC ACID TEST.

ST. LOUIS, Jan. 1, 1903.

To the Editor:—1. Will you please inform me where I can find the description of Ruhemann's test for uric acid; 2, also the latest theory on origin of basophile bodies in red blood corpuscles?

A.—E. M.

ANS.—Ruhemann's test was published in the *Berliner klinische Wochenschrift*, Jan. 20, 1902, and an abstract of his paper was given in THE JOURNAL, March 1, p. 620, vol. xxxviii. 2. We think the majority of opinion is that these bodies, occurring as they do in lead poisoning, etc., are indications of degenerative processes, though some may hold the contrary.

DISCUSSION ON EPILEPSY.

ST. PETER, MINN., Jan. 19, 1903.

To the Editor:—On page 161 of THE JOURNAL for Jan. 17, 1903, in the last line of my remarks in closing the discussion on the Symposium on Epilepsy, in some way the word "human" has been substituted for the word "known" completely changing the meaning of the sentence. H. A. TOMLINSON.

ARIZONA, OKLAHOMA AND INDIAN TERRITORY PRACTICE.

Jan. 13, 1903.

To the Editor:—Kindly inform me through THE JOURNAL what the requirements of Arizona, Oklahoma and Indian Territory are, also the names of the secretaries of each of the above states, with addresses. J. C. B.

ANS.—In Arizona an examination is required, the secretary of the board is Dr. Wm. Duffield, Phœnix. In Oklahoma, registration is made on a diploma approved by the board, the president is Dr. E. E. Cowdrick, Enid, to whom application should be made. In Indian Territory the laws differ in the jurisdictions of the various nations and we can not give the data required. We hope in a very short time to publish a revision of the pamphlet issued a year ago, giving the laws of all the states and territories corrected to the first of the year. Copies may be had for 25 cents.

GONORRHEA CURED OR LATENT?

January 18, 1903.

To the Editor:—I wish your advice on the following case: Patient contracted specific urethritis (for first time) three and one-half years ago. He used protargol (1 to 2 per cent. solution) locally for two months and a 0.5 per cent. solution of copper sulphate. He was apparently cured for two years, although there was a constant moisture of the urethra, but never during that time a discharge. For one year there has been a clear and sometimes milky discharge, but not profuse. In the morning a minute drop can be squeezed from the urethra. There are practically no subjective symptoms. The patient has phosphaturia and has noticed that the discharge is more perceptible when the urine is loaded with phosphates. Six bacteriologic examinations, two of the urine, two of the seminal fluid and two of the discharge, by different bacteriologists, were negative for gonococci. Two urethroscopic examinations show no granular urethritis. Irrigations of permanganate of potash and weak silver nitrate solutions gave no apparent benefit. He never had any complication and positively has had no secondary infection. The patient wishes to marry within a few months and may have to. Would you advise him to marry without danger of infection? What treatment would you advise?

ANS.—It is impossible to say whether there is latent gonorrhea. Any one who advises as to that point takes on himself a very grave responsibility. We should advise more careful examinations and great caution as to the advice you give him. We can not do better than to call your attention to page 239 of this issue, where Drs. Anthony and Campbell speak on this point.

Correspondence.

Method of Reducing Strength of Solutions.

BALTIMORE, Jan. 16, 1903.

To the Editor:—By accident, a few years ago, I discovered this simple but accurate method of reducing the strength of solutions, and finding it so useful in my special line, viz., throat and nose work, I hope you will publish it and that it may prove of value to some fellow practitioner. It is as follows:

Of the original solution take a number of parts equal to the percentage to which it is desired to reduce and thereto add a sufficient number of parts of the diluting substance (as of water) so that the sum of the two will be equal to the percentage of the original solution.

As, for example, to reduce a 10 per cent. solution to a 4 per cent. solution: Take 4 parts of the 10 per cent. solution and add thereto 6 parts of water, and so obtain the desired 4 per cent. solution. If I need only a small quantity of a solution I use a medicine dropper or pipette and measure by drops. To reduce a 5 per cent. solution to 1½ per cent. solution, simply double the 5 and the 1½ and I have 10 and 3, and taking 3 drops of the 5 per cent. solution and adding 7 drops of water thereto I have a 1½ per cent. solution.

HUGHLETT HARDCASTLE.

Dr. Croftan's Iodin Starch Test for Adrenal Extract.

CINCINNATI, Jan. 15, 1903.

To the Editor:—In a recent number of THE JOURNAL (Jan. 10, 1903, p. 91) Dr. Alfred C. Croftan has published a series of tests said to be characteristic of adrenal tissue or extract, by means of which he proposes to differentiate adrenal tissue and hypernephromata.

One of the most striking and constant of these tests is described as "The Power to Decolorize Iodin-Starch Solution." The test is made in the following manner:

> Equal portions of starch solution having been distributed in several test tubes, hypernephroma extract was added to one-half of them, and then one drop of an alcoholic iodin solution was added to each. Those tubes that contained no hypernephroma extract immediately turned blue and remained blue, whereas those tubes that contained hypernephroma extract turned blue for an instant only and became immediately decolorized.

It seemed to the writer to be important that this test be applied to other extracts, and the following extracts of tissues which were at hand were subjected to this test. They all gave the Croftan reaction in all its characteristics; that is, the blue iodin starch solution was decolorized.

The following is a list of extracts tested: Thyroid (P. D. & Co.), thymus (Armour), extract of meat (Liebig), pepsin (Fairchild), and pancreatic extract (Dry).

S. P. KRAMER, M.D.

Marriages.

ROBERT B. LEES, M.D., to Miss Clementine Denhart, both of White, S. D.

ALBERT W. MOORE, M.D., to Miss Helen Hough, both of Bristol, Ill., January 1.

STELLA B. JONES, M.D., to H. C. Nelson, both of Oshkosh, Wis., Dec. 11, 1902.

WILLIAM E. WELLS, M.D., to Miss Cora Stubbs, both of Tampa, Fla., January 7.

FRENCH A. SMITH, M.D., to Miss Bertha P. McCall, both of Mullins, S. C., January 7.

LOUIS STORROW GREEN, M.D., to Miss Louise Packwood Burke, both of Alexandria, Va., January 7.

VINCENT J. COHENOUR, M.D., Joliet, Ill., to Miss Myrtle Belle Harbour of Rosemond, Ill., January 7.

E. S. ARNOLD, M.D., Everett, Mo., to Miss Emma Watts of Belton, Mo., at Harrisonville, Mo., January 6.

FREDERICK RUSSELL HUXLEY, M.D., Faribault, Minn., to Miss Ada Daniels of Minneapolis, Minn., January 8.

REYNALDO J. FITZGERALD, M.D., Minneapolis, Minn., to Miss Eleanor Bradley of Aberdeen, S. D., January 8.

CLAUDE G. BURGESS, M.D., Northville, Mich., to Miss Sarah Eliza Penniman of Plymouth, Mich., January 7.

STEPHEN VICTOR BALDERSTON, M.D., Evanston, Ill., to Miss Elizabeth Thompson of Old Point Comfort, Va., January 5.

Deaths.

William Weir Hester, M.D. Louisville, Ky., 1858; Jefferson Medical College, Philadelphia, 1873; lieutenant-colonel of the Forty-Eighth Kentucky Volunteer Mounted Infantry in the Civil War; a member of the American Medical Association; assistant physician at the State Hospital for the Insane, Indianapolis, and at the Illinois Southern Hospital for the Insane, Anna; since 1890 a practitioner of Chicago, died at his home in that city, July 18, 1902, aged 67.

Oliver W. Weeks, M.D. Cincinnati College of Medicine and Surgery, 1875, a veteran of the Civil War, formerly surgeon-general of the Grand Army of the Republic; sometime president of the Marion County (Ohio) Medical Society, a member of, and earnest worker in the Ohio State Medical Society and the American Medical Association, died at his home in Marion, Ohio, from pneumonia, January 11, aged 61.

Robert S. Wallis, M.D. Missouri Medical College, St. Louis, 1854; Jefferson Medical College, Philadelphia, 1861; surgeon in Confederate Army during the Civil War; died suddenly on a train at Palestine, Texas, while en route to his home in Rockdale, Texas.

S. Evaline Bailey, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1883, died at her home in San Diego, Cal., Dec. 30, 1902, two days after an accidental fall, in which her hip was fractured, aged 55.

Samuel Alexander Work, M.D. University of Michigan, Ann Arbor, 1883, died from heart disease and dropsy at his home in Vandalia, Mich., January 6, aged 60. He was a member of the American Medical Association.

William Mote, M.D. Medical College of Ohio, Cincinnati, 1856, died suddenly from heart disease at his home at Hog Point, north of Lafayette, Ind., January 9, aged about 70.

Watkins Warren, M.D. Medical College of Virginia, Richmond, 1860, a retired physician of Mount Vernon, Ill., died at Thomasville, Ga., January 2, after an illness of a week.

Bushrod W. James, M.D. Hahnemann Medical College, Philadelphia, 1857, died at his residence in Philadelphia, January 6, from an anemia, after a long illness, aged 66.

N. L. Van Sandt, M.D. Eclectic Medical Institute, Cincinnati, 1850, died at his home in Clarinda, Iowa, January 5, from paralysis, after an invalidism of a year, aged 77.

W. Frank Ross, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at his home in Knoxville from Bright's disease, January 6, after a brief illness, aged 63.

Francis M. Davis, M.D. University of Maryland, Baltimore, 1856, died at his home in Bedington, W. Va., Dec. 28, 1902, from dropsy, after a long illness, aged 70.

William W. Misner, M.D. Hahnemann Medical College, Chicago, 1883, died at Tacoma, Wash., January 3, two weeks after an operation for appendicitis, aged 48.

George E. Shuey, M.D. Medical College of Indiana, Indianapolis, 1882, was burned to death, January 8, at his boarding place in Medora, Ind., aged about 40.

William G. Thomas, M.R.C.P. England, 1868, died suddenly at his home in Waukesha, Wis., presumably from heart disease, January 10, aged 65.

Charles W. Sibley, M.D. Bellevue Hospital Medical College, New York, 1877, died at his home in Fairfield, Ill., from Bright's disease, January 13.

James H. Auld, M.D. Rush Medical College, Chicago, 1883, died from pneumonia at his home in Lincoln, Neb., January 6, after an illness of ten days.

Rachel F. Reid, M.D. Ohio Eclectic Medical College, 1857, died at his home in Pasadena, Cal., from pneumonia, after an illness of six days, aged 77.

James E. Helm, M.D. Louisville Medical College, 1882, died at his home in Louisville, Ky., January 12, from bronchitis, after a long illness.

David H. Reed, M.D. University of Buffalo, N. Y., 1883, died at his home in Remsen, N. Y., January 9, after a long illness, aged 48.

Cornelius S. Smith, M.D. Pennsylvania Medical College, Philadelphia, 1850, died at Fort Wayne, Ind., Dec. 29, 1902, aged 82.

William H. Bowles, M.D., 1868, died at his home in Lane's Prairie, Mo., January 5, from pneumonia, after a short illness, aged 85.

William J. O'Connell, M.D., mayor of Mingo Junction, Ohio, died suddenly at his home in that place, January 6.

Honore Noel, M.D., one of the oldest practitioners of Maine, died at his home in Waterville, January 11, aged 74.

Alexander F. Bueren, M.D. University of Louisville (Ky.), 1874, died, January 7, at his home in Louisville, aged 53.

Eugene White, M.D. University of Tennessee, Nashville, died at his home near Lebanon, Tenn., aged 36.

James C. Fleming, M.D. Cleveland Medical College, 1867, died recently at his home in Carlisle, Ohio.

John N. Lowe, M.D. New York University, 1862, died at his home in Milford, N. J., aged 78.

Deaths Abroad.

Dr. F. Occhini, professor of clinical medicine at Rome.——**Dr. Max Schede,** professor of surgery at Bonn, in his 60th year.——**Dr. Zaayer,** professor of anatomy at Leyden, and author of various works on the architecture of the bones, "Scaphocephalous Skulls," "High Origin of Arteria Profunda Femoris," etc.——**Dr. O. Rapin,** professor of obstetrics at Lausanne.——**Dr. M. G. Aragon,** professor of hygiene, zootechnics, etc., at Mexico, Dec. 12, 1902, aged 66. To his efforts Mexico owes the establishment of veterinary medicine on a scientific basis and the foundation of a special journal.——**Dr. I. Herrnheiser,** privat docent of ophthalmology at Prague, and editor of the *Prager Med. Woch.*

Dr. Hans Rabl, a prominent physician of Vienna, one of the circle of medical men during Vienna's most brilliant period. He was born in 1830, and devoted many years to practice in the watering place, Bad Hall, which became the center of medical and surgical achievement in that part of Europe. He was the first to perform a successful ovariotomy in either Germany or Austria, and from his wide experience with scrofula and lues published a number of important works. Among the latest are some on the influence of the dwelling place on the morbidity and mortality of tuberculosis.

Book Notices.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. In Two Volumes. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., F.R.C.S. (Hon.), Professor of Surgery, Harvard Medical School; and A. Pearce Gould, M. S., F.R.C.S., of London, England. Second Edition, Thoroughly Revised and Enlarged. Vol. I. General and Operative Surgery. Royal Octavo of 965 pages, with 461 Illustrations, and 9 Full-paged Colored Lithographic Plates. Vol. II. Special or Regional Surgery. Royal Octavo of 1122 Pages, with 499 Illustrations, and 8 Full-Paged Colored Lithographic Plates. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The first edition of this work appeared two years ago, and was fully reviewed in these columns.

In this, the second edition, we notice a number of changes and additions, which add considerably to the value of the work. Vol. I has been enlarged by the addition of 18 new pages and several new illustrations. Among the additions to this volume may be mentioned the use of pure carbolic-acid and alcohol in the disinfection of wounds and septic cavities, the carbolic acid treatment of tetanus, the use of gelatin in the treatment of certain hemorrhages, the modern treatment of wounds of the head, etc. Intraspinal cocainization is described and properly condemned, except, perhaps, under special conditions. The chapter on diseases of the lymph system has been entirely rewritten and materially improved. Attention is particularly directed to the recent work done on splenic anemia. We fail to find any reference to cytodiagnosis, which has opened up

such an interesting field in the diagnosis of diseases of the serous membranes. Vol. II has been enlarged by the addition of 55 pages. Of the new matter may be mentioned Brophy's operation for cleft-palate and Edebohl's decortication of the kidneys in Bright's disease, but the statement that "even patients far advanced in the disease, with cardiac hypertrophy and uremic symptoms have been much benefited," should be accepted with considerable hesitation as this is yet far from being proven. The use of the *x*-ray in the treatment of diseases of the skin has been very well set forth, also the peculiarities of the so-called *x*-ray burns. We fail to find any mention of Keen's method of laryngectomy for carcinoma of the larynx; also of Abbe String and Dunham's excellent and ingenious modification of this operation in the treatment of strictures of the esophagus. Under surgery of the stomach and intestines there is no reference to Finney's operation on the pylorus, nor to the Connell suture, etc. On the whole, however, the subjects have been brought well down to date, and the volumes make one of the best works on surgery we have.

NOTHNAGEL'S PRACTICE OF MEDICINE: American Edition. Diseases of the Bronchi. By Dr. F. A. Hoffmann, of Leipsic. Diseases of the Pleura. By Dr. O. Rosenbach, of Berlin. Pneumonia. By Dr. F. Aufrecht, of Magdeburg. Edited, with Additions, by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. Seven Full-Page Colored Lithographic Plates. Pp. 1030. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This, the fourth, volume of the American edition of Nothnagel's Practice keeps up the reputation which the previous volumes of this excellent work have made. It contains exhaustive monographs on the bronchi and emphysema and atelectasis by Hoffmann of Leipsic; in inflammation of the lungs by Aufrecht of Magdeburg-Altstadt; and on diseases of the pleura by Rosenbach of Breslau. It is edited by Dr. John H. Musser of Philadelphia. These monographs in the original hold an enviable place in German medical literature, each one being exhaustive, complete and authoritative and written by men specially fitted for the work. But the American edition is not only a reproduction in English, it is all of this and more, for the American editor has added much of value not included in the original and he has brought every part thoroughly up to date. This includes recent additions to our knowledge of the anatomy and physiology of the bronchi; on the pathology, bacteriology and treatment of bronchitis, etc. In fact, there are evidences all through the book showing that the editor has made use of the most recent literature. While the book is a large one—over a thousand pages—there is no evidence of padding; on the other hand, it is concisely written, and the additions and comments made by the editor are especially clear, short and to the point. The bibliography following each part is apparently complete; it is certainly valuable. The literature up to and including the first half of the current year, 1902, is recorded. Altogether the book is without doubt the most scientific, complete and up-to-date work in the English language on the diseases to which it is devoted.

THE CHEMISTRY OF THE TERPENES. By F. Heusler, Ph.D., Privatdocent of Chemistry in the University of Bonn. Authorized Translation by Francis J. Pond, M.A., Ph.D., Assistant Professor in the Pennsylvania State College. Carefully Revised, Enlarged and Corrected. Cloth. Pp. 457. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

The production of a good English translation of Heusler's book on the terpenes will be welcomed by many English-speaking chemists, and the fact that in the translation the rapidly expanding subject matter has been brought up to date will, of course, make this edition more valuable than the original. Heusler's work was originally published as a part of a "Handworterbuch" of chemistry, with the purpose of collecting the scattered material of this important and interesting branch of organic chemistry. It consists, therefore, of an introductory chapter with general considerations, followed by a classification and description of the members of both the terpenes and the closely related compounds. While probably as much space as is warranted is given to the matter of properties and preparation of the innumerable derivatives, the worker will undoubtedly find its greatest use as a classified and intelligent directory to the original papers from which it is compiled, and abundant provision for this is made in the references as quoted. The translator has made most acceptable English of the original, in addition to adding the newer material without wedging it conspicuously into the text.

Medical Organization.

As Oregon Understands It.

We quote as follows from the October number of the *Medical Sentinel:*

OUR NEW CONSTITUTION.

"If progress consists, as we have been led to believe, in adjustment to a continually changing environment, the Oregon State Medical Association took a long step in advance at its recent meeting. First, in the adoption of the model constitution suggested by a committee of the A. M. A. for state organizations, thus placing itself in affiliation with the majority of all the states in the Union and in step with the great, national march of medical progress. It is true that in doing so it incidentally legislated out of existence its own former membership and self, but this defect will be readily remedied before the next meeting, and we shall have the great advantage of a clean start all round on a broader basis. A committee has been left in charge of the accouchement and will no doubt deliver safely. The change is one which makes for breadth of view and harmony of effort in every direction. It adequately recognizes for the first time in the history of the Association the essential solidarity of the medical profession in spite of the sects and cliques into which it may have allowed itself to become divided.

ALL THE WORLD IS OUR PARISH.

"The note of a broad, manly and tolerant catholicity is most clearly struck in the language of the section on membership, of the newly-adopted constitution:

It shall promote friendly intercourse between physicians of the same locality, and shall continue these efforts *until every physician, in every county in the state, who can be made reputable has been brought under medical society influence.*

"This means, of course, the ignoring of the individual likes and dislikes, to which the medical profession is so peculiarly and painfully prone, the recognition that all who are laboring for the health, the sanitary education and the welfare of the community, have a common ground upon which they can unite, in spite of personal differences of opinion or even of ethics. Just as there are exceedingly few men in whom the good does not far outweigh the bad, there are very few, indeed, of our professional brethren with whom our points of agreement are not at least three times as numerous and important as our points of disagreement. Nor need we fear that by such broadening of our platform have we in any way weakened our principles or lowered our standards. On the contrary, we believe that they will be strengthened thereby. Any really representative gathering of men practicing according to the Code of Ethics of the American Medical Association which, after all, is simply the code of the honest man and the gentleman, any gathering, to become a member of which 'full and ample notice and opportunity has been given to every such physician in the county,' need ever be a subject of doubt as to its overwhelming majority in favor of the right, the honorable and the courteous thing in any emergency that may arise. The competent, scientific and honorable element will surely dominate and benefit the less desirable members, if any such there be, while the mischief makers will find themselves with far less power for harm inside such an organization than they had outside of it. As Marcus Aurelius long ago pointed out, 'No man can injure us save by our own consent,' and the man who was injured most by the petty dislikes and jealousies, nay even the righteous indignation and disapproval, which have made the 'differences' of doctors a by-word and a reproach in the mouths of the laity from time immemorial, was not the object of these feelings but the man who harbored them.

PERSONAL PREFERENCES BARRED.

"As a necessary corollary it seems to us, of this more strictly professional, scientific and humanitarian basis of unity, came the second marked change in the organic law of the Association, that of ruling out the principle of the black-ball. From par-

ticipation in the great work of professional and humanitarian progress no man must be debarred except for cause and by the judgment of his peers. The secret black-ball, with its utter absence of responsibility, the impossibility of ascertaining its source, while eminently proper in and well adapted to the needs of a social club, where the first requisite of all is good fellowship, 'clubability,' and the exclusion of any individual who would become a jarring note in the harmony, is entirely out of place in broad, representative, public organizations. Any man who is considered by the majority of his peers to be fit and worthy to lend a hand in the great work, is certainly entitled to that privilege, even though there be, in the body with which he wishes to unite, a dozen men who happen to dislike him on personal grounds, however valid these grounds may seem to the individuals holding them. A man who will allow purely personal considerations to interfere in this way with his business relationships, his political affinities, his religious or philanthropic affiliations would speedily find himself either in an exclusive organization of one, or making a successful failure at ever point. Yet this is, in our judgment, what the medical profession has done far too extensively in the past; and is one of the secrets of the small amount of consideration which it can demand as a right in either politics, business or philanthropic affairs. But it is not, thank Heaven, a necessary part of our mental make-up, as our enemies have cheerfully assumed, and we propose to be rid of it in the future.

THE FREEDOM OF SCIENCE.

"The second necessary corollary of this broad and impersonal position is embodied in the clause of our new constitution making eligible to membership every reputable and legally qualified physician, practicing according to the Code of Ethics of the American Medical Association, *who will agree not to practice sectarian medicine.* This, which is likely to be bitterly bemoaned as another lowering of our professional standards, is really nothing more than the incorporation into our Constitution of what has long been our unwritten law and avowed belief. We have all along contended that there was no need for any school of medicine terming itself 'eclectic,' as we, the regulars, were eclectic in every true sense of the term, choosing from whatever source, everything which had been proved to be good. Our issue with the homeopathic division lay, not in the fact that we did not believe in the principle of 'similia,' as such, for we have never been 'allopaths' except in the mouths of our enemies. On the contrary, we just as promptly and emphatically disavow the principle of '*dissimilia*,' for what we object to is merely the holding of any single, exclusive and universally applicable principle in the treatment of all diseases. We would rule out any man who called himself an 'allopath' just as promptly as one who called himself a homeopath. Our practice is based solely on the discoveries of science, checked by the experience of the past, and any man of average intelligence and sufficient training to pass a state board of examiners is at liberty and welcome to use any remedies or methods of treatment, which commend themselves to his judgment. If his views are mistaken he will be the severest sufferer by them and we can leave the question of who is right, as the spirit of true agnosticism has taught us must everywhere be done, to the slow but sure arbitrament of time. And it will do us no harm to remember, as an excellent antidote for any Pharisaical tendencies, that the exclusive principle of *similia* is no new and peculiar thing or method, but a survival of the equally irrational and exclusive principles of treatment firmly believed in by our own direct ancestors of no very recent date. The briefest study of the doctrine of signatures, the principle of contraries, the Brunonian system and the antiphlogistic methods of treatment, which persisted to within even the memory of most of us, ought to diffuse an atmosphere of sympathy around our feelings toward our single-principle brethren."

St. Francis County (Ark.) Medical Society.

On Dec. 5, 1902, the physicians of St. Francis County, Ark., organized a medical society at Forrest City, known as the St. Francis County Medical Society, with Dr. James D. McKnight as president, and Dr. James O. Rush, secretary, both of Forrest City.

Warren County (Ohio) Medical Society.

At the regular meeting of this society the committee on constitution reported favorably on the reorganization movement but asked to be retained till the next regular meeting, when they will make a fuller report. The society gave a banquet in honor of Drs. John M. Withrow and Brooks F. Beebe, Cincinnati, and Dr. Horace Bonner, Dayton.

Delta County (Mich.) Medical Society.

This society was reorganized Nov. 25, 1903, along the lines adopted by the American Medical Association. Drs. Theodore A. Felch, Ishpeming, councilor for the Twelfth District; Beverly D. Hanson, Sault Ste. Marie, secretary of the State Board of Registration,, and Norman Kerr, Chicago, spoke in favor of the plan. The following officers were elected: Dr. David N. Kee, Gladstone, president; Dr. Albert L. Laing, Rapid River, vice-president; Dr. Harry W. Long, Escanaba, secretary, and Dr. William Elliott, Escanaba, treasurer.

Omaha-Douglas County (Neb.) Medical Society.

This society, in annual session, elected as officers for 1903 the following: President, Dr. William H. Christie; vice-presidents, Drs. H. P. Hamilton and F. W. Faulk; secretary, Dr. J. M. Aikin; treasurer, Dr. Millard Langfeld, and board of censors, Drs. Benjamin F. Crummer, Andrew B. Somers, and Samuel K. Spalding. The society is reorganized on the American Medical Association plan. Sixteen new applications were filed with the secretary. A banquet followed at which Drs. Harry M. McClanahan and Byron B. Davis made clear to all present the plan and advantages of reorganization.

Societies.

Hickman County (Tenn.) Medical Society.—At the annual meeting, held Dec. 1, 1902, Dr. Charles V. Stephenson, Ætna, was elected president; Dr. Andrew Norris, Centreville, vice-president, and Dr. W. I. Pace, Tom's Creek, secretary.

Indianapolis (Ind.) Medical Society.—At the annual meeting of this society, January 6, Dr. William E. Jeffries was elected president; Dr. John F. Barnhill, vice-president; Dr. Theodore Potter, secretary, and Dr. John T. Scott, treasurer.

German Medical Society (Cleveland).—At the annual meeting of this society, January 8, Dr. Samuel Riegelhaupt was elected president; Dr. Walter G. Stern, vice-president; Dr. Morits Lowenthal, secretary, and Dr. Isador J. Propper, treasurer.

Johnson County (Iowa) Medical Society.—At its annual meeting in Iowa City, January 6, Dr. Elmer F. Clapp was elected president; Dr. Lola D. Clark-Mighell, vice-president, and Dr. Joseph A. Valenta, secretary and treasurer, all of Iowa City.

Dayton (Ohio) Academy of Medicine.—Dr. Thomas E. Marshall was elected president; Dr. William A. Ewing, vice-president; Dr. Fred C. Weaver, secretary, and Dr. William A. Burns, treasurer of the academy, at its annual meeting January 9.

Garrard County (Ky.) Medical Society.—At the annual meeting of this society at Lancaster, Dr. William G. Casenburg, Point Lick, was elected president; Dr. William Burnette, Lancaster, vice-president, and Dr. Hugh M. Grant, Lancaster, secretary and treasurer.

Los Angeles (East Side) Medical Association.—This association, at its annual meeting, Dec. 29, 1902, elected Dr. John M. Armstrong, president; Dr. Martha P. T. Wagstaff, vice-president; Dr. Robert C. Dundas, secretary, and Dr. Harry B. Fasig, treasurer.

Philadelphia Obstetrical Society.—At the annual election of this society, January 2, the following officers were elected: President, Dr. John M. Fisher; vice-presidents, Drs. Richard C. Norris and Wilmer Krusen; secretary, Dr. Frank C. Hammond, and treasurer, Dr. John W. West.

City Hospital (St. Louis) Alumni Association.—At the annual meeting and dinner of this association, held January 8, Dr. Horace W. Soper was elected president; Dr. J. C. Folk, vice-president; Dr. Rutherford B. H. Gradwohl, secretary, and Dr. Hudson Talbott, treasurer, all of St. Louis.

Clinton County (Iowa) Medical Society.—This society held its annual meeting at Clinton, January 6, and elected Dr.

Frank A. Hohenschuh, president: Peter S. Kaadt, vice-president: Dr. Harry R. Reynolds, secretary and treasurer, and Christian Jousson, librarian, all of Clinton.

Jackson County (Mich.) Medical Society.—This society, at its second annual meeting, held in Jackson, elected officers as follows: President, Dr. Nathan H. Williams; vice-president, Dr. Delbert E. Robinson; secretary, Dr. R. Grace Hendricks, and treasurer, Dr. Frederick W. Rogers, all of Jackson.

Howard County (Mo.) Medical Society.—At the annual meeting of this society, held at Fayette, Dr. Charles H. Lee, Fayette, was elected president; Dr. Vaughan Q. Bonham, New Franklin, first vice-president; Dr. Joel Y. Hume, Armstrong, second vice-president, and Dr. C. W. Watts, Fayette, secretary and treasurer.

Hartford (Conn.) Medical Society.—At the annual meeting of this society, held January 5, Dr. William T. Bacon was elected president; Dr. John O'Flaherty, vice-president; Dr. William G. Craig, secretary; Dr. Arthur D. Hayes, assistant secretary; Dr. George K. Welch, treasurer, and Dr. Walter R. Steiner, librarian.

Ingham County (Mich.) Medical Society.—At the annual meeting of this society in Lansing, January 8, the officers elected at the meeting for organization, Nov. 13, 1902, were re-elected as follows: Dr. Sydney H. Culver, Mason, president; Dr. Harry H. Haze, Lansing, vice-president, and Dr. L. Anna Ballard, Lansing, secretary and treasurer.

Missouri State Medical Association.—The date of the annual meeting of this society at Excelsior Springs has been changed from May 19 to 21 to April 21 to 23. Drs. E. Lowrey, J. J. Gaines, W. S. Wallace and A. C. O'Kell, Excelsior Springs, announce that they will be glad to make arrangements for board and accommodation for visiting members who will apply to them.

Medical Society of the District of Columbia.—At the stated meeting of this society, held January 5, the following officers were elected: Dr. George M. Kober, president; Drs. D. Kerfoot Shute, and Dr. Benjamin G. Pool, vice-presidents; Dr. Charles W. Franzoni, treasurer; Dr. Francis P. Morgan, recording secretary, and Dr. Thomas C. Smith, corresponding secretary.

Gulf Coast (Miss.) Medical Society.—The annual meeting of this society was held at Scranton, Miss., January 7. A new constitution and by-laws were adopted and Dr. Benjamin F. Duke, Pascagoula, was elected president; Dr. M. Lyle Talbot, Biloxi, vice-president; Dr. Jacob N. Rape, Moss Point, secretary and treasurer, and Dr. Joseph A. Tabor, Scranton, corresponding secretary.

Freeborn County (Minn.) Medical Society.—At a meeting of the physicians of the county, at Albert Lea, January 9, a county society was organized, with the following officers: President, Dr. Albert C. Wedge, Albert Lea; vice-president, Dr. William L. Palmer, Glenville; secretary, Dr. Hamilton H. Wilcox, Albert Lea, and treasurer, Dr. John P. Von Berg. The society also adopted a fee-bill.

Alpha Kappa Kappa Fraternity.—The eighth annual convention of this body was held in Chicago, January 2. Dr. George Cook, Concord, N. H., was elected president; Dr. John I. French, Boston, vice-president; Dr. Edward L. Heintz, Chicago, secretary, and Dr. E. R. Pfarre, New York, treasurer. At the annual banquet tendered by the three local chapters, Dr. Archibald Church presided as toastmaster.

Somerville (Mass.) Medical Society.—The annual meeting of this society took place at the Somerville Hospital January 6. The following officers were elected: President, Dr. Frederick G. Smith; vice-president, Dr. Douglas S. Flewelling, and secretary and treasurer, Dr. Charles E. Mongan. Resolutions of sympathy were passed on the death of Dr. John F. Couch, a former president of this society.

Kansas State Medical Association, Third District Auxiliary.—The organization of a district auxiliary to the state association was effected at Concordia, January 9. The following officers were elected: President, Dr. William F. Sawhill, Concordia; vice-president, Dr. Josephus P. Stewart, Clay Center; secretary, Dr. Michael R. Spessard, Glen Elder, and Treasurer, Dr. Frank M. Daily, Beloit.

Clark County (Ohio) Medical Society.—At the annual meeting of this society in Springfield, January 5, the following officers were elected: President, Dr. John E. Myers; vice-presidents, Drs. Clarence S. Ramsey and Theodore F. Bliss; secretary, Dr. Charles L. Minor; treasurer, Dr. Chester B. Bliss, and executive committee, Drs. Joseph A. Link, Clinton M. Hiestand and Charles W. Evans, all of Springfield. Dr. Bonner of Dayton, councilor for the district, addressed the society on the benefits to be derived from reorganization.

Orleans Parish (La.) Medical Society.—At the annual meeting of this society, January 10, in New Orleans, the following officers were installed: President, Dr. Edwin J. Graner; vice-presidents, Drs. Jacob A. Storck, Oliver L. Pothier and O. Joachim; secretary, Dr. Samuel D. Clark; treasurer, Dr. William H. Seemann; librarian, Dr. Homer Dupuy, and additional members of board of directors, Drs. Hermann B. Gessner, John Callan and Henry D. Bruns. Mr. Charles Rosen, the annual orator, spoke on "The Duty of Medical Men as Medicolegal Experts."

Johnson County (Mo.) Medical Society.—The physicians of Johnson County met at Warrensburg and effected an organization, Dec. 12, 1902. The following officers were elected: Dr. James I. Anderson, Warrensburg, president; Drs. Leander F. Murray, Holden, and Milton P. Shy, Knobnoster, vice-presidents; Dr. Edwin H. Gilbert, Warrensburg, secretary, and Dr. J. Alfred Adcock, Warrensburg, treasurer. Dr. M. P. Overholzer, Harrisonville, vice-president of the Medical Association of Missouri, addressed the society on "Organization of the Medical Profession."

EGYPTIAN MEDICAL CONGRESS.

First Congress, held in Cairo, Egypt, Dec. 18 to 24, 1902.
(From our Special Correspondent.)

The first Egyptian Medical Congress, in point of attendance, exceeded all expectations, more than 600 medical men taking part. Germany, Austria, Belgium, Switzerland, France, Italy, Russia, Persia, Great Britain, and the United States were represented. The congress was opened informally on the evening of December 18, by a reception given to the delegates at the Continental Hotel.

The Addresses of Welcome.

On the morning of December 19 the congress was formally opened by the Khedive, at the Khedival Opera House. He was accompanied by all his ministers. The stage was occupied by the delegates who represented countries. The Khedive made a short address, in which he welcomed the delegates to Egypt and expressed the opinion that no doubt much good would result from the scientific sessions. He was followed by S. E. Ibrahim Pacha Hassan, the president of the congress, who stated that they felt very much flattered that so many scientific men should come to their ancient country to discuss with them scientific subjects. They would do all in their power to show that their welcome was cordial and sincere. The following men replied in the order named: For Germany, Dr. Nolda; Austria, Professor Nothnagel; Belgium, Dr. Eid; United States, Major Gorgas, U. S. A.; France, Professor Bouchard; Great Britain, Dr. Reginald Harrison; Hungary, Prof. Karl Hoor; Italy, Professor Maragliano; Persia, Mirza Mohamed M. Khan; Russia, Prof. Pawloff; Switzerland, Professor Eternod. Professor Bouchard made the address on medicine, after which the meeting closed.

The Social Features.

In the afternoon the Khedive received the delegates at the Abdine Palace. He welcomed each one personally, and took occasion thereby to express his thanks to the country which he represented, for the kindness in sending him. On the evening of December 19 an Arab open-air fête was given at the pyramids. Special street cars were provided for the guests to make this journey of twelve miles. The fête consisted of exhibitions of Arab horsemanship, native dances, the illumination of the sphinx by various colored lights, etc. This was followed by a midnight lunch.

Arrangements of the Scientific Sessions.

On the morning of December 20 the scientific sessions were commenced. The work of the congress was divided into three sections, viz.: Internal Pathology, Surgery and Ophthalmology. The meetings were held at the Cairo School of Medicine. The buildings were admirably suited for the purpose. The Students' Club and the museums of the college were also placed at the service of the delegates. The sections met regularly from 9 to 12 a. m. and from 3 to 6 p. m. The hour from 12 to 1 was generally used for exhibiting clinical cases. Many cases of pellagra, leprosy, etc., were shown.

Cairo in many respects is an ideal place for holding a meeting to discuss tropical diseases. Many of the men were able to further demonstrate their papers by showing the cases clinically. Many of the diseases discussed are practically only found in Egypt as well as competent men to discuss them. There is also a certain amount of sentiment about Egypt as a meeting place. It was here that during the middle ages the spark of medicine was kept alive so that in later years it was available for kindling the brilliant light with which medicine shines to-day. We know that here over four thousand years ago the sulphur springs at Helwan, in the neighborhood of Cairo, were used for medicinal purposes.

On Sunday afternoon, December 21, the delegates were invited on board the Khedive's private yachts, which conveyed them to the barrage and his private gardens. The trip down the Nile was very much enjoyed. After the visitors had been given an opportunity to see the bridge and roam about the gardens, a lunch was served, after which the guests were taken back to Cairo by special trains.

On Monday evening, December 22, an Arab fête was given at the Maison Matatia. The invitations were extended by the president of the congress, S. E. Ibrahim Pacha, and Madame Pacha, and the secretary, Dr. Voronoff, and Madame Voronoff. The entertainment consisted of native chants and dances, snake charming, prestidigitateurs, etc. It was much enjoyed owing to its novelty. After the performance a sumptuous repast was provided.

The Delegates.

France had the largest delegation present, being represented by about 60 delegates. Italy came next in the point of numbers. Germany sent no official delegate; a number of Germans sojourning in Cairo temporarily represented her. Dr. Reginald Harrison, who represented the College of Physicians and Surgeons of Great Britain, has also another important mission here. He is investigating the extent of the course in medicine given at the Cairo School of Medicine, for the purpose of ascertaining how much value can be attached in England to a diploma granted here. The United States was represented by Major Gorgas of the United States Army, Assistant Surgeon Victor G. Heiser of the Public Health and Marine-Hospital Service, and Dr. C. G. Campbell, who represented the state of New York.

On the afternoon of December 23 the Minister of Public Instruction invited the delegates to visit the Museum of Antiquities. Every facility was given the visitors for making a thorough inspection. After the visit had been concluded, tea was served in a tent just outside of the museum.

On the afternoon of December 24 the Khedive gave a reception at the Abdine Palace in honor of the visiting delegates and their wives. After he had personally welcomed each one of his guests, a lunch was served. The unusual privilege of inspecting the palace was also accorded the visitors. This reception concluded the social functions.

The opinion was unanimously expressed on all sides that the entertainments provided were far greater in number and elaborateness than is generally the case at medical gatherings. When it is considered that this is an Oriental country and that matters which would be simplicity in themselves in other countries become here almost insurmountable barriers, it will be impossible to speak in too high words of praise of the committee and the medical men of Egypt who brought this about. The greatness of the task will also be better appreciated when it is remembered that the delegates came from many countries and spoke many languages. The success of the congress was due in a great measure to the indefatigable secretary, Dr. Voronoff, and his assistant, Dr. Bittar.

Summary of the Scientific Discussions.

The papers which excited the greatest amount of interest were those on tropical disease, the ones most discussed were bilharzia, pellagra, malaria, vesical calculi, dysentery and ankylostomiasis.

The disease most written about and discussed at the congress was undoubtedly bilharzia. As this disease occurs practically only in Egypt and its general characteristics are not generally known a brief outline of the disease is given below.

Much surprise was generally felt that the subject of cholera did not receive more attention. This was probably due to the fact that there seems to be a general unity of opinion among the medical men as to the methods to be employed in combating this disease.

Very little interest was shown on the subject of yellow fever, this being due, no doubt, to the fact that this disease rarely or never occurs here. The subject of dysentery received considerable attention and the statements of Dr. Kartoulis of Alexandria, a recognized authority on this disease, were considered very important.

Another important point brought out for the first time at this congress was the statement of Professor Loos that the ankylostoma penetrated the skin and gained entrance into the system in this manner. He demonstrated this by a number of tests. (See below.) The paper of Dr. Stiles of the Public Health and Marine-Hospital Service on the same subject was also considered an important contribution. He showed that the disease was much more common in the United States than was generally supposed, that it was pre-eminently a disease of sand areas and that Bentley's view, which is that ground itch is the initial symptom of the disease, is untenable.

Bilharzia.

Synopsis of the Disease.—Cause: *Bilharzia hæmatobia*, discovered by Professor Bilhartz. Lives in the portal vein, is unisexual, male measures from 5 to 12 millimeters in length. Fecundation takes place in the capillaries of the portal system. Ova are carried from there to all parts of the body, but seat of election is in the genito-urinary system. Found to be more common among the inhabitants of lower Egypt. Change of residence to another country usually has a tendency to make the symptoms in the milder form disappear, but they recur again on return to the country; 90 per cent. of cases are men, 10 per cent. women. The disease is introduced in the body in different ways. First, by the gastrointestinal route, the ova being present in drinking water or food. Second, by the organism penetrating the skin (?). (Latter route is supposed to be route of entrance in many cases, but it has not yet been satisfactorily demonstrated.—Loos and Wildt.) Causes abscesses of liver and particularly of the genito-urinary system, fistulas, tumors, etc. Principal constitutional symptom is the great anemia. Frequent cause of stone in the bladder in Egypt, the debris formed in the bladder acting as a nucleus and thus giving rise to stone formation. Eggs may generally be found in the few drops of blood that are passed at the end of micturition. Usually described as occurring in two forms, the mild and the grave. The mild form usually does not require surgical interference. Grave form is characterized by tumors, fistulas, abscesses, etc., which require surgical treatment. For further particulars as to surgical treatment see résumé of Dr. Wildt's paper given below. There is no specific medical treatment. General indications are for salol, santal, alkaline mineral waters and a tonic and symptomatic treatment.

Cholera.

The sum of the observations made on the recent epidemic of cholera indicates that water was the only means by which the disease was conveyed. It was found that wherever an infected locality was supplied with water that was free from cholera germs and the use of the ordinary water stopped, that the cholera disappeared or was greatly lessened almost at once. Wherever a person was found suffering with the cholera the patient was removed to an isolation hospital, and the floors of the house and the walls to a height of about five feet were washed with a lime solution. All fabrics were disinfected with steam, and where that was not possible boiling was used. All containers of fluids were broken, and new ones supplied. The containers among the natives consist almost entirely of crockery of some sort. In the villages where a pure water supply was not otherwise obtainable artesian wells were sunk. Nothing beyond what has been the treatment for cholera in the past was employed.

Below is given a brief résumé of the representative papers delivered before the different sections:

Section of Internal Pathology.

President, S. E. Dr. Comanos Pacha.

Dysentery.—Dr. Kartoulis of Alexandria said tropical dysentery is the only form which gives rise to abscess formation in the liver. Only cases not properly treated ever reach the stage of hepatic abscess. He states positively that from an experience based on hundreds of cases that no case of tropical dysentery should ever reach the abscess stage, and whenever they do, it is the fault of the attending physician. He states that ipecac and other remedies administered internally have their value, but that irrigation of the large intestine is the most essential thing. He uses for this purpose a solution of tannin. He states that other reliable observers have found irrigations with quinin, chlorate hydrate or carbolic acid solutions of great value. He also administers internally sodium salicylate or salicylic acid. The diet must be milk as nearly as possible.

Typhoid.—"The Early Diagnosis of Typhoid Fever by Blood Cultures." Dr. J. Courmont of Lyons claimed that by his method of making cultures from a patient suffering with typhoid fever a positive diagnosis could be made much earlier than by any other method. He claims great superiority over the Widal method because it is available much earlier in the disease.

Ankylostoma Duodenalis.—The object of this paper, by Professor Loos of the Cairo School of Medicine, was to show that the organism of ankylostomiasis can enter the system through the skin. He showed that this was possible by a number of reports of work he had done: 1. A culture of the organism was mixed with charcoal and smeared on a dog. No scarification or friction was employed for this purpose. In a definite number of cases the dogs showed symptoms of the disease, and on postmortem the typical lesions were found and the organism was recovered. 2. A culture of the organism was placed on the back of his own hand and accidentally left there. He himself developed the disease. 3. He showed numerous microscopic preparations in which the parasite could be seen to have passed through the skin.

Uncinariasis (ankylostomiasis).—"A Report on the Disease in the United States," by Dr. Stiles of the Public Health and Marine-Hospital Service, was read by Assistant Surgeon Victor G. Heiser. The points of this paper have been stated in THE JOURNAL. See January 3, p. 48, also pp. 28 and 36.

Surgical Section.

President, Dr. H. Milton.

The subjects which received most attention were bilharzia and stone in the bladder. The consensus of opinion was that liver abscesses due to bilharzia could be treated by puncture but that hospital facilities must always be available for such cases in which accidents occur. For bilharzia in other structures the surgical indications are the same as for like lesions due to other causes.

Lithotomy.—"The Hypogastric Operation for Stone." Dr. H. Wild said that surgeons are generally agreed that the following rules should govern the operation for stone in the bladder:

1. In stricture of the urethra perineal section is indicated because stricture can be treated at same operation.

2. Hypogastric operation is indicated in hypertrophy of prostate because it is the best operation to deal with the hypertrophy.

3. Hypogastric operation in cases of bad cystitis.

4. Hypogastric operation for encysted calculi. Majority of cases of this kind are due to bilharzia.

In addition to the indications given above for the hypogastric operation the author commenced to operate on all cases without choice by this method. The first 100 gave a mortality of 2. One died in 7 days and the other case in 3 weeks owing to renal suppuration. Both cases were afflicted with bilharzia.

An objection to lithoplaxy is that the cystoscope can not be introduced after this operation has been performed owing to bilharzia.

The hypogastric operation should always be done in the Trendelenburg position and without distending the bladder or rectum. The linear incision was always used.

The following are the general indications for the treatment of calculi in Egypt:

1. For small stones use lithoplaxy.

2. Great majority of cases which are complicated by bilharzia should be done with the hypogastric operation.

3. Unless special dexterity is possessed by the operator for lithoplaxy all cases which are complicated with bilharzia should be done with the hypogastric operation. Also cases in which the stone is very large.

Resolutions Planning Future Conferences.

At a general meeting held at 6 p. m., December 23, at the Continental Hotel, the following resolutions were adopted:

1. That the next Congress shall be held in 1907.
2. That a conference similar to the conference held at Venice, should be held soon in order to revise the quarantine regulations.
3. That measures be adopted for a more active sanitary surveillance at the Suez Canal and the Red Sea.
4. That separate pavilions be provided at general hospitals for the treatment of typhoid fever.

Concluding Business.

At a meeting held at the Khedival Opera House on December 24, the president, Dr. Ibrahim Pacha Hassan, in a short address, thanked the members of the congress for their meritorious work. The great success of the congress would cause the Khedive to write the date in letters of gold in the annals of Egypt.

A delegate from each country represented at the congress replied, and in a few appropriate remarks thanked the Khedive and the Egyptians for their kindness and hospitality.

Professor Nothnagel then made a brilliant address on prophylaxis, in which he stated that the efforts for the future must be directed more to prevention than to cure.

A resolution expressing sorrow over the untimely death of Major Reed, U. S. A., was read. The text of the resolution is as follows:

The members of the first Medical Congress held in Egypt learn with the most profound regret of the premature death of Major Reed of the Medical Corps of the United States Army.

The brilliant and important part that he took in the discovery that the stegomyia mosquito was the only agent that transmitted the organism of yellow fever, succeeding thereby to put the ravages of this terrible disease under the control of hygiene, makes his death a cruel loss to humanity.

The congress consequently decides to thus express on this occasion its sympathy with the Medical Corps of the U. S. Army and the family of Major Reed.

The congress also decides to beg of the secretary that he send through the proper channels a copy of this resolution to the Surgeon-General of the U. S. Army and one copy to Mrs. Reed.

After the transaction of some routine business, S. E. Fakhry Pacha, minister of public instruction, in the name of the Khedive declared the congress officially ended.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Medicine, Dec. 16, 1902.

James K. Crook, M.D., in the Chair.

A Brief Review of Some of the Etiologic Factors of Intestinal Dyspepsia.

DR. E. FRANKLIN SMITH adopted the classification of Dr. Hemmeter, viz.: 1. Intestinal dyspepsia due to abnormalities of secretion; 2, due to abnormalities of absorption, and 3, abnormalities of peristalsis. Heredity was supposed to play a very important part, while occupations involving grave responsibilities or severe nervous strain, predispose to this disorder. But little was known regarding the intestinal juice, and opinions varied greatly concerning the exact action of the bile; however, when the latter was reduced below the normal quantity, stagnation of the bowel contents occurred, with consequent fermentation, irritation and intestinal dyspepsia. The quantity of pancreatic secretion might be diminished by nervous influence, as well as by anemia, febrile disturbances, malignant disease of the pancreas, and the chewing of tobacco. The ingestion of excessive quantities of food, or the use of a diet in which certain ingredients were in excess, might cause intestinal dyspepsia. The imprudent use of drugs, especially laxatives,

was also a cause, and another common etiologic factor was the introduction of toxins with the food. Intestinal dyspepsia also arose as a result of abnormal bacterial activity, the bacteria gaining an entrance through a lesion of the epithelium. Again, intestinal dyspepsia might result from the abnormal performance of the function of the stomach, as, for example, when the hyperacidity of the gastric juice neutralizes the alkaline secretions of the small intestine and stops digestion. It should not be forgotten that a most prolific source of intestinal dyspepsia was to be found in deficient mastication and insalivation of the food. According to Boardman Reed, more than one-half of the cases of so-called nervous dyspepsia are dependent on actual disease in the gastrointestinal tract. Among other causes of intestinal dyspepsia might be mentioned the presence of certain toxic substances in the blood, the activity of intestinal parasites and increased peristalsis. The last-named presented itself under several different forms, but all of them were really neuroses.

Intestinal Digestion and Its Relation to Arterial Sclerosis and Renal Disease.

DR. LEONARD WEBER detailed the histories of three cases of chronic gastrointestinal indigestion which he had carefully observed for twenty-five years or more, and which had finally terminated fatally from interstitial nephritis. It was admitted, he said, that the toxemia associated with acute cases of infantile diarrhea was capable of causing acute nephritis; hence, why should not a chronic toxemia be capable of producing arterio-capillary and renal changes resulting in interstitial nephritis? In 1898, the speaker said, he had published a paper in which he had sought to prove that interstitial inflammatory processes in the kidneys were brought about through the toxins of tissue metabolism acting on the parenchyma of the urinary organs, and in this connection reported cases of already established renal and arterial sclerosis which had been greatly benefited by the persistent use of small doses of the iodids—five grains, three times a day.

Intestinal antisepsis should also be promoted by the more or less frequent use of calomel and lavage of the colon, and by a proper regulation of the diet. He was convinced that through faulty metabolism toxalbumins were produced, and more or less directly led to such constitutional diseases as gout and diabetes. For the purposes of early diagnosis examinations of the blood should prove of more service than analyses of the urine.

Treatment of Intestinal Indigestion; Remarks on Diagnosis.

DR. JOHN C. HEMMETER said that in achylia gastrica severe diarrheas were encountered. To recognize this dyspepsia, a test meal and an examination of the stool were necessary. The feces showed unchanged residue of meat, connective tissue, vegetable foods and perhaps fat residue. He believed that the most efficient means of counteracting dystrypsia due to pancreatic insufficiency was to bring about an appetite, as this was the normal stimulus to normal gastric digestion, and in turn to healthy pancreatic secretion. Experiments had proved the astounding fact that for every kind of food a gastric secretion was formed of definite and specific composition. Under the influence of appetite the gastric secretion furnished was more effective than that secreted under the purely chemical stimulus of food. Then again, there was reason to believe that the various kinds of food mutually advance or interfere with the digestion of their various constituents in the gastric chyme; hence, dietetic measures rather than drugs were indicated in the treatment. An unhygienic mixture of food containing an excess of carbohydrates, the various bacteria and fungi would cause excessive acid fermentation and would specially interfere with pancreatic digestion.

To distinguish between a catarrhal and a jejunal stool, it should be remembered that in the former there were present epithelia and round cells derived from the mucous membrane, while these were absent in the jejunal stool. The latter was rich in bile, had a slight fecal odor and a generally acid reaction. If dystrypsia were due to excessive carbohydrate or proteid ingestion, an exclusion of this particular class of food would be necessary. The seat of starch dystrypsia was in the small intestine. Remnants of meat fibers were always significant of abnormal intestinal indigestion, and if the nuclei in the muscle fiber were very evident, it pointed to an abnormality of the pancreatic secretion. The presence of an excessive amount of undigested connective tissue fibers when scraped raw beef had been taken, justified the conclusion that the gastric digestion was impaired. The appearance in the stools of drops of fat, or of fat crystals, was pathologic, but the presence of fatty soaps was of no diagnostic significance. With regard to treatment, the speaker said that so far the idea of the antitoxin treatment of the auto-intoxications was nothing more than a hopeful suggestion; the true treatment at present must be largely prophylactic and dietetic.

DR. W. W. VAN VALZAH said that for practical purposes he had found it sufficient to classify indigestion according as it was produced by an excess of animal food, of starchy foods and sugars, of the fat foods or of accessory foods, such as tea, coffee and condiments. That form due to animal food was characterized by an excessive production of indican and by foul stools with muscle fiber or connective tissue cells in them. The treatment consisted in restricting the use of such food for the time, the employment of lavage of the stomach and bowel, and the administration of 1/40 to 1/10 of a grain of calomel several times a day. If the indigestion were due to starchy foods or sugars, there would be an accumulation of gas in the large and small intestines, associated with either looseness or constipation, and perhaps with headache. Diminishing the quantity of such food and the administration of ichthyol or of salol, sodium bicarbonate or calcined magnesia constituted the treatment. Intestinal indigestion due to fat foods was shown by the presence of an excessive quantity of gas, by pain or burning, or the sense of uneasiness in the bowels. In many cases there was also a congestion of the liver.

Fatty foods must be reduced or stopped for a time, the stomach washed out and the engorged liver relieved by very small doses of mercurials, alkalies and mild laxatives, along with a very free use internally of pure water. Sufficient water should be used to keep the specific gravity of the urine down to the normal. If diarrhea were present, it could be controlled by the administration of chalk, tannin or similar preparations. All forms of intestinal indigestion called for careful regulation, not only of the diet, but of the sleep and exercise, and the promotion of a healthy mental state.

DR. MORRIS MANGES agreed with Dr. Hemmeter regarding the limited value of the ferments. Dr. Weber's paper, perhaps, explained the early occurrence of arteriosclerosis in some young subjects.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Calcium Chlorid.

Dr. Bertignon, in *Med. Press*, states that, after giving calcium chlorid a thorough trial, he has proved it to possess marked hemostatic properties. He claims to have succeeded in checking hemorrhages where ferric chlorid, antipyrin, ergotin and hot injections have failed. It may be employed in hemorrhages of whatever sort and in maladies presenting hemorrhagic complications such as hematemesis, hematuria, enterorrhagia, metrorrhagia, etc. It is recommended in intestinal hemorrhage complicating typhoid fever, administering a dram per rectum and half a dram by the mouth with a small dose of opium. It is also indicated in hemophylia given as follows:

℞.	Calcii chloridi	ʒi	4
	Syrupi opii	ʒiii	12
	Aquæ	ʒiv	120

Sig.: To be taken in divided doses in twenty-four hours and renewed as long as the hemorrhage lasts.

Frost Bites and Chilblains.

The following combinations are recommended by the *West. Druggist* in the treatment of frost bites and chilblains:

FROST BITES.

℞.	Tr. iodi	℥i	4
	Spts. etheris	℥x	40
	Collodii	℥iv	120

Misce. Sig.: Apply locally with a camel's hair brush; or:

℞.	Acidi tannici	gr. xxx	2
	Glycerini	℥ii	60

M. Sig.: Apply locally on gauze; or:

℞.	Balsami peru	℥iss	6
	Misturæ oleobalsam.	℥i	30
	Spts. cologne	℥i	30

M. Sig.: Apply locally by painting on the affected parts.

CHILBLAINS.

℞.	Creosoti		
	Liq. plumbi subacetatis, āā	gtt. xii	75
	Ext. opii	gr. iss	09
	Olei piceis liq.	℥iss	6
	Adipis	℥i	30

M. Ft. unguentum. Sig.: Apply locally; or:

℞.	Zinci oxidi	℥i	4
	Pulv. camphoræ		
	Pulv. myrrhæ		
	Pulv. opii, āā	gr. xxx	2
	Adipis	℥i	30

Misce. Allow the camphor to dissolve in the lard which has been melted by gentle heat, permit this to cool and mix with the other ingredients. Sig.: To be applied locally.

Diarrhea from Acute Intestinal Disorders.

The following is recommended by *Jour. of Tropical Med.* in the treatment of acute intestinal disorders, accompanied by pain and diarrhea:

℞.	Morphinæ mur.	gr. 1/12	005
	Ext. cannabis ind.	gr. 1/8	0075
	Nitroglycerini	gr. 1/600	0006
	Ext. hyoscyami	gr. 1/4	015
	Oleoresinæ capsici	gr. 1/20	003
	Ol. menth. pip	m. 1/20	003

M. Ft. capsulæ No. i. Sig.: One such capsule every three or four hours.

And in cases of dysentery the following:

R.	Acidi sulph. dil.	℥ss	15
	Tinct. opii deod.		
	Spts. camphoræ, āā	℥i	30
	Tinct. capsici		
	Spts. chloroformi, āā	℥ss	15
	Spts. vini gallici	℥iss	45

M. Sig.: One teaspoonful every two or three hours; or:

℞.	Magnesii sulph.	℥i	4
	Acidi sulph. dil.		
	Tinct. opii deod., āā	m. x	65
	Aq. chloroformi q. s. ad	℥ii	8

M. Sig.: To be taken at one dose and repeated in three hours. And in the diarrhea complicating typhoid fever the following is recommended:

℞.	Acidi carbol.		
	Ext. opii, āā	gr. i	06
	Bismuthi subnit.	gr. xviii	1 20

M. Ft. capsulæ No. vi. Sig.: One capsule three times a day.

Acute Catarrhal Bronchitis.

Danforth, in "Amer. Text-book of Applied Ther.," states, in those cases accompanied by marked pyrexia, dyspnea and hurried pulse, that the patient should be kept in bed and a vigorous cathartic given, such as Rochelle salts, ounce one half (15.), which may be repeated in four hours if necessary. If the pulse is full and strong the following mixture will be of service:

℞.	Tinct. aconiti rad.	℥ss	2
	Pot. bromidi	gr. lxxx	5
	Syr. zingiberis	℥iv	15
	Aquæ q. s. ad	℥ii	60

M. Sig.: One teaspoonful every two hours.

Large hot cataplasms of linseed meal, in which is thoroughly mixed a teaspoonful of mustard, should be applied locally. They should not be changed too frequently.

If the cough be dry and harassing the following combination is of value:

℞.	Codeinæ	gr. ii	12
	Pulv. ipecac.	gr. iii	18
	Pulv. camphoræ	gr. xxiv	50
	Quininæ sulph.	gr. xii	75

M. Ft. capsulæ No. xii.

As an expectorant mixture to render the secretion less viscid the following is indicated:

℞.	Ammon. chloridi	℥ii	8
	Syr. pulveris doveri	℥i	30
	Syr. senegæ q. s. ad	℥iv	120

M. Sig.: One teaspoonful every three hours.

In cases where Dover's powder proves too irritating to the stomach, an equal amount of tinctura opii camphorata may be substituted.

If the patients are feeble and require stimulating expectorants, the following is effective:

℞.	Ammon. carb.	℥ss	2
	Pulv. camphoræ	gr. xx	1 30

M. Ft. capsulæ No. x. Sig.: One every three hours.

Or if the patient can not swallow a capsule the following:

℞.	Ammon. carb.	gr. lxxx	5
	Aq. camphoræ		
	Syr. senegæ, āā	℥ii	60

M. Sig.: One dessertspoonful every three hours.

In the convalescing stage of acute bronchitis potassium iodid is of value combined with expectorants as follows:

℞.	Pot. iodidi	℥ii	8
	Syr. pulv. doveri	℥i	30
	Syr. pruni virg. q. s. ad	℥iv	120

M. Sig.: One teaspoonful every three hours.

Gastroptosis.

According to A. P. Francine, in *Phil. Med. Jour.*, the indications for treatment of gastroptosis are: 1. To relieve the stagnation and fermentation and to increase the motor power of the stomach. 2. To furnish support to the stomach and other abdominal viscera. 3. To improve the general condition of the patient. These may be accomplished by means of hygiene, diet, lavage, and drugs. The drugs which will be found of greatest service are resorcin, carbolic acid, creosote, aromatic spirits of ammonia and sodium bicarbonate.

The following combinations of the foregoing preparations have been used advantageously by the author:

℞.	Tinct. nucis vom.	℥vi	24
	Resorcin resublim.	℥i	4
	Tinct. cinchonæ co.	℥iiss	10

M. Sig.: Ten to fifteen drops every two hours; or:

℞.	Resorcin resublim.		
	Bismuthi subnit., āā	℥iiss	10
	Sodii bicarb.		
	Sacch. albi, āā	℥ii	8

M. Sig.: One teaspoonful every two hours; or:

℞.	Creosoti (beechwood)	gr. vii	35
	Sodii bicarb.	℥ii	8
	Pulv. acaciæ		
	Sacchari, āā, q. s.		
	Spts. lavendulæ co.	℥ii	8
	Aquæ q. s. ad	℥iii	90

M. Sig.: One teaspoonful after meals.; or:

℞.	Acidi carbol.	gtts. vi	35
	Sodii bicarb.	℥ii	8
	Spts. ammon. arom.	℥iv	16
	Spts. chloroformi	℥ii	8
	Mist. sodæ et menthæ	℥iii	90

M. Sig.: One teaspoonful after each meal and at bedtime.

Where there is nausea and vomiting the following does good:

℞.	Bismuthi salicylatis		
	Pepsini, āā	℥ii	8
	Cocainæ hydrochlor.	gr. i	06
	Aq. cinnamomi	℥iii	90

M. Sig.: One teaspoonful three times a day or more frequently if necessary.

Beer Yeast.

The *Medical Press*, in an abstract on the properties of yeast as a microbicide in certain eruptive affections as furunculosis,

chicken-pox, erysipelas, etc., states that very satisfactory results have been obtained. In eight cases of smallpox treated by Dr. Conche of Lyons the fever rapidly fell and the eruption did not come to maturity, consequently there was no suppuration. He administered the fresh beer yeast in beer, in order to mask the taste, giving three tablespoonfuls daily. Reports are also given where beer yeast was given in the treatment of erysipelas in doses of three teaspoonfuls daily. It was ascertained, under its influence, that the fever rapidly diminished and the area of inflammation did not enlarge. It was employed successfully also in the treatment of pneumonia and chronic bronchitis in the aged. In the bronchial catarrhs of old people the expectoration gradually decreased.

This periodical recommends the dry form prepared by chemists as more agreeable to take and as fully efficient as the fresh yeast.

To Cleanse the Scalp.

The following combination is recommended by the *West. Druggist* to relieve the scalp from dandruff:

℞. Olei ricini		
Aq. ammon.		
Am. carb., āā	℥i	4
Alcoholis	℥iv	120
Aquæ q. s. ad	℥viii	240

M. Dissolve the oil in the alcohol, add the ammonia water, and add the ammonium carbonate dissolved in the water.

Medicolegal.

Physician May Refresh Memory from Memorandum.—The United States Circuit Court of Appeals, Eighth Circuit, holds, in the case of Bailey vs. Warner, that a physician called to testify concerning a patient's physical condition at a certain time may be allowed to refresh his memory as to the patient's then condition, by consulting a memorandum which he made at the time of his visit relative to the patient's condition.

Time Texas Act Took Effect—Recording Under Old Law.—The Court of Civil Appeals of Texas holds, in Wickes-Nease vs. Watts, that the medical practice act of that state of Feb. 22, 1901, did not go into effect until 90 days after the legislature adjourned on April 9, 1901. The reason given is that the act did not contain any direction when it should go into effect, without which, in view of the constitution, it could not go into effect until 90 days after adjournment. It recited, "The fact that there is no law in force adequately providing for the license of physicians, surgeons and midwives creates an emergency and an imperative public necessity that the constitutional rule requiring bills to be read on three several days be suspended and this act placed on its final passage and it is so enacted." But the court sees in this no more than a suspension of the rules regarding the reading of bills. It also holds here that one who had been duly examined, in 1882, and given a certificate of qualification, which he had recorded in the office of the county clerk, but which he had never filed or recorded in the office of the clerk of the district court, as required by the act of March 23, 1887, could not recover for professional services rendered in May, 1901.

Salary of Health Officer that Was Fixed in Advance.—The Supreme Court of Mississippi affirms a judgment, in the case of Perkins vs. Panola County, allowing the party suing but $50 per annum as county health officer. The office had previously paid $300 per annum, but, prior to his appointment, the board of supervisors had fixed the salary at $50. Immediately after his appointment, he notified the board that he would not serve for $50 per annum, and subsequently resigned, but his resignation was not accepted by the State Board of Health, and he continued in office, notifying the board of supervisors that at the end of his term he would sue for a reasonable salary. The Supreme Court says that the verdict of the jury in favor of the county was a finding, on the whole evidence, that the reduction of the salary from $300 to $50 per annum was not, under the circumstances of this case, an abolition of the office. This salary was fixed in advance, as the law requires. The party suing was not appointed until after this. He acted in full view of the whole situation. On the facts in this record, no other proper result could have been reached than that arrived at by the jury.

Privilege Under Utah Statute.—Section 3,414 of the Revised Statutes of Utah provides: "There are particular relations in which it is the policy of the law to encourage confidence and to preserve it inviolate; therefore, a person can not be examined as a witness in the following cases: . . . (4) A physician or surgeon can not, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." The Supreme Court of Utah says, in the personal injury case of Munz vs. The Salt Lake City Railroad Company, that the policy of this law is to keep inviolate the secrets of those who are in charge of physicians, and to encourage confidence between physician and patient. Whether the statute is a wise or unwise enactment is not for the courts to decide. It is their province to give it such a reasonable interpretation as will give effect to the legislative will. Its evident purpose is to prevent a physician from disclosing information obtained in the sick room necessary to properly discharge his professional duties to the patient, and this is so as to any such information, whether obtained directly from the lips of the patient, or from observation, or from those present at the time of the examination. Nor is it material in such that the physician was called by the patient or a stranger, or, as in this instance, by an officer of the company sued, at the request of the patient. In general, whenever such an examination is made, the presumption is that the relation of physician and patient exists, and that the information is obtained for the purpose of enabling the physician to prescribe or act for the patient. In this case, the injured party testified that they had no money to pay a doctor; that she went to see the company's superintendent about her injury, and that he sent the physician. The physician stated that he examined the patient at her home by request of an official of the company; that he was at liberty to prescribe treatment; that, if he had found a condition that needed treatment, he would have prescribed; that he did prescribe and treat such cases where they required it; and that one of the conditions in view when the examination was made was to prescribe, if necessary. The court holds that the testimony of the physician as to what such examination revealed was properly excluded. It says that the physician made the examination with the view of prescribing if the condition of the patient required it, and under the circumstances disclosed in the evidence it was clear that the relation of physician and patient existed, and the information thus obtained was privileged under the statute.

Compensation of Surgeon—Opinions—Raising Bill.—In the case of Ladd vs. Witte, an action brought to recover for services in performing an operation on the latter party's newly-born imperfect child, the Supreme Court of Wisconsin holds that an instruction telling the jury that they must determine the value of the services, under all the credible evidence in the case, if they should be of the opinion that the services were of value to the party sued, was based on a most unfortunate and misleading hypothesis. It says that it certainly tended to confine the jury to consideration of what and how much benefit resulted to the party sued from this fruitless incision into the body of his new-born child, whose death was certain without the operation, but equally occurred, it notwithstanding. That is not at all the test. So that a surgical operation be conceived and performed with due skill and care, the price to be paid therefor does not depend on the result. The event so generally lies with the forces of Nature that all intelligent men know and understand that the surgeon is not responsible therefor. In absence of express agreement, the surgeon who brings to such a service due skill and care earns the reasonable and customary price therefor, whether the outcome be beneficial to the patient or the reverse. The surgeon requested a direct and plain instruction that the jury must be guided solely by the evidence relating to the value of services. It was error to incumber such direction by the hypothesis stated. Again, the jury were instructed that the opinions of experts as to the

value of the services of the surgeon were not conclusive on them. Such opinions were advisory only. They must, in the end, use their own judgment in determining the value of the services, guided by the credible evidence in the case, and assisted by opinions of the experts. This instruction the court also holds erroneous, there being no evidence whatever in conflict with that of the two physicians—one disinterested—that, in their opinion, the customary and reasonable value of the services rendered exceeded $50. In the absence of conflicting evidentiary facts, it says that there seems to be no answer to the logic that jurymen, as such, have no presumptive knowledge on the subject of the value of professional services, and must be guided by the evidence offered on the trial, and consequently are not at liberty to disregard the same, and enter the field of their own uninstructed conjecture. An instruction to the effect that the surgeon was not precluded from recovering more by reason of having originally sent his bill for but $50, the court says would, of course, have correctly stated the law, and might well have been given to assure full understanding by the jury, though, technically, it was covered by an instruction to allow such sum as the evidence proved the value of the services to be up to $100, the amount of the surgeon's amended claim.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

January 10.

1 *A Comparative Study of the Routine Treatment of Certain Diseases in Four of the Large New York Hospitals. Henry P. Loomis.
2 Extrauterine Pregnancy. H. J. Boldt.
3 *Adhesive Plaster Strapping for Sprains—The Indications for Its Use. Finley R. Cook.
4 *Inguino-Superficial Hernia (Kuester). Alexis V. Moschcowitz.
5 Remarks on Bacteriology and Serum Treatment of Puerperal Septicemia, with an Illustrative Case. Charles S. White.

1. **Hospital Treatment.**—The four diseases, the treatment of which in the Presbyterian, Roosevelt, New York and Bellevue hospitals is described, are, first, typhoid fever, which is treated by an exclusive milk diet, alcoholic and other stimulants, the Brandt bath treatment; the special symptoms such as headache, sleeplessness, etc., being properly met and the patient kept in bed until after the temperature has been normal for a week. In the second disease, pneumonia, the treatment begins with calomel in small doses followed by a saline, the calomel repeated during the course of the disease, if necessary. Local measures are applied as required. The treatment of fever varies. The plan of water treatment is not uniformly applied. Some tub patients with a temperature of 103 and over, and some use sponging when it reaches 102. For the severe pain, poultices and hypodermics of morphin are employed. At the Roosevelt Hospital they often strap the side instead of poulticing. For insomnia the one drug which is universally used is codein in ¼-gr. doses. The three cardiac stimulants used in all the hospitals are alcohol, strychnin and digitalis; the latter only when the others have failed, as a rule. The only other drug occasionally used by all four was nitro-glycerin, and cyanosis is the one symptom which specially indicates its use. For acute articular rheumatism the alkaline salicylate treatment seems to be generally employed. Oil of wintergreen is used to a certain extent in some of the hospitals. At the Roosevelt Hospital the salicylate treatment is first tried, and if not effective, the alkaline treatment follows. Guaiacol is employed in all the hospitals except the Roosevelt, largely by applying it directly to the joint. The diet in all is the same, exclusively milk. Hyperpyrexia is treated in the New York and Presbyterian hospitals by tubs for a temperature of over 105. Pericarditis is treated at all by ice-bags at the precardial space and morphin, if required. The fourth ailment is pleurisy with effusion, and in only one of the hospitals is the fluid removed from the chest when the condition is first diagnosed. In all the others the case is watched before aspiration, and operation is performed only in case of a large amount of fluid, pain, and embarrassed heart action and prostration, and when the fluid remains at a fixed level for five or ten days. The methods vary a little in the different institutions. The following indications for operation are recognized by all, cardiac embarrassment, severe pain, persistent cough and faintness. The diet is what is known as soft, eggs, gruel, soups and principally milk.

3. **Adhesive Plaster Strapping.**—The different pathologic conditions which call for this measure, according to Cook, possess one factor in common, relaxation of tissue, and he points out its special advantages in sprains and contusions. The ordinary diagnosis of sprain is inadequate. We should know exactly what particular ligament or ligaments are involved, and where a ligament has more than one insertion, it is our duty to ascertain what special part is the seat of the sprain, and adopt measures accordingly. He reports a number of cases.

4. **Inguino-Superficial Hernia (Kuester).**—A case is reported by Moschcowitz, who discusses the pathology. In this case there was originally a cryptorchidism and open processus vaginalis. Only the omentum was involved. He reviews the literature and explains the mechanism.

Boston Medical and Surgical Journal.

January 8.

6 *The Malignancy of Joint Tuberculosis, Illustrated by a Series of Forty-seven Cases. Charles F. Painter.
7 *The Importance of Increased Hospital Accommodations for the Treatment of Measles. John H. McCollom.
8 *An Experimental and Practical Demonstration of the Value of Downes' Electrothermic Angiotribe. John W. Keefe.
9 Plague Serum in Three Cases. W. J. Calvert.
10 The General Treatment of Tubercular Bone and Joint Diseases. Joel E. Goldthwait.

6. **Joint Tuberculosis.**—From a total of 47 observations and the study of the literature Painter draws the following conclusions:

1. Tuberculous disease tends to recur after apparent cure in a considerable proportion of cases.
2. This recurrence is most commonly a local one. Metastases are not common.
3. Trauma, direct or indirect, is frequently associated with the recurrence. Indirect trauma is probably the exciting cause of the recurrences, especially where partial anchylosis or deformity exists.
4. Patients who have suffered from bone and joint tuberculosis should be cautioned that they are not well when symptoms have ceased and that reasonable care must be exercised to avoid recrudescences.
5. Deformity and shortening should be corrected as far and as accurately as possible to lessen the chance of recrudescence.
6. Mechanical treatment, especially fixation, should be used in the acute conditions in childhood. Exploratory interference, where discretion is used, with a view to removal of isolated foci, is *advisable* in many cases in children, and is to be *urged* in the majority of the recrudescences, if seen early. Recognition of the fact that patients with hip disease, Pott's disease and tumor albus have tuberculosis just as much as if they had phthisis, and should be treated accordingly, must be insisted upon.

7. **Measles.**—McCollom finds that measles is not such a mild disease as commonly held, and hospital treatment is advisable. It is the most infectious of all disorders and may be so long before the diagnosis. Its complications are serious, especially diphtheria, and its sequelæ, like inflammation of the ear, are also liable to give trouble. There are many individuals living in boarding houses or lodging houses who require hospital treatment if attacked by this disease, and present accommodations are inadequate. A separate pavilion is absolutely necessary for the treatment of these patients in a hospital.

8. **Downes' Electrothermic Angiotribe.**—Keefe has experimented on animals by resection of the intestine with the aid of this instrument, and reports results. He also reports a number of gynecologic cases in which it was also utilized. In none of the cases were ligatures used, and no hemorrhages occurred. The advantages are rapidity of operation, asepsis and cleanliness, no soiling with blood, pus or feces, hemostasis without the aid of a ligature, no secondary hemorrhage from the splitting of ligatures, or subsequent infection of the same, less pain subsequent to operation as the tissues are not puckered or constricted by ligatures. The use of the instrument is very simple, and it should be tried before passing judgment on it.

Philadelphia Medical Journal.

January 10.

11 *Health Resorts of New Zealand. G. Frank Lydston.
12 *What Can Be Done to Lessen the Mortality of Carcinoma Uteri? E. E. Montgomery.

13 *The Parasyphilitic Affections, the Curability of Tabes and General Paralysis by Intense Mercurial Treatment. Dr. Leredde.
14 *Remarks on the Treatment of the Visceral Ptoses. J. Madison Taylor.
15 *On the Practical Results of Actinotherapy. William S. Gottheil.
16 *Treatment of Malignant Growths with the X-Rays. William S. Newcomet.
17 *Urine Segregation; Its Importance and Methods. Andrew J. Downes.

11. **Health Resorts of New Zealand.**—Lydston gives a very interesting account of the health resorts in New Zealand, which seems to be a country specially endowed in this respect. A special series of articles on the Doctor's travels are appearing in THE JOURNAL A. M. A.

12. **Carcinoma Uteri.**—Montgomery's article points out the connections between parturition injuries and cervical carcinoma and insists on preventive measures. The exploration of injuries to the pelvic floor and cervix, especially near the menopause, antiseptic local treatment, and the general necessity of early recognition of the condition and early operation in healthy tissue, with care to prevent reimplantation of the diseases, are insisted on. In the majority of cases the abdominal method is preferable to the vaginal, as it enables one to get farther away from the involved structures.

13. **Parasyphilitic Affections.**—The history of parasyphilitic disorders and Fournier's part in its origination is noticed by Leredde, who disagrees with Fournier, holding that the term has been made to cover too wide a signification and that we should broaden our ideas of what is really syphilitic. What we call parasyphilitic disorders are probably really syphilis in their pathology.

14. **Visceral Ptoses.**—Taylor gives the treatment of visceral ptoses which he would advise, consisting in stomach lavage, faradization, exercise, improved attitude in standing, and disuse of belts, as a rule, excepting one which he has found of advantage, the device of Morris Longstreth of Philadelphia, which is non-elastic, firm, and holds the abdomen in its proper place. The danger is that it is liable to over-use. The real curative agency is a series of exercises which he describes to strengthen the abdominal walls and other muscles that are involved, such as the diaphragm and intercostals. They consist in stretching movements of the limbs, ligaments, abdomen, hips, etc., that gradually push the tissues back into place, but so slowly that no harm can be done. For details the reader is referred to the original article.

15. **Actinotherapy.**—Gottheil's article is a review of the various disorders in which this method has been proven of advantage.

16. **X-Rays.**—Newcomet reports several cases of carcinoma and epithelioma cured or relieved by the *x*-ray.

17. **Urine Segregation.**—Downes describes a new instrument, a modification of and improvement on the Harris segregator, being simpler in structure and requiring no suction apparatus, and introducing a new feature, siphonage, for obtaining the urine from a divided bladder. In the later form the urine at all levels is conducted to the bottom of the prepared sulcus, from which it is siphoned out. It is not, however, as efficient in the female as in the male bladder, and he has, therefore, made a shorter instrument for use in the female bladder alone.

Medical News, New York.

January 10.

18 *On the Need of a Radical Reform in Our Methods of Teaching Senior Students. William Osler.
19 *The Instruction of Senior Students in Medicine. W. Gilman Thompson.
20 *Boiling as a Method of Sterilizing Catheters. C. B. Nancrede and W. H. Hutchings.
21 *Veratrum Viride as an Antitoxic. A. B. Isham.
22 *The More Frequent Diseases of the Joints: Their Etiology and Treatment, with Report of Cases. Joseph H. Stolper.
23 Intermenstrual Pain. Jennie G. Drennan.

18.—See abstract in THE JOURNAL, Dec. 20, 1902, p. 1609.

19. **Medical Teaching.**—Thompson points out certain difficulties in clinical teaching, the difficulty of handling every variety of the disease, of demonstrating all the symptoms of any given one, and the danger of bedside teaching becoming too superficial. In pointing out the difficulties he does not intend to disparage the method, but thinks it should be employed to elucidate rather than to supersede the broad foundation laid by reading and recitations, and supplemented by didactic and clinical lectures. See also THE JOURNAL, Dec. 20, 1902, p. 1610.

20. **Sterilization of Catheters.**—Nancrede and Hutchings give a report of their experiments to test the value of boiling in sterilizing catheters. They find the elastic (that is the English-web catheters) and soft-rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength. Chemical sterilization requires a longer period, as does also formalin vapor. Just how short a time with the latter will be efficient they propose to ascertain. All the methods of sterilization commonly employed should be continued for a longer period than the minimum required for laboratory germ destruction. Washing with warm soapsuds is not essential. Boiling carries away the oily lubricants that have been used, together with many germs. In boiling the catheter it is necessary to keep it from touching the bottom of the vessel, which can be done by enveloping it in gauze or a towel. Their experiments are given in detail.

21. **Veratrum Viride.**—Isham reports cases treated by subcutaneous injections of veratrum viride, of eclampsia, pneumococcus infection, tuberculosis, convulsions, gallstone disease, acute delirium, etc. He holds that with veratrum viride dehydration of the tissues and the renewed and purified blood stream, furnishes a means for regeneration. He thinks that it can be used in tetanus or strychnia poisoning. The properties by which it acts are largely inherent in its active principles of jervia and veratroidia. He speaks also of the value of the moral effect of the remedy, which is very decided. He uses it in hypodermic injections in 10 to 15 minims of Norwood's tincture and even larger doses. He says he thinks 20 drops of Norwood's tincture is the proper initial dose in the adult, to be followed by 10 drops more in half an hour where it falls short of emesis. In no case have fatal effects followed the medication.

22. **Joint Disease.**—Stolper points out:

1. That no matter how bad or how far the disease of the joint may have progressed, with our present methods the sufferer can expect not only relief, but positive curative effects if proper steps of treatment are adopted. 2. That while we have no general plan for the treatment of such cases, we have by the aspirating needle and microscope a valuable uniform plan for diagnosis. 3. That diseases of the joints being due to many causes, the systemic conditions, family and personal history of the patient become of the utmost importance. 4. That my method of treatment is a modified Phelps' method, but superior to Phelps' in the following points: (*a*) Carbolic acid, if used in drop doses only, does not have the desired effect; in large doses it causes sloughing of the parts, while bichlorid of mercury, if not allowed to be absorbed, accomplishes its purpose and can be used in any quantity; (*b*) the 1 to 2,000 solution, while not too strong, is strong enough for germicidal purposes; (*c*) the use of alcohol hardens the tissues and prevents the absorption of the mercury, which is washed out with sterilized water. 5. That while I know that it is the practice of the profession to condemn operations on tuberculous joints, I wish to urge the advisability and necessity of such operations. Let us treat tuberculous conditions, when possible, as any other septic condition.

American Medicine, Philadelphia.

January 10.

24 *The Treatment of Epilepsy by the General Practitioner. William P. Spratling.
25 Report of Two Cases of Transverse Position of the Fetus with Prolapse of an Arm and Impaction. Charles S. Barnes.
26 *Gastrosia Fungosa. Mark I. Knapp.
27 The Causes of Death in Diphtheria. Bernard Kohn.
28 *Pertussis, with Special Reference to Its Early Diagnosis from the Blood Findings. Alfred Wanstall.
29 A Case of Infection with the Double-Pored Dog Tapeworm (Diplyidium caninum) in an American Child. Ch. Wardell Stiles.
30 Hospital Work of Dr. Carl Lauenstein. Nicholas Senn.

24. **Epilepsy.**—Spratling maintains that epilepsy is curable in many instances. Its two primary causes are heredity and stress, heredity, similar and dissimilar, existing in some 56 per cent. of cases. Among the commoner forms of stress, as he calls it, are menstrual derangement, syphilis, alcoholism, etc. He says there are to-day in the Craig Colony a number of epileptics who have no convulsions whatever because they can get no alcohol. Among the more active causes in early life and in infancy, he mentions the accidents at birth, such as asphyxia of the newborn, emphasized by Dr. Jacobi, and blood clots occurring at birth. As regards treatment, he insists on

individualizing, necessitating a regulated dietary, and if the bromids are used, the deprivation of salt, correction of optical defects, gastrointestinal disorders, etc.

26. **Gastrosia Fungosa.**—This is supplementary to a monograph on organacidia gastrica, published in the *New York Medical Record*, Sept. 6, 1902. Knapp describes the symptoms of mold in the stomach, pointing out the methods of diagnosis, and the therapeutic principles of cleaning out the mold, and giving drugs to destroy the organic acids. Lavage, the use of mineral acids, the use of fresh-cooked food, the thorough washing of vegetables and fruits, especially grapes, are also mentioned. He reports and discusses cases.

28. **Pertussis.**—The special point of Wanstall's paper is the blood examination. The excess of lymphocytes over polynuclear neutrophiles is rather characteristic of this disorder. Figures, however, are more convincing *en masse* than when considered individually, and exceptions to the rule may be found.

New York Medical Journal.

January 10.

31 *Colorado Climate and Eastern Patients. W. A. Campbell.
32 *The Repair of Lacerations of the Pelvic Floor. James H. Burtenshaw.
33 *The Origin of Chorioepithelioma of the Uterus. Samuel W. Bandler.
34 *Some Tonsil Affections. Richard B. Faulkner.
35 *Report of a Case of Tetanus Following Vaccination. William S. Cooke.
36 *Thoughts on Fetal Intracranial Hemorrhage. Douglas H. Stewart.
37 *Note on the Salt Starvation Principle in Epilepsy Treatment by Bromids. L. Pierce Clark.

31. **The Colorado Climate.**—The natural advantages of Colorado, the mildness of its climate, abundance of pure air and sunshine and natural sanitary conditions are first noted, and after these the acquired advantages. The author points out how the pulmonary patient may be improved in this locality better than elsewhere. One of the greatest misfortunes is that there is no adequate regulation of quacks, but if the patient puts himself in the hands of a reliable physician, much can be done.

32.—See abstract in THE JOURNAL, xxxix, p. 1,204.

33. **Chorioepithelioma.**—Bandler explains chorioepithelioma according to an elaborate theory of his own, namely, that it is due to an overgrowth of fetal cells which are constantly entering the organism of the mother. The ovarian influence which should hold overgrowth in check is not sufficient. His theory includes an explanation of fecundation, pregnancy and labor. The ovary is responsible for the changes which show themselves in the periodic loss of blood known as menstruation, but if a fecundated ovum is present, the ovum and its enzymes nullify the menstrual stimulation of the ovarian secretion. The trophoblast cells invade the maternal decidua, which is now constantly stimulated by the ovarian secretion, and likewise enter the blood of the mother. The placental secretion nullifies the action of the usual forces and menstruation does not occur. At the end of nine months, when the ovarian secretion is sufficient in amount or character to overcome the neutralizing action of the enzymes of the ovum, labor occurs. If between fecundation and parturition the ovarian secretion is in excess, the constitutional involvement known as eclampsia results. The occurrence of chorioepithelioma is due to a lack of some normal secretion, which he thinks is probably an ovarian secretion that is sufficient to hold the growth of fetal cells in check.

34. **Tonsil Affections.**—Faulkner's article is rather a general one, describing the tonsils and their probable functions and holding that wisdom seems to demand in every case of tonsillar affection, thorough antiseptics, greater care in the preservation of lymphoid structure, and more conservative surgical and decidedly more comprehensive and detailed medical treatment of the nares.

35. **Vaccination Tetanus.**—Cooke reports a case in a four-year-old child with favorable termination, which he thinks was due to post-vaccinal infection during the child's play out of doors.

36. **Fetal Intracranial Hemorrhage.**—The idea Stewart advances is that this accident arises from unequal squeezing of the cranium and its contents. He thinks much can be done to prevent it by careful dilation of the os and pressure with rubber dilator in case of dry labor, and proper forceps manipulation to put the head in a position where undue intracranial pressure will be avoided. When the child is born, feel the fontanelles with the palmar surface of the finger, never with the point, having the contact as extensive as possible; pulsations are made out quite clearly in this manner. Lay the palmar surface of the little finger along the arched top of the tongue, and if there is tremor or rigidity the clot is at the base. There is no attempt at sucking. There may or may not be in the vertex cases, although sucking well on the second or third day is no disproof. Rigidity of the jaw is rare. A peculiar convergent strabismus (clonic) is common, and gives good ground for a fatal prognosis if it lasts more than a few minutes. It is also found after burns in infants, and if it begins, usually continues until death.

37. **Epilepsy.**—Clark calls attention to the importance of hypochlorization in epilepsy, reducing the sum total of chlorin in the body and making room for bromids. This, of course, does not obviate the necessity of other measures, hydrotherapy, massage and general hygienic treatment, but does away with bromism, gastric irritation, constipation and mental hebetude common in the older forms of bromid sedation. A lesser quantity of bromid is needed.

Cincinnati Lancet Clinic.

January 10.

38 The Lumbar Segment of the Ureter. Byron Robinson.
39 Surgery of the Prostate. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

January 10.

40 Practical Surgery. E. S. Goodhue.

Medical Age, Detroit, Mich.

December 25, 1902.

41 *Care of Eyesight of School Children. G. C. Eggers.
42 *Overenthusiasm and "Fake" Specialism in the Diagnosis and Treatment of Genito-Urinary Disease. G. Frank Lydston.
43 *Observations on the Treatment of Malaria. Virginius W. Gayle.

41. **Eyestrain of Children.**—Eggers' article was read before a teachers' institute and gives the facts as to the importance of care of the eyesight in children and the means of avoiding injury at an early age in school studies and methods.

42. **Specialism in Genito-Urinary Disease.**—Lydston protests against the too vigorous methods of treatment of cases of genito-urinary disease, illustrating it by cases from which he deduces the following:

1. That unnecessary manipulations and explorations of the genito-urinary organs are dangerous. 2. That the long way around to diagnoses should be avoided when the short cut by the common-sense road is sufficient. 3. That preliminary "accurate" diagnostic explorations, especially under anesthesia, should be avoided where practicable, and operations which have been proven necessary at once proceeded with.

He remarks also that he has seen a number of cases where fatal results followed radical operations on the genito-urinary organs and in which he felt that the double exposure to anesthesia in the preliminary diagnosis and during the operation, rather than the latter *per se*, was responsible for the death of the patient.

43. **Malaria.**—Gayle's article recommends the salicylic acid ester of quinin, known as saloquinin, as being free from the objections to quinin in malaria and a perfect substitute for it. It is tasteless, non-toxic, does not produce nervous disturbance, mental distress or tinnitus, while it is analgesic, antipyretic, and its action as a germicide is greater than quinin. Idiosynerasy need not be considered, as no bad effects follow its use. It is a remedy, he says, to use in malarial hematuria, can be given to pregnant women because it has no oxytocic effects, and is also beneficial in la grippe.

Northwestern Lancet, Minneapolis, Minn.

December 15, 1902.

44 *Malignant Disease Involving the Gall-Bladder. William J. Mayo.
45 *The Relational Pathology of Pneumonia. H. A. Tomlinson.
46 Harelip and Cleft Palate. J. Warren Little.

January 1.

47 *Diagnosis of Ulcer of the Stomach. Christopher Graham.
48 *The Methylene Blue Fallacy. F. C. Dreuning.
49 Foreign Body in the Urinary Bladder, with Report of Two Cases. M. C. Millet.

50 Paraffin Injection in a Case of Deformed Nose. W. A. Porteous.
51 *A Few Thoughts on Rheumatism Other Than the Acute Articular Form. G. F. Smith.

44. **Malignant Disease of the Gall Bladder.**—Out of 405 operations performed on the gall bladder and biliary passages in St. Mary's Hospital Rochester, Minn., during ten years, nearly 5 per cent. were of the malignant type, a frequency which Mayo remarks is sufficient to deserve careful attention. It seems to be much more prevalent in females than in males. Its connection with gallstones is noted. He says the following indisputable facts attract attention: 1. Gallstones are almost constantly present in primary malignant disease of the gall bladder and rarely in secondary. 2. The relative proportion of gallstones and malignant disease of the gall bladder in women and men is practically identical. 3. The pathologic lesions found are best explainable on this theory. 4. The similarity in age frequency. These, he thinks, warrant the opinion that gallstones are an important etiologic factor in malignant disease of this organ. The diagnosis is usually easy, though there may be some confusion with cyst of the gall bladder and stone impacted in the cystic duct, or adherent gall bladder shrunken down on a mass of stone. It is sometimes impossible even on the operating table to say whether a thick-walled gall bladder is malignant or not. Mayo reports in conclusion several cases and remarks that in all cases where the liver was involved secondary to primary cancer of the gall bladder, there was early recurrence. This is also true in those cases in which the lymphatic glands in the tissue of the liver were infected. Jaundice occurs in about one-half of the cases and contraindicates operation, as it is a late symptom.

45. **Pneumonia.**—Tomlinson reviews pneumonia in its relation to other organs than the lungs, calling attention to the variation in symptoms in certain cases, remarking that it should be considered more a general toxemia than as a local lung disease. Autointoxication, gastrointestinal in origin, and failure of elimination, due to renal inadequacy, are in his experience the gravest dangers.

47. **Gastric Ulcer.**—Graham describes the symptoms of gastric ulcer, gas, belching or bloating or both, burning pain, eructations, heart burn, sour stomach, vomiting, weakness and hemorrhage. The more characteristic and common symptoms, such as pain and vomiting, are treated of at length. The difference between the characteristic symptoms of cancer where there is a more constant and diffuse pain, and gallstones are remarked. In conclusion he mentions gastrosuccorrhea of nervous origin and gastralgia as causing possible conditions embarrassing the diagnosis.

48. **Methylene Blue.**—Drenning holds that methylene blue is practically non-active in gonorrhea and reports cases to prove his contention. Its psychologic effect, however, renders it still a popular method. There is nothing that produces such prominent obvious effect to the patient with so little inconvenience.

51. **Rheumatism.**—Smith advocates aspirin in rheumatism as relieving pain and inconvenience and gives cases where he has found it of benefit. It is a potent agent, he says, especially where the salicylates have proven inefficient, and in chronic, subacute and abarticular forms of rheumatism.

Interstate Medical Journal, St. Louis.

December, 1902.

52 *Bladder Drainage. Reginald Harrison.
53 *Protectives Against Effects of X-Rays. Wm. Allen Pusey.
54 *The Reposition of Fractured Fragments as Indicated by the Roentgen Rays. Carl Beck.
55 *Viability of Bacillus Pestis. W. J. Calvert.
56 *Liquefied Oxygen and X-Ray Treatment of Malignant Growths. A. Campbell White.
57 Report of a Case of Syringomyelia. M. W. Hoge.

52. **Defective Bladder Drainage.**—Defective natural drainage is rare in childhood and early life owing to the anatomical conditions, but later becomes not uncommon, especially after the 60th year in the male, with incontinence from bladder irritation or inflammation, possibly the formation of phosphatic stone, possible extravasation of urine, etc. The bladder may sometimes, by reason of decomposing urine in its effect, resemble, so far as its contents are concerned, a chronic abscess. In such cases catheter drainage and thorough washing out fails to supply that free and continuous drainage that is required. Harrison mentions his method of urine drainage by the perineum, puncturing the membranous urethra on the centrally-grooved staff sufficient to permit the introduction of a finger in the bladder, followed by a drainage tube made to fit correctly both in length and in relation to surrounding tissues, without side leakage. For the first forty-eight hours a specially-made gum-elastic tube should be used, later one of Annandale's pattern with a drainage continuation and tap is substituted. In this way the patient may be up and about within a few days, wearing his apparatus, and long confinement is avoided. In some instances drainage soon proves effectual in restoring the natural condition, while in others the permanent utility of the apparatus may render life comparatively comfortable. Catheter life, he thinks, is not warranted by slight inconvenience and urination once or twice at night and corresponding calls in the day time. Considerable discretion, however, must be exercised on this point. For decomposition of residual urine, which sometimes is not relieved by catheter and lavage, he suggests the use of urotropin, benzoate of ammonium and salol.

53. **X-Ray Protection.**—Pusey finds sheet lead the best protective; 1/25 of an inch thick is usually sufficient to exclude the *x*-rays. He covers the masks on both sides with ordinary wrapping paper, which can easily be washed off and replaced, leaving the mask clean. A speculum can be made by the use of block-tin tubing. For vaginal exposure he has used the ordinary Ferguson specula. To make exposure in the mouth, vagina, or even the rectum, Caldwell's tube is by far the best method; in fact, this is, in his opinion, the greatest single addition that has been made to the technic of the therapeutics of the *x*-rays. The hard rubber masks that have been suggested, he thinks, are almost no protection. If for any reason it is impossible to use lead, some slight protection may be obtained from oxid of zinc adhesive plaster; equal parts of bismuth subnitrite and vaselin would make a fair protection. Vaselin of itself is absolutely useless.

54. **Fractures.**—Beck points out the value of the Roentgen ray in the detection of fractures and their necessary individual treatment.

55. **Bacillus Pestis.**—Calvert has experimented on the viability of this bacillus by preparing tubes which were placed in a thermostat, exposed to direct sunlight on hot pavements, etc. They showed that the *Bacillus pestis* is more resistant than has ordinarily been believed. If an organism can live forty-four days on paper in a thermostat, at 32 to 34 C., or two hours and 45 minutes on a hot brick pavement in the tropical sun at 130 to 140 F., it can certainly live longer in a moist, dark room, where more suitable culture materials can be found. In the Orient there are many out-door spots where the sun never shines, and here the bacilli might live for an indefinite time.

56. **Liquefied Oxygen.**—This substance, which is ordinarily called liquefied air, but which more properly becomes liquefied oxygen by the rapid evaporation of nitrogen, is considered in some cases preferable to the *x*-rays for the treatment of malignant disease. White would employ it in the treatment of superficial epithelioma, but exclude it in cancer of the breast where no ulceration has taken place. For ulceration, followed by hemorrhages and excessive odor, it is indicated, and it would be an excellent change from arsenic and other caustic measures used as an adjuvant to hasten matters.

Ophthalmic Record, Chicago.

December, 1902.

58 Hemostatic Forceps for Use in the Orbit. Lucien Howe.
59 Report of Three Cases of Congenital Punctate Cataract. J. G. Parsons.
60 *Heterophoria. Melville Black.
61 A Case of Rupture of the Chorold with Glaucomatous Symptoms. Howard F. Hansell.
62 *On the Use of Large Doses of Salicylate of Sodium and an Attempt to Explain Its Action. H. Gifford.
63 *On the Necessity for the Use of Color Names in a Test for Color Blindness. F. W. Edridge-Green.

60. **Heterophoria.**—In Black's last 1,000 refraction cases only 49 have been cases of heterophoria. Under this term he

includes only those where there is at least 5 degrees of lateral imbalance or 1 degree of vertical imbalance. Women are more frequent sufferers than men. He has been disappointed with all forms of exercise of the eye muscles for its correction, except in cases clearly dependent on constitutional conditions. Prisms up to 5 degrees for lateral correction and up to 3 degrees for vertical correction, are often worn for years with comfort, but he is inclined to think that in most cases to prescribe a prism of a given strength means that later one of a higher degree will be required, and so on until operation is demanded. This applies more to lateral than to vertical correction. The measurements of adduction, abduction and circumduction do not throw much additional light on the case. Tenotomy should be a last resort. He does not use any "graduating" on the tendon, in tenotomy, except where the vertical muscles are concerned: He prefers a little over-effect to under-effect.

62. **Salicylate of Sodium.**—Gifford thinks that salicylate of sodium is employed in too small doses in rheumatic eye complications. He has not had much good from aspirin. His views in regard to the use of the salicylate in sympathetic ophthalmia have already been published. In interstitial keratitis where the patient shows no marked signs of hereditary syphilis, it acts almost like a specific, and in iritis the relation between the condition and the rheumatic diathesis is best clearly shown by the effect of this drug. He has also found it useful in the pain of herpes of the cornea. As to the manner in which it acts he finds that very large doses can be borne. A man can take about one grain per pound weight in the waking hours, and it begins to be excreted almost immediately. Its germicidal action seems slight, but he favors Oltramare's idea that its effect is due to local depletion caused by general capillary dilatation which the salicylates induce.

63. **Color-Blindness.**—Edridge-Green insists on the necessity of using color names in color tests. A man must be able to think that a light is red before he can act on it, and it is just the same as if he had made the observation out loud. Without their use normal individuals may fail in these usual tests.

Medical and Surgical Monitor, Indianapolis, Ind.

December 15, 1902.

64 Tubercular Hip-Joint Disease. Edmund D. Clark.
65 *Abortive Treatment of Felon by the Application of Alcohol Under Exclusion of Air. Joseph R. Eastman.
66 A Series of Clinical Reports—Motor Neurosis—Fracture of Olecranon Process, and Gallstone. Thomas B. Noble.
67 Has the Medical Profession Kept Pace with the Progress of Civilization or Has It Lost Its Prestige? (To be continued.) J. T. Montgomery.
68 Report of a Case of Epilepsy, Treated by Electricity and Suggestion. B. Elizabeth Malone.
69 Guaiacol in Typhoid Fever. A. T. Stewart.

65. **Felon.**—Eastman calls attention to the treatment which he observed in Von Bergmann's Polyclinic in 1897, with alcohol and air exclusion. The method is simple. The involved phalanx should be covered with a thin layer of sterilized absorbent cotton saturated with alcohol. Over this a thin rubber fingerstall should be applied, rolled on itself from the open end toward the apex and applied over the cotton by unrolling. Of course, where there is suppuration and in severe septic cases, the tissues should be promptly and deeply incised, but in simple incipient cases incision may be not only unnecessary, but reprehensible. It is wise to avoid a tender scar on the palmar surface of the finger.

Alienist and Neurologist. St. Louis, Mo.

November, 1902.

70 Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.
71 The Prognosis of Mental Diseases. George Ilberg.
72 *A Case of Peripheral Abducens Palsy. Wendell Reber.
73 *Kleptomania and Collectivism. James G. Kiernan.

72. **Abducens Palsy.**—Reber reports a case which he says must be regarded as an instance of such palsy, if it exists. His experiences with other cases has led him to become skeptical as to the proper reference of these conditions as a true morbid entity.

73. **Kleptomania.**—Kiernan describes the condition of kleptomania, pointing out the temptation of the bargain stores to a certain class of morbid women, to whom the desire of acquisition of certain articles is absolutely without reference to profit. He thinks that in cases where kleptomania is pleaded, the question of mental instability should be thoroughly studied. There is no need for new legal principles, the common law properly interpreted is ample to meet the cases. He associates a sexual origin with these conditions in some cases, and this psychologic factor underlies some thieving during pregnancy.

Occidental Medical Times, San Francisco.

December, 1902.

74 *On Flatfoot; Its Mechanics and Treatment. James T. Watkins.
75 Cytodiagnosis and Its Application in the Children's Hospital, San Francisco. Eleanor F. Preston.
76 *Intestinal Anastomosis: Demonstration of Connell Suture. Thomas W. Huntington.
77 A Note Regarding Subpracondyloid Fractures of the Humerus. H. M. Sherman.
78 *Kraurosis of Anus. George L. Fitch.
79 A Case of Glanders in the Human Subject. H. A. L. Ryfkogel.

74. **Flat Foot.**—Watkins' article is an exceedingly elaborate discussion showing the pathology, causes and treatment of weak foot. To be properly utilized, it should be studied in the original, as it can not very well be satisfactorily abstracted.

76. **Intestinal Anastomosis.**—Huntington illustrates the Connell suture and knot within the lumen, and reports his experience. He considers it one of the best, if not the best method we have for intestinal anastomosis, and quotes Murphy in conclusion, who says that if suturing is to be used at all he believes the Connell suture has advantages over any other with which he is conversant.

78. **Kraurosis Ani.**—Fitch reports a case of this condition which has not been before noticed in this particular anatomical situation. It occurred in an adult Chinaman, and the only apparent cause for it was a slight debauch. He has seen a case where both the vulva and anus were involved together, but none before in which the anus alone was implicated.

Mississippi Medical Record, Vicksburg.

January.

80 *Some Unusual Phenomena Observed in Three Typhoid Cases. H. L. Sutherland.
81 The State Board of Health: Its Opportunity. H. M. Folkes.

80. **Typhoid.**—Three cases with unusual symptoms are reported by Sutherland. In one there were convulsions, and after apparent improvement a repetition ending in death. The temperature range was not high. There was no serious bowel lesion. The characteristic symptoms of meningitis were not in evidence. Tetany was present for a time, but it is not generally serious. The diagnosis of typhoid was by the Widal reaction. In the second case there was, with atypical symptoms of typhoid, the normal occurrence of the menstrual period, which is unusual. In the third case there were unusual symptoms of temporary mental aberration. The patient's temperature was only once up to 100. He thinks we should be especially careful where there is any possibility of typhoid fever to avoid the diagnosis of insanity, which may be simulated by the delirium of the disease, while other symptoms are not very marked.

Nashville Journal of Medicine and Surgery.

December, 1902.

82 *Sequelæ of Typhoid Fever as Related to the Eye, with Special Reference to the Accommodation. George H. Price.

82. **Eye Lesions of Typhoid.**—Price reports cases with comments on the accommodation disorders following typhoid. He discusses the subject at length, quoting largely from Nichols' work published in the *Journal of Experimental Medicine* of 1899, and holds with him that the trouble is primarily a neuritis due to toxins acting on the neurons and motor region of the spinal cord. The principal means of combating the condition, he holds, lies in preventive measures, and some internal drugs during the progress of the disease that will prevent its complications. During convalescence he suggests that patients refrain from anything that would add to the nervous strain or tax the muscular mechanism until it is able to stand the strain.

Proceedings of the Pathological Society of Philadelphia.

December, 1902.

83 *The Pathology of the Tissue Changes Induced by the X-Ray. A. G. Ellis.

84 A Preliminary Report upon the Simulation of Aneurism by Atheroma and Tortuosity of the Arch of the Aorta. Joseph Sailer and G. E. Pfahler.
85 Pyloric Carcinoma, with Symptoms Simulating Gastrocolic Fistula. D. L. Edsall and C. A. Fife.
86 Round Worms (Ascaris Lumbricoides) from a Patient with Typhoid Fever. David Riesman.

83. **X-Ray Tissue Changes.**—This article, which is of the nature of a preliminary report, first notes the observations of others and their opinions in regard to tissue changes from the *x*-rays and then reports four cases which were carefully examined. Ellis finds necrosis of cells and trabeculæ of a varying degree. In Case 1 there is also marked fatty degeneration. In three cases there was increase of elastic tissue before and after exposure. In one case there were fewer areas of lymphocytic infiltration after exposure, and about equal numbers before and after in others. A tendency to occlusion of vessels by deposits on their inner surfaces, marked in some cases. Practically entire absence of infiltration of polymorphonuclear leucocytes. These findings, he remarks, do not hardly warrant conclusions, but a few thoughts suggest themselves. The blood vessel changes, on which Beck and others lay stress, seem hardly to account for the accompanying tissue necrosis, though endarteritis is probably induced by the *x*-ray. He thinks the possibility is suggested of their being similar lesions from the same influence instead of standing in relation of cause and effect. The presence of immense number of cocci and bacilli in the tissues in one case after twenty exposures of the *x*-ray would argue against the bactericidal power of the ray. It should be said, however, that the pathogenicity of these organisms was not proven. The unsatisfactory clinical results, as well as the slight microscopic changes in Case 3 can probably be attributed to the extremely numerous keratinized areas or "pearls." This emphasizes the importance of curetting or cutting away diseased tissue, whenever feasible, before using the *x*-ray.

Chicago Medical Recorder.

December 15, 1902.

87 *Surgical Treatment of Hemorrhagic Pachymeningitis. John C. Munro.
88 *The Gravity of Bronchitis in Elderly Men and the Safety-Valve Action of Relative Tricuspid Insufficiency, with Report of a Case. Robert H. Babcock.
89 *Albugineotomy in Chronic Orchitis with Report of Case. Emanuel J. Senn.
90 *Report of a Case of Ventral Fixation, Pregnancy, Invagination of the Uterus, Death and Autopsy. Wm. E. Holland and Byron Robinson.
91 *X-Ray Tube, Shields, and Specula for Treating Cancer of the Rectum and Other Cavities. J. Rawson Pennington.
92 *The Relation of Gonorrhea to Tuberculosis of the Genito-urinary Tract. Daniel N. Eisendrath.
93 A Case of Early Rupture of Tubal Pregnancy. Henry Banga.
94 Doctors' Business Methods and the Collection of Their Accounts. C. F. Meyer.

87. **Hemorrhagic Pachymeningitis.**—Munro analyzes cases from a recent record of the Boston City Hospital and discusses the disorder. The difficulties of diagnosis, especially of getting histories, are noted, and its relation to trauma, syphilis, etc. Trephining, he thinks, is the only method to be considered. The prognosis is not good at best. The following are his conclusions:

1. Hemorrhagic pachymeningitis is found in the insane and in infants, but for the most part in men not insane after middle life.
2. Alcohol, syphilis, acute and wasting diseases, and trauma apparently bear some causative relation.
3. The symptoms are those of diffuse subdural hemorrhage, coming on slowly, producing mental irritation, spasm and rigidity of the extremities, convulsions, and, later, paralysis, the sequence being more or less irregular.
4. The cranial nerves are not liable to be affected.
5. The treatment is surgical, and should be instituted as early in the disease as possible.
6. Without operative relief in cases with pressure symptoms the prognosis is practically hopeless. Early operation is not serious and gives the best chance of recovery.

88.—See abstract in THE JOURNAL, xxxix, p. 1478.

89. **Albugineotomy.**—Senn reports a case of chronic orchitis treated by albugineotomy. He thinks that this method is often better for the relief of tension, drainage and resolution of primary pathologic products than castration, which is too frequently resorted to. Albugineotomy should be tried and will be found successful in the majority of cases if the entire organ is not too seriously involved. In acute orchitis in the absence of suppuration, incision should not be performed. In performing future operations of this nature he would modify the technic by scarifying the parietal tunica vaginalis and attaching this surface to the testicle by several catgut sutures through the cut margins of the tunica albuginea, thus facilitating a firmer and more rapid organic union between the two structures.

90.—See abstract in THE JOURNAL, xxxix, p. 1478.

91. **X-Ray Work.**—Pennington describes his apparatus, especially the shields for the tube.

92. **Genito-Urinary Tuberculosis and Gonorrhea.**—Eisendrath offers the following conclusions from his study of the cases here reported and the literature:

1. That in patients suffering from an acute gonorrhea, there may be an almost imperceptible transition into a malignant type of tuberculosis.
2. That subacute or chronic gonorrhea may mask the presence of a tuberculosis. That these, as well as the acute form, may act as predisposing, and even at times as exciting, causes of tuberculosis.
3. In patients who show evidence of local complications of gonorrhea, such as prostatitis, vesiculitis, cystitis or epididymis, one should always bear in mind the possibility of tuberculosis, and examine the urine for tubercle bacilli, if antigonorrheal treatment causes no improvement.
4. In patients with marked tubercular history, an attack of gonorrhea should be carefully watched, and the prognosis be guarded.
5. Gonorrhea, both in the male and female, often prepares the soil for a later invasion of the tubercle bacillus.

Journal of Medical Research, Boston.

December, 1902.

95 On Amphophile Leucocytogenesis in the Rabbit. Walter R. Brinckerhoff and E. E. Tyzzer.
96 On the Use of Clay Models to Record Muscular Variations Found in the Dissecting Room, with a Note on Two Cases of M. Sternalis and Its Influence on the Growth of M. Pectoralis Major. Joseph M. Flint.
97 *A Study of the Distribution of the Colon Bacillus of Escherich and of the Sewage Streptococci of Houston in Polluted and Unpolluted Waters. C. E. A. Winslow and M. P. Hunnewell.

97. **Colon Bacillus.**—From their studies of the subject, including a review of the previous publications, and description of the method of analysis in examination of 157 samples of apparently unpolluted water and 50 samples of obviously polluted water, Winslow and Hunnewell conclude that the use of large samples in applying the colon test is not of advantage in a sanitary analysis of drinking water. The proportion of lactose fermenting organisms and of colon bacilli is increased in the unpolluted waters by the method, and waters of good quality are likely to be condemned, while in polluted water the comparative proportion of bacilli ordinarily present are less during incubation of large samples, and they appear to actually better advantage by the use of 100 c.c. with preliminary incubation in phenol broth. In polluted waters, it is evident that even the incubation of a single centimeter for twenty-four hours in dextrose broth may lead to the suppression of colon bacilli. The idea suggests itself that in the routine sanitary examination the use of dextrose tube alone, with simple determination of the gas formula, or the direct plating of the water in litmus-lactose-agar, without preliminary incubation, might give more useful practical results in some cases than the usual procedure. It is desirable that more comparative work should be done on these tests. It is unsafe to assume that red colonies on the litmus-lactose-agar plate indicates the presence of organisms of the colon group. Subcultures should be made whenever it is desired to form any idea as to what groups are represented. Comparison of the results of analysis of 1 c.c. samples shows a striking difference in the distribution of the sugar-fermenting organisms in general. It seems that bacteria capable of growing at the body temperature and fermenting dextrose and lactose are only infrequently present in unpolluted waters. They also show that by the method employed, *Bacillus coli* is very rarely found in 1 c.c. samples of unpolluted waters. This confirms the observations of Smith and the English bacteriologists as to the parallelism between the numbers of colon bacilli present in a water and the extent of its contamination. When *Bacillus coli*, as defined by the tests noted, is found in such abundance as to be isolated in a large proportion of cases from 1 c.c. of water, it is reasonable proof of the presence of serious pollution. The group of streptococci and staphylococci seems to be associated with sewage pollution when present in any number. While the principal object of the analysis was to find *Bacillus coli*, it seems probable that these two groups of sewage organisms normally occur together, and that when this is the case gas will be

formed by the *Bacillus coli* in the first fermentation tube. When both colon bacilli and streptococci are present, the latter apparently overgrow the former during the preliminary incubation. The presence of either one, then, becomes significant. It is desirable that the occurrence of the streptococcus, as well as the colon bacillus, should be noted in sanitary water analysis. With these two apparently characteristic sewage forms, and with perhaps also the *Bacillus sporogenes*, the bacteriologist finds himself in a better position to draw reliable conclusions as to the antecedents of a water sample than has ever before been the case.

American Gynecology, New York.

December, 1902.

98 *Ureterovesical Anastomosis: An Improved Method; Report of Two Cases. Guy L. Hunner.
99 *Electrothermic Hysterectomy for Cancer. Andrew J. Downes.
100 *The Use of the Electric Cautery Clamp in the Treatment of Cancer of the Uterus. Charles P. Noble.
101 *Conservative Operations upon the Ovary. L. H. Dunning.
102 *The Curse of Gonorrhea. Joseph T. Johnson.
103 *Parotitis Following Abdominal Section. W. H. Morley.

98. **Ureterovesical Anastomosis.**—Hunner reports two cases and describes in detail his method of operating. He first severs the ureter at the desired point and controls hemorrhage. The renal end of the severed ureter which is to be inserted is split along its anterior and posterior walls for a distance of one centimeter, thus forming two lateral flaps. An incision two or three centimeters long is made in the fundus of the bladder, which may be called the "working incision." After choosing a point where the ureter will enter the bladder wall, usually high up, and as laterally as possible, a small incision is made by inserting a scalpel through the working incision and pushing it through the bladder wall from within. Two mosquito forceps are then passed through the working incision and out through the anastomosis opening, each grasping one of the lateral flaps of the ureter. Next comes the first two of the four sutures for the anastomosis; these are mattress sutures preferably of black silk, which pass through the serous and muscle coats only, and serve to draw the ureter into the bladder and to fasten its anterior and posterior walls to the anastomosis opening in the bladder wall. The more difficult posterior suture is first passed. It enters the bladder wall from the rear, and after penetrating the serosa and muscularis leaves the wall very close to the anastomosis opening; it then takes a similar hold on the posterior ureteral wall, about one-half centimeter above the level of the split, and crossing above the split, it grasps the posterior wall again and descends to enter the bladder wall on the other side of the anastomosis opening, entering this time from an anterior direction and passing posteriorly. A similar suture is set for the anterior ureteral wall. After denuding the flaps of their serous coats, the forceps draw them into the bladder, and the two external sutures are tied. Care must be exercised in passing the suture twice through either the anterior or posterior ureteral wall not to get the two strands too widely separated so as to constrict the lumen when they are tied. They make a very firm anastomosis, but the addition of a square suture fastening each lateral flap to the bladder wall is a simple procedure and gives to the operation its claim to perfect safety. The flaps, still held by the forceps, are everted into the working incision and a rectangular piece of the bladder mucosa, corresponding to the size of each lateral flap, is cut from either side of the anastomosis opening. The flap sutures penetrate all the coats of the flap except the removed serosa and all coats of the bladder except the excised mucosa. They should be passed near the end of the flap to interfere as little as possible with the bladder circulation about the anastomosis. They may be either silk or catgut. If of silk, they must be tied inside, and the cut ends left about two centimeters long, and then through the cystoscope the loops may be cut and removed later. Unless suprapubic cystostomy is indicated the working incision is now closed. Some variations in individual cases may be required and dealt with according to indications. He reports two cases and discusses the various methods. The article is illustrated, which makes the description more clear.

99. **Electrothermic Hysterectomy for Cancer.**—Downes describes the electrothermic angiotribe by which he has performed 5 hysterectomies for cancer; 3 are here reported for the first time. He has also assisted other physicians in similar operations. He describes his instruments which have already been mentioned elsewhere.

100.—See abstract in THE JOURNAL, xxxix, p. 1411.

101. **Conservative Operations on the Ovaries.**—Dunning questions the advisability of always leaving portions of the ovary as a routine practice. The danger of sepsis is considerable. He reports cases and offers the following conclusions:

1. Operations on the ovaries that preserve the menstrual and reproductive functions should be employed in lieu of complete extirpation, especially in cases of extirpation of one ovary, and where the remaining ovary shows, as pathological changes, a single cyst of moderate size, or several small cysts, or a single small hematoma. 2. Healthy displaced ovaries may, with advantage, be anchored in as nearly a normal position as possible by stitching them with fine catgut to the posterior surface of the broad ligament, or by shortening the infundibulo pelvic ligament. 3. Cases of sterile married women and married women who are using means to avoid pregnancy are unfavorable subjects on whom to do conservative operations on the ovaries. 4. The writer believes that in pus cases, such conservative operations should, as a rule, be avoided.

102.—See abstract in THE JOURNAL, xxxix, p. 1339.

103. **Parotitis After Abdominal Sections.**—From the study of a case described in this article and other cases elsewhere reported, Morley concludes:

1. There is an intimate relation between the parotid gland and the abdominal and pelvic viscera. 2. This close relation probably exists through the medium of the sympathetic nervous system. 3. Suppuration or non-suppuration of the parotid gland in these cases depends entirely on the local conditions in the gland. 4. This complication may follow any surgical operation on the viscera of the abdomen and pelvis, but it occurs more often after an ovariotomy. 5. The patient's life is not jeopardized *per se* by the occurrence of this complication. 6. The appearance of the parotid bubo usually marks a turning point in the disease.

Illinois Medical Journal, Springfield.

January.

104 *The Prognosis and Treatment of Suppurative Pleurisy. E. Fletcher Ingals.
105 *Technic, Indication and Limitations of Vaginal Section and Drainage for Pelvic Disease. Thomas J. Watkins.
106 *The Unsurgical Features of Vaginal Hysterectomy. S. C. Stremmel.
107 Intercommunicability of Tuberculosis. D. J. D. Mandeville.
108 *Exophthalmic Goiter. L. Harrison Mettler.
109 *A Plea for More Accurate Diagnosis of Cholelithiasis. J. H. Stealy.
110 The Gastrointestinal Type of Influenza. Henry F. Langhorst.
111 *Repeated Small Hemorrhages as a Cause of Severe Anemia. James B. Herrick.

104. **Empyema.**—Ingals' article is noticed editorially.

105.—This article has appeared elsewhere. See THE JOURNAL, xxxix, ¶83, p. 865.

106.—Ibid., title 116, p. 507.

108.—Ibid., ¶50, p. 451.

109.—Title 114, p. 507.

111.—This article appeared in THE JOURNAL, xxxix, p. 767.

New Yorker Medicinische Monatsschrift.

November, 1902.

112 *Ueber einige Erkrankungen der Fingernägel. F. J. Leviseur.
113 Ueber die nervose (s. functionelle) Dyspepsie. Prof. Schule.

112.—This article has appeared elsewhere. See THE JOURNAL, xxxix, ¶153, p. 1420.

Proceedings of the Philadelphia County Medical Society.

December, 1902.

114 *The Existence of Typhoid Fever in Atlantic City. Philip Marvel.
115 *Cholelithiasis. John B. Deaver.
116 Electrothermic Hemostasis in Hysterectomy for Carcinoma. Andrew J. Downes.
117 Report of a Case of Chronic Splenic Anemia. James Ely Talley.
118 The Meaning and Significance of Leucocytosis. Robert N. Willson.

114.—This article has appeared elsewhere. See THE JOURNAL, xxxix, title 2, p. 1615.

115.—Ibid., ¶7, p. 1646.

Medical Sentinel, Portland, Ore.

October, 1902.

119 The General Treatment of Pulmonary Tuberculosis. E. P. Hershey.
120 Open-Air Treatment of Tuberculosis, Especially by the Tepee Method. Harry Lane.
121 The Surgical Treatment of Goiter. Andrew C. Smith.
122 Gastroptosis: A Method of Suspending the Stomach in a Hammock Made of the Great Omentum. R. C. Coffey.
123 The Diagnosis of Sanity. J. Allen Gilbert.

124 Diabetes. Otto S. Binswanger.
125 The Corset and Pulmonary Tuberculosis. Albert Abrams.

Western Medical Review, Lincoln, Neb.

December 15, 1902.

126 Two Cases of Brain Abscess. F. S. Owen.
127 Anatomical Essentials in Voice Culture. J. P. Williams.
128 How Shall We Treat Sepsis Following Abortion and Labor? W. O. Henry.
129 Premature Labor and Septic Infection. J. A. Andrews.
130 A Case of Extrauterine Pregnancy. O. L. Wilson.

Journal of the Michigan State Medical Society, Detroit.

December, 1902.

131 Some Triumphs and Defeats. W. H. Haughey.
132 The Importance of Early Diagnosis and Treatment of Ear Diseases in Infancy and Childhood. A. E. Bulson.
133 What Is the Conservative Treatment of Mastoiditis? Don M. Campbell.
134 Some Remarks on the Treatment of Mastoid Diseases. Robert W. Gillman.
135 The Advisability of Early Surgical Interference in Acute Tympano-Mastoiditis. Emil Amberg.
136 Curettings—The Value and Necessity of Microscopic Examinations. R. Grace Hendrick.
137 Conservatism in the Treatment of the Inferior Turbinate. J. Vernon White.

Mobile Medical and Surgical Journal.

December, 1902.

138 Some Further Remarks on the Medical Supervision of the Education of Boys and Girls. D. L. Wilkinson.
139 Difficulties in, and the Management of Pernicious Malarial Fevers, with and without Idiosyncrasy for Quinine. G. Heustis Fondé.
140 Transmission and Prophylaxis of Diphtheria. Charles A. Mohr.

The Post-Graduate, New York.

December, 1902.

141 The Present Treatment of Fractures of the Forearm. Carter S. Cole.
142 Objects and Aims of Post-Graduate Instruction in Medicine. Joseph Collins.
143 Examination of the Urine. Hermann Lenhartz.
144 Some Notes on Aneurisms of the Larger Vessels and Their Branches. Thomas E. Satterthwaite.
145 A Clinical Lecture on the Treatment of Typhoid Fever. Edward W. Peterson.
146 Weight and Diet in Pulmonary Tuberculosis. John F. Russell.
147 Eneuresis in Children. Herman B. Sheffield.

Proceedings of the New York Pathological Society, New York.

November, 1902.

148 Observations on Adrenalin Glycosuria, and Certain Relations between the Adrenal Gland and Carbohydrate Metabolism. C. A. Herter.
149 A Melanoma in the Cow. V. A. Moore.
150 A Case of Quartan Malaria, with Demonstration of Specimens. E. C. Wood.
151 A Case of Mixed Quartan and Estivoautumnal Malaria: A Meningocele. James Ewing.

Medical Standard, Chicago.

January.

152 Results and Technic in Treating Epithelioma with X-Rays. Emil H. Grubbe.
153 Practical Dietetics. A. L. Benedict.
154 The Treatment of Chronic Nephritis by Electricity. C. S. Neiswanger.
155 Diseases of the Lachrymal Apparatus. Epiphora and Lachrymation. Casey A. Wood and Thomas A. Woodruff.
156 Landmarks of the Tractus Genitalis. Byron Robinson.
157 Pain and Its Indications. E. C. Hill.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Archives Generales de Medecine, Paris.

1 (LXXIX, October.) Contribution à l'étude cytologique des épanchements (effusions) pleuraux des Brightiques et des cardiaques. F. Barjon and A. Cade.
2 *Sur le gigantisme. H. Meige.
3 (November.) Climatology of French China. H. Girard.—Le Haut-Tonkin.
4 De la splénomégalie chronique avec anémie et myélémie. P. E. Weil and A. Clerc.
5 Détermination approximative des purines urinaires par le purinomètre. J. Walker Hall.
6 Le technique de la mesure de la pression sanguine. N. Vaschide and J. M. Lahy. (Commenced in No. 9. 80 cuts.)

2. **Giantism.**—Meige protests against the proposal to foster marriages between giants. He points out that the excessive osteogenetic function is frequently accompanied by more or less general disturbances, showing that it has a tendency to be pathologic. When the excessive osteogenetic function affects the shafts of the long bones, the result is a giant, but when merely the ends of the bones are involved acromegaly is the result. Giants are, therefore, of the infantile or acromegalic type, according as osseous union between the shaft and the epiphysis occurs early or late.

Archiv fur Gynaekologie, Berlin.

7 (LXVII, 3.) *Leucocytosis During Pregnancy and the Puerperium. C. Hahl.—Untersuchungen über das Verhältniss der weissen Blutkörperchen während der Schwangerschaft, der Geburt und dem Wochenbette.
8 Studien über den Elweiss-, Phosphor- und Salzumsatz (transformation of albumin, phosphorus and salt) während der Gravidität. B. H. Jägerroos.
9 Ueber Elephantiasis vulvæ chronica ulcerosa (syphilitica). G. Bamberg.
10 *Die Herkunft (origin) des Fruchtwassers (amniotic fluid) im menschlichen Ovum. A. Silberstein.
11 Zur Therapie der Eklampsie. A. Ostrcil.
12 Ergotin in Obstetrics. H. Palm.—Untersuchungen über die Bedeutung des Mutterkorns und seiner Präparate für die Geburtshilfe. mit specieller Berücksichtigung des Sphacelotoxins.
13 Ueber die forcirte Dilatation der Cervix mittelst des Dilatatoriums von Bossi. O. Lederer.
14 Ibid. Keiler.
15 Zur Casuistik des Abortus provocatus. B. S. de Smitt.

7. **Leucocytosis During Pregnancy.**—Hahl found in 36 patients that the number of white corpuscles was somewhat increased during the last days of pregnancy. Marked hyperleucocytosis was observed with the onset of labor, chiefly due to an increase in the proportion of the polynuclear neutrophile cells. During the puerperium this hyperleucocytosis gradually subsided and normal conditions were re-established by the end of the first week.

10. **Origin of Amniotic Fluid.**—Silberstein's article won the university prize at Berlin for 1901. It is a study of a case of twins, one oligohydramnic and the other polyhydramnic, and suggests that the difference in the amount of fluid observed was due to the fact that one fetus urinated more profusely than the other. In pathologic cases such as these Nature allows us a peep behind the scenes, he remarks, and what we see establishes Gusserow's theory that the amniotic fluid is essentially a product of the fetal organism and of the kidneys in particular.

Archiv fur exp. Pathologie, Berlin.

16 (XLVIII, 3-4.) Origin of Fat in Fatty Degeneration of Heart. Leick and Winckler.—Die Herkunft des Fettes bei Fett-Metamorphose des Herzfleisches.
17 Ueber den Stoffwechsel von Thieren (metabolism in animals) während der Reconvalescenz. Schwenke.
18 Zur Frage der Glykokoll-Bildung (formation) aus Leucin im thierischen Organismus. R. Cohn.
19 *Ueber die Castration und ihre Folgen (consequences). H. Lüthje.
20 *Relations between Renal Function and Albuminuria. M. Cloetta.—Ueber die Bezlehung zwischen Functionsleistung der Niere und Albuminurie.
21 Ueber das Kaffee-Oel und die physiologische Wirkung des darin enthaltenen Furfur-Alkohols. E. Erdmann.
22 Ueber den Einfluss (influence) der Digitalis-Körper auf die Hirn- (brain) Circulation. R. Gottlieb and R. Magnus.
23 Ueber das Acocantherin; Africanische Pfeilgift (arrow poison). E. S. Faust.
24 Behavior of Solid Gastrointestinal Contents in Fasting Rabbits. Swirski.—Ueber das Verhalten der festen Magen-darminhaltes bei absoluter Carenz der Kaninchen.

19. **Effects of Experimental Castration.**—Lüthje castrated two male and two female dogs and kept control pairs out of the same litters. As the animals grew up it was impossible to detect any difference in metabolism between the castrated and the uncastrated animals during the three years that elapsed before they were killed. There is evidently a substitution of function by other organs in respect to metabolism and no specific influence can be attributed to the generative glands. No difference was apparent between the animals in regard to either the composition of the blood, amount of hemoglobin or iron, nor in the behavior, shape, growth or disposition.

20. **Relations Between Functional Renal Disturbances and Albuminuria.**—Cloetta found on administering aloin, cantharidin or potassium chromate to rabbits that while these various poisons caused different functional disturbances in the kidneys yet the microscopic picture was almost identical in each. In the experiments with aloin, the disappearance of the albumin was not necessarily followed by resumption of normal renal function. Lines representing the freezing-point and the albuminuria ran parallel at first and then in some cases abruptly intersected each other. This indicated that notwithstanding apparent improvement of the kidney lesion the organ was incapable of resuming its function. Such a condition may

explain certain cases of sudden death in acute nephritis when the patient is apparently improving. The experiences confirm the assumption that the noxious influences responsible for the production of acute nephritis may affect the renal function in widely diverse ways. If we can learn the rules governing the differences in this respect we may be able to discover the inner secrets of the pathologic renal function, beyond the reach of pathologic anatomy.

Archiv fur die gesammte Physiologie, Bonn.

25 (XCII, 1-2.) The Blood at Altitude of Davos. H. J. A. Van Voornveld.—Das Blut im Hochgebirge.
26 Ueber die physiologische Wirkung einiger Bestandtheile des Hopfens (elements in hops). K. Farkas.
27 (Nos. 3-5.) Behavior of Glycogen in Boiling Potash. E. Pflüger.—Ueber das Verhalten des Glykogens in siedender Kalilauge.
28 Glycogen in Cartilage of Mammals. E. Pflüger.—Ueber den Glykogen-Gehalt der Knorpel der Säugethiere.
29 Beitrag zum Glykogen-Gehalt des Skeletts. M. Händel.
30 Beitrag zur allgemeinen Muskel- und Nerven-Physiologie. E. Overton.
31 (Nos. 6-7.) Ueber das Ferment der Pylorus-Schleimhaut (mucosa). F. Klug.
32 Wassergehalt (proportion of water) und Organ-Function. A. Durez.
33 Untersuchungen über den Einfluss (influence) wechselnder Blutfülle (varying amount of blood contained) auf die Elasticität der Lunge. K. v. Stejskal.
34 Ueber die Unentbehrlichkeit (indispensability) von Natrium- (oder Lithium) Ionen für die Contractions-Act des Muskels. E. Overton.
35 Relations between Height of Lift and Duration of Contraction in Fatigue of Muscles. A. Lohmann.—Ueber die Beziehungen zwischen Hubhöhe und Zuckungsdauer bei der Ermüdung des Muskels.
36 (Nos. 8-9.) Ueber die vermeintliche Existenz von "bathmotroper" Herz- (heart) Nerven. H. E. Hering.
37 Weitere Mitteilungen über Antagonisten des Curarins. C. J. Rothberger.
38 Die chemische Demarcations-Strom in toxicologischer Beziehung. M. Henze.
39 Untersuchungen über die Verwerthbarkeit eines Delphinenin-Präparates an Stelle (in place of) des Curare in der Muskelphysiologischen Technik. A. Lohmann.
40 (Nos. 10-12.) Results of Balloon Trips for Physiologic Research. H. v. Schroetter and N. Zuntz.—Ergebnisse 2 Ballonfahrten.
41 Untersuchungen zur Thermo-Dynamik der bio-elektrischen Ströme (currents). J. Bernstein.
42 Ueber verminderte Leitungsgeschwindigkeit (diminished rapidity of conduction) des in "Ringerscher" Lösung überlebenden (surviving) Nerven. H. Rietschel.
43 Results of Experimental Section of Sensory Roots. L. Merzbacher.—Folgen der Durchschneidung der sensiblen Wurzeln im unteren Lumbal-Marke, im Sacral-Marke und in der Cauda equina des Hundes.
44 Influence of Rennet Coagulation on Digestibility of Milk. R. Popper.—Ueber den Einfluss der Labgerinnung auf die Verdaulichkeit der Milch.
45 The Blood at Mountain Altitudes. E. Alderhalden.—Das Blut im Hochgebirge.
46 Die Pupillar-Reaction der Octopoden. R. Magnus.
47 (XCIII, Nos. 1-2.) Zur Geschichte (history) der Glykogen-Analyse. E. Pflüger.
48 Ueber den Nervus depressor als Reflex-Nerv der Aorta. G. Köster and A. Tschermak.
49 Zur Lehre von den secundären Geschlechts- (sexual) Characteren. A. Foges.
50 *Study of Artificial Fertilization of Eggs of the Star-Fish. Jacques Loeb.—Ueber Eireifung, natürlichen Tod und Verlängerung des Lebens beim unbefruchteten Seesternei (Asterias Forbesii) und deren Bedeutung für die Theorie der Befruchtung.
51 (Nos. 3-4.) Action of Potash on Glykogen. E. Pflüger.—Ueber die Einwirkung verdünnter Kalilauge auf Glykogen bei 100 C.
52 Determination of Starch and of Digestibility of Carbohydrates. St. Weiser and A. Zaitschek.—Beiträge zur Methodik der Stärkebestimmung und zur Kenntniss der Verdaulichkeit der Kohlenhydrate.
53 Study of Goose Fat. Ibid.—Beitrag zur Kenntniss der chemischen Zusammensetzung und Bildung des Gänsefettes.
54 Ueber die Entwicklung der locomotorischen Coordinations-Thätigkeit im Rückenmark (spinal cord) des Frosches (of the frog). E. Babak.

50. Artificial Fertilization of Eggs of Starfish.—Loeb refers to his success in inducing by means of certain ions the development of normal, viable embryos out of unfertilized eggs, but adds that all attempts to induce it by means of enzymes have hitherto failed. The research on the eggs of the starfish, described in the present communication, confirms his previous assumption that the fertilizing action of the spermatozoon depends on its bringing substances into or causing conditions in the egg which accelerate the course of certain, possibly synthetic, processes in the egg. This accelerating influence might likewise be induced by certain ions, and he has proved that this possibility can be artificially realized. He has established in regard to the ova of the starfish that the mature but unfertilized specimens rapidly die in sea water, while the immature and the mature fertilized ova continue to live. This occurs in both natural and sterilized sea water. The ova do not ripen until ejected from the ovary, as oxygen and free hydroxyl ions are apparently necessary for their ripening. When the ripening is artificially hindered by lack of oxygen or by acid environment, the unripe ova retain their vitality much longer than the ripe, unfertilized ones. Fertilization by a spermatozoon or by chemical or physical intervention, prolongs the life of the ovum. The process of ripening, on the other hand, entails the death of the ovum unless it becomes fertilized. Treatment with dilute acid which induces parthogenesis of the mature ovum, checks the ripening process in immature specimens. He thinks that these facts of the ripening of the egg, its natural death and the prolongation of the life of the unripe egg, throw a certain light on the mechanism of the phenomenon of fertilization.

Archiv fur Kinderheilkunde, Stuttgart.

55 (XXXIV, 5-6.) Geschichte (history) des St. Ludwig Kinder-Hospitals in Cracow. M. L. Jakubowski.
56 Einige Formeln für das Kindesalter (formulas for childhood). S. A. Van Leer.
57 Ueber Buttermilch als Säuglingsnahrung (infant feeding). W. Caro.
58 Fall von Persistenz des Ductus Botalli. H. Sidlauer.
59 Eigenthümliches (peculiar) Beginn einer tuberculösen Meningitis. E. Schlesinger.
60 Portative orthopädische Apparate in der Kinderheilkunde (in pediatrics). E. Mayer.
61 (XXXV, Nos. 1-2.) *Untersuchungen über die Viscosität des Sputums und ihre Beziehung zum Husten (relation to cough), insbes. zur Pertussis. L. Neumann.
62 Beiträge zur Lehre von der cyklischen Albuminurie. L. Schaps.
63 Zur Kenntniss der Magensaft- (gastric juice) Secretion im Säuglingsalter (infancy). A. H. Meyer (Copenhagen).
64 Weitere Beiträge zum Situs transversus und zur Lehre von den Transpositionen der grossen Gefässe des Herzens (large cardiac vessels). P. Geipel.

61. Connection Between Viscosity of Sputum and Coughing.—Neumann found in examining nine children with whooping cough that the coughing spasms were always associated with lesser viscosity of the sputum. As the phlegm became thicker the spasms did not recur. He suggests the possibility that the greater fluidity of the sputum and its consequent movability and expansion may be the cause of the coughing paroxysm.

Schmidt's Jahrbucher

65 (274, Nos. 1-2.) Sensory Functions of Skin. S. Garten.—Der jetzige Stand der Lehre von den Sinnesfunktionen der Haut.
66 Ueber Diabetes Mellitus. K. Grube.
67 Der Typhus abdominalis nach Benutzung der Literatur von 1897-1900. H. Starck.
68 (No. 3.) Recent Research on Hematin. M. Henze.—Die Ergebnisse der neueren chemischen Arbeiten auf dem Gebiete des Blutfarbstoffes.
69 (275, Nos. 1-3.) Review of Progress of Internal Medicine in 1901. Senator and Richter.—Bericht über die wichtigeren Forschungsergebnisse auf dem Gebiete der inneren Medicin des Jahres 1901.
70 Recent Progress in Otology. Blau.—Bericht über die neueren Leistungen in der Ohrenheilkunde.
71 (276, No. 1.) Review of Progress in Dermatology. G. Riehl.—Bericht, etc., der Dermatologie von Juli, 1901, bis Juli, 1902.
72 Review of Progress in Balneotherapy, etc. F. C. Mueller.—Bericht, etc., der Balneotherapie, Hydrotherapie und Phototherapie.
73 (Nos. 2-3.) Ueber physiologische Albuminurie. H. Dreser.
74 Therapeutic Courses of Mineral Waters. K. Alberts.—Trinkkuren.
75 Review of Progress in Study of Blood. Zaudy.—Bericht über neuere Arbeiten aus dem Gebiete der Physiologie und Pathologie des Blutes.
76 Criminal Responsibility. Alberts.—Ueber strafrechtliche Zurechnungsfähigkeit.

Therapeutische Monatshefte, Berlin.

77 (XVI, No. 12.) Zur Behandlung der Myopia. R. Liebreich.
78 Proposal for Collective Enquiry in Regard to Frequency of Tabes in Syphilitics. J. A. Gläser.—Vorschlag, etc.
79 Ueber Säure-Behandlung (acids in treatment) des Pruritus. H. Leo.
80 *Zur Freiluftcur (open air treatment) in der Phthisiatrie. Volland (Davos).
81 *Gedanken über die Prophylaxe und Therapie der Tuberculose. E. Fuld.
82 Ueber einige Enzyme wirbelloser Thiere (of invertebrates). W. Fischer.
83 Menschentuberculose und Perlsucht. A. Gottstein.—Critical Review.
84 Intrauterin-Pessarien. E. Falk.
86* Kritische Beiträge zur Diagnose und chir. Therapie der typhösen Darm-Perforation und Perforations-Peritonitis. Miclescu. (Commenced in No. 11.)
87 Theocin.

88 Mesotan.
89 Ueber den Werth des "Hygiama" als Nährmittel (as food). E. Kraus.
90 *Die MSS. der Aebtissen Hildegard von Bingen über Ursachen und Behandlung der Krankheiten. P. Kaiser. (Commenced in No. 6.)

80. **Open-Air Treatment of Tuberculosis.**—Volland believes that much harm is being done by the exaggeration of the importance of fresh air in the treatment of tuberculosis. The patients fail to realize the benefits they should from the sanatorium, as they are constantly allowed to get chilled night and day by the undue importance attached to the benefits of out-of-door air. They are not aware that their vitality is being depressed by the cold air, as they are under the influence of suggestion. Hammer's discovery that the results obtained in his city dispensary actually surpassed those obtained in the sanatoriums should open the eyes of the profession. No one was more astonished than Hammer himself. His patients were too poor to give up the day to lying out of doors, and lived so crowded that the families would have objected if one member had insisted on sleeping with open windows at night. Consequently they did not get chilled to the same extent as the sanatorium patients, and the system was able to cope more effectively with the tubercle bacilli. (Hammer's communication was reviewed in THE JOURNAL, xxxix, p. 284, title 108.)

81. **Bovine Tuberculosis in Prophylaxis of Human Tuberculosis.**—Fuld suggests that the bacillus of "Perlsucht" may yet play an important part in the prophylaxis of human tuberculosis. It seems credible that a system naturally immune to "Perlsucht" might be immunized by means of a bovine tuberculin until it proved refractory to genuine tuberculosis.

86. **Surgery in Typhoid Perforation.**—Miclescu states that about every fourth case of peritonitis due to typhoid perforation and operated on has been cured. Reviewing 226 communications that have been published, he finds that 37 were saved out of 131, that is, about 28.3 per cent. The intestinal lesion is generally single, and surgical intervention should be applied in every case of typhoid perforation. In even the most hopeless cases this treatment postponed the fatal termination.

90. **The MSS. of the Abbess Hildegard.**—This work dates from the twelfth century and is a manual for the etiology and treatment of the ills that flesh was heir to in those days, with suggestions in regard to hygiene, etc. Her remarks show much common sense and intelligent observation.

Therapie der Gegenwart, Berlin.

91 (December.) *Die Behandlung der Nierenstein-Krankheit (renal lithiasis). G. Klemperer.
92 *Zur Therapie der Pneumothorax. G. Zuelzer.
93 Praktische Erfahrungen über Mesotan (Salicylic acid-methyl-oxymethylester), ein Mittel zur percutanen Anwendung der Salicylsäure. E. Reichmann.
94 Therapeutische Erfahrungen über Arhéol in Urologie (alcohol derived from oil of santal). C. Ravasini.
95 Ueber das Helmitol, ein neues Harnantisepticum. P. Rosenthal.
96 Neuere Arbeiten über Hysterie. H. Oppenheim. Critical Review.
97 Rheumatisches Magen und Brustkrampf, sog. Herzspann (gastric and heart spasm). Holfelder.

91. **Treatment of Kidney Stones.**—Klemperer accepts as indications for operation total anuria for twenty-four hours and the onset of acute pyemia. A few cases are on record in which the stone was spontaneously evacuated after forty-eight hours, or even as late as twenty-eight days, but we are not justified in counting on these rare exceptions. He thinks that much injury has resulted from the assumption that renal lithiasis is the expression of a family and hereditary diathesis. It will be found that in nearly every case the abnormal constituents of the urine responsible for the lithiasis can be eliminated from the diet and thus the cause be removed.

92. **Treatment of Pneumothorax.**—Zuelzer describes a case in which the most distressing symptoms were relieved by puncture, but normal conditions could be restored only by repeatedly aspirating with a Bülau siphon drain; the maneuvers continued for several hours.

Zeitschrift fur klinische Medicin, Berlin.

98 (XLVII, Nos. 5-6.) *Die Harn-Cryoscopie in der Diagnosis doppelseitiger Nierenerkrankungen (bilateral renal affections). H. Strauss.
99 Die intracelluläre Glycogen-Reaction der Leucocyten. S. Kaminer.
100 Albuminurie minima und cyclische Albuminurie. L. Kuttner (Ewald's Clinic).
101 Zur Frage der Resorptions-Mechanismen. L. Hofbauer.
102 Influence of Ablation of Kidney on Electric Conductibility of Blood. A. Bickel.—Exp. Untersuchungen über den Einfluss der Nieren-Ausschaltung auf die elekt. Leitfähigkeit des blutes. (Ebstein's Clinic.)
103 Production and Elimination of Glucuron Acid. M. Bial.—Ueber Bildung und Ausscheidung der Glucuronsäure. (Leyden's Clinic.)
104 Beitrag zur Kenntniss der Pentosurie und der Pentosen-Reaction. H. Brat.
105 Gangrän des linken Unterschenkels (left leg) durch Thrombose der Arteria femoralis (wahrscheinlich grippaler Natur) bei einem Diabetiker. M. Loeb.

98. **Study of Freezing-Point of Urine in Bilateral Kidney Affections.**—Strauss has been studying at Senator's clinic for two and one-half years the variations in the freezing-point in various diseases. The tests disclosed great variations in the results even in the same person at different times. They also revealed a certain, but by no means constant, connection between the findings and certain anatomic affections of the kidneys. The quantitative and qualitative behavior of the renal functions under identical conditions of time and of test ingestion of water and of salt, was the aim of the latest research, to discover new points to serve in the diagnosis of anatomic alterations in the kidneys. The subjects had unsalted milk soup for supper the night before, and urinated at 10 p. m. and at 5 and 6 a. m. The next day they ingested 500 c.c. of water, fasting. The second day 10 gm. of cooking salt were added to the same amount of water and taken fasting, and the third day 50 gm. gluton were added to the same amount of pure water. The subjects remained in bed until 11 a. m. and ate nothing until then. The food during the three days of the tests was the same for each subject, and with as little salt as possible. The water test proved most instructive, and he recommends it for general adoption as a valuable aid in diagnosing, although the findings are of course no criterion for the functioning of the kidney at all times, and the test may exceptionally give normal results even in case of severe anatomic alterations. But still, it is a step in the right direction. Strauss establishes the normal freezing-point as 0.91 to 2.43 C. The extremes of range allowed by other investigators have been 0.87 to 2.71. The product of the freezing-point multiplied by the amount of urine in the twenty-four hours, is the most important finding of all, as it indicates the work of the blood-cleansing function of the kidney. This figure is called "V." He found the normal range to be 1,112 to 3,359; the extremes of other investigators have been 766 to 3,770. The percentage of sodium chlorid he found to be normally 0.26 to 2.58; the highest range of other writers has been 0.09 to 2.11. By dividing the freezing-point by the percentage of sodium chlorid he obtained as the normal range 1.01 to 3.54, while others have found it range from 0.98 to 1.69 or 1.83 or 2.33 or even 13.17. Comparing the results of his 150 tests on 16 subjects he noted that a marked and protracted reduction of the functional capacity occurred but rarely, and only associated with edema and with deficient "freezing-point reaction." Extreme oligochloruria usually accompanied the diminished functional capacity and also a pathologically high value for the figure representing the freezing-point divided by the percentage of sodium chlorid. At the same time the elimination of the achlorids was not reduced as a rule. Oligochloruria with its consequences occurred likewise when the organism was unable to eliminate much chlorin on account of inadequate intake or when the elimination in other ways was increased or the sodium chlorid was retained elsewhere in the body in dropsical effusions. We must distinguish, he adds, between a hematogenic or histogenic and the nephrogenic oligochloruria, the same as we distinguish between a hematogenic and nephrogenic oliguria and polyuria. Prolonged oliguria in the absence of anatomic renal affections and edema and not preceded by fasting, is generally normal. The kidneys work atypically, but they work sufficiently. This was observed in several cases of chronic interstitial nephritis. The impression was derived from this research that polyuria is a compensatory re-enforcement of the blood-cleansing function. The edema in such cases fre-

quently varies in strict correspondence with the behavior of "V." There seems to be a tendency in chronic nephritis to maintain the osmotic tension in the urine at the same point on different days.

Correspondenz-Blatt f. Schweizer Aerzte, Basle.

106 (XXXII, No. 20.) *Die Excochleatio uteri im Puerperium. E. Wormser.
107 *Ueber Gallenblasen (gall-bladder) Rupturen in die freie Bauchhöhle (abdominal cavity). M. v. Arx. (Commenced in No. 18.)
108 (No. 21.) Sitz Baths. B. Tschlenoff.—Die Sitzbäder; deren physiol. Wirkung und die Indikationen für ihre Anwendung.
109 Ueber operative Ablatio eines tiefsitzenden erweichten Myoms während der Gravidität. A. Labhardt.
110 Adrenalin. F. S. Hartmann.
111 (No. 22.) *Are We Doing Our Duty in the Campaign Against Tuberculosis as a Disease of the Masses? E. Fischer.—Thun wir unsere Pflicht, etc.?
112 Beitrag zur Casuistik der Traumen durch Elektricität. A. Halt.
113 Dispensing with the Syringe for Subcutaneous Injections.—Volland (Davos).—Die Entbehrlichkeit der Spritze zu subkutanen Injectionen von Heilserum und anderen Flüssigkeiten.
114 Neuer, einfacher, billiger und guter Rheostat. C. Schwalbe (Los Angeles).
115 (No. 23.) Die morphologische Grundlagen (foundations) der Blut-Diagnostik. C. Schindler.—Ein Résumé.
116 Report of International Congress for Medical Electrology and Radiology at Berne, September 1-6.

106. **Curettement of Uterus During Puerperium.**—Wormser tabulates 20 cases and reviews the literature on the subject of curetting the uterus during the puerperium. The results establish that the measure is not indicated in case of retention of membranes nor febris sub partu, nor as a therapeutic measure in case of fever. But it is required in case of hemorrhage, both the severe hemorrhages which follow in the first few days after delivery, and the protracted bleeding in the latter part of the puerperium, rebellious to ordinary measures. The curette must be wide and brutal force avoided. Under these conditions he deems the procedure not only radical and certain but also free from danger.

107. **Rupture of Gall Bladder into the Free Abdominal Cavity.**—A number of cases of subcutaneous rupture of the gall bladder have been operated on according to the literature, including the personal case described by Arx in this article. The symptoms are those of ordinary perforation, with the exception that there are no signs of sepsis. The onset of the collapse is not so sudden as in case of ordinary peritonitis from perforation. In the case personally observed there were no indications of collapse even twenty hours after the perforation was known to have occurred. The temperature was slightly febrile, and there was vomiting, meteorism and pain in the abdomen, in short all the symptoms of paralysis of the intestines, and still the general condition was comparatively good. The tongue was only moderately dry, and there was none of the appearance of distress and depression, the facies Hippocratica, no abrupt variations in temperature, no chills, no enlargement of the spleen. The pulse was strong and did not rise above 110. There was no icterus, no trace of it even in the eyes, and the urine responded normally to the Gmelin test. Between one and two hours after the rupture the gall bladder which had before been palpable, could no longer be distinguished, indicating that the contents had been poured out into the abdominal cavity, while the peritoneum was still free from irritation. The first signs of cholemia appeared the third day in each of the cases. Experimental research has shown that bile thus poured into the abdominal cavity is taken up by the lymphatic vessels and retained by them as a protection to the body, until these vessels become enfeebled and give up the bile to the blood. This occurs in animals in about twenty-four hours, but experience has shown that thirty hours usually elapse before it occurs in man. In the case reported a part of the bile secreted after the trauma found its way into the intestines and was evident in the stools by the fourth day. All the unoperated cases of subcutaneous rupture of the gall bladder terminated fatally sooner or later, while on the other hand, 10 cases treated by puncture alone recovered, and 3 after laparotomy and 5 after laparotomy and removal of gallstones. About 41.1 per cent. of the cases treated by puncture alone terminated fatally, and 20 per cent. of those treated by laparotomy. In Arx's case cystostomy was done, but he regrets that he made a median instead of a lateral incision, as he attributes the lingering of the fistula to the site of the incision. He concludes from his research and experiences that rupture of the gall bladder or biliary passages from the wearing away of the walls by gallstones is a very rare occurrence and seems to be limited to the female sex. The bile in the abdominal cavity is not in itself dangerous. The danger is from the absorption into the blood of the biliary acids. For this reason the bile should be evacuated so soon as perforation of the biliary passages is diagnosed. A laparotomy is preferable to mere puncture. He urges not to wait for symptoms of collapse but to operate at once, and recommends his practice of cleansing the abdominal cavity from the bile with hot saline solution. The peritoneum will bear the brief application of it at even 131 F.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume IV. December, 1902. Diseases of Digestive Tract and Allied Organs; Liver, Pancreas and Peritoneum—Anesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics—Genito-urinary Diseases—Diseases of the Kidneys—Physiology—Hygiene—Practical Therapeutic Referendum. Cloth. Pp. 422. Price, $1.50. Philadelphia and New York: Lea Brothers & Co. 1902.

A MANUAL OF MATERIA MEDICA AND PHARMACOLOGY, Comprising All Organic and Inorganic Drugs Which Are or Have Been Official United States Pharmacopeia, Together with Important Allied Species and Useful Synthetics, Especially Designed for Students of Pharmacy and Medicine, as well as for Druggists, Pharmacists and Physicians. By David M. R. Culbreth, Ph.G., M.D., Professor of Botany, Materia Medica and Pharmacognosy in the Maryland College of Pharmacy. Third Edition, Enlarged and Thoroughly Revised, with 473 Illustrations. Cloth. Pp. 916. Price, $4.75. Philadelphia and New York: Lea Brothers & Co. 1903.

THE PRACTICAL MEDICINE SERIES OF YEARBOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II. General Surgery. Edited by John B. Murphy, M.D., Professor of Surgery, Northwestern University Medical School. November, 1902. Cloth. Pp. 553. Price, $2.00. Chicago: The Year-Book Publishers.

ANATOMY. A Manual for Students and Practitioners. By William H. Rockwell, Jr., M.D., Formerly Assistant Demonstrator of Anatomy in the College of Physicians and Surgeons, Columbia University, New York. Series Edited by Bern. B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 70 Engravings. Cloth. Pp. 620. Price, $2.25. Philadelphia and New York: Lea Brothers & Co.

ATLAS AND EPITOME OF HUMAN HISTOLOGY AND MICROSCOPIC ANATOMY. By Privatdocent Dr. J. Sobotta, of Wurzburg. Edited, with Additions, by G. Carl Huber, M.D., Junior Professor of Anatomy and Histology, and Director of the Histological Laboratory, University of Michigan, Ann Arbor. With 214 Colored Figures on 80 Plates, 68 Text-Illustrations. Cloth. Pp. 248. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1903.

ATLAS AND EPITOME OF DISEASES OF THE MOUTH, PHARYNX, AND NOSE. By Dr. L. Grunwald, of Munich. From the Second Revised and Enlarged German Edition. Edited, with Additions, by James E. Newcomb, M.D., Instructor in Laryngology, Cornell University Medical School. With 102 Illustrations on 42 Colored Lithographic Plates and 41 Text-cuts. Cloth. Pp. 219. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1903.

SURGICAL ANATOMY AND OPERATIVE SURGERY. For Students and Practitioners. By John J. McGrath, M.D., Professor of Surgical Anatomy and Operative Surgery at the New York Post-Graduate Medical School. Illustrated with 227 Illustrations, Including Colors and Half-tones. Cloth. Pp. xiv-559. Price, $4.00 net. Philadelphia: F. A. Davis Company. 1902.

BOOK ON THE PHYSICIAN HIMSELF and Things that Concern His Reputation and Success, by D. W. Cathell, M.D. The Twentieth Century Edition, being the Eleventh Edition Revised and Enlarged by the Author and His Son, William T. Cathell, A. M., M.D. Cloth. Pp. 411, Price, $2.50 net. Philadelphia: F. A. Davis Company. 1902.

THERAPEUTICS OF DRY HOT AIR. By Clarence Edward Skinner, M.D., LL.D., New Haven, Conn.: Professor of Thermotherapy in the New York School of Physical Therapeutics. Cloth. Pp. 200. Price, $2.00. New York: A. L. Chatterton & Co.

BIOGRAPHIC CLINICS. The Origin of the Ill-Health of De Quincey, Carlyle, Darwin, Huxley and Browning. By George M. Gould, M.D., Editor of *American Medicine*. Cloth. Pp. 223. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1903.

TRANSACTIONS OF THE TWENTY-FOURTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, Held at Boston, Mass., May 26, 27 and 28, 1902. Cloth. Pp. 259. New York: Rooney & Otten Printing Co. 1902.

SEVENTEENTH BIENNIAL REPORT OF THE TRUSTEES, SUPERINTENDENT AND TREASURER OF THE ILLINOIS NORTHERN HOSPITAL FOR THE INSANE AT ELGIN, July 1, 1902. Paper. Pp. 83. Springfield, Ill.: Phillips Bros. 1902.

REPORT OF THE COMMISSION APPOINTED TO CONSIDER THE QUESTION OF A STATE SANATORIUM FOR CONSUMPTIVES. Paper. Pp. 74. Concord, N. H.: The Rumford Press. 1902.

BIENNIAL REPORT OF THE ALABAMA INSANE HOSPITALS, for the Years Ending September 30, 1901 and 1902. Paper. Pp. 40. Tuscaloosa, Ala.: Hospital Print. 1902.

RECOLLECTIONS OF THE OLD QUARTER. By Wm. S. Gordon, M.D., Cloth. Pp. 142. Price, $1.00. Lynchburg, Va.: Moose Bros. Co. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from Dec. 27, 1902, to Jan. 3, 1903:

Cattermole, Charles A., captain and asst.-surgeon, U. S. V., now at San Francisco, will proceed to his home, where he is authorized to await his honorable discharge from the service of the United States, Feb. 1, 1903.

Corbusier, William H., major and surgeon, U. S. A., on the expiration of his present leave of absence, will proceed to Fort Crook, Neb., and report to the commanding officer of that post for duty, to relieve Captain Paul F. Straub, asst.-surgeon, U. S. A., who, on being thus relieved, will proceed to San Francisco, and report to the commanding general, Department of California, for duty to accompany troops to the Philippine Islands.

De Shon, George D., major and surgeon, U. S. V. (captain and asst.-surgeon, U. S. A.), is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, and on arrival report by telegraph to the Adjutant-General of the Army for orders.

Lyster, William J. L., first lieut. and asst.-surgeon, U. S. A., is ordered to proceed to Ft. Wayne, Mich., for duty.

Russell, Frederick F., first lieut. and asst.-surgeon, U. S. A., is granted an extension of leave for fourteen days.

Stone, John H., captain and asst.-surgeon, U. S. A., is detailed as member of the examining board to meet at Ft. Leavenworth, Kan., vice Lieut.-Col. John Van R. Hoff, deputy surgeon-general, hereby relieved.

Thompson, Louis A., contract surgeon, U. S. A., is relieved from duty at Ft. Thomas, Ky., and will proceed to his home, Dayton, Ohio, and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Wells, George M., captain and asst.-surgeon, U. S. A., is relieved from further duty at Fort Wadsworth, N. Y., to take effect on the expiration of his present leave of absence, and will then proceed to Ft. Bayard, N. M., and report in person to the commanding officer, U. S. General Hospital at that post, for duty, to relieve First Lieut. Horace D. Bloombergh, asst.-surgeon, U. S. A., who will then proceed to San Francisco, and report in person to the commanding general, Department of California, for assignment to duty with troops en route to the Philippines, and on arrival at Manila, will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Willcox, Charles, major and surgeon, U. S. A., now at San Francisco, will proceed to Ft. Totten, N. Y., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the East, to relieve Major Edwin F. Gardner, surgeon, U. S. A. Major Gardner, on being relieved, will proceed to Ft. D. A. Russell, Wyo., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of Colorado, to relieve Captain William F. Lewis, asst.-surgeon, U. S. A. Captain Lewis, on being thus relieved and on expiration of the leave of absence heretofore granted him, will comply with the provisions of Paragraph 17, Special Orders, No. 276, Nov. 24, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 10:

Medical Director E. S. Bogert, retired, detached from the Naval Recruiting Station, New York, and to continue duty at Marine Recruiting Office, New York.

Medical Director T. Wolverton, retired, ordered to the Naval Recruiting Station, New York.

Asst.-Surgeon J. H. Holloway, commissioned assistant-surgeon from Sept. 26, 1902.

P. A. Surgeon J. A. Guthrie, detached from the *Yorktown* and ordered to the *Vicksburg*.

Asst.-Surgeon K. Ohnesorg, detached from the *Vicksburg* and ordered to the *Yorktown*.

Asst.-Surgeon A. E. Peck, detached from the *Annapolis* and ordered to the Naval Station, Cavite, P. I.

Asst.-Surgeon U. R. Webb, detached from the Naval Station, Cavite, P. I., and ordered to the *Annapolis*.

Medical Inspector F. B. Stephenson, retired from active service, on account of disability incurred in the line of duty, Jan. 3, 1903, to continue duty at Naval Hospital, Portsmouth, N. H.

Medical Inspector S. H. Dickson, detached from the *Iowa*, and ordered to the *Newark* as Fleet Surgeon of the South Atlantic Station.

P. A. Surgeon H. H. Haas, detached from the *Montgomery* and ordered to the *Prairie*.

P. A. Surgeon J. E. Page, detached from the *Newark* and ordered to the *Montgomery*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 8, 1903:

Surgeon Preston H. Bailhache, granted leave of absence, on account of sickness, for 30 days from January 6.

Surgeon H. R. Carter, leave of absence for three days from Jan. 5, 1903, under Paragraph 179 of the regulations.

P. A. Surgeon J. B. Greene, relieved from duty at New York (Stapleton).

P. A. Surgeon S. B. Grubbs, to proceed to Guaymas, Mexico, for special temporary duty.

Asst.-Surgeons H. B. Parker, R. H. von Ezdorf, and J. F. Anderson, to report to chairman of board of examiners at Washington, D. C., Jan. 12, 1903, to determine their fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon D. E. Robinson, relieved from duty at Seattle, Wash., and special temporary duty at Port Townsend Quarantine, and assigned to duty at Port Townsend Quarantine.

A. A. Surgeon J. M. Keyes, granted leave of absence for thirty days from January 5.

A. A. Surgeon F. F. Sams, granted leave of absence, on account of sickness, for thirty days from January 1.

Pharmacist F. L. Brown, granted leave of absence for ten days from December 25.

Pharmacist W. F. Schlaar, relieved from duty at Washington, D. C., and directed to proceed to Boston (Chelsea), and report to medical officer in command for duty and assignment to quarters.

RESIGNATION.

A. A. Surgeon J. M. Keyes, resigned, to take effect Feb. 3, 1903.

BOARD CONVENED.

Board convened at Washington, D. C., Jan. 12, 1903, for the examination of assistant-surgeons to determine their fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Asst. Surgeon-General W. J. Pettus, chairman; Asst. Surgeon-General G. T. Vaughan; Asst. Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended Jan. 10, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Dec. 20-27, 1 case; San Francisco, Dec. 21-28, 12 cases.
Colorado. Denver, Dec. 20-27, 3 cases.
Illinois: Chicago, Dec. 27-Jan. 3, 6 cases.
Indiana: Dec. 27-Jan. 3, Evansville, 1 death; South Bend, 1 case.
Maine: Biddeford, Dec. 27-Jan. 3, 26 cases.
Maryland: Baltimore, Dec. 27-Jan. 3, 1 case.
Massachusetts: Boston, Dec. 27-Jan. 3, 20 cases, 4 deaths; Cambridge, Dec. 27-Jan. 3, 5 cases; Chelsea, Dec. 26-Jan. 2, 1 case; Fall River, Dec. 27-Jan. 3, 3 cases; Lawrence, Dec. 27-Jan. 3, 1 case.
Michigan: Grand Rapids, Dec. 27-Jan. 3, 7 cases.
Nebraska: Omaha, Dec. 27-Jan. 3, 3 cases.
New Hampshire: Dec. 27-Jan. 3, Manchester, 8 cases; Nashua, 2 cases.
New Jersey: Camden, Dec. 27-Jan. 3, 3 cases.
New York: Dec. 27-Jan. 3, Buffalo, 1 case; New York, 4 cases.
North Carolina: Charlotte, Dec. 1-31, 126 cases, 21 deaths.
Ohio: Cincinnati, Dec. 26-Jan. 2, 7 cases, 1 death; Cleveland, Dec. 27-Jan. 3, 7 cases, 1 death; Dayton, Dec. 27-Jan. 3, 10 cases.
Pennsylvania: Dec. 27-Jan. 3, Altoona, 3 deaths; Erie, 5 deaths; Philadelphia, 15 cases, 1 death; Pittsburg, 16 cases, 7 deaths; Williamsport, 1 case.
Rhode Island: Newport, Dec. 27-Jan. 3, 1 case, 1 death; Warwick, Dec. 24-31, 4 cases.
South Carolina: Charleston, Dec. 27-Jan. 3, 4 cases.
Tennessee: Memphis, Dec. 27-Jan 3, 4 cases.
Wisconsin: Green Bay, Dec. 28-Jan. 4, 2 cases; Milwaukee, Dec. 27-Jan. 3, 4 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Oct. 1-31, 12 deaths.
Belgium: Ghent, Nov. 8-15, 1 death; Dec. 6-13, 2 deaths.
Brazil: Bahia, Nov. 29-Dec. 13, 12 cases.
Canada: Quebec, Dec. 20-27, 2 cases.
Ecuador: Guayaquil, Dec. 13-20, 3 deaths.
France: Marseilles, Nov. 1-30, 37 deaths.
Great Britain: Leeds, Dec. 13-20, 11 cases; Liverpool, Dec. 13-20, 56 cases; London, Dec. 6-13, 1 case; Manchester, Dec. 6-13, 3 cases.
Italy: Palermo, Dec. 6-20, 25 cases.
Mexico: City of Mexico, Dec. 14-28, 4 cases, 1 death.
Russia: Moscow, Nov. 29-Dec. 6, 4 cases; St. Petersburg, Dec. 6-13, 16 cases, 3 deaths.
Turkey: Constantinople, Dec. 7-14, 1 death.

YELLOW FEVER.

Colombia: Panama, Dec. 22-29, 4 cases.
Ecuador: Guayaquil, Dec. 13-20, 12 deaths.
Mexico: Dec. 20-27, Tampico, 14 deaths; Vera Cruz, 14 cases, 4 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Nov. 2-15, 184 cases, 124 deaths; Provinces, Nov. 1-15, 252 cases, 170 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Dec. 1-13, 82 cases, 64 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Dec. 11, 1 case, 1 death.

PLAGUE—FOREIGN.

Mexico: Dec. 31, 1902, Ensenada and Mazatlan, officially reported.

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Original Articles.

SOME UNAPPRECIATED CAUSES OF ANEMIA IN CHILDHOOD.*

W. C. HOLLOPETER, A.M., M.D.

Professor of Pediatrics, Medico-Chirurgical College; Pediatrist to the Medico-Chirurgical and the Philadelphia Hospitals; Attending Physician to the Methodist Episcopal and the St. Joseph's Hospitals.

PHILADELPHIA.

The time was when the child's physician was called only to the acute troubles of childhood, the chronic sufferer drifted on, handicapped by a host of physical imperfections until an acute disorder would terminate the child's life. In many cases of milder specific diseases the child is left to fight its way back to health, scarcely reaching, unfortunately, its original vigor.

DENTITION.

Primary dentition, a physiologic process, is often a time of ill health and suffering to the child, but when this is complicated by the administration of improper food, irregularly given, which sooner or later disturbs the child's balance, we frequently find the little patient markedly anemic at the end of this period.

For the last few years my attention has been constantly drawn to some of the unrecognized, or at least, unappreciated causes of anemia in growing children. We know the anemias of the acute diseases and specific blood changes; of these I do not wish to speak. I have long felt that the gastrointestinal tube was at fault more than the effect of irritating food, and that these conditions might be avoided if the child possessed a clean mouth and if its personal hygiene was all that we could desire.

DENTAL DECAY.

The great primal cause of anemia in children, and the factor least recognized and yet most prevalent, is dental decay. While the majority of children's physicians are alive to this source of infection, the mass of general practitioners pay but little attention to this important factor, and hence, not until the child becomes markedly anemic and has associated with it, by reason of this lowered resistance many complicating troubles, do they awake to a realization of its importance. Dental decay furnishes more cases of anemia, is more prevalent, is least appreciated of all the disorders of childhood. In a child from 6 to 10 years of age it is a very common thing to find teeth in an advanced state of decay, with a condition of pus formation and general septic involvement of the whole alimentary canal. Too little attention is paid to saving the first teeth. If careful attention is not given to them a general hyperemia of the oral cavity occurs, with numerous alveolar abscesses, which empty their pus contents into the stomach. Bad teeth prevent thorough mastication, and in this way contribute materially to a deranged gastrointestinal tract. A general catarrhal inflammation is created that renders the child irritable, provoking a severe trial to his disposition, if not changing his temperament, and thus laying a foundation for anemia which will require years of correct living to outgrow. I have watched a great many children at this age, during the period of second dentition, and have found their mouths, with few exceptions, in a septic condition. This pathologic condition could not exist in any other portion of the body without comment or immediate correction. It goes on, however, in about 90 per cent. of all children, at this age, uncorrected, unnoticed.

In children with weak digestion and irritable dispositions we are constantly correcting their habits or administering moral suasion instead of removing the pus generating, foul, decaying teeth. The surgeon will wash his hands and sterilize his patient before an operation on the mouth, jaws or stomach, yet at the same time the mouth of this patient will possess numerous pus-producing fountains. An interesting question to be settled by the physician in the future is to what degree the broken health or perverted disposition of children can be traced to decaying teeth with their contributing pus streams to the system.

It has long been a serious question whether gastrointestinal catarrh could ever be removed. If a septic oral cavity continues for several years we feel quite sure the individual can scarcely regain his usual vigor. A child thus loses the high standard he is entitled to because this essential of his growth is ignored. Nothnagel[1] calls attention to the following trite truth regarding catarrhal inflammation: First, a real cure of an acute catarrh can only be brought about through the regenerating processes going on in the organism or the affected tissues. Second, complete recovery is only possible in acute catarrh. The second point is especially emphasized and the assertion is made that a chronic intestinal catarrh is incurable. It is therefore of the utmost importance to prevent the acute catarrh from becoming chronic. This can be accomplished not so much by medication as by careful regulation of diet and régime and careful toilet of the teeth. With carious teeth in early childhood we will have imperfect digestion, and with defective digestion we will soon have gastrointestinal catarrh and its accompanying anemia. Second dentition is fraught with tremendous import-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

1. Praktitscheski Vratch, vol. I, No. 7.

ance; the rapid development of the whole body, especially the unstable nervous system, makes it a season of great watchfulness and not least among the many clashing elements to engage our attention are the teeth, rapidly undergoing decay and being replaced by new ones. Neglect of a proper toilet of the teeth will bring us stomatitis of every degree of intensity: ulceration sloughings, gangrene, pyorrhea alveolaris. In the jaws, by extension, we will frequently find periostitis, alveolar abscesses, necrosis; and in the soft parts in the neighborhood of the mouth, by continuity of structure, we find by reason of the septic condition of the mouth, recurrent tonsillitis, pharyngitis, otitis, glandular inflammation, cellulitis, and possibly meningitis by direct extension. The coroner of Philadelphia, a medical man, some years ago informed me in a conversation that fully 50 per cent. of the cases of death in young children falling under his observation were due to oral sepsis. This contribution to the anemias of childhood by reason of decaying teeth is, in my mind, preventable. Dr. William Hunter, in his admirable essay on oral sepsis, makes this startling yet unappreciated statement, that dental caries is the commonest and most prevalent infection in the body, and that this infection is of a mixed character, including not only the harmless organisms, but also the most active pathogenic blood poisoning organisms, namely, the streptococci and staphylococci.

NASAL STENOSIS AND MOUTH BREATHING.

The second unrecognized factor in contributing to the anemia of childhood is breathing through the mouth, due to nasal stenosis. Stenosis of the nose is a most frequent inheritance of the infectious diseases. Whooping cough, measles and influenza contribute a large percentage of such cases, the catarrhal inflammation having fastened itself on the mucous membrane of the nasal chambers during the process of the disorder, the hypertrophied turbinated tissue serving to block the channel. The careful toilet of the nose during the acute catarrh will serve to bring this tissue under control. The constitutional effect of mouth breathing is familiar to us all. The flattened chest, vacant look, open mouth, dull intellect, due to deficiency of oxygen to the system, must bring on anemia. This condition is quickly recognized by the specialist, but the children's physician should also early inform his patient so as to prevent it by careful and early training.

EYE STRAIN.

Another frequently unrecognized factor in producing anemia in growing children is eye strain. A child's school life is one of artificiality. They read in school with "political" print, poor light and defective ventilation; this has brought many children to wearing glasses. Some years ago in making a comparative study of letter press used in school books throughout the world, it was discovered that the German text afforded 10 per cent. more defective eyesight in the young than the English print. If correction of this eye strain could be quickly brought about we would save a long train of suffering for the young child; but for years the child is treated for catarrh of the stomach, headache and nausea and a long train of discomforts due to car riding or crowd sickness, while the unstable condition of the eye muscles is really at fault. Finally, the eyes are corrected and this long train of symptoms vanishes, not, however, until the nervous system has long been unbalanced, shocked by headache, and a train of toxemias, generated by the unstable system, has poisoned the blood and anemia is the result.

CONCLUSIONS.

From this brief outline I can conclude that the mouth in children is most frequently unhygienic, giving rise to gastrointestinal troubles; remote infectious diseases are common, including all troubles due to pyogenic organisms, as osteomyelitis, ulcerative endocarditis, empyema, suppurative meningitis, suppurative nephritis, not to exclude the more obscure septic conditions characterized by irregular fever, purpura, bleeding gums and various toxic conditions. Again, we must recognize the fact that there must be a limit to the power of the stomach to cope with a constant stream of pus pouring into it from the decaying teeth. The acid of the gastric juice may destroy the toxic influence for a time, but it is eventually overwhelmed and ill health the result. Again, asepsis of the mouth of the child (adult also) is as much to the physician as is asepsis to the surgeon—a necessity to life and health.

DISCUSSION.

DR. I. A. ABT, Chicago—This paper brings home to us very forcibly the need for the proper care of the teeth. However, so far as the causation of anemia is concerned, we must consider the subject in a broader sense. Secondary anemias are to be regarded as symptoms of a variety of diseases. While it is true that diseases of the upper intestinal tract may produce blood changes, still we must look for the cause of the anemias in some change in nutrition or metabolism or some more serious disorder in the disposition of the food or in some grave toxemia, which, perhaps, has its seat in the intestinal tract. By absorption through the lymph channels toxins may produce profound changes in the blood. When one calls dentition, decaying teeth and eye-strain causes of anemia there are undoubtedly some of us who dissent from such views.

DR. JOHN LOVETT MORSE, Boston—There is no doubt, of course, that dental caries and eye-strain may be causes of anemia in children. The author of the paper has, however, made a number of statements which I think it would be very difficult for him to prove. He says dental caries is the most common cause of anemia in childhood. How can he tell in a given child whether it is the decay of the teeth, inherited weakness of constitution or the environment, for example, which causes the anemia? How can he tell whether indigestion is secondary to decayed teeth, decayed teeth to indigestion, or both to improper food? I fear his argument is "*post hoc, propter hoc.*" Dr. Hollopeter tells us, moreover, that 90 per cent. of all children have dental caries, and yet I think that even he would not claim that 90 per cent. of all children have anemia. I think the pathologic changes do not, as a rule, go on in children to a chronic gastrointestinal catarrh; the condition is rather a disturbance of digestion, not a distinct catarrh. Again, I do not see how eye-strain can really "poison the blood"! If so, the process must be a very indirect one.

DR. J. C. COOPER, Philadelphia—I appreciate what the author has said regarding the fact that decay of the teeth frequently produces anemia. The child is naturally more rapid in chewing, and the toxic conditions may be contributing causes. I recall a case of a boy who had been suffering for some time with poor teeth, and who for some time previous to my seeing him had been in an anemic state. He had also contracted the tobacco habit, and although not quite 9 years of age he had begun to chew tobacco, in order, as he said, to relieve his toothache. This tobacco habit, with the gastrointestinal catarrh, made it impossible to cure him. He died of some meningeal inflammation of a peculiar type associated with malassimilation. It seemed to me that many anemic conditions could be explained by some form of nerve strain or nerve tax. I have seen a great deal of anemia in children who have been allowed or encouraged to take part in public addresses and public entertainments. Just what effect public speaking has on the nerve centers and digestive function is uncertain, but it certainly makes the child peevish and interferes with

its proper nourishment. Such a child becomes anemic. It is rather difficult to say how well a child can dispose of purulent conditions in the mouth. Experience would indicate that strong children can take care of a good deal of this. In my experience anemia has been usually associated with some perversion of the nervous system of the child together with improper food which should have been corrected early.

DR. A. C. COTTON, Chicago—Though appreciating the positions taken by Drs. Abt and Morse, I think we all agree with Dr. Hollopeter in some of his conclusions, and with the remark of the last speaker that anemia in children is not infrequently the result of poor hygiene. I believe it can be demonstrated that improved hygiene in such children will result in an improved condition of the blood. All will admit that a child suffering from dental caries is in a condition of poor hygiene, for perfect digestion of food can hardly go on under these circumstances. Again, adenoids or mouth breathing, by causing shallow respiration and insufficient oxygenation of the blood, undoubtedly lead to anemia. We have all seen cases in which after operations for increasing the capacity of the upper respiratory tract an improved state of the blood has resulted. We can not measure the infection from the gastrointestinal tract, but clinically we must respect the possibility of the decomposition of the gastrointestinal contents, with consequent intoxication. No one will contend, I think, that infection is compatible with good blood conditions, so that although all of the steps from the premise to the conclusion have not been established by Dr. Hollopeter, I believe all the statements made in the paper are demonstrable clinically.

DR. MORSE—I think my remarks were somewhat misunderstood. I do not deny that dental caries, interference with the air supply and even eye-strain may indirectly cause anemia; what I did dispute was the statement that dental caries is the most common cause of anemia in childhood.

DR. C. G. KERLEY, New York—My work for the past fourteen years has brought me a great deal among the out-patient poor in New York City, and among them I have met with a great many cases of anemia. In the majority of cases it has seemed that the anemia was dependent on improper feeding in the second year of life. We hear very little, indeed, about how the baby should be fed in this period, and this is usually left to the family or nurse. These children are often fed to a great extent on crackers and bread, and the milk is not of good quality. If we paid more attention to the feeding of run-about children, and saw that they were fed sufficiently on proteids and not too much on starches there would be much less anemia.

DR. J. P. CROZER GRIFFITH, Philadelphia—The speaker has not mentioned the fact, of course known to him, that rachitis, although extremely common in childhood, is constantly overlooked, and is an important cause of anemia. Since it also predisposes to the early decay of the teeth, it is possible that both the dental caries and the anemia are the result of the same cause, rather than that the former produces the latter.

DR. HOLLOPETER—I did not try to cover the whole ground in my short paper, and hence I endeavored to merely call attention to a generally neglected part of our work, i. e., the toilet of the child's mouth. The highest percentage of oral sepsis comes from England; if I remember correctly it was so stated by Dr. Hunter.

Carbolic Poisoning by Vaginal Douche.—At the Orleans Parish Medical Society meeting, Nov. 22, 1902, Dr. Fenner described a peculiar case of carbolic acid poisoning in hospital. The patient was being given a 2 per cent. carbolic solution as a vaginal douche, and while the nurse's back was turned, removed the nozzle, but on being admonished replaced it (as the nurse thought) in the vagina. Suddenly she collapsed and sank into unconsciousness, the pupils became contracted, the pulse thready and the patient had a number of convulsions. The interne being summoned and recognizing the probability of absorption per rectum dilated the sphincter ani. Thereon there was a gush of the carbolic solution, showing that the patient had placed the nozzle in the rectum instead of the vagina. Irrigations of magnesium sulphate were given and atropin in large doses administered hypodermatically. The patient recovered.

RETROPHARYNGEAL ABSCESS IN INFANCY.*

JOHN LOVETT MORSE, A.M., M.D.
Instructor in Diseases of Children, Harvard Medical School; Assistant Visiting Physician at the City Hospital and at the Infants' Hospital.
BOSTON.

Retropharyngeal abscesses are usually divided into two classes: primary, or idiopathic, and secondary. The secondary class is made up of those due to disease of the vertebræ and of those due to the direct extension of abscesses from neighboring parts. The primary form is infinitely the more common in infancy and is the only one to be considered here. The greatest number of cases occur between four months and one year; 83 per cent. of Bókay's cases were under two years and 75 per cent. of Holt's under one year.

ANATOMY.

The retropharyngeal lymph nodes form a chain on both sides of the median line of the pharynx extending from its upper portion to its junction with the esophagus. They lie between the prevertebral aponeurosis and the muscles of the pharynx. In infancy they drain the cavities of the cranium, pharynx, nose and middle ear. They are said to atrophy after the third year and in some instances to disappear entirely.

MORBID ANATOMY.

Enlargement of these lymph nodes is called retropharyngeal adenitis; suppuration, retropharyngeal abscess. This form of retropharyngeal abscess is that which is known as primary or idiopathic. Both retropharyngeal adenitis and abscess are very seldom truly primary, however, but are almost always secondary to inflammation of some of the cavities drained by these nodes. In some cases infection seems to follow inflammation of the mouth. The pathology is the same as that of adenitis and suppuration of the external cervical lymph nodes. Several nodes are usually involved in simple adenitis, but suppuration rarely takes places in more than one. Suppurative inflammation is accompanied by a cellulitis of the surrounding tissues. Very few bacteriologic examinations of these abscesses have been made. It is probable that any of the pus-forming organisms may cause them. Koplik, however, found streptococci in all his cases. Bókay has reported a case due to the tubercle bacillus.

Retropharyngeal abscess is, as already stated, always preceded by retropharyngeal adenitis. The symptoms of retropharyngeal adenitis are in no way characteristic, being very similar to those of nasopharyngeal catarrh. Fever is generally slight at first, but usually rises with the progress of the disease. Inspection shows nothing definite in the throat, but the enlarged nodes are easily felt by the finger. It is probable that resolution of these nodes, as of similarly inflamed nodes elsewhere, frequently takes place. There is little or no data on this point, however. Suppuration, when it occurs, usually develops in from five to six days. Originating as it does from a single gland situated to one side of the median line, the abscess is in the lateral wall rather than in the back of the pharynx.

SYMPTOMS.

The symptoms of retropharyngeal abscess are usually preceded by those of retropharyngeal adenitis, which, as already stated, are much the same as those of nasopharyngeal catarrh. With the advent of suppuration the

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*Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

temperature usually rises and becomes more irregular. The first symptom directly due to the abscess which is usually noted is unwillingness to take food or difficulty in swallowing. In the beginning this is probably due to pain, later to the mechanical obstruction of the tumor. Modification of the voice and difficulty in respiration next develop. These vary according to the location of the tumor. If the abscess is in the upper portion of the pharynx the cry is nasal and nasal respiration is chiefly disturbed. The mouth is kept open and the breathing is snoring and snuffling. If the abscess is low down the cry is laryngeal and the respiration is stridulous, like that in laryngeal spasm or stenosis. In these cases the respiratory murmur is diminished locally and many moist râles are heard. These may be due to a complicating bronchitis, but are usually the result of the interference with respiration. In the acute cases the head is held in a most characteristic position from the first, the neck being extended and the head turned to one side. In the subacute cases this may not appear for some time. Swelling of the lymph nodes at the angle of the jaw on the affected side soon develops and may become very marked. The following case is a very typical one:

Case 1.—Francis L. was nursed for five months. As his mother developed erysipelas he was taken off the breast and put on condensed milk. This caused a slight diarrhea and occasional vomiting. He also developed a "cold in his head." About a week after he was weaned he began to swallow with difficulty. A day or two later it was noticed that he kept his mouth constantly open and could not breathe through his nose. He was seen a week later. He was then taking almost no food and was unable to breathe at all with his mouth closed. He had lost much weight and strength. Both inspection and palpation showed a bulging of the left side of the pharynx, most marked in the upper portion, almost filling the throat. Incision let out about two drams of pus and afforded almost instant relief.

DIAGNOSIS.

Although the symptoms of retropharyngeal abscess are usually so characteristic they are very frequently misinterpreted. If the obstruction is high up they are most often mistaken for those of a simple pharyngitis or rhinitis. Sometimes diphtheritic paralysis is suspected. If the obstruction is low down they are often ascribed to laryngitis, catarrhal or diphtheritic. In a number of cases which I have seen, one of which is reported later, the signs in the lungs have caused the condition in the throat to be entirely overlooked and have led to the diagnosis of bronchitis or bronchopneumonia.

The chief reason that a retropharyngeal abscess is so often overlooked is that it is not thought of, and hence is not even considered in the differential diagnosis. Another reason is that inspection of the throat is trusted and palpation omitted. Inspection; however, is often insufficient and may lead to grave errors in diagnosis. In the majority of cases the tumor is visible, but not infrequently, especially if low down, it can not be made out. It can always be felt if present, although if it is situated low down the finger must be introduced very deeply. In no case in which the symptoms in any way suggest a retropharyngeal abscess should palpation of the throat be omitted. It causes the infant only temporary discomfort and may prevent very serious mistakes in diagnosis. The swelling is usually situated in the side of the pharynx, but may be at any level. It is either tense and elastic or fluctuating. If the condition is simply an adenitis the lymph nodes are felt as hard masses, round or oval in shape, and varying in size from that of a pea to that of a large bean. The examination of the throat is best made with a tongue depressor and not with a gag, as Snow had a case in a boy of 15 months in which death immediately followed the introduction of a gag. Holt had a similar case of asphyxia on the introduction of the gag, but his case recovered. The death and asphyxia were probably due to some disturbance of the vagus, as the abscess was not ruptured in either case.

In some rare instances a sudden attack of dyspnea may be the first symptom to call attention to the local condition. In others a small abscess may develop so insidiously as to cause neither general nor local symptoms. The following case is an example:

Case 2.—Charles P. was born Oct. 31, 1899. There was no history of syphilis in the parents and there had been no miscarriages. He was well for the first six weeks except that he had a purulent nasal discharge. He then had a discharge from the right ear lasting four days. About that time he began to have convulsions which continued up to the time of his entrance to the Infants' Hospital, Jan. 5, 1900, when nine weeks old. He had always had more or less disturbance of the digestion and had never gained properly.

He was small and flabby. His head was microcephalic. He had snuffles and kept his mouth open. He swallowed without difficulty. The ears showed nothing abnormal. The physical examination was otherwise negative.

He had no more convulsions and developed no new symptoms. The temperature was normal, and there was no increase in the rate of the pulse or respiration. On January 10, in the course of a routine examination preparatory to showing him at a clinic, a marked bulging was found on the right side of the pharynx. The abscess was opened on that day by Dr. Augustus Thorndike and a small amount of pus let out. A second opening was necessary on January 13. The throat was normal on January 16.

PROGNOSIS.

The prognosis depends largely on the treatment. In untreated cases the usual termination is death. Death may occur slowly as the result of progressive weakness or asphyxia, but more often suddenly from laryngeal spasm or some disturbance of the function of the pneumogastric nerve. The abscess seldom opens spontaneously. This happened but 19 times in Bókay's 144 cases. If it opens spontaneously into the pharynx death may result from suffocation or from a consecutive inspiration pneumonia. The pus may burrow in various directions. In some instances the carotid artery has been opened; in others the abscess has opened externally. In a number of cases it has discharged through the middle ear. In a five-months-old baby which I saw with Dr. Augustus Thorndike at the Infants' Hospital, it ruptured into the external auditory canal just external to the tympanum. The prognosis in cases which are properly treated, that is, by incision, is very different, however, the mortality in such cases being only about 5 per cent.

The following case is a fair example of the results of operation:

Case 3.—George T., 13 months old, began to refuse his food February 24. He was feverish and lost weight rapidly. He did not vomit and his dejections were normal. He was brought to the out-patient department of the Infants' Hospital on February 28, where the following note was made: Fairly developed and nourished. Pale. Puffiness of face under right angle of jaw and also of folds of neck. Tonsils large, but not markedly red. No exudate, no membrane. Percussion of lungs normal throughout. No bronchial respiration. Many coarse moist râles throughout both lungs. Looks septic.

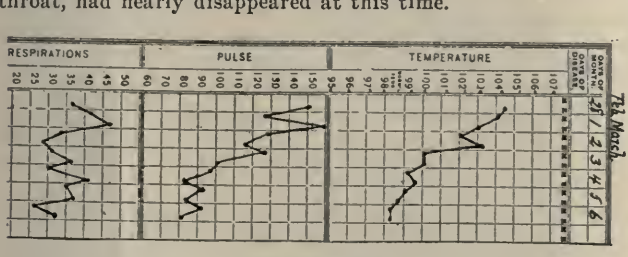
The diagnosis of bronchitis was made and he was admitted to my service the same day. The physical examination, made soon after, was, so far as it is important in this connection, as follows: Appearance septic. Puffiness about the eyes. Consider-

able general, soft, non-fluctuant swelling in the right neck from about the angle of the jaw, extending forward over the neck to just beyond the median line and downward over the clavicle. Respiration somewhat difficult. Movement of alæ nasi with respiration. Mouth open. No retraction of suprasternal, supraclavicular or intercostal spaces. Percussion of lungs normal. Respiration of normal character but diminished in intensity. Numerous moist rales throughout both chests, both back and front, many of them being transmitted from the throat. The throat was full of thick mucopurulent material which rendered examination difficult. Inspection showed swelling of the right tonsil and pharynx behind the tonsil. Palpation showed that the right tonsil was pushed forward by a swelling in the pharynx behind it. It extended downward to the level of the larynx.

A knife was introduced into this swelling and somewhat over a dram of pus evacuated. Respiration became easier at once. The neck was poulticed and vigorous stimulation begun.

The general condition was somewhat better on the next day. He still had some difficulty in swallowing, but breathed much better. The swelling in the throat was somewhat less, and not nearly as tense. The external swelling was unchanged.

On March 2 the lungs were clear, the swelling in the neck was much less and the swelling in the throat smaller. The cry was strong and the breathing nearly normal. On March 4 he swallowed without difficulty, and on March 6 sat up in bed of his own accord. The swelling, both of the neck and in the throat, had nearly disappeared at this time.



TREATMENT.

Cold applications to the neck are advised for the treatment of retropharyngeal adenitis. It must be very seldom, however, that this condition is recognized early enough to offer much hope for the success of abortive treatment. It is much more reasonable to endeavor to hasten the almost inevitable suppuration by the use of poultices and hot applications to the throat. Spontaneous evacuation should not be awaited. The abscess should be opened as soon as the evidences of suppuration are present.

Certain authors advise operation through the neck on the ground that an internal incision affords less efficient drainage, is more likely to close up and offers more opportunity for secondary infection. These arguments are undoubtedly correct. Drainage is less efficient in the internal operation, and second or even third incisions are sometimes necessary. The very favorable results of the internal operation show, however, that these objections are not important. Secondary infection is, moreover, extremely unusual. On the other hand, the external operation is a delicate one and requires a skilful surgeon and assistants, while the internal incision can be performed by any physician at any time without skilled assistance. Moreover, the external operation requires dressing and leaves a scar, while the internal calls for nothing but cleansing of the mouth and the occasional expression of the contents of the abscess with the finger.

The incision is best performed with the infant in the upright position. If it is tipped forward the instant the incision is made there is no danger of the pus entering the air passages. The knife should be guarded except at the point. A gag should not be employed because of the danger of sudden death from its use, but the mouth held open with the finger or a tongue depressor. The abscess should be squeezed once or twice a day with the finger in order to keep up drainage and to prevent the opening from closing. Repeated incisions are sometimes necessary. It is also well to wash out the mouth from time to time with some mild antiseptic solution.

DISCUSSION.

DR. I. A. ABT, Chicago—I have been, in times past, impressed with the relative rarity of this disease. It might be said, perhaps, that we do not recognize the condition, but those of us who have spent some time in the larger European cities, and particularly Vienna, know that it is almost of weekly occurrence to see these abscesses at the clinics. In my own city it has been rather rare to see these cases. In the past winter I saw a little baby in the children's ward of the Cook County Hospital suffering from respiratory obstruction. The mouth was open, the child was snuffling and there was more or less fever. It occurred to me that there might be a retropharyngeal abscess, and on introducing my finger I found a mass as large as a hickory nut lying to one side of the median line. I asked the hospital physician to make an incision, which he did on several occasions, but there was no discharge of pus. The case proved one of the non-suppurating variety of retropharyngeal adenitis. The mass disappeared in ten days or two weeks. In several cases that I have operated on a small incision has been made with a guarded knife, the artery forceps being used later to dilate the incision after the first escape of pus.

DR. ROSA ENGELMANN, Chicago—I should like to ask whether simple incision of a tubercular adenitis would cure that condition.

DR. J. LOVETT MORSE, Boston—I personally have never seen a case of primary tubercular retropharyngeal adenitis, and I have found only one case reported in the literature. About a month ago a gentleman in New York reported a case that he had seen. That case had been treated by incision, and had done well.

DR. F. E. FRONCZAK, Buffalo—Three or four months ago I saw a baby of about nine months with an abscess which I was about to open. As I pressed on the abscess preparatory to an incision it suddenly threw its head back and died despite all efforts at artificial respiration. I tried the Laborde and other methods of resuscitation, but in vain. I suppose that pressure on the vagi might have caused the death in this particular instance. I believe that the introduction of the finger and the pressure downward is dangerous on this account. Even if death does not ensue from the pressure on the vagi, there is always danger in holding the baby's head up, in the possibility that the pus may enter the trachea. I believe that the baby should be held head down.

DR. J. L. MORSE, Boston—I believe I mentioned the only two cases on record of sudden death in this class of cases, and in both of these a mouth gag was used. There is, of course, a certain element of danger in opening the mouth in the internal operation, but it does not count for much in comparison with the advantages of this operation.

DR. C. G. KERLEY, New York—In 1890 another case occurred in the New York Infant Asylum at Mount Vernon, N. Y. The case was reported by Dr. H. E. Tuley several years ago. I introduced my finger and made considerable pressure with the intention of opening the abscess, when the child suddenly stopped breathing. I promptly inserted an intubation tube and performed artificial respiration, the child being held head downward. That child recovered, and, so far as I know, is living to-day. I believe that the pressure made by the finger caused the abscess to disect downward, producing sufficient pressure on the larynx to obstruct the breathing. Intubation unquestionably saved the patient's life. I have seen ten or twelve cases of retropharyngeal abscess, one of them being a double abscess. This child came to me at the New York Polyclinic There was retropharyngeal adenitis on one side and an abscess on the other side, which we opened. Five or six days later an abscess formed at the site of the adenitis and was opened.

Dr. J. P. Crozer Griffith, Philadelphia—I wish to call attention to the great ease with which the diagnosis is made in the typical cases, and also to the very great tendency to overlook these cases because they are not thought of. The peculiar position of the head and the sputtering respiration are so characteristic that the attention should at once be directed to the possibility of retropharyngeal abscess being present. I was called a year and a half ago to one of the suburbs of Philadelphia to see a case in the practice of a very busy and able practitioner. He had never before seen an instance of retropharyngeal abscess, and consequently and naturally did not recognize it, although the aspect of the child was perfectly typical. In another instance the abscess was on the point of bursting externally, and yet the attending physician had never thought of examining the pharynx, as the affection appeared to be a submaxillary adenitis. This case was opened externally because it was pointing in this direction. A probe was afterwards easily introduced from the outside to the posterior wall of the pharynx. To neglect operation in cases of retropharyngeal abscess is a most serious mistake. When the operation is done it should be done thoroughly, a free incision being made and the opening being then dilated, so as to secure drainage. A small incision may easily close within twenty-four hours, allowing the symptoms to return. I have seen this filling up happen several times in the same case.

Dr. J. V. Kofron, Cleveland, Ohio—It seems to me hardly possible that pressure on the abscess is the cause of the sudden death in the cases reported. Dr. Kyle has, on several occasions, in my presence, cut the pneumogastric on one side during an operation, and this has not caused death or any severe shock.

Dr. Frank X. Walls, Chicago—It seems to me that children of the lymphatic constitution would be very apt to die in this way, and that perhaps this explains the sudden death in the reported cases. These abscesses would be apt to occur in such children, and the administration of chloroform or the throwing backward of the head is said to predispose to sudden death. In my opinion, the lymphatic constitution would explain the sudden death better than the theory of pressure on the vagus.

Dr. John Lovett Morse, Boston—I do not feel competent to answer this question, for I am rather skeptical as regards the lymphatic constitution. These cases are to me very obscure, and I do not feel satisfied with the lymphatic constitution as an explanation. In order to show how common retropharyngeal abscess is and how often it is overlooked, I may say that I have had three casesc of retropharyngeal abscess admitted to my hospital service in two days, the abscess not having been made out previously in any one of them.

SPONTANEOUS HEMORRHAGES IN NEWBORN CHILDREN.*

ISAAC A. ABT, M.D.
CHICAGO.

Hemorrhages into various tissues and organs and from mucous surfaces are observed in newborn children. Two varieties occur: 1, Traumatic or accidental hemorrhage; 2, spontaneous hemorrhage.

The traumatic or accidental hemorrhages are due to external causes. The pressure exerted on the head during a long sojourn in the narrow birth channel is one of the most frequent causes. The trauma thus incurred may give rise to hemorrhage between the pericranium and the cranial bones, causing cephalohematoma, or the hemorrhage may occur within the cranial cavity into the brain or meninges. The application of forceps is not an infrequent cause of intracranial hemorrhage. Spencer,[1] who had an opportunity to study 130 cases at autopsy, concluded that this was one of the most common causes of this deplorable accident. Nevertheless, the asphyxia which results during the birth of a child and the congenital weakness of the vessel walls must be regarded as predisposing factors in the production of hemorrhage. At times, however, the violence exerted by the use of the forceps, or the pressure on the head by the maternal parts is so great as to result in rupture of vessels of whatever strength.

Spontaneous hemorrhages are not caused by any injury received during the act of birth. The bleeding is apparently spontaneous in origin, and consists of an oozing from the smaller vessels, or of more extensive hemorrhage from the mouth, stomach, the bowel or the umbilicus. The hemorrhage may occur subcutaneously; it may issue from the nose, the ears, the conjunctivæ, the vagina or into any of the internal organs or serous cavities. The bleeding usually occurs from more than one location, though, in the milder cases, there may be but one bleeding point.

During the past few years I have seen a number of cases of spontaneous hemorrhage, either in hospital practice or in consultation. These records are more or less complete, those seen in hospital practice being the more carefully summarized.

Case 1.—Baby Johnson, born Feb. 2, 1900, male; weight, three pounds and four ounces, at birth. The child was immediately placed in the incubator. It was put to the breast at 3 o'clock the following morning, and nursed well. A hemorrhagic spot the size of a twenty-five-cent piece was noted over the spine at birth; small purpuric spots were also noticed, distributed over the entire face. After passing meconium, the child weighed three pounds and two ounces. Its maximum temperature on February 2 was 101.

On the day following its birth, some hemorrhage was noted around the child's navel; its skin seemed shriveled. The spot over the spine had increased to the size of a dollar. It passed a good night. Urine was highly colored and meconium had an offensive odor.

On February 4, the oozing from navel continued. The child's maximum temperature on this day was 101.1. Odor of stools still offensive. The hemorrhagic spot on back had increased to the size of a small saucer and covered the entire back. On this day there was hemorrhage from the nose, mouth and the vomitus contained blood. Child not able to nurse and was much jaundiced. February 5: The child had passed a very restless night and had cried as if in great pain. It was not able to swallow food, and the general oozing still continued. It died on the morning of this day, at 7:40 o'clock.

Autopsy.—The autopsy in this case was made by Dr. Alice Hamilton, professor of pathology at the Northwestern University Woman's Medical School. Her report is as follows:

Child is emaciated, skin jaundiced and wrinkled, abdomen prominent. A large purplish area occupies lumbar region and extends to sacrum; the scalp also shows a purplish discoloration. The umbilical cord is dry and a dry blood clot covers the stump of the cord. The thoracic cavity is empty, the thymus not enlarged, pleuræ normal. The lungs are smooth, crepitant; on the edges of upper right lobe are noted two small hemorrhagic spots, each the size of a bean; small hemorrhagic spots are also seen on the under and lateral surfaces of lower lobe of right lung. Throughout the lungs are distributed numerous tiny ecchymotic spots. The cut surface of the lung shows congestion. The pericardial sac is normal; the heart is apparently normal, the foramen ovale is closed. The abdominal cavity is empty, the liver is smooth, gall bladder empty. Cut surface of the liver shows greenish color; the lobular markings are indistinct. The spleen is hard, dark red in color, rather large; malpighian bodies prominent, capsules not thickened. Kidneys lobulated, yellowish green in color; the capsules slightly thickened, but strip off easily. A section of the adrenals shows congestion or hemorrhage in center; the margins are yellowish-green in color. The stomach is empty, showing small ecchymoses in mucosa. The intestines are partly filled with

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

semi-fluid, brownish matter. The large intestine shows ecchymotic spots. The bladder is full of urine and there are small pin-point ecchymoses into mucosa. The spinal canal is full of clotted blood, there are slight hemorrhages into meninges, the brain is very soft, but there are no gross lesions.

Histology.—The histologic examination reveals a parenchymatous inflammation of the kidneys, congestion and slight induration of the spleen, a deposit of newly-formed connective tissue between the lobules of the liver, congestion and hemorrhagic infarction of the lungs. The smallest vessels have been closely examined without detecting any pathologic changes in the vessel walls.

CASE 2.—Baby R., born March 6, 1901. Weight at birth, 2 pounds and 14½ ounces.

The mother of this child was about 17 years of age, unmarried. She had suffered an attack of pneumonia some three weeks prior to birth of child, and was still ill with bronchitis when admitted to hospital. She had made repeated attempts to produce an abortion during pregnancy. Labor was normal.

The child's skin was pale at birth; eyes were clear. A peculiar, circumscribed, white spot with a well-marked red border about the size of a three-cent piece, was noted on the left arm. It appeared as if carbolic acid had been dropped on the arm, thus bleaching the skin; this area was covered with fine scales. Similar spots were observed, one on the foot and two on the head. The thermometer only registered 93 at birth, and the child appeared quite lifeless. It was at once placed in the incubator and stimulants applied.

On the following morning the child's temperature was 98. It was fed a dram of mothers' milk every half hour. A hot bath was given and the child rubbed with oil. Its weight was now 2 pounds 13 ounces. A large quantity of urine was voided and its condition seemed good.

On the third day of its life it nursed from the bottle; it had lost an ounce in weight. On the whole, the infant did not appear quite as well as on the previous day.

On the fourth day the lowest temperature was 96 F.; in the evening it had risen to 101. The child nursed from the mother during the night, but during the day was fed with a spoon. It was noted that the child seemed weak during the morning and had lost three ounces in weight. On this day an oozing was observed from the roof of the mouth. The white spots previously referred to had disappeared.

On the fifth day of its life there was hemorrhage over the lower portion of the spine. The odor of the stools was markedly offensive. There was a good deal of hemorrhage from the mouth and styptics were used to control the same, without avail. The maximum temperature on this day was 99.6. Child did not take its nourishment well.

On the sixth day oozing of bright red blood was observed from the navel, which was the first bleeding from the cord noted in this child. The stools were very dark and contained blood. Gelatin was applied to the umbilicus and also to the mouth. It was fed mothers' milk with a medicine dropper, but did not take nourishment well. At noon the temperature dropped to 96 F. and at 7 p. m. of the same day it rose to 101.4. The umbilical oozing had become a severe hemorrhage and the stools were decidedly bloody. Hemorrhage also occurred from the nose, mouth and around the periphery of the umbilicus. A clot of blood was expelled from the bowel. Purpuric spots on the face were observed, which increased in size. A nitrate of silver solution was applied to the gums and a 2 per cent. solution of gelatin was given hypodermically; a compress of the same was placed over navel and subsequently a compress of sterilized vinegar was applied without effect.

On the eighth day of the baby's life it had lost an ounce in weight. Hemorrhagic spots were diffusely distributed over the skin and clotted blood was passed from the bowel. The child was very anemic, the extremities were cold and it seemed to be failing. A large clot of blood was passed from the nose. The temperature sank to 95.8 at one time, and did not go above normal on this date. One dram of gelatin solution was administered by mouth and fluid extract of ergot in 1 minim doses was given every two hours. The child was freely stimulated and the use of styptics was continued, but it gradually failed and died at 10 o'clock on the following morning.

Autopsy.—The autopsy was made by myself five hours after death. Skin extremely pale. The cord is dry around the periphery and the umbilicus gives evidence of recent hemorrhage. Large hemorrhagic area under the skin, on the posterior aspect of the left thigh and in the right thigh a similar hemorrhagic area, one and one-quarter inches long by one-quarter inch wide. This was the site of the subcutaneous gelatin injection. Over the sacrum a bluish-red hemorrhagic area the size of a dollar is seen; blood is also noted about the anal orifice. There is evidence of recent oozing from the nose. Lying subcutaneously in the loose skin of the neck, opposite the cricoid cartilage, is a clot of blood the size of a hickorynut. There are two hemorrhagic areas in the right lung. On the anterior surface of the lung, lying underneath the visceral pleura, is an irregular-shaped hemorrhagic area about the size of a three-cent piece; it resembles a small infarct. In both right and left lungs, numerous punctate and miliary hemorrhages occur. The lungs are not completely dilated; atelectactic areas are observed here and there. The thymus gland is normal in size and is the site of diffuse hemorrhage. There is no hemorrhage into the pericardium. The thyroid gland is normal in size and presents numerous punctate hemorrhages. Petechial spots are observed on the periosteum of the ribs. The long bones when cut vertically, show the evidence of syphilitic osteochondritis, fairly well marked. The stomach shows numerous minute hemorrhages into the mucosa; these vary from a pinpoint to a pea in size. The stomach was greatly dilated with air, which escaped when incision was made. There is considerable blood contained in the organ. The heart is negative. The intestines show numerous small hemorrhages into the mucosa. The liver is normal in size and color, but there are small hemorrhagic areas distributed over the surface of the organ. A small hemorrhage is observed in the tip of the appendix. The bladder is negative. The suprarenal capsules are the site of slight hemorrhages. The kidneys are pale, but otherwise negative. The spleen is somewhat enlarged and congested, and small hemorrhagic spots are numerous throughout the organ and on the capsule. The bones of the skull are negative, though hemorrhages are observed under the pericranium. The brain substance is pale and there are no large hemorrhagic areas noted in it, but some small petechiæ in the pia mater. There is slight diffuse injection of the pia mater.

Unfortunately, no histologic examination was made in this case. The bacteriologic examination gave us no results.

CASE 3.—The following case was seen in consultation with Dr. A. L. Freund of this city: A female child was born March 24, 1899, after a tedious, though otherwise uneventful labor. It seemed somewhat feeble after birth, though it cried normally and showed no gross lesions. When about thirty-six hours old, the child became intensely jaundiced, and soon thereafter severe hemorrhages occurred from the anus, mouth and vulva. The hemorrhages continued, the child became more and more exhausted and all attempts to control the hemorrhages by internal medication and by external applications, were futile. Death occurred on the fifth day of the child's life.

The etiology in this case is obscure. Dr. Freund suggests that the nurse was careless in the treatment of the cord, and fears that an infection may have resulted in this manner. In the family history lues is denied. The father had a slight pulmonary hemorrhage ten or twelve years before the birth of the child; he is, however, robust and appears to be in good health. The mother is a well-developed woman and appears to be in perfect health. In her childhood she is said to have had a severe bowel disease, which persisted for a long time.

CASE 4.—This case was seen in consultation with Dr. Edward Buel Hutchinson of this city. The child was delivered by Dr. Hutchinson, June 30, 1901. It weighed 8 pounds and 1 ounce. The position was l.o.p. The labor was prolonged and forceps were used because there was no advance of the head. Some difficulty was experienced in the labor and considerable maternal hemorrhage ensued. The membranes were incomplete. The fetal heart tones were 140 per minute and were strong. There was slight asphyxia at birth.

The father of this child is 42 years old, a hard drinker, but appears robust and claims to be in good health. He absolutely

denies syphilitic infection. The mother is 36 years of age, a primipara and in good health.

On the third day of the baby's life, the respirations were rapid, the temperature varied from 103 to 104, cyanosis was marked and the urine stained the napkins a pinkish hue. On the fourth day it nursed very little and did not seem as well.

July 4, the fifth day, the temperature continued high, purpuric spots were noted on the neck and chin and a few drops of blood exuded from the vagina. On the sixth day a purpuric eruption was seen distributed over the chest, trunk and extremities. It nursed poorly and bleeding was observed from the gums, vagina and rectum. On this day I was asked to see the child. Its respirations were rapid, it was intensely pale and exhausted, the heart's action was rapid and there was some cyanosis. The child did poorly from this time on; it lost steadily in weight, the bleeding continued from all the mucous membranes unabated, the hemorrhages into the skin increased in size and number. Convulsions occurred, followed by coma, and the child died on the eleventh day of its life.

Various local and constitutional remedies were employed in this case—subcutaneous injections of normal salt solution, suprarenal extract locally and internally, inhalations of oxygen. No autopsy was permitted.

CASE 5.—Baby B., born prematurely (7½ months), was brought to the hospital a few hours after birth and placed at once in an incubator. On its arrival its temperature was 102 and it weighed 4 pounds 5 ounces.

The mother of this child had been anemic for years. She had married five years before and this was her first child; at its birth she was about 24 years old. No specific history can be obtained from either father or mother.

The baby's maximum temperature on the second day of its life was 104.2. On the third day it was noticed that a small, greenish, offensive stool had been passed. The child was given small doses of calomel. The maximum temperature on this day was 103.4. The baby was bathed and was fed mother's milk with a teaspoon in dram doses every two hours. On the fourth day the stools continued very offensive. The child had lost nine ounces in weight since its birth. The temperature continued elevated on the fifth day; the child nursed from its mother.

On the sixth day, for the first time, hemorrhagic spots were observed on the face and on the body, varying in size from a millet seed to a pea.

The temperature was somewhat lower on the seventh day, and on the eighth day a hemorrhagic spot was observed over the lower portion of the spine. The bowel movements were offensive and temperature rose to 102. On the ninth day, it was stated that the loss in weight continued. It rested well during the night. The child was taken from its mother's breast and nursed by a wet-nurse.

On the tenth day a slight gain in weight was noticed, the child's condition seemed somewhat improved, and the hemorrhagic spots were less marked. I saw the child on this day, for the first time. Examination showed a greatly enlarged spleen, which was hard and reached almost to the anterior superior spine of the ilium. The liver was also enlarged.

On the thirteenth day of the child's life it was not nursing well, its temperature became subnormal during the night, though it slept well and cried little. It lost slightly in weight, the urine was highly colored, oozing was observed from the mouth, and the face assumed a cyanotic hue. Its general condition was not so favorable on this day.

On the fourteenth day the spots were much more marked and the child's skin and mucous membranes remained cyanosed. Purpuric spots were noted over the spine; there were several of these, which gradually coalesced to form a hemorrhagic area.

On the fifteenth day it had made a slight gain in weight; it passed a great quantity of urine and for a number of days the urine had been very scant. It was given citrate of potash every two hours. The child continued to do fairly well, the hemorrhagic spots gradually became paler, it took mothers' milk from the breast and left the hospital weighing 3 pounds 13¼ ounces. After reaching home it continued to improve, made a steady though slow gain in weight. It was placed on antispecific treatment, consisting of daily inunctions, which were continued for two or three months. When the child was about 4 months old, it was noted that a slight nystagmus was present in both eyes and that the head was gradually increasing in size. The child passed from under observation for six weeks; upon its return to the city, it was noted that a decided hydrocephalus had occurred. The spleen continued large.

The child is alive at the present day, the hydrocephalic condition shows a tendency to diminish.

CASE 6.—Baby H., born Sept. 12, 1901, female child. Labor normal. The maternal history is negative, though her first baby died from a hemorrhage from the navel. There is a slight suspicion of a luetic infection in the father, though this is not fully confirmed. The baby's weight at birth was 6 pounds and 8 ounces. The cord was tied in the usual manner at birth and it was soon noticed that a hemorrhage was occurring at this point. The cord was retied by the attending obstetrician. After he left the hospital, it was observed that the bleeding had not ceased and a third ligature was applied. The oozing still continued around the periphery of the cord and a firm compress dipped in a 2 per cent. gelatin solution was now applied to the navel. The temperature was not elevated on the day of the child's birth. On the following day a slight hemorrhage occurred from the nose, and the child vomited blood; its temperature fell to 96 F. Quarter-grain doses of chlorid of calcium three times daily were ordered, and 1 per cent. solution of gelatin was given three times a day in dram doses. The mother was given calcium chlorid.

On the third day of the baby's life the temperature was 96.4 and did not rise above normal all day. The crying was weak; the stools contained traces of blood. On this day a fresh hemorrhage started from the cord and a compress soaked in sterile gelatin was applied, after which the child was placed in an incubator.

On the fourth day it seemed to go into collapse; the skin was cyanotic, there was no more hemorrhage from the navel, the heart's action was very rapid and respiration was of a decidedly Cheyne-Stokes character. The child had muscular twitchings and convulsive seizures, there was dulness over the left lung posteriorly, with tubular breathing above and diminished breathing at the base. Fear was expressed that the baby would survive but a few hours. A slight quantity of blood was vomited.

On the fifth day the child was nursing, the hemorrhages had ceased and it appeared decidedly better. From this time on the baby improved; it slept well; the cord fell off on the ninth day without affecting the excellent condition of the child. Mercurial inunctions were employed. The baby left the hospital in good condition; it is now two months old and is progressing favorably.

CASE 7.—The following case was reported to me verbally by my friend Dr. Julius Hess, who had an opportunity to observe it fully while he was at the clinic of Escherich in Graz. The case was worked up by Dr. Kovalevsky, a Russian woman who was studying at the clinic.

The child was brought to the hospital on the third day of its life and placed in an incubator. It had been prematurely born and was poorly nourished. It was fed at the breast of a wet-nurse. Suppuration was noted at the insertion of the cord. About the end of the first week two small cutaneous hemorrhages were observed. These gradually increased in size and underwent discoloration. On the subsequent days of the child's life other ecchymoses appeared.

Examination.—At the time of the baby's death, the skin was of a deep yellow color, its continuity broken only by the stains of more recent hemorrhages. Blood examination showed a great increase of the white blood corpuscles; normoblasts and poikilocytes were present. Several specimens of blood were stained. In one, a whole colony of short, thick bacilli were observed, and in a second specimen a few scattering organisms of the same type were found. Cultures were made on blood serum, agar, gelatin and bouillon from the blood, and showed a pure culture of the same type of organism.

Autopsy.—The dura and meningeal vessels were the site of slight abscesses, most marked on the convexity. Some serosanguineous fluid was found in the pleural and cardiac cavi-

ties. The liver and kidneys were also the site of miliary abscesses and fatty changes. The spleen was enlarged and congested and the navel was the site of suppurative processes.

Bacteriology.—Cultures from the spleen, kidneys, liver and dura mater showed pure growths of the organism referred to above. Gelatin was not liquefied by this micro-organism. The indol test was negative. A mouse injected with one cubic centimeter of a twelve-hour bouillon culture died the next day. The organisms destained by Gram, and were agglutinated by serum from the child before its death. The organism, in accordance with the biologic and morphologic examinations, appeared to be a variety of the colon bacillus, notwithstanding the fact that the indol test was negative. The probable explanation of this rests on the fact that the colon bacillus produced abscesses, which we know it is capable of doing, and the absorption from the pus foci caused the hemorrhages secondarily.

CASE 8.—The following is from Dr. Lobdell's obstetric service at Cook County Hospital, Dec. 26, 1899:

The mother was a primipara, 19 years of age. She was unmarried and showed undoubted evidence of syphilitic infection. She admitted having contracted syphilis during pregnancy. The labor was protracted and difficult, lasting forty hours. The child weighed 3½ pounds at birth and it lived one hour.

Autopsy.—No caput succedaneum present. There is a quantity of clear red fluid in the peritoneal cavity, with masses of fibrous clots floating in it, and many small, subperitoneal clots are observed. The pleural cavities contain bloody fluid. Petechiæ are noticed under parietal pleura. There is a small amount of straw-colored fluid in the pericardial cavity. Petechiæ are seen in parietal layer of pericardium. Numerous hemorrhagic spots are observed under visceral pleura; on section, it is noted that the hemorrhage extends into lung tissue. Blood and frothy fluid exude from cut surface of the lungs. Foramen ovale and ductus arteriosus are patent. The spleen is markedly enlarged; three accessory spleens are present. A whitish patch is noted on capsule, which does not extend into structure of spleen. The kidneys are negative. There is an effusion of blood underneath the scalp. Petechiæ underneath pia mater. There is a large blood clot into falx cerebri and hemispheres of each side. A blood clot of considerable size is observed in the posterior fossa of the right side.

CASE 9.—The following case was observed in my service in the Children's Ward of the Michael Reese Hospital, Chicago:

The child was admitted to the hospital, April 13, 1901. It was somewhat older than those previously described, but it illustrates the septic nature of a proportion of these cases in such a striking manner that it is included in this report. The child was four and a half weeks old. The family history is negative. The mother reported that during the four weeks prior to its admission to the hospital it had been suffering from gastrointestinal symptoms; it vomited occasionally, had some diarrhea and cough. Three days before admission, the child was taken ill and went into a severe convulsion. It began to bleed from the nose and mouth. This condition persisted. On the day preceding its admission, the bowel movements contained dark, clotted and some fresh blood.

Examination.—A discharge of bright red blood from the anterior nares was observed. The pharynx was negative. The lips were pale, the mucous membranes were everywhere anemic. There was a discharge of blood from the right auditory meatus. An examination of the mouth showed small hemorrhages into the mucous membranes of the hard and soft palate. The heart and lungs were negative. The respirations were increased. The spleen and liver examinations were negative. A discharge of blood from the anus was observed; no purpuric areas were seen and there was no glandular enlargement. The following observations are recorded on the history-sheet the day after the child was admitted to the hospital: "Hemorrhage from the right ear and the anterior nares persists. The feces are stained bright red, though at times they contain dark, clotted blood. At other times the entire stool is of a dark red color. The intense anemia continues. The respirations are 84 per minute. The blood examination shows 41 per cent. hemoglobin, 19,200 white corpuscles, 1,975,000 red. Of the white corpuscles, 60 per cent. are large and small mononuclear leucocytes and 40 per cent. are of the polynuclear variety. The maximum temperature on this day was 102.6; pulse was 128."

On the third day after admission a noteworthy and, in many respects, remarkable change occurred. The temperature fell from 104 degrees at 9 o'clock a. m., to 99.4 at 12 p. m. The extensive hemorrhage ceased and the child seemed much improved. A discharge of pus from the right auditory meatus was observed at this time. The child was examined by Dr. George Morganthau, the aurist to the hospital, who reported a flow of blood from the right middle ear, a perforated eardrum and a discharge of fetid pus. Subsequently, a purulent discharge from the left ear occurred.

From this time on the child continued to improve, the mucous membranes assumed a more normal color and the hemorrhagic condition disappeared. Treatment of the ears was continued, under Dr. Morganthau's supervision, the child remaining in the hospital for this purpose, and was discharged May 5, having fully recovered.

CASE 10.—Louis M., aged 8 weeks, was admitted to my service at the Michael Reese Hospital, Feb. 7, 1901. Like the case previously described, it illustrates a class which is undoubtedly of septic origin, though it is somewhat older than the children that are usually described as suffering from spontaneous hemorrhage. The family history is negative. This is the only child.

The Illness.—Four weeks prior to admission, the child's mother noticed that it was restless and cried a great deal. She also observed an enlargement of the scrotum, which, according to her description, seems to have been caused by hydrocele. She consulted a physician who plunged a trocar into the sac, resulting in the withdrawal of several drams of colorless fluid. Since then, the scrotum had been enlarged, tender and swollen. The baby had been fed at the breast and had thrived.

Examination.—The temperature of the child on admission was 98.2; pulse, 152; respirations, 36. Examination showed spots on the right side of the face the size of barley grains. There was a continuous oozing of blood from the nares and from the mouth. The glands were not enlarged, the liver and spleen were palpable, the left testicle was swollen. In the right testicle the epididymis was large, could be easily palpated, but was not painful. The patient presented a subicteric and an anemic appearance. Auscultation of the lungs gave crackling râles, and roughened breathing was heard over both sides.

February 20, ecchymotic spots were observed on the hard palate. On the gums of the upper jaw, fissured areas were observed. These points were bleeding continuously. The tongue was also covered with small ecchymotic spots. The stools contained blood and the child vomited blood. Bleeding continued without interruption. The temperature, which on admission had been scarcely above normal, soon became high and irregular and the child gradually failed. The pulse and respirations were rapid and the child died February 21, having been in the hospital two weeks.

CASE 11.—A female infant born at full term of healthy parents, perfectly normal labor, was seen a few hours after birth with hemorrhages from the mouth and nose, numerous hemorrhagic areas under the skin and bleeding from the bowel. These persisted for three days, until the death of the child.

Autopsy.—The autopsy was made five hours after death. Skin, a light lemon yellow, mucous membranes pale. A slight discharge from vulva was noted, which began just after death. Bluish-black discoloration on back. Cord dry; stump appeared moist and was discolored by blood. Postmortem rigidity well marked. Muscular substance extremely pale. Thymus moderate size.

Left Lung.—Pale; posteriorly, subpleural, punctate hemorrhages, and some at the apex. The cut surface showed slight atelectasis, edema and some hemorrhagic areas. Right Lung.—Upper lobe pale; subpleural hemorrhages, lower lobe congested. Heart.—Pericardial sac empty; anemia; valves normal; no clots; very little blood; well-marked hemorrhages under visceral pericardium and over left ventricle. Liver.—Smooth, normal in color and size, glossy, shiny in appearance. Spleen.—Normal size, dark color, cut surface shows spleen soft, dark and brittle. Adrenals.—No hemorrhage.

Right Kidney.—Capsule strips with difficulty; slight hemorrhagic marks under capsule; cortical substance well marked. Pelvis slightly infected; no hemorrhages. Left Kidney.—Hemorrhagic spots in pelvis of kidney; cortex contains fine striæ, vascular markings; pelvis otherwise negative. Stomach.—Mucosa covered with dark, blood-stained mucus. Intestines.—Small intestines filled with blood, which is clearly adherent to mucosa. Mucosa blood-stained. Large intestine filled with blood.

Microscopic Findings.—(April 10, 1902.)—Kidney: Normal, except for small hemorrhage; no bacteria. Spleen: Pulp infiltrated with blood; malpighian corpuscles normal and free from bacteria. Small number of bacteria in pulp. Lung: Marked hemorrhagic area; small patches atelectatic; bacteria in blood vessels—none in tissue.

Bacteriologic Findings.—Cultures taken from heart, spleen, lung and liver at autopsy show pure cultures of *Bacillus coli communis*. No growth from umbilical vein. The colonies on both agar and gelatin corresponded to the typical colon bacillus. Indol reaction was very marked. Gas produced in glucose media; litmus milk acidified. The bacillus in all respects responded to the typical *Bacillus coli communis*.

These microscopic and bacteriologic examinations were made by Dr. Jean M. Cooke.

CASE 12.—Baby F. Age, 5½ months. Was delivered after an apparently normal labor, nursed shortly after birth, and was well until one month of age. The bowels were always constipated. When the child was 4½ months old, the mother noticed that it became restless and shortly after this it was observed that the child held its head a little to the left side. A week later swelling developed in the right side of the neck, which was undoubtedly an enlarged gland; this disappeared a short time before the final illness. Nine days before admission to the hospital (March 7, 1902), the child bled from the nose and began to vomit blood, and epistaxis occurred. This continued. Subcutaneous hemorrhages occurred at the same time. There is no history of hemorrhagic disease in the family and the heredity is otherwise negative.

The baby was sent to the hospital in order that the gelatin treatment and subcutaneous saline infusions might be tried. It had a temperature of 101.6 F. on admission, which rapidly rose to 103. Bleeding from the nose, mouth and throat continued, as did the vomiting of blood and the passage of blood by the bowels.

Shortly after admission, the child was given an infusion under the skin between the shoulders, of one and a quarter ounces of well sterilized, 2 per cent. gelatin solution. It was also given stimulants, saline infusion, one-quarter grain doses of suprarenal extract and a few drops of the adrenalin solution in the nose and mouth, in order to control the hemorrhage locally. Small doses of gelatin were given by the mouth. On the following day another subcutaneous infusion of gelatin was made. The child died on this day.

CASE 13.—The notes of this case were kindly furnished me by Dr. J. C. Hoag of Chicago, in whose service at St. Luke's Hospital the patient was treated. A female child, born at the hospital at full term, weighing 7 pounds and 10 ounces. On the third day the weight was 6 pounds and 14 ounces. On the fifth day it was observed that the temperature registered 101.4, the child did not nurse well, there were eight bowel movements with much blood intermixed. On this day the child was given 100 cubic centimeters of a 2 per cent. solution of gelatin subcutaneously. Some of the same solution was injected into the rectum. The child was extremely pale and feeble. On the following day bloody bowel movements continued. The subcutaneous injection of gelatin was repeated. The temperature ranged between 101 and 102. The seventh day a dram of gelatin solution was given by mouth thrice daily. No blood appeared in the stools and none appeared subsequently. Temperature varied between 103 and 105. On the eighth and ninth days the child showed great improvement, with a temperature varying between 99.5 and 100.5. On the tenth day the temperature again rose to 102 and it was observed that induration was present at the points where the two hypodermic injections had been made. On the twelfth day these areas fluctuated and were incised and drained.

From this time on the patient improved, no further bleeding occurred, the patient left the hospital weak and pallid, but improving. The child weighed 7 pounds and 1 ounce on the day it was discharged.

THEORIES AS TO ETIOLOGY.

Various hypotheses have been suggested as to the causal factors in spontaneous hemorrhage. Landau,[2] whose writings on melena are extensively quoted in the literature, is of the opinion that ulcers are produced in the stomach as the result of a somewhat indirect embolic process. The disease, he says, is frequently observed in weakly children who show signs of cyanosis at birth; in consequence of the delayed respiration and the weak heart action clots are formed in the umbilical vein, or in the ductus arteriosus. From one of these clots, Landau maintains that an embolus is broken off and passes through the right heart, the ductus arteriosus into the aorta, and, finally, lodges in an arterial branch which goes to the stomach, thus causing an area of infarction which very soon breaks down and ulcerates. Such a process has been observed by no other clinician than Landau, and the theory is no longer tenable.

Henoch,[3] in commenting on the theory of Landau, remarks that while ulcerations of the gastric mucosa are quite common in newborn children, melena occurs very infrequently; furthermore, that in those cases where multiple ulcers were found on autopsy, no hematemesis or bloody stools were observed. Exceptionally, he says, an ulceration may explain melena. In the majority of cases the condition is a constitutional one and the explanation of embolism is not satisfactory.

More recently, in 1892, Von Preuschen[4] and Pomorski[5] concludes that injuries to the head which result in the production of cerebral hemorrhages, especially in those cases in which the cerebral peduncles and the fourth ventricle are involved, act as causal factors in the production of spontaneous hemorrhages. These authors maintain that cerebral hemorrhages occurring in the locations described, interfere with the normal mechanism of the vasomotor center. These experimenters produced hemorrhages in rabbits by puncturing the cerebral peduncles and the third and fourth ventricles.

This explanation can not be considered as a satisfactory one in the majority of cases. Numerous autopsies have shown that multiple hemorrhages into the viscera, under the skin and from mucous membranes have occurred without any cerebral hemorrhage; on the other hand, numerous hemorrhages occur into the brain without the production of hemorrhage in other locations.

It has for a long time been maintained that congenital syphilis is responsible for a certain proportion of the cases of spontaneous hemorrhages. Behrend[6] believed that such children are usually prematurely born and die shortly after birth, or, at the most, live only a few weeks. The hemorrhages which he observed were multiple in character. He described a case where the child recovered from hemorrhage, but died later of hydrocephalus. Fischel,[7] who reviewed the work of Behrend, and examined very carefully a striking case, paying particular attention to the microscopic examination of the small vessels, could not agree with him as to the syphilitic origin of the condition. Mracek,[8] who examined nineteen cases of hemorrhagic syphilis, found changes in the blood vessels in 14 per cent. The changes consisted of endarteritis of the small and

medium-sized blood vessels in the submucous tissue of the alimentary tract, and this he considered evidence of the presence of syphilis. The most striking changes which Mracek found was in the capillaries.

In the cases which have been reported in this paper, Case 8 shows a history of syphilis in the mother. In Case 2 the osteochondritis and the presence of a pneumonia, together with the fact that the child was prematurely born and poorly developed, speaks in favor of a syphilitic infection. In Case 5 a syphilitic history is strenuously denied by both father and mother. One is, however, tempted to make a highly presumptive diagnosis of lues in this case. These cardinal facts are significant. The child was prematurely born, the spleen was greatly enlarged, there was recovery after antisyphilitic treatment, and a consequent hydrocephalus developed.

INFECTION AS AN ETIOLOGIC FACTOR.

In recent times the tendency has been to study these cases bacteriologically. Numerous observers have described micro-organisms which occurred in the disease. Klebs[9] described a micrococcus which he found in large quantities in nine newborn children, who had died of hemorrhage. These he injected into young rabbits and succeeded in inducing hemorrhage in them. His results were confirmed by Weigert,[10] Eppinger[11] and Brehn.[12] Babes[13] described a case of sepsis arising from the umbilicus. He isolated a micro-organism from the blood which resembled the pneumococcus. Kilham[15] and Marcelis[16] found in two cases a diplococcus which resembled the pneumococcus. Animal inoculation with this organism did not produce hemorrhage. Gaertner[17] isolated a short bacillus resembling in morphologic and cultural characters the typhoid and colon bacilli. J. P. Mapes,[18] quoted by Holt,[19] found in pure culture in the arteries, in the heart's blood and in the spleen, a bacillus which was apparently identical with that described by Gaertner. Baginski[20] reports a case of sepsis in a sixteen-day-old non-syphilitic child with multiple hemorrhages, in which careful bacteriologic examination showed the streptococcus pyogenes in pure culture, taken from various portions of the body. Neumann[21] describes two cases: one, that of a fourteen-day-old presumably syphilitic child. The bacillus pyocyaneus was demonstrated as present in the body juices, and it was found also microscopically in the liver, spleen and blood. In the second case, that of a six-week-old syphlitic baby with diffuse spontaneous hemorrhages, staphylococci and streptococci were present in the heart, blood, spleen and kidneys. Dungern[22] describes a short, plump bacillus, one or two microns in length and one-half as broad, which stained readily with gentian violet and showed the presence of a light capsule. These capsules remained after the micro-organism was grown on culture material, and proved pathogenic for white mice. Autopsy showed ecchymotic spots in lungs and on serous membranes, death having occurred in from forty to fifty hours. The bacillus resembles in morphologic and cultural characteristics the bacillus of Friedländer. It is also recorded that while this child was in the ward three infants died of pneumonia.

In my series of cases bacteriologic findings were not obtained in every case. The two cases in older children presented all the evidences of septic infection, and are of great interest; they verify the opinions of previous writers on this subject, that a certain proportion of spontaneous hemorrhages are due to sepsis. The case which was verbally reported to me from the Escherich clinic, as well as Case 11, are undoubted examples of colon bacillus infection. A study of a number of these cases impresses one at once with the fact that this disease may be caused by a variety of conditions. It becomes apparent, as we proceed in our analysis of the cases, that no one causal factor is responsible for hemorrhagic diathesis in infants as some writers would seem to infer. It is not probable, in my opinion, that any specific micro-organism will ever be discovered as the sole cause of hemorrhagic disease in newborn children. We should rather regard the hemorrhage as a symptom of any one of a number of infections. The explanation of the fact that infants show a readiness to bleed, should be sought in certain peculiarities of the blood-vessel walls, in abnormal states of the blood, or both, and we might infer that the porosity of the vessel walls is increased in these conditions or that the tendency of the blood to clot is diminished. Examinations of the blood have not shown any changes in its chemistry or morphology. Future research in the etiology of this disease should be directed along the line of histologic examination of the minute blood vessels, contemplating also conditions governing the clotting of the blood.

SUMMARY OF CLINICAL MANIFESTATIONS.

The disease is not of frequent occurrence. In the large foreign clinics, as well as in American obstetric hospitals, the frequency varies from one case in 500 to one in 700 births. The family history may be taken into account. In Case 8 there was a positive history of syphilis. In Case 2 the mother admitted having made frequent attempts at abortion and had suffered from a pneumonia late in the pregnancy. In Case 4 the father was a hard drinker, and in Case 3 the father had suffered from a pulmonary hemorrhage several years before the birth of the child. In Case 5 the mother had suffered from a life-long anemia, and in Case 6 the mother had previously given birth to a child that died of hemorrhage. The admission of a luetic infection, of a pneumonia shortly before birth, of frequent attempts to bring about abortion, should all be regarded as significant, though their relation to the condition under consideration would be hard to establish.

In the newborn children two cases showed signs of hemorrhage at birth, one on the second day, one on the fifth day, two on the fourth day and one on the sixth day; the two septic cases included in this paper showed no signs of bleeding until after the fourth week. The sites of hemorrhage were: Umbilicus, 3 times; under skin, 6; from nose, 4; mouth, 7; stomach, 2; vagina, 2; bowel, 5; ear, 1.

In the larger number of the cases of bleeding from the umbilicus, the flow was of a slow oozing character. In one case a profuse flow occurred, which tended to recur at intervals. The hemorrhages under the skin were in some cases small purpuric spots, but in one case a single spot covered the back. The hemorrhages from the nose were of a slight oozing character; those from the mouth were, for the most part, slight. In several cases ecchymotic spots were observed on the soft palate, and in one case there was a decided fissure on the gums of the upper jaw, from which a continuous hemorrhage occurred. It is interesting to note that hemorrhage from the stomach occurred twice, while hemorrhage from the bowel occurred five times. The blood from the stomach was always of a dark red color. From the bowel the blood was usually dark, it was sometimes clotted and in one case bright red blood was discharged. Hemorrhage

from the female genitalia is of frequent occurrence in cases where there is no hemorrhagic diathesis present; the hemorrhage from the vagina in both our cases was profuse. Hemorrhages from the male genitalia were not observed in any of the cases, nor was there a case of hemorrhage from the bladder. The hemorrhage from the ear, observed in the septic case, was associated with hemorrhage from the mouth and nose, and was the manifestation of a septic condition originating in the middle ear.

Temperature in one of our cases continued subnormal throughout the entire illness; this child recovered. In another it continued elevated, rising as high as 104, and this child recovered. The temperature in another varied between 93 at birth and 101.4; on the fourth day it ranged between 96 and 101.4, constituting a very irregular temperature. With one exception, however, all of the children showed exacerbations of fever.

Cyanosis occurred in two of our cases as a late manifestation. All of the children showed a loss of weight. A few of the cases were icteric, and in one the icterus was intense. The icterus in the mild cases was undoubtedly of physiologic type. In one of our septic cases the disease was ushered in by a convulsion. In another, convulsions occurred shortly before death, and in one child that recovered convulsions and muscular twitchings were prominent symptoms.

It is worthy of note that the evacuations from the bowel were very offensive in odor before the hemorrhage was observed; this observation was made in the majority of our cases.

Is the quantity of blood lost sufficient to cause death? From my own experience, I should say that whereas in some cases the loss of blood continued for several days, in the majority of cases it has been inconsiderable and not sufficient in quantity to cause death. We must rather ascribe the cause of death to a general toxemia, whether it be acute, as a sepsis, or chronic, as a luetic infection. The loss of blood in these cases should no more be considered the cause of the lethal result than would the purpuric spots in a morbus maculosus, in a case of cerebrospinal meningitis with purpura, or the expectoration of rusty sputum in the pneumonia of an adult. No case of hemophilia occurred in our series; indeed, all observers are agreed that this disease is extremely rare during the first few days of life—the hemorrhagic disposition does not show itself till the end of the first year of life. The hemophiliac tendency is frequently hereditary, it occurs after slight or severe traumata. Children who suffer spontaneous hemorrhages, such as form the subject of this paper, if they recover, do not show a disposition to recurrent bleeding on recovery.

TREATMENT.

If we have learned anything from our group of cases concerning the treatment of this disease, we may formulate it as follows:

1. Internal remedies, as ergot, tincture of chlorid of iron and extract of suprarenal gland have absolutely no influence on the progress of the disease.

2. The local treatment of the disease by styptics of whatever kind, packing with gauze (as when the hemorrhage occurs from the vagina), and even the local application of suprarenal gland extract, are without permanent influence on the intensity or duration of the hemorrhage.

3. The ineffectual use of gelatin in Case 12 led us to do some experimental work on normal children with gelatin. While it is true that two of our cases recovered (Nos. 6 and 13) after the use of gelatin, this may be due to a mere coincidence, or to the undoubted power which gelatin certainly possesses to coagulate the blood of bleeding surfaces. The method of using the gelatin is as follows:

A pad of sterile gauze, or a compress, may be soaked in a 10 per cent. gelatin in normal salt solution and applied to the bleeding area. A small amount of bichlorid of mercury may be added to this solution. Its preparation must include careful sterilization. A 2 per cent. gelatin in normal salt solution may be given subcutaneously. This should be sterilized repeatedly—that is, for three successive days. The peptone which is ordinarily added to gelatin for culture material should be omitted, as it counteracts the coagulating effect of the gelatin. From 25 to 50 c.c. of this solution may be given subcutaneously to a newborn infant, and may be repeated once daily.

EXPERIMENTAL GELATIN INJECTIONS IN CHILDREN.

The normal children on whom the treatment was tried were as follows:

Normal Case 1.—A little girl of 4 years, feeble-minded, who was taken into the hospital on account of malnutrition. On the 28th day of her stay in the hospital, she was given a subcutaneous infusion of two ounces of 2 per cent. gelatin solution. Very shortly thereafter the temperature rose to 100.2, followed by another rise to 101; the pulse increased gradually from 92 to 140, and the respirations from 24 to 36. The child was extremely restless, greatly prostrated and the extremities were cold. This condition of affairs continued for 24 hours, when the temperature gradually fell to normal and the pulse and respirations likewise.

Normal Case 2.—W. B. A boy, 9 years old, who was receiving treatment at the hospital for equinovarus, was given three ounces of gelatin subcutaneously, at 9 o'clock in the morning. The temperature very soon rose to 101, pulse to 120 and the respirations to 30 per minute. The child was extremely restless and showed symptoms of a sudden toxemia.

Normal Case 3.—Baby B., aged 22 months. Two ounces of gelatin were injected subcutaneously, which caused alarming symptoms of prostration and collapse, with an elevation of temperature and an acceleration of pulse and respirations.

EXPERIMENTS ON RABBITS.

In this experimental work on children the gelatin used was of the best quality, it was sterilized in the most careful manner, and the best proof that it contained no micro-organisms was that in no case did any abscesses result. It was not deemed wise, however, owing to the grave symptoms of toxemia which resulted, to carry on the work any longer with children, and, therefore, a few rabbits were injected.

Experiment 1.—A rabbit weighing five pounds was given an injection of 60 c.c. of gelatin subcutaneously, March 23, 1902. A few drops of blood taken before the injection showed that the clotting time was 48 seconds. Several drops of blood taken on the day following the injection showed that it clotted in 12 seconds; also, that it clotted quickly over the bleeding point and the hemorrhage was not very active. It was noted that shortly after injection the temperature fell very markedly, though it was soon found that the temperature of the rabbits varied with such wide limits that no reliance could be placed upon it. The 60 c.c. of gelatin did not cause the rabbit any great discomfort, notwithstanding that the same dose was given every other day for a week.

Experiment 2.—A second rabbit was given 28 c.c. March 22. On March 23, it was given 30 c.c. of a 5 per cent. solution of gelatin. This last injection caused the rabbit to lie still, apparently sick. On March 25, 60 c.c. of a 5 per cent. solution were given. He became very quiet again, the blood clotted in from 12 to 15 seconds. March 26 this dose was repeated.

After this injection the rabbit did not eat, but lay in a crouching position, breathing rapidly. On puncturing the ear the wound bled slowly and the blood coagulated in 7 seconds. April 2 the same rabbit was given 250 c.c. of a 5 per cent. solution of gelatin. On the following day he refused food, the respirations were rapid and he was very restless. On the 11th the rabbit was given 500 c.c. of a 5 per cent. gelatin solution. The injection was made about 5 p. m., and the rabbit died during the night. The autopsy was made 18 hours after death. The rabbit, during the time of experimentation, had lost greatly in weight, but no demonstrable lesions were apparent.

Experiment 3.—The rabbit used in this experiment was injected with 500 c.c. of a 5 per cent. gelatin solution. After the injection, the rabbit remained quiet and died three hours afterward.

CONCLUSIONS.

The following conclusions are undoubtedly justified:

1. Subcutaneous injections of sterilized gelatin solution are capable of producing toxic symptoms in children.

2. Large doses of a 5 per cent. solution of gelatin caused the death of rabbits.

The explanation of the toxemia produced by the gelatin is not very far to seek, when one recalls that the gelatin is manufactured from the bones of animals. The decomposition which takes place in these bones gives rise to cadaveric poisons. The resulting gelatin is a complex chemical substance, the exact nature of which is unknown to experts. While it is undoubtedly allied to proteid substances, nevertheless it is not distinctly proteid. Its nutritive value and the changes which it undergoes during digestion have not been determined chemically. The nature of the toxic substances that produced the elevation of temperature, the general condition of prostration and collapse in our patients, we should regard as ptomains. That these ptomains are contained in the gelatin may be inferred from the method of manufacture which has already been alluded to. It is a well-known fact that ptomains may be contained in solutions which are subjected to high degrees of heat, the latter not altering their chemical nature nor their toxic properties. The gelatin of commerce is usually acid in reaction, and this acidity is said to be due to bleaching agents employed, either sulphurous acid or chlorin. The acidity of the gelatin seemed to exert no influence, for in the gelatin neutralized by the addition of alkali, reactions occurred in the same manner.

From these considerations the matter may be briefly stated:

1. Sterilized gelatin injected subcutaneously contains toxic products.

2. These products are probably ptomains.

3. No further proof is needed that gelatin causes more rapid coagulation of the blood when it is exposed to the air.

4. It would be difficult to state what a safe dose of gelatin should be, given subcutaneously to a newborn infant.

5. The local use of gelatin and the use of gelatin by the mouth are warmly recommended and no objection can be urged against their use.

It is almost needless to say that in cases where syphilis is suspected a vigorous antisyphilitic treatment should be instituted in accordance with the methods usually employed for infants.

BIBLIOGRAPHY.

1. Spencer, H. R.: "Visceral Hemorrhages in Newborn Children," Trans. of the Obstetrical Society of London, vol. xxxiii, 1891; also, "Hematoma of the Sternomastoid Muscle in Newborn Children," Journal of Pathology and Bacteriology, October, 1892.
2. Landau: "Ueber Melaena Neonatorum," Diss., Breslau, 1874.
3. Henoch: Vorlesungen.
4. Von Preuschen: Centralb. f. Gynaekol., 1894.
5. Pomorski: Arch. f. Kinderheilk., Bd. xiv, 1892, S. 165.
6. Behrend: "Hemorrhagische," Deutsch. Zeitschrift f. Prakt. Medizin, 1878, Nos. 25 and 26.
7. Fischl: Arch. f. Kinderheilk., Bd. viii, 1886.
8. Mracek: Vierteljahresschr. f. Dermat. u. Syphilis, H. i, 1887.
9. Klebs: Boston Medical and Surgical Journal, 1891; Archiv f. Experiment. Pathol. und Pharmakol., Bd. iv, p. 473.
10. Weigert: Ueber eine Mykose bei einen Neugeborenen Kinde (53 Yahres bericht d. Schlessischn Geselishaft f. Vaterland Kulter, 1875); also, Oesterr. Jahrb. f. Pediatr., 7ten Jahrng., 1876, p. 98.
11. Eppinger: Boston Medical and Surgical Journal, 1891; Prager Med. Wochenschr., 1877, No. 39.
12. Rehn: Centralbl. f. Kinderheilk., 1878.
13. Babes: Bakter. Untersuchtüngen über Septische Prozesse des Kindesalters, Leipzig, 1889.
14. Buhl: Klinik d. Geburtskunde, Leipzig, 1861.
15. Kilham: Archives of Pediatrics, 1899.
16. Marcelis: Ibidem.
17. Gaertner. J. P.: Arch. f. Gynaekologic, 1893-1894.
18. Mapes: Quoted by Holt.
19. Holt: Diseases of Infancy and Childhood, 1896.
20. Baginski, A.: Virchow's Arch., 1889, Bd. cxv.
21. Neumann, H.: Arch. f. Kinderheilk., Bd. xii, 1891, p. 54.
22. Dungern: Centralb. f. Bacteriol., 1893, Bd. xiv, No. 17, p. 547.
23. Ashby: Brit. Med. Journal, 1890, vol. i, p. 281.
24. Bar: Rev. Gen. de Clin. et de Ther., Nov. 29, 1893.
25. Billard: Traite des enfants nouveaunes et a la mamelle.
26. Blumer: "Hemorrhage in an Infant, Due to the Typhoid Bacillus," JOURNAL A. M. A., vol. xxv.
27. Bourrus: Sajous' Annual, 1895.
28. Busey: Am. Jour. of Obstetrics, vol. xxiii, No. 5, 1890.
29. Conroy: Sajous' Annual, 1895.
30. Demelin: Grancher's Traite des Maladies d. l'enfance, 1897, ii.
31. De Quervain: "Zwei fälle von hämorrhagischer Bakter des Neugeborenen," Centralb. f. Bakteriologie, Bd. xii, 1893, p. 577.
32. Dusser: "Des hemorrhagies gastrointestinales chez les nouveaunes," Thèse, Paris, 1889.
33. Eppstein: Jahrb. f. Kinderheilk., 1876.
34. Eröss: Archiv f. Kinderheilk., Bd. xiii, 1891, p. 172.
35. Fairbrother: St. Louis Courier of Medicine, March, 1891.
36. Grandidier: Jour. f. Kinderkrankheiten, May, 1859, p. 380.
37. Huebner: Gerhardt's Handbuch Supplement.
38. Hermary: Jour. de Clin. et Ther. Enfant., March 4, 1897, p. 93.
39. Jenkins: "Report on Spontaneous Umbilical Hemorrhage of the Newly-born," Trans. of the Am. Med. Asso., vol. ii, 1858.
40. Kling: Ueber Melaena Neonatorum. Diss. München, 1875.
41. Legg, Wickham: Bile, Jaundice and Bilious Diseases, London, 1880, p. 315.
42. Leyden: Beitrage zur Pathol. des Ictorus, Berlin, 1866, p. 100.
43. Mackey, J. C. H.: Arch. f. Experiment. Pathol. und Pharmakol., Bd. xix, 1885.
44. Menger: Sajous' Annual, 1889.
45. Orlowski: Thèse de Paris, 1897.
46. Oui: Rev. Prat. d' Obstet. et de Paediat., January and February, 1897.
47. Rehn: Centralb. f. Kinderkrankheit, 1878, p. 227.
48. Ribemont: "Des hemorrhagies chez le Nouveaune," Thèse Paris, 1880.
49. Reynolds, W. W.: "Intracranial Hemorrhage in the Newborn," Phil. Med. Jour.
50. Ritter: Oestereich Jahrb. f. Pediatrie, Bd. 2.
51. Roger: Gaz. des Hôp., No. 66, 1887, p. 525.
52. Romme: Arch. de Tocologie, 1895, p. 25.
53. Runge: Krankheiten der erstere Lebenstagen, 2te Aufl., 1893.
54. Schaffer: Centralb. f. Gynakol., No. 22, 1893.
55. Tavel: "Zwei fälle von hamorrhagischer Bakter des Neugeborenen," Centralblatt f. Bakteriologie, Bd. xii, 1893, p. 577.
56. Thomson, J.: Edin. Med. Jour., January, 1892, p. 614.
57. Townsend: Archiv. Pediatry, 1894, p. 557.
58. Von Kurisch: Oesterreiche Medicinische Wochenschrift, 1842.
59. Weber: Beiträge zur Patologischen Anatomie d. Neugeborenen, Kiel, 1854.
60. Ziemssen: Pathologie und Therapie, Bd., vii, 2.
61. Kovalevsky and Moro: Klin. Therapeut. Wochenschrift, 1901.

DISCUSSION.

DR. ROSA ENGELMANN, Chicago—I was glad that Dr. Abt emphasized sepsis as a most probable cause of these conditions. It might be well, if the opportunity arose, to make inoculation experiments to get a better classification and etiologic knowledge on this subject. However, back of the sepsis there is probably a condition which makes these children liable to sepsis. One of these is, of course, syphilis. In the larger number of the cases reported in the paper the hemorrhage occurred immediately after birth. It has not been my fortune to see these early cases, but only those in children of from six to nine months of age, and in which syphilis evidently was a factor.

DR. E. H. SMALL, Pittsburg—At the meeting in Atlantic City I reported a case of this disease.[1] This baby, the first one, was born of apparently healthy parents after a difficult forceps operation. When it was 31 hours old I was summoned by telephone and informed that she had passed too much meconium and had thrown up some material that looked like meconium. The baby was seemingly all right on my arrival in about twenty

1. THE JOURNAL A. M. A., Oct. 27, 1900, p. 1084.

minutes. I went home and in a couple of hours there was another hemorrhage, both from the bowel and mouth. There were several more from the rectum in the next twenty-four hours of almost pure blood, unclotted, but no more from the mouth. The child became exsanguinated, her appearance being that of the last stage of cholera infantum. At one time she had a temperature of 104 and then went into a collapse. Notwithstanding this great loss of blood she eventually recovered. I saw, later, a similar case with hemorrhage both from the mouth and rectum. This patient died. Both parents were healthy, with several healthy children.

Shortly after the publication of my case in THE JOURNAL I got a letter from an old practitioner in Michigan, stating he had never seen such a case until about one year before. Since then he had had four cases of hemorrhage occurring in the first few days of life, the hemorrhage being from both the bowel and mouth. All these babies died, all were in the open country and the parents in each case were apparently healthy. I thus have to report six cases with but one recovery. In all of these, so far as I can learn, the parents were healthy.

DR. RUDOLPH W. HOLMES, Chicago—I used the gelatin treatment once locally on a boy eleven days old who bled persistently for twelve hours following a circumcision; there was almost immediate and lasting hemostasis. Twice I used the gelatin-salt solution subcutaneously for postpartum hemorrhage without untoward reaction. Lancereaux, one of the first to suggest systemic administration of gelatin solutions in hemorrhage, strongly condemned the intravenous injection on account of the danger of emboli. I would like to ask if it were not possible that a small subcutaneous vessel was torn during the injection, with the result that some of the solution was forced directly into the circulation, producing minute emboli, and the untoward symptoms. A short time ago I had a pregnant patient who gave a history of repeated postpartum hemorrhages in all her previous labors with grave symptoms. For about two weeks previous to her expected date of labor I had her eat twice daily generously of gelatin foods (jellies, puddings, etc.). The combination of these foods with calcium chlorid was of considerable benefit, at least the hemorrhage was nothing like what her previous attendant described. Later I found Dr. H. A. Hare recommends gelatin solutions and foods by mouth in hemorrhagic patients, as cooking does not deteriorate its coagulating properties. Would it not be in line to devise an appropriate infant food with gelatin for the cases Dr. Abt describes? Does Dr. Abt consider the so-called pseudo-menstruation of the new-born girl in any way connected with the condition under discussion? This pseudo-menstruation is not at all infrequent, occurring fully in 5 or 10 per cent. of newly born girls.

DR. A. JACOBI, New York—I saw a good many more hemorrhages in the newly-born thirty or forty years ago than more recently, and for one very simple reason, i. e., that at that time I saw a great deal more of puerperal sepsis than at present. Then it was a common experience to make an autopsy on the newly-born baby and find hemorrhages both large and small over the pleura, pericardium and the mucous membranes. At that time I took it almost for granted that the tendency to hemorrhages in the newly-born was very great. Since, however, puerperal sepsis has become comparatively rare I have seen very many less cases of this kind. There is no doubt in my mind that puerperal sepsis has a great deal to do with the hemorrhages of the newly-born. There is, however, another reason for hemorrhage in the newly-born: we should not forget that hemorrhage means a defect, not in the blood, but in the construction of the wall of the blood vessels. In many anemic women we meet with menorrhagia, and others with amenorrhea, all dependent on the structure of the blood vessels. The same reasoning is applicable to the fetus and the newly-born. Tissues are largely still in the embryonal condition, the tissues more fragile and the blood vessels burst very readily. When such a rupture has taken place we must take into consideration the state of the blood also. Hemorrhages in the newly-born are apt to be very extensive for the reason that although the blood of the newly-born contains more hemoglobin than in later life, its specific gravity is much less than in the adult and there is less fibrin. That is why when the hemorrhage once begins it is hard to stop it. Single hemorrhages into the sterno-cleido-mastoid muscle during birth may be copious. We frequently find meningeal hemorrhages extending all over, even down into the spinal canal. Another proof of the difficult coagulability of the blood of the newly-born is found in the fact that it remains fluid for a long time in cephalohematomata. Meningeal hemorrhages are frequent, being the cause of many deaths in the first week of life. I have seen a few hemorrhages about the medulla. I recall one case in which the baby moved a little immediately after birth, but within a few hours there was total paralysis of the four extremities. Diagnosis was made of gradual hemorrhage about the medulla, and a bad prognosis was given. Ice was applied to the neck and iodids were given internally, and the baby recovered. A few others of the same kind died and could be examined after death. Many of the hemorrhages in the newly-born depend on septic infections.

Some cases are certainly the result of antenatal sepsis. Oliver Wendell Holmes was the first to show that puerperal fever is contagious. Many believe that Semmelweiss, about 1867, was the first to prove the contagiousness of this fever, but I wish to insist that it was our own Oliver Wendell Holmes who, in 1843, wrote a very extensive paper on the contagiousness of puerperal fever, and proved absolutely that it was contagious and that it was carried from one patient to another by the attendants. Most of the cases of puerperal sepsis in babies are contracted after birth, but there are cases of antenatal origin in which the infection is carried from the diseased mother through the placenta, or through putrid amniotic liquor. In the newly-born the invasion may take place through big or small lesions of the integuments; that is, both the skin and the mucous membranes of the mouth or the digestive or respiratory organs; now and then, also, through the wounds of circumcision, or mastitis, or a maltreated cephalhematoma.

DR. J. C. COOK, Chicago—A child weighing ten pounds was born at full term and died of hemorrhage from the bowel only. The child born previous to this had died of sepsis at the age of three days. At this time the family were living in a house badly contaminated with sewer gas. There was no history of syphilis, and a healthy child had been born since in another house and no signs of hemorrhage or sepsis.

DR. FRANK X. WALLS, Chicago—The position taken by Dr Abt I think is excellent, i. e., calling these cases spontaneous hemorrhages of the new-born rather than describing them as examples of the hemorrhagic disease. These hemorrhages should be looked on as the result of an infection, or perhaps of an intoxication. In addition to the causes enumerated by the Doctor, I may add that malarial intoxication may possibly be a factor. I have seen one such case. In another case the baby had disease of the liver with obstructive jaundice, and the jaundice was the causal factor of the hemorrhage in this instance. In a case of spontaneous hemorrhage, in which the child vomited considerable blood, a microscopic examination of this vomitus showed that the blood was arranged in masses resembling exactly the blood casts seen in cases of hemorrhagic nephritis; in fact, some who saw the specimen thought it was one of urine from a nephritic. This would indicate that the hemorrhage comes not from emboli or from a single vessel, but from a diffuse oozing through the gastric tubules, the blood coagulating in the tubules and retaining the form of the latter. As an additional confirmation of this fact I may say that some of the casts were bifurcated. These cases very quickly disappeared, probably owing to the action of the digestive ferments.

DR. ABT—In reply to Dr. Holmes, I would say that I do not think I punctured the blood vessel, for the skin was loose and was picked up carefully, and I used a coarse needle, which could not have entered the lumen of a superficial vessel in the region where I was injecting. With regard to pseudo-menstruation, I suppose the doctor applies this term to the flow of blood from the vagina of the newly-born. This term seems to me to be a misnomer. We can not speak of menstruation in an infant whose generative organs are net yet functional. Hence, if menstruation is impossible, pseudo-menstruation must certainly be. The use of calcium chlorid has been warmly recom

mended for a long time, and, indeed, where one child has suffered from hemorrhage following its birth it is a good plan to give the mother calcium chlorid during subsequent pregnancies, and the same may be given to children after their birth. I think Dr. Jacobi struck the keynote of the entire subject when he said these cases were, first infections, and secondly, were dependent on a natural porosity of the blood vessel walls plus the fact that the coagulation of the blood in children is delayed. There may be delayed coagulability, brought about by some infection or some condition such as jaundice, as referred to by Dr. Walls.

CONSERVATISM IN THE TREATMENT OF ACUTE MASTOIDITIS.*

SARGENT F. SNOW, M.D.
SYRACUSE, N. Y.

Acute mastoiditis is a disease which has assumed an importance not to be gainsaid and is ripe for study in all its phases of pathology and treatment; surgically it can be so well handled that a conservative attitude should be taken only after a careful and full explanation to prevent being misunderstood; the author takes it more as comparative with the attitude of those who hold that in every case where there is evidence of mastoid involvement the external operation should be immediately performed.

A MIDDLE GROUND FOR TREATMENT.

The author also wishes it to be understood that by conservatism he does not mean inactivity, for the results of the waiting plan are replete with disaster. Ultra-conservatism in these cases is in reality a crime; cerebral complications are too grave to admit of anything but prompt and vigorous action.

The main object of this paper is to show that there is a middle ground for treatment, practically safe, based on well-established principles of drainage and prevention of pus developments. Major cranial operations, owing to frequent malposition of parts, anesthetic complications, etc., are too grave to be looked on lightly, and should not be done unless the conditions be urgent or the more conservative methods clearly out of place.

THE INDICATIONS.

Acute inflammation of the mastoid cells practically always comes from an extension of inflammation in the middle ear; this extension does not follow if free drainage is obtained early, hence a clear and forcible indication, which we may call our first, is to incise the drumhead promptly, not a simple puncture nor to rely on a small perforation made by Nature's attempt at relief, but to cut freely, as will be described later on. Drainage is as important here as in surgical propositions elsewhere and is the surest abortive measure.

Our second indication is to keep inflammatory action and pus development within bounds by cold or heat, a task often unsuccessful, not because the plan is irrational, but because the direction or nursing is insufficient.

THE TYMPANO-WILDS INCISION.

A red bulging drum is not the only guide as to the necessity for incision, as recently pointed out by Dench; severe pain or tenderness in a mastoid may necessitate prompt opening of the middle ear cavity, even though the drum shows no redness; this opening should be done freely, starting the knife near the lower margin in the posterior half, carrying it well through to the inner wall, up and out through the attic to bone tissue, cutting then deeply out along the posterior superior wall of the external canal. The latter portion of the incision not only drains the attic, but it relieves the periosteal tension at the point most needed, the lower wall of the mastoid antrum. This well-known paracentesis and internal Wilds incision becomes, in a measure, a subsitute for the more radical external operation by chisel and curette if thorough after-treatment be carried out.

In this connection allow me to call attention to the fact that very often the circulation is so much relieved by the opening thus made, that reparative processes close up a portion of the opening too early, so that we find tenderness, fever, etc., returning after one to three days, which is easily subdued by a fresh incision. Cold or heat will not avail unless drainage be free.

In neglected cases the effects of abortive attempts must be carefully scrutinized, and unless unmistakable improvement is noted within twenty-four to thirty-six hours the securing of a still better drainage is imperative; again allow me to say, that ultra-conservatism may become in reality a crime, and personally I wish to condemn such a position with all possible force. If the tympano-Wilds incision has not been thorough it must be enlarged or external operative measures instituted.

The plan outlined above which, as stated, is from a comparative standpoint conservative, has been advocated by the author at each opportunity since 1896. In a discussion before the American Laryngological, Rhinological and Otological Society in Pittsburg in 1898, I called attention to the great value of conservative methods and reported a severe case, showing the benefit to be derived from a prolonged and continuous application of cold, even beyond forty-eight hours where such treatment brought relief.

I was not alone in this, as following in the same discussion Myles of New York stated that he found, in examining his records, that by conservative methods of treatment, he had cured over one hundred cases, which, according to the rule of some men, should have been operated on.

In support of the conservative position, I can now also report forty-five consecutive cases, where I deemed it safe to try abortive measures, that I have recently treated on these lines without a failure, twenty of them being in private and twenty-five in hospital practice. These were acute in variety, but each case presented the indications usually laid down for the external operation, and each one, in my mind, had an undoubted involvement of the mastoid and pus in the cells of not a few.

NARRATION OF CASES.

If you will allow the time I will briefly report three cases:

CASE 1.—Mr. P., sent to the Hospital of the Good Shepherd by Dr. F. W. Smith, Syracuse, N. Y., June 16, 1899.

Examination.—Deep stupor, from which he could scarcely be aroused; could answer nothing intelligently and would at once drop into snoring sleep. Temperature, 102; pulse, 120; very free pustular discharge from the right ear, the auricle of which was pushed well forward by the swelling over mastoid. Pressure on the mastoid was about the only thing that would arouse the man to show that he had any consciousness.

Treatment.—The patient was admitted early in the afternoon, but, as my telephone communications were cut off, those in charge at once started the treatment of continuous cold and cleansing irrigations, until such time as I could be reached, which in this instance was late in the evening. When I visited

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. J. F. Barnhill, C. R. Holmes and G. H. Makuen.

the hospital, I thought that nothing but extreme operative procedures would avail, as he was still in somewhat of a stupor, from which he could only be aroused to say yes or no; but as the temperature had dropped two degrees, and the pulse thirty beats, from the treatment they had started, I simply cleared out the ear, enlarged the perforation in the drum, cut out along the superior posterior wall as above described, and left him to the care of the nurses, with definite, explicit directions about keeping the local applications of ice constant and the canal free.

The next morning I visited the hospital early, prepared and expecting to operate externally, but found the patient conscious and so decidedly improved that such a procedure was not to be thought of, and I am happy to say he went on to a complete recovery.

This case is reported more to show what prompt, intelligent nursing can sometimes accomplish than to amplify the fact that such severe cases may at times recover. As a rule, it is my habit to do the external operation in such extreme cases, and I hope no one will infer that I advocate conservative treatment in cases showing such evidence of cerebral complications; in these there appears no safe rule except to immediately open and clear out the mastoid.

CASE 2.—Dr. C., a veterinary surgeon, brought to my office by Dr. D. H. Murray, Syracuse, giving history of acute pain, swelling, etc., behind the ear with some discharge for five weeks.

Examination.—The temperature, tenderness and infiltration of the tissues behind the ear were also intense, pushing the auricle forward to a right angle with the head, making the typical picture of a bad mastoid case.

Treatment.—I at once made the internal incision described and sent the patient to the hospital, where he was treated in the thorough manner that such cases demand, with the result that in six days he was able to leave with the drum healed, all tenderness removed and no rise of temperature or pulse. The patient assured me that during this period there had been no moment between the time he entered the hospital until he left to come to my office, when the temperature of the mastoid tissues were allowed to get above that obtained by the ice-bag application. The cold was continuous and persistent.

CASE 3.—Miss H., age 18, brought to the Hospital of the Good Shepherd by Dr. Countryman, Central Square, N. Y., May 25, 1900, who stated that the ear trouble had followed an attack of scarlet fever six weeks previously, and that the pain, tenderness and swelling had been present behind the ear for two weeks.

Examination.—Thick purulent discharge, tissues over mastoid much swollen, the diffuse inflammation almost closing the external auditory canal. The whole right side of the head and face so swollen that eye was closed. Temperature stood at 102, pulse 120, and the patient was suffering intense pain in the ear and mastoid.

Treatment.—Dr. Countryman had immediately brought the girl to the hospital on the case coming under his care, hence he had instituted no measures for relief, so it was thought best to do paracentesis and the internal Wilds incision and apply ice, watching the case carefully. Next morning her temperature had dropped to 99, pulse to 90, and the patient made an uninterrupted recovery, the drum healing in five days, but pus continued to come from the incision in the superior posterior wall for two weeks.

The selection of Cases 2 and 3 from my records is because they represent so well the types of uncomplicated mastoid inflammation, on which my conclusions are based, and were each referred by well-known men, whom I know will let no improper claim on my part go unchallenged, but in no such would I consider it safe to adopt these more conservative methods of treatment under the operator remain within easy reach.

It is not always possible to get such quick and absolute recoveries, as I found in treating a series of cases that accompanied an epidemic of influenza that we had here in the winter of 1901. Several of those had a purulent discharge lasting from three to six weeks, but in all my practice there has never been left a chronic otorrhea except in one case, where an anemic lady, aged 68, who left town as soon as a recovery from active symptoms were brought about: even now her discharge is so slight that, on a recent visit to the city, she did not come in to see what could be done about it until the last day of her stay.

THE ESSENTIAL DETAILS OF THE AFTER-TREATMENT.

Sufficient nurses, giving faithful care, are most essential factors in the conduct of these cases, and their intelligent co-operation explains why one man gets so much better results than another, from apparently the same line of treatment.

With the nursing ordinarily given mastoid cases in private families, or even in our hospitals, I would feel no safety in relying on the conservative methods described; but where the free drainage is secured and conscientious nursing is rendered, with less than a five-minute interval between ice bags, we seem to almost always get prompt effects.

Ice should be kept on continuously for hours, the object being to drive the blood from the part, and it is much better to keep it out than to have an interval of recongestion, as will occur if the nurse be slow in refilling the bag. Intense heat may be used with benefit, if the nurse display the same energy, though I prefer cold, and find that by employing a little tact it will be tolerated by the most sensitive; the steady, persistent application of either of these measures keeps the blood vessels contracted, which condition allows Nature good opportunity for resolution and repair. If such expert nursing and attention can not be given, external operation becomes the safest and only procedure.

As stated before, I am not alone in objecting to the wholesale chiseling now in vogue, though this may be the first paper dedicated to conservatism, neither am I alone as to the utility of keeping the parts at a low temperature. Richardson of Washington read a paper before the Laryngological, Rhinological and Otological Society last year, in which he pointed out the great value of continued and prolonged ice applications in the treatment of this disease.

At the very least, we should institute the abortive measures in that interval that usually exists between the time when we first see or have charge of a patient until the final preparations for operative work are made. If we leave the case to ripen we will surely find pus and softening. These abortive attempts in my practice have never done harm, and I feel certain that if the work and nursing are thoroughly carried out, over 50 per cent. of the external operations can be avoided. There are too many cerebral complications, too many histories of infected lateral sinuses necessitating ligation of the internal jugular four or five days after the external operation, to warrant us in taking unnecessary risks. While skilful, experienced men obtain an acute tactile sense that tells them when instruments approach dangerous ground, the less experienced make many blunders; what is really a trivial operation with the one man becomes with the other fraught with much danger.

The objection that the Sprague ice bag, like opium, masks the symptoms, in my opinion, need not be entertained if free drainage has been established. The relief we get from its use in reality indicates a lessened morbid activity, and if acute symptoms do super-

vene, it is because our drainage is being obstructed. Extension of inflammation is hindered, because ice, here as well as elsewhere in the body, seems to prevent development of pus elements. In fact, with free drainage and good nursing I find that I rarely have to resort to the external operation except in neglected cases, or in those associated with a chronic otorrhea.

The reason why these inflammations invade deeper structures is because there is pressure; if we relieve this pressure promptly by letting out the blood and pus confined within the middle ear and mastoid antrum by what I have called the tympano-Wilds incision, we have taken the first important step. If we maintain this free drainage, modify the development of pus elements by constant ice application, and keep this treatment up as long as improvement follows, the danger of intercranial involvement is reduced to a minimum.

Continued and increased experience more than fortifies me in the position taken in 1896 and lends me courage to again advocate conservative but prompt treatment along the lines above mentioned, in acute cases without cerebral complications.

707 University Block.

DISCUSSION.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I have just had the misfortune, the first time in several years, to lose a mastoid case after following out the lines the essayist has advocated, and I would rather operate thirty times unnecessarily and save my patients than to be a so-called conservative and lose one. In the case I referred to, free paracentesis was done, the icebag was applied, pain disappeared, temperature became normal and the case apparently improved, and the young man went out of the hospital and returned to work. He appeared at the hospital five days later with symptoms again present and pus in each mastoid. Although several operations were done and both the dura and the sinus uncovered, the patient developed meningitis and died. This question of conservatism is one the general practitioner always has in mind, and he is usually so conservative in the first place that he will seldom let us operate early enough. We should operate just as soon as there is tenderness behind the ear, and any considerable edema or other symptoms pointing to purulent or serous mastoiditis. There is risk in waiting until to-morrow, as we are often compelled to do, especially by the physicians in the smaller towns. In reference to the application of cold, I will admit that it apparently improves the symptoms, and the patient seems to feel better for the first few hours after its use. It has recently been held that the application of cold only drives the process deeper in and masks the symptoms. The fact that some cases get well is not a conclusive argument in favor of such conservatism as the essayist advocates. We should not pursue a course of treatment that is not surgical in the presence of a purulent process. My case happened to be a serous case, probably due to the pneumococcus, and I do not suppose any treatment would have saved him. Nevertheless I afterward regretted that I had not opened the mastoid at the first suggestion of trouble. I entirely agree with the Doctor's method of paracentesis, which is undoubtedly the best. But in the presence of mastoiditis, the bone should be opened as soon as the diagnosis is made.

DR. W. L. BALLENGER, Chicago—I agree with Dr. Snow's method of paracentesis. If you are going to incise the drumhead at all, do it freely, carrying it to the upper and posterior wall of the meatus. I arise especially, however, to speak against the general trend of the paper. I do not believe it is safe to recommend so simple a method of treatment for the cure of such grave cases as Dr. Snow has reported to us this afternoon—not but it cures many of them, but because it will not cure some of them, as Dr. Richards has pointed out. When cases come to us with grave symptoms, who have had, some years before, some one of the exanthematous fevers followed by acute mastoiditis, which apparently recovered, they may become at a later period among the most grave conditions coming under our observation. I do not believe it is wise to advocate, in print at least, such conservative measures as the Doctor has advanced this afternoon, for the reasons Dr. Richards has already pointed out. A study of acute suppurations in general of the middle-ear will show how readily the process becomes a chronic one, often when there are no symptoms that the patient can observe. They often tell us that there is no discharge from the ear, whereas an examination will show pus to be present. That is one of the most common experiences I have in my clinic. So we can not trust to the statements of the patients that they are cured. The forty cases reported by the Doctor will probably not give 100 per cent. of cures, as he has reported. In a few years probably 25 per cent. of them will show a return of the disease. So I would object, not to the treatment but to the statement that it is a method of treatment that will cure a large percentage of the cases which we now think should be operated on by the post-auricular method.

DR. C. M. COBB, Lynn, Mass.—My experience is that the cases with swelling and perhaps involvement of the superficial mastoid cells are the cases that you can most safely treat by the so-called conservative method, but the other cases you can not. I recall a case that was free from pain for five weeks, and I began to believe that he was getting better and that he would not have to have a mastoid operation. There was no swelling, no fever and no pain. He did not hear very well. He came to me then with a swelling above the temporal ridge, and I recognized a perforation under the temporal fascia. My experience with those cases is that if they show swelling above or around the ear, extending to the face, they have either a perforation of the cortex or an involvement from a lateral sinus thrombosis and they need surgical treatment. Surgical treatment may not always save their lives, I know, but they die if you do nothing. A collection of pus under the cortex in the mastoid is not a thing with which we can afford to temporize in any way.

DR. J. E. BROWN, Columbus, Ohio—Dr. Snow's paper well sets forth the strength of conservative treatment. We should bear in mind, however, that cases treated conservatively frequently relapse. Not only may they furnish cases of chronic middle-ear disease later, but they may be subject to early relapse, this coming on three or four weeks after the original disease. The fact, too, that in many of the cases which come to operation where symptoms have been few and obscure, we find extensive and serious involvement of the tissues, makes conservatism sometimes dangerous. The class of cases represented by the first one reported by the essayist is one in which we can not hold that it is safe to delay operation. The Doctor achieved a cure in this case, yet taking a large number of cases presenting exactly similar symptoms, I do not believe that even a fair percentage of such cases would be cured by the same line of treatment. I believe the experience of otologic surgeons to-day demonstrates plainly that the greatest safety to the patient lies in prompt operation.

DR. A. H. ANDREWS, Chicago—The position of Dr. Snow is, I believe, to say the least, dangerous. It has occurred, no doubt, in the practice of all of us to have cases get well under such treatment, or under even less radical treatment than he has indicated or even without any treatment at all. Perhaps a considerable number will get well without treatment, but that does not prove that we should not treat them, by any means. Pus travels in the direction of least resistance, and as one of the gentlemen said, in discussing this paper, we might temporize with those cases in which the swelling was superficial. The cases of mastoid disease without superficial symptoms are far more dangerous. If we agree at all with Dr. Snow's position, we ought to make a more definite distinction between those cases which are primary and may be treated as Dr. Snow suggests, and those cases which have had otitis media before, or in which there is any possibility that they may have had otitis media before. If there is a history of repeated attacks or that this is a second attack, no such treatment is permissible. Some of us who practice in the larger cities come to think that Nature is not so kind to our patients as she is to those under more favorable circumstances. I do not believe that the treat-

ment which Dr. Snow advocates and which has seemed to be so successful in his hands, would bring about the same results with the patients I have to treat, especially my clinical patients.

DR. L. C. CLINE, Indianapolis—If I should ever be so unfortunate as to get an abscess of the ear and it confined itself to the tympanic cavity, I want Dr. Snow to see me, but if it travels and gets into the mastoid cells and antrum, I want Dr. Richards to see me. I think much depends on our diagnosis. If we are able to diagnosticate these cases we will be better able to determine on which to operate and on which not to operate. I think, however, the advocacy of Dr. Snow's position to the profession generally is a dangerous thing. The majority of physicians are opposed to these operations. They are extremely conservative and occasionally, when I think it is absolutely necessary to operate, I have difficulty getting permission to operate until it is perhaps too late. It seems to me it is safer, in this instance, to err in over-operating rather than under-operating, until we get the practitioners of the country posted or educated up to the point that they will permit us to operate. So much depends on our ability to observe the cases and determine the diagnosis. If we have pus in the mastoid cells we should do just as we do when there is pus in the appendix. If we err at all, we should err in the direction of early operating.

DR. J. F. KLINEDINST, York, Pa.—I have tried the treatment outlined by the Doctor in a number of cases. I believe it is a good one in early cases, but if we do not see the cases early, it is advisable to open the mastoid cells. There is one therapeutic measure, to which the Doctor has not called attention, which I believe does good in many early cases, and that is local bloodletting, by either the natural leech or the artificial leech. As to the use of cold, I recall the case of a boy about 5 or 6 years of age. The case seems to show that sometimes the general practitioner wants to be too conservative in these cases, simply because he does not understand the pathologic changes that take place. I advised this physician, when his boy was taken sick, to allow me to incise the drum-head freely, but he refused to have it done. Then we kept ice on for forty-eight hours, almost continuously. There was considerable tenderness over the mastoid and some slight edema. Fortunately the case got well, while I was continually urging that the mastoid be trephined. It was one of those lucky cases that get well under the application of ice when you are almost sure there is pus forming in the mastoid. In chronic cases of purulent otitis media with acute mastoiditis trephining ought to be done, because in them there is pus gathering in the mastoid cells, producing the secondary inflammation and infection.

DR. G. MCAULIFFE, New York City—There is no doubt that the cases to which Dr. Snow's treatment is applicable are those in which the process is limited to catarrh. I do not find the treatment has been successful in cases in which there is pus in the mastoid cells. The principal danger in operation as urged by the Doctor is the infection of the sinus. This has often been opened without any special symptoms. The general run of mastoidites are so septic that nothing short of a radical mastoid operation should be considered. The thorough bloodletting, which occurs during the operation, is one of the best methods of depleting the mastoid. All our cases of sclerosis have arisen from treating the cases by so-called conservative methods. The conservative treatment gives us some of the most difficult secondary operations in mastoid surgery. I find, in regard to drainage, there is no drainage so poor as that derived from the so-called internal Wilde incision. The antrum keeps taking a lower and lower position in aural development. As age goes on it gradually sinks down back of the posterior wall of the canal. The pus can gravitate into the tympanum only when the patient is in certain positions. The antrum is the last thing in the consideration of the disease. When the stellate cells are involved in the floor of the antrum and the cells that are shut off from the antrum by the layer of compact tissue that forms a shelf over the lateral sinus, how is any incision in the tympanic cavity going to drain the granulation tissue or pus here? Many of the best things in mastoid surgery have been gained from general surgery. There is nothing better than good counter-drainage. The antrum has always been regarded as part of the middle ear and does not come into consideration in studying the mastoid. The hearing is better after the operation and connective tissue changes less.

DR. P. J. GIBBONS, Syracuse, N. Y.—In Hippocrates' time and until after Galen we had radical treatment. Then the treatment was conservative until about twenty years ago, since which time we have again been radical. I know Dr. Snow does radical work, just as the rest of us do. It is important that we remember our internal medicine and not consider mastoiditis a local disease. Often there is back of it a constitutional condition. In the way of therapeutics we have internal medicine and local medicinal agents, such as the suprarenal extract. But if you do not open the mastoid cells you will regret it, as you would if you did not open up the skull by trephining; but you will never regret having operated. These should be treated as surgical cases. We should also consider the internal medicinal treatment of these cases and what the sinuses are there for. The mastoid cells and the sinuses throughout the head serve both to lighten bone and to increase the hearing. They probably also have some effect on the ions of the blood. You will find the "rheumatic diathesis" we are jumping into is a big boat-like "malaria" and the "grip." Such diseases may be due to trouble of the sinuses. Dench and a number of recent writers have been radical, and for some twenty-five hundred years we have had conservative treatment. But Dr. Snow's paper will probably be misunderstood, especially by the laity. No doubt the Doctor is misunderstood here. It is a dangerous paper for the general practitioner, and especially so for the laity.

DR. NORVAL H. PIERCE, Chicago—It is probable that Dr. Snow has been misunderstood, for we all know that he can be as radical as any one of us, and, therefore, in order that he may set himself aright, I would like to have him state what he believes to be the proper indications for opening the mastoid in acute cases. Operating in this region is an easy matter for one skilled in the technic, and it is exceedingly hazardous for one not so skilled. The antrum and the mastoid cells are connected, and suppuration in these parts may get well without operation. Softening of the bone in the presuppurative stage may recover without operation. But if we have a case in the sixth week of inflammation, with a temperature of 102, with swelling of the posterior superior quadrant of the membrane and infiltration over the mastoid region, and if it is said that such a one is a proper case for conservatism, then I would like to ask, when should we operate? How frequently have I cut down on these cases, not only with such symptoms, but cases going on for five or six days with slight pain and no infiltration and a slight purulent discharge from a perforation in the posterior superior quadrant, and found the whole bone necrotic, the sigmoid sinus uncovered and the tables of the skull open by the necrosing process. We would find, within 24 hours, perhaps, sigmoid sinus thrombosis and meningitis. I think Dr. Snow must set himself aright, for the impression I get, at least, from his paper is contrary to modern teaching and is dangerous if allowed to proceed.

DR. SARGENT F. SNOW, Syracuse, N. Y.—Perhaps the best way to answer the many men is to begin with the last speaker. Dr. Pierce asked when I considered it proper to operate on the mastoid. I will answer that by saying that if our patient comes to us with evidence of intracranial involvement it goes without saying that we must operate as early as possible. That is, of course, one indication. Then, again, if we have a patient that gives a history of recurring inflammations, recurring attacks of these troubles that have been neglected, we are often forced to operate externally. But if the patient comes to us with an acute inflammation, though he may have badly swollen tissues over the mastoid, though he may have the auricle extending forward, with severe pain and perhaps high temperature, if it is an uncomplicated case and primary, we are very safe in making the incision and applying ice as I have described for the first 12 to 24 hours. If our patient then shows no improvement, but shows a condition a little worse, perhaps, or even the same, we must use great care about going further in our conservatism. I do not advocate making this internal incision, applying ice and waiting indefinitely. We must have

good drainage and definite results from it or we must operate externally.

Dr. Richards speaks of the effect of this paper on the general practitioner, and I quite agree that it would be unfortunate if this paper should create an impression among the general practitioners that we would tolerate anything but prompt, vigorous action. I have tried to use the best language to impress the idea of vigorous and skilled action. There must be no half-hearted attention, and we must not allow our nurses to be negligent. The cases must be watched with great care. I go into these cases, even in the mild ones, with a great deal of trepidation, for I recognize their gravity. But my experience is that if we do this work promptly, on the cases that come to us reasonably early, not those so far along as the ones I related, we are safe in a conservative attitude. How many of us operate the same day, any way? There is usually an interval before operation, and we ought to use that interval and make our first visit count. Secure drainage and put on the ice. If we leave the case 12 to 24 hours without proper care, with only the drainage that Nature gives, it will ripen into a worse condition. If the nurse applies ice after free drainage you will get the same results I have, but it must be kept on continuously, without marked intervals in the changing.

As to doing the external operation on every case where there is swelling and tenderness over the mastoid, I must again say that I do not believe it is justifiable; if we give them a chance they come out without operation. As to the question whether we can cure a large percentage or not, I would reply that in my opinion over 50 per cent. of the primary cases now operated on externally can be handled in the way I have suggested. Dr. Cline thinks the difficulty is with diagnosis. It is very possible that I have made some mistakes and that I have not had pus in the mastoid in some cases, but I have not reported any cases but those in which there were well-marked evidences of pus with tenderness, swelling and pushing forward of the auricle. The principal point to be borne in mind, if we use the conservative plan, is that we must select the cases that come to us early, have our incision free and know that our nurses thoroughly understand their duties.

TREATMENT OF CHRONIC PURULENT OTITIS MEDIA.*

D. A. KUYK, M.D.
RICHMOND, VA.

When we take into consideration the vast number of people, both children and adults, who suffer from chronic suppurative ear disease, the greater majority of whom will allow their disease to continue and progress, thereby courting disaster and perhaps death, rather than submit to operative intervention, it behooves us to endeavor to study out some plan of treatment other than the surgical for the relief and cure of these sufferers, and any time given to the study of this subject is time well spent, for we then fulfill the task to which we have dedicated our lives—namely, the relief of suffering humanity.

The relief and cure by conservative essentially non-surgical methods of a large per cent. of these cases is not only probable, but highly possible, and if we can give these patients a fairly hopeful prognosis very many more of them will submit to treatment and be saved from the imminent danger to which they are continually exposed and from the mistreatment applied by themselves, their friends and the army of quacks who prey on the mental and physical sufferings of all the human family who are the victims of chronic affections. If the conservative treatment of chronic purulent otitis media presented a large percentage of failures; if the benefits of this treatment were but temporary, or if this treatment subjected the patient to even the slightest danger, I should apologize for trespassing on the time of this Section by the presentation of a paper on this subject, but the results of this treatment, as used for the past six years, have proven so satisfactory and continue to be so good that I can not refrain from giving expression to the faith that is within me, and plead with those who differ from me to give these cases more consideration, more time, more patience and more conservative treatment before resorting to the radical surgical measures, recommended as the only positive cure for this disease, which are not only distasteful to the patient, but are not so invariably successful as to enable one confidently to predict a complete and permanent cure.

True it is that when a patient comes for treatment who has had perhaps for years a purulent otorrhea, foul smelling and profuse, we can not look within the middle ear and definitely ascertain the extent of the process or the condition of the structure involved, yet it is about as exact as our actual knowledge of the condition of the internal organs of the body when they are diseased, yet they are successfully treated and the patient cured; it does not therefore so much matter that our treatment must be largely symptomatic. Experience and observation teach that it is quite possible to accomplish much good in these cases, very often completely and permanently to cure them, without resorting to radical surgical intervention.

Naturally, most patients shrink from surgical operations and are often permanently frightened away by dogmatic insistence that the mastoid operation, more or less radical, alone offers any hope. If now we can suggest a plan of treatment essentially non-surgical and more in consonance with the patient's preconceived ideas, that offers a fair chance even for the cure of the disease, the patient readily submits to treatment, and in the event that this treatment fails to effect a cure the patient is then in such a frame of mind that the only remaining alternative—surgical intervention—is accepted without fear or hesitation, we will have done the patient no injury by the time given to the trial of the conservative treatment, but we will have created one of our greatest aids to a successful termination—a calm and composed mental condition and that of unalterable confidence in the surgeon. Then, too, the treatment is popularized and more patients will present for treatment by a method that is essentially non-surgical and to them seems more humane and which certainly is to them less fearful and often, very often, productive of the most beneficent results.

Because now and then an anomalous case is seen in which, while the symptoms are very insignificant or are very much masked, the pathologic changes are found to be profound and extensive, it does not vitiate my plea for conservatism, for such cases are rare exceptions. Should we, however, at any time deem an operation imperative we have the patient under our immediate observation and can institute whatever procedure is deemed best rather than have the patient judge for himself, as so many of them will do, when not under treatment; in fact, they often insist on doing so, anyway. Before going further it is, I hope, thoroughly understood that in the cases selected for conservative treatment there must be no evidence or indication of mastoid involvement, for this would at once exclude every form of treatment other than the surgical. Permit me briefly to give some results of this treatment in a few cases without presenting tables of exact figures.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

In one case—in my own person—the ear has remained dry, free from all pain, comfortable and with fair hearing power—though suppurating and at times excruciatingly painful for fifteen years—for the last eight years.

Several cases have gone for five and six years and to the present time have had no recurrence. A considerable number have passed the last three or four years without further trouble. A greater number have for two years past gone on in comfort and still more for the twelve months past. The vast majority of these cases retain good and useful hearing. True, a few cases that lacked moral courage and persistence, or who would not obey instructions, discontinued treatment, but their last state was not one whit worse than their first, rather better. At least five cases, three tuberculous adults, and two children with inherited syphilis, made no improvement, and had to have the classic mastoid operation.

Before going further permit me to make confession to a sin of omission, namely, the microscopic examination of the aural discharge, but when one is fatigued with the duties of the day there remains little inclination for additional and fatiguing work. It is hardly necessary for me to say that one must ascertain as nearly as possible the existent condition of the ear or ears, also that of the nostrils, the various sinuses, the throat in all its divisions and the eustachian tubes (not forgetting the systemic condition), and removing all that is pathologic.

Now, any course or method of treatment which is inflexible, which is dogmatically and persistently pursued in each and every case alike of this affection, or, for that matter, in any disease to which human flesh is heir, must necessarily fail in many, I think I may safely add in a great number, and then the course or method advocated falls into disrepute in one's own mind, with the professional men who give it trial, and with the patients who submit to the treatment.

One may have predilections for a certain line of treatment, but they must often be surrendered to the requirements of the case. Treatment, indeed, should and must always conform to the needs of the case rather than the case conform to preconceived ideas of treatment. We must learn to discard at times our idols, dear as they may be to the professional heart. When this is done then will we obtain that happy consummation so much and so devoutly desired.

Necessarily the first procedure in the treatment of purulent otitis is the cleansing of the ear, and even on this apparently simply operation there exists a vast diversity of opinion. Yet so important is the manner of its performance that on the method of cleaning largely, I believe, depends the success or failure of the case.

The absolute dry method is employed by the writer and by him advocated; only in very exceptional cases is water employed, and for the reason that the frequent and long-continued and often forceful syringing employed by the surgeon and the patient in the first place liquefies the dense, heavy and ofttimes semigelatinous purulent or mucopurulent secretion, this liquefaction plus the force used with the syringe filling the middle ear, thereby producing more or less distension by reason of more or less pressure, favors percolation through openings into practically hidden and uninfected cavities or areas, the syringing ceases, the pressure falls, the perhaps only slightly distended tissues collapse and the infected fluid remains behind, leaving the germs on an ideal moist and warm breeding ground, where they multiply and carry on with unceasing and relentless vigor their pernicious poisoning processes. In the second place, the syringings cause maceration of the epithelial lining of the external auditory meatus and also of the middle ear cavity, the tissues become literally waterlogged, white and bloodless, hence of greatly diminished vitality and lessened resistance, rapid desquamation ensues, aggravating and prolonging the purulent process. In the third place, more or less liquid is left stagnant and infected within the middle ear; this not only does harm, but dilutes and renders ineffective any after medication that may be employed.

All visible secretion is removed with dossils of dry absorbent cotton, the Siegle otoscope is then used to aspirate the secretion from the hidden recesses of the middle ear, the quantity of the retained secretion is then estimated and its character determined; this process is repeated until the middle ear is free and clean and each time the secretion is removed with dry cotton. This aspiration is valuable because it increases the circulation of the middle ear, increasing its blood supply, so revitalizing and rebuilding diseased and destroyed tissue.

Next, a current of compressed air at moderate pressure is passed into and through the middle ear, usually through the eustachian catheter, and now, if the auscultating tube is used we can ascertain if any secretion still remains in the middle ear; if any secretion is forced out this is removed as before and the air current again injected and all moisture even is evaporated. We can combine with the air current a stimulating vapor such as iodin or any medicament we may select. It is of the greatest importance to get the entire aural tract dry, for we are then absolutely sure that all of the purulent secretion is removed; besides, the passage of the air current seems to stimulate the sluggish circulation and greatly aid the reparative processes; then, too, any medicament we may select is absolutely sure to come into contact with the diseased membrane undiluted by retained secretion or by the water left within the ear after syringing, and we can reliably depend on getting the full effect of the drug.

A few cases of chronic purulent otitis were treated by this cleansing process alone, using no drug or other means to modify the course of the disease, and most excellent results were obtained, but it necessitated more time and more treatment than the cases which were medicated after drying.

The patient is taught to pursue the same method of treatment at home, excepting the pneumatic otoscope; some cases employ that instrument also, substituting for the compressed air some form of nebulizer. A not very expensive apparatus is a bulbous glass vaporizer having a rubber air bag attached to it. This procedure is repeated twice a day; if the discharge is very profuse, oftener.

Adults are instructed to carry absorbent cotton in a box in the pocket, and so soon as any secretion is felt in the aural canal to remove it with a dossil, and repeat until the ear is quite dry. This is preferable to the gauze or any other kind of wick to drain the ear, for too often the wick is left in the ear too long and maceration and desquamation result, just as after syringing.

Of course, in treating children our methods must vary with the nervous temperament of the child, but most children quickly finding that no pain is inflicted and that comfort follows, will submit to all the details almost as well as the adults. The entire ear canal and whatever of drum membrane and ossicles is left, also

parts of the middle ear, can be now leisurely and accurately inspected.

Small perforations must, of course, be sufficiently enlarged to ensure free drainage—this is the great and all important essential to a successful termination—granulations or polypi removed or destroyed, necrosed ossicles removed, denuded or necrosed bone carefully curetted. If the eustachian tube is strictured it must be dilated until it is freely open, if this can possibly be done—for free drainage is as necessary within as without. If it is found in a state of catarrhal inflammation, as is evidenced by the peculiar inodorous gelatinous secretion, effort must be made to remove it by aspiration through the eustachian catheter rather than by blowing it out through the auditory meatus.

The cleansing process in an adult patient requires about fifteen minutes, rarely more, but it is time well spent, and though a troublesome one, is repaid by the good result usually obtained.

The host of drugs and combinations of drugs recommended is proof conclusive that we have not yet found a specific for purulent otitis media.

To fulfill the indications we must employ a drug that possesses powerful antiseptic and astringent properties and yet be stimulating. We need not go to the modern chemist for some synthetic chemic product that will supply our need, for we have an old, time-honored and well-tried drug that has never failed to produce the effect desired if only we learn to use it strong enough and often enough. Nitrate of silver is a drug that possesses undoubtedly the threefold function of an antiseptic, an astringent and a stimulant, as witness its good effect in gonorrheal ophthalmia or in ophthalmia neonatorum if it is used in sufficiently strong solutions.

Who is it that has done any eye work who has not seen the profuse virulent secretion of either of these ophthalmias melt away and become innocuous, the intensely congested and swollen conjunctiva promptly recede within normal limits by the application of silver nitrate solutions. Likewise will it affect the vast majority of chronically suppurating ears if first we remove all secretions and then dry the ear in all possible parts with the air current to avoid neutralization of the silver nitrate by the formation of an albuminous coagulate and thus fail to get its beneficial effect. A solution of thirty grains to the ounce is the weakest begun with; the solution is instilled comfortably warmed into the external auditory meatus, care being taken that none of it gets on the face or on the clothing, then with the otoscope the solution is gently and slowly forced into the middle ear so as to allow the solution to come thoroughly into contact with all parts of it, the pressure is steadily maintained for a few moments, then again increased so as to coax the fluid to go still further down into the eustachian tube; the moment the fluid reaches the throat the otoscope is removed, the patient holds the head inclined for a minute or two, any excess of fluid is removed, a dry cotton plug is inserted. This completes the treatment, which is repeated tri-weekly.

If after two weeks' treatment there is no amelioration of the discharge or of odor a solution of sixty grains silver nitrate to the ounce is substituted for the weaker one, so the strength is increased until a one hundred and twenty grain solution, the strongest that has yet been used, is employed. Occasionally the ear after several instillations of the silver solution will become sore and sensitive, when the use of solution is withdrawn and bismuth formic iodid powder is insufflated and forced into the middle ear in the same manner as was the liquid.

The bismuth formic iodid is strongly antiseptic, deodorant and astringent and certainly promotes cicatrization and is hence a useful agent in this disease. When the ear becomes quiescent the silver solution is again employed. The patient between treatments uses nothing but dry cotton to keep the ear clean and the nebulizer to dry the moist mucous membrane and endeavors by frequent use to keep it so. I always insist on careful and thorough home treatment, explaining to the patient the necessity and importance of the procedure and of thoroughness in its application.

Even after all discharge has subsided I still insist on the use of the air douche, medicated or plain, to be used at first once or twice daily, then twice weekly, and so to be continued for an indefinite length of time until the mucous membranes regain their lost vitality and become strong and non-secretive, remaining perfectly dry without artificial assistance. There are some cases which demand more than the mere office treatment to keep the ear aseptic, and, indeed, there are some patients who are not satisfied unless they are themselves dropping something into the ear, and to these I give a preparation consisting of menthol, camphor, formalin, hydrogen dioxid and alcohol, known as menthoxol, diluting it with equal parts of glycerin; this, after the ear is dry, is used in the same manner by the patient as the silver nitrate is used in the office, substituting the finger for the otoscope; the additional use of this mixture gives us in some cases most excellent results when the nitrate alone is insufficient. When four or six weeks of this treatment produce no amelioration of the symptoms we must conclude the disease process is too extensive or the bone necrosis too great to expect benefit from anything short of surgical measures, and such should be resorted to without delay to prevent the dangers with which all otologists are so well acquainted.

Yet, I still plead for more conservatism in the treatment of these cases, feeling convinced that many, though suppurating for years, have but limited areas of chronic suppurating membrane, easily and successfully treated and thus spared the major operation.

It is, however, our plain duty to study each case impartially, without fear or favor, laying aside our predilections and our prejudices and working only for the welfare, immediate and remote, of the patient who entrusts his case and perhaps his life to our care.

When we shall have learned to conquer ourselves for the benefit of our patients we shall be greater than him who conquereth a city, and our patients will rise up and bless us.

DISCUSSION.

DR. GEO. L. RICHARDS, Fall River, Mass.—In the main I try the dry treatment for a long time, or some similar method, before resorting to anything radical. You may take one of these suppurative ears and clean it out by the dry method and then, for a sort of experiment, syringe it out and you will often be surprised by the amount of debris that will come out. So it is questionable how well we are able to clean them by the dry method. In my own practice I invariably wash them out the first time and then use the dry method. Especially when there are one or more perforations, it is questionable whether you can get them clean by the dry method. Gauze, I think, is better than cotton for drainage, for it acts more like a lamp wick than cotton does and facilitates drainage better.

DR. A. H. ANDREWS, Chicago—I have sometimes been surprised, not as Dr. Richards has been, but at the amount of pus and debris which I could wipe away after the ear has been thoroughly syringed. I want to agree with the treatment given by Dr. Kuyk; I believe it is good and that there is no better

routine treatment. There may be occasional cases in which it will be necessary to syringe or to medicate in other ways, but I agree with his treatment in the main.

DR. G. V. WOOLEN, Indianapolis—No suction at all is required to remove the fluid. If there is anything that has been determined it is that hydrogen dioxid is a cleanser. You cleanse the ear, not with a syringe, for it would be just as bad as this suction to use a syringe on such an ear, but take an ordinary alkaline spray, such as you use in the nose, and spray the ear gently, mop it as the Doctor has suggested, if you can, without touching the hole in the tympanum. I think it was Dr. Randall, in Philadelphia, who said that there is nothing more difficult than to measure the distance in the ear, in doing probing or mopping. Next let the patient lie down; fill the ear with a 25 per cent. solution of peroxid of hydrogen and let that do its work. After securing the destructive action of this remedy on the pus corpuscles and dirt, we may wash it out and repeat. Continue its use if necessary for an hour, or until the bubbling ceases. The patient can tell you that he hears the bubbling sometimes even after it may no longer be observed in the meatus. I wonder oftentimes how and why it is that men, who know as much as physicians, are so afraid of moisture, so afraid of the water that God has given them so abundantly. They are so afraid of lacerations and all such things. After the hydrogen dioxid ceases to bubble, I like to use a solution of bichlorid of mercury, 1 to 1000. Then there is another remedy I like very much. It is boracic acid. One year we hear a remedy or method of treatment extolled very highly and the next year it is knocked to pieces; the next year it reappears, to be knocked down again perhaps the following year. But I know nothing better than to blow into the patient's ears boracic acid after the above treatment and let the patient go home well pleased.

DR. G. MCAULIFFE, New York City—In the treatment of otitis media we ought not to forget the ordinary landmarks, the many mucous pockets. The treatment ordinarily adopted is similar to a man playing a hose on an open door and hoping in that way to sweep out and cleanse the room. It is the same way when we hope to get the fluid in so as to cleanse the middle ear. We forget all the accessory cavities, the tympanic cellar and attic with its 3 or 4 rooms. These cases must be treated thoroughly or they will run an indefinite course, until the edema subsides and gravity helps the drainage, or until all pockets are destroyed. The medicaments rarely reach the tympanic cavity. It is only by intratympanic syringing that we can hope to cure these cases.

DR. J. F. BARNHILL, Indianapolis—The paper in the main has been one of correct principles. There are, however, a few things that perhaps the essayist, in the short time allotted to him, did not say that he might have mentioned if he had had more time. These cases at the first examination ought to be diagnosticated as perfectly as it lies in our power to do. After the thorough cleansing the Doctor has spoken about has taken place, there ought to be an attempt to determine if there be necrosed bone in any wall of the middle ear, and if any extensive area of this kind be found and definitely determined, it seems to me that the patient ought to be told about it, and if such a procedure as the Doctor has described be undertaken for six or eight weeks, he ought to be given to understand that in all probability a cure will not take place. But if he insists on such treatment, we may go on until he is satisfied that such a procedure will not produce a cure. When we find a dead ossicle or such extensive necrosis, we are absolutely wasting our time by anything short of removing the dead bone. As to the use of boric acid, I believe that boric acid or any powder has but very little and very limited use in otology. In the large majority of the cases that come to us we find perhaps an opening too small to get boric acid or any powder through, and if we can not get the powder into the middle ear itself, we do not get it where it will do good. If the whole of the drum membrane has been swept away and we can thoroughly cleanse the parts and use the boric acid, then, perhaps, we are justified in doing so. In many of these cases the use of any treatment by means of the syringe is, to my mind, as useless and perhaps silly as it would be for the gynecologist to try to cure a suppurating pus-tube by injecting water into the urethra. In very many of these cases, indeed, we find granulations blocking the entire way. The pus may get out, but the injected fluid can never get into the deeper parts in sufficient quantity to do any good. If we stop to analyze the specimens of bones we all have about us, we can see how unwise it is to go on with any procedure short of a radical operation. Understand that I do not advocate radical mastoid work immediately on seeing any case of chronic otitis media unless there is some immediate danger present. If we are able to watch the cases and operate when the danger comes, we are justified in waiting a little. But to wait for six months or a year in the face of a necrotic condition in the middle ear or in the antrum itself is, it seems to me, an otologic folly. I have no doubt Dr. Kuyk cures many cases by his method, just as many of us do, but there are many cases in which we can give the patient at the time of the first examination some knowledge of what he may expect from our treatment.

DR. D. A. KUYK—If, in closing the discussion, you will permit me, I will relate briefly the history of my case and some lessons I learned from it. For fifteen years I received various kinds of treatment for my chronic otorrhea or for the excruciating pain caused by it, but without permanent benefit. Several advocated the mastoid operation, but this I declined. I then began to treat myself, studying my case as each symptom occurred. After experimenting with various methods I begun the dry treatment. After a time it occurred to me to aspirate the suppurating cavity, and this proved beneficial, but occasionally the violent otalgia recurred. I then began the use of compressed air through the eustachian catheter; this produced a feeling of comfort and relief hitherto unknown. I have by this method relieved many violent otalgias. The nitrate of silver solutions were conjointly used for three months, when the discharge and all odor disappeared. The compressed air was continued, and even now I use it once or twice a week, although it has been many years since the otorrhea ceased.

Some one asked if it was possible to remove all the pus from the floor and from the attic. I think it is with the compressed air; if the current used is strong enough the distension of the air into every crack and cranny as it rapidly passes through the ear either forces the pus out or evaporates it and thus removes material that water can not reach and that suction will not coax out.

The use of hydrogen dioxid has even greater disadvantages than has forced syringing. The continuous distension in a practically closed cavity will open those channels that are otherwise closed by the inflamed and thickened membranes, and thus the contents are forced into previously uninfected cavities. I have time and again had patients complain of severe pain following the instillation of hydrogen dioxid, caused, no doubt, by the distension of the inflamed mucous membrane.

As to the use of powders: if the perforation in the drum head is large enough and it is used with judgment no objection can be made to the use of a fine impalpable powder. The powder is lightly blown into the aural canal, the Siegel otoscope is then inserted and the air is forced into instead of exhausted from the ear. A few seconds' continuous pressure will suffice in most cases to force the air through the middle ear down into the eustachian tube and so into the throat.

Copy Your Prescriptions.—At the investigation of a death of supposedly criminal nature . . . the attempt was apparently made to shift the responsibility for the poisoning on the physician, who was asked whether any of his prescriptions contained arsenic or strychnin. A pertinent question was, "Have you the prescription which you wrote out for —— ——?" This will . . . call our attention to the desirability of taking . . . copies of all our prescriptions. Of course the necessity . . . occurs but seldom. When it does occur, however, it is very urgent. Usually the original can be obtained at the drug store. . . . Circumstances may easily be conceived in which it may have been tampered with by interested parties and thus rendered useless for any protective purpose.—*Colo. Med. Jour.*

THE TEETH AS A CAUSE OF PATHOLOGIC CONDITIONS IN THE THROAT, NOSE AND EAR.*

KATE W. BALDWIN, M.D.
PHILADELPHIA.

The little I have to say on this subject I shall put in as few words as possible. The best I can wish is that it may incite others to a more thorough investigation along the same lines.

I feel that it is our duty to call the general practitioner's attention to this subject, as so many of the cases first come under his care. We are all too prone to look on the teeth as so many bones not intimately connected with the body as a whole, which, although useful, can easily be gotten rid of and more or less good substitutes readily obtained. The deciduous teeth are neglected because others are sure to take their places, and how often do we find the six-year molars considered in the same list. The child's face is usually washed at least once a day. In how many cases is the use of the tooth brush unknown to the deciduous teeth and very sparingly used at any time of life. The heat and moisture of the mouth make a fine culture ground for bacteria, and examinations show that many kinds take advantage of the soil so well suited to their use. I wish especially to emphasize the relation between the teeth and the ears, as probably more frequent and more permanent injury results to the organ of hearing than to the nose, throat and accessory sinuses; then, too, we have so much more frequently had our attention called to the connection with sinusitis that we are constantly on the lookout in that direction. I shall cite but one case of empyema of the antrum of Highmore, and I give it because of the unusual symptoms and repeated failures to find the cause. Simple acute tonsillitis and peritonsillitis often result from pressure caused by difficult dentition, especially from the eruption of the wisdom teeth. That these end thus or become suppurative conditions depends on the presence and absence of bacteria in the mouth. Even one carious tooth is always a menace, and we frequently find saprodontia, which is an all too potent cause in the suppurative conditions of the ear, nose and throat. In this connection we ought also to consider the lymphatic glands.

There is no more important point in the specialist's examination than the careful inspection of every tooth erupted and the thoughtful consideration of those about to be; only in the case of the very young infant may we be excused. From habits formed we will usually go over the gums of the toothless infant and be frequently rewarded by finding some unsuspected condition. The fact that a patient is wearing a full upper and lower denture is no excuse. They should be removed and the condition of the gums considered. Only a few months ago I saw a patient who had worn a plate for years and the roots nearly of every tooth were in place, the crowns only having been removed (I was told that the dentist took them off with a chisel). Occasionally a root may be left and the gums completely closed in over it, as in the antrum case I shall mention. A cast of the jaw will quickly show to an experienced dentist the nonabsorption of the alveolus and suggest a left-over root as the probable cause. To have a good dental clinic in connection with every throat, nose and ear clinic is second only to proper instruments and good light. Have the two going simultaneously so that there need be no referring to another day, or even to another hour. If possible, secure a dentist whom you can interest from your own point of view. A ruptured drum membrane and hours of pain will often be saved your patient by the immediate lancing of the gums over an oncoming tooth or by the extraction of a deciduous tooth which is blocking a permanent one, the cleansing of a cavity and the placing of an antiseptic dressing or a filling, the relief of crowding, a little change in a regulating apparatus. To this local treatment always add a brisk cathartic.

At the Polyclinic Hospital, where I have the pleasure of being associated with Dr. Walter J. Freeman, the ear work is separate from the nose and throat, which to me seems undesirable. There is no dental clinic at the hospital, but for years Dr. Freeman has insisted on a careful examination of the teeth in each new case, and has had a graduate in dentistry as an assistant in the clinic. Do not leave the examination entirely to the dentist, but go over every tooth yourself. At another dispensary, where I have throat, nose and ear combined, we have for nearly three years had a dental clinic going on at the same time, and the dentist or undergraduate in medicine has been quite willing to co-operate in any experimental work I have suggested.

In considering the nerve supply, we had best call to mind that a portion of the parotid gland is in close relation with the lower and anterior wall of the external auditory canal and that the anterior wall is also in relation with the condyle of the lower jaw, so that firm closure of the mouth has a tendency to narrow the lumen of the meatus. The posterior and upper walls are formed by parts of the mastoid and squamous portion of the temporal bone. The external auditory meatus derives its nerve supply from branches of the auriculo-temporal, the auricularis magnus and the auricular branch of the vagus. The chief nerve supply to the external surface of the membrana tympani is the auriculo-temporal. According to Shappey, Arnold's nerve (the auricular branch of the vagus) supplies the lower portion of this surface of the membrane, and branches from the tympanic plexus the inner surface. The nerve supply of the tympanum is derived from numerous sources, several nerves entering the tympanic plexus. The nerve supply of the stapedius muscle is derived from a branch of the facial. The nerve supply of the tensor tympani muscle is derived through a branch from the otic ganglion from the motor root of the trifacial or fifth cranial nerve. The chorda tympani nerve, a branch of the facial nerve, may be involved in otitis media, and if so, may lead to abnormalities of the sense of taste on one side of the anterior part of the tongue. Acute otitis media is very frequently associated with the eruption of the teeth, and from reflected irritation produced by carious or even artificial teeth. This complication may be explained by the connection between nerves which supply the teeth and those supplying the tympanum. The great superficial petrosal nerve, which communicates with the tympanic plexus of nerves and through the vidian nerve, joins Meckel's ganglion, which is associated with the superior maxillary nerve. The nerves to the upper teeth are derived from the superior maxillary nerve. The small superficial petrosal nerve communicates with the tympanic plexus of nerves and joins the otic ganglion, which is associated with the inferior maxillary nerve. The inferior dental nerve which supplies the lower teeth is a branch of the inferior maxillary.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

Interesting reflexes along the auricular branch of the pneumogastric nerve referred to the parts supplied by the parent trunk are, coughing, faintness, nausea, vomiting and sneezing. In sneezing the irritation is reflected, probably along the auriculo-temporal nerve, to the gasserian ganglion or other center of the fifth nerve, and hence referred to the nose through branches of the superior maxillary. This may also account for the unilateral coryza. Earache associated with the upper teeth may be explained in the same manner. Earache associated with the lower teeth and diseases of the tongue are probably due to irritation reflected along the inferior dental nerve and lingual nerve, and referred to the ear through the auriculo-temporal, the other sensory branch of the inferior maxillary nerve.

In going over my records I find so many interesting cases that I can think of giving but a very few selected ones. In adults the third molars or wisdom teeth seem to cause a very large proportion of the trouble with the throat, also much earache.

CASE 1.—22 years old. Both ears had been aching for four days, toothache several weeks. Gums hard and greatly congested over third molars, other teeth in fine condition, gums were freely lanced, a cathartic given. The patient slept quietly all night and had no more trouble.

CASE 2.—Patient four years in getting the four wisdom teeth. During this time had no toothache, but frequent attacks of earache, which were always immediately relieved by a free incision of the gums.

CASE 3.—The eruption of the wisdom teeth extended over six years. About every three months patient had earache, no pain in teeth, earache always relieved by lancing the gums. Earache from impacted third molars, more frequently caused by the upper ones.

CASE 4.—Patient 22 years old. Had facial neuralgia and earache, not relieved by general treatment, referred to dentist. Roots of left superior first molar in position (the tooth was extracted six years previous), inferior second molar, pulp exposed. Roots were extracted, second molar treated and filled. Two weeks later patient reported having been perfectly free from both neuralgia and earache.

CASE 5.—Patient 33 years old. Had had frequent earaches for one year, severe for two days, had prevented sleep. Left external auditory canal and membrana tympani much congested, teeth in good condition, except lower second molar, which had no cavity, but a white chalky appearance. As it gave no trouble the patient refused to go to a dentist. Coal tar products controlled the pain, atropin and a laxative for three days relieved the other symptoms; 11 days later patient returned with practically the same symptoms, which were relieved in four days; 20 days later returned with earache, and the tooth had been growling. She had the tooth extracted and the ear caused no further annoyance.

CASE 6.—Boy 12 years old. For three weeks the left ear and all the upper teeth on that side have been aching, six months previous he had fractured the left central incisor, all the other teeth in good condition. The fractured one was abscissed, the pulp was a putrescent mass. The tooth was treated and all the symptoms relieved.

CASE 7.—Patient complained of deafness and tinnitus and some pain in the ears and that the teeth were in horrible condition. Teeth were in such a condition that the patient was referred to the dentist at once, 16 teeth were extracted and the others treated. Three weeks later reported being all right.

CASE 8.—Child 7 years old. Left ear had been aching for two weeks, no throat or nose trouble of any consequence. The left membrana tympani much congested, one point almost bleeding, teeth in very bad condition, deciduous molars blocking well advanced bicuspids, six-year molars gone to pulp. Teeth were extracted and the ear symptoms quickly cleared up, no pain after extraction.

CASE 9.—Child 1½ years old. Had had pain around left ear for two weeks with some swelling. There was tenderness over the mastoid and congestion of a small hematoma on the posterior wall just in front of the drum, upper and lower molars well advanced, gums greatly congested. The gums were freely lanced and the patient was to return the next day if not better; returned in three days and required no further treatment.

I have recorded seven cases of earache with no evident cause but exposed tooth pulp, all of which yielded promptly to treatment of the teeth; two cases of severe earache during the regulating of cuspid teeth due to tension on the regulating apparatus; many cases of pain in the ear during the filling of teeth, especially molars, this when there was no pain in the teeth themselves; one case of earache and unilateral coryza due to sensitive dentine with no exposure of the nerve; the earache and coryza were almost immediately relieved by filling of tooth and promptly returned on the removal of the filling, this being repeated several times with the same result; twelve cases due to deciduous teeth blocking advancing molars; eleven cases of tinnitus much relieved, if not entirely cured, by treatment of the teeth.

In about 62.5 per cent. of the cases of otitis the teeth were bad, and improvement was much more rapid when the teeth were cared for. A large number of these had passed through the first dentition, so that cases caused by that are not included. In the promiscuous nose and throat cases, where no special ear trouble was complained of at the time, a little more than 50 per cent. had bad teeth.

The only antrum case I wish to report is that of a physician who, when nine years old, had a badly-decayed six-year molar extracted, the roots being left; he was told that they were left and to return if they gave trouble; 19 years later there was pain and a "bone" was removed, followed by a free flow of pus; this was followed by a cessation of symptoms for years, when an attack of grippe in 1890 was followed by empyema of the antrum; this was repeated ten times in eleven years. Each attack was over in a reasonable length of time, but at intervals the patient was much troubled by a very offensive smell, which seemed to come from the nose; for this no local cause was found. During the last attack the antrum was entered under the inferior turbinal, according to Dr. Freeman's method, and the antrum repeatedly washed out, at no time getting much, if any pus, but the horrible odor continued at intervals. For weeks I never got it, when finally, as I was cleaning the tube preparatory to washing, there was an escape of very offensive gas, and it was quite evident that it came from the antrum through the tube; the teeth were again carefully gone over and a cast of the mouth made which showed a lack of absorption of the alveolus. With cutting forceps the alveolus was gone through, and the root extracted, a probe passed freely into the antrum and the opening was enlarged to admit passage of a small syringe and an obturator fitted. Through this opening the antrum was repeatedly washed, but as there was no return of the symptoms, the opening was allowed to close and some weeks later the nasal tube was removed. Up to the present time there has been no return of trouble.

DISCUSSION.

DR. J. C. BECK, Chicago—The Doctor has outlined a number of affections that might follow diseases of the teeth, but the main impression I got from the paper was that there was a great deal of incision of the gum done for the relief of earache. All of us know there is a great deal of earache following disease of the teeth, exposed cavities exposing the nerves and causing pain in the ear when there is nothing pathologic in the ear. But when you speak of incising so many cases for the relief of earache, it is not clear to me that the incision of the gum is going to relieve any suppurative condition in the ear. Beside, incision of the gums has been largely discontinued, because it is not an easy matter to incise the gums, especially of infants, for infection is likely to follow. I would like to have heard more about the condition of the ears and whether suppuration followed in these cases even if the gums were in-

cised. One condition that follows the affection of the teeth is affection of the salivary glands, particularly that condition known as ranula. From caries of the teeth we very frequently find affection of the salivary duct, and then salivary concretions form on top of an infected focus in the glands. One case comes to my mind in which there was reported an abscess of the nose following an affection of a tooth. It was first treated as a simple abscess, incised and drained, but cure did not follow, and finally a secondary operation was done and a cyst was found which was thoroughly eradicated and the case recovered perfectly. This case is reported by Killian.

DR. ROBERT C. MYLES, New York City—This subject is a broad one and has been too much neglected. There are other symptoms, especially those of tracheitis and bronchitis, due to pyorrhea alveolaris, and when the teeth and gums are treated the condition immediately becomes better. I have seen patients who had been treated for months without relief before the proper care was given to the teeth. I must say that dentists do not help us enough in this regard. It has been my experience to refer such cases to the dentist, and the patients returned with the statement that but little could be done for them, and they were usually instructed to use some simple mouth wash. The use of peroxid of hydrogen, especially when followed by an application of alcohol, of which many dentists do not approve, at times I have found most advantageous. It is not practicable to remove all the teeth for pyorrhea alveolaris. As to empyema of the antrum of Highmore, it is very frequently caused by filling a dead tooth, but I do not think dentists should be held responsible for an empyema caused by this procedure. The patients should accept the responsibility. There are bacteria often present beyond and near the root end which the dentist can not get out and the patient must accept the risk when the tooth is filled. The dentist should not be blamed. Many of my patients have been relieved by careful inspection and care of the teeth.

DR. H. M. CRYER, Philadelphia—I would like to answer Dr. Myles especially, for I did not hear all the paper read by Dr. Baldwin. A dentist who would fill a tooth and leave decayed or infectious matter in the tooth or about the root deserves censure, and he would be condemned by the dental profession. We know that the teeth do penetrate nearly or entirely through the floor of the antrum. If those teeth become diseased and the pulp becomes devitalized we may have disease of the antrum, the frontal sinus or the ethmoidal cells, and the dentist who would be responsible for such a result ought to be condemned most thoroughly. If he is unable to get the parts in healthy condition then he should extract the tooth and treat the parts in a surgical manner, even if the disease extends through the antrum into the ethmoidal cells or the frontal sinus.

The essayist spoke of lancing the gums for difficult or retarded eruption of the deciduous teeth. The principal objections against lancing or scarifying the gums is that it produces soreness and cicatricial tissue and often does no good. This fault lies in the operation; the incision must be made deeper than a simple scarification, the object being to liberate the tooth, even if the gum tissue overlying it has to be removed. It is not the pressure of the crown of the tooth against the gum tissue that causes the trouble, it is rather that the ends of the roots that are being formed come in contact with branches of the fifth cranial nerve, when in the lower jaw, with the inferior dental branch. The hardened gum tissue holds the growing roots on the nerve, causing direct pain, and through reflex action will cause various pathologic conditions, such as trouble in the ear, disturbance along the alimentary canal, convulsions, etc. By judicious lancing or removal of gum tissue the child will be relieved, but, of course, if the child has an abscess of the ear it will not be cured by lancing, but will have to be treated surgically as any abscess. The impacted tooth may have been an original factor in causing the abscess.

DR. KATE W. BALDWIN—In answer to the first speaker, I have never had a case of sepsis follow lancing of the gums, and cases of acute otitis have usually been relieved. Of course, if there is a pre-existing suppurative condition it is not cured by treatment of the teeth. But suppurative conditions are relieved much more rapidly if the teeth are put and kept in good condition. When the teeth are in bad condition I am prone to order an antiseptic mouth wash before any work is done on them, which is also to be used after the work is done. Scarifying, I agree with the Doctor, is of no use. You must go through whatever tissue overlies the tooth and give it a chance to advance. I do not mean to say that it will cure a case of suppurative otitis, but it will stop an acute otitis very promptly in many cases, and the suppurative cases will get well more quickly if the teeth are put and kept in good condition.

NOTES ON THE DETECTION AND QUANTITATIVE DETERMINATION OF SUGAR IN URINE.*

A. B. LYONS, M.D.
DETROIT.

The detection and determination of sugar in urine is an old subject, yet one of perennial interest to the practicing physician, and one which, from its difficulty as well as from its importance, invites further research. I propose, in this paper, to treat mainly of some of the newer procedures that have been proposed in this line.

The tests for sugar that have been most used heretofore are reduction tests. They give an indication simply that there is something present which is greedy for oxygen. This is a characteristic which sugar possesses in a high degree, but which it shares with a multitude of organic substances, of which, unfortunately, some are normally present in the urine. If we could find some reagent which would yield oxygen to sugar, but would refuse to part with it to uric acid or creatinin or any other of the long list of organic compounds found constantly or frequently in the urine, we should be able to tell positively after applying the test whether or not sugar was present. As it is, we are to-day not quite certain that sugar in a small proportion is not a normal constituent of the urine.

Several new reduction tests for sugar have been proposed within the past few years. Of these perhaps the most important is methylene blue. When a solution containing glucose is colored with methylene blue, made alkaline with liquor potassæ and heated to boiling, it immediately loses color. If the tube containing the solution is shaken so that the oxygen of the air is brought in contact with the decolorized fluid, unless sugar is still present in large proportion the blue color returns. In case of a solution containing 1 per cent. of glucose, the color may thus be discharged and restored several times in succession before the glucose is completely oxidized.

The test is far more delicate than the familiar indigo carmine test, which differs from this in that the color changes first to lavender, then to red, and finally to an amber or straw color. If only sufficient methylene blue is used to give to the solution a distinct tint, it is possible to detect sugar when the proportion is less than 0.02 per cent. (one-twelfth grain to the fluid ounce). The test, however, can be of little practical value in urine analysis, since normal urine decolorizes the reagent. We may indeed assure ourselves of the absence of any considerable quantity of sugar by using in

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the test a single drop, or at most two drops, of the urine. If decoloration does not take place there can not be present as much as two grains of sugar to the fluid ounce. It is possible to make a methylene blue solution of such strength that one cubic centimeter of it will require for decoloration exactly 0.1 milligram of glucose, and so ascertain the maximum proportion of sugar that might be present, but there are better ways to make such an approximate quantitative determination of sugar.

Litmus blue serves as a reduction test for sugar, but is much inferior to indigo carmine, the test being far less delicate.

The ferricyanid of potassium (red prussiate of potash) is an exceedingly sensitive reduction test for glucose. The solution of this salt is of a rich gold yellow color. When made alkaline with liquor potassæ and boiled with a solution of glucose, its color is discharged, the ferricyanid being reduced to ferrocyanid of potassium. If the test be made in a colored solution, or by artificial light, which does not bring out well the yellow color of the reagent, it is still easy to ascertain whether or not this change has taken place, since ferric salts yield a blue precipitate with ferrocyanids, but not with ferricyanids. The solution of ferricyanid must be freshly prepared, and the ferric chlorid must be free from ferrous salt. To make sure of this latter condition, test a little of the ferricyanid solution with a drop or two of the ferric chlorid; the color of the solution will be changed to a deep green, but it will remain transparent, and on diluting will be seen to be perfectly free from a blue precipitate. The test for sugar is to be made, therefore, in the following manner: Put into a test tube 30 minims of a 2 per cent. solution of potassium ferricyanid, add 5 drops of liquor potassæ and a drop or two of the solution suspected to contain glucose. Boil thirty seconds, then add 5 drops of dilute hydrochloric acid or sufficient to render the mixture acid and a drop or two of a 5 per cent. solution of ferric chlorid. A blue precipitate will be thrown down at once if glucose is present. The difficulty with the test is that it is too delicate, i. e., reduction is brought about by substances normally present in the urine, so that the test can not be recommended in urine analysis.

A better reduction test than this is safranin, a red coloring agent. This is used in the form of a solution 1:1000, which is made alkaline with a solution of soda or of potassa and boiled after addition of the solution to be tested for sugar. If sugar is present the red color is changed to a pale amber. By shaking with air the color may be restored, as in the case of methylene blue. The reduction is not as rapidly effected as it is with methylene blue, and the test is not capable of showing such very minute quantities of sugar, but, on the other hand, the constituents of normal urine have comparatively little decolorizing effect on safranin. If 60 minims of the safranin solution are used for the test, with 10 minims of liquor sodæ, 10 minims of a normal urine will not effect decolorization, while the same quantity of a urine containing 0.25 per cent. of sugar will lose its color completely.

In applying heat, be careful not to allow the mixture to boil actively, for oxygen is readily reabsorbed from the air, tending to restore the color. I have not myself made practical use of this test, although I have verified experimentally the general facts stated above, and I incline to think favorably of the test as confirmatory of the indications of other inconclusive tests. The general principle should, however, be laid down that a positive result from a reduction test does not greatly strengthen a conclusion drawn from another reduction test; a negative result in such a case has much greater weight.

After all, we must come back to copper and bismuth as practically the best reduction tests we have. Preference is given by many to the latter on the ground that bismuth is not reduced as often as copper by other constituents of the urine. This advantage is partly compensated by the fact that certain compounds of sulphur part with that element to form with bismuth a black compound which may be mistaken for reduced bismuth. Bismuth is now used oftenest probably in the form of Nylander's reagent, analogous to Fehling's copper solution.

The copper test is, after all, that which is practically most used, and is not likely to be abandoned by those who have learned how to use it. Fehling's solution is much too strong to serve as a delicate test for traces of sugar. It should be diluted with distilled water so as to be of a rather pale-blue color. Sometimes when so diluted it will need to have added to it a little more liquor potassæ—a drop or two only; a large excess of alkali is not desirable. A fluid dram of the diluted reagent is heated to boiling in a test tube and found to stand boiling without reduction. A drop of the urine is then added and the heat maintained 36 to 60 seconds. If much sugar is present the characteristic deposit of cuprous oxid is thrown down. If this does not appear, and if the copper solution remains unchanged in color, three or four drops more of urine are added, and heat applied during another minute. Should the result still be negative, a fresh portion of the test solution should be taken, about 15 minims of the urine added and the whole boiled one minute. If no deposit of cuprous oxid appears, sugar is present only in traces or else there is something in the urine that interferes with the reaction. Possibly there may be an overwhelming amount of sugar, which would, however, be indicated by disappearance of the blue color and development of the characteristic color and odor of Moore's reaction.

It is time to change the tactics. Begin now by boiling a fluid dram of the urine in a test tube, making sure that it is acid. If a precipitate of albumin appear remove this by filtration, add 20 minims of the solution of copper sulphate used for preparing Fehling's solution and again boil. When partially cool add 15 minims of a saturated solution of sodium acetate, which may be prepared extemporaneously by adding to acetic acid sufficient sodium bicarbonate to nearly neutralize it, leaving the reaction, however, distinctly acid towards litmus paper. Filter, and to the filtrate, which is now free from uric acid, xanthin and hypoxanthin, as well as from phosphates, add 20 minims of the alkaline tartrate mixture used for preparing Fehling's solution, and boil one minute. In most cases the presence of sugar will be made evident by the appearance immediately, or on cooling, of the usual deposit of cuprous oxid.

Creatinin, however, is still present and may prove a disturbing factor. It has a reducing action, but has also the property of preventing the immediate deposit of cuprous oxid, and is said to give to the deposit when it does take place, a yellow rather than a red color. In case there is still doubt, therefore, about the presence of sugar, the creatinin must be removed, and this is readily done by the method of G. S. Johnson, as follows:

Add to two fluid ounces of the urine four fluid drams of a saturated aqueous solution of sodium acetate. Boil the mixture five minutes and filter hot; wash the precipitate twice with hot water. Add to filtrate and washings 30 grains of zinc dust and boil 10 minutes to remove excess of mercury. Filter, wash the residue well with water and add to filtrate and washings enough water of ammonia to make exactly four fluid drams. This solution may be used now to determine the quantity of sugar by means of Pavy's copper solution. Since normal urine, even after removal thus of creatinin, possesses some reducing power, the usual deduction of one-half grain to the fluid ounce may be safely made in this determination.

One or two modifications of the copper test deserve mention. In place of Rochelle salt an alkaline citrate may be used with less danger that it may itself cause reduction of copper. Sodium salicylate also may be used, and the test may be made conveniently portable by mixing sodium salicylate with sodium carbonate, and preparing the test solution extemporaneously by putting into a fluid dram of water a little copper sulphate (¼ grain) and adding two grains of the mixture. A deep green solution will result, which on boiling with a few drops of diabetic urine will throw down the characteristic deposit of cuprous oxid.

The copper test is a surprisingly delicate one. By its means the presence of sugar is revealed in absence of disturbing reactions, in two drops of a solution containing one grain to the fluid ounce or in 15 minims of a solution containing 0.02 per cent. When there is uncertainty whether a deposit has been produced or not, the following expedient may be resorted to. After boiling the copper solution with the suspected urine, neutralize as exactly as possible with dilute hydrochloric acid, add a little neutral sodium acetate and a drop or two of a 5 per cent. solution of potassium iodid. A white precipitate of cuprous iodid will be thrown down immediately if there has been any reduction of copper.

An important modification of the method for quantitative determination of sugar by a copper solution is that of Gerrard, known as the cyano-cupric test. Ten c.c. of Fehling's solution are diluted with 40 c.c. of water and heated to boiling. A 5 per cent. solution of potassium cyanid is then added gradually until the blue color is nearly discharged, then drop by drop until the color wholly disappears. Any excess of the cyanid must be avoided. An additional 10 c.c. of Fehling's solution is then added, producing a deep blue solution, which does not now throw down cuprous oxid when boiled with a sugar solution, but suffers reduction with gradual fading of color, as in the case of Pavy's solution.

The determination of sugar is made exactly as with Pavy's solution, the saccharine solution being added from a burette until the color just disappears, the quantity of sugar indicated being the same as if 10 c.c. of the ordinary Fehling's solution had been used. The advantages claimed for this solution are that there is no ammonia to be driven off in boiling, and that oxidation of the solution does not take place so easily as in the case of the ammoniacal solution.

The test for sugar to which I am especially partial is picric acid. It is not new, but the manner in which I use it is of my own devising and is as follows: I prepare in the first place a standard color by dissolving 5 grams of potassium bichromate in 50 c.c. of water, adding 25 c.c. of diluted sulphuric acid, U. S. P., and making up with water to 100 c.c. I put into a test tube exactly 30 minims of the urine together with 15 minims of liquor potassæ and a picric acid reagent tablet and boil one minute. I then add water gradually until the tint of the diluted solution corresponds exactly with that of my standard solution, when test tubes are filled to the depth of 4 cm. with the two fluids and they are viewed from above. I measure the diluted solution, deduct 20 c.c. for "normal sugar," and reckon for each cubic centimeter of the remainder one three-hundredth of 1 per cent. of sugar. In the urine of persons who have taken certain cathartic medicines, such as rhubarb or senna, it may be found that addition of liquor potassæ alone will develop a deep color. In such case mix 30 minims of the urine with 15 minims of liquor potassæ and dilute until the color corresponds as nearly as possible with that of the standard solution, measure the diluted fluid and deduct this measure in addition to the 5 fluid drams above.

There is certainly no quicker way to make an approximate estimation of the quantity of sugar present, and perhaps no way more likely to give results that may be depended on, although it is best to confirm them by an independent method, such as that by fermentation.

The tests hitherto described are indirect, depending on reactions not peculiar to sugar. We have, however, now a reagent which detects sugar by forming with it a definite chemical compound, and which, therefore, gives us greater certainty of our results than any indirect test can. The reagent is phenylhydrazin, the compound formed phenylglucosazone, called for short osazone. It is necessary only to heat the solution suspected to contain sugar with a little of the reagent and some acetic acid to bring about the reaction. The osazone is a yellow substance which crystallizes very readily and in an easily recognized form. The crystals which form in an aqueous solution occur generally in tufts of delicate needles, often nearly spherical or in a sort of dumbbell form, but also frequently in a double sheaf or in groups consisting of two bundles of needles crossing one another at an acute angle, like the letter X. These crystals are almost insoluble in water. They dissolve sparingly in ether, readily in hot alcohol, these solutions depositing them again in crystalline form on evaporation.

To apply the test to diabetic urine the following method, which is essentially that of Neuman, is to be recommended. Place in a test tube 1 fl. dr. (4 c.c.) of the urine, add about 2 gr. (0.12 gm.) of phenylhydrazin hydrochlorid (or two drops of phenylhydrazin itself), add 20 m. (1.3 c.c.) of a reagent prepared by dissolving in 1 fl. oz. (30 c.c.) of acetic acid (40 per cent.) and 60 gr. (4 gm.) of sodium carbonate. Heat the mixture to boiling, pour it into a porcelain capsule and evaporate on a water bath to one-half its volume and allow to cool. If the urine contains as much as one grain of sugar to the fluid ounce a yellow- or rust-colored deposit will form, which will generally show under the microscope crystals of osazone.

I find that the test is more likely to succeed if the urine is first treated in the following manner: To 1 fl. oz. (30 c.c.) of the urine add 1 fl. dr. (8 c.c.) of a 10 per cent. solution of barium chlorid, together with 10 m. (0.65 c.c.) of liquor potassæ. Filter through a double filter, add to the filtrate 10 gr. (0.65 gm.) of sodium carbonate, heat to boiling and filter once more. The filtrate is now free from urates and phosphates and,

therefore, is in a much better condition for the test. To 1 fl. dr. (4 c.c.) of the filtrate add 2 gr. (0.13 gm.) of phenylhydrazin hydrochlorid and 15 m. (1 c.c.) of acetic acid, heat to boiling, transfer to a capsule and evaporate as above.

In case the deposit is not distinctly crystalline, I pour the cold mixture containing it into a test tube, add 30 m. (2 c.c.) of ether, shake together a moment and pour off the ether into a beaker, in which I allow it to evaporate at a very gentle heat. Crystals may or may not form. I expect to find the greater part of the osazone remaining in the aqueous fluid, the ether having removed uncrystallizable impurities. I add to the aqueous fluid an equal volume of alcohol and heat to boiling. When cool, I add 1 fl. dr. (4 c.c.) or more of ether, shake a few moments and allow the ether to separate. This ether I decant into a beaker and evaporate off at a gentle heat, when fine crystals of osazone will almost always be formed, particularly on the sides of the beaker.

Another method of making the test—that of Kowarsky—generally succeeds well, particularly when the urine has been treated as above described with barium chlorid and sodium carbonate. To 1 fl. dr. (4 c.c.) of the urine add 15 m. (1 c.c.) of glacial acetic acid 2 gr. (0.13 gm.) of phenylhydrazin hydrochlorid and 20 or 30 m. (1.5 or 2 c.c.) of a saturated solution of common salt. Boil the mixture three minutes and allow to cool slowly. If sugar is present in the proportion of one grain to the fluid ounce crystals of osazone will separate on cooling, or within an hour or two.

The phenylhydrazin test may fail to detect minute quantities of sugar in the urine, but it is subject to few fallacies. The urine does contain sometimes glycuronic acid which forms with the reagent a crystalline compound closely resembling osazone. The urine of persons who have taken thymol, menthol or eucalyptol contains compounds of glycuronic acid, and, therefore, responds to this test. We are compelled, therefore, after all, in uncertain cases, to fall back on the fermentation test. Now that compressed yeast is to be found in every grocery store there is no difficulty in applying the test.

The fermentation test has always been recognized to be the simplest and most nearly infallible test we have as yet for sugar in the urine. It may fail from the accidental presence in the fluid of some antizymotic agent. Some preservative may even have been added intentionally, but rarely, if ever, without the knowledge of the person who is to make the examination. The method of making the test is familiar to you all. The fact of fermentation, as you know, is evidenced by the escape of carbon dioxid, and by a change in the specific gravity of the urine. Many of you are accustomed to determine the quantity of sugar in a specimen by taking its specific gravity before and after fermentation, and the method is at once simple and trustworthy, if carried out with due care. You are more accustomed, however, to make the test merely as a qualitative one, conducting the fermentation in such a way that any carbon dioxid evolved may be collected.

Some of you have used "saccharometers," which indicate the quantity of sugar present by the volume of gas evolved. The principle of such an instrument is sound. A grain of sugar will yield by fermentation a definite volume of carbon dioxid—a little more than half a fluid ounce measured at 75° F. The fact that has been ignored in all these saccharometers is that carbon dioxid is soluble in water, so that until the fermenting fluid is quite saturated, no gas will be given off. A fluid which contains less than about two grains and a half of sugar to the fluid ounce will, therefore, apparently evolve no gas during fermentation. The gas is there, but it is held in solution.

An obvious expedient to overcome this difficulty would be to saturate the fluid to be fermented with carbon dioxid at the outset. After adding the yeast, a certain quantity of sodium bicarbonate and tartaric acid could be added, the latter in slight excess, and the mixture allowed to stand a few minutes so that any excess of carbon dioxid might escape. A better plan still would be to add to the fluid a quantity of cane sugar, just sufficient to produce in its fermentation gas enough to saturate it completely. The free gas collected under such circumstances would be a substantially accurate measure of the quantity of sugar present.

Another difficulty with most of the saccharometers heretofore used is that the gas as it collects displaces a corresponding quantity of the fermenting fluid, so that their quantitative indications are wholly worthless.

An instrument called the saccharoscope is constructed on scientific principles and enables the physician to determine with a fair degree of accuracy by fermentation the quantity of sugar in a specimen of urine. The instrument has two chambers, in one of which the fermentation is conducted, while in the other the carbon dioxid evolved is collected. The second chamber is filled with water at the beginning of the experiment, but the water is covered with a layer of paraffin oil so that the gas may not be absorbed by it.

A subject I can do no more than touch on at this time is the fallacies that may arise from remedies a patient is using. An exhaustive paper on this subject was presented at the last meeting of the American Pharmaceutical Association by Mr. Frederick T. Gordon, Pharmacist U. S. N. A very large number of the synthetic remedies now in use have a reducing action so that their presence in the urine places in doubt the result of reduction tests for sugar. It is only such remedies, however, as are given in comparatively large doses—a gram or two at least in twenty-four hours—particularly those given in such doses several days in succession, that are liable to be eliminated in the urine in quantities sufficient to lead to the erroneous conclusion that sugar is present. The most important of these are the antipyretic remedies now so frequently prescribed—or used without prescription—acetanilid, antipyrin, phenacetin and salol. To these may be added certain aldehyds or kindred compounds, bromal, chloral, acetal and a number of synthetics more or less frequently prescribed as aspirin, europhen, hydroquinone, urotropin, the latter not often given in quantities sufficient to lead to such fallacies.

The picric acid test is open to fallacies, especially from the use of cathartics containing emodin—senna, rhubarb, buckthorn and cascara sagrada; this has already been pointed out.

The phenylhydrazin test is not affected by the antipyretics or by other reducing agents, but may give a false indication of sugar after the free use of eucalyptol, menthol or thymol. Albumin interferes with this as with most of the sugar tests.

It has happened sometimes that formaldehyd has been added to urine to preserve it without considering that this is not only a powerful reducing agent, but that it interferes with fermentation. Formaldehyd has further the curious property of preventing the precipi-

tation of uric acid by acids, and at the same time of causing precipitation of urea by hydrochloric acid.

The most important of the conclusions reached by Mr. Gordon from his numerous experiments and observations are:

1. The main sources of error in testing urine for sugar will come from the continued administration of many of the synthetics at short intervals in the usual doses; single or widely separated doses of most of these have little effect, as the dilution is too great in the urine.

2. By allowing sufficient time for the drugs to be eliminated from the system, usually only a few hours when not taken long enough to saturate the system, the error their presence in the urine causes can be reduced to a minimum. In cases of doubtful sugar reactions, stop the treatment for at least twenty-four hours before collecting samples of urine.

3. When drugs have been administered for some time, the morning urine will contain the greatest amount of their derivatives.

RECAPITULATION.

To recapitulate briefly the more important points made in this paper:

1. The most convenient preliminary test to apply for sugar in the urine is picric acid, which gives in two minutes a quantitative determination which requires no elaborate apparatus and is generally approximately correct, subject to confirmation by other tests.

2. Of the newer reduction tests, methylene blue is perhaps the only one that will especially interest the physician, and is an exceedingly sensitive test.

3. The copper test yields to none in sensitiveness, and, although more open to fallacies than the bismuth test, need not be abandoned altogether by those who have learned to use it.

4. The phenylhydrazin test is easily made, is more nearly conclusive than any other chemical test, and should always be applied in confirmation of the conclusions drawn from other tests. In inexperienced hands it may fail to reveal sugar when present in a proportion of less than one-half of 1 per cent.

5. When small quantities of sugar are to be determined quantitatively by means of a volumetric copper solution, creatinin should first be removed from the urine by the method of G. Stillingfleet Johnson.

6. By aid of a suitable apparatus, quantitative determination of sugar can be made by fermentation even when the proportion is quite low. The ordinary fermentation saccharometers can not, however, accomplish this, their quantitative results being almost of no value.

I have made no mention of the use of the polariscope, which in its improved form is of great value, particularly where the physician wishes to make daily examinations of the urine of a patient. The instruments are so costly that they seldom form a part of the equipment of a physician's laboratory.

DISCUSSION.

DR. HEINRICH STERN, New York—I think Dr. Lyons laid too much stress on the phenylhydrazin test. In my estimation this is a much overrated test. I have employed the various modifications of the test, those devised by Jaksch, Jolles, Ultzmann and Havelburg. Normal urine treated with phenylhydrazin may occasionally yield crystals which to all appearances are identical to those of phenylglucosazone. The outside appearance of the crystals is no positive proof of their true character. If the phenylhydrazin test is to be depended on, the melting point of the crystals must be determined. Glycuronic and oxalic acids, carbamid, pentoses, etc., combine with phenylhydrazin. The phenylosazone crystals of glycuronic acid or its combinations are exactly analogous to those of phenylglucosazone. The melting point of the glycuronic acid compound is between 114 and 115 C., that of phenylglucosazone in its impure state between 173 and 194, and when pure between 204 and 205 C. The fermentation apparatus exhibited by Dr. Lyons is undoubtedly an improvement over Einhorn's and similar apparatus, as it prevents absorption of carbon dioxid. I am, however, of the opinion that my fermentation apparatus, the urino-glucosometer, possesses advantages over all the other urine fermentation devices. That apparatus is based on the method originally brought forward by Roberts. The apparatus can also be utilized for ascertaining the specific gravity of the urine. The great difference between this and all other fermentation apparatus is that with the aid of the Stern device the amount of urinary glucose may be definitely determined while the other apparatus, at their best, only permit an estimation of the amount of grape-sugar contained in the urine. By placing my apparatus or the specially-designed fermentation tubes into a sandbath or into an incubator in which the temperature is kept at a constant temperature of from 34 to 38 C. complete fermentation of the contents of the tubes may be obtained in from 6 to 8 hours.

DR. A. B. LYONS, Detroit—My paper referred to glycuronic acid and its liability to interfere with the phenylhydrazin test, but I omitted that part in condensing my remarks. I particularly insisted, however, that the phenylhydrazin test must be supported by others, and especially by the fermentation test. There is one other test that I had intended to mention, although I have had no personal experience with it—in fact, I have not been able to procure the reagent, although I sent to a prominent dealer in chemicals in New York for it. The reagent has a polysyllabic name, ortho-nitrophenyl propiolic acid, called for short nitropropiol. It is now to be had under the latter name in the form of tablets for use in urine testing. The presence of glucose is indicated by it by the development of a blue color, which is best made evident by adding a little chloroform, which is colored blue by it. The test is said to be a delicate one. Glycuronic acid also produces the blue color, so that the indication of this test also should be confirmed by fermentation.

THE PRESENT AND FUTURE THERAPY OF ORTHOPEDIC SURGERY.*

NEWTON M. SHAFFER, M.D.
Professor of Orthopedic Surgery in the Cornell University Medical College; Surgeon-in-Chief to the N. Y. State Hospital for Crippled and Deformed Children.
NEW YORK CITY.

The development of orthopedic surgery, as a specialty, has been attended by some incidents and circumstances which I think invite especial comment, for, more perhaps than any other specialty in medicine, its evolution has been influenced by a few men whose personality and whose acknowledged ability, especially in a mechanical way, have contributed to the present successful status. The influence of these pioneers, supplemented by the modern developments of operative surgery, has been to establish in the minds of many some doubt as to what orthopedic surgery really is.

Modern orthopedic surgery in this country may be said to date from the time of Dr. Henry J. Bigelow of Boston, who wrote a "Manual of Orthopedic Surgery," which obtained the Boylston prize for 1844. The essay was on this subject: "In what cases, and to what extent, is the division of muscles, tendons and others parts, proper for the relief of deformity or lameness?" The works of Guerin, Bonnet, Velpau, Phillips, Duval, Little and others were utilized by Bigelow in his essay, and he incorporates strabismus and stammering in his work, with club-foot, torticollis, ankylosis of the knee, flexion of the hip-joint, lateral curvature of the spine, contracted hands and fingers, congenital dislocation, re-

* Read before the American Therapeutic Association, in New York City.

cent and chronic dislocations and locked jaw. This is submitted with a preface, a part of which reads as follows: "It is believed that the general intention of the committee will be fulfilled by an attempt to cover the ground now occupied by orthopedic surgery."

It will be noticed that no mention is made in this essay of Pott's disease of the spine, hip-joint disease or of any other of the deformities due to chronic or progressive diseases of the articulations, all of which may result in deformity or lameness. Nor was it until 1855 that these diseases and deformities of the joints attracted especial attention. At that time Dr. Henry G. Davis introduced his famous traction splint for the treatment of hip-joint disease and his equally efficient antero-posterior support for Pott's disease of the spine, and the pathologic conditions underlying these diseases began to be appreciated if they were not fully understood, although Dr. Davis distinctly stated that they were tuberculous. Davis' apparatus was quickly adopted, amplified and improved by his contemporaries, and Bauer, Taylor, Sayre and Knight soon after, by their strong personalities and marked abilities, established what has since become known as "The American School of Orthopedic Surgery."

Thus it is that the subcutaneous tenotomy of Stromeyer (1830), supplemented by Little of London, Detmold of New York, and others in the same field, and the later efforts and successes of the pioneer American orthopedic surgeons, made a legitimate school of orthopedic surgery which has been augmented and amplified by numerous eminent men, whose work has been greatly to the credit of medicine and surgery.

In the meantime an important advance in the treatment of deformities occurred with the introduction of osteotomy and osteoclasis and the plaster-of-paris bandage. The treatment of knock-knee, bow-leg and other osseous deformities were thus brought under the classification of acute fractures; in short, under the care of the general surgeon, who became independent of the orthopedic surgeon and the use of specially constructed apparatus in the treatment of these conditions. The application of the gypsum bandage was taught in the medical colleges as much so as other conventional splints, and the general surgeon found himself equipped to do much work that formerly fell to the orthopedic surgeon. Orthopedic surgery, therefore, found itself confronted by a serious question, a question I tried to solve in an address[1] before the orthopedic section of the Berlin International Congress in 1890, in which I said: "There would be no true orthopedic surgery to-day if mechanico-therapeutics had not been studied long and patiently by a comparatively small body of intelligent surgeons." This statement is just as true to-day as it was twelve years ago, and it revives the question as to what really constitutes orthopedic surgery, and what should be its future status as a specialty, especially from a therapeutic standpoint.

For the purpose of discussing the future therapy of orthopedic surgery let us dismiss from our minds the various non-inflammatory long-bone deformities, such as knock-knee, bow-leg, etc., which however much the orthopedist may claim them, will be operated on and successfully treated by the general surgeon. They are conditions with which, after a certain age, the general surgeon can easily cope and their future therapy is not so liable to undergo marked changes as that for other deformities to be considered later. A considerable number of these long-bone deformities, however, will always be treated by mechanical means, and the operative measures for these deformities are not gaining in popularity.

In an address[2] before the Board of Trustees of the New York Orthopedic Dispensary and Hospital, delivered in 1897, I made the following assertion: "It will be along the line of conservatism that orthopedic surgery will be developed, not on the lines of operative surgery."

Let us study this aspect of the subject and see where it leads. As a fundamental principle let us quote as general propositions the following:[2]

1. "The treatment of chronic deformities would be emasculated if mechanical treatment was omitted. Indeed, under these circumstances there would be only operative surgery left."

2. "The operative part of orthopedic surgery becomes the simple but necessary adjunct of the mechanical work."

These simple propositions underly, I think, the present and future therapy of orthopedic surgery.

No one who is familiar with the present mechanical aids of the orthopedic surgeon can avoid the conclusion that they are still in their infancy. The apparatus now in use will be thought very inefficient by the orthopedic surgeon fifty or one hundred years hence. So also with many of our present methods. They will all be revised, amplified and improved or perhaps discarded for others, based on a clearer conception of the various conditions involved. The therapy of the orthopedic surgery of the present day represents an undeveloped, but necessary, specialty. It represents, especially from a mechanical standpoint, inspiration, rather than the result of study and research. It represents the clinician rather than the pathologist. It represents intuition rather than inductive reasoning. Davis struck an important principle when he imitated Nature and made an apparatus do what the human hand, guided by the human intellect, accomplished. Taylor, a born mechanician, would sit down, scissors in hand, and cut out a pasteboard pattern of an apparatus for club-foot. Sayre could apply with his deft hands a gypsum splint in a way that I have never seen equaled. Knight would intuitively devise apparatus for a given deformity and make a creditable drawing of it at a moment's notice. In stating these characteristics of these honored men I have no thought of detracting from their other eminent and recognized abilities. Still, I never knew any of these pioneers in orthopedic surgery to work out a problem in the application of artificial mechanics to a human deformity on what might be called a scientific basis. It seems foreign to their nature, and perhaps to their training, to imagine any one of these men defining a deformity with a scientific formula, such, for instance, as is used by the ophthalmologists of the present day. But this scientific method must come before orthopedic surgery can claim a safe position among the specialties of surgery, and this method will be used to describe certain deformities, not only for permanent record, but to meet the intelligent comprehension of the profession.

No one doubts the potent influence of these men in founding a distinct branch of surgical inquiry; and no one can take exception to their abilities or to their well-earned renown. They have given us a point of common interest around which we may all gather, and they have pointed out the way to grand results. But the problems they have left unsolved only stimulate inves-

1. What Is Orthopedic Surgery? Transactions of the Tenth International Congress, 1890.

2. The Operative Side of Orthopedic Surgery. N. Y. Medical Record, Dec. 18, 1897.

tigation and study among their humble followers, and it seems almost useless to say that these investigations and studies will not be so much with the knife, chisel and saw, as in the almost unexplored fields of mechanical therapy, and in pathologic exploration.

The future therapy of orthopedic surgery must answer, among many other unsolved problems, the following, viz.: a more scientific way to make traction in hip-joint disease; the successful relief and cure of lateral curvature of the spine; the prevention of deformity in Pott's disease, especially in the dreaded respiratory region; the prevention of deformity in hip-joint disease; the radical and permanent cure of congenital dislocation of the hip; the relief of many of the urgent deformities of infantile spinal and cerebral paralysis; the permanent and speedy cure of flat-foot and allied conditions, and the relief and cure of many deformities dependent on tuberculosis, now only exceptionally successfully treated. The future development of orthopedic surgery opens up a wide field that scarcely invades operative surgery. It invites the physiologist, the pathologist, the surgeon and the mechanician alike, and the successful orthopedic surgeon of the future must combine all these.

At present the foundations are laid—that is all. The same principles which have guided the minds which have made the Brooklyn bridge an everyday conventional affair, will guide the minds which conquer the unsolved problems of orthopedic surgery. No one man will do it. A syndicate of far-apart thinkers, earnestly working for the same end, perhaps by diverse methods and from totally different standpoints, will ultimately formulate means of relief and cure which now seem unattainable.

Looking at the therapy of orthopedic surgery to-day, one must be impressed with the tendency which exists to cultivate the surgical at the expense of the mechanical. The eagerness of the medical student to witness the bloody and difficult operations in the amphitheater, while he neglects the equally necessary mechanical details of the orthopedic department of college work, is reflected in the profession at large. This applies to some who are best known as orthopedic surgeons. They will operate with skill and interest in a given case of deformity not, perhaps, really requiring operative work, only, when the operation is completed, to turn their patient over to an uneducated mechanic in steel for much of the subsequent treatment. On the other hand, it is not uncommon to find a complicated apparatus, useful enough in the hands of a skilled surgeon, but utterly useless in the hands of the inexperienced, pictured in the numerous catalogues of instrument-making firms, which are so freely circulated among the profession. Since the introduction of the plaster-of-paris bandage, the profession have been less dependent on this class of men, but only because the use of plaster of paris has been taught in the medical colleges. But to the skilled orthopedic surgeon the plaster-of-paris bandage in many instances will always be a "ready-made clothing" affair, for he will prefer, in nearly every case, to adjust and adapt an apparatus, based on scientific principles, which meets the indications and which can be adjusted even in minor particulars to meet the requirements of the condition under treatment. In short, he will make his apparatus a veritable prescription which can be modified by his own hands, and he will discard, as far as he can, all fixed forms of apparatus, of which the gypsum splint is a typical example. Those who thus make themselves personally responsible for the mechanical therapy of their patients are perhaps not numerous in the profession to-day. But those who have followed this method have probably saved orthopedic surgery as a distinct specialty from being absorbed by general surgery.

In order to bring the future therapy of orthopedic surgery up to a proper standpoint the medical colleges throughout the world should be equipped with a completely appointed mechanical laboratory where the students will come in contact with the various deforming diseases of childhood, and be taught in a practical way the mechanics of the human frame and the application of artificial mechanical means to relieve and cure deformity, especially of the parts involved in locomotion. Writing on this subject in 1898, I say:[3] "The next progressive step in the surgical care of deformities will be to establish a mechanical laboratory where the practical use of apparatus in the treatment of deformities may be intelligently taught in all our medical colleges."

This, it seems to me, is the most important step in the future therapy of orthopedic surgery. The student having been made familiar with the important first principles of mechanico-therapy, and educated in the essential details of the application of the ordinary forms of apparatus, the importance of mechanical therapy will be recognized, and much that is now left to the imagination of the student will be clearly defined. And this means that orthopedic surgeons who accept appointments in college work should be masters of a subject that is now quite neglected.

My plea, therefore, is for an advanced therapy for orthopedic surgery which will place it where it will be a true specialty, quite apart from general surgery, where those who practice it will bring to bear on its many interesting problems a close study of its pathologic bearings, a clearer conception of its surgical necessities and a recognition of the extreme value of a close study and a more scientific development of its mechanical side.

We have no school of applied mechanics in our medical colleges. We can demonstrate the surgical (operative) measures. We can illustrate symptoms and diagnosis, in the clinics and in the sectional teaching, but we can not give the practical instruction which is necessary in mechanico-therapy without a well-equipped laboratory; in short, a shop supplied with power and tools and controlled by a master at the head of it all.

When I read my essay on "What Is Orthopedic Surgery" before the Berlin Medical Congress in 1890, I attempted to define orthopedic surgery as follows:

"Orthopedic surgery is that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary."

I can see no reason for changing this definition. Any surgeon fully mastering the conditions laid down in this definition will find his hands fully occupied and his heart and brain interestingly engaged in a work that will meet with ample reward, and which needs no other approval than that of his own conscience.

3. On the Care of Crippled and Deformed Children. N. Y. Medical Journal, July 9, 1898.

Amyloform as a Specific Against Coryza.—The personal and clinical experience of H. Lepa, as detailed in *Med. Blätter*, No. 5, establishes that the harmless powder, amyloform, will arrest a cold in the head in its early stages and relieve it at any stage. He combines it with equal parts of rice starch and uses it freely as a snuff every hour or oftener.

PRIMARY CARCINOMA OF THE NASAL CHAMBERS.

WM. EDGAR DARNALL, A.B., M.D.
Physician to the Atlantic City Hospital; The Mercer House for Invalid Women; Late Physician to St. Michael's Children's Hospital.
ATLANTIC CITY, N. J.

It is not common to find malignant disease attacking the nasal chamber. When it does, however, it is found to be sarcoma more frequently that carcinoma. Kyle and Bosworth both point out the infrequency of these conditions in the nose. The latter, in 1889, succeeded in collecting 41 cases of sarcoma and 30 cases of carcinoma of the nasal cavities. Gibb,[1] after a careful search of the literature, has been able to add 70 cases of sarcoma and 48 of carcinoma, making a total of 111 cases of sarcoma and 78 cases of carcinoma. In a special practice of ten years he has only seen one case of primary carcinoma of the nasal chambers, but he considers sarcoma not nearly so rare as statistics would seem to indicate.

The case of carcinoma I wish to add to this list occurred in a German woman of 69 years of age, who had always been a hard worker. There is no special interest attached to it except the short term of its duration; but since this disease so rarely attacks the nasal chambers this case is worthy of record, if only to make the statistics more complete, and it brings the number now up to 79 cases.

The patient was not seen early enough to determine the exact position at which the trouble started, but the appearances indicated a beginning on the middle turbinate. The favorite site, however, of primary carcinoma of the nose, it is stated, seems to be in the proximity of the ethmoid and sphenoid cells, high up in the nasal cavity. When the case was first seen there was a history of occasional epistaxis and the usual stenosis, causing a stoppage of the nose, and it was thought to be due to an ordinary mucous polypus. The patient passed out of the writer's hands and consulted a local surgeon, who attempted to remove the growth. He succeeded in getting a portion of it away and in producing a hemorrhage that was with difficulty controlled. The patient later went to a surgeon in Philadelphia, who made two unsuccessful attempts to remove all adventitious tissue, and sent her home with the advice that she had better not have it further interfered with. When she came into my hands again, some time after this, there was a distinct swelling on the right side of the nose. There were lancinating pains through the face and head and an irritating characteristic discharge from the nose. The nostril was filled with the growth. The antrum and superior maxilla soon succumbed to its advance and its appearance on the face through the skin made the nature of the growth unmistakable. The cervical lymphatics were involved, and after a while the roof of the mouth as well as the upper pharynx showed the progress of the disease. By this time exophthalmos was present to such an extent that the right eye was crowded entirely out of its orbit, producing the characteristic frog-face appearance and being attended by intense suffering.

The progress and duration of carcinoma of the nose varies with the character of the growth. The medullary and adenocarcinomata are said to be the least malignant and of the longest duration. Neudorfer reports a case which had existed for eleven years. Heurteaux reports a case of tubular epithelioma which had lasted fourteen years, and a case of adenocarcinoma is reported by Hopkins which lasted twelve years. All other varieties are of rapid growth. The shortest duration noted by Gibb are the cases of Pepper and Shakespeare, in which death took place within seven months. The writer's case, which was seen a short time after the symptoms were first complained of, in November, died the following June, making a duration of seven months. I have seen no case reported of shorter duration than this. Bosworth's case lasted nine months. The average duration is stated at about a year and a half, and the case here reported is therefore one of unusually rapid progress. No doubt the rapidity of its progress was hastened by the surgical interference which, failing to completely remove the diseased tissue, only encouraged its further growth.

The prognosis in all cases of carcinoma of the nasal cavity is decidedly unfavorable. In the light of our present knowledge there is but one variety which offers any ground for a favorable prognosis, and that is the so-called cylindroma of Billroth. If the site is favorable for complete removal, Gibb and others advise removal, but unless one is reasonably sure of being able to remove completely all diseased tissue it is better not to attempt it, for the interference, instead of accomplishing anything, only accelerates the disease and produces a fatal termination more quickly.

121 S. Illinois Avenue.

1. New York State Journal of Medicine, January and February, 1902.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.
Professor of Genito-Urinary Surgery, Medical Department, University of Illinois; Surgeon to St. Mary's Hospital.
CHICAGO.

(Continued from p. 246.)

3. AUCKLAND, NEW ZEALAND.

For the benefit of any of my friends who may chance to take a trip to New Zealand and Australia I will suggest the wisdom of remembering the fact that they may expect weather the diametric opposite of that which they leave at home. Leaving San Francisco in the early autumn and finding myself three weeks later in the beginning of the New Zealand spring impressed this on me most emphatically. The weather became raw and cold three days before arriving at Auckland. Soon after this change of weather we arrived at the 180th meridian and I had the, to me, novel experience of losing a day out of my life. Saturday night was succeeded by Monday morning. Sunday was lost. This was sad, but was mitigated by several things. In the first place I didn't know it was Sunday that I had lost until I discovered it quite by accident. I had lost all track of time. Then, too, it would have been a rainy Sunday, anyhow, and I couldn't have gone out in my automobile. Best of all, the volunteer pastor of our peregrinating flock was cheated out of his usual sermon. He was an English preacher, with atrophy of the "H" center, nasal obstruction and a raucous voice. His creed was not evident to my inexperienced ear, but it was strictly orthodox, and had so much brimstone and fire in it that, by contrasting their present with their future state, the seasick ones found themselves well. If one could only select the day which he loses—I have had several that I never would have missed.

Auckland, the principal city of New Zealand, is a most charming place. The harbor is landlocked, commodious and as beautiful as could be desired. I was told that the harbor of Sydney was much more beautiful, and was perforce compelled to believe that it must be so, as it has the reputation of being the most beautiful in the world; but the fact remains that Auckland harbor seemed ideal.

The scenic surroundings of Auckland are indeed wonderful. It is not my province to regale the readers of THE JOURNAL with descriptions of scenery, but I can not refrain from mentioning the scenic panorama unfolded to the tourist's gaze from the summit of Mount Eden—most appropriately named. The city of Auckland itself is especially beautiful as viewed from the mountain top. The harbor lies before one in all its loveliness, while stretching away in all directions as far as the eye can reach is a scenic display of picturesque buildings, well-kept small farms and gardens which it would be difficult to equal. In the distance one can see several of the wonderful inlets of the sea, or sounds, for which the New Zealand coast is so famous. Not the least of Auckland's attractions is its extreme cleanliness. Another favorable item is the cheapness of its hotels. Good hotel living is to be had at rates which stagger the American. Strangely, "tipping" is almost unknown.

The Auckland Museum is well worth seeing. It contains a collection of Maori implements, weapons, boats, houses and wonderful carvings, which form a most valuable contribution to ethnology, and is a pathetic monument to a noble and unfortunate race, which, through the rapacity and cruelty of the white man, has become almost extinct. It is not fitting that I should describe the various interesting relics of the Maoris. I will merely mention a couple of mummified heads prepared by them which are very remarkable for the preservation of form and features and the ligneous character imparted to the tissues by the method of embalming. One of these heads bears the tattoo marks which embellished it during life. The other has been engraved as if it were hard wood with various fantastic designs simulating Maori tattooing.

One of New Zealand's wonders is the Kea, a large, handsome parrot. This bird, originally herbivorous, has become carnivorous. He is a specialist in his way, and destroys sheep in a most peculiar manner. He alights on his victim's back, tears open the lumbar region and devours the perinephritic fat. He is not averse to other fatty portions of the body, but, when sheep are plenty, he absolutely ignores all portions of the sheep save the perirenal fat. Thousands of dollars worth of sheep are killed annually by these birds.

A feature of New Zealand which looks quite singular to an American physician is the large proportion of insane in the islands. The proportion of male insane to the total population is 1 in 165. Inclusive of Maoris it is 1 to 281. The female insane are in a proportion of 1 to 367. The grand total is 1 to 300, exclusive of Maoris. Inclusive of Maoris it is 1 to 316. This is a frightful showing, and hard to explain, in view of the apparently favorable conditions prevailing in that beautiful country.

New Zealand is especially boastful of its scenic health resorts, and with reason. The lake country, of which the Rotorua district is the center, teems, with medicinal springs—both hot and cold—boiling lakes and phenomenal geysers. It is growing to be a very popular resort for invalids of all descriptions. Like all spas, those of New Zealand are accredited with hundreds of wonderful cures "given up by the doctors." The invalid who is not cured is consoled by the wonderful scenery, so what would you? A peculiar fact regarding New Zealand is the steady, marked decrease in the number of marriages. The country does not lack marriageable young men and women, and all conditions are favorable to matrimony, yet the institution is unpopular. The moral status of the islands is nevertheless high and the proportion of illegitimate children low. The latter-day New Zealand family is small. These conditions are really a source of uneasiness to the thinking residents. There is no explanation of a social character for the abnormal conditions mentioned. One can not avoid the suspicion that some general neuropathic cause underlies both the phenomenal prevalence of insanity and the paucity of marriages.

New Zealand certainly does not suffer from a lack of hospitals. The annual expenditure for hospitals is considerably over $500,000 aside from private subscriptions and endowments; this sum for a population of 900,000 whites and 40,000 Maoris is by no means insignificant.

There are a number of private and several government sanatoria at the various spas, in the North Island especially. The government owns all the hot and mineral springs, and at Rotorua provides a resident medical officer, whose services are free to the patrons of this famous resort. One great advantage of government ownership and supervision is the nominal fees charged for living and baths at the various springs.

Auckland has but one hospital worthy of the name, the Auckland Hospital. This is under the control and support of the municipality. It is located most favorably on a beautiful hill just out of the thickly settled part of the city, in the midst of a large acreage of as fine land as ever lay out of doors. The spacious grounds are well kept and beautified by superior landscape gardening. The main hospital building was erected in 1875, and looks more than its age. It needs the painter's services badly, but its architecture is not unhandsome. The hospital, with its charming environments, makes a very attractive picture. The interior appointments of the main building are, of course, not strictly modern, yet there are many hospitals in our American cities which might well pattern after that of Auckland. A number of fine pavilions have been added from time to time, mainly by private charity. The nurses' home, in particular, is worthy of notice, and a special pavilion for gynecology shows the progressiveness of the institution. These are all fine buildings, located at a sensible distance from the main hospital. There are also special pavilions for contagious diseases, the hospital being a general one and taking all classes of cases. The only cases of plague which Auckland has had—two in number—were cared for here. The hospital has an average attendance of 205 patients, so the annual total is very large. The accident and emergency service is excellent. Over 1,000 surgical operations were performed last year. Operations for appendicitis were very numerous. Dr. Collins, the superintendent, operated on two cases the afternoon before my visit to the hospital. He was particular to inform me that he only opened and drained in cases with a large walled off pus cavity, using gauze drainage. I asked him whether the hospital surgeons leaned toward radicalism or not, and he replied: "We operate as soon as we get the case, save under special and exceptional conditions." How Americanism does spread, to be sure! Dr. Collins modestly asserted that they were somewhat behind the times over there—unavoidably so. A few moments' conversation with him, however, showed that self-laudation was not his strong point. Good work, up-to-date work, is being done in Auckland, and Dr. Collins is doing his share of it.

Apropos of the American influence in surgery abroad, sundry remarks made by Dr. Collins were very pleasing. Speaking of vaginal hysterectomy he said: "We used to use the permanent forcipressure for the vessels, but we now use Pryor's operation of splitting the uterus in halves. It is a fine operation." Referring to procedentia, he said: "Here is our favorite operation." Down came a text-book; it was opened at a full-page illustration, and the doctor pointed his finger at—my friend, E. C. Dudley's, operation. Hurrah for Chicago! He wound up by saying he was going over to see our own Kelly to get some points. Verily, the world is moving United Statesward. The gynecologic service at the Auckland is very large and the cases varied. The vaginal operation of hysterectomy is frequent enough to delight any of its partisans.

The Auckland Hospital has an operating room built three or four years ago, which was as good as the best at the time. It is to be remodeled and refurnished, however, on "American lines." The out-patient department of the Auckland is very large, 11,000 patients having been treated last year.

There is no midwifery at the Auckland, such cases are sent to a small, rather inferior maternity hospital, an independent institution. Prostatic surgery is at the forefront in New Zealand. Suprapubic prostatectomy is the favorite operation, but the Bottini is being tried in occasional cases. As usual, I said a good word for the perineal method in suitable cases.

An excellent training school is one of the features of this excellent institution. Its usefulness is greatly enhanced by the splendid building which one of Auckland's wealthy citizens built for it—the pavilion already alluded to. The number of nurses is 57.

(To be continued.)

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

We print in this issue a communication and an official announcement, each of which is of importance at the present time. The communication is a letter from the President of the American Medical Association to a New York physician and bears directly on the present condition of affairs in that state, and indirectly on membership in the American Medical Association throughout the United States.

As stated by Dr. Billings, a committee was appointed by each of the New York state bodies for the purpose of considering the possibility of uniting the two into one organization. For a time it seemed that the efforts of the committees would result satisfactorily and a union be consummated. Then matters came to a standstill and the prospect for a settlement was as far off as ever. At this point President Billings, hoping against hope, asked for a conference with the two committees. The result of the conference is to be found in his communication. In brief, it appears that the proposition of the committee representing the New York State Medical Association was at first accepted, but later refused by the committee representing the society, viz., that the Medical Society of the State of New York should be the name of the reorganized body, that the general plan of organization of the New York State Medical Association should be adopted, that the New York State Medical Association should cease to exist, and that a committee representing both should go before the legislature for a new charter.

While at the recent conference objections were made by the society committee to certain business and legal obstacles, the code, without doubt, was the one thing that blocked the efforts for union. Considering that a revised code had already been introduced and is in the hands of a committee to report at New Orleans, that an informal agreement relative to certain changes in the code was made at Saratoga between men representing the society, the association and the American Medical Association, and that affiliated societies are not now required to formally adopt the code, it does seem that the committee representing the society was not governed in its action by a too great amount of liberality.

The official notice regarding membership needs no further comment or explanation than is contained in the circular letter signed by the Secretary and the preamble, with its decisions, signed by the President and the Secretary. The medical profession is being organized on a definite and systematic principle, a principle which is the basis of all organizations, viz., that membership in the lower is necessary for membership in the higher body. This principle has always been the one governing membership in the American Medical Association, although it has not heretofore been enforced.

ANOTHER STEP IN THE RISE OF SURGICAL PHYSIOLOGY.

Physiology, and by necessity experimental physiology, is by its nature the basis of restrictive and constructive surgery in so far as this is scientific and other than empirical. Physicians and surgeons are beginning at last to realize this principle adequately, although, of course, it has been always obvious to anyone who consciously defines to himself physiology as the science of normal organic function. Surgeons seem recently to have acted on this hopeful idea more than have physicians proper—and they have reaped corresponding benefits. One has heard for many years what one is sometimes tempted to term a surfeit of pathologic anatomy, whereas at present the signs certainly suggest physiology as the systematic science likely to add most to medicine during the succeeding years.

The latest contribution of experimental physiology to surgery and medicine is by Crile[1] of Cleveland. By more than two hundred experiments on dogs (conducted without pain) Crile has been privileged to explain more satisfactorily, at least, the physiology of collapse and shock, and to show how these may be prevented or overcome in fact, as formerly they have been in theory. Collapse, less dangerous than shock, appears to be a condition of very low systemic blood-pressure, whatever be the cause, whether hemorrhage, poisoning of the vasomotor center, serous effusion, extreme peripheral stimulation, or what not. Shock, on the other hand, seems to depend on low pressure of blood in the tissues when this depression is due to exhaustion of the vasomotor center, supposedly in the medulla oblongata. Of the three neurons in the vasomotor path, the uppermost is probably the one which is exhausted in shock. In this condition the ordinary cardiac stimulants, such as strychnin, digitalin, alcohol, are proven either useless or positively harmful, for these stimulate the heart, and mere heart action, however vigorous, can seldom overcome the low blood-pressure in arteries no longer kept in tone by the exhausted center. Alcohol, it is found, does not produce even the momentary rise which strychnin and digitalin afford. The infusion of normal saline is beneficial for a very brief time, raising the pressure, but the injected liquid in a few minutes finds its way into the intestine; it is in collapse, then, and especially that from hemorrhage, that the injection of salt solution is of so great use.

1. See prellminary note in THE JOURNAL, Jan. 24, p. 244.

In shock the blood-pressure must not only be raised, but it must be kept raised until the agencies causing the shock have abated and the organism has begun to regain its equilibrium. Since the vasomotor center in shock is out of function, this effect must be brought about in the periphery by agencies acting directly on the toneless arterioles. One way, logically, to bring this about would be to make universal pressure on the vessels, and accordingly Dr. Crile devised and had constructed a suit of rubber consisting of a double air-tight fabric which could be drawn over the legs and abdomen and over the arms and then inflated till it exerted the required pressure. This raises mechanically the blood-pressure all over the body and prevents the especially dangerous cerebral anemia.

But more notable even than this in its effects is adrenalin chlorid, one of the newest of the organic enzymic products, and certainly that at present with the largest promise of usefulness. This enzyme, as is its physiologic function, acts directly on the muscular tissue of the heart and arteries, causing these by this means to regain their normal tonus, thus restoring the pressure necessary for the tissues to carry on their usual metabolism. It is recommended that adrenalin be very slowly injected into a vein, as from a pipette or burette, thus allowing a very long continuance of the injection. This is necessary, for adrenalin is quickly oxidized and its enzymic properties lost when it is put into the circulation.

Such a procedure undoubtedly makes it practicable to perform safely much longer and more depressing surgical operations than formerly were proper. Its chief advantage comes, however, from the means it so readily affords of tiding over a bad case of shock of whatever origin, until natural conditions of the organism begin to be spontaneously restored. We shall await the development of the practical applications of this investigation, which seems likely to have an important bearing on future surgery.

AN ANTIDOTAL SERUM FOR INTOXICATION WITH MORPHIN.

The tolerance in some instances to drugs whose administration is long continued is a well-recognized clinical fact, the explanation for which may perhaps be found in the modern views on the subject of immunity. It seems not impossible that there may be produced in the body under such circumstances antisubstances capable of acting in the same way as the antitoxins of the infectious diseases. It has been observed that while in cases of acute intoxication with morphin, for instance, the greater part of the poison is eliminated with the feces, in cases of chronic intoxication with the same substance very little of the poison is eliminated with the excreta. From this observation it is concluded that under the latter conditions new factors have been created for the destruction of the morphin in the body.

With the object of determining whether it is possible first to develop in animals a relative degree of immunity to the effects of morphin and then with the serum obtained from such animals to develop a similar immunity in other animals, Leo Hirschlaff[1] undertook an experimental study. Rabbits were first employed for the preparation of a curative serum because they exhibit great resistance to alkaloids in general and to morphin in particular. A daily injection was given, and two kinds of serum were prepared, one from animals immediately on the close of their immunizing treatment and the other from animals four weeks after conclusion of the treatment. While control animals succumbed to lethal doses of morphin, other animals previously treated with the protective serum did not succumb to an equivalent dose. As the results in rabbits exhibited marked variability, mice were later used in the observations. Here again it was found that animals previously treated with the curative serum were secure against lethal doses of morphin, while animals treated merely with normal serum or not all previously treated succumbed. The best results were obtained with the serum from animals that had received as much as 10 grains of morphin at a dose, and there was little difference whether the serum was obtained immediately on completion of the protective treatment or after an interval of four weeks. It thus seemed demonstrated that by the treatment for some time of animals with progressively increasing doses of morphin protective substances are generated in the blood that are capable when injected into other animals of protecting these from acute intoxication with a lethal dose of the same drug.

Analogous results have been obtained on a smaller scale by other observers. The question remained open, however, whether these observations on lower animals were applicable also to man. An opportunity presented itself for the employment of the curative serum in a case of opium poisoning in a human being, and fortunately the result justified an affirmative decision. The serum was employed also in several cases of insanity in which morphin had been given for a long time and attempts at withdrawal had always been attended with unpleasant results. In these withdrawal was now effected without any undesirable manifestations. If the future of this serum proves as bright as its seeming possibilities indicate, it will be indeed a valuable addition to therapy.

A MEDICAL LIBRARY JOURNAL.

The first number of the *Medical Library and Historical Journal* has come to hand. This quarterly is published in Brooklyn, under the editorship of Drs. Albert Tracy Huntington and John Smart Browne, and contains a considerable amount of good reading in the way of original articles, on matters of medical, historical and bibliographical interest and the transactions of the Association of Medical Librarians, together with editorials, book notices, etc. It contains an Index Medicus of medical books published in the last quarter of

1. See p. 343 of this issue for abstract (162) of the original.

1902, which it claims is as nearly correct as possible, though the editors admit that perhaps one or two local publications might not have come to their attention.

KOCH'S NEW TYPHOID PROPHYLAXIS.

The *British Medical Journal* of January 10 editorially notices a recent address on typhoid fever by Professor Koch, in which he takes views in regard to the prophylaxis of the disease that are of interest coming from him and for being somewhat different in their intent and consequences with those usually held. Instead of using special precautions to protect the drinking water, he prefers to attack the disease in the foci where it exists, and holds that the surest method of prevention is in the isolation of the patient and disinfection of clothes and excreta. In this way he has experimented at Treves so successfully that he has been able to stamp out the disease completely in several villages which had been notorious for its frequency. Our readers will see that this is somewhat along the line on which Koch fights malaria. He attacks the disorder in the individual, and prevents infection by preventing infection breeders. It will be a boon to tax-payers if we can consider the question of water supply a secondary matter and make the problems of sewage disposal and water supply, with their expensive installments, needless. But this, we think, will hardly be the case. Koch's method, however good, will not substitute itself to the satisfaction of sanitarians. In fact, they will be slower to accept such opinions than were the tuberculosis specialists to accept his opinion as to the transmissibility of bovine and human tuberculosis. It will be an excellent idea, however, for all practitioners to follow out his policy of thorough isolation and complete and absolute disinfection of all excreta in such a way as to make it impossible for infection to escape into the sewage and thus directly or indirectly contaminate the water supply. The method is a comparatively easy one. It only requires close and conscientious attention and thorough instruction and insurance that such instruction is carried out. We would advise individual physicians to follow out Koch's ideas. It will cost but little and will perhaps only require a little more careful attention than has hitherto been given to isolation and disinfection.

THE DIETETIC VALUE OF OYSTERS.

The oyster is popularly looked on as a palatable, easily digestible and nutritious article of food. That there is some danger from its consumption has of late been shown in a number of instances in which typhoid fever has been acquired from the ingestion of oysters that have been grown or fattened in waters contaminated by discharges from patients suffering from that disease. It has recently been suggested that lemon juice is inimical to the vitality of the typhoid bacillus, and the suggestion appears to be sustained by the results of bacteriologic investigation. Accordingly, the recommendation has been made that the danger of infection with typhoid fever through the eating of oysters can be greatly lessened, if not entirely eliminated, by the addition of lemon juice. For the purpose of determining the nutritive value of the oyster the *Lancet*[1] recently had made in its own laboratory a study of the chemical composition of native oysters, which yielded interesting and instructive results; and there is no reason to believe that the findings would be essentially different in the case of other varieties. It is pointed out that although the actual amount of nutritive material in a raw oyster is small, it comprises all classes of food substances, namely, proteid, carbohydrate, fat and certain mineral salts, and these are present in a peculiarly assimilable form. Generally speaking, the raw mollusc consists four-fifths of water, the remainder being constituted almost entirely of organic matter. Of the latter about 45 per cent. consists of proteid, an equal proportion of non-nitrogenous matters and the remainder of glycogen and fat. Mineral matters are present in about 2 per cent., including sodium chlorid, soluble phosphates, calcium phosphate, magnesium phosphate and copper in the form of oxid. The oysters were found to be readily soluble in cold water, diluted gin and Chablis (a delicately acid wine), but not in stout. The oyster is rendered tough and indigestible by boiling. The liquor contained in the oyster shell consists principally of water and sodium chlorid and almost no organic matter, and accordingly it possesses no special nutritive value.

WHAT ONE COUNTY IS DOING.

It has been said, and with some truth, that medical men are not business men. It is certainly true that in the past our medical societies and medical organizations have not been business bodies in any sense of the term, but purely scientific and educational. While this, as far as it goes, is noble and idealistic, nevertheless it is recognized that a little more business, a little more medical statesmanship and a little more attention to the materialistic side would not be out of place, and ought not to detract from the scientific and educational, but rather add thereto. In the present plan of organization the business principle, while not pushed to the front, is recognized. In this connection we can not resist the temptation to call attention to what one society has already done. The Ramsey County (Minn.) Medical Society, the county in which St. Paul is situated, four years ago began the formation of a library and at the same time founded in connection with it the *St. Paul Medical Journal*. The library has been gradually built up and at the present time has over four thousand volumes, all catalogued and shelved in a commodious hall, which is also the meeting room for the society. The use of the hall is given, rent free, by the management of the building, which is devoted to offices almost entirely occupied by physicians. The journal has been a financial success from the beginning and puts considerable money into the treasury of the society each year, beside being the means of placing on the shelves of the library practically all the better books that are published, several hundred volumes annually. Further, all the exchanges are placed in the library, so that practically every important journal of the county is in the reading room of the society. The society also has a well-equipped laboratory for chemical and bacteriologic work, one of the important prod-

1. The London Lancet, Jan. 3, 1903, p. 71.

ucts of which is sterilized catgut, sold at a profit. The laboratory gives to the members of the society a place in which to work, and many avail themselves of the privilege. The society takes great pride in its journal, which is one of the best medical monthlies in the country, and which is edited on a high ethical standard. Each enterprise is separate and distinct from the other, each making a full report to the society at the end of the fiscal year. One of the members says, "Our dream is to lay by a little money every year for the establishment of a fund which will ultimately enable us to buy a piece of ground, and later to own our own home." There is no doubt that the society has been built up and strengthened very materially by these enterprises. It has now over 150 active members and the officers expect very shortly to have in the society every reputable practitioner in the county. What the Ramsey County Medical Society has done can be done by other societies similarly situated throughout the country.

Medical News.

COLORADO.

December Deaths.—The total number of deaths for the month was 843, equivalent to an annual death rate of 17.12 per 1,000. Typhoid fever caused 44 deaths; diphtheria, 19, and scarlet fever, 4.

Communicable Diseases.—During December the following cases of communicable diseases were reported to the State Board of Health: Typhoid fever, 242; diphtheria, 178; scarlet fever, 157, and smallpox, 126.

Personal.—Dr. James B. Sanford, Castle Rock, was elected to the House of Representatives in November last, and on January 7 was elected speaker of the house.——Dr. William A. Cundy, Denver, has sold his practice and has located in Pasadena, Cal.

Dedication of Guggenheim Pavilion.—The Guggenheim pavilion at the National Jewish Hospital, Denver, was formally dedicated January 25. This pavilion has been erected at a cost of $35,000. In the three years the hospital has been in existence, $225,000 has been contributed for its support.

Allege Diploma is Bogus.—Dr. Gottfried Leo Hagenburger, formerly of Helena, Mont., charged with filing a bogus diploma with the State Board of Medical Examiners of Colorado, has been granted a continuance. This individual had similar trouble in Montana several months ago, it being then alleged that he had never been in attendance at the medical school of the University of Kiel, and that his diploma, purporting to be issued by that institution, was a forgery.

ILLINOIS.

State Board of Health.—At the annual meeting in Springfield, January 13, Dr. James C. Sullivan, Cairo, was elected treasurer.

Smallpox Closes Schools.—It is announced that the public schools in the vicinity of Alto Pass have been closed on account of smallpox.

Hospital Gets Lots.—By the will of the late Chancellor L. Jenks three lots in Evanston are devised to the Evanston Hospital Association.

Staff for St. Mary's Hospital, Quincy.—The following staff has been appointed for St. Mary's Hospital, Quincy: Surgeons—Drs. Otis Johnston, John D. Justice and William H. Baker; gynecologists—Drs. Henry Hart, John K. Reticker and Otto F. Wellenreiter; pathologists—Drs. John D. Justice and John A. Koch; oculists and aurists—Drs. Henry M. Harrison and Franklin T. Brennan; physicians—Drs. Grant Irwin and John A. Koch, and anesthetist, Dr. Thomas Knox.

Chicago.

Physician Robbed.—On January 22, Dr. Michael T. Naughton was held up and his money and gold watch were taken from him.

Hospital Fete Nets Thousands.—The "Fête of All Nations," held January 24 to 26, in behalf of St. Luke's Hospital, was successful beyond all ideas of its managers. More than $20,000 was realized for the hospital.

To Guard Against Contagion.—The prevalence of contagious diseases has led to the passage of an order by the City Council for an assistant city bacteriologist and a medical inspector for the municipal lodging-house, while an appropriation of $3,000 for an isolation hospital for the Parental School was also voted.

The Deaths of the Week.—The commissioner of health, in the bulletin for last week, congratulates the city on a decrease in the death rate. There was a drop of 9.7 per cent. from the average weekly death rate of the previous five weeks and of 12 per cent. from the rate of the week before. The report says:

> The total deaths reported during the week were 551, an annual rate of 15.23 per 1,000 of population, as compared with 626 and an annual rate of 17.31 per 1,000 during the previous week. The rate, however, is still excessive, being nearly 10 per cent. higher than the normal for the season of the year.

Pneumonia Outnumbers Tuberculosis.—The registrar of vital statistics, in his report for the week ended January 24, discusses the pneumonia-tuberculosis death ratio as follows:

> For twelve successive weeks the deaths from pneumonia have largely outnumbered those from consumption, although the disparity was not so great last week as in the previous weeks. During this period 6,579 deaths from all causes have been recorded, of which total 630—or a little more than 9.5 per cent.—were from pneumonia. These two causes account for more than one-quarter (26.12 per cent.) of all deaths during the three months, and of these there were 42 per cent. more from pneumonia than from the so-called "Great White Plague."

INDIANA.

Conditional Benevolence.—A citizen of Connersville is said to have offered $1,000 in cash and two building lots to the city, with a provision that each church has a director and $9,000 additional be raised for a city hospital.

St. Anthony's Staff Feasts.—A banquet was given by the sisters, at St. Anthony's Hospital, Terre Haute, to the medical staff, January 5. Dr. Frederick W. Shaley was re-elected president of the staff, and Dr. Charles Wyeth, secretary-treasurer.

Sues on Account of Fall.—Dr. James H. F. Prentiss, Indianapolis, has brought suit against James and Mary Proctor, for $10,000 damages for personal injuries alleged to have been received by him in a fall down a flight of stairs in a building owned by the defendants.

Personal.—Dr. Hugo M. Lash has succeeded Dr. Frederick C. Heath as a member of the Indianapolis Health Board.——Dr. Alfred N. Towles, Irvington, has been appointed physician at the Indianapolis City Dispensary, vice Dr. Frank Kennedy, who has become house-physician at the Julietta Asylum.

Physicians Protest Against Pesthouse Location.—Several prominent physicians of Indianapolis, headed by Dr. William N. Wishard, have written letters to the local board of health protesting against the erection of the isolation hospital on land immediately adjoining the City Hospital, on the ground that the close proximity of the pesthouse will endanger the lives of patients in the hospital.

IOWA.

New Hospital Ready.—Patients were transferred from St. Bernard's Hospital to the new Mercy Hospital, Council Bluffs, January 19. The old building will be devoted to the care of nervous patients.

Prepare Premedical Courses.—Several Iowa colleges, including Grinnell, Cornell and Augustana, are arranging premedical courses in connection with the State University whereby graduates may be admitted to sophomore standing in the medical department.

Cornerstone Laid.—The cornerstone of the pathologic laboratory of the College of Medicine of the State University, Iowa City, was laid, January 15, with appropriate ceremonies. Dr. John C. Shrader, one of the founders and ex-dean of the college, officiated and delivered the address.

Personal.—Dr. Frances M. Powell, Glenwood, has been reappointed superintendent of the Institution for Feeble-minded Children, for a sixth term of four years.——Dr. Andrew W. McClure, Mount Pleasant, has resigned from the board of insanity commissioners, and has been succeeded by Dr. Otto A. Geeseka.——Dr. John G. Mueller, city physician and health officer of Iowa City for four years, has resigned.——Dr. Anson R. Brackett, Charles City, is critically ill with septicemia.

MARYLAND.

Smallpox in Kent County.—Dr. Frank Messick, Still Pond, has been appointed health officer of Kent County, vice Dr. Urie, resigned. There are no new cases of smallpox reported at Chestertown in that county since the discovery of the case in the colored girl from Wilmington, Delaware, January 20. A quarantine of the child and of all who came in contact with her has been established, and all residents of the town have been vaccinated. A pest-house has also been made ready for emergencies.

Baltimore.

Baltimore General Dispensary.—At the annual meeting of the Baltimore General Dispensary, January 15, Drs. Henry M. Baxley, Edmund A. Munoz and James C. Holdsworth were elected attending physicians for the year.

St. Joseph's Hospital Dispensary reports 12,471 cases treated during the year, distributed as follows: Surgical, 5,240; medical, 4,718; children, 627; skin, 215; eye and ear, 479; gynecological, 563, and nose and throat, 629; 16,849 prescriptions were filled.

Hospital Annual Meeting.—At the annual meeting of the board of governors of the Presbyterian Eye, Ear and Throat Charity Hospital, the medical executive committee, which has managed the medical affairs of the institution for the last four years, consisting of Drs. Herbert Harlan, Hiram Woods and Frances M. Chisolm, was reappointed for this year, with Dr. Herbert Harlan as surgeon-in-chief.

Disease and Death.—The death rate continues high, 249 deaths being reported last week, being 22.02 per 1,000 for whites and 31.07 for colored. Among causes of death affections of the respiratory organs led, with 31 from pneumonia, 17 from broncho-pneumonia, 2 from acute and 5 from chronic bronchitis. Tuberculosis of the lungs caused 26 deaths and measles 11; 311 new cases of measles were reported.

Silver Nitrate in Septicemia.—The physicians of the Union Protestant Infirmary are experimenting with nitrate of silver in cases of blood poisoning with alleged success in several cases. The formula given is 1 c.c. of a 10 per cent. solution of nitrate of silver to 1,000 c.c. of sterilized water. Of this 400 to 1,000 c.c. are injected into the vein at the elbow. Dr. J. Whitridge Williams is said to prefer the normal salt solution.

National Medico-Historical Society.—The proposal for a national society devoted to the history of medicine, made in the new *Medical Library and Historical Journal*, just issued, is meeting with much favor, and it is probable that a number of gentlemen of literary tastes and connected with the Johns Hopkins Hospital Historical Club will take part in its foundation. It is a little singular that at this time the interest in the history of medicine should be greater in this country than in the older countries of Europe. It is only within the last two years, for example, that such societies have been founded in France and Germany.

Methyl Alcohol Blindness.—The trial of the suits against a Baltimore drug firm for blindness due to the use of methyl or wood alcohol instead of grain alcohol, in the manufacture of essence of Jamaica ginger, began in the Superior Court, January 22. The first suit for $30,000 was brought by Dr. George A. Brehm of Rolandville, who claims to have been made entirely blind two days after drinking three bottles of the essence on July 27, 1898. He bought the preparation from a storekeeper on Elliott's Island, Dorchester County, where he then lived. Dr. Reid Hunt and Mr. Henry P. Hynson, druggist and ophthalmologist, testified.

NEW JERSEY.

Physician Gives Laboratory.—Dr. William B. Graves, East Orange, has presented a well-equipped bacteriologic and pathologic laboratory to the Orange Memorial Hospital, to be known as the Graves Laboratory.

Personal.—Dr. Charles C. Hendrick, Jersey City, county medical health inspector, has been removed from office.——Dr. Edwin J. G. Valentine, Jersey City Heights, has been made a member of the Hudson County Health Board.

John Carnrick Dead.—In the recent death of Mr. John Carnrick, Jersey City, the ranks of the pioneer drug trade of the United States have lost an able leader. He was among the first to bring out proprietary preparations and to manufacture drugs for physicians. His life was largely devoted to scientific research in his chosen field of pharmacy. He was 65 years of age, and had been a student of pharmacy for more than forty years.

NEW YORK.

Smallpox at Fort Slocum.—Smallpox has broken out among the 400 soldiers at Fort Slocum, just outside of the Borough of the Bronx.

Scarlet Fever at Dunkirk.—Dr. George E. Ellis, recently appointed health officer of Dunkirk, has been obliged to close one of the public schools because of an epidemic of scarlet fever.

Voluntary Patients for State Insane Hospitals.—The State Commission in Lunacy recommends the extension of the system of voluntary patients for the reason that in certain private asylums these patients receive inadequate care and treatment.

Registration of Trained Nurses.—It is said that a bill will be introduced into the legislature, providing for the supervision of all nurses' training schools by the State Board of Regents. According to the provisions of the bill, the required course of training must be at least two years in an incorporated general hospital or a training school connected with such hospital.

No Appropriation for State Tuberculosis Hospital.—It has come to light that through an error in the records of the last legislature, either accidental or intentional, the bill calling for a reappropriation of $50,000 for the State Hospital for Tuberculosis failed of passage in the assembly. Senator Davis, who introduced the bill, and others, insist that the bill did pass the assembly. The fact that the appropriation had not been made was not discovered until the trustees attempted to make the first payment on the site selected for the hospital.

New York City.

Fire in Seton Hospital.—A fire was discovered in the basement of the Seton Hospital, January 18, which was extinguished with small loss without the help of the fire department.

Bacteriologist and Laboratory Assistant Wanted.—The Municipal Civil Service Commission announces that open competitive examinations for the position of bacteriologist (fourth grade) and laboratory assistant (first grade) will be held February 3 and 6 respectively. Applications should be made to the secretary, 61 Elm Street, New York City.

The Health Department and Malaria.—The health department has employed a corps of inspectors to go through the various boroughs and plot down on maps all sunken plots and excavations in which water may remain and become stagnant. With the aid of the department of street cleaning, these holes will be drained and filled in. The sanitary inspectors are directed to pay special attention to rain barrels and pools in back yards. Finally the health commissioner has sent a circular letter to all physicians in the city, calling their attention to resolutions recently adopted by the board of health. These require all public institutions, hospitals, homes and asylums to report all cases of malarial fever coming under their observation, with information whether the attack is a primary one or a relapse, and where the disease was apparently contracted. All physicians are requested to furnish similar information with regard to their malarial patients, and are encouraged to do so by the offer of examining blood specimens for them for the malarial plasmodium. The circular closes with the statement that acute and chronic ophthalmia (trachoma) and whooping cough are on the list of contagious diseases, which physicians are required to report.

Buffalo.

Sudden Deaths from Natural Causes.—It has been suggested that the health department investigate deaths from natural causes without medical attendance. Heretofore these investigations have been carried on by the medical examiners. Dr. Greene, the health commissioner, will cause these investigations of sudden death from natural causes to be made by the district physicians.

Grand Jury Condemns County Hospital.—The grand jury of the Supreme Court of Erie County has made its final report and has this to say concerning the Erie County Hospital:

> The grand jury desires to say the hospital is entirely inadequate to the present needs of the county, and in view of the rapid growth of the city, the county will need much more room in the very near future for the hospital.
>
> In the opinion of the grand jury the county should furnish increased facilities for the hospital and we would recommend that the county purchase a farm outside the city limits for the poor of the county and that the present buildings now used for the almshouse be devoted to the use of the hospital.
>
> The operating room of the hospital is not what it should be to meet the sanitary requirements of the present time. It should be remodeled to equal the present sanitary demands of physicians and surgeons.

PENNSYLVANIA.

Railroad Yards Quarantined.—The railroad yards at North Bessemer are quarantined because of a smallpox epidemic in Plum Township, Allegheny County.

Appropriation to Suppress Smallpox.—The state senate has passed a resolution providing for the appropriation of $15,000 to aid the State Board of Health in suppressing smallpox.

A Healthy City.—Secretary Lee of the State Board of Health has notified the authorities of Williamsport that reports show that city to be the healthiest in the state, and the fourth healthiest in the United States.

Eddyites Fight for Charter.—Argument was recently made before the Supreme Court of the state regarding the granting of a charter to the First Church of Christ, Scientist, of Philadelphia. District Attorney Weaver contended that the so-called "divine healing" is a menace to the community, against law and public policy; that the appellants come into court with two contrary doctrines, namely, saying that there is no such thing as disease, and yet they educate "healers" to cure sickness. He further argued that the sect does nothing to prevent the spread of disease, and does not regard the means of prevention in epidemics such as is recognized by boards of health. Attorney Weaver had been requested by the board of judges to defend the decision of President Judge Arnold of Common Pleas Court, refusing a charter to the church.

Philadelphia.

Typhoid and Other Deaths.—For the week ended January 24, 35 deaths from typhoid fever occurred; there were 294 new cases reported, a decrease of 29 cases, as compared with the preceding week. Deaths from all causes numbered 615, a higher death-rate than for any week in the last two years.

Avoid Consumptives' Houses.—January 21 Dr. Lawrence Flick lectured on tuberculosis before the women's clubs. He warned especially against moving into houses previously occupied by consumptives, where disinfection had not been done, and also against the employment of consumptive servants, and emphasized the efficieney of cleanliness as a preventive measure.

New Maternity Donated.—At the recent annual meeting of the board of trustees of the Presbyterian Hospital announcement was made of a gift of $30,000 by an unknown donor, for the erection of a new maternity house. The work of construction will be begun in the spring. The women of the Presbyterian churches in Philadelphia have started a fund for its endowment. The report of the superintendent showed that 2,500 persons were treated in the hospital within the past year and 6,000 at the dispensaries.

Vaccination Against Tuberculosis.—Dr. Leonard Pearson, dean of the Veterinary Department of the University of Pennsylvania, is reported to have discovered a method of vaccination whereby cattle may be made immune to tuberculosis. In a recent experiment, four healthy cows were taken; two were vaccinated, and later all four were inoculated with tubercle bacilli. When killed, the two which had been vaccinated showed no signs of tubercular infection, but the others had marked evidence of the disease.

A Medical Carnegie Library.—Largely through the efforts of Dr. S. Weir Mitchell, Andrew Carnegie has made a gift of $50,000 to the College of Physicians of Philadelphia, on condition that the society raise a like amount. About $18,000 has already been raised, and efforts are being made which will doubtless secure the requisite sum. Much of the gift will probably be used to enlarge and improve the college building, especially the capacity for library purposes. The medical library, in value and number of volumes, is second only to the Surgeon-General's library, Washington.

May Repeal Law.—The state legislature is showing every disposition to remove the obstacle in the way of Philadelphia accepting the Henry Phipps gift of $1,000,000 or more for the establishment of an institute for the study and treatment of tuberculosis. A bill to repeal the act of 1899, which forbids the erection of a hospital in the crowded part of a city, has passed the senate, and a committee of the house has announced its decision to report the bill with a favorable recommendation. Temporary quarters have already been leased for the institute, and it is hoped that it may be opened in about two weeks.

GENERAL.

Ecuador Quarantines San Francisco.—All ports of Ecuador have been closed to all vessels from San Francisco which left that port January 20 or later, because of fear of the plague. All ports are also closed to all plague-infected Mexican ports.

Publishing House Branch Secures Editor.—The firm of W. B. Saunders & Co. have established a branch office in the "Flatiron Building," New York. Dr. Reed B. Granger, who has been the managing editor of the *New York Medical Journal* for many years, has resigned that position to take up the management of the Saunders new office. The apartments on the seventeenth floor give a fine view of the city and will be a pleasant place for visiting physicians to call. Dr. Granger's wide acquaintance and his executive ability will serve him well in his new position.

Army Surgeons' Examinations.—Candidates for appointment in the Medical Corps of the Army will be examined by the Army Medical Board in Washington, April 20, and each Monday thereafter so long as is necessary. Full information as to method of application, nature and scope of examination, etc., will be furnished by the Surgeon-General's office on request of those interested. Applicants from civil life are restricted in age to 29 years, and hospital training or professional experience in private practice is expected of all candidates. There are at present thirty-five vacancies to be filled.

The Plague Unchecked in Mexico.—One-third of the 15,000 inhabitants of Mazatlan have left that city and every community within a large radius, including the border states and territories of the U. S., is apprehensive lest plague be spread thereby. The appearance of the disease is reported at several cities in Mexico. A wholesale poisoning of rats in Mazatlan has failed to be effective and the government has ordered the valuable shipyard to be burned to destroy infection. The adobe houses are being burned and razed to destroy the rats. One hundred and thirty thousand dollars has been received by the charity commission for relief work. A supply of the Yersin serum has been sent for and is eagerly awaited in the hope of relief by inoculation. There have been more than 150 deaths at Mazatlan. The mortality average is 33 per cent. The origin of the disease is discussed in the papers of the Southwest and the infection is laid at the door of San Francisco. In the absence of any present proof, it is said to be the most probable solution that ships carried infected rats or persons from San Francisco to Mazatlan. That city is isolated by mountains from the rest of Mexico, no railroad enters it and almost all of its communication with the world is by steamers from San Francisco and Panama. Chinese go there from San Francisco and there is no Chinese quarter in Mazatlan, but they scatter throughout the city, which is devoid of sewerage or sanitary provisions. Panama has no plague and has now refused its harbor to a ship from San Francisco. The other theory as to the infection of Mazatlan is that it came by ships from the Orient. This is said to be possible, although such ships rarely stop at Mazatlan.

CANADA.

Personal.—Dr. W. H. Drummond, Montreal, was entertained by the Calumet Club of New York, January 17, and subsequently dined with President Roosevelt at Washington, D. C.

Vital Statistics in Ottawa.—In 1902 there were recorded in the capital of the Dominion 1,638 births, 571 marriages and 1,190 deaths. The natural increase in population was 448. The city clerk reports a decided improvement in the registering of births.

Smallpox Outbreak on Indian Reserve.—Smallpox is rampant among the Indians on the Tyendenaga Reserve, near Belleville, Ontario, thirteen cases having been reported during the past few days. The reserve has been strictly quarantined and patrolled, while the patients have been carefully isolated.

The Vancouver (B. C.) Hospital reports for December 51 patients admitted and 51 discharged cured; 4 died, and there remained in the hospital, December 31, 46 patients, 36 males and 10 females. The Canadian Pacific Railway has subscribed $200 per annum to the maintenance fund. The total subscriptions received in 1902 amounted to $18,000. Dr. McGuigan was appointed one of the visiting directors for January.

Laval Students Banquet.—The medical students of the University of Laval, Montreal, held their annual dinner January 17. Sir William Hingston replied to the toast to "Our Professors," pointing out the necessity of medical practitioners specially qualifying themselves to meet emergencies, instancing the cases of King Edward and President McKinley, when the eyes of the whole world were on the medical profession.

Mortuary Statistics in St. John.—The deaths in St. John, N. B., for 1902, numbered 706. Infectious diseases for the year

were as follows: Diphtheria, 75 cases, with 12 deaths; scarlet fever, 108 cases, 1 death; typhoid fever, 21 cases, 7 deaths; measles, 9 cases, no deaths; smallpox, 6 cases, no deaths, Tuberculosis of the lungs amounted to 82 cases. Of the total number who died, 555 belonged to Canada; 149 foreign; 2 not stated.

Victoria's (B.C.) Health.—The general health of the city of Victoria during the past twelve months has been good, there being at no time a tendency to an outbreak or epidemic of contagious or infectious diseases. In all there were reported 83 cases of diphtheria, with three deaths and 48 cases of scarlet fever, with no mortality. There was only one case of smallpox, and prompt measures controlled any chance of an outbreak. The system of boxdrains is said to be the cause of the large proportion of cases of diphtheria. It is worthy of note that the death rate of 12.33 for 1901 has decreased to 10.09 for 1902.

Canadian Quarantine Laws.—Representatives of the Montreal steamship companies waited on the Minister of Agriculture at Ottawa, January 21, to ask for changes in the quarantine laws. They assert that there is an undue detention of vessels and passengers on the St. Lawrence, and that there is far more promptitude shown in releasing vessels and passengers at New York. The minister pointed out that the regulations on the St. Lawrence and at New York are identical. He promised to ascertain how the quarantine law is administered at New York, and that, if improvements could be applied to the Canadian system without endangering the public health, it would be done.

FOREIGN.

Prize for Schleich.—The Würzburg University has awarded the Rinecker prize to the Berlin surgeon and professor K. L. Schleich, as a token of appreciation of his method of local infiltration anesthesia.

Koch on a Mission to Africa.—Robert Koch, accompanied by Neufeld and Kleine, all of the Berlin Institute for Infectious Diseases, have left for a protracted stay at Rhodesia to study the cattle plagues.

Fatal London Streets.—Of 90 deaths in London from other than natural causes last week 1 was from homicide, 9 suicide and 80 from accidents or carelessness. About 4,000 persons, in round numbers, are killed each year in the streets. This number exceeds the total number of soldiers slain in battle in the Boer war.

Insane Women Die in Fire.—The annex of the Colney Hatch Insane Asylum, six miles north of London, burned January 27 before daylight, and 54 women inmates died. The buildings are called fire-traps, being built of wood and without sufficient exits. Heroic work by the attendants prevented a larger loss. There were 600 women patients in the entire asylum.

Bavaria and Compulsory Sanitation.—A petition from the "Nature healers" recently presented to the Bavarian parliament asked for the suppression of all medical forcible interference on human beings for purposes of diagnosis, treatment or immunization. It was referred to a committee which presented a unanimously favorable report. The local medical journal comments that the action of the committee is a sad sign of the times, but one whose significance should not be depreciated.

Physicians Refuse Unscientific Association.—The twenty-eight physicians under contract with a certain large sick benefit society at Gera, Germany, all resigned when a "Nature healer" was appointed a member of the medical staff on the same terms as the rest. The Leipsic Medical Union has resolved to sustain them in their action and has issued an appeal stating how the Gera colleagues are battling for the honor of the profession, and warning all medical men to refrain from serving the said benefit society under any conditions whatever, until the matter is satisfactorily arranged.

Esmarch's eightieth birthday was celebrated with much ceremony January 9, with congratulations from scientific societies and members of the profession in all countries. His name is connected not only with military and other surgery, but with the organization of Samaritaner or first aid relief system in city and country. His pamphlet on "First Aid in Emergencies" has been translated into twenty-five languages. Esmarch married the aunt of the present emperor of Germany, and has been profusely decorated with honors and titles. He is the son of a physician at Toenning, and has been privat docent and professor of surgery at Kiel since 1859. He bears his eighty years lightly and is in vigorous health.

LONDON LETTER.

Tetanus Deaths in Antiplague Inoculation in India.

An unfortunate, and so far unexplained, mishap in the antiplague inoculation in the Punjab has occurred. The anticipated supply of serum was not forthcoming and a change was made in the method of its preparation. Notwithstanding this, 120,000 people were voluntarily inoculated during the month of October. It soon became apparent that the fluid supplied was not free from contamination, and some of it had to be rejected. A few cases of death occurred, apparently from its use. Then at Mulkowal 17 persons were found suffering from tetanus and died. The government will liberally compensate the families. All inoculation was then stopped. The original method will be resumed and the old serum is now being prepared. The plague mortality throughout India continues to increase. For the week ending December 6 12,400 deaths were recorded, as against 12,039 for the previous week, and 8,878 in the corresponding week of last year.

The Health of London.

Dr. S. F. Murphy, medical officer of the London County Council, has just presented his annual report on the health of London for the year 1901, in the form of a somewhat bulky volume. The estimated population of the "administrative county of London" in the middle of 1901 was roughly four and a half millions. The steady decrease in the English birth rate in recent years, which has been already referred to in THE JOURNAL, is once more exemplified. The birth rate was 29 per 1,000—the lowest ever recorded. The death rate was 17.1, which is lower than that of the other great towns—Liverpool, Birmingham, Manchester, etc. The death-rate of children under the age of one year was at the rate of 148 per 1,000 births—a lower mortality again than that of the other great towns. The annual zymotic death rate was 2.22 per 1,000. The deaths from smallpox numbered 229, being at the rate of .051 per 1,000. The number of cases of smallpox was 1,700, or a case rate of .375 per 1,000 persons living. In spite of the existence of the epidemic of smallpox in the second half of the year the death rate from that disease was lower than in Paris, Brussels, St. Petersburg, Vienna and New York in the period 1891-1900, and in Paris and New York in 1901. The number of deaths from cancer was 4,203, the corrected annual average for the preceding 10 years was 3,843—showing the tendency to increase of this dire malady.

Tuberculosis of the Esophagus.

At the Pathological Society Dr. F. C. Shrubsall and Dr. W. T. Mullings showed a specimen of this condition, which is so rare that no case has ever been described in the British Isles. The specimen was from a man aged 50, who was admitted to hospital with hydropneumothorax. Dysphagia came on suddenly a few days before death, and was relieved only by swallowing a solution of cocain. There was no evidence of pharyngeal ulceration, but early tuberculosis of the larynx was discovered. At the necropsy tuberculosis of the lungs, intestines, right testicle, trachea and bronchi were found. The bronchial and mediastinal glands showed no macroscopic evidence of tuberculosis. In the middle portion of the esophagus was extensive ulceration over a length of 3½ in., the individual ulcers being oval, with their long axis in the long axis of the tube. Below this were a few scattered ulcers. Microscopically typical tubercles with giant cells and tubercle bacilli were demonstrated.

Outbreak of Smallpox in Liverpool.

Until last year Liverpool had enjoyed a long respite from smallpox. Now the disease is rife in the city. During the last week of 1902 there were 74 fresh cases, and on December 31 26 additional cases were notified, making upward of 206 cases. Fifty fresh cases have been reported within the last week. Revaccination is being strongly urged by the medical officer of health. Unfortunately, people in the first stage of the disease are moving about the city, carrying the germs of the disease with them in offices, tram cars, shops, etc.

Discovery of the New Parasite in the Gambia.

A report has been received from Dr. J. E. Dutton and Dr. Todd, the members of the tenth expedition of the Liverpool School of Tropical Medicine, which has been despatched to Gambia and French Senegal to study the new parasite which Dr. Dutton recently discovered in a patient under the care of Dr. Ford, the colonial surgeon of the Gambia. They have found the parasite again in a European and in several natives. The parasite has some resemblance to the tsetse fly, which causes such ravages among cattle in South Africa. Fortu-

nately, it is not so fatal to man. It produces a continuous feeling of illness, with occasional attacks of fever. The researches of the expedition are of importance, as probably many of the cases of West African fevers are due to this new germ. The expedition at present on the Gold Coast is, among other matters, studying the tsetse fly. Dr. Logan Taylor has procured a horse suffering from the disease. There are only two horses at present on the Gold Coast, and it is to one of these that Dr. Taylor refers. He has been instructed to investigate on the Gold Coast the new parasite in man discovered in the Gambia.

Outbreak of Ankylostomiasis in a Cornish Mine.

Dr. J. S. Haldane, F.R.S., has just reported to the government on an outbreak of ankylostomiasis in the Cornish mine at Dolcoath. This is the first outbreak recorded in England. At Dolcoath the patients have been transferred to surface employment or to another shaft, which has usually checked the disease. In England ankylostomiasis is peculiarly a miner's disease, because the low temperature of the outside air is unfavorable to the propagation of the ova of the worm. Dr. Haldane says that the prevention of the disease largely depends on the men themselves taking the proper precautions to prevent pollution of the mine and that unless proper arrangements are made in other mines and carried out by the men ankylostomiasis is likely to spread in England to coal as well as metalliferous mines.

Professor Lorenz in London.

At the City Orthopedic Hospital, before a distinguished audience of the leading surgeons of London, Professor Lorenz, aided by his assistant, Dr. Müller, performed his bloodless operation for the reduction of congenital dislocation of the hip in two cases. He then demonstrated his method of treating congenital club-foot. His remarks, which he gave in English, were frequently received with applause, and his reception was altogether most cordial. The proceedings were opened by Mr. Noble Smith, who, in introducing Professor Lorenz, said that a distinctly adverse expression of opinion on Professor Lorenz's operation had been recently given at the Clinical Society, but that it was the custom in England to give everyone a fair field. Professor Lorenz fully explained his method, which has recently been described in THE JOURNAL.

PARIS LETTER.

Radiography in the French Hospitals.

A committee composed of various physicians and members of the municipal council was formed last December with the object of studying the best means of furnishing the Paris hospitals with apparatus and rooms for radioscopy. At present if a surgeon of the Hotel Dieu wishes to have one of his patients radiographed, he has to make out a demand, which is given to the director, forwarded to the chief of laboratory at the Salpêtrière Hospital, who comes to the Hotel Dieu with all his instruments, and later sends the surgeon a proof. The subject was discussed at the municipal council and the proposition was rejected, a fact which will not prevent some physicians from installing the apparatus at their own expense, as, for instance, Variot has done at the Enfants' Malades Hospital.

Treatment of Boils by Iodin.

Dr. Gallois has found that a solution of 4 gm. iodin in 10 gm. acetone is very serviceable in the treatment of boils. Dr. Castillon prefers a solution containing one part of iodin to two of glycerin, as it is much less irritating. This solution is obtained by heating glycerin and iodin under pressure at a temperature of 120 or 150 degrees.

New Method of Finding the Tuberculous Bacillus.

Dr. André Jousset recommends a new method for finding the bacillus of Koch in certain morbid secretions, which applies more especially to fibrinous effusions of the pleura. It consists in liquefying the coagulum by means of an artificial gastric juice containing fluor, and centrifuging. In this manner all solid substances not attacked by the gastric juice, such as the bacillus, are assembled in the deposit and can be readily colored. By means of this technique, Dr. Jousset has been able to find the bacillus of Koch twenty times in twenty pleuritic effusions, six times in tuberculous peritonitis and twice in the blood of patients suffering from acute consumption. The same method has also been used by Dr. Besançon and Griffon, only instead of using gastric juice they employ solution of soda.

Correspondence.

Membership in the American Medical Association and the New York Profession.

CHICAGO, Jan. 23, 1903.

To the Editor:—I send herewith, for publication in THE JOURNAL, a copy of my reply to a letter received from a New York physician. It explains itself. I have purposely gone into details with the intention of publishing the matter. I have done so for the reason that I feel that there is a misunderstanding on the part of some of the members of the profession, especially in New York, as to the position held by the American Medical Association in regard to the conditions in that state.

Very truly yours,

FRANK BILLINGS.

CHICAGO, Jan. 20, 1903.

Dear Doctor:—Your letter of recent date to the Secretary of the American Medical Association, concerning your relations with that body, has been handed to me with the request that I reply.

In the letter you say that you wish to sever your relationship with the American Medical Association, because of the actions of the Association. You state that the conduct of the Association is narrow, that this is 1903, not 1880 or 1881, and that as long as the American Medical Association continues to make an unjust and particular target of the New York State Society, so long must you forego the pleasure of membership in it.

I am induced to make reply to this letter for the reason that you make the statement "the American Medical Association makes a target of the Medical Society of the State of New York," and that I may explain to you and to other members of the New York profession the present status of the American Medical Association and its relation to the profession of New York.

In the first place, I desire to state to you that this is 1903, and not 1880 or 1881, and I do not wish to discuss the issues of twenty-two years ago, but to take up the affairs of the American Medical Association and its objects since the plan of reorganization.

At St. Paul, in 1901, the Association adopted a plan of reorganization and a Constitution and By-laws which embodied the plan which will be pursued in the future in an attempt to organize the profession of the United States on a broader plan than has heretofore existed.

I shall not attempt to give you the Constitution and By-laws for you may read that document. Suffice it to say that one of the principles of reorganization is the formation of a county society in each county of each state, so far as practicable, the members of which shall form a state association, and that the members of the different state associations shall constitute the membership of the American Medical Association. The county society is the initial unit, and under this plan is the portal of entry to membership in both the state and national bodies. This plan embraces, of course, the principle that there shall be but one recognized county society in a county, and but one state association in a state in affiliation with the national organization.

The committee of the American Medical Association which formulated the plan of reorganization was continued and later formulated a "Constitution and By-laws for County Societies," and also one for state societies which agrees with the principles mentioned above and corresponds with the Constitution and By-laws of the American Medical Association.

Ten or more of the different states have since adopted the Constitution and By-laws recommended by the Committee on Reorganization, and many counties of the different states have adopted the Constitution and By-laws recommended by the committee. Reorganization is thus going on all over the country, to a greater degree than the most ardent supporter of the reorganization plan could have hoped, and the outlook now is that within a very few years the profession of the United States will be organized on the plan embodied in the Consti-

tution and By-laws of the St. Paul meeting and we shall be a united profession.

In almost every state of the Union there are physicians who have continued to be listed as members of the American Medical Association, although they are not members of the local society or of the state society in affiliation with the American Medical Association. These physicians are therefore not legal members of the American Medical Association. Furthermore, there was no inducement for them to become members of the affiliated bodies in the state in which they lived so long as they were carried on the list of members of the American Medical Association and enjoyed all the privileges of that body.

A committee was appointed at Saratoga to look up this matter of membership, which recommended that on or about Jan. 1, 1903, the Secretary of the American Medical Association should notify every physician in the different states who was not a legal member according to the Constitution and By-laws, that his name would be dropped from the list of members if he did not become a member of an affiliated society on or before March 1, 1903.

This action was not aimed at the physicians of the state of New York, but was intended (as indicated above) to correct an error where it existed in all of the states of the Union.

However, in New York state a worse condition prevailed than elsewhere for the reason that two state organizations have existed there since 1884.

As you know, the Medical Society of the State of New York ceased its affiliation with the American Medical Association in 1882 because of the existence of the Code of Ethics adopted by the Association in 1847.

Although the Association adopted a new Constitution and By-laws at St. Paul in 1901, it did not in any way alter the Code of Ethics, which was continued as the ethical expression of the Association. However, the sentiment apparently of the country in reference to the code was such that at the Saratoga meeting in 1902 a draft of a revised Code of Ethics was introduced to the House of Delegates and met with much favor in that body and from the members as a whole. A committee was appointed to present a revised code at the New Orleans meeting, and that document will be acted on by the House of Delegates in May of this year.

In February, 1902, the president of the Medical Society of the State of New York wrote to the president of the New York State Medical Association, informing him that the medical society, at its meeting held the latter part of January, 1902, had adopted a resolution that a committee of five be appointed to confer with a committee representing the New York State Medical Association for the purpose of formulating a plan which should have for its object the reorganization of the regular medical profession of the state of New York into one body, which body would be in affiliation with the American Medical Association. After considerable correspondence between the presidents of the two state medical bodies of New York, a committee of five from each was formed. From the Medical Society of the State of New York the committee was Drs. Henry L. Elsner, chairman, A. Jacobi, A. Van der Veer, A. M. Phelps and George Ryerson Fowler; from the New York State Medical Association: Drs. E. Elliott Harris, chairman, Frederick Holme Wiggin, Emil Mayer, Parker Syms and Wm. H. Biggam.

By correspondence and by conference these committees agreed on certain propositions which were signed by the chairman of each committee.

In brief, the propositions which were adopted were as follows:

First. There is an honest desire on the part of the members of the two state organizations to unite the regular medical profession of the state.

Second. That they organize by the legal union into a single state medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both organizations should be charter members.

Third. That the reconstituted medical body should be the representative in the state of the American Medical Association by virtue of the acceptance of the Constitution and By-laws of the American Medical Association.

At a meeting of both the committees, held April 18, 1902, the question of the manner of preparing the charter of the new organization was taken up, and the preamble and proposed charter which embodied the agreements above mentioned were read and adopted and signed by the chairman of each committee. (See the *New York State Journal of Medicine*, pp. 308 to 313 inclusive, November, 1902.)

At the joint conference of the committees held at the Academy of Medicine in New York City Oct. 3, 1902, the committee of the Medical Society of the State of New York stated that they could not recommend the acceptance by the state society of the By-laws of the American Medical Association containing Article XV. (Art. XV of the Constitution and By-laws, among other things, affirmed the Code of Ethics of the American Medical Association.)

At the Saratoga meeting the Constitution and By-laws were somewhat modified and, among other things, Article XV was omitted.

At the meeting of the New York State Medical Association in October, 1902, the committee of the association made its report concerning the result of its conference with the committee of the state society.

This was, in short, that the two committees had agreed that they would attempt to unite the regular profession of the State of New York into one body to be known as the Medical Society of the State of New York, of which all members of both societies in good standing should be charter members, and the reconstituted state medical body should be the representative in New York state of the American Medical Association by virtue of its acceptance of the Constitution and By-laws of the American Medical Association. This report of the committee was accepted with the expression of the New York State Medical Association of a sincere desire for a union.

In addition to this a resolution was adopted that the committee of the association should be continued for the purpose of co-operating with any committee from the Medical Society of the State of New York to secure a charter from the legislature during the session of 1903.

The resolution further stated that if the Medical Society of the State of New York should fail to approve of the plan of the union agreed on between the two committees, including the adoption of the Constitution and By-laws of the American Medical Association, in such time as would enable the proper committees to obtain a charter from the legislature in 1903, that the committee of the association should be discharged and the proposition for the union should be withdrawn.

This action of the association left its special committee on conference in abeyance until such time as the committee of the society or the society itself could agree in full to the propositions made in joint committee meeting.

This status of affairs has continued in New York since the date of the meeting of the joint committee on Oct. 3, 1902, or perhaps it would be better to say since the meeting of the New York State Medical Association later in October.

The Secretary of the Association, Dr. Geo. H. Simmons, and I had conferred concerning the effect of the notice which, as stated above, was to be sent by him to the physicians who were listed as members of the American Medical Association in the different states, but who were not legally members of the Association. As there were nearly one hundred and fifty of these in New York state, the greater number of whom were members of the Medical Society of the State of New York, it made the situation there of greater import than in any other state of the Union.

It therefore seemed wise to Dr. Simmons and to me that I, as President of the Association and as an outsider, should go to New York and, if possible, confer with the two committees for the purpose of hastening legal union of the two bodies. If this could be accomplished before the first of March all of the listed members could then become legal members of the Association; and if it could be accomplished before the first of January none of them would receive a notice from the Secretary as mentioned above.

Accordingly I communicated with the chairman of each committee, with the result that a meeting of a full membership of

each committee with me was held at 3 o'clock on Friday, December 19, at the Academy of Medicine in New York City.

The chairman of the committee of the New York State Medical Association stated to me that his committee was in abeyance by the action of the state association and could not discuss the question at issue, inasmuch as the propositions for a union had been made by the association and that the most of the propositions had been accepted by the committee of the society, and at this time awaited only the acceptance by the committee of the society of a signed agreement to accept the Constitution and By-laws of the American Medical Association. That if the Medical Society of the State of New York should accept the report of its committee of its society, including the agreement to acknowledge the Constitution and By-laws of the American Medical Association at its meeting in January, 1903, then the committee of the association would become active again and be ready to co-operate with a committee of the society to secure a charter and legalize the union of the regular profession under one society as mentioned above.

In the conference I found the gentlemen of the two committees kind and courteous, and the most cordial and kind consideration was shown to me and to the members of the two committees by each individual present.

I made a preliminary statement, in which I said that the committee of the state association, through its chairman, had indicated to me that his committee could not enter into a discussion of the propositions for union because they were in abeyance and also for the reason that the propositions had been accepted by the state association and required no further discussion from them as a committee.

I also outlined the status of conditions in New York, naming step by step the propositions which had been advanced and accepted by the two committees to the time of their last joint meeting on October 3. In addition to this, the statement was made of the acceptance by the state association of the propositions. I also stated that the object of the meeting was to confer about existing conditions in the state of New York, and that I hoped no discussion of the problems of 22 years ago would come up, as I felt there was nothing to be gained thereby.

Inasmuch as a discussion of the meaning of Article XV of the Constitution and By-laws had been questioned after it had been omitted from the Constitution in 1902, I made the statement that the omission of Article XV did not in any way alter the relation of the Code of 1847 to the American Medical Association. That without Article XV the code was as much a part of the Association as before.

In answer to my preliminary remarks, Dr. Henry L. Elsner, chairman of the committee of the society, made the following statement. I do not attempt to quote his exact words, but in brief he said:

First, That since the conference of the two committees, conditions had occurred which made the committee of the Medical Society of the State of New York alter its attitude in reference to the propositions made for a union of the two organizations into one legal body.

Second, That the committee of the society could not now agree to the proposition of the union on the basis of the abandonment of the charter of the Medical Society of the State of New York; that the charter of the society, granted in 1806, contained many valuable provisions which their legal advisor had informed the committee could not be secured, at the present date, from the legislature of the state. That the traditions of so old a society, in addition to its many privileges, should not be given up. That the society would be willing to receive the members of the association in good standing into its body in lieu of the members of the two societies becoming charter members in the proposed new society.

Third, That the society could not afford to amalgamate with the association in obtaining a new charter for the reason that the new body would assume necessarily the debts and obligations of each of the existing state bodies. That the financial condition of the association was such that the society could not afford to assume the risk of its debts.

Fourth, That the committee of the society was not willing to accept the Constitution and By-laws of the American Medical Association or to recommend its acceptance to the Medical Society of the State of New York with the understanding that the Code of Ethics of 1847 was still in existence.

I then made the additional statement that the status of the Code of Ethics differed only from that of 21 years ago in this: That at the St. Paul meeting in 1901, when the new Constitution and By-laws were adopted, the clause in the old Constitution and By-laws which made it necessary for every medical body affiliated with the Association to adopt the Code of Ethics was dropped. That since 1901, therefore, while the code existed it was not now necessary that a county or state society in affiliation with the American Medical Association should adopt the code. That such affiliated bodies could organize without a code at all or with a code differing from that of the American Medical Association. I stated that Illinois and Ohio had no code, and that Massachusetts and possibly one other state had a code of its own. That doubtless other states and county societies existed without a code or with a code differing from that of the American Medical Association. That it was, therefore, perfectly feasible for the two state medical bodies of New York to unite on the propositions made and agreed on at former conferences to secure a charter from the state legislature and to organize a body which should be the representative in the state of the American Medical Association without a code or with a code formulated to suit themselves. That if they did so unite before the meeting of the Association in New Orleans, their delegates—who would doubtless be men now representing both the society and the association—could go to New Orleans and help in formulating and adopting a revised code.

Dr. Jacobi, a member of the committee of the society, also spoke in substance as follows:

That he, as a member of the committee, would not agree to the propositions for a union so long as the present code of the Amedical Medical Association existed. That if a revised code, as was introduced at Saratoga, were adopted by the American Medical Association, it would be acceptable to him—as it doubtless would be to the other members of the state society—although it contained objectionable features.

But, said Dr. Jacobi, if the American Medical Association is now of the opinion that it should have a revised code, or if at the New Orleans meeting the old code is abrogated or a revised code is adopted, then the American Medical Association will confess that it was wrong and the Medical Society of the State of New York was right twenty-two years ago. That he would not consent to a union of the two bodies or become a member of the American Medical Association so long as the old code existed. That if at New Orleans a revised code, such as was introduced at Saratoga, were adopted, that by this act the American Medical Association would confess its error in the past and could in justice do no less than invite the Medical Society of the State of New York to become again the one affiliated state medical society in New York. That the state society would then be ready and willing to receive the regular members of the profession in the state of New York, including those of the association, as members of the Medical Society of the State of New York.

The committee of the association was in abeyance and had no answer to make to the statement of the committee of the society.

There was, therefore, nothing gained by the conference excepting this: That the position of the committee of the association and its members and of the committee of the society was made distinct and plain.

Before we separated I summed up the situation by the statement that the association, through its committee, had adopted certain propositions for a union such as are outlined in this letter. That the committee was in abeyance and would become active again provided the society would accept the propositions at a date early enough to enable the joint committee to secure a charter from the legislature of 1903. That the association had put this time limit on the society, not to force them to action, as I understood it, but so that if it was not accepted

by the society, the association could then go on at the earliest possible date and reorganize the profession of the state in the different counties as the recognized state body.

At this point a member of the committee (I think Dr. Jacobi) made the statement that the committee of the society did not desire the association to stand still, but would be pleased to have them go on and organize the profession of the state without reference whatever to the negotiations going on.

As to the society, I summed up the propositions as made above by Dr. Elsner as the status of that committee.

I also said that it seemed to me the only hope of the union of the two state bodies this year was to be accomplished on the following plan: That the committee of the society should make its report to the Medical Society of the State of New York at its January meeting and ask for further time to consider the propositions of the association. That inasmuch as the committee had unanimously agreed not to adopt the Constitution and By-laws of the American Medical Association now or as long as the Code of Ethics existed, that if at New Orleans the revised code was adopted and was acceptable to them, that they could then adopt the Constitution and By-laws and with it the revised code. That they could perhaps make provisions at the meeting of their society in January whereby an official body or committee could then accept, with power to act, the completed report of the committee for amalgamation of the two state bodies. That this act would make the committee of the association active and that together with the committee of the society they could then go on and secure a charter during this year.

This is a statement of the status of affairs in New York State made by an unprejudiced outsider and by one who has been and is most anxious that the profession of the Empire State should be united in one body representing the whole profession of the state in the American Medical Association.

The American Medical Association is most anxious to have the good men of the profession everywhere in its membership. And I want to repeat that no target is made of the members of the Medical Society of the State of New York. It is simply a question of adjustment of the differences between the members of the profession in New York and that they must themselves settle.

I am sure you and every other member of the Medical Society of the State of New York will find that the great body of members of the American Medical Association are desirous of having you back as members and that we are willing and desirous of helping you as far as we can. But the members of the Medical Society of the State of New York must come to the American Medical Association, and should not for a moment believe that the American Medical Association will go to them.

In conclusion it must be distinctly understood that the New York State Medical Association is the only affiliated state body in New York, and as such, the only one that the officers of the American Medical Association can recognize.

Believe me, Very sincerely yours,

FRANK BILLINGS,
President of the American Medical Association.

A Side Light on Ethics.

PHOENIX, ARIZ., Jan. 17, 1903.

To the Editor:—Referring to the communication of Dr. Gillmore in THE JOURNAL, January 3, "A Side Light on Ethics," I would like to say that the Eminent Consultant is not only responsible for the "bulldog tendency" of to-day, but also for the increase of the horde of medical Arabs who, finding it difficult to be honest with the profession or public, and live, scour the deserts and cities, seeking whom they may devour.

The Eminent Consultant of the species described by Dr. Gillmore is a reproach to the profession, and does more to bring discredit on the profession and break up professional unity, nullify professional organizations and destroy charity than do the fakers and medical parasites.

I would submit as a remedy for this disease one which, though it may seem heroic and in itself subversive of some of the tenets of the Code it is intended to preserve, at the same time might prove curative. Perilous diseases sometimes require heroic remedies, and a rule of conduct was never made that was intended to shield or protect the guilty.

The remedy that I would suggest is publicity, at least among properly constituted authorities. Neither the public nor the profession as a whole are so strabismic but that they are able to view things in their proper proportions if given a fair chance. The trouble is the medical code is so interwoven with mysteries of "Thou shalt not," and "Under my grace and guidance thou mayest," that no wonder the tender shoots in the medical profession are apt to become dwarfed and stunted.

The injury done Dr. Gillmore in a case cited might be reckoned from the commercial standpoint in the hundreds and thousands, but he has no recourse in the medical courts of law at present constituted.

There is an eminent surgeon living to-day in one of the principal cities of the country who outdoes Dr. Gillmore's Eminent Consultant. The case was this: A reputable physician, graduate of one of the best schools in the country, and who had, at the cost of the usual amount of time and hard work, fitted herself for the practice of surgery, came to the city in which the Eminent Consultant was a resident and practitioner. Being a stranger, Dr. Brown (this is an *ex-parte* statement) introduced herself and presented her credentials to the Eminent Consultant and asked him if he would accord her the grace of his presence, advice and assistance in a surgical procedure on a private patient of her's, the operation to be performed in one of the leading hospitals of the city. The Eminent Consultant, Dr. Black, consented to furnish all these elements of grace with the following proviso: Dr. Brown was to do the operation, assuming all the responsibility that goes with it, but in the case-book the record should read Drs. Black and Brown, and Dr. Black was to pocket two-thirds of the fee.

If this were not related by one credible witness, one of the parties in the case, it would hardly be believable. Leaving out of consideration the matter of professional ethics and placing the case on the basis of ordinary commercial or business ethics, one would feel that a man who would treat a woman in that manner was hardly deserving of respect, much less of retaining his exalted position in the local profession. In this case Dr. Brown was helpless, and the operation was concluded on the terms proposed.

A friend of mine who was making a specialty of abdominal surgery in a small town neighboring Philadelphia, called in an Eminent Specialist residing in the latter city to consult with him in a desperate case, which proved to be general puerperal peritonitis with free pus throughout the abdominal cavity. The Eminent Consultant, after admitting to a member of the patient's family that my friend was properly qualified to perform such surgical procedure as the case might require, came down to the consultation armed with full paraphernalia for performance of same and with intent to do the operation. When informed that he had simply been called at the family's request as consultant he went off in a huff, and afterwards, as I have been informed, said some very harsh things reflecting on the ability of the operator and in regard to the termination of the case, which was death.

W. H. BURR.

State Boards of Registration.

Rhode Island.—Dr. Gardner T. Swarts, secretary, reports the Rhode Island State Board of Health to have held an examination at Providence, Jan. 2 and 3, 1903, in which the number of subjects was 7; questions, 70; percentage required to pass, 75; written examination; number examined, 9; passed, 7; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
194	R.	University of Vermont	1902	79.0
196	R.	University of Edinburgh	1891	88.2
198	R.	Coll. of Phys. and Surgs., Baltimore.	1901	81.6
200	R.	College of Phys. and Surgs., Chicago	1890	79.4
199	R.	Tulane University	1896	85.4
201	R.	McGill University	1902	87.3
202	R.	Johns Hopkins University	1899	85.1

FAILED.

195	R.	Dartmouth Medical College	1900	69.1
197	H.	New York Homeopathic Med. College	1881	57.9

Utah.—The Utah State Board of Medical Examiners held an examination at Salt Lake City, Jan. 5 and 6, 1903. The secretary, Dr. R. W. Fisher, reports the number of subjects to be 10; questions, 70; percentage required to pass, 75; written examination; number examined, 5; passed, 3; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Jefferson Medical College.....	1901	84
2	R.	Illinois College of Medicine.....	1902	80
3	R.	University of Pennsylvania.....	1901	80

FAILED.

4	H.	American Medical Coll., St. Louis.	1890	64 1-7
5	R.	Coll. of Phys. and Surgs., St. Louis	1901	*62 5-7

* Re-examination.

Minnesota.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at St. Paul, Jan. 6-8, 1903, as follows: Subjects, 12; questions, 95; percentage, 75; written examination; examined, 19; passed, 10; failed, 9.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2136	H.	University of Minnesota.....	1899	85.9
2144	R.	University of Minnesota.....	1889	83.1
2154	R.	Univ. of Michigan (1883), Jefferson.	1884	84.2
2140	R.	College of Phys. and Surgs., Chicago	1902	83.7
2142	R.	College of Phys. and Surgs., Chicago	1902	*80.5
2146	R.	Northwestern University, Chicago...	1902	88.1
2151	R.	Northwestern University, Chicago...	1902	84.7
2148	R.	Rush Medical College, Chicago.....	1901	84.8
2149	R.	Johns Hopkins Medical School.....	1901	85.8
2152	R.	Barnes Medical College, St. Louis...	1901	*82.8

FAILED.

2137	R.	University of Illinois.....	1902	†72.5
2143	R.	University of Illinois.....	1902	†69.7
2138	R.	Barnes Medical College, St. Louis...	1901	63.8
2145	R.	Barnes Medical College, St. Louis...	1902	65.7
2139	R.	Illinois Medical College, Chicago....	1902	70.9
2141	R.	College of P. and S., Wisconsin.....	1902	73.9
2147	R.	Kan. City Med. Coll. (1899), Barnes.	1900	71.8
2150	R.	Marion Sims Med. Coll., St. Louis...	1902	69.3
2153	H.	Hahnemann Med. Coll., Chicago.....	1866	66.0

* Second examination.
† Failed twice.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

IMPROVED TREATMENT OF EMPYEMA.

COLDWATER, MICH., Jan. 24, 1903.

To the Editor:—I see in THE JOURNAL of January 17 a comment on improved treatment of empyema, wherein you state "so far as we have seen this particular operation has not been recommended by any other operator."

I desire to say that I have used a similar method for several years past and am greatly pleased to learn that Dr. Ingals approves of the method. Enclosed find reprint in verification of priority of method. Respectfully, D. H. WOOD.

NOTE.—The reprint is from the Proceedings of the Michigan State Medical Society, 1889, and is in line with Dr. Ingals' suggestion. The latter, however, thinks that better results are obtained where two tubes are used instead of one.

MEDICAL PRACTICE IN CUBA.

LOUISVILLE, KY., Jan. 20, 1903.

To the Editor:—Will you kindly give me the requirements for practicing medicine in Cuba? X.

ANS.—To obtain permission to practice medicine in Cuba, one must first submit his diploma to the Superintendent of Public Instruction and undergo examination by a committee appointed by the University of Havana. The examination will have to be in Spanish, though an interpreter is allowed. The examinations include not only oral, but written theses and examining of cases.

Marriages.

HARRY S. SWOPE, M.D., Louisville, Ky., to Miss Bettie Pegg of Wheatley, Ky.

GEORGE HEUSTIS FONDE, M.D., to Miss Mary Crawford, both of Mobile, Ala., January 8.

ALDEN RAY DENNY, M.D., Galesburg, Ill., to Miss Susan T. Gould of Chicago, January 7.

OWEN W. GRUBBS, M.D., to Miss Florence Baughman, both of Harrison, Ohio, January 6.

WILLIAM V. BRYANT, M.D., Madison, Wis., to Miss Franc C. Taylor of Chicago, January 8.

VAN A. STILLEY, M.D., Benton, Ky., to Miss Mae Coleman of Princeton, Ky., January 15.

JOHN WEST BENTON, M.D., Ogdensburg, N. Y., to Miss Harriet Egert, in London, England.

JOHN A. PRINCE, M.D., Springfield, Ill., to Miss Eva Cross of Mechanicsburg, Ill., January 14.

ROLLIN P. COLLINS, M.D., Bishopville, Md., to Miss Nellie Cannon of Frankford, Pa., January 15.

GUS A. BACHMANN, M.D., Dorr, Mich., to Miss Bertha Leow of Burnips Corners, Mich., January 21.

PAUL STAFFORD MITCHELL, M.D., Iola, Kan., to Miss Grace Jaquess of Hammond, Ill., Dec. 25, 1902.

WILLIAM ELLERY JENNINGS, M.D., to Mrs. Marie Taggart Ropes, both of Brooklyn, N. Y., January 6.

VACLAV PODSTATA, M.D., Kankakee, Ill., to Miss Mary Graham Porter, at Lawton, Okla., January 12.

EDWARD WEBBER, M.D., Sebewaing, Mich., to Miss Clara Rosina Foerster of Ann Arbor, Mich., January 14.

Deaths.

Edward T. Dickerman, M.D., one of the most promising young physicians of Chicago, died at the residence of his mother in Springfield, Ill., January 23, from pneumonia, aged 35. He was born in Jacksonville, Ill., Aug. 4, 1867, began his medical studies in Chicago Medical College in 1887, and was graduated from that institution in 1890. He gained an interneship in Mercy Hospital, and served acceptably in that position. At the conclusion of his term of service he continued his studies in Europe, devoting his attention especially to the ear, nose and throat. On his return to Chicago he commenced practice in this specialty, and speedily acquired a large practice. On January 17 he went to Springfield to operate, and on the next day had a chill and symptoms of pneumonia. The disease ran a rapid course, and despite the best and most affectionate care, he died five days later. He was a member of the American Medical Association, American Laryngological Association, Illinois State Medical Society, Chicago Medical Society, and the Physicians' Club, and a fellow of the Chicago Academy of Medicine. He held the positions of professor of laryngology at the Chicago Policlinic, and associate professor of otology, Rush Medical College, and was attending ear surgeon at the Illinois Charitable Eye and Ear Infirmary. His funeral at Springfield, January 25, was attended by a number of Chicago physicians, and the faculties of Rush Medical College and the Chicago Policlinic sent floral tributes. At the meeting of the Physicians' Club, January 26, Dr. Dickerman's death was formally announced, and expressions of regret and sympathy were adopted.

Eli H. Coover, M.D. Jefferson Medical College, Philadelphia, 1850, a member of the American Medical Association, Medical Society of the State of Pennsylvania, Dauphin County Medical Society, and founder and first president of the Harrisburg Academy of Medicine, died at his home in Harrisburg, Pa., after a long illness, January 13, aged 75. He was esteemed, honored and beloved as a physician. As a citizen he was public-spirited, and a few years ago presented a park to Harrisburg. At special meetings of the Harrisburg Academy of Medicine and of the Dauphin County Medical Society resolutions of eulogy and sorrow were passed, and the members attended the funeral in a body.

Anson Soverille Fraser, M.D. Faculty of Queen's University and Royal College of Physicians and Surgeons, Kingston, died at his home in Sarnia, Ont., from Bright's disease, Dec. 31, 1902, aged 56. He was one of the best-known and prominent physicians of Western Ontario; and from 1891 to 1899 was examiner for the Ontario Medical Council in physiology. He was largely instrumental in establishing the Sarnia General Hospital in 1896, and was president of the hospital board up to last November.

James M. Alexander, M.D. University of the State of Missouri, Columbia, 1886, died at his home in Anabel, Mo., from pleurisy, January 13, after an illness of several months, aged 40. At the meeting of the Macon County Medical Society in Macon, January 16, a committee was appointed to draft resolutions regarding the death of Dr. Alexander.

Susan R. Pray, M.D. Women's Medical College of the New York Infirmary, 1882, for 3 years a medical missionary in China, died at her home in Brooklyn, January 14, after an illness of two months, aged 45. She was a member of the Brooklyn Health Board for 13 years, and was a member of the American Medical Association.

Will C. Cundiff, M.D. Vanderbilt University, Nashville, Tenn., 1900, died at his home in Somerset, Ky., from tuberculosis, January 6. At a meeting of the Pulaski County Medical Society, January 8, a tribute to Dr. Cundiff's memory was adopted.

Robert H. Goldsmith, M.D. University of Maryland, Baltimore, 1852, some-time physician to Bayview Hospital and president of the Alumni Association of the University of Maryland School of Medicine, died suddenly at Baltimore, January 13, aged 70.

Alexander T. Gordon, M.D. Medical College of Virginia, Richmond, 1858, surgeon of Pegram's Battalion, C. S. A., in the Civil War, died at his home near Lignum, Culpeper County, Va., January 14, after an illness of several years, aged 70.

George F. Motter, M.D. University of Nashville (Tenn.), 1864, who served during the Civil War as a surgeon in the Federal Army, died at his home in Taneytown, Md., from pneumonia, after an illness of two weeks, aged 60.

Frederick J. Bancroft, M.D. University of Buffalo, 1861, a surgeon in the Army during the Civil War, for the past 37 years a resident of Denver, died from heart disease at San Diego, Cal., January 16, aged 69.

John Allard Jeancon, M.R.C.S. Eng., 1854, surgeon of the Thirty-Second Indiana Volunteer Infantry in the Civil War, died at his home in Newport, Ky., January 13, from pneumonia, after a long illness, aged 74.

David C. Bryan, M.D. Central College of Physicians and Surgeons, Indianapolis, 1887, died from paralysis at his home in Hot Springs, Ark., January 14, after an illness of two months, aged 42.

George W. Harding, M.D. Rush Medical College, Chicago, 1900, a missionary of the American Board, died at his station in Ahmednagar, Bombay Presidency, India, January 14, of septicemia.

Isaac H. Shields, M.D. University of Pennsylvania, Philadelphia, 1860, who served throughout the Civil War, died from rheumatism at his home in Philadelphia, January 13, aged 64.

William H. Hildreth, M.D. Dartmouth Medical College, Hanover, N. H., 1868, died at his home in Newton Upper Falls, Mass., January 15, after a short illness, aged 65.

John H. Xelowski, M.D. College of Physicians, Chicago, 1900, of Oklahoma City, Okla., died at St. Mary's Hospital, Decatur, Ill., January 16, from heart disease.

John W. Hignutt, M.D. Jefferson Medical College, Philadelphia, 1856, who retired from practice in 1893, died at his home in Hickman, Del., January 12, aged 73.

Thomas B. Bush, M.D. Atlanta (Ga.) Medical College, 1894, died at his home in Lawrenceville, Ga., January 11, after a long illness, from typhoid fever, aged 33.

George N. Gage, M.D. Boston University School of Medicine, 1877, died from consumption at his home in East Washington, N. H., January 10, aged 51.

George W. Howard, M.D. Medical College of Virginia, Richmond, 1863, died at his home in Vicksburg, Miss., January 11, after a long illness, aged 68.

Charles H. Hedges, M.D. Jefferson Medical College, Philadelphia, 1841, died at his home in Charlottesville, Va., January 12, after a long illness, aged 84.

Peter Root Everett, M.D. Jefferson Medical College, Philadelphia, 1856, died at his home in Cleveland, Ohio, January 13, after a short illness, aged 68.

Louis A. Burgess, M.D. Tulane University, New Orleans, 1856, died at his home in New Iberia, La., January 15, after a long illness, aged 72.

Walter F. Randolph, M.D. Rush Medical College, Chicago, 1870, of Bedford, Iowa, died at the home of his daughter in Chicago, January 4.

Charles B. Adams, M.D. University of Louisville (Ky.), 1898, of Vanceburg, Ky., died, January 14, at a hospital in Portsmouth, Ohio.

Richard S. Markell, M.D. McGill University, Montreal, 1867, died from apoplexy at his home in Cloverdale, Cal., January 10.

Andrew J. Burrus, M.D., of Dallas, Texas, was struck by a passenger train, January 11, and instantly killed.

Henry W. Day, M.D., registrar of Hastings County, Ont., died at Belleville, January 10, aged 71.

Deaths Abroad.

Samuel Fenwick, M.D., F.R.C.P., the well-known writer on gastric disorders, has died at the age of 72. He was a Northumbrian, and was apprenticed to the Royal Infirmary, Newcastle-on-Tyne. After obtaining the membership of the Royal College of Surgeons he soon acquired one of the largest practices in the northern counties. For some years he lectured at the University of Durham Medical School. Forty years ago he removed to London. He first became connected with the City of London Hospital for Diseases of the Chest. In 1868 he was appointed on the staff of the London Hospital, on which he remained until he retired in 1896. There he made his reputation as a teacher and clinician. Despite a large practice and his hospital duties, he found time to make several valuable scientific researches, the most important of which was, perhaps, the significance of the presence of sulphocyanid of potassium in the saliva in various diseases. His "Students' Guide to Medical Diagnosis" was popular with many generations of students, and in its time was recognized as the best manual to place in the hands of the student beginning to work in the wards. In teaching, Dr. Fenwick insisted on the importance of accuracy of observation and of the students recording what they saw as the best way of becoming good diagnosticians. He wrote: "A number of well-recorded cases is invaluable, and forms the best practice of physic for your future reference and guidance." In 1879 he published "Outlines of Medical Treatment," which in a few years passed through four editions. As a writer on digestive maladies he made his reputation. He wrote the article on diseases of the stomach in the first edition of Quain's *Medicine*. During the last four years he was preparing a series of monographs on diseases of the stomach and completed the first two, which dealt with "ulcer" and "tumor."

Dr. Panas, the well-known ophthalmologist and surgeon of Paris, at one time president of the Académie de Médecine. He was a Greek, born in the Ionian Isles in 1831, but was educated in France, and became interne, demonstrator of anatomy, prosector, then professor agrégé and surgeon to the hospitals, and was finally appointed in 1879 to the newly-organized chair of ophthalmology. There are few questions in ophthalmology to which he has not brought some important contribution. His name is particularly connected with his method of tenotomy, his operations for ptosis, strabismus, cataract and neoplasms of the eye, and his studies on interstitial keratitis and glaucoma. His Manual of Ophthalmology is a classic. He was "chef de service" at the Saint Louis Hospital during the siege of Paris, and served also as volunteer surgeon in the barracks, while at the same time he was holding daily thronged eye clinics, and was studying German. During the Greco-Turkish war he organized and personally took charge of a relief ambulance. These experiences and his vast learning, his knowledge of the ancient classics and long training in anatomy and general surgery, his alert clinical sagacity, marvelous technic and imperturbed *sang froid*, combined to place him in the front rank.

Dr. H. Varnier of Paris, a prominent specialist and writer on obstetrics. His mother died in childbirth, and he devoted his life to reducing the mortality from this cause. He published, among other works, an atlas of pathologic obstetric anatomy in collaboration with Pinard, and in 1900 a fine illustrated manual on obstetrics in daily practice.

Dr. A. Kast, professor and director of the medical clinic at Breslau, aged 47, of a protracted renal affection.

Miscellany.

The Famous Plague Song.—Flexner remarks, as previously mentioned,[1] that the plague has gained admittance into our midst, and that it is the first time in history that the Western Continent has been invaded. He gives the words of the Augustin song which few realize dates from the great plague epidemic in Europe centuries ago. Augustin was a wandering minstrel, whose occupation was interrupted by the prevalence of the plague, and his plaint is a classic in German student

1. See THE JOURNAL, Dec. 6, p. 1485.

circles. The tune is familiar everywhere. The original is as follows:

Oh, du lieber Augustin,
's Geld ist hin, d'Freud' ist hin,
Oh, du lieber Augustin,
Alles ist hin!

Ach, und selbst das reiche Wien
Arm jetzt wie Augustin,
Seuftzt mit mir in gleichem Sinn,
Alles ist hin!

Jeden Tag war sonst ein Fest;
Und was jetzt? Pest, die Pest!
Nur ein grosses Leichennest,
Das ist der Rest!

Oh, du lieber Augustin,
Leg nur ins Grab dich hin,
Ach, du mein liebes Wien,
Alles ist hin!

This may be freely translated thus: "Oh, you dear Augustin. There is no money, there is no pleasure. Everything is gone! Even wealthy Vienna is as poor now as Augustin, and laments with me that everything has gone to pieces. Every day used to be a festival, but now, plague take it, the plague! Nothing but a great nest of corpses! Oh you poor Augustin, go lie down in your grave. Alas, my beloved Vienna, the bottom has dropped out of everything!" Those familiar with Chicago will recognize in this the original of "Ach, du lieber Halsted Street," the local song concerning that notable thoroughfare.

Association News.

EXCURSION RATES—NEW ORLEANS MEETING.

Rules Governing Extension of Tickets.

SOUTHERN PASSENGER ASSOCIATION.

ATLANTA, GA., Jan. 22, 1903.

To the Editor:—Referring to previous correspondence in regard to reduced rate and arrangements for the above meeting in New Orleans in May, attached please find copy of Passenger Tariff Exc.-1670, which shows detailed information as to special agency extension arrangements, etc. It may help your attendance to give this feature a wide circulation, as I have no doubt many of the delegates to your meeting will wish to make side-trip excursions. Very respectfully,

JOSEPH RICHARDSON, Chairman.

Passenger Tariff No. Exc.-1670.

Supplementing Passenger Tariff No. Exc.-1646. (*See* THE JOURNAL, *Jan. 8 p. 46.*)

The rules and regulations herein published are the separate rules and regulations of each of the following individual carriers and its connections:

Illinois Central Railroad.
Louisville & Nashville Railroad.
New Orleans & Northeastern Railroad.
Yazoo & Mississippi Valley Railroad.

RULES AND REGULATIONS.

The final limit of all tickets sold at the rate published in Passenger Tariff No. Exc.-1646 will be ten (10) days from date of sale, but original purchasers of such tickets may secure an extension of this final limit by personally depositing their tickets with Joseph Richardson, Special Agent, Room 204, No. 204 Camp Street, New Orleans, between the hours of 8 a. m. and 8 p. m., not earlier than May 1, nor later than May 12, 1903, and on payment of fee of fifty cents per ticket at time of deposit, at which time a receipt reading as follows will be issued:

NEW ORLEANS, LA., ——, 1903.

On presentation of this receipt to the undersigned at room 204, No. 204 Camp St., New Orleans, La., between the hours of 8 a. m. and 8 p. m., on or before May 30, 1903, by the original purchaser (in person) of ticket deposited this date for extension and covered by this receipt, ticket so deposited will be returned to original purchaser with the final limit extended so as to enable the original purchaser to leave New Orleans, La., on the date said ticket is withdrawn from deposit and travel by continuous passage through to the original starting point, but in no case will such final limit be extended to reach original starting point beyond midnight of May 30, 1903.

Original purchaser of ticket must present this receipt in person. Embossed signature of Special Agent.

When the original purchaser is ready to resume his journey and withdraws his ticket from deposit the Special Agent will attach an extension paster. These extension pasters will be printed on the Perfect Safety Paper adopted as standard by the American Association of General Passenger Agents and bearing water mark consisting of a star and the letters AA-GP-TA. In placing his signature on the back of the extension pasters, the Special Agent will in all cases use a facsimile embossing stamp. JOSEPH RICHARDSON, Chairman.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The following letter is being sent to all physicians who are listed as members of the American Medical Association and who do not belong to an affiliated society in the state in which they live. The letter is published so that those interested may be informed, as it will be impossible to reach all by the first of March, the time specified in the resolutions. To save unnecessary correspondence the following information is given:

1. To retain membership in the American Medical Association it is obligatory that a physician be a member in good standing of the state society of the state in which he resides, or in one of its recognized branches. A physician is supposed to reside in the county in which he votes.

2. For the present an individual moving from one state to another is allowed two years in which to associate himself with the society into whose jurisdiction he has moved. In this case, however, he must keep in good standing in his old society.

3. Medical officers of the Army, of the Navy and of the Public Health and Marine-Hospital Service of the United States are not required to affiliate with a society to hold membership in the American Medical Association.

4. In the State of New York the New York State Medical Association and its branches are the only organizations recognized by the American Medical Association.

5. Any physician who is in doubt as to whether or not the society to which he belongs entitles him to membership in the American Medical Association may obtain the necessary information by writing to the secretary of his state (or territorial) association. If such society is affiliated with the state (or territorial) association, it is in affiliaton with the American Medical Association, otherwise not.

6. The requirements for membership in the American Medical Association are the same now as they have been in the past; the basic principle regarding membership, on which the Association was founded, as outlined above, is now, for the first time in many years, being enforced, and will continue to be enforced in the future.

FRANK BILLINGS, *President.*
GEORGE H. SIMMONS, *Secretary.*

The letter referred to above is as follows:

AMERICAN MEDICAL ASSOCIATION.
Office of the Secretary, 103 Dearborn Ave.

CHICAGO, Jan. 3, 1903.

DEAR DOCTOR:

Since the formation of the American Medical Association the fundamental principle has been that membership should depend on membership in an affiliated state or territorial association of the state or territory in which the individual resides, or in one of its subordinate branches. In the reorganization adopted at St. Paul, in 1901, this principle was emphasized, but not changed. For many years, however, this has not been enforced for the reason that no system of reporting or verification of membership under the old conditions was possible. The result has been that an individual might become a member of the American Medical Association while a member in good standing in an affiliated society, but later withdraw from the latter, or be dropped or expelled, and yet still remain a mem-

ber of the American Medical Association. Hence, there are members of the American Medical Association from every state and territory who do not belong to their state or territorial society, or any of its branches. The plan of organization now going into effect will prevent this anomalous condition in the future.

Meanwhile it becomes necessary to ask each one who is on the membership list of the American Medical Association and who is not a member of his state association, or of one of its subordinate branches, to unite with such by March 1, 1903. This is in accordance with the following resolutions adopted by the House of Delegates of the American Medical Association, June 16, 1902:

Resolved: 1. That the Secretary of the Association shall complete the verification of the list of members on the plan already begun, and obtain, so far as possible, correct information from the members themselves and from other sources as to the qualification of every person who now claims membership in this Association.

2. That all those who now claim membership and who are not eligible according to our laws shall be notified by the Secretary of such fact, and that they must furnish satisfactory evidence of their qualification for membership as required by our laws on or before Jan. 1, 1903.

3. That not later than March 1, 1903, the Secretary is directed, after notification, to drop from the roll of members all who are not eligible to membership in this Association.

4. That the word "local" in line 9, Section 3, Chapter I, of the By-laws, shall be construed, in this connection, to apply to the state organization, or one of its recognized branches of the state in which the person holds his legal residence.

5. That a member of this Association removing from one county or state to another may continue to hold his membership in this Association for a period not to exceed two years, without joining an affiliated society in his new place of residence; provided, however, that during this time he retains his original membership in the county or state society from which he removed.

Section 3, Chapter I, of the By-laws of the American Medical Association, referred to in Resolution 4, is as follows:

SEC. 3.—No individual who shall be under sentence of expulsion or suspension from an affiliated society (whether a directly affiliated state or territorial society or an indirectly affiliated local society) of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local affiliated medical society, provided there be such a one, be eligible to membership or be allowed to continue as a member in the American Medical Association.

This circular letter is sent to each member of the American Medical Association whose name is not found on the membership list of his state or territorial association, or any of its branches, and is an official notification, in accordance with the above resolutions, that such member's name will be stricken from the roll of members of the American Medical Association, March 1, 1903, unless by that time he shows that he is entitled to such membership.

GEORGE H. SIMMONS,
Secretary American Medical Association.

Societies.

New York Academy of Medicine, Surgical Section.—Dr. Robert T. Morris has been elected chairman, and Dr. Charles H. Peck, secretary.

Scott County (Iowa) Medical Society.—This society met at Davenport, Dec. 16, 1902, and adopted a new constitution and by-laws to conform to that suggested by the American Medical Association.

Kansas City (Mo.) Academy of Medicine.—On January 3, at the annual meeting of the academy, Dr. Charles B. Hardin was elected president; Dr. Jacob Block, vice-president; Dr. Joseph W. Sherer, secretary, and Dr. C. Lester Hall, treasurer.

Medico-Chirurgical Alumni.—The Alumni Association of the Medical Department of the Medico-Chirurgical College, Philadelphia, recently elected as president Dr. George W. Pfromm; secretary, Dr. Stillwell C. Burns, and treasurer, Dr. Emanuel S. Gans, all of Philadelphia.

Lancaster County (Neb.) Medical Society.—At the annual meeting of this society, held in Lincoln, Dec. 2, 1902, Dr. James L. Greene, Asylum, was elected president; Dr. A. L. Hoover, vice-president; Dr. H. Winnett Orr, Lincoln, secretary, and Dr. A. D. Wilkinson, Lincoln, treasurer.

Kalamazoo (Mich.) Academy of Medicine.—The annual meeting of the academy was held, January 6, at the Michigan Asylum, Kalamazoo. The following officers were elected: Dr. Herman Ostrander, Kalamazoo, president; Drs. Arthur P. Burroughs, Galesburg, and Ralph E. Balch, Kalamazoo, vice-presidents, and Dr. Delia P. Pierce, Kalamazoo, secretary.

Shiawassee County (Mich.) Medical Society.—This society held it second annual meeting at Owosso, January 6, and elected Dr. Dryden H. Lamb, Owosso, president; Dr. R. H. Scott, Laingsburg, vice-president, and Dr. Charles Shickle, Owosso, secretary-treasurer. Dr. Angus MacLean, Detroit, was the guest of honor and gave an address on appendicitis.

Marion County (W. Va.) Medical Society.—At a meeting held January 1, at Fairmont, Dr. David C. Coplin, Boothsville, was elected president; Dr. James J. Durrett, Fairmont, vice-president; Dr. James W. McDonald, Fairmont, secretary, and Dr. William H. Sands, Fairmont, treasurer. The constitution was so changed as to conform to that of the state society.

Berks County (Pa.) Medical Society.—At the annual meeting of this society in Reading, January 13, the following officers were elected: President, Dr. George Hetrich, Birdsboro; vice-presidents, Dr. James W. Keiser, Reading, and Samuel S. Hill, South Mountain; secretary, Daniel Longaker, Reading; corresponding secretary, Dr. Hiester Bucher, Reading, and treasurer, Dr. Irvin H. Hartman.

North Central Illinois Medical Society.—The twenty-ninth annual meeting of this society was held at Streator, Dec. 2, 1902. The following officers were elected: President, Dr. Jane Reid Keefer, Sterling; vice-presidents, Drs. Lucius G. Thompson Lacon and William O. Ensign, Rutland, and secretary and treasurer, Dr. George A. Dicus, Streator. The next meeting will be held in Ottawa.

Orange County (N. Y.) Medical Association.—At the regular meeting of this body at Middletown, Dec. 17, 1902, an amendment to the by-laws of the New York Medical Association was read and accepted by unanimous vote. The amendment provides that hereafter no initiation fee will be required of any one desiring membership. This will make the cost of membership in the county, state and national associations only $11, as against $16 last year.

Winona County (Minn.) Medical Society.—At the annual meeting of this society in Winona, January 6, the constitution recommended by the American Medical Association and the Minnesota State Medical Society for county organizations was adopted. Dr. George J. Tweedy, Winona, was elected president; Dr. Frederick H. Rollins, St. Charles, vice-president; Dr. James B. McGaughey, Winona, secretary, and Dr. William F. C. Heise, Winona, treasurer.

Baltimore Medical and Surgical Association.—The annual meeting of this society was held January 12. The following officers were elected for the ensuing year: President, Dr. Edward L. Whitney; vice-presidents, Drs. William P. E. Wyse, Pikesville, and Charles O'Donovan; secretary, Dr. Eugene L. Crutchfield, and treasurer, Dr. James M. Craighill. A banquet followed, at which addresses were made by the retiring president, Dr. J. I. Ingle, and the president-elect.

Minnesota State Sanitary Association.—A number of Minnesota physicians interested in sanitation and in the prevention of disease, met at St. Paul, Dec. 17, 1902, and organized this association. Dr. Henry M. Bracken, secretary of the State Board of Health, was elected president. Dr. Burnside Foster, St. Paul, in an address on "Some Problems of Preventive Medicine," advocated the establishment of a department of hygiene, and that the secretary of the department be a cabinet officer with supervision over all state and municipal health departments. The second day was devoted to tuberculosis. Dr. Henry M. Bracken opened the symposium with an address on the "Care of the Tuberculous" in which he emphasized the importance of early diagnosis, notification, and the establishment of state sanatoria. The committee on tuberculosis reported through Dr. H. Longstreet Taylor, St. Paul, which especially

condemned expectoration in public places and the maintenance of poorly-ventilated factories. Under the head of prophylaxis. Dr. Thomas S. Roberts, Minneapolis, gave kissing, and smoking infected pipes, cigars and cigarettes as leading etiologic factors. He advocated isolation of patients, legislative prevention of expectoration, and wet sweeping of streets. The following officers were elected: President, Dr. Burnside Foster, St. Paul; vice-presidents, W. B. Patton, St. Paul, and Dr. Edward D. Keyes, Winona; secretary, Dr. Emory H. Bayley, Lake City, and treasurer, Dr. J. Frank Corbett, Minneapolis.

EGYPTIAN MEDICAL CONGRESS.

First Congress held in Cairo, Egypt, Dec. 19-24, 1902.

(From our Special Correspondent.)

(Continued from page 263.)

Yellow Fever Not Propagated by Mosquitoes.

PROF. CAMILLO TERNI of the Institute of Hygiene, Messina, read a "Contribution to the Study of the Etiology of Yellow Fever." The researches around the etiology of yellow fever are at present directed with the supposition that that disease, like malaria, is propagated by a special kind of mosquito. The author has studied the question in the Hospital of St. Sebastiano in Rio Janeiro, as well as in the valley of Rio, which is justly considered as the most famous place for the yellow fever epidemics which make their appearance with more intensity every year from December to May. He comes to the conclusion that the theory recognizing the mosquito as the agent of propagation of the yellow fever has no positive foundation. He is of the opinion that yellow fever is a disease of a bacterial origin and the *Bacillus icteroides* has the major probability of being the specific agent of the infection. The author deduces his conviction especially from the fact that the organic juices as well as the gastric and intestinal contents filtered determine in animals symptoms and pathologic changes identical with those produced with the toxin of *B. icteroides*. He does not agree with Sanarelli's views, who supposes a larva as the medium, but thinks, on the contrary, that it is by the direct drinking of the infected water. The difficulty of isolation of the bacillus depends solely on the culture media, employed in warm climates to put in evidence the special characters. Using gelatin 10 per cent., exposing the cultures to a temperature ranging between 15 to 20 C., it is always possible to isolate the *Bacillus icteroides* from the vomitus as well as from the intestinal contents, and in this way a diagnosis is possible in the very initial cases which clinically are not yet definite. Exceptionally the *Bacillus icteroides* may be found in the blood, but it penetrates that fluid in the last period of the disease. It determines the malady by the toxins which it eliminates in the intestine, which toxins, when absorbed by means of the portal vein, cause the characteristic hepatic changes. Sometimes the renal changes are set up before, to which, in the gravest cases, the individual succumbs by uremia before the hepatic changes have time to take place.

Heart Diseases in Egypt.

PROF. V. DE SEMO, Alexandria, asks if heart diseases in Egypt have any special seat or particular mortalities which might differentiate them in their manifestations from those of Europe. He indicates two main divisions in valvular and arterial cardiopathies. In his practice in Alexandria he was struck by the lack of frequency of valvular vices; this would be explained by the relative rarity of acute articular rheumatism in Egypt, that great factor of endocarditis and of consecutive valvular vices. On the other hand, one observes much more arterial cardiopathies than in Europe. The author enters into the developments of the causes of arteriosclerosis; causes which are discratic, infectious, toxic, which he affirms having met in Egypt more than anywhere else. Among the discratic causes he cites the diseases which cause a slowing of the nutrition so frequent here, like diabetes, polysarcia, phosphaturia, gravel, etc., and as powerful a cause of autointoxication, the state of lessened function of the liver. Alcohol and tobacco, which are greatly abused here, the custom of over-alimentation in the truest sense of the word among the wealthy people, the overstraining and emotions proper to commercial life, furnish a great factor to arteriosclerosis. He believes that the action of tobacco is counterbalanced in Egypt by the use and abuse of coffee. He points out the extreme frequency of reflex cardiac troubles, especially of gastric and hepatic origin, and he explains it by the frequency here of gastric dyspepsia, hepatic hyperemia, etc.

The Causation of Cancer and Its Treatment Without Operation.

DR. ROBERT BELL, consulting physician to the Glasgow Hospital for Women, concerning the many theories which have been adduced to explain the causation of cancer, says there may exist a modicum of truth in such theories, but its importance only exists in the fact that in certain circumstances the influence exerted by the various conditions of life mentioned produce an effect on certain idiosyncrasies, which tend to act prejudicially on the general health. Thus they are rendered prone to any disease, cancer among the number, but the latter only when more important forces are at work.

Were cancer due either to a parasite or a microbe would we find it unilateral, and would it not be invariably accompanied by a rise of temperature, which the presence of a microbe or a parasite imbedded in the tissues would naturally produce in consequence of the amount of irritation they would excite? He is convinced that cancer, or rather the elements of cancer, are present in every individual, whether it manifests its presence or not, because he believes the cancer entity is in its original state a normal cell, which, from a combination of circumstances, has become altered in character and assumed a new rate of existence. He thinks that whatever acts prejudicially on the general health is liable to become a factor in the production of cancer, such as marriage of blood relations, bad ventilation, constipation, excess in eating or drinking, worry, sedentary habits and the neglect of important hygienic precautions. In other words, every circumstance which tends to impoverish or militate against the general health predisposes to cancer.

It is a most important fact to bear in mind that cancer is essentially a disease of civilization. It is practically unknown among savages and among those who lead a simple, and what he would designate, a natural life, so that there is no reason to doubt for a moment that it is a preventable disease. We have a palpable example of what is essentially epithelioma, existing in a harmless, or at least a passive condition, in a wart. If this excrescence is not interfered with the probability is it will remain as a disagreeable disfigurement and nothing more, but if it is subjected to rough usage instead of a passive nodule we may have arising an active epithelioma. The integrity of the epithelium depends largely on the unimpaired integrity of the thyroid. Not only are the mucous membranes and skin dependent on this organ to a large extent for the continuance of health, but, according to Charcot, Bonilly, Cuffier, Guinan and others, there is a direct physiologic relationship between the thyroid and uterus, which fact was well known to the ancients. According to Dr. F. Blumm, the function of the thyroid is to seize and render innocuous certain toxic substances which are produced in the intestine and absorbed into the blood. Such toxic substances are continually being absorbed in large quantities when constipation is persistent, especially when there has been over-indulgence in diet containing much nitrogenous material. These toxic substances prejudicially affect the functions of the thyroid and by accumulating in the blood give rise to pathologic changes of serious import. Any saccharomycetes happening to be present in the blood seize on this toxic material, transforming it into uric acid, and we have uricacidemia, which interferes seriously with cell metabolism, and in this, he maintains, we have one of the principal predisposing causes to cancer. The continuance of the entero-toxins also accounts for the cachexia which is generally coincident.

Concluding from experiments on animals, he says that in cases of cancer we should abstain from food containing much albuminous material and substitute plenty of milk. Probably the toxins which arise in milk and meat diet respectively differ in quantity rather than quality, and the possibility of neutralizing the effects of entero-toxins by administering thyroid extract is of great importance. Not only this, but we

must try in treating cancer to endeavor also to destroy the saccharomycetes, which are almost invariably present in cancerous subjects, for if their presence is permitted their effect on entero-toxins will be perpetuated; and the most potent destructive agent on them are the salicylates. At the same time, constipation, which permits of the absorption of entero-toxins, must receive our most serious attention. To put the matter in a nutshell, we must ascertain that the bowels are completely evacuated once in 24 hours, that the dietary be so modified as to be composed largely of milk food, that thyroid extract be administered in 5-grain doses three times a day, that along with this 10 to 15 grains of salicylate of soda or aspirin be given three times daily, and that the local affections be treated with a view to remove all sources of irritation, when, if the disease has not advanced too far, I am convinced it will yield to this treatment, which has frequently been the case in my hands.

He ends by giving the following as the predisposing cause to cancer:

1. Persistent and prolonged retention of feces containing an undue proportion of decomposing albuminous material, from which entero-toxins are derived, and by absorption, conveyed to the blood.

2. The blood thus contaminated produces a depraved condition of the nervous apparatus, thereby handicapping the functional activity of the various organs, interfering with cell metabolism, and eventually culminating in anemia in young persons or cachexia in the elder.

3. If the functions of the thyroid gland are at fault, these toxins, which otherwise could be neutralized, remain in a position capable of producing serious mischief.

4. If saccharomycetes be present in the blood this toxic material is liable to undergo chemical changes, resulting in the formation of uric acid, when uricacidemia will result.

5. The presence of the toxins in the blood, alone or combined, with uric acid, exert a pernicious influence on cellular structures, and confer on them a predisposition to take on a malignant metamorphosis.

6. Prolonged or repeated irritation of a part is liable to rouse into malignant activity cells which otherwise would have remained dormant.

7. The vitiated condition of the blood by prostrating the physiologic vitality of the various organs and cellular structures and paralyzing the *vis medicatrix naturæ* affords every facility for the new growth to establish its identity and increase its area at the expense of its environments.

Trachoma.

DR. VOILAS, Cairo, does not consider acute trachoma to exist; its evolution is always chronic and latent, having for its seat the cellular tissue subjacent to the conjunctiva. It is a disease of the connective tissue subconjunctival and not of the conjunctiva itself. Dr. Voilas believes in the existence of a micro-organism in trachoma which is the efficient cause of the affection.

DR. GUARINO, Cairo, has examined the conjunctivæ of some of the well-conserved Egyptian mummies, and concludes from his numerous examinations that trachoma existed from an immemorial time. He makes an anatomic study of trachoma and concludes that trachoma invades the lymphoid layers and engorges the lymphatic cells. The trachomatous bodies are isolated. They are formed of agglomerated corpuscles which represent a kind of small gland or lymphatic follicle analogous to Peyer's patches. They are glandiform neoformations covered with epithelium and scattered in the thickness of the mucosa and submucosa. It is consequently a slow infiltration in the mucosa of toxins eliminated by the various microbes which have elected their home in the conjunctival cul-de-sac. By irritating the lymphatic system, the terminal glands and the lymphatic cells these toxins provoke those productions made of neoformations which are called trachoma.

DR. ELOUI BEY, Cairo, gave a summary of the etiology and symptoms. Prophylactic measures must be taken against the dwellings and the medium in which the individual lives. The hygiene of houses, their ventilation, their disinfection even in the case of the existence of a granular patient; the cleanliness of the same and the watching about the care and medical attendance which must be given to him are the bases of the prophylactic measures which the author recognizes.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Arteriosclerosis.

Trunecek, in *Med. Press*, states that he has derived great benefit in the treatment of arteriosclerosis, from the use of the following combination administered subcutaneously:

℞.	Sodii sulphatis	gr. ii	13
	Sodii chloridi	gr. xv	1
	Sodii phosphatis	gr. iiss	15
	Sodii carbonatis	gr. iiss	20
	Pot. sulphatis	gr. viss	40
	Aq. destil.	ʒiiiss	105

M. Sig.: To be injected subcutaneously in the forearm.

He has used these injections, with success, in cases with pronounced changes in the aorta and other large vessels, associated with the subjective symptoms of cardiac asthma.

Professor Huchard of Paris, in the same journal, enumerates the following certain causes of arteriosclerosis: Gout, diabetes, alimentary toxins, plumbism, arthritis, chronic rheumatism, heredity and senility. And he classifies the following as doubtful causes: Alcoholism, tobacco, syphilis and mental overstrain. The treatment consists of hygiene and alimentary regimen. Milk diet should form an important part of the alimentation, while such liquids as tea, coffee and liquors of every kind should be withheld; food containing ptomains, such as fish, game, pork and tinned meat should not be advised. All liquids should be taken in moderation in order that plethora of the vascular system will not occur, which would cause arterial hypertension. Intestinal antiseptics should be prescribed. The author advises some of the following for this purpose: naphthol, benzonaphthol and charcoal. If constipation is present proper evacuants must be employed. Other medical treatment consists in employing those preparations that tend to promote vaso-dilatation. Among these he mentions nitroglycerin and sodium or potassium iodid in small doses.

As an antidyspneic and diuretic the following is of value:

℞.	Tinct. grindeliæ robustæ	ʒi	30
	Tinct. convallariæ	ʒiiss	10
	Tinct. scillæ	ʒi	4

M. Sig.: Fifteen drops three times a day in water.

Dyspnea being the principal sign of arteriosclerosis, and being of alimentary origin of a toxic nature, he institutes the following regimen for five or six months:

1. For eight days absolute milk diet, three quarts daily.

2. For the following week a mixed diet consisting of eggs, fruits, grapes, small quantity of meal each day, and never in the evening. This should be repeated every month during the remainder of the period.

3. Suppression of game, cheese, tea, alcohol, and tobacco.

4. The administration of a purgative at proper intervals.

5. During the periods of mixed diet theobromin in 10 gr. doses should be prescribed two or three times.

6. During the period of pure milk diet potassium iodid should be given.

7. In cases of cardiac insufficiency moderate doses of digitalis are recommended.

Syphilis.

The following combination is recommended by Antony as an injection in the treatment of syphilis:

℞.	Hydrarg. biniodidi	gr. iss	09
	Potassii iodidi	gr. ix	60
	Sodii phos.	gr. xv	1
	Aq. destil.		
	Normal saline sol., āā	ʒii	60

M. Fiat solutio. Sig.: Sixteen drops by hypodermic injection daily.

Gastric Ulcer.

According to an abstract in *Med. Age*, Walko has obtained good results from the use of large doses of olive oil as well as in the treatment of hyperacidity by its lessening the irritability of the gastric mucous membrane. Its value as a food is mentioned because it is absolutely non-irritating, does not interfere with the motility of the stomach and is easily assimilated. In cases of gastrectasia decomposition does not take place, and the bowels become more regular, and acts as a protective when given on an empty stomach. The pain is greatly relieved, disappearing rapidly. According to the author, a tablespoonful should be given three times a day to begin with and gradually increase the dose to one and a half ounces. In case the act of swallowing causes nausea, it may be given through a stomach tube. This treatment may be continued for four or five days until the severer symptoms have passed, excluding all other nourishment per os, although rectal feeding may be continued. This line of treatment was successfully carried in several cases.

Acne.

L. Brocq, according to an abstract in *Amer. Med.*, recommends that patients should abstain from coffee, tea, alcoholics, pork, fish, tomatoes and uncooked food, and should not eat much butter or fatty food. The following is recommended by the author, to be taken before each meal:

℞. Sodii bicarb.	gr. ivss	25
Calcined magnesiæ	gr. iii	20
Pulv. cascaræ sagradæ	gr. ii	12
Benzonaphthol	gr. ii	12

M. Ft. cachet No. i. Sig.: One such before each meal.

The areas involved should be cleansed with absorbent cotton dipped in very hot water which has been boiled, or in the following:

℞. Bran	℥iiss	10
Sodii bibor.	℥ii	8
Aq. destil.	Oii	500

M.

At night the parts may be bathed in camphor water preceded by a bath with naphthol soap. This should be followed by an ointment as follows:

℞. Beta-naphthol.	gr. ivss	25
Resorcin		
Saponis nigri, āā	gr. iii	20
Cretæ prep.	gr. viiss	50
Sulphuris prep.	gr. xxii	140
Vaselini	gr. iii	20

M. Sig.: To be applied locally.

And in the morning the following should be applied after first cleansing the parts:

℞. Sodii bibor.	℥iiss	10
Camphorated etheris sulph.	℥x	40
Aquæ rosæ	℥iiiss	105
Aq. destil.	℥v	150

M. Sig.: Apply locally.

Calcium Salts.

Boigey, in *Amer. Med.*, states that he has derived good results from the use of large doses of lime salts in the treatment of diabetes. Injections by hypodermoclysis of the glycerophosphate of calcium were employed, injecting 25 centigrams each time. This preparation was also given by the mouth in 2-gram doses. Great diminution in the amount of sugar eliminated was observed. According to the same periodical A. Bonelli has treated epilepsy by various preparations of calcium. Lime water, calcium carbonate, calcium bromid or the lactophosphate was used. In practically every case the administration of some one of these preparations was followed by a diminution in the severity and frequency of the attacks. In the experience of the author, these preparations show greater efficiency given by hypodermic injection than when given by the mouth. The injection is given in doses of 1 per cent. solution, the daily dose of the calcium chlorid ranging from 1/3 to 1 grain (.02-.06). A 1 to 30 solution of the calcium lactophosphate may be substituted in doses of 5 to 10 grains (.30-.60) daily. The number of the seizures are decidedly decreased in number.

Acute Bronchitis.

As an expectorant in acute bronchitis the following combination is useful:

℞. Syr. scillæ	℥i	30
Ext. lobeliæ flu.	℥i	4
Tinct. opii	℥iiss	10
Ext. ipecac. flu.	gtt. xv	1
Syr. pruni virg.	℥iss	45
Syr. picis liq., q. s. ad	℥iv	120

M. Sig.: One teaspoonful in water four times a day.

Sulphur for Dandruff.

The following combination is recommended by G. T. Jackson in *Trans. Amer. Dermat. Assoc.*:

℞. Sodii boratis	gr. xv	1
Sulphuris precip.	℥iiiss	14
Ung. aq. rosæ	℥i	30
Ceræ albæ	℥iiiss	14
Petrolati	℥iiss	45

M. Fiat unguentum. Sig.: Apply locally once or twice a week.

The above does not have the odor of sulphur and does not render the hair too greasy, and at the same time checks the dandruff.

Method of Taking Castor Oil.

A simple method of taking castor oil, according to *Med. News*, without producing any nauseating effects, is to instruct the patient to wash out the mouth with water as hot as can be borne, and then swallow the oil, and follow this by rinsing out the mouth well with hot water. The first swallow of the water cleanses the mouth, makes the membranes hot, so that the oil does not stick and consequently slips down easily.

Affections of the Cornea.

The following is recommended by Fédorow in *Westnik Ophthal.* in conditions causing infiltrations of the cornea:

℞. Ichthyol.	gr. iss	10
Cocainæ hydrochlor.	gr. iiss	15
Vaselini	gr. lxxv	5

M. Fiat unguentum. Sig.: Apply locally to the cornea.

Ergot in Chronic Bronchitis.

A. Martinet, according to *N. Y. Med. Jour.*, recommends ergot in certain forms of chronic bronchitis where the pulmonary catarrh is of long standing, etc. The combination used is as follows:

℞. Ext. hyoscyami	gr. 1/6	01
Quininæ sulph.	gr. 3/4	05
Ergotin	gr. iss	09

M. Fiat pil. No. i. Sig.: One to be taken every two hours through the day, or six in the twenty-four hours.

M. Renaut recommends the use of the balsams, such as terpin, syrup of Canada balsam, or syrup of tolu, alternating with ergot, which may be combined with opium and hyoscyamus as follows:

℞. Ext. hyoscyami	gr. 1/6	01
Pulv. opii	gr. iss	09
Ergotin	gr. ivss	25
Cacao butter, q. s.		

M. Ft. suppos. No. i. Sig.: To be used as a suppository.

Or for five days in the week he recommends the following:

℞. Ext. hyoscyami	gr. 1/6	01
Terpin	gr. iss	09
Ergotin	gr. 3/4	05

M. Ft. pil. No. i.

Sig.: Two such pills at a dose, three times a day with hot water containing syrup of Tolu.

And the following is advised in chronic bronchitis, accompanying la grippe:

℞. Strych. sulph.	gr. 1/60	001
Ergotin	gr. 3/4	05
Quininæ sulph.	gr. iss	10

M. Ft. pil. No. i. Sig.: One every two hours, except at night, or from six to eight in the twenty-four hours, to be taken in an infusion of hot sugar, water and syrup of Tolu and a teaspoonful of cognac.

Medicolegal.

Refusal of a Parent to Allow a Child Medicine.—Section 708 of the Penal Code of Georgia declares that "whoever shall torture, torment, deprive of necessary sustenance, mutilate, cruelly, unreasonably and maliciously beat or illtreat any child," etc., shall be guilty of a misdemeanor. The theory under which the accused was prosecuted, in what is now entitled the case of Justice vs. State, was that he was guilty of depriving his minor child of necessary sustenance, because, on account of a religious belief, he refused to procure medicine to be administered to any of his children when they were sick. It was not shown or attempted to be shown that the accused deprived his minor child of food. The specific allegation was that the accused, Sion Justice, did "unlawfully deprive of necessary sustenance one William Jordan Justice, a child five and a half years old; the said William Jordan Justice being ill, and the said Sion Justice failing and refusing to provide said child with necessary sustenance, the said Sion Justice being the father of said child." The trial resulted in a verdict of guilty. But the Supreme Court of Georgia reverses the judgment of the trial court, holding that evidence that a father refused to permit medicine to be administered to one of his minor children while sick does not support a conviction of the father for depriving such child of necessary sustenance, within the meaning of the above statute, which declares such deprivation to be an offense against the laws of the state. In the opinion of the Supreme Court, there is a very great difference between depriving a child of sustenance and refusing to permit medicine to be administered to him. Sustenance, it says, is "that which supports life; food, victuals, provisions"; while medicine is defined to be "any substance administered in the treatment of diseases; a remedial agent; a remedy; physic." The statute quoted, in the use of the word "sustenance," means that necessary food and drink which is sufficient to support life and maintain health. And evidence that, while a father fully provides for the wants of his children as to food, he refuses to permit them to take medicine, will not support a conviction under this statute. Nor does the Supreme Court know of any provision in the penal laws of the state enacted to meet a case of this character. It appears from the evidence, the Supreme Court goes on to say, that, under a belief characterized as a religious belief, the father conscientiously prohibits the use of any kind of medicine by any member of his family. From the standpoint which a majority of us occupy, this is a grave and serious error of judgment, and oftentimes would deprive those who are nearest and dearest to us of the means of alleviating pain and suffering.

Company's Liability—Surgeon's Duty—Second Operation.—The Supreme Court of Washington holds, in the case of Sawdey vs. the Spokane Falls & Northern Railway Company, that, if the company did contract, for a consideration, to treat its employes for any injury they might receive while in its employ, it was liable for the malpractice of the surgeon employed to treat the party suing. The company contended that it had undertaken to treat him gratuitously, and was liable only for failure to use ordinary care in selecting the surgeon, resting this contention first of all on the fact that he was injured after he had ceased his work for the day. But the court points out, among other things, that there was evidence tending to show that the company had never made it known that it claimed that its contract was only to treat its employes for injuries received by them in the course of their employment. It had always, so far as shown, acted to the contrary. It took the party suing to its hospital and entered on his treatment without informing him that its contract was limited, or that it claimed to be treating him gratuitously. Clearly, it ought not to be heard now to say, in order to escape liability for malpractice, that it was only extending to him a charity. Moreover, as all the surplus over and above the cost of treating its employes, derived from deductions from their wages, inured to its benefit, and it recognized no responsibility to account for it to any one, there was in this case both the element of contract and profit. The original injury was an oblique fracture in the lower third of the femur. To secure the result finally obtained the injured party was obliged to submit to a second operation, with its accompanying dangers, delay in recovery and consequent pain and suffering. This was claimed as an element of damage in the complaint; and, the court says, if it was made necessary by the maltreatment of the surgeon first in charge, it could be recovered for, no matter how successful the final operation was. The contract implied by law from the mere employment of a surgeon is that he will treat the injury he is employed to treat with ordinary diligence and skill. This requires that he bring to its treatment such a degree of skill and diligence as surgeons practicing in the same general neighborhood, in the same line of practice, ordinarily have and exercise in like cases. He must not experiment in his treatment of the injury. On the contrary, if he desires to avoid liability for his mistakes, he must treat it in some method recognized and approved by his profession as most likely to produce favorable results. If there be more than one of these applicable to the particular case in hand, he is not, of course, liable for an honest mistake of judgment in his selection of the method; but if bad results follow, and liability therefor is to be avoided, it must appear that the treatment applied was approved and recognized, as well as that it was pursued with ordinary diligence and skill. The fact that a second operation was necessary in this case to obtain the results finally obtained was some evidence that the original attempt was not performed with that degree of skill which a surgeon ordinarily brings to the treatment of such an injury. But the court thinks it well to say that the company did not, by its contract, undertake to effect a cure of the party's injury or restore his broken limb to its normal condition. It was in no wise responsible for the original injury, and it undertook only to bring to its treatment that ordinary diligence and skill which surgeons usually exercise in similar cases; and, if it did this, it was not responsible for the results. But if it did not so treat it, it was responsible only for the injury its failure to do so entailed.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

January 17.

1 *Drainage in Chronic Intestinal Catarrh: Its Importance and Technic. Norman Bridge.
2 *Diphtheria Antitoxin in the Infectious or Bacterial Bronchopneumonia of Childhood. Joseph O'Malley.
3 *The Etiology of Endocarditis, with Special Reference to Bacterial Agencies. Sanford Blum.
4 Therapy of Otitis Media Suppurativa Chronica. Lee Wallace Dean.
5 The Lorenz Operation, with Report of a Case. James K. Young.
6 A Contribution to Pernicious Anemia. O. E. Lademann.
7 A Comparison between Foreign and American Surgery. Nicholas Senn.

1. **Intestinal Catarrh.**—Bridge notes the importance of keeping the colon free from accumulations in this condition and that regular complete and harmless evacuations are more useful than any other measure in the prevention or treatment of chronic catarrh of the colon. It ought to be a cardinal doctrine that no other treatment is in order until these regular evacuations are provided for, that is, until free drainage is instituted. The evidences of accumulations are numerous in practice and produce uncomfortable symptoms, insomnia, general discomfort in the abdomen or back, nervous disturbance, diarrhea, etc. The obstacles may be enteroptosis, rigidity of the colon at times and the vertical posture of the body which prevents easy evacuation. The means to accomplish drainage should be employed regularly and not merely as the patient feels like it. Mild laxatives, cascara and salines, according as they agree best with the patient, psychic methods, enemas properly and regularly taken, best plain water or normal salt solution. Bridge also mentions the effect of position in giving the enema as assisting in its effectiveness. An abdominal bandage may be of some use in preventing enteroptosis and chilling or cold taking. The best form of bandage is one made of elastic material and to fit firmly about the lower part of the abdomen. All its good effects depend on its being kept in the

right position, making steady and firm pressure. If it exerts its chief force on the upper part of the abdomen it can do more harm than good, by aggravating the splanchnoptosis.

2. **Diphtheria Antitoxin in Bronchopneumonia.**—O'Malley has employed antidiphtheria serum in bronchopneumonia with excellent results, and reports three cases. He thinks we have in it a most valuable therapeutic agent for a class of cases otherwise beyond therapeutic aid, especially those cases of bronchopneumonia which so often cause a fatal complication in the bacterial diseases of childhood, such as measles, influenza, whooping cough and scarlet fever.

3. **Endocarditis.**—After a historical sketch, Blum reports a case of his own observation which he thinks is the only one of positive bacterial endocarditis reported in an infant, as well as the single known case of pyocyaneous endocarditis in which a mixed infection did not exist. He sums up that bacterial agencies are active in the causation of endocarditis, that their presence in the circulation is not alone a sufficient cause, there must be a predisposition, a place of least resistance, for it to secure a foothold.

Philadelphia Medical Journal.

January 17.

8 *The Anatomopathological Characteristic of Syphilis. J. Renaut.
9 *Two Cases of Perforation in Typhoid Fever, in One of Which an Operation Was Performed. James Hendrie Lloyd and Thomas L. Coley.
10 *Two Erroneous Surgical Decisions in Intestinal Perforation from Typhoid Fever. John B. Roberts.
11 A New Method of Hemo-alkalimetry and a new Hemo-alkalimeter. Arthur Dare.

8. **Syphilis.**—Renaut holds that syphilis is an infectious disease, all the stages of which are characterized by an attack on the blood vessels, especially affecting the intima. First a multitude of arterioles are affected as is seen in the roseola, in the skin. Deeper lesions follow, but these are slight. Its action then becomes localized to territories corresponding to the important arterial branches. The lesions are then better circumscribed and have more serious consequences. This endarteritis produces in the tissues a process of sclerosis lasting as long as the endarteritis does. This, generally considered, is the histopathologic character of syphilis. Nothing, however, authorizes the statement, he thinks, that sclerosis, once formed, becomes independent of the syphilis or remains unchanged; it is by no means incurable.

9 and 10. **Typhoid Perforation.**—The two cases reported by Lloyd and Coley illustrate, they think, the difficulties of determining the onset of perforation in the course of enteric fever. Roberts, whose diagnosis was unfavorable to operation, also points out the difficulties and discusses the cases.

New York Medical Journal.

January 17.

12 *An Address on Chemical Pathology; the Field of Greatest Promise in Pathological Research. G. W. McCaskey.
13 *Anterior Transplantation of the Round Ligaments for Displacements of the Uterus. Alexander Hugh Ferguson.
14 *Intestinal Indigestion and Its Relation to Arterial Sclerosis and Renal Disease. Leonard Weber.
15 *"The Mechanics of Flatfoot," Causative, Preventive, Curative. Edward M. Thompson.
16 *Topical Blood-letting as a Derivative and Revulsive Remedy in Congested and Inflamed Hemorrhoidal Blood Vessels and Tumors and in Other Affections. William Bodenhamer.

12. **Chemical Pathology.**—McCaskey's article deals with the subjects of immunity, etc.

13. **Uterine Displacements.**—Ferguson describes the operation of anterior fixation of the round ligaments, as he performs it, as follows:

Place the patient in the Trendelenburg position. Make a median incision about three inches in length through the abdominal wall, the lower angle of which reaches the suprapubic fold, and dissect the fat and skin from the anterior sheath of the rectus muscle on either side of the abdominal incision, corresponding to its lower third. Pass two fingers of the left hand into the abdominal cavity on one side beneath the rectus muscle, already exposed anteriorly, to locate and protect the bladder; then make a stab wound through the rectus muscle in the direction of its fibers into the abdominal cavity, between the two fingers, an inch from the median incision and an inch and a half from the pubic bone. Before withdrawing the knife, pass an artery forceps alongside of it into the peritoneal cavity, and with it seize hold of the round ligament and a portion of the broad ligament beneath it, near the uterus. Now insert the suture which is to prevent bowel from slipping between the uterus and bladder, or, for the same purpose, suture the round ligament to the parietal peritonæum, as already mentioned. Then drag the proximal end of the round ligament through the rectus muscle with the forceps already attached to it, and sew it and the subjacent portion of broad ligament to the anterior sheath of the rectus muscle, leaving a stump about half an inch long between the parietal peritonæum and uterus.

It must be remembered that the round ligament is a part of the broad ligament, and in this operation it is not separated from it.

Deal with the other side in a similar manner, close the abdomen, and the operation is complete.

In suturing the peritoneum care must be taken not to leave any raw surfaces that may render adhesion of the viscera to the abdominal scar possible. This can be avoided by everting the cut edges of the peritoneum and sewing the normal peritoneum to the normal peritoneum behind the raw edges by a continuous suture of catgut. This operation is applicable to various displacements, anterior, posterior, anterior and posterior lateral and for prolapse, as well as for flexures affecting the patient's health and resisting treatment. It is also applicable when the abdomen is opened for other purposes and the uterus is displaced. The advantages claimed are easy performance, all the structures being visible, the uterus being left free in the abdominal cavity as no stitches or bands are attached to it. There is no interference with the physiologic functions of the organ, and it has a wider range of application than any operation known to him. The article is profusely illustrated.

14. **Intestinal Indigestion.**—Weber reports three cases which, he thinks, illustrate the connection between arteriosclerosis and nephritis and intestinal indigestion. He speaks particularly of the method of treatment adopted by him, the use of small doses of iodid of potash for arterial and renal sclerosis. He is convinced that the iodids given in relatively small doses three times daily, continued for months, and even years in this way, have the power to retard, modify and improve the subacute and chronic inflammatory processes in the connective tissue of parenchymatous organs like the kidneys, liver and lungs, and especially sclerotic disease of the arterial vessels. This, he thinks, is brought about by direct inhibition of the proliferation of the connective tissue and subsequent induction of disintegration and fatty metamorphosis of infiltrated corpuscular elements and the removal of the same. It is reasonable to assume that the drug acts through the lymph channels by direct action on the irritating substances, by stimulating the vasomotor nerves and increasing functional activity. The favorable influence of the iodids can be clinically demonstrated and is more decided in arterial sclerosis than in similar diseases of the parenchymatous organs. With a syphilitic history it is wise to give larger doses for awhile.

15. **Flat Foot.**—The causation of flat foot is given by Thompson as in rheumatic or gouty affections of the lower extremities in the majority of cases. Flat foot is frequently observed where there is swelling or edema, especially of the feet and ankles, and in all probability macreation of the tissues causing stretching or weakness of the structures. This form is particularly painful and characterized by sharp muscular spasm and constant pain of the foot and legs, more marked after rest, and especially on rising in the morning. In rickets the flattening of the arches is due to the laxity of the ligaments and tendons, and is also produced by knock-knees, which cause also a mechanical valgus. This form is usually not painful. Paralyses cause flat foot when they affect the calf or anterior leg muscles, by permitting stretching of the tendons and muscles and causing lack of support to the arch. The contraction of the opposing muscles aggravates the condition. This variety is also usually not painful. General muscular weakness causes simple flat foot by stretching of the tendons and is usually non-painful. Traumatism may be either direct or indirect. There may be tearing of ligaments, breaking down the arch, causing an exceedingly painful form of flat foot. Indirect traumatism includes cases which are caused by overweight and long standing. There is usually more or less pain with this form. There are also varieties due to disease or injury of the adjacent parts, such as tuberculous ankle-joint disease, tumors, Pott's fracture, etc. He describes the anatomy of the arch of the foot and the symptoms of the disease. The treatment is essentially mechanical. Mild cases can be relieved by adhesive plaster straps. The mechanism of reduction is described by him as follows:

Grasp the foot firmly and extend it sharply on the tarsus (this increases the space between the internal cuneiform and the astragalus). Then forcibly invert and adduct the foot and flex it again to 90 degrees, maintaining the adducted and inverted position. This will bring the scaphoid back into place and re-establish the relations of the arch. With the foot held in this position adhesive plaster straps are applied firmly, by attaching one end over the instep and bringing the other end over the outer side of the foot, under the sole, and upon the inner side of the foot, crossing over in front of the ankle joint and up around the calf in a spiral manner to just below the knee. A second, third and fourth strap are applied in the same manner. Short straps may be applied anteroposteriorly around the heel, crossing at the instep to hold the foot more firmly, but these are not essential. Plaster of Paris is applied in aggravated cases (in which an anæsthetic is used) in the same manner and after the same method of reduction. This dressing holds the foot in *varus*, or inversion. The adhesive plaster straps must, of course, be a temporary dressing or be renewed frequently. They are usually employed while steel insoles or braces are being made. I should like to call attention to the fact that ready-made insoles are impracticable, because each case differs from every other in the character of the deformity; therefore a plaster cast should be made of each foot, and cut out to correct the deformity, and the insole must be fitted to this cast.

Insoles, he says, are used in milder cases and should be worn for a long time until the arches are restored to their normal condition. He describes the forms of braces and suggests the proper use of the foot to prevent flat foot, educating the patient to use the heel and toe method in walking, the foot parallel rather than on diverging lines, in running or jumping to catch the weight on the front of the foot rather than on the heel. This point, with the added one of careful attention to "running over of the heels" will do much toward prevention. He also advises against the use of rubber overshoes, patent leather or enamel shoes or any waterproof footwear.

16. **Topical Blood Letting.**—Bodenhamer pleads for the use of small local blood letting and leeches as a partial substitute for venesection, in case of inflamed hemorrhoids, tumors, etc.

Boston Medical and Surgical Journal.

January 15.

17 *A Synopsis of Ten Weeks' Service on the Boston Floating Hospital. Robert W. Hastings.
18 A Case of Retinal Hemorrhage in a Patient of 73. Treatment by the Faradic Current. Complete Recovery. Hasket Derby.
19 *Vesical Appearances in Renal Suppuration. Edgar Garceau.
20 *The Treatment of Hay Fever. Lorenzo B. Lockard.
21 Poisoning of the Underwood Family by Wood Alcohol. E. G. Hoitt.
22 Wood Alcohol Poisoning. S. W. Abbott.

17. **The Boston Floating Hospital.**—The methods of treating infants in the Boston Floating Hospital are described by Hastings, and some points especially noted. It was found that fresh, clean milk is better for babies than the older pasteurized or sterilized food. The sort of milk required was obtained from the Walker-Gordon dairy. Whey was not largely used, but probably may be, and the hospital authorities believe that the whey for sick babies should be made with essence of pepsin and whole milk, not skimmed. Most babies with gastrointestinal trouble were started on rice water, and it was found that they could be fed for two weeks on nothing else, and only lose one-half an ounce in weight. If there was a history of vomiting they were often started on the well-known albumin water or Jacobi's modification. For real exhaustion they used panopepton or beef juice and manufactured it themselves. In the diarrheal troubles of babies and some of the infections, the author insists on the importance of keeping flies away from them and the dejecta, and frequent cleansing of the hands and forearms of doctors and nurses with a solution of cyanid of mercury. Nearly all the very severe cases were treated with alcohol, and another means of stimulation was hyperdermoclysis with normal salt solution. Enteroclysis or irrigation of the lower bowel was performed nearly seven hundred times. The opinion, however, is growing that cases for this treatment should be carefully selected. They tried the lime water and creolin solution, the only one which seemed to have any special value. For persistent vomiting nothing proved better than lavage, using two pints of normal salt solution. A few drugs were tested. The fat-free tincture of digitalis was used in thirty-one cases with good effect. Tannalbin in doses of 5 to 10 grains every two to four hours was found to check bloody movements, which did not yield to any other treatment. Two or three relatively sure signs of approaching death were noted. one was brown vomitus, not containing blood or reacting to the hemin test. Another was the appearance of purpuric spots or streaks on the abdomen. A third fatal sign is a drop of the temperature to 95 F. or thereabouts. There was no great difficulty in getting the temperature back to normal, but the babies died just the same. The postmortems showed that nearly every case of severe bowel trouble was, pathologically, acute follicular ileocolitis, with very marked thickening of the lower bowel, swelling of the follicles and often some ulceration, and fatty degeneration of the liver. One case was met which justified the clinical term, gastroenteritis, all inflammation being in the stomach and upper duodenum. The heart muscle was usually not much affected, nor were the kidneys seriously involved.

19. **Vesical Appearances in Renal Suppuration.**—Garceau reports a case which he thinks is of interest, showing that a suppurating kidney may exist and the corresponding ureteral eminence not be at all diseased. That long-continued boracic acid vesical injections will, and do, reduce the intensity of the cystitis to almost nothing. The diagnosis of a suppurating kidney in all cases must be made by seeing purulent urine exuding from the corresponding ureteral orifice. So far as the lesions at that point being a positive sign, their absence is not conclusive that suppuration does not exist.

20. **Hay Fever.**—The preventive treatment of this condition consists in local and general measures, the former consisting in correction of abnormalities and cauterizing the mucosa that is likely to be most susceptible, while the general treatment must be directed to an increase in elimination and decrease in production of uric acid, to the correction of existing neuroses and the removal of constitutional or local abnormalities. Lockard finds three factors in the production of the disease: 1, neuroses; 2, some lesion or hypersensitive condition of the nasal membrane; 3, the inhalation of pollen or certain odors. He has tried the fluid extract of solidago and ambrosia in two or three cases with benefit in two. The remedy advised and used by Curtis being a secret one, it was not available. He considers adrenalin a remedy of great power for the nasal discomfort. In all cases he administers nitro-muriatic acid (not the dilute), three to five drops after meals and before retiring. The acid is almost a specific; in the great majority relief is almost immediate.

Medical Record, New York.

January 11.

23 *Some Questions in Heredity. A. Alexander Smith.
24 Methods of Quarantine Against Yellow Fever Adopted in Havana, Cuba, During the Year 1901. W. C. Gorgas.
25 *The Surgical Treatment of Puerperal Eclampsia and the Prevention of Convulsions. Douglas H. Stewart.
26 Hypertrophy of the Lymphoid Ring of the Pharynx and Its Surgical Treatment. H. Hoyle Butts.
27 A Case of Sepsis Following an Attack of Osteomyelitis from a Slight Cause. Samuel Kohn.

23. **Heredity.**—Smith discusses the heredity of tuberculosis, admitting that, as a rule, it does not exist, but pointing out one or two obscure points which increase the difficulty in its estimation. Nearly everybody, moreover, has had some tuberculous ancestors. Gout and rheumatism are also discussed, and he notes the fact that in gouty cases there are liable to be direct exciting causes as well as more hereditary ones. The apprehension that many people feel, who have lost ancestors from cancer, that they will develop the disease seems to have some foundation in fact. Bronchial asthma is another disease in which we often find a parent or grandparent affected. In certain families there is a physical tendency to cardiac disease. Probably the same is true of renal troubles. Arteriosclerosis is another condition which has been of late years looked on as showing distinct hereditary tendencies, and he mentions also hemophilia as an instance of heredity. The relation of heredity to disorders and diseases of the nervous system is a very intricate as well as interesting subject. He does not go into it at any length, however, though he says that mental disease, perhaps more than any other, is hereditary. The alcohol habit may also be hereditary, either through deficient mental control or through special sensitiveness to the effect of the stimulant. In conclusion he mentions the tolerance which may be more or less influenced by heredity. Some persons do not succumb as readily as others to disease, being able to tolerate the condition for a much longer period. He mentions, also, racial peculiar-

ities, such as the resistance to tuberculosis by the Jews and their special liability to neuroses, diabetes, etc.

25. **Puerperal Eclampsia.**—The importance of getting the morbid matters out of the blood in threatened eclampsia is insisted on by Stewart, who believes in venesection in these cases to a certain extent at least. Frequent small blood-letting is not depressing, but removes a depressing poison and stimulates the blood-making organs. If convulsions have already taken place, his treatment differs a little from the ordinary. He uses carbonic acid gas in a vaginal capsule in the cul-de-sac—grs. x sodæ bicarb. and grs. v acid tartaric—which seems to soften the cervix and relieve dilating pains, repeating it every two hours or oftener, following an hour after insertion with a heaping teaspoonful of sodium bicarbonate and an even teaspoonful of lysol to a quart of water at 106 for a douche. When the cervix is large enough he uses a rubber bag dilator, hanging the artery forceps or a light weight to the stem. A light constant pull aids very much. When dilatation is complete and the pains are not strong, he then ruptures the membranes. He finds the introduction of forceps and leaving them alone for from one-quarter to a half-hour often very effective. As regards venesection, he says that the pulse is a guide to quantity and age to advisability. No case of early albuminuria in a robust woman should be allowed to pass the fifth month of pregnancy.

Medical News, New York.

January 17.

28 *The Medical Inspection of Schools: A Problem in Preventive Medicine. (To be continued.) Lewis S. Somers.
29 *The Etiology, Pathology and Symptomatology of Acute Suppuration of the Middle Ear. Edward B. Dench.
30 *Complications of Acute Middle-Ear Suppuration. James B. Clemens.
31 *The Treatment of Acute Suppuration of the Middle Ear. Wendell C. Phillips.
32 *The Etiology, Pathology and Symptomatology of Chronic Purulent Otitis Media. M. D. Lederman.
33 *Complications of Chronic Suppuration of the Middle Ear. Robert Lewis, Jr.
34 *The Treatment of Chronic Suppuration of the Middle Ear. James F. McKernon.

28. **The Medical Inspection of Schools.**—Somers' article obtained the second prize given by the Maltine Company. It is to be concluded.

29. **Acute Middle-Ear Suppuration.**—The predisposing causes are anything which conduces to chronic congestion of the upper air tract and tympanum. The general predisposing cause which without any lesion may render it susceptible to infection, may be any constitutional condition that lowers the vitality of the system. The middle ear is most commonly infected through the Eustachian tube, but it is not proven that the mere presence alone of infective germs is sufficient to cause disease. One of the most common etiologic factors is direct introduction by insufflation of water through the nares. This most commonly occurs as an accident during bathing, but may be induced by methods of treatment. Purulent inflammation involves always the upper portion of the tympanic cavity in contradistinction to acute catarrhal inflammation which is limited to the lower portion. Dench mentions the symptoms and remarks that the most important one in infants is a sudden increase in the temperature which may go up to 105 or 106. If such a change is observed without any apparent cause, a careful examination of the ear is suggested.

30. **Complications of Acute Middle-Ear Suppuration.**—The complications mentioned by Clemens were mastoid periostitis, inflammation of the mastoid cells, destruction of the soft parts, adenitis of the cervical and post-auricular glands, retropharyngeal abscess, intracranial inflammation, meningitis, cystitis, etc. In all the obscure diseases of children repeated and careful ear examination should never be neglected.

31. **Treatment of Acute Middle-Ear Suppuration.**—There are certain conditions which predispose to middle-ear disease: 1, the presence of adenoid tissue in the pharynx. Adenoid patients have running ears in a far larger proportion of cases than others. The ear complications of la grippe can generally be prevented by careful treatment of the nose at the very commencement and cleansing with detergent sprays; anything which renders the tissues clean and free from secretion. The patients should be cautioned to avoid violent blowing of the nose. Phillips says practitioners do not, as a rule, do enough to prevent such suppuration. If there is pain before the establishment of a discharge, the use of heat and narcotics should be relied on: hot water irrigations at a temperature of 100 to 110 and some form of anodyne internally. If the tympanic membrane is bulging and giving evidence of pus, a free incision should be made. It should be carried not only through the membrane proper, but upward through the attic region and well out on to the wall of the canal under strict antisepsis. It should be a routine procedure to make a microscopic examination of the pus as the nature of the micro-organism has an important bearing on the complications. He favors prompt operation in cases of early symptoms of mastoid involvement. The conclusions are given as follows:

1. In acute middle-ear suppuration early and free drainage is of the utmost importance; 2, patients should remain in bed until acute symptoms have passed; 3, free purgation (preferably by means of calomel) should be resorted to; 4, microscopical examinations of pus should be made; 5, local treatment should consist of cleanliness and free drainage; 6, proper internal medication should not be ignored; 7, prolonged attempts to abort suppuration of the mastoid cells are to be condemned; 8, early operative interference in mastoid suppuration prevents the more serious complications and gives far better hearing results; 9, uncomplicated cases of acute suppuration of the middle ear, when properly treated, always recover in from two days to three weeks; 10, the responsibility for preventive treatment must be largely assumed by the family practitioner. He should fully appreciate the importance of preventive treatment when caring for grippe, the exanthemata, or other infectious intranasal conditions, and also, the early and complete removal of diseased adenoid tissue.

32. **Chronic Purulent Otitis Media.**—The causes, symptoms and pathology of chronic otitis media are described by Ledermann, who emphasizes the danger of chronic discharging ears.

33. **Complications of Chronic Otitis Media.**—Lewis first notices the local changes at the spot, bone necrosis, cholesteatoma, mastoiditis, polypi, etc., and later brain involvement, pachymeningitis, and general septicemia which may occur from disintegration of a thrombus. The vascular system and the lymphatics may both be routes of infection. The insidious advance of the disease is remarked. Brain abscesses have often been found to be the cause of death when no such lesion was suspected.

34. **Treatment of Chronic Middle-Ear Suppuration.**—McKernon describes the dry and wet treatment, the latter being the one ordinarily used, consisting in syringing the ear with bichlorid of mercury at 1 to 4,000 or 1 to 8,000; boric acid, 20 grains to the ounce of boiled water, carbolic acid solution of 1 or 2 per cent. strength, formalin or potassium permanganate. Normal saline solution or warm sterile water is all that is necessary in many cases. After the parts are cleansed he mentions the following as a good solution to further sterilize the parts, namely, equal parts of 1 to 1,000 bichlorid of mercury solution and absolute alcohol to which may be added 10 to 20 grains to the fluid ounce of boric acid. If granulations are present they may be destroyed by chemical agents, nitrate of silver or chromic acid. The parts to be cauterized should be cocainized to avoid pain. An alcohol, boric acid and bichlorid solution can be used at home by the patient after the discharge becomes less abundant, five to eight drops being placed in the ear morning and evening after the cavity has been cleansed. If perforation of the drum is on a level or higher than the short process of the malleus, with a small amount of thin serous secretion, thorough cleansing of the middle-ear by means of a middle-ear syringe, is indicated, injecting the sterile solution through the perforation until the cavity is cleansed, and then using an astringent solution of nitrate of silver, not stronger than 5 grains to the ounce. A preliminary solution of eucain or cocain will make it more comfortable. Stronger solutions may be used later, if required. Zinc chlorid has been employed as well as protargol. If the perforation in the drum is large he would not hesitate to use peroxid of hydrogen, but would prefer hydrozone. In case of very persistent discharge, with an area of exposed bone complicating a simpler condition, he has found carbolic acid of great value. The head is placed in a horizontal position and the canal partially filled with pure carbolic acid, allowed to remain about thirty seconds and then the canal syringed with pure alcohol. The complications

of mastoiditis, facial paralysis, etc., are mentioned in conclusion.

Cincinnati Lancet-Clinic.

January 17.

35 Ulceration of the Rectum. George J. Monroe.
36 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Pennsylvania Medical Journal, Pittsburg.

December, 1902.

37 *Address in Medicine: Reflections on State Medical Board Examinations and Interstate Reciprocity. Aloysius O. J. Kelly.
38 *Pericarditis as a Terminal Infection of Chronic Bright's Disease. Herman B. Allyn.
39 *A Contribution to the Study of Nephritis in Smallpox, Based on Analyses of Urine in 128 Cases. Wm. M. Welch and Jay F. Schamberg, Assisted by Holder C. Kirby and Russel R. Jones.
40 A Review of an Outbreak of Smallpox. Alex. R. Craig.
41 Recent Discoveries in the Domain of Etiology. D. H. Bergey.
42 Some Epidemics of Typhoid Fever Caused by Infected Water and Milk. I. C. Gable.

37. **State Board Examinations.**—Kelly criticises the questions of state board examinations while not depreciating their value to the profession in raising the standard of medical education, getting rid of bogus colleges, etc. He thinks there is still room for reform, that examinations should not be confined to merely written methods, but should be made practical. The candidate should be made to diagnose, and even operate and perform certain laboratory diagnostic work, etc. He thinks that reciprocity is a thing that ought to come and should be facilitated.

38. **Pericarditis and Bright's Disease.**—The occurrence of pericarditis in connection with Bright's disease has been noted by early observers, and since Taylor's publication in 1845 the importance of the complication has been realized. Allyn reviews the literature and theories and reports cases. The symptomatology differs from that of other forms, occurring as it does in the final stage of a disease, which can itself account for all the symptoms that may be present. It may be absolutely latent and painless to the end, and in many instances is only detected at autopsy. He calls attention to four distinct signs which are important: 1. Dulness in the first interspace to the right of the sternum, which has been present in every case that he has examined. 2. Fluoroscopic examination, which is very important. 3. Exploratory puncture, which he holds harmless if carried out with due aseptic precautions. 4. Pulsation of the vessels of the neck. The prognosis is practically always fatal; it only hastens an otherwise inevitable ending.

39. **Nephritis in Smallpox.**—From a study of 1,088 urinary examinations in 128 cases of smallpox, Welch and Schamberg find that albuminuria is more frequent in smallpox than is generally believed, being present in 65 per cent. of the cases examined. Tube casts were found in 45 per cent., warranting the assertion that albuminuria is the expression of structural change. In their experience mild and discrete cases have been accompanied by nephritis almost as often as cases with more profuse eruptions, suggesting the influence of smallpox poison in the kidney involvement. Repeated examinations are necessary to avoid misleading results. The clinical symptoms of variolous nephritis are usually mild and not as obvious as those of scarlatinal cases. Albumin may persist in the urine in minute quantities after convalescence and histologic examination of the kidneys indicates that this represents interstitial changes in the kidney. If it is true that the albuminuria accompanying infectious diseases is, in large part, the expression of a structural change in the kidneys, is it not probable that the damage thus done may, if unrecognized and uncared for, insidiously eventuate in chronic Bright's disease? The urine of patients convalescent from infectious disease should be carefully and repeatedly examined and measures taken accordingly.

Archives of Otology, New Rochelle, N.Y.

December, 1902.

43 Multiple Sinus Thrombosis; Cerebellar Abscess and Meningitis, Probably Originating from an Osteo-myelitis of the Sphenoid. Harold Wilson.
44 Contribution on Otogenous Disease of the Brain, Meninges and Venous Sinuses. Dr. Sturm and Dr. Suckstorff.
45 *The Use of the Rotatory Bur in the Treatment of Chronic Suppuration of the Middle Ear. Dr. Sturm.
46 *Vertigo. Rudolph Panse.

45. **The Rotary Bur.**—The use of the bur to smooth the bony cavity after radical mastoid operations, as suggested by Körner, is not as harmless as it appears. Heat generation may cause necrosis, and Körner and other former advocates have abandoned its use in dressing the bone in radical operations. Although still in use, its indications are limited, as when it becomes necessary in radical operation to open the vestibule or semicircular canals and in chronic cases where the pus production is limited to the attic and where removal of the ossicles fails to relieve the otorrhea. The lateral wall of the attic can readily be removed with the bur, thereby exposing the attic with its contents. It is also used in those cases where superficial necrotic areas of the bone are present on the inner wall or the floor of the tympanic cavity. The bur removes the necrosed tissue and the bone returns to its normal smooth condition. To avoid injury from heat it is well to stop the bur every few seconds, the interval being employed in mopping away blood. The bur used has a much slower action at the pole than at the equator, enabling the operator to proceed more cautiously when using the pole and to work faster while entering the attic, where the coarser part of the bur comes into play when working laterally. General anesthesia is dispensed with unless the attic is to be opened when it is required, but not in removing necrosed tissue. He reports cases of its use and speaks of the advantages of the method.

46. **Vertigo.**—Panse's article is a very extensive monograph on vertigo.

Bulletin of the Johns Hopkins Hospital, Baltimore.

January.

47 *The Relations between the Lymphatics and the Connective Tissue. W. G. MacCallum.
48 *The Accuracy of Certain Clinical Methods. Charles P. Emerson.
49 *Albuminous Expectoration Following Thoracentesis, with Report of a Case. Herbert W. Allen.
50 A Study of the Reticular Supporting Network in Malignant Neoplasms. Paul G. Woolley.

47. **Lymphatics and the Connective Tissue.**—From his study of the development of the lymphatics, MacCallum finds that the walls, though delicate and easily ruptured, have still a complete endothelial lining throughout, in appearance analogous to that of the blood vessels, and that the processes of their growth seem to be in every respect similar to those of the blood vessels, with the exception, perhaps, of the lack of considerable distending pressure.

48. **Certain Clinical Methods.**—Emerson has tested a number of clinical diagnostic methods, with special reference to their accuracy and availability, using several independent observations by different persons with the same instrument on the same case, and at the same time as far as possible. He does not recommend the Oliver hemocytometer for clinical work, but finds the hematocrit useful in determining the presence of lipemia, cholemia, hemoglobinemia, but not for counting the cells. The Thoma-Zeiss apparatus requires experience and practice. Expertness with it is readily lost, but otherwise it seems to be satisfactory. Of the hemoglobinometers, he speaks well of Miescher's modification of the Fleischl and of Gower's instrument when it is well made. The Dare instrument is a new hemoglobinometer, which promises to replace many others, but it has its weak points, the fragility of the pipette plates and the necessity of readings being made at once before blood coagulation, which sometimes means rapid work. The Talquist scale was not tested, but he thinks that the experienced eye can, perhaps, get better results with it than can be the inexperienced one with the Fleischl instrument. The various methods of gastric analysis are given. He thinks Congo red paper is an excellent indicator for free acid, not enough used. Gunzburg's test is the best for indicating nothing but free HCl. For urinary analysis, several methods are mentioned, and as for class work and the practitioner the Ludwig-Salkowski method of testing for uric acid is hardly practicable, the Folin modifications of the Hopkins method are the best. For the volumetric determination of the chlorids the Volhard and Falck method is one of the most satisfactory, and for phosphoric acid the method described by Neubauer and Vogel, that is, adding

to 50 c.c. of urine 5 c.c. of a solution of sodium acetate 100 gms. glacial acetic acid, 30 gms. in 1 liter of water. The urine is then kept at boiling point and the standard solution of uranium nitrate added till the end reaction is reached. The tests for sugar, albumin and urea are also mentioned. Fehling's method of titration of sugar seems to be the one that is perhaps the most satisfactory in training the beginner. The Esbach albuminometer and centrifuge method are not specially recommended as accurate. The Doremus tube, especially Hinds' modification, is well spoken of, and he thinks it can be employed by the nurse as well as the physician; in fact, the keeping of a urea chart, he thinks, will become part of the nurse's duty.

48. **Albuminous Expectoration.**—This general condition is discussed and cases reported. The general opinion seems to be that it is due to acute edema of the lung, and the author thinks that this agrees with the physical signs during life as well as postmortem results. Just how edema is produced is not entirely clear. It may be due to a form of coagulation in the minuter vessels, especially the veins, from sluggish circulation. Other theories, however, are advanced, but none of them seem to be exactly supported by all facts. Probably the explanation is to be sought in abnormal pathologic conditions found in fatal cases, such as cardiac insufficiency, adherent pericarditis, clots in the pulmonary vessels, etc.

American Journal of Obstetrics, New York.

December, 1902.

51 Perforating Ulcers of the Duodenum. John B. Murphy and J. M. Neff.
52 *Craniotomy. James D. Voorhees.
53 *Interpretation of the Histology of the Villi from Early Intra- and Extra-uterine Specimens; the Syncytium. Frank A. Stahl.
54 *Rupture of the Umbilical Cord. Herbert M. Stowe.
55 Puberty in the Girl. George W. Cook.
56 Leukemia in Childhood. J. R. Bromwell.
57 Diastasis of the Abdominal (Recti) Muscles. R. P. McReynolds.
58 *Carcinoma of the Cervix Uteri. L. H. Dunning.
59 Causes of Recurrence of Biliary Symptoms After Cholecystotomy. Charles S. Hamilton.
60 Management of Breech Presentations. William D. Porter.
61 *Pregnancy After the Removal of Both Ovaries. J. F. Baldwin.
62 *Condition of the Bladder After Hysteropexy. G. Kolischer.

52. **Craniotomy.**—The conclusions of Voorhees' article are:

1. That craniotomy is an operation of great usefulness, but one whose field has been narrowed to cases where the child is dead, except on occasions of grave emergency and where the mother's life would be jeopardized by a cutting operation. 2. That the operation of itself should be attended with practically no mortality in the hands of a careful operator. 3. That the cutting operations, especially Cesarean section, should be done more frequently in proper cases, inasmuch as the maternal mortality has been reduced almost to nothing in the improvement of the technic of these operations, and inasmuch as almost every baby can be saved.

53. **Histology of the Villi.**—Stahl's article is a study of the growth of villi in intra- and extra-uterine pregnancy. From his study he holds that the syncytium is fetal in its origin and it is the peripheral, muciparous stroma of the chorion or the villus as modified and added to by the ameboid activities of the nuclei (Langerhans) on their surrounding environmental tissues. There is no distinct or technical cell structure in the so-called Langerhans' cell, simply a nucleus. In intra-uterine pregnancy these infant ectoblasts are the advance posts of the villus. They make a way for the advancing villus by breaking down the tissue structures of their environment, the decidua. In extra-uterine pregnancy they are more active, as the ovum itself is here a parasite. Their metastatic growth he calls syncytioma, a characteristic name descriptive of the wandering, invading characteristics of the syncytium and its nuclei.

54. **Rupture of the Cord.**—Stowe reports a case of rupture of the cord at eight months from traumatism and discusses the accident. He has tested the strength of a number of cords and finds that the comparatively small weight of 8 1/3 pounds will break a cord 45 centimeters long, while it will stretch 26.4 per cent. of its length. In labor the rupture is favored by the greater liability of a living cord breaking than a dead one. The cord whose vessels are filled with blood and whose tissues are filled with serum is shorter in length and is more liable to internal injury. It may be hindered by the loosening or separation of the placenta.

58.—See abstract in THE JOURNAL, xxxix, November 1, p. 1,133.

61. **Pregnancy After Ovariotomy.**—Baldwin reports a case of his own personal observation where after apparently thorough removal of the ovaries, pregnancy occurred. It is possible, he thinks, that a small amount of ovarian tissue might have been left on one side or the other outside of the ligation. He also reports another case in which, after removal of the ovaries, a third body between the layers of the left broad ligament, about the size of a Lima bean, was removed and presented all the characteristics of ordinary ovarian tissue. No other similar tissue could be found, and the abdomen was closed after ventrofixation, but menstruation still continued, though the patient's condition is considerably better. These cases are of interest in connection with those reported by Doran of similar occurrence.

62. **The Bladder After Hysteropexy.**—Kolischer finds that the Alexander operation produces no effects on the bladder, but abdominal hysteropexy, ventrosuspension and ventrofixation seem to have a decided influence on its circulation and function. While exact statistics are not available it seems that with normal function before the operation the urinary calls become frequent, that the resistance of the bladder against certain morbid influences is diminished so that a slight cold causes disagreeable sensations. There is usually extreme paleness of the mucosa in these cases, sometimes a swollen and soaked appearance of the epithelium, and if stretching of the muscles be the cause of the frequent desire to micturate, it is easily understood how this might be brought about by the stretching of the bladder in case of a high, fixed uterus. Vaginal hysteropexy may affect the bladder by operative lesions. Stripping of the bladder from the uterus when imperfectly done so that the bladder coats are involved, may produce stubborn, annoying catarrh, which, however, always heals in time. Dislocation of the bladder itself does not seriously affect it, and in some cases may even improve its function, especially when the bladder is lifted up over the uterus. If the uterus is stitched too low down to the vagina it pulls the wall in such a direction as to distend the urethra posteriorly, and as this is the part involved in maintaining urinary continence, it may be impaired and operative relief be required.

Providence Medical Journal.

January.

63 A Few Cases of Exophthalmic Goiter. Eugene Kingman.
64 *Abscess of Lung. George S. Mathews.
65 Five Cases of Intrapopliteal Bursitis. J. C. Pegram, Jr.
66 The Milk Supply of Providence. Halsey DeWolf.

64. **Lung Abscess.**—Mathews concludes that lung abscess is not a frequent disease *de novo*. It is usually a secondary affection, and probably far more common than is supposed. It is frequently difficult to locate the abscess cavity; the greatest care and accuracy of diagnosis may be required. Pulmonary tuberculosis is the most common cause; pyemia and pneumonia are the most frequent of non-tubercular causes. He condemns the promiscuous use of the exploring needle in the absence of gangrene or where there is reason to believe the two pleural surfaces are not adherent.

Archives of Pediatrics, New York.

December, 1902.

67 *Septic Endocarditis. Samuel S. Adams.
68 *A Report of Thirteen Cases of Edema, Apparently Epidemic in Character. Halsey DeWolf.
69 Peliosis Rheumatica in Children, with a Brief Review of the Literature and Report of Cases. Henry Helman.
70 *The Value of Prolonged and Uninterrupted Immobilization in Pott's Disease of the Spine. V. P. Gibney.
71 Fourth Disease or What? Frederick T. Simpson.
72 *The Cause of Sore Arms in Vaccination. Alexander McAlister.

67. **Septic Endocarditis.**—Adams reports a case, one of four recoveries under fourteen years of age that he has found reported. The condition is discussed and the various points in regard to it reviewed. Its infectious origin is demonstrated. It seems to be rarely primary, and the author thinks that the various forms of pyogenetic bacteria may exist latent in the body and be called out by conditions of least resistance, attacking the already diseased valves.

68. **Epidemic Edema.**—Thirteen cases of edema occurring in the Providence Lying-in Hospital in infants are reported by DeWolf; 9 were fatal; 4 were discharged against his advice, and

the results not known. He analyzes the symptoms in the different cases and explains the occurrence as follows: A period of severe bowel disturbance occurring in these patients renders them susceptible to the more common infections, possibly acquired from milk. This spreading into the gastrointestinal tract produces pathologic changes in the blood and blood vessel walls besides affecting to a greater or less degree the kidneys, hence the edema.

70. **Pott's Disease.**—Gibney insists on the importance of immobilization and speaks strongly in favor of the plaster-of-paris application. He says if the visit of Professor Lorenz counts for nothing more than the removal of the prejudice against the use of plaster it will be a godsend.

72. **Vaccination.**—The cause of sore arm in vaccination is held by McAlister to be due to the lack of attention given to the patient's after-treatment. He says an operating wound is kept sterile from first to last. An accidental wound is rendered antiseptic as soon as possible, but the vaccination wound is infected with specific germs and the patient dismissed. The remedy for abnormal results is in using good virus, an aseptic technic, and treatment of the case as an important one in minor surgery.

International Medical Magazine, New York.

December, 1902.

73 *Neurasthenia in Children. J. Madison Taylor.
74 *The Principles Underlying the Dietetic and Physical Treatment of Acute Nephritis. Carl von Noorden.
75 Treatment of Disease of the Gland of Bartholin. E. E. Montgomery.
76 The Correction of Bow Legs. James K. Young.

73. **Neurasthenia in Children.**—Taylor calls attention to this condition, which is not rare, as shown by lack of energy and of interest in the ordinary pursuits of childhood, and is likely to be confused with the effects of bad habits, hysteria and mendacity. The physician should always keep the psychic factor in view. Eye strain is especially noted as a cause, and should be looked for. Cardiac neuroses are common in children. The heart, lungs, blood and kidneys should be attended to. The child should have plenty of air, which is one of the best tonics. All outings and exercise should be supplemented by rest and the whole daily life of the child should be looked after. Proper food of a sufficient variety, bathing, sponge baths in warm room before breakfast, sometimes rest in bed for a few days to a week, and following a strict schedule of feeding may be beneficial.

74. **Nephritis.**—Von Noorden advises in the severe cases of acute nephritis with anuria and oliguria, increasing edema and impending danger of uremia a very limited diet consisting of about half a liter of milk a day and the avoidance of fluid nourishment as much as possible; a little ice to be sucked for the thirst or very small quantities of water. The kidneys must be spared as much as possible. The surplus water in the tissues must be removed by diaphoresis. This course can not be kept up for more than four or five days, but after that time the dangerous stage of oliguria rarely persists; the patient either succumbs or improves. Where the secretion of water is reduced, but anuria does not threaten and the edema is moderate, the diet should be milk, to which a small quantity of carbonate of lime should be added, also a sufficient amount of fat in the form of cream. The additions to the food should be such as not to irritate the kidneys, and nothing that is difficult to eliminate. He gives a daily menu, consisting in milk, cream, rice, zwieback, butter and sugar, amounting to 2,900 calories, and with 66 gms. of proteids and 160 gms. of carbohydrates and 212 of fat. In acute nephritis a diet containing so many calories is hardly required. A definite limit as to the amount of water is hard to state, but if the kidneys are capable of eliminating it, we can give it abundantly, and if in spite of good diuresis, edema persists, sweating may be indicated. As the edema disappears it becomes unnecessary. In the convalescent stage of acute nephritis the diet should be more abundant, partly of milk, but not more than 2½ liters, as more would contain too much proteid. The other articles which may be added are white bread, legumes, cereals, mild fresh cheese, some fruits, particularly grapes, small quantities of egg and meat, etc. The protein in the diet should be very gradually increased and not exceed 100 g. per diem until the nephritic process is healed. The administrations of large quantities of fluid is important at this time, and he usually prescribes a bottle a day of unfermented grape juice, which is a stimulant to the bowels and also a good diuretic. If edema appears, in spite of diuresis, as it does in some cases, some dry climate is advised. He mentions Egypt as being particularly suitable.

The Laryngoscope, St. Louis.

December, 1902.

77 *The Neighboring Parts of the Middle Ear and Their Infection. Otto J. Stein.
78 *The Results of Treatment of Laryngeal Cancer by Means of the X-Ray. D. Bryson Delavan.
79 A Case of Foreign Body in the Bronchus. F. E. Hopkins.
80 *Carcinoma of the Epipharynx. Hanau W. Loeb.
81 Pneumatic Nasal Tampon and Splint. C. A. Leenheer.

77. **The Middle Ear.**—Stein's paper is purely anatomical, giving a description of the anatomy of adjoining parts to the middle ear and their relations.

78. **Laryngeal Cancer.**—The actual position of *x*-ray therapeutics as regards laryngeal cancer at the present time, according to Delavan, is that not a single case has been apparently reported cured, but few cases have been thus treated. In one case treated by Dr. W. J. Morton for the author, apparently good results were produced on the growth, but the patient died of Bright's disease after twenty applications of the *x*-ray. He thinks that the victim of advanced laryngeal cancer should at least be allowed the benefit of this method.

80. **Carcinoma of the Epipharynx.**—Loeb reports a case of his own observation and reviews the others in the literature, giving elaborate analyses of the symptoms. He concludes that although carcinoma of the epipharynx must be accounted as one of the rarest of affections, its symptoms declare themselves with such positiveness that a diagnosis may be made at an early stage. The early symptoms are pain, deafness, tinnitus, nasal obstruction, fetid and bloody discharge on the affected side, unilateral paralysis of the palate and some of the muscles supplied by the facial. Later symptoms depend on extension to and through the basis cranii, most commonly in the region of the foramen lacorum medium, where it comes into relation with the Gasserian ganglion. It may, however, grow more anteriorly or extend backward and involve various cranial nerves; in fact, any part of the floor of the middle fossa may be destroyed and entrance into the cranial cavity effected. With our present surgical methods there is no chance of cure, absolute or relative, and the only glimmer of hope is in the advance made in such methods as the *x*-ray treatment of dermal cancers.

Louisville Monthly Journal of Medicine and Surgery.

January.

82 *The Mastoid Operations and Their Indications. Adolph O. Pfingst.
83 *The Colon Douche—Its Use and Abuse. Thomas Hunt Stucky.
84 Proprietary Medicines. C. Skinner.
85 The Proper Methods in X-Ray Therapy. C. M. Mutz.
85½ Treatment of Typhoid Fever. L. F. Hammond.

82. **Mastoid Operations.**—Pfingst summarizes the indications as follows: The Schwartze operation is indicated in all cases of mastoid osteitis following otorrhea if the inflammation under treatment does not tend to resolve, and in primary mastoid inflammation when free incision of the swollen meatus fails to relieve, also in cases of purulent otitis where symptoms arise indicating brain involvement, and in protracted otitis with a profuse discharge and slight elevation of temperature, the symptoms being persistent for four or five weeks or more. Lastly, in cases of obstinate neuralgia referable to the mastoid with or without persistent otorrhea, as such are often relieved by opening the antrum and ventilating the attic. The Stacke-Schwartze operation is indicated in chronic cases of otitis media not relieved by ossiculectomy or by the removal of recurrent granulation tissue or by frequent irrigation, in which the patient complains of intermittent pains over the mastoid, even though there be no other symptoms of mastoiditis, and in protracted cases of chronic otorrhea in which symptoms indicating intracranial complications arise. In chronic cases of purulent otitis media accompanied by cholesteotomatous formation, and in all cases of extensive caries, with or without fistulous openings in the mastoid or the posterior-

superior osseous canal. He discusses the symptoms and reports cases. He would not advise operation in cases like the one reported except where the patient has frequent headaches, constant dizziness and tenderness over the bone.

83. **Colon Douche.**—The influence of this measure is far-reaching and powerful and may be damaging. Its use is many times uncalled for and in a physiologic condition can produce great harm. The important fact is not quantity, but temperature. To produce appreciable effects the age and position of the patient must be considered aside from local conditions. Considerable care must be observed in the selection of cases, and a consideration of the indications and contra-indications that may arise. Stucky notices these in detail, more especially as regards the opinions of authorities in regard to them.

Hot Springs Medical Journal.

December, 1902.

86 *Digestive Disorders in Consumption, with Notes on Mixed Infections. Paul Paquin.
87 *My Experience with Formalin in Surgery. John L. Jelks.

86.—See abstract in THE JOURNAL, xxxix, p. 1065.

87. **Formalin.**—Jelks speaks very highly of the use of formalin in various conditions. He does not think it more irritating than other agents that are employed. He finds it of special value in suppurations, ulcers, gonorrhea and infected wounds, in postpartum infections and certain skin diseases, such as tinea, etc. He thinks that stronger solution should not be used in clean open wounds or in skin granulations. Its use on the skin at the point of proposed incision is good practice and insures sterilization. In rectal surgery there is no other antiseptic so reliable. He has not had with it nearly so large a percentage of fistulæ from perirectal abscess as the statistics of authorities give and believes if the case is operated on and dressed each day after formalin irrigation fistulæ will hardly occur. In chronic dysentery he uses hot formalin solution to cleanse the mucous surfaces, with good results.

Medical Fortnightly, St. Louis.

January 10.

88 *Laminectomy for Fracture-Dislocation of Fourth and Fifth Cervical Vertebræ. Joseph R. Eastman.
89 Hot Baths in the Treatment of Fevers, More Particularly in the Case of the Aged, Debilitated Persons and Children. George I. Bluhm.
90 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.
91 The Seven Forms of Vomiting in Children. J. H. Komarski.
92 Hemoptysis (Pulmonary Hemorrhage). Albert Abrams.
93 A Successful Treatment of Rheumatism. H. H. Fletcher.
94 Report of Cases Treated with Roentgen Rays. Wm. A. Pusey.

88.—See abstract in THE JOURNAL, xxxix, p. 1131.

90.—Ibid., p. 1066.

Canadian Practitioner and Review, Toronto.

January.

95 Report of a Case of Acute Rheumatism. Harold C. Parsons.
96 Symptoms of Acute Rheumatism. W. P. Caven.
97 Complications of Rheumatism. John L. Davison.
98 Surgical Indications in Rheumatism. R. B. Nevitt.
99 Rheumatic Conditions in the Upper Air Passages and in the Organ of Special Sense. J. O. Orr.
100 The Treatment of Rheumatism. J. T. Fotheringham.
101 *Septicemia and the Curette. H. Plympton.
102 Glimpses from the History of Medicine. H. S. Hutchison.

101.—This is the thirty-sixth appearance we have noted of this article is an original contribution. See editorial in THE JOURNAL, xxxix, p. 1327. Further notice will not be taken of it.

American Practitioner and News, Louisville, Ky.

October 15, 1902.

103 The Influence of the Cervical Sympathetic upon the Eye, with Two Cases of Paralysis. William Cheatham.
104 The Present Status of Radiotherapy and Radiography. M. F. Coomes.
105 The Present Status of Brain Surgery. H. J. Whitacre.

Denver Medical Times.

January.

106 Antipyrene Treatment of Chorea. S. D. Hopkins.
107 Chorea Insaniens—Report of a Case. Hubert Work.
108 Treatment for Wound Infections. F. H. McNaught.
109 Some Observations on Saloquinin. Edward C. Hill.
110 Effects of Poisoning from Gasoline, with Report of Two Cases. C. A. Ferris.
111 Malignant Growths Treated by the X-Ray. B. B. Grover.

Canada Lancet, Toronto.

January.

112 Surgical Treatment of Gallstones. J. F. W. Ross.
113 Cases Exhibited at the Surgical Demonstration in the Royal Victoria Hospital, on Thursday, Sept. 18, 1902, Before the Members of the Canadian Medical Association. James Bell.
114 Insomnia. H. H. MacKay.
115 Cirrhosis of the Liver in the Young. J. T. Fotheringham.

St. Paul Medical Journal.

January.

116 Adenoid Growths in Children. Jacob E. Schadle.
117 Acute Hemorrhagic Pancreatitis with Résumé of Pathological Changes Found in a Case. David H. Lando.
118 The Treatment of Tuberculosis in the Incipient Stages. W. B. Hopkins.
119 A Clinical Conference in Obstetrics, with a Section of the Senior Class. Frederick Leavitt.

Brooklyn Medical Journal

January.

120 Remarks upon Some of the Recent Contributions to Obstetric Therapeutics. Charles Jewett.
121 Some Observations on Perforating Ulcer of the Duodenum. James P. Warbasse.
122 Painful and Protracted First Stage of Labor. W. L. Chapman and L. N. Foote.
123 Vicious Peritoneal Adhesions of the Duodeno-hepatic Region. *James P. Warbasse.
124 Address, Long Island Alumni Association of Columbia University. Algernon T. Bristow.
125 Atropia, Its Uses and Contraindications in Ophthalmic Practice. P. Chalmers Jameson.
126 Historical Epitome of Anatomy. Charles B. Bacon.
127 A Few Suggestions to the Doctor on the Witness Stand. Evarts L. Prentiss.

Medical Sentinel, Portland, Ore.

December, 1902.

128 The Needs of the Society. President's Address, Idaho State Medical Society. H. A. Castle.
129 Typhoid Fever—Bacteriology, Diagnosis and Differential Diagnosis, Value of Widal's Agglutination Test, Ehrlich's Diazo-Reaction and Direct Examination of the Blood. Ed. E. Maxey.
130 Some Observations and Comments on the Spread of Typhoid Fever. Charles W. Shaff.
131 Physiology, Past, Present and Future. I. L. Magee.
132 Report of a Case of Congenital Absence of Uterus and Appendages. G. G. Barker.

Journal of the Michigan State Medical Society, Detroit.

January.

133 The Etiology and Prophylaxis of Abortion and Premature Labor. J. G. Lynds.
134 The Treatment of Abortion, Immature and Premature Labor. H. Wellington Yates.
135 Complications of Abortion, Miscarriage and Premature Labor. A. H. Rockwell.
136 Moral and Legal Aspect of Abortion, Miscarriage and Premature Labor. F. J. Welsh.
137 Rupture of Intestine—Operation, Recovery. Frederick W. Robbins.
138 Therapeutic Action of the Roentgen Rays in Dermatosis and Malignant Growths. Henry R. Varney.

Albany Medical Annals.

January.

139 Address, Albany Medical College Alumni Association of Central New York. W. Clinton Kellogg.
140 Influence of the Medical Society of the State of New York on Medical Legislation and the Standard of Medicine. Albert Vander Veer.
141 Toxemias from Spirit Drinking. T. D. Crothers.
142 Report of a Case of Aortic Regurgitation and Stenosis and Mitral Regurgitation with Capillary Pulse. Willard H. Sweet.

Kansas City Medical Index-Lancet.

January.

143 Some Remarks Concerning the Progress of Medicine vs. That of Surgery. Edward L. Chambliss.
144 Education, the Fundamental Principle in the Prevention of Pulmonary Tuberculosis. Charles W. Fassett.
145 Puerperal Infection. W. R. Beatie.
146 Etiology of Scarlatina. J. W. Kyger.
146½ Apomorphin Hydrochlorate and Some of Its Uses. J. C. Matthews.

New Yorker Medicinische Monatschrift.

December, 1902.

147 Ueber Heilung der chron. Nephritis durch Operation. Gustav Schirmer.
148 Aerztliche Ethik unter besonderer Berücksichtigung der Psychotherapie und Psychohygiene. Albert Moll.

Medical Summary, Philadelphia.

January.

149 Accessory Oviducal Ostia. Byron Robinson.
150 Placenta Previa—Surgical Interference. John R. Smith.
151 Pneumonia. Wm. H. Vail.
152 Spiritualism. C. E. Patterson.
153 Cyanide Salts. J. S. Caldwell.
154 The Twenty Most Useful Remedies. J. A. Burnett.

Atlanta Journal-Record of Medicine.

January.

155 Curettage—Its Indications and Technic. Monroe Smith.
156 Benzoate of Gualacol. Mark W. Peyser.
157 Some Phases of Albuminuria. William S. Gordon.

Medical Times, New York.

January.

158 Points in the Treatment of Cardiac Disease. A. N. Ellis.
159 Therapeutic Uses of Water. Andrew M. Stovall.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 3.

1 *Future of Electrotherapeutics. Edmund Owen.
2 *The Simulation of Intestinal Obstruction. Anthony Bowlby.
3 *The Diagnosis and Treatment of Various Forms of Septic Synovitis. F. C. Wallis.
4 *Use of Paraffin for Sunken Noses. Stephen Paget.
5 The Nomenclature of Malaria. David Bruce.

January 10.

6 *Appendicitis. Gilbert Barling.
7 Remarks on a Second Series of Fifty Cases of Recurrent Appendicitis Treated by Operation. F. A. Southam.
8 Constriction of the Small Intestine by a Gangrenous Appendix. G. Lovell Gulland and David Wallace.
9 Four Cases of Duodenal Ulcer Perforating Acutely. D'Arcy Power.
10 Resection of the Large Intestine for Carcinoma. James Swain.
11 Enterectomy for Malignant Disease. Walter I. Woolicombe.
12 Three Cases of Acute Intussusception in the Same Family. Robert G. Riddell.
13 Case of Volvulus of the Cecum. F. R. B. Bisshopp and Alfred Fripp.

1. **The Future of Electrotherapeutics.**—Owen thinks electrotherapeutics has suffered from the apathy of the profession and has too much fallen into the hands of quacks. Its standing is not what it should be, either with the public or the profession. He draws a picture of the average practitioner looking up his old magneto-electric machine as the usual idea of applying electricity, and he recommends a large central electric institution in London to which cases could be sent by physicians to be scientifically treated, having every appliance and being the headquarters of the Electrotherapeutic Society.

2. **Simulation of Intestinal Obstruction.**—Bowlby notices at first the symptoms of true intestinal obstruction, pain, vomiting, obstruction of the passage of wind or feces, and then calls attention to the conditions that may simulate this accident, reporting cases of obstruction due to perityphlitic abscess without pain or fever, interfering with peristalsis, also cases of renal colic, gallstone impaction and acute pancreatitis, embolism of superior mesenteric artery, which acted by damaging the bowel by cutting off its nutrition, functional constipation and of enteritis. In conclusion he gives certain indications for exploratory operation, which he thinks can be followed in case it is decided to open the abdomen in order to seek for the supposed mechanical obstruction. These are the rules he has made for his own guidance and he has found it of great assistance to have a definite plan on which to proceed. He is not inclined to favor too frequent or recent exploratory operations and is conservative, but insists on careful consideration of all symptoms in an attempt to derive as nearly as possible the diagnosis before deciding.

1. Open in the middle line below the umbilicus, because most of the causes of obstruction will be found in the lower half of the abdomen.

2. Without allowing any intestine to escape, examine first, with two or more fingers, or even the whole hand, the right iliac region, and pass from there towards the umbilicus to feel whether there are any adhesions there. It is in this right lower half of the abdomen that most of the causes of obstruction are to be found, for here are: 1, the appendix; 2, intestinal diverticula, perhaps attached to the umbilicus or to the neighboring mesentery; 3, the commonest site for volvulus, that is, the cecum; 4, the usual site for the lodgment of an impacted gallstone, that is, the lower part of the ileum; 5, a common place for adhesions due to caseous mesenteric glands; 6, the sites of inguinal, femoral, and obturator hernia. Further, if the obstruction be in the small intestine, it is in the right iliac fossa that undistended intestine will be found, and if this can be secured and traced upward it is the surest guide to the seat of obstruction.

3. Examine next the left iliac region and the pelvic region, the latter, especially if the patient be a woman, for there, as additional causes of adhesions, may be inflamed ovaries or tubes or some uterine trouble with neighboring inflammation.

4. If no cause can be discovered then either open a coil of distended intestine and suture it to the skin, if the patient be too ill to bear more; or else decide to take the distended bowel out of the abdomen altogether, and if necessary open it, empty it and suture it. It is only by so doing that you will be able to return it once you have decided to let it escape, and it is often only by so doing that you will find a deeply-seated obstruction.

3. **Septic Synovitis.**—The forms noticed by Wallis are gonorrheal, influenzal, osteomyelitic, streptococcic and pyemic. The symptoms differ from the ordinary rheumatic fever in the absence of swelling and a dried harsh condition of the skin. The cutaneous and the distressed mental conditions have been well described by Rolleston, who considers the disorder of much more common occurrence than is generally suspected. The attacks usually clear up with rest and simple measures; operative interference is seldom needed, and it is not always possible to tell just what special micro-organisms are responsible.

4. **Paraffin Prothesis.**—Paget gives the results of his own experience with Gersuny's method and illustrates it with figures. He thinks it is advisable to use paraffin which has a melting point above fever heat, as embolism has followed the injection of mercurial oils and if easily softened in cases of fever there might possibly be complications. He prefers to use the paraffin melting at 110 to 115, the best being at about 110 or 111, not below it. The softer paraffins are very slowly replaced by fibrous tissue; the hard ones become encapsulated. He has never been able to get perfect results, but often very satisfactory ones.

6. **Appendicitis.**—Barling thinks he sees in the hospital experience of late years an actual increase in the incidence of appendicitis. It is not easy to give the reason why. He calls attention to a certain family predisposition to the disorder and gives an account of his own cases. He is not an advocate of indiscriminate operation, but believes in judicial selection of cases for operating. If the patient can be carried safely through his attack it should be done and operation done in the interval. The symptoms are reviewed. He does not find a constant pain at McBurney's point; this could not be expected, considering the variations of the position of the appendix. Of all the signs that might guide us as to the seat of the condition the pulse is the most valuable and reliable. Its rapidity should be indexed rather than its quality. It is not the hard, wiry pulse of peritonitis, notwithstanding peritonitis is the essential feature of the disease. It is, on the contrary, soft and yielding. It is to its rate, however, that he specially calls attention. When the onset pain is distracting the patient the pulse-beat may be 120 or 130 in the minute, but with a less intense seizure 20 or 30 beats slower is more to be expected. With diminution of the pain the pulse rate falls. If it comes to nearly normal probably other symptoms will also improve. If it should remain high, however, for more than twelve hours, the case should be looked on as a grave one unless there is some special explanation. A steady quickening of the pulse is also significant. Unfortunately the quick pulse is not always present. After the early days of the attack have passed the pulse rate will probably be of little assistance, but will be nearly normal and other symptoms, palpation, the thermometer, etc., may have to be utilized and depended on. The temperature is not a certain guide, but not to be despised. The value of the leucocyte count is considerable, but it is not infallible. He would say as regards operation we should always be guided by the severity of the symptoms present and ignore the absence of symptoms usually present or of very slight intensity if they are present. If the patient does not vomit and his temperature is approximately normal, while the pulse is 120 and the abdomen nearly rigid, lay stress on these last two points and pay little heed to the others. Or, again, if the pulse is but moderately quick and the temperature is not in correspondence and yet the patient continues to vomit despite the prohibition of mouth feeding, too great emphasis can hardly be placed on the last symptoms. If the temperature is falling and the pulse quickening, whatever the state of the other symptoms the pulse is the index to the conditions in the abdomen. He describes the operation and gives an analysis of his own cases. He emphasizes the avoidance of the repeated and persistent use of opium, which is a dangerous practice, as it misleads the patient, though the drug may be necessary to quiet pain at the onset.

The Lancet, London.

January 3.

14 *The Erection of a Sanatorium for the Treatment of Tuberculosis in England: Together with a Number of Appendices and Illustrative Plans. Arthur Latham.
15 *The Erection of a Sanatorium in England for the Treatment of Tuberculosis. F. J. Wethered.

16 *Essay and Plans for the Erection of a Sanatorium for Tuberculosis. Egbert C. Morland.

January 10.

17 *The Anesthetization of So-called Difficult and Bad Subjects. Frederic W. Hewitt.
18 *The Problem of Infection and Immunity in Tuberculosis and the Issues Involved. Hugh R. Beevor.
19 *An Improved Method for the Microscopical Diagnosis of Intermittent Fever. Ronald Ross.
20 *Vaccination Rashes and Complications. George Pernet.
21 A Second Case of Successful Operation for Perforation in Typhoid Fever. Anthony A. Bowlby.
22 *A New Differential Stain for the Klebs-Loeffler Bacillus of Diphtheria. J. Wickliffe Peck.
23 *The Diffusibility of Scarlet Fever Virus. John Sutherland.
24 Bence-Jones Albumosuria, with Report of Three Cases. James M. Anders and L. Napoleon Boston.
25 Intravascular Antisepsis. J. M. Fortescue-Brickdale.
26 A Case of Hypertrophic Stenosis of the Pylorus in an Infant; Recovery without Operation. H. Willoughby Gardner.

14, 15, 16.—See editorial, THE JOURNAL, January 24, p. 250.

17. **Anesthesia.**—Bad subjects for anesthesia, according to Hewitt, are most generally robust, healthy, muscular individuals; the spare, sallow women are more generally the ideal patients for anesthesia. The bad subjects he considers under six heads: 1. Patients whose general health is good—possibly exceedingly good—who have some physical peculiarity rendering them more or less liable to intercurrent embarrassment or arrest of breathing. 2. Patients whose respiratory tract is in some way encroached on or whose respiration is in some way hampered by pathologic or other conditions. 3. Patients suffering from certain grave visceral or constitutional affections 4. The highly nervous or excitable patients; those suffering from various nervous affections, and those given to the excessive use of morphin, alcohol or other drugs. 5. Patients having the characteristics of two or more of the foregoing classes. 6. Patients who prove to be difficult or bad subjects without any discoverable cause. He thinks it preferable to have mouth breathing rather than nasal breathing in an anesthesia, and he has been in the habit of using a small mouth prop between the teeth soon after there is loss of consciousness.

18. **Tuberculosis.**—Beever notices the public fear of tuberculosis which has largely been aroused through medical utterances, and thinks that the disorder should be considered rather subinfectious than infectious. Direct infection is certainly rare in medical experience. While not finding evidence of infection like that of other infectious diseases, he admits that the conditions would not detect so small a percentage as 2.5 or even 5, but believes that he is justified in saying that there is not the accidental rise or fall that would indicate chance infection as in other infectious diseases to the extent of 10 per cent. It has been suggested that the latency of tubercle affords a solution of the problem. While evidence is lacking, there is a kind of latency as we find in old cicatrices and foci, and these are much more frequent in the old than in the young. The frequency of the incidence of phthisis is greatest in the young, and latency, if it took the line of origin of other infectious diseases, would show the same rise and fall and therefore this theory affords no solution. The only kind of an explanation, to his mind, in an inference which is not infrequently uttered, "We, all of us, repeatedly are exposed to infection." On the other hand, the evidences of immunity are more positive, and he notices the decrease of consumption of late years in spite of overcrowding and the increase of population, etc., which would increase the risks of infection. It is better nutrition, avoidance of infectious fever, better sanitation and ventilation that are probably the cause of the improvement. He hopes the medical profession will not encourage the public to avoid their tubercular fellow creatures. Such a course will not, in his opinion, diminish the amount of tuberculosis. It will swell the ranks of the unemployed; it will depress the phthisical wage-earner's spirit; it will empty his pockets and ultimately, by want and distress, reduce his family to that condition of low vitality which the tubercle bacillus requires for a successful invasion. To say that it does not require isolation and is infectious only under exceptional conditions, insist that healthy people may enjoy extraordinary immunity, that fresh air and open windows are the great armor against its attacks, and that the instruction of the young in the general principles of hygiene will prove more valuable eventually than the isolation measures proposed.

19. **Intermittent Fever.**—Ross suggests the use of a large drop of blood on a glass slide, slightly spread out and dried, then treated with aqueous eosin solution, which is allowed to remain for a quarter of an hour. It is then washed off by a very gentle stream of water, as the film is not yet fixed to the glass. After the eosin solution has been washed off the weak solution of methylene blue employed for the Romanowsky stain is allowed to run over the film and remain there for a few seconds, special care being taken not to stain too dark a color; then wash the blue off very gently and the preparation is complete. The stained film can now be dried and mounted or examined directly. It differs from those in ordinary use in containing no hemoglobin and will consist only of the transparent stromata of the corpuscles, the leucocytes, blood plates, and parasites. Twenty times the amount of blood used in the ordinary preparation will be found disposed over the area covered by the cover glass, and in this way it will have many times the diagnostic value of the ordinary preparation. If the Romanowsky stains are efficient the smallest parasites will be found scattered over the field as small blue rings with a deep crimson dot within or on the ring, this being the nucleus. If the preparation has not been overstained the pigment of the pigmented parasites will also be visible.

20. **Vaccination Rashes.**—Pernet describes the different forms of vaccination rashes, such as extravesical, urticarial or erythematous. Gangrenous vaccinia is a very unusual condition. Morbilliform and scarlatiniform rashes also sometimes occur, but are not troublesome. Purpura is an extremely unusual condition. Of the diseases which may be inoculated he mentions syphilis, which is rare and impossible with good bovine virus, leprosy, which he doubts, sepsis, tetanus, the excitation of diseases in predisposed individuals, accidental vaccination, horse-pox and effects of intercurrent disease on vaccination and vice versa. It has been noticed that vaccination benefits whooping cough and that influenza, pneumonia and leprosy have been improved. The symptoms of phthisis have also been modified.

22. **Diphtheria Bacillus.**—The new stain proposed by Peck is the use of Loeffler's methylene blue and Neisser's brown as a counterstain. The film is spread in the usual way, fixed in the flame, stained with Loeffler's methylene blue from three to four seconds, washed quickly, then counterstained with Vesuvian 0.2 per cent. aqueous solution for 30 seconds, again washed quickly, dried and mounted in Canada balsam. The film may be dried on the slide and stained without the use of a coverslip. This stain gives a better result in all instances in which Neisser's acetic acid stain has been used, and it has this great advantage, that it is reliable for staining the Klebs-Loeffler bacillus from a culture on blood serum several days old. He suggests as a name for it the Loeffler-Neisser method.

23. **Scarlet Fever.**—Sutherland questions the possibility of conveyance of scarlet fever by individuals passing from the sick to the well. He has been looking for such a case for several years, but without success. He has had in special investigation, which he here reports, 82 different subjects concerned; in 34 households a very well-intentioned attempt at isolation was begun and maintained for periods ranging between 21 and 43 days, but in each case was ultimately a failure, and the well children came in contact with the patient, with the result of spreading the disease. In 48 cases the sick children were isolated absolutely from the other children in the family, though the different mothers had to pass constantly from one to the other doing the housework as well as attending the sick. In none of these cases was there any extension of the disease from the sick to the well.

Indian Medical Gazette, Calcutta.

December, 1902.

27 Elephantiasis of the Scrotum and Penis. R. D. Murray.
28 *Malaria and Kala-azar. Charles A. Bentley.
29 A Series of Cases of Heart Disease. B. Chatterton.
30 Notes of a Case of Scarlet Fever in Ranchi, Chota Nagpur. R. H. Maddox.
31 A Summary of Ehrlich's Theory of Immunity. E. D. W. Grieg.

28. **Kala-Azar.**—Bentley argues against the possible identity of this disease and malaria, pointing out the differences; the extraordinary character of the temperature curve, and the remarkable resistance exhibited by this fever to treatment by

quinin; the fact that the indigenous and long acclimatized population and not the newcomers are most subject and that malarial parasites are rarely found and such as are found are much more frequent in other localities where kala-azar has not existed. The communicability and epidemicity of kala-azar differ essentially from that usually seen in malarial disease. The fever is not the true remittent, but more like the irregular continued. It has a striking difference in this respect from the ordinary malarial.

The Practitioner, London.

December, 1902.

32 Fracture of the Greater Process of the Calcaneum. Albert Carless and Stephen Mayou.
33 The Berlin Congress on Tuberculosis. Nathan Raw.
34 A Clinical Lecture on Congenital Dislocation of the Hip. W. Bruce Clarke.
35 Is the Catheter Ever Required in Abdomino-Pelvic Operations on Women? Stanmore Bishop.
36 Poverty in Town Life. Arthur Newsholme.

Journal of Tropical Medicine, London.

December 15, 1902.

37 A Report of Four Cases of Malaria at the Branch Seamen's Hospital, Royal Albert Dock, Treated by Arrhenal.
38 *Proof that Ankylostoma Larvæ Can Enter the Skin. F. M. Sandwith.
39 Remarks on the Individuality of Filaria Diurna. (To be continued.) Louis W. Sambon.
40 Report of a Case of Bilharzia from the West Indies. P. Manson.
41 Tumor of the Nose. J. Numa Rat.
42 Filariasis and Sleeping Sickness. J. N. Rat.
43 Bacteria of the Mouth and the Antiseptic Properties of Odol. Stanley Kent.

38. **Ankylostoma.**—Sandwith offers new proof that ankylostoma can enter the body through the skin, experiments on animals (puppies) having shown this; the parasites having been found in the intestines in almost the same length of time as where it was introduced by the mouth. A man who offered himself for experiment also had applications to his forearm and ankylostomum eggs were discovered in his feces on the seventy-first day. Careful examinations were made beforehand before the introduction of the germ in each case, to be sure that there were none pre-existing.

Annales Pasteur, Paris.

44 (No. 11.) Recherches sur le traitement et la prévention du nagana (tsetse fly disease). A. Laveran and F. Mesnil.
45 *Recherches sur la resorption de la toxine tetanique. A. Marie and V. Morax.
46 Contribution à l'étude des sérum précipitants. A. Falloise.
47 Recherches sur la durée de la presence du microbe de la peste injecte vivant dans les veines du cheval (live plague bacilli injected in vein of horse). Carougeau.
48 De l'influence de l'oxygène sur la protéolyse en presence de chloroforme. G. Malfitano.
49 L'alcool est-il un aliment? E. Duclaux.

45. **Absorption of Tetanus Toxin.**—Marie states that tetanus toxin is absorbed by the peripheral nerves, owing to a special affinity for the substance of the cylinder axis. It is attracted to the nerves with great rapidity, but the fixation is not stable. The toxin moves slowly along the nerves toward the center, and at last reaches the ganglion cell, like the absorption of nourishing juices by the roots of a plant. The motor neuron first becomes saturated with the toxin, evidenced in the localized contraction, the local tetanus. Wherever the toxin is injected it is principally attracted by the nerves of the part.

Bulletin Gen. de Therapeutique, Paris.

50 (CXLIV, 3.) Albuminurie d'origine rhinopharyngienne guérie en 3 jours (cured in 3 days) par le siphon de Weber. P. Gallois.
51 *Antisepsie interne et fièvre typhoide. Pellot.
52 *L'iodure d'éthyle dans la pertussis. C. Amat.
53 (No. 4.) *Traitement de la dyspepsie hyposthénique avec fermentations secondaires et dyspnée et bourdonnements de l'oreille (buzzing in the ear) d'origine gastrique. A. Robin.
54 (No. 6.) La crise des eaux minérales en France (the crisis in French watering places). Bendet.
55 (Nos. 7-8.) L'arrhénal. V. Thébault.
56 (No. 10.) La thérapeutique d'autrefois (of the olden time). Cabanès.
57 (No. 12.) *Traitement du tabes par les injections mercurielles. L. Leredde.
58 (No. 13.) L'appendicite. R. Picou.
59 (No. 14.) Sur la correction complète de la myopie. C. Amat.
60 (No. 16.) *Traitement de la lithiase rénale. A. Robin.
61 (No. 17.) Traitement des péricardites. H. Huchard. (Commenced in No. 14.)
62 (No. 19.) L'intensité de l'action toxique médicamenteuse et son rapport avec le titre des solutions des agents chimiques. Etude posologique. B. J. Stokvis.
63 (No. 20.) Les panacées d'autrefois. Cabanès.
64 (No. 22.) Les recents trauvaux de A. Gautier sur l'arsenic. A. Robin.

51. **Mercurial Treatment and Typhoid Fever.**—Pellot mentions that he has witnessed several instances of typhoid fever occurring in persons who were undergoing an intensive course of mercurial treatment. The saturation of the system with the mercury did not seem to have the least mitigating effect on the course of the typhoid.

52. **Ethyl Iodid in Whooping Cough.**—Amat had his pertussis patients inhale ethyl iodid and found that they were much relieved thereby. The beneficial effect seems to be similar to that derived in asthma.

53. **Treatment of Hyposthenic Dyspepsia.**—Robin allows meat, eggs and fish, but forbids farinaceous foods and bread. Green vegetables contain potash and are therefore favorable. A small dose of sodium bicarbonate a half-hour before meals is useful. After meals he orders eight drops of a mixture of 6 gm. of tincture of ignatia; 1 gm. of tincture of ipecac, and 5 gm. of tincture of illicium, taken in a little Vichy water. For lactic fermentation he prescribes two tablespoonfuls a day of a mixture of .1 to .2 gm. ammonium fluorid in 300 gm. water, taken in the middle of the meal. Mechanical antisepsis can be obtained by lavage, emetics and purgatives. He remarks that lavage of the stomach is now abandoned by those who most advocated it at one time. The indications for it are exceptional, but emetics are very valuable accessory means of realizing mechanical antisepsis. The best for the purpose is ipecac, 1.5 gm. in three doses at intervals of fifteen minutes, in a half-glass of tepid water. At the first sensation of nausea and after each effort at vomiting, another glass of tepid water should be taken so that the stomach will not be empty when it contracts. Coprostasis is very frequent in such persons although they are rarely conscious of it. Robin prefers as a laxative one or two pills at bedtime, with the formula: Barbadoes aloes, .06 gm.; extract of licorice, .06 gm.; gamboge, .03 gm.; extract of belladonna, and of hyoscyamus, āā .005 gm. The dyspnea will vanish as the distension of the stomach subsides, and with it generally the tinnitus, if not organic. If the latter persists, 1 gm. of potassium bromid once or twice a day will generally banish it; or ten drops of tincture of cimicifuga racemosa, an hour before meals, two or three times a day.

57. **Treatment of Tabes with Mercurial Injections.**—Leredde urges that mercurial injections should be made more of a routine measure and that tabes should be treated from the standpoint of 1903 and not from that of even ten years ago. The salt used is immaterial, the main point is the quantity of mercury. Injections are the only means by which we can know that we are actually introducing mercury into the system. Its action is proportional to the intensity of treatment. Fournier declares that tabes has never developed in a syphilitic treated by him for specific ocular affections, showing that adequate mercurialization at the proper moment will arrest the tendency to tabes, as the number is too large to be ascribed to mere chance. Leredde describes as an example a case showing the great benefit derived from .025 gm. of mercury injected every day for two months, in the form of the benzoate, in incipient tabes.

60. **Treatment of Renal Lithiasis.**—If piperazin be given in the dose of .15 to .3 gm. a day for three or four days, by the end of this time there will be a discharge of uric acid in the urine. Recommencing the piperazin again after five or six days, the discharge of uric acid will be noted again. These discharges are not noted under the continuous administration of the drug. Robin, therefore, prefers this method of dosing, using the solution of 3 g. piperazin in 300 gm. distilled water. One tablespoonful represents .15 gm. of the salt. One should be taken after lunch and one after dinner for the first three days of the week. The three following days he substitutes .25 g. carbonate of lithin in a little water before each meal. This treatment should be kept up week after week for months. He supplements it with weak doses of strychnin in the formula of tincture of ignatia and of illicium, āā 6 gm., six drops after meals during the two periods of treatment outlined above. He advises his patients to drink copiously, even at meals.

Revue de Medecine, Paris.

65 (XXII, 8.) De l'élément psychique dans l'hemianésthesie hystérique. Bernheim (Nancy).
66 Le ricin (castor oil) et ses emplois médicinaux dans l'ancienne Egypte. V. Loret.
67 Pathogénie des phlebites. Censier.
68 Les formes pathologiques de la rougeur (blushing) emotive. P. Hartenberg.
69 Les stigmates obstétricaux de la degénerescence. R. and H. Larger.
70 (No. 9.) *La sensibilité à l'aimant (to magnet). Ch. Féré.
71 *Variations de l'albumine, de l'acide urique, de l'acidité totale des urines dans les albuminuries permanentes ou inconstantes. G. Daremberg and F. Moriez.
72 (No. 10.) Sur queiques altérations artérielles hemorragipares dans les cirrhoses. C. Bouchard.
73 *Hématologie du cancer de l'estomac. Mouisset and Tolat.
74 De l'angoisse ("anguish"). P. Londe.
75 *Edemes et hydrorrhées au cours de néphrites chroniques. C. Valentino.
76 Applications cliniques du cytodiagnostic des épanchements des séreuses. A. Descos. (Commenced in No. 9.)
77 (No. 11.) Cas de paramyoclonus multiplex. Etat psychique special. L. E. Bertrand.
78 De l'importance pronostique et thérapeutique de la pression artérielle. C. Jourdin and G. Fischer.
79 L'attaque convulsive de toux hysterique. J. Abadie and H. G. de Cardenal.
80 (No. 12.) L'image mentale morbide. N. Vaschide and C. Vurpas. (Commenced in No. 11.)
81 (No. 12.) Cas de hystérie à forme de paralysie générale. F. Collet and J. Lépine.
82 *Du paludisme à forme typhoide. A. Billet.
83 Doigts (fingers) en valgus. R. Pauly.

70. Muscular Response to the Magnet.—Féré recalls that in normal conditions the tracings of the ergograph recording the work of a muscle in action, show a gradual decline in the energy as the muscle becomes fatigued. In experiments on 27 subjects, applying a magnet 1 cm. from the forearm, showed that the muscular action was restored to its first extreme of force. As the findings coincided so constantly in all the tests, they establish that this muscular response to the magnet is an actual physical, not a mere psychologic phenomenon.

71. Study of Inconstant Albuminuria.—Daremberg's experience shows that well-tolerated albuminuria is at the minimum or completely absent in the morning. In cases of permanent albuminuria the maximum is observed between noon and 5 p. m. These are the ones influenced by diet, the others not at all. The former require alkaline treatment, the others arsenic. Massage is contraindicated in both. The range between maximal and minimal elimination of uric acid and the total acidity is much wider than in normal persons. In the latter the hourly curves of the elimination of uric acid and of the total acidity harmonize. This is not the case in subjects with morning disappearance of the albuminuria. Persons with inconstant albuminuria may even increase in weight while it continues a progressive course.

73. Hematology with Cancer of the Stomach.—Mouisset urges the importance of the decrease in the number of reds as a valuable point for differentiation of cancer of the stomach from cirrhosis of the liver, ulcer or catarrh of the stomach and especially pernicious anemia. This sign is not invariably present in the incipient stages, but is valuable when it does occur. Leucocytosis is a tardy phenomenon, seldom appearing until the period of cachexia unless induced by some inflammatory process.

75. Humoral Dyscrasia.—Valentino regards hydrorrhea, whether conjunctival, nasal or uterine, as an evidence of a humoral dyscrasia. All reveal an underlying dyscrasic affection and possess the same pathogenic and clinical qualities and importance as the edemas. Hydrorrhea may aid in the early diagnosis of a renal affection.

82. Typhoid Form of Malaria.—Billet has observed forty cases in which the malaria simulated typhoid in every particular. Diagnosis is only possible in such cases by repeated study of the temperature chart hour by hour, which will reveal some slight tendency to a periodicity in the remissions and exacerbations, although possibly extremely slight. Examination of the blood is decisive, and above all the discovery of a mononuclear hyperleucocytosis with predominance of the large mononuclear cells loaded with melanic pigment. This is the only pyrexia known with this leucocyte formula. Quinin confirms the diagnosis as it restores the characteristic intermittency and thus differentiates malaria.

Revue de Therapeutique, Paris.

84 (LXIX, 14.) *Traitement de la maladie d'Addison par les injections de suc de capsules surrenales. Hirtz.
85 (No. 15.) Traitement de la blénorrhagie uréthrale chez l'homme (in man). E. Dind.
86 (No. 16.) *De l'action malfaisante du podophyllin sur l'oeil par contact direct. A. V. de Rocca-Serra.
87 (Nos. 17-18.) Les dilatations de l'estomac. Leur traitement. Soupault.
88 Maladies du cuir chevelu (scalp). P. Gaston.
89 (No. 19.) Le liquide cephalo-rachidien. J. A. Sicard.
90 (No. 20.) *Traitement de la syphilis. R. C. Melgarejo.
91 (No. 21.) Note sur la pathologie generale des dermatoses. E. Leredde.
92 (No. 22.) Traitement de la maladie de Barlow. E. Thiercelin.
93 Chirurgie conservatrice. S. A. de Vevey.
94 (No. 23.) Reflexions générales sur les bases de jugement en thérapeutique. Leredde.
95 *Traitement des hématomes par l'huile comestible (usage externe). J. Camescasse.
96 (No. 24.) *Traitement de l'appendicite. A. Robin.

84. Suprarenal Extract Injections in Addison's Disease.—Early in 1902 Hirtz treated two patients with Addison's disease by injections of extract of the suprarenal capsule. Both were clinically cured in a short time, and in one the signs of a tuberculous lesion in the lung has also disappeared. He also mentions that a number of tuberculous patients whom he has been treating with the same remedy have also improved in a most surprising manner. He is now applying it on an extensive scale and publishes the present communication merely to assert priority.

86. Injury of Eye from Contact with Podophyllin.—Rocca-Serra has witnessed a number of cases of an eye affection in operatives which was finally traced to the manipulation of podophyllin. The dust from it affects the eyes much in the same way as it acts on the intestines when taken internally, inducing a kind of neuroparalytic keratitis in time or an iritis which runs a rapid course, and subsides in a week after removal of the cause.

90. Value of Iodipin in Syphilis.—Melgarejo writes from South America that he has found that iodipin fills a long felt want for syphilitics who have an idiosyncrasy to the iodids. It is equally effective and never induces iodin poisoning, even in enormous doses.

95. Treatment of Hematoma with External Applications of Oil.—By applying oil to a bump the pain is soothed, the bump rapidly reduced and there is no appearance of a bruise. This has been the invariable experience of Camescasse with all contusions of the soft parts, with localized or diffuse ecchymosis, simply anointed with any table oil. It is not necessary to rub the oil into the skin. In one case a severe sprain improved so rapidly under application of equal parts of oil and methyl salicylate that the patient was able to resume work almost at once. In another case the prompt application of the oil caused the resorption of the extravasated blood so rapidly that the proposed damage suit had to be abandoned for lack of traces of the injury.

96. Treatment of Appendicitis.—Robin regards appendicitis as merely a complication of a gastrointestinal derangement. The first stage is gastric hypersthenia with hyperchlorhydria and secondary acid fermentations, generally on arthritic soil. This is followed by stagnation in the cecum of abnormal, acid matters, irritating from the vicious gastric preparation. This induces a catarrhal reaction on the part of the cecum and appendix. The anatomic conditions of the appendix make the catarrhal reaction ominous as the calcareous salts in the fecal matters infiltrate into the inflamed mucous and submucous coats, and infection of this recess follows. At this sixth stage of the process surgical intervention is the only treatment, but in the four first stages medical treatment will effect a cure. Signs of gastric hypersthenia and cecal coprostasis were prominent in every case of appendicitis in Robin's experience. He also has noted 82 cases of appendicitis occurring in 1585 cases of gastric hypersthenia. Castor oil or calomel are needed in the first stages; opium should be absolutely rejected. Attempts to disinfect the intestine are useless if not dangerous. He proclaims that every person with gastric hypersthenia is a candidate for appendicitis, and his cecum

should be kept under constant surveillance. Opium, as usually administered, in incipient appendicitis, merely aggravates the attack. By following the treatment outlined he has cured 244 out of 250 patients, and only 6 required surgical intervention.

Archiv fur Kinderheilkunde, Stuttgart.

97 (XXXV, 3-4.) Zur Kenntniss der Angina exsudativa ulcerosa (A. Vincentii s. A. diphtheroides). C. Baron (Dresden).
98 *Ueber plötzliche Todesfälle im Kindesalter (sudden death of children). P. Krautwig.
99 Untersuchungen über die Athem-Bewegungen (respiratory movements) der Kinder (of children). K. Gregor.
100 Zur Kenntniss der Magensaft- (gastric juice) Secretion der Säuglinge (in infants). A. H. Meyer. (Commenced in No. 1.)
101 Weitere Beiträge zum Situs transversus, etc. P. Geipel. (Commenced in No. 1.)

98. **Sudden Death in Children.**—Krautwig points out that spasm of the larynx is usually one manifestation of tetany, and both develop best in the same soil on which rachitis flourishes. The evidence to date seems to indicate that the thymus gland has some causal relation with bone growth, and, hence, with rachitis. He does not accept the mechanical connection between sudden death and the thymus which some have been proclaiming lately. He ascribes the death to the nervous disturbances induced by the rachitis, laryngospasm, convulsions, with or without bronchitic processes. He appeals to the profession to have a careful search made for stigmata of rachitis in all cases of sudden death in children. A better knowledge of the essence of rachitis may elucidate many questions in regard to sudden death in the young.

Beitraege zur Geburtsh. und Gynaekologie, Leipsic.

102 (VI, 2.) Path.-anatomische Beiträge zur Lehre vom Abort. K. Hegar.
103 Ueber die Beweglichkeit des Beckens (movability of pelvis) Neonatorum. F. Lichtenberg.
104 Ueber Uterus-Carcinom und Gravidität, mit bes. Berücksichtigung der Dauer-Resultate. A. Glockner (Zweifel's clinic).
105 Zur Casuistik und path.-Anatomie der sog. subchorialen Hematom. Z. Endelmann.
106 *Ueber Prolaps des gravliden Uterus, insbesondere dessen Therapie sub partu. L. Seitz (V. Winckel's clinic).
107 Die End-Erfolge der Uterus-Exstirpation beim Uterus-Carcinom. A. Glockner.

106. **Treatment of Prolapsed Gravid Uterus.**—Seitz describes a case personally observed and reviews 91 that he has collected. He finds that the results were surprisingly good so far as the mother was concerned. The fetus died in 6 cases and was not viable in 26. Lacerations occurred in only 6. In the 22 cases that have occurred since 1892, only 2 had a febrile puerperium, one died from rupture and one had a febrile delivery. The prolapse must be reduced as the first step, as the cervix dilates better in its normal position. The only exception is when the prolapse is very slight. If reduction is painful the prolapse can be swabbed with cocain or general narcosis be used. Morphin may be necessary to prevent bearing down on the part of the woman. Reduction is usually accomplished without much trouble and further prolapse can be mechanically prevented. If the cervix is too indurated to dilate, Von Winckler makes three or four very deep incisions. During extraction an assistant must hold back the uterus from below or from above through the abdomen.

Beitraege zur klin. Chirurgie, Tuebingen.

108 (XXIV, Czerny Jubilee Number.) Experimentelle Epithel-Studien. R. Werner.
109 Seltener Fall von acuter Appendicitis und dadurch bedingter Incarceration des Dünndarms (small intestine). E. von Meyer.
110 Beitrag zur Exstirpation des primären Scheide- (vagina) Carcinoms mit Perforation des Mastdarms (rectum). Ibid.
111 *Ueber primäres Tuben-Carcinom. W. Zangemeister.
112 *Ueber operative Behandlung der diffusen eitrigen (suppurative) Peritonitis. B. v. Beck.
113 Zur Casuistik der chron. Coecum-Tuberculose. H. Gehle.
114 Erfahrungen (experiences) über Gastroenterostomie. C. Steinthal.
115 Zur path. Bedeutung (significance) der Darm- (intestinal) Parasiten, bes. für die Perityphlitis. A. Schiller.
116 Erfahrungen und Operationen mit dem Murphy-Knopf (button). A. Ettlinger.
117 Trauma und Appendicitis chronica. Jüngst.
118 Zur Behandlung der Verätzungen (corrosions) der Esophagus und des Magens (stomach) mit Gastroentero- und Jejunostomie. G. Henck.
119 Zur Frage der Heilbarkeit der tuberculösen Meningitis. F. Mermann.
120 Heilung einer Kranken nach ihrer dritten Magen-operation (recovery after third op. on stomach). E. Braatz.
121 Beitrag zur Kenntniss der intra-thoracischen Strumen. A. Simon.
122 Fall von Anurie mit Icterus. H. Kaposi.
123 Ein geheilter Fall von Unterbindung (ligation) der Arteria subclavia sinistra am Aorten-Bogen. Jüngst.
124 110 Blasen- (bladder) Stein-Operationen. A. Stein.
125 Zur orthopädische Behandlung von Fällen schwerer Kinderlähmung (severe acute spinal paralysis), bes. von sog. Handgangern (hand walkers). O. Vulpius.
126 Beitrag zur totalen Exstirpation des carcinomatösen Magens (stomach). E. v. Herczel.
127 *Ueber die Radikal-Operation der Spina bifida. G. B. Schmidt.
128 Histologische und experimentelle Beiträge zur Frage der Schnitt-Führung (incision) und Naht-Methode (suture) bei Laparotomien. A. Nehrkorn.
129 Ein Kragenknopf (collar button) im linken Haupt-Bronchus. C. v. Eicken.
130 Die Dauer-Resultate der Bassini'schen Radikal-Operation bei Leistenbrüchen (inguinal hernias). Malanowitsch.
131 *Wander-Niere und Gallenstein (movable kidney and gallstone). G. Marwedel.
132 Ueber multiple cartilaginäre Exostosen und deren klin. Bedeutung. H. Starck.
133 Ueber Thorax-Resektionen bei Empyem-Fistulen und ihre End-Resultate. Jordan.
134 Zwei Fälle seltener maligner Vulva-Tumoren. O. Simon.
135 *Zur Behandlung und Operation der Muskel-Brüche (muscle hernias). Steudel.
136 Behandlung der Fracturen mit primärer Knochen-Naht (suture of bone). F. Völcker.
137 Zur operative Behandlung der Blasen-Geschwülste (bladder tumors). E. Lobstein.
138 Ueber nahtlöse Darm-Ausschaltung (sutureless exclusion of intestine). Invaginations-Methode. W. Rindfleisch.
139 Ueber Heilungs-Vorgänge (healing processes) im Carcinom Zugleich ein Beitrag zur Kenntniss der Carcinom Riesen- (giant) Zellen. W. Petersen.
140 Die modernen Principien in der Behandlung der penetrierenden Bauch- (abdominal) Wunden. W. v. Würthenau.
141 Die Dauer-Resultate der vaginalen Uterus-Exstirpation an der chirurg. Klinik in Heidelberg, 1878-1900. Ibid.
142 Zur Klinik und op. Behandlung der Ovarial-Tumoren. A. Blau.
143 Ueber den cong. Verschluss (occlusion) des Dünndarms (small intestine) und seine op. Behandlung. H. Braun.

111. **Primary Carcinoma of the Tube.**—Zangemeister reviews 48 and adds 3 cases he has personally observed. In 11 patients both tubes were involved. The maximum frequency was at the age of 44 to 47.

112. **Operative Treatment of Diffuse Peritonitis.**—Beck reports the particulars of 100 cases on which he has operated. Appendicitis was the cause in 66. Out of the total of 54 who recovered the stomach had been perforated in 3, the duodenum in 1, the gall-bladder in 1, the intestine torn in 2 and the bladder in 1. The perforation had been in the appendix in the others. He found the bacterium coli in 81 cases, the typhoid bacillus in 2, streptococci in 10, staphylococci in 6 and the pneumococcus in 1. In 58 the Douglas pouch could be palpated through the rectum as a painful, hard protuberance. After incision and evacuation of the peritoneal effusion by changing the position of the body, he seeks for the primary focus and then carefully dries the peritoneal cavity. He then inserts a drain under the liver and strips of gauze in the Douglas, hypogastrium, lumbar region, above and below the omentum, raises the foot of the bed, and changes the dressings in twenty-four hours. Nothing is given by the mouth, but the patient is fed by the rectum three times a day. Twice a day a "thirst injection" of salt solution is given, with digitalis and strophanthus as indicated. Also lavage of the stomach, atropin or morphin if necessary. He makes copious use of saline infusion, intravenous in the severer cases, and also gives a rectal injection at night of 100 to 250 gm. of oil, to be retained. The chief danger is from the ptomains generated in the stagnating and decaying fecal masses, which are liable to act like the most powerful heart poisons, and the septic matters of the peritoneal suppuration.

127. **Radical Operation for Spina Bifida.**—Schmidt isolates the sac from the surrounding tissues by cautious blunt dissection, then releases its contents by puncture, and reduces the sac *in toto* without opening it. The sac thus plugs the opening in the bone, and what can still be seen of the cyst is then sutured together in several tiers and the skin sutured above it. He has thus treated three patients with complete success, and no recurrence during the more than a year since, as can be seen from the photographs appended.

131. **Movable Kidney and Gallstones.**—Marwedel emphasizes the dangers likely to accrue from a movable kidney on the right side. It is liable to induce all the symptoms of a gallstone affection, typical colics, stagnation of bile in gall bladder,

etc., and icterus, while in reality the biliary passages may be intact. Compression by the displaced kidney may even lead to a secondary formation of gallstones. In case the wandering kidney is associated with gallstones or another affection which may require a laparotomy, it is advisable to anchor the kidney through the same opening. He suggests for the purpose "transfixation," and describes four cases which he treated in this manner. He pushed the kidney as far into its normal place as possible, and then fastened it with two simple mattress sutures, which from the inside passed outward through the peritoneum, margin of the kidney, musculature and skin, where they were tied over a roll of gauze in the lumbar region just below the twelfth rib. He passed one suture through the lower pole of the kidney and the other through the outer convex margin, using a stout silkworm, left for three weeks, with a straight needle on each end of the thread. He remarks that the method differs from Reed's in several points, and is recommended only for cases requiring a laparotomy for other reasons. The results have been entirely satisfactory.

135. **Treatment of Muscle Hernias.**—Steudel observes that a muscle hernia developing suddenly offers a better prognosis than one of slow occurrence. Hernias of the tibialis anticus seem to heal more readily than those of the adductors. When the hernia is small, conservative treatment is indicated, if seen early. Application of a fenestrated plaster cast, ether spray and compression are useful. But removal of the protruding portion of the muscle and suture of fascia with catgut under local anesthesia are justified even when the disturbances are not serious. A fenestrated plaster cast affords the best prospects for healing even after operative intervention. He has had 3 such cases and has collected 24 in the literature, all operated on; 13 were cured and 6 improved, but no benefit was derived in 5.

Berliner Klin Wochenschrift, Berlin.

144 (XXXIX, 47.) Ueber Glycerolate. K. Herxheimer.
145 Weitere Beiträge zur Lehre von der Darm-Fäulniss (intestinal putrefaction). A. Albu.
146 Färberisches (study of stains) zur Kenntniss des sog. Chromatin-Korns (Kern-punkts) von Protisten. A. Pappenheim.
147 *Beiträge zum Studium des Stoffwechsels in der chron. Tuberculose. J. Mitelescu. (Commenced in No. 44.)
148 *Justification and Necessity for Interrupting Pregnancy of Tuberculous Working Women. C. Hamburger. (Commenced in No. 45.)
149 Zur Lehre von der atonischen Dilatio der Esophagus. M. Levinson.
150 (No. 48.) Ueber das Skoliose-Redressement. A. Schanz.
151 *Ueber das Streptococcen-Sera. Piorkowski.
152 Das acute circumscripte Edem. F. Mendel.
153 (No. 49.) Zur Kenntniss des Fettumsatzes (transformation of fat) im Organismus. H. Leo.
154 Zur Photographie des Augenhintergrundes (fundus of eye). F. Dimmer.
155 Ueber das färberische Verhalten der thierischen Zelle gegenüber Farbgemischen (reaction of cells to stains). M. Mosse.
156 Zur Frage über die Hemolysine im menschlichen Serum. M. Halpern. (Commenced in No. 48.)
157 Ueber Antistreptokokken-Serum bei Scharlach (scarlet fever). A. Baginsky.
158 (No. 50.) Ueber wahres Aneurysma des Sinus Valsalvæ Aortæ dexter. F. Kraus.
159 Die akuten Tonsillitten. Beckmann.
160 Ueber den Missbrauch der Borsäure (abuse of boric acid). Dosquet-Manasse.
161 Action of Albuminoid Bodies on Coagulation of Blood. H. Brat.—Ueber die Einwirkung von Eiweisskörpern auf die Blutgerinnung. (Commenced in No. 49.)
162 *Serum Treatment of Morphin Intoxication. L. Hirschlaff.—Ein Heilserum zur Bekämpfung der Morphium-Vergiftung und ähnlichen Intoxicationen.
163 Virchow's Bedeutung für die Neurologie und die Psychiatrie. K. Mendel.

147. **Metabolism in Chronic Tuberculosis.**—The results of Mitelescu's research are given in tabulated form. They seem chiefly to emphasize the double duty which the cells have to perform in tuberculosis, besides their natural, specific functions, the production of those secretions which serve as a means of defense against the invading toxi-infection.

148. **Interruption of Pregnancy in Tuberculous Workingwomen.**—Hamburger asserts that 75 per cent. of the working women of Germany live on less than 900 marks, or $225, a year. It is impossible for a tuberculous woman, under these circumstances, to stand the stress of a pregnancy, and he therefore advises that it should be interrupted. The physician should always consult with a colleague in the matter and obtain the written consent of the parties beforehand.

151. **Antistreptococcus Sera.**—Piorkowski has succeeded in producing an effective serum against the disease of horses known as the *Pferdedrüse* in Germany. It is a streptococcus infection, but the cocci are strictly specific. The serum will agglutinate streptococci from an angina to a very slight extent, and streptococci of other derivations a little more, but will always agglutinate the specific *Pferdedrüse* streptococci at 100. He therefore rejects the theory of the uniformity of the streptococcus.

162. **Serum Treatment of Morphin Intoxication.**—Hirschlaff reports experimental research on 85 rabbits treated for three weeks to five months with small doses of morphin, commencing with .015 gm. and increasing to .51, or a maximum or 1.2 gm. a day. The animals thus received a total of 4.59 to 63.61 gm. of morphin and the rabbit serum acquired protecting power against otherwise fatal doses of morphin, both for rabbits and 100 mice. After thorough tests of the immunization thus attained, he used the serum for the treatment of one acute and five chronic cases of morphin intoxication. Some of the patients had been in the habit for years of receiving a subcutaneous injection every day, and all previous attempts at suspension of the drug had induced severe symptoms. After one to three injections of the serum, with abrupt suspension of the drug, no symptoms were observed. In the acute case a woman had taken 12.45 gm. of tincture of opium, and all the threatening symptoms rapidly passed away and the patient promptly recovered under the serum treatment.

Centralblatt f. innere Medicin, Leipsic.

164 (1902, 29.) Cysten-Leber (liver) und Cysten-Nieren (kidneys). B. Boye.
165 (No. 30.) Ueber Schultermessungen (shoulder measurements) bei normalen Personen und über die diagn. Werth derselben bei Lähmungen resp. Neurosen der Schulter. A. Van der Minne und H. Zeehuisen.
166 (No. 31.) Zur Kenntniss gerinnungsalterirenden Eiweisskorper im Urin (coagulation-affecting albuminoids in urine) bei Pneumonie. J. Lochbihler.
167 (No. 32.) Ueber die Ausscheidungs- (elimination) Kurve of Ibid. R. Kun.
168 (No. 34.) Blutdruckmessungen (blood pressure) bei Morbus Basedowii. B. Spielhoff.
169 (No. 35.) Ueber das Wanderherz (heart). L. Braun.
170 (No. 37.) *Alimentäre Glykosurie und Levulosurie bei Erkrankungen der Leber (liver affections). L. Ferrannini.
171 (No. 41.) Beitrag zur Kenntniss der Melanine. D. Helman.
172 (No. 42.) *Fall von Intoxication durch Extractum hydrastis fl. Ibid durch Petroleum. Friedeberg.
173 (No. 43.) Die Entwickelung der chron. Tuberculose vom Standpunkte des Stoffwechsels (standpoint of metabolism). J. Mitelescu.
174 (No. 44.) *Influence of Contents of Large Intestine on Strychnin. W. Salant.—Ueber den Einfluss des Dickdarminhaltes auf Str.
175 (No. 45.) *Ueber die Behandlung des Ulcus ventriculi mit Oliven-Oel. K. Walko.
176 (No. 46.) Fall von Oxal-Säure-Intoxication. R. Kobert.
177 (No. 47.) Besteht im Punktions-Flüssigkeit Autolyse? J. Schütz.
178 (No. 48.) Ueber die sekundäre Metameren der Gliedmassen (members). L. Ferrannini.
179 (No. 49.) *Ueber ein neurasthenisches Puls-Phenomenon. L. Braun.
180 (No. 50.) Bromoform-Intoxication bei einem 3-jährigen Kinde. E. Kiwull.
181 (No. 51.) *Beiträge zum klin. Studium der Anachlorhydrie. L. Ferrannini.

170. **Alimentary Glycosuria in Liver Affections.**—Ferrannini tested 16 patients with various affections of the liver by administering 100 gm. of grape sugar or levulose dissolved in 500 gm. water, sipped in the course of two or three hours. The grape sugar test failed in 5, including syphilitics or patients with chronic malaria, and 2 with icterus from stagnation. The levulose test resulted positively in all but one. The response to the levulose was much more pronounced than to the grape sugar and hence it is better adapted for tests of sugar elimination than the latter. In several cases he was unable to detect the sugar in the urine by the ordinary tests, but found that Reale's modification brought it out without fail. This is a preliminary procedure, after which the urine will react to the Trommer or other tests, to which it would not respond before. Reale's technic was described in the *Riforma Med.* in 1900. About 8 to 15 gm. of neutral lead acetate are dissolved in a goblet containing 65 to 130 c.c. of urine. The fluid is filtered until clear, and to 50 to 100 c.c. of the filtrate are added 5 to 10 gm. of ammonia. A thick precipitate collects on the filter in a few minutes, which is removed with the spatula and

dissolved in a few c.c. of an aqueous solution of 25 per cent. of sodium and 20 per cent. of sodium tartrate, after which the fluid is ready for the ordinary tests. In 7 out of the 10 positive grape sugar tests the sugar was not detectable until after the application of this Reale technic. On the other hand, this preliminary was needed in only 4 out of the 15 positive levulose tests. Ferrannini has previously pointed out the value of the information to be derived in regard to the bile-forming function of the liver by tests of the lipolytic faculty of the bile. The bile-forming function may be apparently normal in a severe case of atrophic cirrhosis of the liver, for instance, but tests of this lipolytic faculty will demonstrate that it is seriously impaired.

172. **Intoxications from Hydrastis and Kerosene.**—A woman took 9 gm. of hydrastis in a single dose. The circulation and nervous system were principally affected, the digestive tract suffering only secondarily. In the other case, after taking two swallows of kerosene, a catarrhal affection of the alimentary canal was noted, but even after its subsidence the patient, a man, complained that everything smelt and tasted of kerosene. No trace of it could be detected by the odor in the breath or urine after the first day, and the sensation of its presence must have been an autosuggestion.

174. **Influence of Intestinal Contents on Strychnin.**—Salant announces that the large intestine contains a mysterious something which is able to alter strychnin in such a way that it escapes all our present means of detecting it. If 1 mg. be mixed with the stomach contents of a rabbit it is easily recovered with the usual tests. Also when added to the contents of the small intestine. But if 1 mg. be mixed with the contents of the cecum or colon, it vanishes and can not be recovered by any known test. The strychnin also disappeared in the same mysterious way from the colon of rabbits ingesting strychnin after elimination of both kidneys.

175. **Treatment of Gastric Ulcer with Olive Oil.**—Walko has previously reported the excellent results obtained in cases of gastric hyperacidity by administration of 100 to 300 gm. of oil a day. The fat inhibits the secretion of hydrochloric acid, regulates the bowels and neutralizes the excess of acid. He has since applied the same treatment to gastric ulcer with great benefit. The oil, besides the advantages enumerated, forms a protecting coating over the ulcer, soothing the inflammation and promoting healing. The boring pains subside almost at once after ingestion of the oil. It is also indicated after a gastric hemorrhage as it is less liable than milk to detach a thrombus. He gives the oil by the tablespoonful in cases of fresh ulcers, rinsing the mouth afterward with some agreeable mouth wash, gradually increasing the amount of the oil to 50 c.c. three times a day. In case of excessive repugnance he pours it into the stomach through a tube. He continues the oil treatment for three to six days, avoiding all other feeding *per os* until the severest symptoms of the ulcer have subsided. He has observed 2 cases in which the symptoms recurred after operation, but subsided after ingestion of oil. The patients are relieved in the course of the first week and consequently this method of treating gastric ulcer is shorter than others. He has had an experience of 7 recent cases of ulcer treated by this means, supplemented by rest in bed, and 2 who were out-patients, coming daily for the oil. The same arguments apply also to ulcus duodeni, and it is possible that some of the ulcers may have been located in the duodenum. Another advantage of the oil is that carbohydrates can be allowed with it, as the secretion of HCl is checked. He has recently been combining bismuth with the oil and thinks that it may be possible to obtain in this way the advantages of both these methods of treating ulcus ventriculi.

179. **A Neurasthenic Pulse Phenomenon.**—Braun observes that the arrhythmia in neurasthenia is so irregular that it has no type, and is characteristic only in its entirety. The cause is probably the excessive instability of the vagus center that controls the action of the heart. The arrhythmia can be abolished by the action of atropin. If a neurasthenic subject reclines for a long time without moving, his pulse will become regular, but if he then exerts himself the arrhythmia rapidly returns. After the pulse has been made regular in this way, an injection of atropin will keep it regular even during exercises which would otherwise reproduce the irregularity. As the other signs of the effect of the atropin wear off the arrhythmia recurs.

181. **Treatment of Anachlorhydria on Gland Stimulating Basis.**—Ferrannini has noticed that the gastric motor and absorbing functions are unaltered as a rule in anachlorhydria. When they finally yield, malnutrition and autointoxication soon follow, but the subjective and reflex symptoms are those that first attract the patient's attention. The affection is mild so long as the intestine is able to compensate the deficient stomach function. Treatment is ordinarily merely symptomatic; HCl and pepsin, bitters and intestinal antiseptics are the main therapeutic reliance. The results are frequently remarkable successful, but when treatment is suspended the trouble returns. He thinks that more durable results might be realized by addressing treatment to stimulation of the glands, instead of combating the secondary symptoms. Among the means at our command with which we could directly stimulate the secretory glands, he has tried pilocarpin and strychnin and the results encourage further attempts in this line. He describes three cases thus treated. In the first a daily injection of 1 cg. of pilocarpin hydrochlorate increased the flow of saliva, but no effect on the stomach secretion was apparent for nineteen days. Then the proportion of free hydrochloric acid in the stomach contents rose from zero to .365 per 1,000. Eight days after the pilocarpin was suspended the proportion was still .9125 per 1,000, but it declined again later and could not be revived with strychnin. The strychnin alone in a second case brought the HCl up to .0205 per 1,000 in four days, dose 1 mg. of the sulphate. It remained for four days at this point, although the strychnin was suspended. The patient was then lost sight of. This treatment also reduced the proportion of organic acids, increased the proteolytic power and also improved the motor function. All symptomatic treatment is superfluous, as by removing the cause, stimulating the production of HCl, the secondary effects vanish with the restoration of the normal acidity.

Deutsches Archiv f. Klin. Medicin, Leipsic.

182 (LXXIV, 3-4.) *Das Verhalten des Blutdrucks (blood pressure) des jungen und des bejahrten Menschen bei Muskel-Arbeit (muscular exertion). E. Masing.
183 *Zur Kenntniss der path. Blutdruckveränderungen (variations in blood pressure) nach Beobachtungen von welland Dr. H. Hensen. A. Gross.
184 Hydrotherapy and Blood Pressure. O. Müller.—Ueber den Einfluss von Bädern und Douchen auf den Blutdruck beim Menschen.
185 Ueber Alloxur-Ausscheidung (elimination). M. Kaufmann and L. Mohr.
186 *Zur Klinik und path. Anatomie des Stokes'schen Symptomen-Complex. H. Luce.
187 Zur Pathologie der Nieren (kidneys) bei den Magendarm-(gastrointestinal) Erkrankungen des Säuglings (infant). M. Hohlfeld.
188 (LXXIV, 5-6.) *Leukämie und Miliar-Tuberculose. H. Quincke.
189 Beiträge zur Kenntniss der cong. Syphilis der Leber (liver). P. Erdmann.
190 Zwei Fälle von Neuritis puerperalis traumatica. Schwenkenbecher.
191 Beitrag zur Lehre von der Chylurie. E. Waldvogel and A. Bickel. (Ebstein's clinic.)
192 Ueber gleichzeitiges Vorkommen von Malaria-Schwarzwasserfieber und Ankylostomiase. Mann (Munich).
193 *Ueber das Pancreas bei Leber- (liver) Cirrhose. F. Steinhaus.
194 Exp. Untersuchungen über Blutveränderungen (changes in blood) beim Venesectio. H. v. Hoesslin.
195 Stoffwechselbeobachtungen (observations of metabolism) bei 5 Gicht- (gout) Kranken. M. Kaufmann and L. Mohr. (V. Noorden's clinic.)

182. **Blood Pressure During Muscular Exertion.**—The increase in the blood pressure with muscular exertion is less in proportion as the will power is less called on. Consequently the rise diminishes with practice. In the young the blood pressure remains high, but in the aged it frequently drops, even during the exercise. The heart in the aged tires very easily and reacts less promptly to stimuli than the heart of the young. This communication from Dehio's clinic reiterates his former assertions in regard to the loss of the contractile tissue in the heart as age advances, producing in time what he calls senile myofibrosis, the cause of the phenomena referred to.

183. **Blood Pressure in Disease.**—Gross states that in examining 6 patients with Basedow's disease the blood pressure

was found high and variable. It is possible that certain products of abnormal metabolism act as a poison on the heart and vessels. He also notes the fact that iodothyrin has no pressure-raising action. In 5 subjects with chronic nephritis the blood pressure was also permanently above normal, but it showed marked fluctuations at this abnormal level. It was exceptionally high as symptoms of uremia developed, and fell as they subsided. This fact explains the benefit from venesection in such cases. Laqueur has reduced the blood pressure in uremia by wet packs, but Gross has succeeded by acting on the intestines and by sweats. A pressure-raising poison may be similarly responsible for the phenomena of uremia.

186. **Stokes' Symptom-Complex.**—Luce asserts that the Adams-Stokes syndrome may appear in conjunction with any organic or functional heart affection, and is not necessarily dependent on arteriosclerosis. He describes a case in which it had been induced by a primary sarcoma in the upper third of the septum ventriculorum, exhibiting the rare phenomenon of a bilateral cardiac stenosis. There were no metastases except in the immediate vicinity, but both vagi were in an advanced stage of partial parenchymatous degeneration, evidently the result of the organic lesion in the heart. Dissection of the heart also showed that the peripheral terminals of the vagi passed directly to the musculature of the ventricles, without ganglia, and demonstrated the dependence of the heart muscle on the vagi for its trophic condition. Bradycardia observed in cases of bilateral degeneration of the cardiac vagi, of central or peripheral origin, confirms the assumption of a myogenic automatism in the heart. This myogenic or neurogenic bradycardia may be regarded as the expression of an altered functional condition of the heart muscle. Deficient nourishment, general dyscrasias, toxic or infectious, and nervous influencing of the heart muscle may promote such a condition. The case also shows that complete destruction of the upper third of the septum ventriculorum or its substitution by a new growth, may occur without affecting the rhythm of the ventricular beat. On the other hand, it is possible for the rhythm of this beat to be influenced by the loss of influences emanating from the auricles. The bradycardia of cardiogenic or neurogenic origin is the essential element in the Adams-Stokes syndrome. The nervous symptoms may vary and are merely the expression of the indirect reaction of the central nervous system, especially of the medulla oblongata, to the disturbances in the circulation occasioned by the slowing of the rhythm of the heart beat. The monograph concludes with the statement that tumors of the heart do not present any characteristic clinical picture.

188. **Leukemia and Miliary Tuberculosis.**—Three cases of acute miliary tuberculosis superposed on leukemia are reported by Quincke as interesting examples of the modification of one disease by another. As certain other infectious diseases have a similar influence on leukemia we may assume, he remarks, that the microbes generate substances or induce the cells to generate them under their influence, which have a destructive action on the leucocytes in blood and spleen. We see here the reverse phenomenon to hyperleucocytosis and spleen enlargement—we can watch the subsidence of the hyperleucocytosis and the shrinking of the spleen, analogous to what we observe during convalescence from an acute disease, or during retrogression of a lymphoma or sarcoma under arsenic treatment or spontaneously. Lazarus has shown that in the course of ordinary leukemia there is a constant and fairly rapid destruction of the white cells, but that they are being constantly reproduced. This reproduction was checked by the miliary tuberculosis, as may also occur from administration of arsenious acid. The unmistakable influence of the miliary tuberculosis in these cases suggests that we might possibly be able to exert a favorable influence on the course of leukemia by administering tuberculin in which we have the tuberculosis toxins in a dosable and convenient form. Quincke has treated 6 patients on this principle, injecting doses gradually increased from 1 to 60 mg. Three of the 6 patients gave a typical tuberculosis reaction. The others did not react except to large doses. The treatment was continued for four weeks, and the leucocytes diminished by 25 to 50 per cent. In 2 the spleen also diminished in size and the general health improved. Arsenic was administered at the same time, and consequently the cases are no criterion of what tuberculin might accomplish alone. He would not advise it unless the patients were in fair general condition and the alterations in the organs not too far advanced. Under these circumstances we are certainly justified in giving tuberculin a trial as we are still so impotent in this disease.

193. **The Pancreas in Cirrhosis of the Liver.**—In 12 cases of cirrhosis of the liver that came to autopsy, a distinct proliferation of the interstitial tissue in the pancreas was evident in all but one; Langerhans' islands were intact in 11. The diminished tolerance of sugar, frequently observed in the course of cirrhosis of the liver, consequently must be due to alterations in the pancreas. The glycosuria accompanying cirrhosis of the liver, pancreas diabetes, arteriosclerotic diabetes, etc., are thus shown to have a common origin. All are due to some functional disturbance in the pancreas and confirm the assumption that this organ alone has charge of the sugar consumption in the organism.

Sei-I-Kwai, Tokio, Japan.

196 (XXI, 9-10.) On the Physiological Variation of Breath Sounds at the Apices of the Lungs. K. Takata. (In English.)

197 On the Advantages of the Prophylactic Inoculation Against Hydrophobia with the Virus Which Has Been Weakened by Heat. T. Oshida. (In English.)

198 (No. 11.) *Prevention of Plague. T. K. Tsukiyama. (In English.)

198. **Effectual Extirmination of the Plague.**—Tsukiyama is chief of the National Board of Health in Japan, and he proclaims that it is possible to exterminate the plague in infected cities and reports how it was done in four cities in his country. In one, Tainan, the plague has had a foothold for seven years. In the other towns the epidemic was arrested within a few months. In Tainan there were 11 cases to each 1,000 inhabitants in 1897, 32 in 1899, 24 in 1901, and only 1/22 per 1,000 in 1902. The main prophylaxis is the extermination of the rats. He states that 327,079 rats have been examined; 81,018 were caught in Tainan alone last year. Out of 14,975 examined, 172 were found infected with the plague. All these rats were caught with a simple contrivance which he illustrates. It consists merely in two smooth round bowls. The diameter of the larger one is about four times the length of the body of a rat, judging from the cuts. They are both inverted on the floor, and one edge of the smaller bowl is raised on a piece of cake. The larger bowl rests with one edge on the floor and the opposite edge on the rounding bottom of the small bowl, where it is raised on the cake. As the rat nibbles the cake the smaller bowl tottles and the larger bowl slides down to the floor, imprisoning the animal. To catch the rat one edge of the bowl is slightly raised, when the tail can be grasped. The article states that some Japanese prefer a well-cooked rat to a fish, but the infection of the family of a certain government official was traced to eating a rat, and the practice is now abandoned.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College. Volume V. Prophylaxis—Personal Hygiene—Civic Hygiene—Care of the Sick. By Joseph McFarland, M.D., Henry Leffmann, M.D., Albert Abrams, A.M., M.D., and W. Wayne Babcock, M.D. Illustrated. Cloth. Pp. 539. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1903.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III. The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., and T. Melville Hardie, A.M., M.D. December, 1902. Cloth. Price, $1.50. Chicago: The Year-Book Publishers.

CANCER AND OTHER TUMORS OF THE STOMACH. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M.D. Lond., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth. Pp. 362. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1903.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XX. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 571. Printed for the Association. Philadelphia: Wm. J. Dornan. 1902.

SEVENTH BIENNIAL REPORT OF THE BOARD OF TRUSTEES OF THE DELAWARE STATE HOSPITAL at Farnhurst, December, 1902. Paper. Pp. 91. Wilmington, Del.: Sunday Star Print. 1902.

COMPLETE LIST OF THE OFFICERS AND FELLOWS OF THE AMERICAN SURGICAL ASSOCIATION, Together with an Alphabetically Arranged Index of Vols. I-XX. Paper. Pp. 71.

New Patents.

Patents of interest to Physicians, Jan. 6 and 13:

718053. Water bag. Thomas Gregory, Akron, Ohio.
717898. Stethoscope or the like. Richard P. McCully, Brooklyn.
717612. Surgical chair. Charles H. Patrick, Chicago.
717764. Thermometer case. Theodore Sandhop and E. Diemar, New York.
718421. Hernial truss pad. Dudley Brisky, Milltown, Ala.
718339. Surgical splint. Andrew W. Graham, Bradford, Pa.
718202. Fountain syringe. James Hardman, Jr., Belleville, N. J.
718470. Respirator. Harold E. Jones, Racine, Wis.
718142. Cautery. John P. Muller, New York.
718149. Abdominal truss. Henry W. Pell, Rome, N. Y.
718384. Retinoscope. Wm. H. Reisner, Hagerstown, Md.
718170 Massage implement. Mary A. Sullivan, New York.
718400. Inhaler. Clarence W. Taylor, Sioux City, Iowa.
718408. Truss pad. Wm. C. Wetmore, Buffalo.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. Army, under orders from the Adjutant General's Office, Washington, D. C., from Jan. 12 to 17, 1903:

Bloomberg, Horace D., first lieut. and asst.-surgeon, U. S. A., is granted leave of absence for one month, on being relieved from duty at the U. S. General Hospital, Fort Bayard, N. M.

Daywalt, George W., contract surgeon, U. S. A., now in Washington, D. C., will proceed to Fort Schuyler, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East, to relieve First Lieut. Theodore C. Lyster, asst.-surgeon, U. S. A., who, on being relieved, will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for duty.

Kirkpatrick, Thomas J., captain and asst.-surgeon, U. S. A., is granted leave of absence, to take effect on his relief from duty at Ft. Barrancas, Fla.

Maxwell, Samuel A., contract surgeon, U. S. A., is relieved from duty at Fort Grant, Ariz., and will proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to the Philippine Islands, where he will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Norman, Seaton, major and surgeon, U. S. V., now at San Francisco, will proceed to his home, where he is authorized to await his honorable discharge from the service of the United States, Feb. 1, 1903.

O'Neill, Joseph A., contract surgeon, U. S. A., will, on the expiration of his present leave of absence, proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to Manila, Philippine Islands, and on his arrival in Manila will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Turnbull, Wilfrid, first lieut. and asst.-surgeon, U. S. A., having reported his arrival in San Francisco, will proceed to Fort Myer, Va., and report in person to the commanding officer of that post for duty.

Wood, Halsey L., contract surgeon, U. S. A., is relieved from further duty on the transport Warren and will proceed to Vancouver Barracks, Wash., and report in person to the commanding general, Department of the Columbia, for assignment to duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 17:

P. A. Surgeon H. H. Haas, ordered home via *Prairie*.

P. A. Surgeon J. E. Page, detached from the *Newark* and ordered to the *Montgomery*.

P. A. Surgeon F. L. Benton, detached from duty with recruiting party, ordered to Washington, for assignment with battalion of marines, leaving for the Philippines.

Drs. R. L. Taylor, W. P. Keene, D. E. McCord and W. H. Janney, appointed acting assistant surgeons for three years' service.

P. A. Surgeon C. A. Crawford, resignation accepted, to take effect Jan. 12, 1903.

Drs. R. B. Chapman, H. W. Judd, J. T. Miller and R. A. Campbell, appointed acting assistant surgeons for three years' service.

A. A. Surgeon D. P. McCord, ordered to Lansing, Mich., for duty with recruiting party.

A. A. Surgeon R. L. Taylor, ordered to Ogden, Utah, for duty with recruiting party.

P. A. Surgeon W. H. Bucher, detached from Naval Hospital, Norfolk, Va., and ordered to Naval Hospital, Pensacola, Fla.

Pharmacist F. T. Gordon, ordered to the Naval Dispensary, Washington, D. C., for duty.

Asst.-Surgeon R. E. Ledbetter, detached from the *Illinois* and ordered to the *Newark*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 15, 1903:

Assistant Surgeon-General J. H. White, to proceed to Brunswick, Ga., for special temporary duty.

Surgeon H. R Carter, leave of absence for three days under Paragraph 179 of the regulations, amended so that it shall be for two days only.

P. A. Surgeon G. M. Guiteras, to report to chairman of board of examiners at Washington, D. C., Jan. 15, 1903, for examination to determine his fitness for promotion to the grade of surgeon.

P. A. Surgeon J. H. Oakley, granted leave of absence for two days from January 21.

P. A. Surgeon C. H. Lavinder, granted leave of absence for one month from January 28.

A. A. Surgeon B. F. Duke, granted leave of absence for ten days from January 4.

A. A. Surgeon W. S. Walkley, granted leave of absence for five days from January 13.

BOARDS CONVENED.

Board convened at Washington, D. C., Jan. 15, 1903, for the examination of P. A. Surgeon G. M. Guiteras to determine his fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus; Assistant Surgeon-General G. T. Vaughan, recorder.

Board convened at the Marine Hospital, Stapleton, N. Y., Jan. 17, 1903, for the physical examination of Engineer D. F. Bowen, R. C. S. Detail for the board: P. A. Surgeon A. C. Smith, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at the Marine Hospital, San Francisco, Jan. 19, 1903, for the physical examination of officers of the Revenue Cutter Service. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 17, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Dec. 27-Jan. 3, 1 case.
Colorado: Denver, Dec. 27-Jan. 3, 7 cases.
Connecticut: Thompson, Jan. 10, 1 case.
Florida: Pensacola, Dec. 6-Jan. 10, 49 cases.
Georgia: Atlanta. Dec. 24-Jan. 7, 14 cases, 3 deaths.
Illinois: Chicago, Jan. 3-10, 6 cases.
Indiana: Evansville, Jan. 3-10, 1 case; Indianapolis, Dec. 27-Jan. 10, 95 cases, 16 deaths.
Kentucky: Covington, Nov. 27-Jan. 10, 82 cases, 2 deaths; Newport, Jan. 3-10, 2 cases.
Louisiana: New Orleans, Jan. 3-10, 1 case.
Maine: Biddeford. Jan. 3-10, 7 cases; Boston, Jan. 2-9, 10 cases, 3 deaths: Cambridge, Jan. 3-10, 2 cases; Fall River, Jan. 3-10, 2 cases; Lowell, Jan. 3-10, 1 case.
Michigan: Detroit, Dec. 27-Jan. 10, 78 cases; Grand Rapids, Jan. 3-10, 18 cases.
Missouri: St. Louis, Dec. 28-Jan. 4, 9 cases, 1 death.
Nebraska: Omaha, Jan. 3-10, 11 cases.
New Hampshire: Jan. 3-10, Manchester, 2 cases; Nashua, 3 cases.
New Jersey: Camden, Jan. 3-10, 3 cases; Newark, Dec. 27-Jan. 10, 1 case, 1 death.
New York: Jan. 3-10. Buffalo, 2 cases; New York, 1 case.
Ohio: Cleveland, Jan. 3-10, 9 cases, 2 deaths; Dayton, Jan. 3-10, 2 cases; Toledo, Dec. 27-Jan. 10, 26 cases, 1 death.
Pennsylvania: Altoona, Jan. 3-10, 2 cases, 2 deaths; Erie, Jan. 3-10, 10 cases, 1 death; Johnstown, Dec. 27-Jan. 10, 2 cases, 1 death; McKeesport, Jan. 3-10, 1 case; Northumberland, Dec. 1-30, 14 cases; Philadelphia, Jan. 3-10, 33 cases; Pittsburg, Jan. 3-10, 22 cases, 1 death; Reading, Jan. 5-12, 1 case.
Tennessee: Memphis, Jan. 3-10, 1 case.
Utah: Salt Lake City, Dec. 27-Jan. 3, 10 cases.
Wisconsin: Milwaukee, Jan. 3-10, 5 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 6-20. 25 cases.
Barbados: Dec. 5-20, 2 deaths.
Belgium: Antwerp, Dec. 6-20, 10 cases, 3 deaths; Brussels, Dec. 13-20, 1 death.
Canada: Winnipeg, Dec. 27-Jan. 3, 1 case.
France: Paris. Dec. 13-20, 1 death.
Great Britain: Cardiff, Dec. 20-27, 1 case; Dublin, Dec. 20-27, 1 case; Dundee, Dec. 13-27, 2 cases; Leeds, Dec. 20-27, 3 cases; Liverpool, Dec. 20-27, 74 cases, 1 death; London, Dec. 13-20, 5 cases; Manchester, Dec. 13-27. 7 cases; Sheffield, Dec. 13-27, 8 cases.
India: Bombay, Dec. 2-9, 7 deaths; Calcutta, Nov. 27-Dec. 6, 2 deaths.
Mexico: City of Mexico, Dec. 28-Jan. 4, 2 cases, 5 deaths.
Russia: Moscow, Dec. 6-13, 2 deaths; Odessa, Dec. 6-20, 7 cases, 2 deaths; St. Petersburg, Dec. 13-20, 24 cases, 2 deaths.

YELLOW FEVER.

Mexico: Tampico, Dec. 27-Jan. 3, 10 deaths; Tuxpam, Dec. 23-30, 1 death; Vera Cruz, Dec. 27-Jan. 3, 6 cases, 2 deaths.

CHOLERA.

India: Bombay, Dec. 2-9, 1 death; Calcutta, Nov. 27-Dec. 6, 51 deaths.
Java: Batavia, Nov. 22-29, 6 cases, 2 deaths.

PLAGUE.

India: Bombay, Dec. 2-9, 133 deaths; Calcutta, Nov. 28-Dec. 6, 25 deaths; Karachi, Nov. 30-Dec. 7, 12 cases, 11 deaths.
Mexico: Ensanada, to date, 14 cases, 13 deaths; Mazatlan, Dec. 31, officially reported.

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Addresses.

HOW NOT TO BE NERVOUS.*

HUGH T. PATRICK, M.D.

Professor of Neurology, Chicago Policlinic; Clinical Professor of Nervous Diseases, Northwestern University Medical School.

CHICAGO.

Nervousness seems to be the stepchild of medical practice—somewhat disliked, half understood, certainly neglected. For the average practitioner no problem in the theory of organic disease is too profound for attempted solution, no law of life too exalted for his aspiration, no bacillus so small as to elude his pursuit, but with such a triviality as nervousness, its nature, prevention and cure, he seldom seriously occupies his mind. To acquire a working knowledge of the brain is too much bother. To ponder the plain facts of heredity, development and child-rearing is too uninteresting. To cultivate a familiarity with the various passions and emotions, to search out manners of thought and feeling, or even to discover the dominating element in the life of a patient is quite impractical. To take the time to counsel those about to marry or to instruct the mother how not to spoil her children; to caution the father about his erratic son and give detailed instruction how to make him stable; to talk seriously to the young woman who is "all nerves" and lives in her emotions; to reason clearly and forcibly with the head of a family who is preparing himself for a premature break down—these are minor matters pertaining—to whom? to what? God knows, the physician does not. And yet if you will stop for a moment, take your finger from the pulse and your hand from the scalpel, your eye from the microscope and your thoughts from the microbe, I think you will agree with me that these trivialities contribute quite as much to human suffering and disappointment as do the infections, inflammations and neoplasms in the long category of human pathology. No apology, therefore, is made for the following remarks on that pest, nervousness. My regret is that an abler mind is not here to do the subject justice.

The initiative of all therapeutics should be prophylaxis; prevention is paramount to cure. The first and most effective preventive of nervousness is a reasonably long line of first-rate forbears. Like begets like, and the nervous system bows to the law of all life—the law of heredity; the law that governed your birth and mine and laid a heavy incubus on some of us; a burden of unstable nerves and abnormal susceptibilities; a burden that endures even unto the third and fourth generations.

To be able to present a specific illustration of the force of inheritance in the genesis of functional nervous affections, I have tabulated from my office records one hundred consecutive cases which might be included under the general term "nervousness," and I find that in 70 of them a neurotic heredity has been in evidence. Although a bad heredity is the most frequent and most potent factor in the production of nervousness, knowledge of this fact is not to lead us into apathetic resignation, but rather make us face the difficulty with wise determination. The poor victim, instead of being allowed to dissipate the modicum of stamina a bitter fate has given him, is first to be shown just what his capital is, and then is to be taught just how to make the most of it.

Next to the omnipresent, inevitable laws of inheritance comes the never-ceasing formative power of environment. The impress of extraneous influences begins at birth and ceases only with the extinction of life, but childhood and youth are the plastic stages. Here, as elsewhere, the result equals the force divided by the resistance. "As the twig is bent the tree's inclined," and second only to the mystic law of birth, which decrees that the nervous system shall have this or that potentiality, is the force that guards or mars its early growth. Unfortunately, in too many instances the unstable and maybe irrational parents who gave to the child his poor nervous apparatus are the ones who guide, or misguide, his early steps into the perdition of nervous wreckage. To look on such a child with the assurance that he is growing up to be the victim of nervous unbalance, inebriety or insanity, should not be idly to feel the despair of conscious impotence, but should be coexistent with an effort to avert the disaster. Wherefore, I beg to say a few words that bear particularly on nervousness in the child and its avoidance, but with this understanding, that they apply almost equally to the adult, and that what is said later about grown people applies to children to the extent of their development.

For preventing nervousness in the child or removing that already present, nothing is so effective as the toughening of the body and mind. The frequency with which I hear from a nervous patient that "she was never strong," "he was a delicate child," "she was always sickly," etc., is truly startling. A child who is made to have hard muscles, strong lungs and a vigorous digestion; who can bear changes of temperature and endure pain is already a long way from nervousness. More important still is toughness of psychic fiber. The child who can support disappointment, who can be "crossed" without a tantrum, and who habitually obeys is building a bulwark against "nerves," and the one who is not easily frightened, has self-control and a budding courage

* Address in Medicine, delivered before the twenty-eighth annual meeting of the Mississippi Valley Medical Association, Oct. 16, 1902.

has nipped half a dozen neuroses in the bud. But to procure this toughness, be it understood, a certain exposure to bodily discomfort and mental hardship is necessary. This world is no "Happy Valley," and children brought up like Johnson's Rasselas are as little happy and as little able to cope with the realities of life as was that puerile prince. Many a father whose rugged rearing has given him a robust frame and a sturdy nervous sytsem takes infinite pains and pleasure in denying his sons the very training that made a man of him. His unwise love strangles in infancy whatever of sterling qualities he may have transmitted to them.

Two capital errors in the training of children frequently come to my notice; errors that prepare the little unfortunate for later nervousness or fairly drive him into it. They are, first, leading the child into pleasures and duties beyond his years; second, magnifying his importance in the family and society. It is quite as dangerous to give to children the pleasures of adults as to require of them the labors of the mature. That there is a physical basis for all intellectual processes seems sometimes to be forgotten. Successive groups of brain cells and fibers come into existence with the successive years, and before the birth of these tissues certain psychic functions may not naturally exist. To force mature functions from an immature organism is to violate the virginity of Nature—a crime daily committed in the home and in the school, to be expiated in the sick-room, sanitarium or asylum. In the beginning, the fault generally lies in a mixture of vanity and ignorance on the part of parents. They wish their children to excel in attainment and they like to see them indulging in all the pleasures and excitements of our complex social existence. Later, the young person whips himself on to ruin. To instance only one disaster: the annual casualties following graduation from hot-house schools and colleges easily outnumber those of the whole disastrous camp life and battles of our late Spanish war.

As regards the second error just mentioned, it has seemed to me that if deliberately planned and scrupulously executed, the bringing up of some children could not better promote what I venture to call centripetal development—development centering in self. The child is not only made to be, but is made to know that he is, the focus of all domestic doings, the hub of the family wheel. Every sensation, perception, conception and emotion is an event. The unlucky youngster develops with a distorted view of the relation of things. He sees enormously enlarged images of his tastes, his clothes, his pains, his likes, his aversions and his talents. These proportions do not fit the facts of existence and the unfortunate individual is as sure to be caught in some form of nervousness as is one to go astray in a labyrinth of grotesque mirrors.

I must note one more point on prophylaxis of the neuroses in children, a point already lightly touched, and then we shall leave the little people—much as I should like to linger. In one form or another fear enters into the makeup of nearly every sort of nervousness. It paralyzes judgment, ambition and the higher emotions. Childhood should be absolutely fearless; fearless for self and for the future. That the young should have no fear of man or God, no thought for the morrow is natural and proper. It is natural and wholesome that the child should have no regard for his organs, no knowledge of hygienic rules, no conception of the significance of pain. When the parent makes the child a party to his apprehensions, confides his prescience of ills and communicates the ominous augury of bodily symptoms, he is assiduously rearing a little hypochondriac who will live to condemn the parent who made him a burden to himself and a curse to others. Fear of the dark, of thunder and lightning, of animals, burglars, accidents, spirits, devils and death is born of parental foolishness, and is always potentially the seed of later nervousness. Quite recently a physician, who for many years has had at intervals typical and intense agoraphobia with fear of sudden death, told me with the utmost naivete that when a child he never could sleep alone. It seems never to have occurred to him that if he could not sleep alone it was because he was allowed to have such a fear, or, quite as likely, because the parents carelessly or deliberately planted fear in his infant mind.

After birth and bringing up, after the facts of heredity, childhood and youth comes adult life—the life of man and woman. But they are as children still, mutable, mobile, imperfect always, swayed by a thousand influences, slaves to countless circumstances. How shall they manage not to be nervous? By proper living; proper working and playing, eating, drinking and sleeping; above all, proper thinking and feeling.

Labor may have been a calamity to Adam and Eve. Nowadays it is no curse, but the bright particular star of health and happiness. To have a wholesome ambition and to work with enthusiasm for its fulfilment, these form the very essence of a vigorous existence. Fortunately, man is now so constituted that to work, and work with an object, is a function necessary for his completeness. To cross this dictum of Nature is to suffer—physically, mentally or morally, in many instances nervously. Many an invalid would be well today if he had a worthy purpose in life and happily labored for it. Many a hysterical woman would be stable and strong had she consistently striven with singleness of aim for a laudable object. The purposeless idler is ever a weakling in unstable equilibrium, upset by every vagrant mood.

To say that overwork is not a very frequent cause of nervousness is frankly to enter the ranks of heterodoxy, but my experience is that work, hard work, is wholesome. To work hard is to get tired; to work too hard is to get too tired; but I seldom see the familiar spectacle of nervous breakdown due to work alone. It is the unwisdom that goes with the work. It is worry, the strain of doubt, the wear of ungratified ambition, the depression of failure or the passionate play of other emotions that makes the nervous wreck.

Though man's nature demands work for his development and equipoise, it none the less needs play. Long before the birth of physiology it was known that the greatest efficiency of any living tissue was attained by alternating activity and rest. The cycle of the seasons, the night following the day, the succession of blossom, fruitage and quiescence, the universality of holidays, are so familiar as to cause no thought, but all life is attuned to this wonderful rhythm of action and repose. Even the busy heart that never ceases throbbing day or night from birth to death, so beats that every contraction is followed by a period of rest almost twice as long. That is, a healthy heart works only about one-third of the time. What is a good law for the heart is not a bad rule for the brain, but for this complex creature called man, something more than mere rest is necessary. Be-

sides relaxation we must have diversion, amusement, fun, if you please. We must play if our work is to be effective and long sustained and if we are not to be nervous.

The advisability of reasonable eating, the pernicious effects of alcohol on the nervous system and the havoc wrought by drug habits are so universally recognized as to need no mention. With respect to diet, however, I can not refrain from noting one bad habit that has seemed to me to be very frequent in nervous people and to contribute materially to their troubles. I mean the starvation habit—the obsession, born of poor doctors or officious friends, that makes the victim eschew one article of food after another until he is trying to exist on Fakem's nularine and Buncombe's cereal.

Of all nervous sedatives and tranquilizers of mankind none equals "tired Nature's sweet restorer, balmy sleep." Sancho Panza truly said "it is meat for the hungry, drink for the thirsty," and, as a matter of fact, we know that one can live without sleep just about as long as he can live without food. Children should be encouraged to sleep, young people should be made to sleep and the nervous person should be taught to sleep. The sins of parents who carelessly or designedly shorten the children's sleep hours is only equaled by the folly of grown-ups who deny themselves sleep for the sake of business or pleasure. Alarm clocks are an abomination unto the brain and an evidence of hygienic evil.

A deal of nervousness is caused or helped along by misdirected energy, misplaced worry, longing for baubles, the fighting of phantoms. To recognize the really important things in life is one of the most difficult tasks of judgment that come to the individual. Having settled on the essentials, it is perhaps equally difficult to ignore all else. This is certain; the man or woman who can early reach a wise decision in the matter and then steadily follow the tenor of this decision could not be nervous, even with the aid of ancestors and the connivance of parents. Fretting over non-essentials, striving for objects not worth the having, fright at empty forms, looking inward at little self instead of outward at the greatness of creation—these are the follies that keep us nervous. And closely allied to them is the nervousness of indecision—the demon of reconsideration. How many thousands of people have worn themselves to nervous shreds by turning over and over the same problem, reaching again and again the same conclusion. It is well worth while to acquire a habit of prompt and definite decision. To allow one's self to reopen settled questions begets a habit of doubting one's ability, or even reliability, pernicious in the extreme.

If to define for one's self the really great and valuable is important, equally so is the determination of one's own place and one's own value. Realization of the fact that the individual is merely a minute item in a limitless cosmos, at most a not very important integer in a complex society, should be the first step toward a rational adjustment of values on which must rest that serene placidity which is the antithesis of nervousness. To be plainer still, the person who is brought up, or brings himself up, to feel that he is of paramount importance; that his feelings, wishes and opinions are always entitled to prompt consideration, is on the very highway to nervousness. He is doomed to much disappointment; many rude shocks to his sensibilities breed a gnawing bitterness of spirit; he naturally gravitates into the neuropathic vice of introspection. To develop the conception that he is peculiarly constituted; that he is a wonderfully unique organization of finer mechanism than his fellow-mortals, is continuously calamitous for anyone. As a matter of fact, one man's stomachache is much like another man's colic, one woman's aversions about as strong as another woman's antipathies, A's grief as keen as B's sorrow. The perfectly normal individual carries as part of his innermost consciousness the knowledge that pain, tears and troubles come to all and that what has been borne by man for countless ages can be endured again. Such knowledge, too, must in part form the natural base of true altruism and effective ethics. That lofty ethics should constitute a goodly plate in the armor against nervousness is seldom mentioned, but practical experience has time and again taught me that sincere love of truth, justice and self-control is a mighty help in the fight against nervous instability. Of particular value are a clear appreciation and uniform practice of the exact truth. They are the best protection against nervous trouble whose essential feature is repeated exaggeration and self-deception, if not deception of others.

Sooner or later, consciously or unconsciously, every ambitious person must make a more or less deliberate estimate of his ability. Blest be he who does it early and accurately. Ambition is a wonderful force and makes for progress; emulation is an excellent stimulus, and industry is better than both, but in excess the combination has worked the nervous ruin of many. The young man of high aims who wishes to rival the success of a Lincoln, an Astor or a Virchow, and who thinks that the only necessary conditions are industry, honesty and frugality, makes an egregious error. He reckons in ignorance of two stupendous factors: physical endurance and mental capacity. These are facts as indubitable and as inevitable as death itself. It must come to every physician, it certainly comes frequently to me, to explain to the nervous student that because his colleague can keep well on five hours of sleep is no reason why he should be able to do the same; to show the irritable, sleepless business man that even if his competitor can work fifteen years without a vacation, he can not do likewise; to convince the ambitious Mrs. X. that she simply is not equal to the attainment at the same time of domestic excellence, social eminence and philanthropic distinction as is the brilliant Mrs. Y.; and to tell the disappointing truth to many that although some fortunate beings are given master minds in master bodies, this gift is not for all, and that to spur on the weary faculties is to drive to ruin. Still, if one must plainly see that his talents are far below the maximum, even far below what he had hoped and believed, why should he dissipate what he has in attempting to be what he is not and in fretting because he can not? How many of us exhaust ourselves and wear out our friends by chafing against the chains of the unalterable! Imperturbability is a prince of peace.

Of especial danger is the weakness of being ruled by the feelings—by emotion rather than by reason, by impulse rather than by judgment. In the bitterness of recognized folly and acknowledged frailty, Burns wrote for his own epitaph:

* * * * * *

Is there a man whose judgment clear,
Can others teach the course to steer,
Yet runs himself life's mad career
Wild as the wave;
Here pause—and, through the starting tear,
Survey this grave.

The poor inhabitant below,
Was quick to learn and wise to know,
And keenly felt the friendly glow,
And softer flame;
But thoughtless follies laid him low,
And stained his name!

Reader, attend,—whether thy soul
Soars fancy's flights beyond the pole,
Or darkling grubs this earthly hole,
In low pursuit;
Know prudent, cautious self-control
Is wisdom's root.

If this was written with the plaintive note of a sensitive spirit prisoner to turbulent passions, it was also written in the light of a keen perception. A principle of human development is bound up in the lines. The head is to guide the heart. Impulse and emotions are to be governed by knowledge and wisdom.

Inhibition should never sleep. Exaggeration of the instinct of fear and apprehension not only makes people nervous, but is nervousness itself. The thousand and one needless worries over the future are simply providence for the morrow gone mad. Fear of disease and death is normal, but to allow the mind to dwell on these fearsome things is to become a hypochondriac with no more stability than the leaf on the aspen. To shrink from pain is as natural as hunger and as necessary for the preservation of the race, but to be a slave to suffering is to be a nervous wreck. Pain should be a signal officer only—to inform, never to command. Even the godly emotion of parental love must not be too exuberant. How many mothers become mere bundles of nerves through needless fussing about the children, and how often a father falls into presenility from the constant strain to feather the nest superlatively well. To weep is normal, but the one who never restrains the impulse to cry ultimately becomes flabbily lachrymose, a nuisance to self and others. Every human being has, now and then, a "fit of the blues," but he who allows himself to be regularly dominated by mental depression becomes an enervated personification of gloom, a victim of the most distressing form of nervousness.

To sum it all up, if you wish never to be nervous, live with reason, have a purpose in life and work for it, play joyously, strive not for the unattainable, never regret the unalterable, be not annoyed by trifles, aim to attain neither great knowledge nor great riches, but unlimited common sense, be not self-centered, but love the good and thy neighbor as thyself.

THE SCIENTIFIC EXHIBIT AND ITS FUTURE.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON PATHOLOGY AND PHYSIOLOGY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

FRANK B. WYNN, M.D.
INDIANAPOLIS.

The modern medical society has wrought powerfully for the advancement of scientific medicine, stimulating investigation, discovery and authorship, adding to the knowledge of methods in diagnosis and treatment, and fostering professional cordiality. Intelligent and progressive physicians were quick to appreciate the value of the society movement and give it their enthusiastic support. Three decades have witnessed most prolific multiplication of medical societies. There are county, district, city, state, interstate, national and international organizations, representing the field of general medicine and the specialties. As with medical colleges and journals so may the tendency to society multiplication be deplored. A worthier criticism might be offered on the volume and character of matter read at society meetings. The views herein expressed are more especially applicable to the larger organizations which convene annually. It may be asserted without fear of controversy that too many papers are submitted. A few only have just claim to originality; some are attractive and vigorous in style, others are conspicuous for their tedious length and dreary compilations. Taken all in all the effect even on the most attentive listener is too often somnolent.

Present problems of society reform call for the curtailment of programs, the condensation and elimination of papers and the introduction of practical features which will entertain, instruct and make plain the latest advances in medical science. The surgical furor of the day has led occasionally to the operative clinic as a practical and interesting digression from the monotony of the usual program. But the valid objections are raised that it consumes much time and the personal advertisement it gives is apt to lead to professional criticism and discord.

Prompted by a conviction that there were other practical features less objectionable and equally interesting which might be made valuable adjuncts of society work, the committee on pathology of the Indiana State Medical Society made an appeal to the membership in 1897 for gross pathologic specimens and scientific exhibits of varied character, to be shown at the succeeding meeting. Agitation, appeals to local and professional pride and personal solicitations were resorted to, according to occasion and requirement. Most fruitful results followed the appeal. The number of exhibits reached almost 200 in 1898, and 800 in 1899, representing a wide range of material. Besides gross pathologic specimens, photographs, etc., the collection included bacteriologic demonstrations, such as the Widal test, guinea-pig and culture experiments, which presented tangible proofs of the important relationship between bacteriology and diagnosis, as well as its bearing on surgical and sanitary procedures.

The sentiment of members attending the meeting in 1899 was unanimously commendatory of this unique departure. Approval was forcibly expressed by appropriating $300 to bear the expense of taking the major part of the exhibit to the Columbus meeting of the American Medical Association the following week. Its cordial reception at that place was most gratifying to the Indiana profession. Interest in the movement was awakened in different quarters. Several state societies sought to establish a similar exhibit. Although not officially authorized to act, Dr. W. W. Keen, President of the American Medical Association, appointed a committee to take steps to inaugurate a pathologic exhibit at the Atlantic City meeting of the organization in 1900. The success of the project was gratifying alike to the executive officers of the Association and to the committee having in charge the work. It was a wholesome change to have an exhibit purely scientific and free from commercial taint. The Association signified its approval by making the feature permanent and granting a liberal appropriation for its maintenance.

The full consummation of the Pathologic Exhibit in a national and official sense was not achieved, however, until the meeting at St. Paul a year later. Profiting by the experience at Atlantic City it was hoped to secure

for St. Paul a better balanced exhibit, both in the scope and character of the material. In addition to practical exhibits, it was sought to present demonstrations of research and experimental investigation. In the main these hopes and desires were realized. The size and quality of the exhibit were in keeping with the great organization under whose auspices it was conducted. When it is remembered that the enormous labor necessary in the preparation and presentation of the exhibit was performed gratuitously by exhibitors, one can but marvel at the results attained. It afforded eloquent proof of the utter unselfishness of the true scientific spirit. A corps of over fifty pathologic workers labored faithfully at home for the success of the enterprise, and at the St. Paul meeting subordinated pleasure to the successful demonstration of the exhibit. It was made a great common school of pathology for all who attended the meeting. The laborers in the good cause have merited and won the grateful thanks and unstinted praise of the whole Association.

It is not possible at this time to speak of the present exhibit in detail. An official report will be submitted by the chairman of the committee at a later date. Brief mention should be made, however, of the admirable work accomplished by the committee. Although not so extensive as that at St. Paul, the present exhibit has enlarged along important lines inaugurated a year ago. Especially is this true of the research and physiologic exhibits in which a very creditable showing has been made.

To describe accurately the St. Paul exhibit would require a volume. One might easily have spent the entire time of the meeting in the inspection of the 2,100 specimens. The room occupied by the collection was 75x75 feet, lighted well on two sides, but unfortunately most inconvenient of access. Consequently the attendance, although large, was not what the excellence of the exhibit warranted.

Four medical societies, nine medical colleges and universities, ten hospitals and museums of national prominence contributed. There were in addition six large private collections.

Although the assembling of such a magnificent array of material was an achievement over which the committee felicitated themselves, I am free to confess that the magnitude of the collection was a hindrance to its greatest usefulness. Careful observers must have been impressed that only casual and superficial inspection of the specimens was possible. It was found entirely out of the question to secure a sufficient number of competent persons to demonstrate the specimens. Hence a large quantity of valuable material stood on the shelves unseen and impotent for educational advancement—the prime end sought.

In the further evolution of the pathologic exhibit of the American Medical Association, a wider sphere of usefulness will be opened up if the name be changed to Scientific Exhibit. This would insure greater range of scientific demonstrations, and enlist more general cooperation on the part of members. It should be made plain that the exhibit belongs to the whole Association. Further gain will be made if the exhibit be placed in entire charge of a director, who should be chosen by the board of trustees and receive a fair salary for the labor performed. In his hands should be placed funds for the encouragement of research and experimental work. Let the exhibit become the arena in which the investigator demonstrates to his co-workers the proofs of original work. Papers and reports are valuable in their way, but "seeing is believing." What in this way can be made plain to many competent witnesses will be spared the innuendos of skepticism and receive just recognition promptly.

The secretaries of the various sections of the Association should constitute an advisory committee to the director of the Scientific Exhibit. It would thus be possible in the preparation of the annual program to develop a co-relation between the work of the sections and that of the exhibit. Subjects of unusual interest in the sections might be illuminated by groups of specimens in the exhibit. A competent director would thus be able to render valuable assistance to clinicians as well as to those carrying on research work. It would further be the duty of the director to see that carefully prepared data were submitted with specimens and demonstrations; it would fall to him also to edit the same for publication and preservation in the archives of the Association. His energies would also be directed toward the establishment of a medical museum—a lasting monument to the work of the Association. Beside scientific exhibits it would also properly contain historical exhibits connected with the progress of medical science, especially in the United States. Under efficient direction such an institution would develop surprisingly. In a few years a commodious habitation would be necessary, but the growing wealth of the Association could easily manage that.

Future tendencies should be to condense and specialize the exhibit. It should be sought to illuminate certain phases of pathology. These might be varied from year to year according to tendencies in the medical world. The last exhibit was too cumbersome for systematic demonstration. The heterogeneous character of the material also militated against this end. With a collection half the size and specimens selected with a view to illustrating certain phases of pathology, demonstration of the exhibit would have been possible. Indefinitely greater would have been the advantages derived by visitors to the collection.

The Scientific Exhibit is in harmony with the spirit of the age which demands brevity; calls for facts rather than theories and deeds rather than words. Whether a specimen be presented in the exhibit of the American Medical Association, in the state medical society or in a county medical society the practical lesson taught and benefits derived are the same. Summed up, it is that a practical knowledge of gross pathology constitutes the most substantial basis for skill in diagnosis. The physician reading a paper, reporting a case or presenting a specimen is, to be sure, rendering a service to his colleagues. He confers on himself a much greater benefit. The knowledge begotten in the labor becomes a joy and a blessing to him like his own child.

The suggestion made at the meeting a year ago, that this be designated the "Section on Experimental Medicine," has suggested some observations. The dominant sentiment of the membership, no doubt, is that the work of the section should be directed along purely scientific lines, leaving all questions pertaining to the practice of medicine and surgery to other sections. There is not wanting ground to question the wisdom of such a course. In a section composed exclusively of specialists in pathology and physiology, may it not be that the good seed brought here will fail to be sown on the fertile practical fields of medicine, where it will best thrive and bring forth a bounteous harvest. Pathology and physiology

touch every practical branch of medicine in an intimate and fundamental way. This section possesses strong natural relationships and obligations to every other section. Every other section should receive from that on Pathology scientific light for guidance in the practice of the profession of medicine. Already, in this great Association, the rays of intense common interest have been focused on the Scientific Exhibit. It is becoming a luminous power for the dissemination of knowledge among the membership of the organization generally. In like manner this section should attract the progressive spirits from other sections, and so make itself felt through the strong arms of the Association.

Most deplorable, indeed, are the antagonisms prominently manifested now and then between pathologist and practitioner—to their mutual discredit and the hindrance of true scientific progress. A distinguished surgeon boldly denies that blood examinations, showing leucocytosis, are of value in determining the approach of suppuration. An eminent gynecologist asserts, with almost scornful emphasis, that the pathologist's report on uterine scrapings is valueless in the diagnosis of malignancy. These are but two instances of many which might be cited of eminent, aggressive and influential members of the profession harboring views which are erroneous and pernicious in their influence on the progress of medical science. They arise from failure to appreciate the true sphere of the pathologist as related to the clinician. Overmuch is expected of the pathologist. Improvements in the microscope and other instruments and means of precision in diagnosis have led to an exaggerated conception in the inexperienced professional mind of what they will reveal. Every pathologist of wide experience has often encountered the intelligent practitioner, untrained in microscopy, who, having failed by every other means at command to diagnose his case, now comes with assurance for its final and absolute settlement by the microscope.

Pathologic diagnosis has its limitations, and none appreciates this more than pathologists themselves. Pathologists are fallible, just as clinicians are fallible. What with numerous fledglings and the extreme difficulties of differentiation and pathologic diagnosis, errors are common enough. There is no intention to shield the errors of embryonic pretenders or the extreme claims of the pathologic sensationalist. Rare and yet to be found in our ranks are the conscienceless quack with beautiful drawings, fine phrasing and padded reports, as well as the crank and visionnaire, with his faulty judgments. It will be too much to hope that such will not find their way into the section. Most certain is it that there will be present in the membership more than a saving remnant of the elect of science, who will separate the wheat from the chaff, and strive always toward true and high ideals.

This section of the most powerful organized medical body in the United States should not only seek to preserve its scientific dignity and morale, but undertake the inauguration of practical reforms. It is within our province and becomes a duty to strive for the banishment of the antagonisms hinted at. Toward the accomplishment of so laudable an end the section officers should secure from eminent practitioners in the various sections occasional papers on practical topics with pathologic bearing. Contact of the man of pure science with him who applies scientific knowledge to practice, will tend to prevent narrowness and antagonisms on the one hand, and on the other prove conducive to harmony and mutual upbuilding. The mission of the physician is to minister to the suffering and heal the sick. Of this cardinal fact we as scientists should not lose sight. And on the part of clinicians there is need of appreciating more fully the great assistance afforded them by a practical knowledge of pathology and physiology. The great Virchow understood well the practical bearing of these subjects, when in a communication to the author concerning the Pathologic Exhibit he wrote: "I hope your countrymen will recognize the intimate relationship of a practical knowledge of pathology, not only to expert diagnosis, but also to successful treatment."

THE YEAR'S PROGRESS IN THERAPY.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

GEORGE F. BUTLER, M.D.

Medical Superintendent, Alma Sanitarium, Alma, Mich.; Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons.

CHICAGO.

The progress of therapeutics, materia medica and pharmacy during the past year has been neither startling nor specially important. The chief advances that have been made are based on the more stable ground of pharmaco-physiology, pharmacology and experimental medicine, rather than on any alleged specific therapeusis.

THE LOEB RESEARCHES.

One of the most prominent pharmaco-physiologic suggestions of the year has been Jacques Loeb's application of the physico-chemic notions of Arrhenius, Van t'Hoff and Oswald to pharmaco-physiology. If, as Arrhenius claims, it is the ion or chemical atom bearing its charge of electricity that acts, instead of the atom alone, and if this be the most potent factor in biologic processes, probably some type of electric energy can so modify physiologic forces as to act as an alterative in disturbed metabolism. This, however, is but a link in the chain of phenomena presented by cataphoresis showing that biologic forces are subject to the same laws as the ordinary physical forces. The experiments of the older physiologists show, however, that while analogous, heat, light and electricity differ in the character of their waves from the comparatively slow vital forces. The chemic forces, however, are nearer akin to the vital than the physical forces. Moreover, many of the vital effects attributed to electricity are due to the secondary chemic forces set in action by it. This was the opinion of the older physiologists, and has been lately corroborated by experiments of F. R. Zeit on the effect of electricity on bacteria, recently reported to the Chicago Academy of Medicine. The action of electricity as a primary force is coarser and more destructive than the chemic forces produced through such action. In dealing, therefore, with the influence of the ions, the acceptance of the old, crude notion of electric action is liable to result in error. Indeed, its assumed effect is in direct contradiction to the progress of evolution, which proceeds from the incoherent simple to the coherent complex with loss of explosive power. That there is an alterative action in light is evident, not only from the phenomena of photography, but also from the alterative action of the *x*-ray shown in *x*-ray dermatitis, as well as in its effect on cancer. This dermatitis belongs to the category of the dystrophic dermato-neuroses and not to that of the simple burn. Hence it is an expres-

sion of disturbed metabolism. The relation of the *x*-ray to static electricity illustrates how far electric action must proceed before it can be expressed as a biologic alterative. The experiments of Jacques Loeb (which have been cited as illustrating the identity of electricity and life) are simply one phase further in the demonstration of the value of the ovum in the production of life. All ova have a parthenogenetic tendency, which, as Boveri demonstrated at the last meeting of the German Society of Naturalists and Physicians, disappears through degeneration of the centrosoma. All that Loeb did was to show that this parthenogenetic tendency could be stimulated in sea-urchins by a normal salt solution. In certain infusoria the process of fecundation consists essentially in a subtle osmosis between the sexes. The experiments of Loeb did not create life, but simply stimulated bisexual generation at the expense of parthenogenesis. These experiments, therefore, demonstrate nothing as regards therapeusis.

There has been so much importance attached to the necessity of "bleeding into one's own veins" by agents which do not depress the heart that it is not surprising that this procedure should have been quite universally accepted and without question. Critical analysis, however, of the untoward effects of the agents employed demonstrates that their effects were produced through undue strain on the heart. Recent researches have shown that this undue strain leads to even greater cardiac weakness after pneumonia (in which these drugs usually were employed) than in cases of venesection. This is hardly surprising, since venesection would not have the local disturbing influences which the agents already described must have had. Their results again demonstrate the evil effects which half truths so often have exerted on therapeutics.

AUTOINTOXICATIONS.

Developments along the lines of autointoxication and the toxins have been a fertile source of therapeutic suggestion. The fact that delirium tremens is a toxic state, due to alcoholic saturation, with possible autotoxic results through interference with hepatic and renal functions, has led to a successful revival of the older system of treatment, which is practically venesection combined with an attempt to replace the serum of the blood by hypodermoclysis with normal salt solution. It is generally forgotten that the venesectionists of the centuries prior to the nineteenth endeavored to draw toxic substances from the system and introduce watery solutions of various kinds. Salt solutions were among those thus employed and were evidently suggested by the mingled success and failure of the operation of transfusion. Early in the clinical history of cholera it was found that one serious cause of collapse was reduction of the serum of the blood with consequent toxic results. Attempts to replace this by transfusion, while giving markedly good results, produced what were evidently thrombotic and embolic conditions. The replacement of blood by salt solutions had greater though more transient results. The effect produced by these during the first three decades of the nineteenth century are well described in the comments of the *Medical Magazine* of 1833. It remarks that "the warmth, activity and intelligence of health have been restored to bodies which a few minutes before were almost as . . . and ghastly as the tenants of the grave, and ease and even hilarity have been substituted for the mute and paralyzing agony of collapse. It has been shown that upwards of a gallon of saline injection may be introduced into the blood vessels in course of an hour without producing death or occasioning any disease."

The theory on which the saline injection was then used is thus given by Dr. Latta of Leith, Scotland, who was prominent in the advocacy of saline injections during the cholera epidemic of 1830. To continue the quotation: "The individuals most liable to cholera are those whose diet and habit of life are very apt to derange the function of the liver. The nature of the hepatic circulation is such as must render it very susceptible of obstruction when the blood is reduced to a viscid state by abstraction of blood serum and the nervous energy be blunted by the influence of any sedative. Hepatic obstruction prevents return of the blood from the bowels, producing the usual consequences of obstructed circulation—the effusion of serum. In other parts of the body the blood returns to the heart, flowing from branches to trunks, and when it reaches the center of circulation, it thickened from the draining effects of diarrhea. it collects as soon as the saline fluid is introduced along the veins, and then directly mixed with blood, free circulation is restored and congestion is removed from every viscus except the liver. There the circulation is widely different, the thick grumous blood gorges its venous ramifications and the obstruction thus produced must continue until by slow degrees it is penetrated by the more fluent circulating mass. Until this is accomplished diarrhea must continue. The symptoms of its restoration are cessation of the serous diarrhea and return of the biliary secretions." It must be remembered that this was written sixty years ago, yet in no small degree it anticipates the doctrine on which modern hypodermoclysis has been based. This method has all the advantages of venous injection without its dangers. On a theory very similar to that of Dr. Latta, Dr. Hopkins employed hypodermoclysis with marked success in the treatment of delirium tremens. The beneficial results thus obtained suggest its employment in the allied psychic states of the confusional insanities, which, whatever be the primary cause, are based on toxemic conditions. The furibund pathologic change in typhomania (the acute delirium of the Germans, French, Italians, Scandinavians and Russians, the delirium gravis of American authors and the Bell's disease of some alienists) forbids much hope of success from its use. The acute confusional insanities proper, however, present a most encouraging field for hypodermoclysis on the principles outlined by Hopkins.

SEROTHERAPY.

The theory of modifying the serum of the blood by remedies is an old one, and there have been two striking applications of this principle to serotherapy in modern therapeutics. One proposes to destroy the toxalbumins by sodium hyposulphite. This principle is an old one, but has failed because of improper methods of introducing the remedy. The modern methods are no more efficacious nor are they attended with less danger than the old.

Diabetes not unnaturally has some relation to sugar formation in the blood serum, and attractive therapeutic hypothesis based on this idea would strike the diabetic and acidiosic conditions as their fountain head by leading to sugar destruction in the blood itself. Trypsin, as Croftan has lately shown, has this faculty, and to some extent when normally formed in the body exercises an influence on sugar change. Croftan's attempts to control artificial glycosuria in animals by trypsin have proven, however, as he admits, rather disastrous. The

results in this phase of serotherapy have been so far merely suggestive rather than of actual therapeutic value.

The fact that toxins were met in the system by antitoxins and the advantage taken of this fact in the treatment of diphtheria has naturally led to the study of the relations of autotoxic states to antitoxins. The studies of the relation of immunization of certain venom to antitoxins have not unnaturally stimulated medical research as to the relationships of serum therapy to the nervous results of autointoxication. Epilepsy is admitted by the vast majority of neurologists to consist of a deficient motor inhibitory system and an autotoxemic exciting factor. Nearly thirty years ago Meynert claimed that behind the status epilepticus was the accumulation of a proteid toxic substance. The presence of this substance has of late been demonstrated beyond a doubt by urologic research. Accepting the principle of the relationship of the autotoxic substances to the autotoxic states Ceni has brought forward a number of very carefully conducted researches tending to show the influence of a specially devised serum on epilepsy. The results he has obtained undoubtedly favor the opinion that the principle is correct. The beneficial results of serum therapy in epilepsy are also evidence in this direction. The fact, however, must be remembered that too short a time has elapsed to accept the favorable results as permanent (considering that epilepsy always yields temporarily to every new treatment). There is very little doubt, however, that hematologic studies here, as elsewhere in disease, will be productive of results of great therapeutic value.

PHARMACOPEIAL IMPROVEMENTS.

The coming edition of the pharmacopeia will present features aligning it more with scientific therapy than has been the case in the past. The study of ointments from the standpoint of their therapeutic employment rather than their simple pharmacy is a step in the right direction. The pharmacopeia has hitherto, in its preparation, been swayed too much by pharmacal rather than by therapeutic requirements. The pendulum is now swinging in the right direction to the advantage of both pharmacists and physicians.

The recent investigations of Werthin of Ann Arbor and others on the hemolymph glands furnish a new suggestion along the line of chronic anemias, whether of malarial or other toxic states. The researches of Werthin have been somewhat modified by those of Morandi and Sisto, but their results are simply negative and not destructive of the position that under morbid conditions the hemolymph glands undoubtedly take on blood-forming functions. The discovery of the normal presence of arsenic in the thyroid has led to the addition of arsenic to thyroid powder in obesity and other conditions treated by thyroids. The organic salts of mercury are receiving considerable attention in the treatment of syphilis, the lactate being one of the latest developments of this line of research. The organic silver salts are likewise having their field of operation extended.

INVESTIGATIONS OF BLACK WATER FEVER.

The therapeutic relations of black water fever have been an interesting subject of discussion for the last decade and a half. The disease occurs all over the malarial belt, and in the southern United States has been considered an expression of malaria very frequently produced by the abuse of quinin. There is no doubt but that quinin sometimes produces, as Lewin long ago showed, hematuria without the existence of malaria. The observations of southern physicians found in the literature of a decade ago showed that abstinence from excessive quininization during hematuria reduced the bladder and kidney disturbance. Dr. E. H. Martin of Greengrove, Miss., pointed out ten years ago that in the treatment of malarial hematuria the urine must be cleansed preferably with turpentine and the bowels kept open preferably with the salines. For the malarial poison he preferred arsenic. Under quinin malarial hematuria is a terrible condition with a great mortality, frequent relapses, profound exhaustion and slow, protracted convalescence. Without quinin a much more favorable termination may be hoped for.

The researches of Koch and others on the African black water fever tended to corroborate Dr. Martin. Recently O'Sullivan Beare and others have demonstrated clinical phenomena tending to separate black water fever from ordinary malaria and charging much the same factors with its production as did Dr. Martin and other southern physicians ten years ago. O'Sullivan Beare has found that the fluid extract of *Cassia bergans* in doses of a fluid dram every two hours gives remarkable results in this disease. The value of therapeutic diagnosis has been singularly well illustrated in the distinction drawn between black water fever and malarial conditions.

The recent discussions of the cumulative effects of borax ignore the researches of Lewin, Folsome and others in the employment of this drug in epilepsy. Their observations show that borax has cumulative action when given in small quantities and long continued. These untoward effects are especially manifested on the gastro-intestinal canal, liver, kidneys and skin. They were so marked in the case of epileptics that the use of borax has been abandoned in consequence.

THE VALUE OF MATERIA MEDICA AND THERAPEUTICS.

The outline of pharmacy, materia medica and therapeutics just given has been intended to suggest that—in spite of the opinion of surgeons to the contrary—there has been regular progress in these sciences and, through their bearings on the great questions of anesthesia and asepsis, surgery has profited even more than medicine in the past, and seems likely to profit equally in the future. Medicine can succeed only as a unit, and surgery without medicine falls back into the hands of the victims of prurigo secundi, a disease no less prevalent now than when Verneuil called attention to it over twenty years ago.

Not only do many surgeons ignore the value of materia medica and therapeutics, but there can be found many medical men who advocate the abolition of the subject in medical colleges and the abolishment of the Section of Materia Medica, Pharmacy and Therapeutics in the American Medical Association. By rejecting therapeutics "the physician is nothing more than a useless naturalist," said Latour, "passing his life in discovering, classifying and describing human diseases. It is therapeutics which elevates and ennobles our art; it alone gives it an object; and I may add that by it alone can this art become a science."

What honest and unprejudiced physician can deny the value of the antitoxins, thyroid and suprarenal extracts, or the value of mercury, iodin, opium, arsenic, ergot, digitalis and strychnin, and of the anesthetics, antiseptics, antipyretics and hypnotics?

We know that such drugs as chloral, belladonna, physostigma, and nux vomica act on the tissues of certain parts of the brain and spinal cord, and thereby in-

crease or decrease the functions of those parts. We can depress the functions of the motor nerve endings with conin, and the sensory nerve endings with aconite. We can paralyze the involuntary muscle fibers directly with the nitrites, or indirectly by chloral hydrate, which depresses the functions of the vasomotor center. We can stimulate or depress the functions of cardiac muscle and dilate or contract the blood vessels. The tissues of the various glands may likewise be stimulated or depressed. We can improve the nutrition and therefore the function of almost all the tissues by iron, cod-liver oil and lime; and indirectly we can produce the same effect by the gastric tonics and digestives which promote the taking and absorption of food.

Dr. Albert Abrams, in a paper entitled "The Employment of Drugs in Diagnosis," alludes to the administration of certain drugs as a means of diagnosis. Amyl nitrite, for instance, relieves anemic headaches and intensifies those of hyperemic origin. Migraine of spastic origin is relieved, whereas paralytic migraine is aggravated. He claims that the phenomena of auscultation are in many instances brought out after inhalation of amyl nitrite. The antitoxins are of value as a means of diagnosis in diphtheria, cryptogenetic septicemia, hydrophobia, etc. Anesthetics are invaluable often in the examination of joints and to determine whether tumors, contractures, etc., are due to hysteria. Arsenic is of value in aiding a physician in the diagnosis of many neuroses. It is also an efficient aid in excluding tuberculous adenitis from Hodgkin's disease.

The diagnostic value of atropin in ophthalmic medicine is well known; colchicum in gout; potassium iodid in neuralgias, ulcerations, paralysis, etc., of suspected syphilitic origin, intoxication from mercury, lead, zinc, etc., and in actinomycosis; quinin in intermittent fever; salicylic acid in atypical manifestations of presumable rheumatic origin; salol for determining the motor activity of the stomach. Thyroid feeding constitutes an invaluable diagnostic means in the recognition of all cases of myxedema, whether the disease be the true form, sporadic cretinism or cachexia strumipriva. Thymol is especially destructive to the parasite of ankylostomiasis and is of undoubted value both as a means of diagnosis and cure.

Therapeutics implies more than the mere administration and local application of drugs. Climate and artificial aëro-therapeutics or medicated atmospheres are often important adjuncts in the treatment of disease. Balneology and hydrotherapeutics are immensely important and are increasing in popularity, and deservedly so. This subject alone requires our most careful thought and investigation. It is wonderful what results may be obtained by the proper use of water externally or internally, or both.

Equally important are the medical applications of electricity. No less an authority than H. Lewis Jones says there is no manner of doubt that electrical currents produce definite physiologic effects. The most obvious physiologic action of electricity is its power of stimulating living tissues. The metabolic activity of the tissues can be considerably increased by electricity, as Gautier and Larat have shown in their experiments on the elimination of carbonic acid gas and urea under electrical treatment, when it was found that an increase of 40 or 50 per cent. could be produced by general electrification.

Massage or "mechano-therapy" is another invaluable means of treating many diseases, particularly when applied by an expert. The practice of massage by people quite ignorant of medicine, certainly with no scientific training, and independent of proper diagnosis and directions from a physician, is altogether to be deprecated, and is one of the great sources of the prejudice against the method still existing in the minds of medical men.

I must not fail to mention "suggestive therapeutics." The fact that the condition of many patients is influenced favorably or otherwise by their mental condition is well known. Drugs are not all that is necessary in the treatment of disease, and one is a very narrow therapist indeed who seeks for no means of relief outside of a drug store. There are limits to the utility of drugs, and the want of belief in them is largely due to the fact that they are expected to achieve the impossible.

THE FUTURE OF THERAPEUTICS.

I believe with Brunton that the prospects of therapeutics are very bright. "I think it is highly probable," says Brunton, "that before long we shall have a series of drugs which will stimulate the biliary secretion of the liver or modify its glycogenic function, arranged in order of their comparative strength, in much the same way we now have the class of antipyretics. We may also fairly expect to obtain a series of remedies which will act on the spinal cord in such a way as to enable us to treat a number of diseases which are at present altogether beyond the reach of our remedies."

The grandest principles that challenge human investigation center round the subject of therapeutics. Let us master every phase of it, that we may be better enabled to relieve our suffering patients. It is to be hoped that the therapeutic researches of the present generation will be followed by yet more brilliant achievement and by its light the darkness of passing illusions be happily dispelled.

Original Articles.

CARDIAC STIMULANTS.*

JOSEPH M. PATTON, M.D.
CHICAGO.

The group of drugs which in therapeutic nomenclature is included under the head of cardiac stimulants or cardiac tonics—the so-called digitalis group—has not yet, as applied to the treatment of cardiopathic states, been displaced by hydrotherapeutic, aërotherapeutic or mechanical therapeutic measures, efficient as these latter means may be. The great practical, as well as therapeutic interest, attached to this oft-discussed group of drugs is sufficient excuse for their present consideration to which this paper is limited. In this connection the terms tonic and stimulant have acquired a synonymous usage, a custom not strictly to be commended, because, while the principal cardiac stimulants have also tonic properties, and may correctly be so employed, there are certain well-recognized cardiac tonics, such as the iodids, which are not available for stimulant purposes. Again, the chief clinical application of this group of drugs is for the purpose of stimulating an incompetent heart. That these drugs exert a tonic effect at the same time is not forgotten; indeed, such an effect is postulated by efficient stimulation, but the former effect is incidental and secondary to the latter in the absence of which is not obtainable at first. Our dosage in the presence of evidence of failing muscle power, is

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based on the stimulant properties of these drugs. The term stimulant, therefore, appears proper in this connection.

The one indication for the employment of this class of drugs is insufficiency of the heart muscle—a minus dynamic force with reference to the demand. The efficiency of these drugs may be modified by the nature of the specific cause of the insufficiency, which in certain instances may contraindicate certain members of this group. A relative insufficiency depending on increase in exocardial resistance does not necessarily indicate this group of remedies, or, if so, only in connection with agents which remove such peripheral resistance to blood movement. In some instances the latter agents are all that is necessary to allow the heart to perform its work, as was the case with a patient in whom considerable dropsy of the limbs and congestive enlargement of the liver were removed by five drops of tincture of opium thrice daily. In these cases such true cardiac tonics as strychnia or the iodids have their proper application.

It is not necessary at this time to discuss the physiologic action or the toxicology of these medicaments. The practical questions are, when and how to give them, and when to stop them. In some instances the latter question is more difficult to decide than the former, and imperfect results are often more due to faulty judgment on this question than to indecision on the others. The principles which govern the employment of the chief of this group—digitalis—also apply, with individual modifications, to the entire group.

DIGITALIS.

Digitalis easily maintains its position as the chief cardiac stimulant for general efficiency, reliability, and, numerically speaking, applicability. The indications and contraindications for its use have always been more or less in dispute, and probably will always constitute points of controversy. The limitation of Porter, who says that digitalis is useful only in lesions of the mitral valve, and there only for a short time, is too narrow. On the other hand, we may agree with Bartholow that the doctrine that digitalis is suitable for all kinds of weak heart is fallacious. Abstractly, the statement of Washburn, that broken compensation always demands digitalis, may be accepted in the sense that the one indication of its employment is dynamic insufficiency of the heart muscle without reference to the nature of the valvular lesion or other cause for such insufficiency. Practically, however, we find that individual causes of this insufficiency may so modify the effects of digitalis as to constitute a contraindication to its use. It is not necessary to say here that the mere presence of a murmur constitutes no evidence for or against the administration of digitalis, however frequently such evidence has been accepted. The real question rests on the inability of the heart muscle with respect to the presence or absence of features contraindicating digitalis. These features contraindicating digitalis may be due to intrinsic cardiac conditions, or may arise from causes exocardial in nature.

The cardiac conditions which may contraindicate digitalis are certain mechanical conditions of the heart, arising in consequence of valvular lesions, which operate as contraindications, even though the muscle may respond to the action of digitalis, also advanced degrees of myocardial changes. In the first class comes marked mitral stenosis, extensive aortic regurgitation and excessive degrees of aortic stenosis. Pronounced stenosis of the mitral opening contraindicates digitalis because of the overdistention of the left auricle during the longer diastole and, if the heart is slowed too much, the danger of the high pulmonary pressure causing pulmonary edema. Ewart points out that the drug should be at once suspended in these cases when the pulse slows down to 85 per minute, and that the rapid, irregular heart of these uncompensated cases is less likely to be mistaken for cumulative drug action because its danger comes at an early period from undue slowing of the heart.

Some cases of moderate stenosis, though, perhaps, with loud murmur, and many cases of double mitral lesion respond to digitalis better than to any other cardiac stimulant. The presence of mitral regurgitation is practical assurance of the safety of digitalis in cases with stenosis, while its absence should indicate caution in the use of the drug because of the danger of increasing too much the pressure behind an obstruction which does not lessen, and in a cavity whose walls have little resistance. According to Sansom, digitalis is often harmful in mitral stenosis by increasing ventricular action, which is not necessary on the left side, and results in overstretching of the right ventricle.

Aortic disease has been largely regarded as a contraindication for digitalis, especially regurgitation. According to Potain the latter condition is a contraindication unless the pulse is rapid. Peacocke states that digitalis is useful in uncomplicated aortic stenosis, and is generally indicated in double aortic disease, though there may be sudden syncope. The alleged pernicious effect on the left ventricle of prolongation of the diastole has been the basis of the complaint against digitalis in aortic regurgitation. Corrigan discouraged its use in his original memoir, and was followed by Fothergill and others. That this view as a generalization was not well taken is shown by the opinion of later authorities, such as Balfour, who says that digitalis or its congeners is imperatively demanded in failures from aortic incompetence, or of Broadbent, who says that the aortic cases with mitral symptoms should be treated as mitral cases. Washburn's approval is endorsed by Ewart with reservations, anginal pain being the main indication for its avoidance. He thinks digitalis dangerous in marked degrees of aortic stenosis except when there is acute dilatation with rapid running pulse. Groedel says that there is no indication that digitalis should be excepted in a whole class of valvular diseases, such as the stenotic lesions of the aortic opening.

When we consider the direct nature of the pressure in the left ventricle and its mechanical effects in aortic lesions, especially regurgitation in which dilatation is primary and progressive, it is not surprising that digitalis should be on the whole less effective than in mitral lesions. In the earlier stages of aortic lesions, when the heart muscle has stretched but is not markedly degenerated, we obtain relatively as good results from digitalis as in other lesions, but in later stages, when the muscle has degenerated as a result of imperfect nutrition, it is not reasonable to expect such results. We must remember that the hyposystolic period of aortic lesions, the period of the passive congestions that are so generally recognized as clinical evidence of the demand for digitalis, do not, as a rule, present until the heart muscle has undergone these degenerative changes to an extent sufficient to allow of stretching the mitral ring. If the drug fails here it is to be charged against the myocardial degeneration. And yet, even here we often have marked results which, unfortunately, are too

often but temporary because of imperfect coronary blood supply from imperfect filling of the aorta in the one case and too rapid emptying in the other. It is usually necessary to give relatively larger doses of digitalis in aortic regurgitation to produce effects, but the pulse reduction can not be safely carried to the same extent as in mitral lesions.

Acute myocardial inflammation, as a rule, contraindicates digitalis, always if extensive. According to Thompson, digitalis is absolutely excluded in acute degenerations of the heart. In many cases, however, of endomyocarditis of rheumatic origin digitalis, in suitable doses, may be of considerable service.

Chronic myocardial inflammations and degenerations present the most difficult class of cases in which to determine the eligibility of digitalis. The difficulty of distinguishing clinically between interstitial, granular and fatty changes is recognized by all clinicians and by some the differentiation is considered impossible. We are often obliged to adopt Huchard's plan of feeling our way with digitalis, even though we are inclined to be positive in our diagnosis. It is in this class of cases that various subjective as well as objective signs obtain a value as contraindications for the use of digitalis in vitium cordis of indefinite clinical outline. Potain says that myocardial lesions strongly contraindicate digitalis; that it may be dangerous, and that senile cachexia and fatty degeneration call for great care in using digitalis. On the other hand, Beates insists on the value of digitalis in the cardiac lesions of senility. Groedel says continuous small doses of digitalis are of use in slight fatty degeneration from alcohol and tobacco.

The presence of such extrinsic causes of relative or actual cardiac incompetence as atheroma, sclerosis of the vessels, or arterial spasm are by many regarded as contraindications for digitalis. Undoubtedly this is often correct, and yet if the heart be actually incompetent, even though it be through degenerative changes in the heart muscle, much good may be obtained by the careful exhibition of the drug. The argument is advanced that if the muscle has sustained degenerative changes how can it be expected to respond to the stimulating effect of digitalis? Very true, and yet we expect and obtain good results from strychnia and the iodids. Now if the circulation in and the nutrition of the muscle is good enough to respond to the tonic action of these remedies it will also respond to and be benefited by the action of digitalis, provided the latter be administered with due regard to the conditions present and its action be guarded by proper regulation of its action on the vessels. Clinically we often obtain remarkable results in cases where we have reason to expect failure, judging from our estimate of the heart muscle, and so one becomes impressed with the extreme difficulty of estimating the integrity of the muscle and the results to be obtained.

The large class of so-called muscular mitral insufficiencies are often much benefited by small and continued doses of digitalis in conjunction with strychnia and the iodids, and the action of the latter remedies are thus much enhanced, the above objection as urged by many to the contrary notwithstanding. Digitalis is of special adaptability in these cases because of the convenience of administration, the lack of stomach disturbance and the ease with which it may be administered in connection with vaso-dilators, cholagogues or laxatives. The doses of digitalis advocated by Beates in senile cardiac lesions present a startling contrast to the conservatism with which digitalis is administered by those who have less faith in its utility and who emphasize its dangers. He recommends 1/10 to ½ grain from 3 to 6 times daily if necessary, and, if dissolution threatens, ½ grain by hypodermic, repeated in an hour, and then ¼ grain by mouth every 2 hours till 2 grains are given. He claims that the blood tension is lowered rather than increased; that it can not be increased when the propelling function of the arteries is lessened, and that increased tension in old people does not contraindicate heart stimulants.

Recently, when recommending ⅛ grain of digitalis every 6 hours for a man 76 years old, I was asked by the attending physician to assume the entire responsibility of so doing. A few days later I found him assuming the entire responsibility of giving the same dose to the same patient every 4 hours.

When exocardial resistance to the circulation from general vascular disease is marked it has been generally accepted as contraindicating digitalis. Bartholow's statement that digitalis is justified when arterial tension is low may be taken as supporting this view. The same view is variously stated by many observers. Arteriosclerosis is not confined to the aged, is not always a general process, and the tension is not always increased. The heart may or may not be directly concerned in the general vascular changes, hence its incompetence may be actual or relative. In the latter instance the vaso-dilating remedies—the hypotensive medication of Huchard—have their most successful application. In the former instance a combination of this form of medication with heart tonics and probably stimulants is necessary. Digitalis as a vaso-constricting cardiac stimulant has been much objected to in this connection. If, however, degenerative changes in the heart have not progressed too far, digitalis combined with vaso-dilators is not only safe in most cases of vascular disease, but is markedly efficient. The best dilators are opium, nitrite of sodium and nitroglycerin. The latter is best for marked cases of vascular sclerosis with increased tension. Its fault is rapid and transitory action, developed in about twenty minutes and lasting about one hour and a half. Its administration in connection with digitalis should be delayed about three-quarters of an hour. Opium is an ideal dilator as regards reliability, length of action and adjustment of effects, but in many cases has its objections. Nitrite of sodium is reliable and without objection in this class of cases, barring individual susceptibilities. The relative quantities necessary to affect the vascular action of a dose of any preparation of digitalis equal to from 10 to 15 drops of the tincture would be, in the average case, of opium, 1/3 grain of powdered opium, from 3 to 5 drops of tincture, or 1/16 of a grain of morphia; of sodium nitrite, from 3 to 5 grains; of trinitin, from 1/200 to 1/100 of a grain.

In some instances other members of the group of cardiac stimulants will give better results in cardiac inability associated with vascular disease than will digitalis because of difficulty in modifying the vascular effect of the latter, or because it is not well borne by the stomach.

General symptoms contraindicating digitalis or indicating its suspension are, according to Potain, nocturnal delirium, pallor, cold extremities, trembling, and contracted pupils. Generally we find that intolerance of digitalis, or too large dosage, is manifested by sensations of oppression or disturbance about the pre-

cordium, dizziness, faintness, and, at times, irregular heart action.

The cumulative action of digitalis has long been a bugbear to its administration. Personally, I have never observed it, and I have been in the habit of giving moderate doses of the drug for from four to six weeks without interruption. Porter claims that cumulative effects result from interference with nutrition from the constricting action of digitalis on the arterioles. If so, the effective combination with vaso-dilators might tend to restrict cumulative effects. I have regarded these effects as the result of improperly selected cases or to faulty methods of administration. MacLaren thinks the toxic effect of digitalis is overestimated.

The best preparations of digitalis are the infusion made from the fresh English leaf, the tincture made from an assayed drug (Squibb's) and a reliable digitalin—such as Merck's digitalinum Germanicum. According to Arnold and Wood the latter preparation is stable and 1 grain equals 70 c.c. of the tincture of digitalis. Digitoxin is the most active as well as the most poisonous element of digitalis. Solomon says digitoxin is the chief ingredient of the leaves, is superior to digitalis as a diuretic and is more prompt and certain in its action in doses of from 1/1000 to 1/250 of a grain. Zeltner believes digitoxin to act better in primary cardiac disease and in secondary disease from emphysema and nephritis than digitalis leaves. He advises its administration by mouth, hypodermically, and by the rectum, and says there is no more danger from disturbance of the stomach or from poisoning than from digitalis. The latter part of this assertion certainly can not be accepted at present.

Digitalin (Merck) is a safe, reliable and eligible preparation. Providing its dose is properly adjusted and vascular effects properly controlled, its effects on the heart can not be excelled by other preparations of digitalis or equaled by other cardiac stimulants. Imperfect effects are generally due to too small dosage. From 1/12 to 1/8 of a grain represent, in the average case, a dose of from 10 to 12 drops of a reliable tincture. The extremes of life do not present the same susceptibility to digitalis that we are accustomed to allow for with other drugs. Jacobi has pointed out that children bear digitalis better and in comparative larger doses than adults. His allowances are: for an infant of one month, 1/10 adult dose; 6 months, 1/5; second year, 2/5; 4 to 14 years, 7/10. Early adult life generally presents more or less marked susceptibility to the action of digitalis. Old age requires practically as large a dose as maturity.

Continued administration of moderate doses of digitalis for periods of from three to four weeks, followed by interruption for like or lesser periods in order to obtain the full tonic possibilities of the drug, is a method whose value is generally underestimated, but properly carried out the asystolic period of chronic cardiopathics may be often considerably postponed. Groedel says that digitalis does not lose its effect by continuous use, and is useful in continuous small doses in heart lesions from overexertion. This method of using digitalis is particularly applicable in senile cardiopathics.

STROPHANTHUS.

Strophanthus, while a heart stimulant of value, is not to be depended on, in the presence of marked muscular failure, to the same extent as digitalis. It is valuable in regulating functional ataxia, or that due to mild degrees of muscular insufficiency. Its special clinical application is in relation to the latter condition in association with mitral stenosis. Here it is both safer and more efficient than digitalis except when there is dilatation of the right ventricle. Aside from a tendency to produce gastric disturbance it is well borne at all ages. The dose of the tincture (P. D. & Co.'s) is from 8 to 12 drops. It is best given in laurel-cherry water.

Fraser stated that strophanthus acted mainly on the heart and slightly on the arteries, which he considered an advantage, but which Balfour doubts, as the blood pressure is more variable and metabolism uncertain. The action of strophanthus on the heart is more transient than that of digitalis and its tonic effects are therefore less marked. Strophanthin fairly represents the action of the drug and is considered reliable by most observers. My own results have been best with the tincture when it was well borne. The dose of strophanthin is from 1/200 to 1/60 of a grain. The former quantity may be used hypodermically. The diuretic action of strophanthus is decidedly uncertain. In vascular diseases with relative cardiac insufficiency it often acts well when digitalis fails or aggravates existing conditions.

SPARTEIN.

Sulphate of spartein is valuable, both as a regulator of functional ataxia and as a stimulant in muscular inefficiency. It is adapted to the treatment of nervous irregularity in drug habitués. In myocardial weakness following acute diseases, especially influenza, it is useful. Its special field of usefulness, however, is in the continued treatment of various degrees of myocardial weakness and ataxia associated with myocardial degenerations of toxic origin, and in the various chronic degenerations which may be grouped under the head of senile cardiopathies. Voight thinks it indicated in weakness of the right heart. Thomas and Cushing, and Matthews think it acts directly on the myocardium. Heffron thinks it a reliable stimulant for weak heart walls. Chapman recommends it in dilatation of the heart, and in dropsy from dilatation of the right ventricle. The action of spartein is rapid and it may be used to sustain the heart until digitalis has had time to produce effects. The drug is soluble and may be used hypodermically. The dose of the sulphate is from ½ to 2 grains.

CAFFEIN.

Caffein has been recommended by Beaumetz, Huchard and Semmola in asystolic conditions, arrhythmia and cardiopathic conditions of bulbar origin as a cardiac stimulant and diuretic. In some instances it is efficient. It appears to be adapted to cardiopathic states associated with nephritis or with vascular disease, or both. In asystolism due to valvular lesions it is not, as a rule, effective, though it may be of use as a diuretic. In too large doses it causes dizziness, faintness and irregular pulse. Heffron recommends it in dropsy from parenchymatous nephritis when the heart is involved. Zenetz condemns it as having a poisonous action on the spinal cord, striated muscle and cardiac muscle like strychnia; as accumulating in action, of slow elimination (lasting from ten to fifteen days after last dose); as causing a slow rise in blood pressure, which culminates in cardiac and renal diseases, in from four to six days in symptoms of impending cardiac tetanus; and as showing marked individual variations as to the toxic dose. He thinks all renal or cardiac diseases associated with atheroma or arteriosclerosis absolutely forbid its administration.

Huchard is not afraid of the toxic effects of caffein, and recommends it when digitalis fails to act on a damaged myocardium, in cardiac weakness from infective diseases, and as superior to digitalis in renal diseases. I have employed it in cardiopathies of renal origin or association with good results, using a salt prepared by combining equal parts of the alkaloid caffein and sodium benzoate, two or three drams of each to three ounces of distilled water, giving a teaspoonful every six hours.

STRYCHNIA.

Next to digitalis, strychnia is the most useful of cardiac remedies. As a cardiac stimulant it is useful in the hypostolic period of all lesions, and is the only stimulant which can safely be used as such in connection with digitalis in any lesion at any stage. It is essentially the best stimulant when the right ventricle is overtaxed from rapidly developed strain. Its frequent hypodermic use is a most valuable means of stimulation in emergencies. The dose is from 1/25 to 1/15 of a grain. J. Basil Hall recommends large doses as a prophylactic against surgical shocks. He gave ¼ of a grain in two cases of impending death from air embolism with recovery. He thinks it futile in such cases to give less than 1/10 of a grain. Baumgarten thinks that in cardiac weakness the best results are obtained from small doses of strychnia, because large doses, besides having undesirable effects on the entire spinal cord by raising blood pressure, immoderately increase resistance to the heart's action long before it can assist it indirectly; that it must be used before the strength of the heart has sunk too low, because on Binz's statement that strychnia raises blood pressure by increasing reflex irritability of the vasomotor center, and not by stimulation, thus necessitating peripheral impulses to accomplish contraction of the vessels, strychnia must fail in the very conditions of collapse for which it is so much depended on; that moderate doses should not be long continued, because, like digitalis, it may accumulate. He charges clinicians with not being as well acquainted with the cumulative effects as physiologists and pharmacologists. Lauder Brunton says strychnia is a "cumulative poison," as it contracts the renal arteries and thus prevents its own excretion. A. H. Carter admits the utility of strychnia as a heart tonic for occasional use, but thinks its prolonged administration not justified except in the smallest doses.

The clinician is forced to deal with conditions of disease as he finds them, and is not always able nor does he always attempt to reconcile clinical results with physiologic argument—a privilege I will here avail myself of. The dosage of such remedies as strychnia must ever be a relative matter. I have administered strychnia continuously in 1/30 grain doses thrice daily for periods of from 6 to 8 weeks with results which I believe to be satisfactory in every respect. Also, I have given 1/15 of a grain hypodermically every 2 hours for 48 hours, and for 2 or 3 doses every hour, in critical collapse in pneumonia, with prompt response to every dose and final recovery. I have seen prompt and effective results from 1/10 of a grain in traumatic and surgical shock, and I am therefore not prepared to accept the second conclusion of Baumgarten.

Strychnia, in small doses, is the most valuable heart tonic we possess, and is particularly adapted to the treatment of senile lesions by continuous administration over periods of several weeks. During the second and third decades of life strychnia is not as well borne as it is later, being likely to excite and irritate the nervous system.

OTHER DRUGS.

Convallaria majalis, cactus, grandiflora, adonis vernalis, nerium oleander, coronilla scorpeoides are all cardiac remedies whose stimulant action is less valuable than those already considered. Canadian hemp has recently been recommended by Golubinin as a valuable cardiac stimulant. He recommends 5-drop doses of the fluid extract three or four times a day.

Suprarenal substance has obtained some use as a cardiac stimulant as would naturally follow from its effect on the vasomotor system. S. Florsheim says the drug acts quickly and causes rapid improvement in flaccid and fluttering hearts, arrhythmia disappears and the heart remains in better condition. The substance appears to have a tonic action on the heart muscle, causes more regular action, increased force and fuller, stronger pulse. Florsheim noted best effects in cases of dilatation with weak pulse, diffuse apex beat and fluttering, irregular action. Two cases showed contraction of the heart with stronger and more localized apex beat. I have employed adrenalin to raise blood pressure in conditions of collapse, and during the critical period of pneumonia when the blood pressure was low and the heart's action weak. In such instances the action of adrenalin is prompt and effective. Three or four drops of a 1:1000 solution may be administered hypodermically. As a cardiac stimulant the use of this substance has as yet been too limited to form definite conclusions as to its full clinical value or application.

DISCUSSION.

DR. HENRY BEATES, JR., Philadelphia—The phenomena of normal circulation depend on a relation of intracardiac pressure or tension with that of the blood vessels, and there also exists a constant relation between arterial and venous tension. I would lay down the rule that all lesions of the heart must be viewed from the standpoint of their being especially local, while all disturbances of the circulatory system, in which the one great result, disturbance of equilibrium, results, are due to either exocardial conditions, local and, frequently, influences operating from both. It is, however, the disturbance of equilibrium which all treatment is intended to overcome, and to restore lost circulatory equilibrium is the one grand object, whether it be by the use of so-called cardiac stimulants, or, as is sometimes necessary, the combined exhibition of these and sedatives.

In every lesion of the heart, there must be, for physiologic reasons, consequent exocardial change. This generally occurs in the arterial side first, and, sooner or later, in the venous also. When these two conditions obtain, the lymphatic disturbances next follow, and these require the observance of the same principle for successful treatment. It is these exocardial secondary lesions and the consequent inability for the disturbed equilibrium to be overcome that indicated, not the diminution of the dose of the cardiac so-called stimulant, but bold and heroic exhibition of increased doses. A moment's thought discloses the fact that, if the vis a tergo is greater than the vis a fronte, the heart feels no strain when its ventricle empties its contents into the aorta, and if it is weakened from a local lesion, there is not that intensified and fatiguing force necessary to be exerted, which adds to an already failing heart. But if the vis a fronte be much increased, it is necessary not only to give strength to the already tiring heart, but to remove the load from in front. There is not sufficient importance accorded to the part played by the arterial system in the work of carrying on the circulation of the blood mass. The importance of thoroughly appreciating the condition of the arteries is not comprehended by the profession generally as it should be, and it is only when the clinician will recognize that each artery is practically a heart for the part it supplies, there

will be a clearer understanding of the application of the principles involved, in the treatment of these conditions. When we give digitalis, or any other so-called heart stimulant (I prefer the term "circulatory" to "heart") we do not, by its administration, act alone on the heart but, let it be emphasized, on the blood vessels also (arteries and veins), and from what has been briefly said, it is evident that the object in view, being to restore equilibrium to the circulation, necessitates aid being given to the blood channels as well as to the heart. It is by this powerful influence on the vessels that digitalis proves so useful in these conditions. It removes the great load from before the heart, and enables the well-nigh exhausted viscus to pulsate, and thus digitalis saves life.

Referring to the mentioned cumulative action of digitalis, the somewhat extended studies of its derivatives lead me to the conclusion that these effects are due to the derivatives known as digitalin Belgic or chloroformique, and digitoxin; they have never occurred after years of continued exhibition of the use of digitalin Germanic Merck. I advocate, therefore, the use of that digitalin known as Germanic Merck. Another point: when any of the galenic preparations of digitalis are given, all therapeutic deductions which may be reached are necessarily unreliable. We know that any drug derived from the vegetal materia medica, in its crude condition, represents a feature characteristic of every vegetal organism. It is that principles or derivatives vary in their percentage presence and solubility; thus, one unit of digitalis leaves might represent 10 per cent. of this, 8 per cent. of that, 2 per cent. of the other, and so on, derivative, and these themselves vary in their percentage degree of solubility in alcohol, ether, chloroform and water. Indeed, some are insoluble in one or the other of these latter, and thus it is that tinctures, infusions, etc., cannot possibly represent a unit of therapeutic strength. The natural result, therefore, of galenic official preparation of digitalis, as well as the rest, is difference in clinical action. Digitonin is soluble freely in water, and hence the infusion contains this derivative in considerable quantity. The digitalin Germanic Merck is also soluble in water, therefore in the infusion we have a preparation that approximates a unit of strength, and for those rare conditions of disturbed circulatory equilibrium, where the action of the medicament is so pronounced on the vasoconstrictors as to produce local peripheral ischemias, and it is sometimes necessary to overcome this by the judicious use of a cardiac so-called sedative, and digitoxin possessing this property preëminently, we have, in the infusion, a very desirable remedy for this particular group of cases.

This point Dr. Patton has very clearly indicated, and brings forth the fact that there are conditions in which both stimulation and properly adjusted sedation may be required, and in these the infusion of digitalis answers a purpose second to none. Numerous cases are characterized by the cardiac musculature being weak, while the arterial tension is increased. In such cases, contrary to the usual teaching, digitalis is not only not contraindicated, but most emphatically demanded. It acts by restoring the propelling power to the arterial system, and removes from before the organically weakened viscus a great and almost insurmountable burden. In these conditions the preternaturally distended side of the circulation will rapidly disappear after full doses of digitalin Germanic Merck, gr. ½ from 3 to 6 times daily, in emergency cases, and a conspicuous great venous tension will, in the course of a few hours, disappear as equilibrium is restored.

DR. W. J. ROBINSON, New York—I wish to endorse what has been said about digitalin. There can be no doubt at all that the cumulative effect of digitalis must be due to some other agent than the principle digitalin. Disappointment in the use of digitalin is often due to the fact that the dose is too small; indeed, this must be so if we can give digitalin in doses as large as ½ grain three times a day, for days at a time, as we know has been done, and with good results. A prescription that I frequently use consists of 1/12 of a grain of digitalin, 1/60 of a grain of strychnin, and 1/100 of a grain of nitroglycerin. I have had patients take this pill for months without causing distress, or gastric disturbance, or bad results of any kind. I have found this combination a useful stimulant to the circulation, for prolonged use.

Among cardiac stimulants I would include camphor, the value of which is but little known in this country. The best method of administration is in the form of a solution (10 per cent.) made with pure olive-oil, to be given hypodermically. The usual dose of camphor is 1 or 2 decigrams (1½ to 3 grs.), or 1 to 2 c.c. (15 to 30 minims) of the solution. When this is given to a patient in a state of collapse the results are simply marvelous. In such a condition one or two hypodermics will produce most satisfactory results.

With regard to the use of adrenal substance as a cardiac stimulant, its effects are too evanescent for us to rely on it in cases of chronic disease of the heart.

DR. HEINRICH STERN, New York—I take exception to the statement that *Adonis vernalis* is inferior in the general run of cases to digitalis as a cardiac stimulant. I wish to know whether or not the author of the paper bases his opinion on personal experience with adonidin? Basing my conclusions on an experience with several hundred cases treated with adonidin, I maintain that adonidin is not a mere succedaneum of digitalis or its alkaloids, but that its action is in many instances markedly superior to that of the latter drug. Adonidin is more rapid in action than digitalin or digitoxin, and it may be given without hesitation in a number of instances in which digitalis or its preparations should not be prescribed, as a rule. In fatty degeneration of the heart, in various atheromatous conditions, etc., adonidin acts safely and efficiently. In rapidity of action adonidin excels most of the other heart remedies, as digitalin or digitoxin, strophanthus, spartein, etc. In certainty of action it is also superior to these drugs. It is more permanent in action than any of these medicines, without possessing the well-known accumulative properties of digitalis. It is especially useful if kidney disease is accompanying the heart affection. The diuretic qualities of adonidin in the normal kidney are little pronounced; it exerts very great diuretic activity, however, in conditions concurring with dropsy and low arterial tension.

DR. H. C. WOOD, JR., Philadelphia—With regard to the point made by Dr. Beates, I wish to confirm the statement that in the condition called "heart-failure" the heart is not solely at fault, the symptoms are due to circulatory failure. In such cases it is important to see that the vasomotor apparatus does its work. As digitalis acts also on this vasomotor apparatus, there arises a tendency in the minds of the profession generally to overestimate this action of digitalis and to avoid its use as a cardiac stimulant because it increases the resistance in front of the heart, so that the heart being compelled to act more powerfully and to do more work, the drug might fail to accomplish the purpose if the heart should be too weak to overcome the force in front of it. The use of digitalis in acute endocarditis has been advocated by some and condemned by others. In nephritis, we hesitate to give diuretics, because of their action on the kidney structures; but in endocarditis we do not hesitate to give digitalis, for its action is on the myocardium and not upon the endocardium.

With regard to the use of suprarenal extract, or adrenalin, it is to be observed that, when given by the mouth, it is too rapidly eliminated to produce any physiologic action on the circulation. In the laboratory it has been found that the only way to produce any effect on the circulation by this agent is to throw it into a vein. Even then the effect passes off in a few minutes. It is possible that suprarenal extract, or adrenalin, may prove of use in an emergency as a cardiac stimulant in very acute conditions, if used intravenously.

DR. S. SOLIS-COHEN, Philadelphia—The profession owes a great debt of gratitude to Dr. Beates for his patient insistence on the value of digitalinum verum, or Germanic of Merck. After becoming familiar with Dr. Beates' observations, I diminished my use of the common preparations of digitalis and used as much as possible the Germanic digitalin, which permits accuracy and regulation of dosage and is satisfactory in its results. Dr. Beates has also taught the profession that the dose of Germanic digitalin is not 1/60 grain, but more

nearly 1/6 grain, as the rule, and even much larger doses may be given with advantage and safety.

The point that Dr. Robinson mentioned deserves attention; and in order to be clear on the subject we must discriminate more closely between cardiac stimulants—temporary and quick in their action—and those drugs that have a sustained or tonic effect. When we wish to apply a quick spur to a flagging heart, we should give camphor or musk; for tonic action slowly developed and long continued we should turn to digitalis, strophanthus, adonidin, or spartein sulphate; while atropin stands between the two classes. Bartholow used to say to his pupils that we give digitalis to-day and get effects to-morrow. He taught that the stimulant effect of the tincture of digitalis given hypodermically was due to the alcohol rather than to the digitalis. This may have been an exaggeration, but it expressed his estimate of digitalis. The effects of spartein and adonidin on the heart are even more slowly developed than those of digitalis; while strychnin is the most prompt in action of the tonic class, especially as a vasomotor stimulant. The combination of strychnin, atropin and digitalin thus has a special value.

With regard to the suprarenal gland and its various preparations, after a rather extended experience I can not agree with Dr. Wood that when given by the mouth these agents are always inert. It is true that in many cases I have seen no result, but in some cases I have seen decided results which I could attribute properly to them. This might be the result of the method of administration adopted. My instruction to my patients is to allow the drug to dissolve in the mouth, and not to swallow it immediately. From observation of its effects on other mucous membranes, I am led to believe that effects on the general circulation can result from this manner of administration. A drop of adrenalin solution on the conjunctiva will sometimes produce a remarkable effect on the heart. I have made some clinical tests of the effects of this drug in various heart and circulatory disorders. In the Polyclinic and in the Philadelphia hospitals I have employed suprarenal extract in a large series of cases. In exophthalmic goiter it is frequently curative, as in certain types of cardiovascular asthma and albuminuria. In valvular disease of the heart, I have obtained little definite result. In a case of bradycardia, due to Stokes-Adams disease, of which I have notes of the autopsy, I administered suprarenal extract by injection into the conjunctiva; each injection being followed by transient increase in strength of the heart's action. This observation was confirmed by several other physicians who saw the case under treatment. I merely mention this experience to show that as yet the exact value of adrenalin in cardiac disorders has not been determined. We are in a position to say, however, that in some cases it will produce marked transient effects. I believe that when collapse seems to be impending, danger may be averted by this agent. It is certainly worthy of further study.

Dr. W. W. Tompkins, Charleston, W. Va.—The value of rest in cases of disturbance of the circulation and cardiac weakness is almost as important as the therapeutic agents just considered. It is of prime importance to lessen the work of the heart, and this can be done by rest; in the more aggravated cases absolute rest in the recumbent posture, in the milder cases relative rest obtained by reducing bodily activity. As to the form of digitalis to be used, it depends to a great degree on the idiosyncrasies of the patient. The pharmacopeia directs that its preparations shall be made from leaves of the second year's growth; and we are told that they contain nine alkaloids, each one exerting different physiologic effects. As far as my own experience goes, I regard the infusion as of most value, principally on account of its diuretic action. I think that in many of the cases of this character it is well to combine some form of iron with the digitalis, because these patients are generally very anemic. As a cardiac tonic, strychnia is most effective, and I frequently combine it with the digitalis and the iron. I believe, however, that, to a great degree, each case is a law to itself, and the method of treatment and the drugs employed must be selected according to the requirements of the individual cases.

Prof. C. S. N. Hallberg, Chicago—I wish to make a simple suggestion. Empirically, it is generally stated that there should be a distinction made between the infusion of digitalis and the tincture. The difference between the two preparations is unquestionably due to the fact that the active principles of digitalis are glucosids. Like all glucosids they are apt, in the presence of water, to decompose and to split into glucose and other principles, but in alcohol this does not occur and they retain their original character. This is of importance to pharmacists, as it bears on the question of the propriety of making the infusion from the fluid extract. The great difficulty with digitalis is—and we have the same with ergot—that sufficient attention has not been paid to this splitting of the active principles in the presence of water. We know that in the presence of water, amygdalin and emulsin in wild cherry and bitter almond form hydrocyanic acid, and that in many other glucosidal drugs there is probably a similar reaction, and that it is very important. In all these preparations of similar character, the method of manufacturing must have a great influence upon the therapeutic value of the product. The committee on revision of the pharmacopeia wished to make a standard for the preparations of digitalis, but found it impracticable to do so. Our knowledge is not sufficiently advanced at present to permit this to be done. It is the same with ergot. I mention this fact in order to indicate the necessity for a more thorough knowledge of the constituents of these plants, so that their active principles may be of more uniform potency and strength.

Dr. Jos. M. Patton, Chicago—The point of Dr. Beates on the pharmacodynamic relations between disorders of the circulation, diseases of the heart, and digitalis, was explained in a lucid manner. The opinion has been expressed that digitalin is a safe, reliable and effective agent in relatively large doses and the statement made that it can be given in such doses for a considerable period of time, in appropriate cases, without danger. I concur in this opinion, but think that patients should be kept under careful observation, when such unusual doses are given.

In reference to the remarks about camphor, in my paper I did not take up that class of remedies but only the direct cardiac stimulants. In cases where a prolonged effect is required, we use digitalin because its action is more sustained. It not only increases the power and action of the heart, but keeps it up. If we wish to have only a temporary stimulating effect we use ammonia, alcohol or some other article of that class; but for a sustained effect we give digitalis.

In reply to the gentlemen who spoke of *Adonis vernalis*, my paper was confined to the statement of the results of my own experience, and I have had no experience with adonidin. I feel satisfied, however, that where a heart-muscle is degenerated or weakened I can not get the results from adonis that I can from digitalis. My experience does not confirm the claim that has been made on behalf of other drugs that were said to be as good as digitalis, although I would be very glad to have something as valuable as digitalin to use in the class of cases needing a heart tonic. I confirm the remark of the gentleman from West Virginia about adjusting our remedies to suit the individual case. He was also perfectly correct in saying that rest is one of the most important cardiac remedies. There is no reason, however, why the infusion should be different in its effects from other preparations of the drug, if the others are given in corresponding dosage. In some patients the infusion is preferred, in others the tincture may be more suitable. Personally I have been in the habit of relying on the digitalinum verum for the reason that it is reliable. It also agrees with the stomach better than the other preparations and the dose can be regulated more accurately to suit the needs of the case than any other form in which this remedy can be administered.

Ice for Respiratory Hemorrhages.—Ice applied to the external genitals—the scrotum in men, the labia in women—is said to the best and simplest method for controlling blood-spitting and nose-bleed.—*Canada Medical Record.*

ADENOIDS.*

W. FREUDENTHAL, M.D.
Consulting Laryngologist to Montefiore Home, Beth Israel Hospital, and Bedford Sanatorium for Consumptives; Laryngologist to St. Mark's Hospital, Etc.
NEW YORK.

About seventeen years ago, when I came to this country, after having seen and operated on many cases of adenoids at Berlin and Freiburg, at one of the first meetings of the New York Academy of Medicine which I attended, a prominent colleague made the remark that while there might be found such things as adenoid vegetations among the children in Denmark or in Germany and Russia, the Anglo-Saxon race was free from that anomaly. In the years that have elapsed, I am confident that the gentleman has been convinced that they do exist in England as well as in the United States, and nowadays I have yet to see the practitioner who has not encountered cases of so-called adenoids in his own practice. They have been, so to speak, part of my daily bread for more than eighteen years in clinics and private practice. Still, when your Chairman did me the honor of asking me to read a paper before this Section, I was somewhat embarrassed as to what to say to a body of experienced practitioners that would be new to them on this topic. The libraries abound in articles and pamphlets on adenoids, which for some time have been viewed, not as a curiosity, but as an every-day occurrence. They have become so frequent in all parts of the globe that every practitioner must of necessity be familiar with them.

Adenoids grow in a place which I long ago considered the most important of the whole breathing apparatus, viz., the retropharynx. We can and do examine easily all other parts of the upper respiratory tract, but the retropharynx, which is the *locus minimæ resistentiæ* for many a disease, is too often overlooked. No wonder that adenoids, which have existed as long as civilization, were overlooked, and discovered only as late as 1868 by Wilhelm Meyer of Copenhagen. It is undoubtedly true, however, that Voltolini removed them already in 1865 with the galvano-cautery without recognizing their importance.

Now, what are adenoids, or, as they are also called, adenoid vegetations, adenoid growths, pharyngeal tonsil, third tonsil or Luschka's[1] tonsil? We had known since the time of Morgagni that the parts in question belonged to the tonsillar tissue, but only through the works of Henle, Kölliker and His have we acquired a thorough microscopic knowledge of these structures. It was my former teacher, Prof. Wilhelm His of Leipzig, who called it adenoid tissue, and since then the name adenoids has become so popular that we can no longer change it. Waldeyer showed that the adenoid tissue in the upper pharynx is only a part of a lymphatic pharyngeal ring ("lymphatischer Rachenring"), which now goes under the name of Waldeyer's ring.

Any part of this ring may undergo acute and chronic changes. Just as the faucial tonsil may become the seat of acute and chronic inflammation, the pharyngeal tonsil may be similarly affected.

ACUTE CATARRHAL INFLAMMATION OF THE PHARYNGEAL TONSIL.

This is called by the French adenoiditis, with which most likely the *fièvre ganglionnaire* is identical. It is not as infrequent as is ordinarily believed, for, according to my experience, it often occurs in young children. As an examination is difficult or often impossible the diagnosis is very seldom made. A digital exploration should be omitted, if possible, on account of the reactionary inflammation and pain following this procedure. The main symptom of an acute adenoiditis is earache. It is sometimes very severe, and as there is pain in swallowing at the same time, the child refuses all food and runs down quickly. Frequently the child pulls on the ear, and this is taken either as a diagnostic sign of teething or of an acute otitis media. I have examined the ears of such children, but found nothing pathologic there, and the whole process subsided without affecting the ears at all. This, unfortunately, does not always occur, for pus forms not infrequently, as you all know. But this happens mostly after or in connection with an acute adenoiditis.

In other cases the sound of the voice is muffled and the breathing difficult, which again is regarded as "a cold in the head." Here the examination of the nose reveals nothing, except perhaps a slight hyperemia of the mucous membrane. In grown children the pain in swallowing is very characteristic, and resembles very much that seen in cases of tonsillar or peritonsillar abscess. In my cases fever has always been present, sometimes as high as 104 F.

If there already exists a hypertrophy of the adenoid tissue in the vault of the pharynx, then the tendency to acute inflammation is so much the greater, just as with the faucial tonsil.

THE TREATMENT OF ACUTE ADENOIDITIS.

The treatment which has given me the quickest and best results is the following: First evacuate the bowels and put the child in a hot bath with some mustard in it. Then give small doses of quinin, or aspirin, or salicylate of soda, and order inhalations of the normal salt solution or of some aromatic oils every two or three hours. Sometimes I direct a few drops of adrenalin (in the proportion of 1:6000, 1:8000, or even 1:12000) to be sprayed or dropped in through the nose, of course, warm or lukewarm. This can be done every few hours according to the age and condition of the child. A Priessnitz compress around the neck over night is sometimes of great service.

I will omit here the acute follicular and the acute phlegmonous inflammation of the pharyngeal tonsil, and come now to the well-known chronic form.

HYPERTROPHY OF THE PHARYNGEAL TONSIL.

As a matter of fact, this affection ought to have been recognized one hundred or more years ago, if some one only had had the idea, that apparently is not too far off of applying digital examination of the retropharynx in cases of obstinate nasal obstruction. By digital examination alone has it been made possible without any special skill to generally recognize the hypertrophy of the pharyngeal tonsil so very frequent among children. Surgical operations with cutting instruments in place of the inconvenient and difficult galvano-cautery operation has opened the therapy of this affection to the whole medical world (R. Kayser). It is important that this has been finally accomplished, since no single affection in the whole domain of medicine and surgery has so far-reaching an influence on the public health as these "innocent little overgrowths," as Dr. Francis[2] called them. I should rather call them "nocent," knowing what harm they can do. When we consider that Max

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

Schaeffer,[3] twelve years ago, found among his 1,000 cases of adenoids that in 467, or in almost 50 per cent., the ear was involved, and that William C. Braislin[4] concluded in 1900 that ear diseases almost invariably accompany adenoids, we have no right to call these growths innocent. They have done an immense amount of harm. "But by sheer weight of evidence, practitioners of medicine, parents and others who have to deal with the young, have at last become convinced of the practical importance of the discovery, with the result that many cases which forty years ago would have been allowed to lapse into hopeless deafness, or to fall victims to all the baleful consequences of neglected middle-ear suppuration, are quickly recognized and relieved."[5] These last remarks were made by Yearsley only a few months ago. When we analyze statistics, however, we must ask ourselves: Are these little overgrowths on the increase among children or not? It seems to me that it is a difficult matter nowadays to find a city child without adenoids. There is, to my knowledge, no difference as regards climate, race or sex. No race is exempt from them, and while we formerly believed that they were more prevalent in damp or cold countries, we now know that this was a fallacy. In all countries, whether warm or cold, dry or moist, adenoids prevail, and they occur *ceteris paribus* in about the same proportions. The cause of their existence in such enormous numbers is due to our modern mode of living, to the poor and faulty hygiene that surrounds our children. But what special agent is at the bottom of it? Is it the housing of our young ones; is it the simply appalling neglect of all laws of hygiene in our public and private schools, not to mention the "kindergartens"; or is it something else? Many of our kindergartens, indeed, deserve much more the name of pest-holes than that of a "garden." A "kindergarten" in a low, overheated, ill-ventilated room, as most of them are, is a menace to humanity. Frœbel would turn around in his grave if he were to see what sort of hygienic methods we apply to the growing generation. And most of the other schools are no better. These, indeed, are the most favorable conditions for developing catarrhal inflammations of the upper air passages, as I have attempted to prove elsewhere. These inflammatory processes of the nose, and especially of the retropharynx, are the first consequences of the evils just spoken of, and on the basis of these "catarrhs" adenoids develop. They are nothing but the products of a reactionary inflammation, which sets in easily under the influence of various causes. If, for example, such a child is infected with scarlatina, measles, diphtheria or other diseases affecting the upper air passages, the already existing "catarrh" is very much exaggerated, and then, as happens so often, we have adenoids following almost immediately these infectious diseases. Such children are sometimes brought to me for the removal of their adenoids, at a time when I consider it too early to operate, being afraid that the infectious germs have not yet left the air passages. To give you an illustration: A child came to me two weeks after it had recovered from a pronounced attack of faucial diphtheria, and as the Klebs-Loeffler bacillus has been met with at a much later period in such cases, I thought it possible that a new infection might be stirred up by the operation, and therefore postponed it.

Even tuberculosis can make its primary entrance through the retropharynx, as I proved some six years ago. It is evident that the organism frequently reacts against the invasion of tubercle bacilli and hypertrophy of the lymphoid tissue at the vault of the pharynx is one of these evidences. There is no doubt that tuberculous infection of the adenoid tissue is found only exceptionally, and the reason for this is that the mucous membranes of the head, as has been shown by Bollinger, manifest a marked tendency to allow the tuberculous virus to pass through their structures without themselves becoming diseased. And this quality is considerably enhanced by pathologic and especially inflammatory changes of the mucous membrane. Thus we can understand how the tubercle bacillus will penetrate even the intact mucous membrane. But what becomes of it? No doubt when it penetrates into the deeper tissues its passage is followed by a reaction, the result being adenoids in the first instance, and then, lower down, swellings and suppuration of the glands of the neck. That these lymphomata colli are in direct connection with the adenoids is demonstrated by a case like the following:

Case 1.—N. McC., twelve years of age, was brought to me from Newark, N. J., with a lymphoma colli. I opened it, removed a quantity of pus and all diseased tissue and sent him to the mountains for four months, where he was under the best care possible. The boy had slight adenoids which I did not remove at once, as the parents would not give their consent. The wound did not close, and finally, after three months more had elapsed, I operated on the adenoids, with the result that within two weeks the wound of the neck had healed thoroughly. The boy is now in his seventeenth year and well and strong.

I am under the impression that since adenoids are removed so freely, glandular swellings of the neck have become more rare. I am not positive whether further statistics will verify this.

If, for some reason or other, the path of the tubercle bacillus downward is closed up, by adenoids or other causes, it makes its way to the cranial cavity, where a tuberculous meningitis, so frequent among children, is set up. This idea of mine is as yet only a theoretical deduction which I can not prove, but which seems very plausible to me. In an interesting paper read before the International Medical Congress at Paris, 1900, Dr. Paul Gallois spoke on infection through adenoids. He also believes that they are not only the seat of primary infection, as tuberculosis, etc., but that they are apt to spread various infections to the neighboring and remote parts of the organism. Thus, for example, many cases of infectious sore throat result through adenoids; rheumatism in different parts of the body also has its primary origin in the retropharynx, the seat of these little growths. This is a point which I mentioned some time ago. We have come to recognize the fact that articular rheumatism often gains access to the system through diseased tonsils. While this may be true to a certain degree, I have always, and still do, attribute the more important rôle in this respect to the retropharynx. We see the tonsils, but we do not see the retropharynx, that is to say, in over 50 per cent. of all cases it is not examined, and therefore overlooked. Adenoids only help to make it the *locus minimæ resistentiæ.*

Normally with the establishment of puberty an atrophy of the pharyngeal tonsil sets in, which B. Fränkel called the physiologic involution. This involution also takes place when the adenoid tissue is hypertrophied and has not been removed. One of the results of this is the familiar form of postnasal catarrh; another the cicatricial process known as Tornwaldt's disease. Schwabach has shown that what is called by Tornwaldt the bursa pharyngea, was perhaps nothing else than the median recess of the pharyngeal tonsil. On

the other hand, Lehmann has described a congenital cyst of the bursa pharyngea. There can be no doubt however, that the bursa itself is an anomalous structure, as has been demonstrated by Mégevand, Max Schäffer, Jonathan Wright and others. It must surely be of rare occurrence, since it has been observed by so few authors.

As the time allotted me has nearly expired I shall discuss only a few additional points. To speak before such a society as this is, of the symptoms, diagnosis and effects of adenoids on the ears, eyes, respiratory tract, abdomen (hernia[6]), and on the system at large, would be to carry coals to Newcastle. All this is so well known that I believe it to be the common property of every practitioner.

Let us rather discuss the questions: 1. When shall we operate? 2. How to operate? And 3. What are the after-effects and after-treatment?

WHEN SHALL WE OPERATE?

As these growths make their presence felt from the first weeks of infancy we sometimes have to operate very early. The youngest child that I have operated on was seven months old. In this case there was a stubborn mucopurulent discharge from the nose that did not yield to any treatment, and as the whole postnasal space was filled with adenoids the child took nourishment with great difficulty, did not gain in weight, but was losing ground constantly. All these symptoms improved after removing the adenoids. Still, I do not like to operate on children under 2 years of age, as almost all the reactions I have noted after these operations were in infants under 2 years. I could not always explain their occurrence satisfactorily. In older children I can not recollect having witnessed fever of any account. But I will admit that I have not examined my books with a view of elucidating this point. To go through all my private records and clinical notes for this purpose would mean an immense sacrifice of time, which I did not have at my disposal. Let me narrate some of these instances:

Case 2.—M. S., 15 months old, was operated on at 8 a. m., May 16, 1887, for simple adenoids. In the afternoon the child was restless, refused all nourishment and felt "very hot." My assistant found an elevation of the temperature of 106 F. at 5 p. m. As I was out of town, I did not see the child until the next morning, when the temperature was perfectly normal. The child recovered quickly.

Case 3.—Another case was that of H. K., 13 months old (adenoids—otitis media purul.—mastoiditis). A colleague in this city had advised removal of adenoids prior to the mastoid operation. The parents consulted me, and I coincided with his opinion. On Feb. 16, 1894, I removed the adenoids under chloroform. February 18, the child had a temperature of 104.2 F., profuse discharge from the nose and ear, was restless and took no nourishment. There was a good deal of edema of the uvula and the neighboring parts, which I directly ascribed to the operation. The manipulations with the curette were sufficient irritation to produce the edema in this delicate infant. There were no other signs of a reaction. The high temperature persisted for three days, when it became normal again. The discharge from the ear ceased completely two months later, and there was no longer any indication for operating on the mastoid.

I was under the impression that in this case the infection was carried from the ear to the retropharynx. As the result was so excellent I should not hesitate to take the risk in similar cases. On the contrary, I consider any danger arising from the ear, and the inability to take sufficient nourishment as positive indications for removing the adenoids, even in very young infants.

When, however, we have an infant with adenoids that breathes comfortably, sleeps restlessly only when it has a "cold," has no ear complications, and takes his food properly, I invariably prefer to defer the operation until the child is 2 years old or more.

When the child is older, shall we operate whenever we find a hypertrophy at the vault of the pharynx? By no means. Slight hypertrophies are so common that they can hardly be called deviations from the normal, and to operate in such cases is, to say the least, unnecessary. But, unfortunately, it is done, and like every other procedure that has proved of benefit, it is overdone nowadays. "Many a pharyngeal vault is scratched because it contains a perfectly normal amount of lymphoid tissue, and the child is really suffering from the vasomotor results of too much candy on the stomach, or of too much clothing on the back, or of too much coddling in steam-heated houses." (Jon. Wright.)

Fifteen or twenty years ago there was need of encouraging the performance of these operations, as the majority of practitioners were more or less afraid of handling adenoids. Naturally enough many cases were neglected at that period. Nowadays it is better to sound a word of warning in the other direction. I know that too much operating is being done already. I could narrate many interesting instances of this kind coming under my observation, were I not limited in time. Not every child that snores, or keeps his mouth open, has adenoids. There are other things under the sun which we can and must treat!

In spite of this, there remain thousands of cases where we absolutely have to remove the adenoids. When a child is brought to us with adenoids which even only partially close up the choanæ, or where an affection of the ear coexists, not to speak of all the other well-known lesions that occur as sequelæ of adenoids, then I advise the parents that an operation is absolutely necessary and that its omission is a very risky and perhaps dangerous matter for the child's health.

Let me remark, apropos, that I have not had the courage to operate in hemophylics, of which four cases came under my care.

THE OPERATION ITSELF.

When we do operate, we must not forget that we have here to deal with a field that is already infected. No amount of antisepsis will do any good in these cases, but they are liable to do harm. My views on this point have not changed for the last fifteen years, viz., that a strict antisepsis is impossible and unnecessary. And this is much more true of the retropharynx than of the nose.[7] To wash out the mouth and throat with any antiseptic solution will be found bacteriologically entirely useless. The contact of the fluid with the mucous membranes is too short to kill even one bacterium. To wash the face of the child with an antiseptic or alkaline solution before the operation is playing with antisepsis, and syringing the nose before operation is dangerous.

For general anesthesia I invariably use chloroform, and am glad to be in accord with Sir Felix Semon and W. Williams.[8] The few times I have given ether or ethyl chlorid I was not pleased with the narcosis. Still, I must admit that there are many with wide experience who prefer either of these two.

In what position shall the patient be placed during the operation? For several years, i. e., from 1887 to about 1893, I used the upright position, recommended again lately by T. R. French[9] in a very instructive paper. I have given it up again: firstly, because in older chil-

dren it was not very convenient, although I must admit that at that time I did not have Dr. French's chair, but an arrangement of my own; secondly, because I encountered a few times unpleasant accidents which were due to the upright posture. I remember one case, a boy of 14, without any cardiac lesions, where breathing stopped for a while, the pulse became very feeble and I had to work for about two hours in order to thoroughly restore these functions. Similar, though not marked accidents have happened in several other instances, so that I came to the conclusion that the danger of anesthesia in the upright position was well founded. Nor do I favor the so-called Rose's position, i. e., with the head of the patient drawn over the edge of the table and bent well back. I am under the impression that the severe hemorrhages that have followed operations in this posture were indirectly caused by it. The surgeon is more apt to cut deeper into the normal tissue and wound a larger vessel, as the parts are more exposed.

Without any previous preparation, as douching or syringing, etc., my patients are put on a table, lying on their backs, the head not being raised and only a small pillow placed under it. The chloroform is given "slowly and cautiously and not pushed to the abolition of the cough reflex which protects the larynx against the entry of blood (*loc. cit.*, p. 720). The operation is performed thoroughly, which means all pathologic growths are removed and not a particle more. We "shave the surface clean" and no more. The attempt to remove all adenoid tissue will only be made by those who forget that we normally have and need such tissue. I have seen the operation done so "thoroughly" that I was convinced that the greater part of the mucous membrane was removed at the same time. On the other hand, there is often found a mass of thickened tissue at the lower edge of the growth, just below the velum, and I agree perfectly with French that this should always be well removed. A failure to do so is invariably followed by incomplete restoration of nasal breathing.

AFTER-TREATMENT.

As mentioned above, no preliminary antiseptics are used. If the patient bleeds during the operation and the blood flows through the nose and down the pharynx, this is the best antiseptic we could wish for. At the same time the flow of blood brings away masses of pus and purulent matter that have accumulated there for long periods. My after-treatment consists in keeping the child quiet for a day or two and giving it a carefully selected diet. The application of a nasal or postnasal douche I consider dangerous right after the operation.

Now, some children will not lose their nasal or postnasal catarrh after the operation, and the most important after-treatment has to commence then. I prefer to perform these operations in the spring, so that the children can stay, if at all possible, a few months in the country, preferably in the mountains. I have had excellent results in these cases, although naturally I have had to operate during all seasons, and with good results, too. In other instances, we have to treat the nasal catarrh systematically. If this be neglected, and it is neglected often, then a relapse of the adenoids will surely follow. In six months or a year we will have the same amount of adenoid tissue as before, in spite of the fact that they had been removed thoroughly. In very old and neglected cases we sometimes find hypertrophies of the turbinals which do not recede after the operation. In such cases, which are nothing but *stasis hyperemia*, the galvano-cautery was formerly used. I warn against such a procedure, as atrophy of the nasal mucosa will often follow. The congestion that is present ought to be removed by treating the postnasal catarrh with all perseverance possible. Among the different factors in the management of adenoids none is of greater importance than the treatment of these nasal and postnasal catarrhs after operation, and by persistent efforts in this direction I am sure that we will obtain still better results than have been achieved heretofore.

I trust these brief remarks will bring out a full discussion which will prove of benefit to all of us, although I am fully aware that I have touched on only a few points of this extensive and important subject.[10]

BIBLIOGRAPHY.

1. Der Schlundkopf des Menschen, 1868.
2. "The Versatility of Adenoid Vegetations," Australasian Med. Gaz., Jan. 20, 1898.
3. "Bericht über 1,000 adenoide Vegetationen," Wien. Med. Woch., 1890.
4. "Effects of Adenoids on the Ear," Brooklyn Med. Jour., p. 520, 1901.
5. Macleod Yearsley: "Adenoids." London, 1901, p. 11.
6. W. Freudenthal: "Die chronischen Erkrankungen der oberen Luftwege und Unterleibsbrüche." Berlin, 1892.
7. W. Freudenthal: "Asepsis or Antisepsis in Nasal Surgery?" N. Y. Med. Jour., Feb. 11, 1893, p. 154.
8. Allbutt's System of Medicine, vol. iv. p. 720.
9. Lymphoid Growths in the Vault of the Pharynx. Reprinted from Brooklyn Med. Jour., 1893.
10. After I had finished this article I received a book by Sir Felix Semon, entitled "Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air-Passages." London, 1902. Dr. Semon deals here extensively on adenoids and I appreciate that we agree on most points. His remarks are so excellent and touch in a broad sense on so many questions that I believe every practitioner ought to read this booklet.

CHLOROSIS.*

C. F. WAHRER, M.D.
FORT MADISON, IOWA.

ETIOLOGY.

This affection is, with very few exceptions, confined to the female sex, and that principally during adolescence, usually heralding some disturbance of menstrual function, but chiefly characterized by deficiency of hemoglobin of the blood. It seldom affects early childhood, and if so, is usually connected with precocious development of sex. It is also seldom seen after the thirtieth year, but is by far most common at the beginning of puberty. It is also claimed to be at times hereditary, or apparently so. Sedentary occupation, indoor life, unsuitable food, excessive physical and mental activity, emotional or psychic disturbances are all causative in the majority of cases of chlorosis. It is remarkably frequent in girls who menstruate prematurely, indeed, one can usually predict a case of chlorosis in girls whose first menses appear very early. Often this affection is associated with anemia, coexisting or following soon in its wake. Careless observers may make a mistake in diagnosis, though this is one of the most easily diagnosticated of all diseases. These patients are often plump, even fat, or may be plethoric, making a striking contrast to the various cachexiæ for which it is sometimes mistaken. It is never due to menstrual troubles; these may follow, not precede or cause chlorosis. Nor does it ever give rise to tuberculosis, as popular fallacy teaches, but the reverse is exactly true, although at times it follows long protracted sickness and wasting discharges.

The worst cases we find among factory girls in large cities, for obvious reasons; however, it is not rare in all

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conditions of life. As far as race is concerned, we find it to preponderate by far among the white race. Constipation is usually present, and precedes the affection, as also do gastrointestinal disturbances and anorexia.

The chief causes are sex, puberty, predisposing constitution and, perhaps, heredity. The exciting causes are often anemia, insufficient and improper food, poorly lighted habitations, mental and physical overwork, grief, worry, anxiety, nervous excitement, sometimes cold and constipation, producing an auto-intoxication, gastroptosis and enteroptosis, these last two being usually brought on by tight lacing.

SYMPTOMS.

The appearance and symptomatology of the patients are characteristic, so much so that an experienced physician usually makes his diagnosis by inspection, of course supplementing the same by careful examination, not forgetting in difficult cases a blood examination for the estimation of hemoglobin, which is always deficient, often as low as 30 per cent. and even lower. Hence these patients are pallid, especially cheeks, ears and lips, also conjunctiva. We also note a yellowish white or greenish white tint, hence the name chlorosis. When blood is drawn it is often so pale as to scarcely show any red color, and an easy test is now made and a fairly correct one by means of the Tallquist hemoglobin scale, in which various degrees of red indicate approximately the percentage of hemoglobin present. This device is in booklet form and all you need do is to stain one of the sheets with the patient's blood and compare with the scale to make your estimate, which for clinical purposes is sufficiently correct. I need not draw your attention to the more difficult method with the hemoglobinometer, which, though more correct, is not always convenient to every practitioner.

Coexisting with diminished hemoglobin we also have at times a diminution of red blood corpuscles, especially in the later cases that are complicated with a true anemia. It is needless to add that in all these cases the blood is deficient in iron. All the chief symptoms are, however, caused by the deficiency in hemoglobin, its resulting interference in gaseous tissue interchange, causing a general derangement in function of the various organs. Fatigue, dyspnea, palpitation, easy perspiration, heart murmurs, arterial and venous murmurs of the jugulars and femorals, all are found in some cases or other of chlorosis, complicating the diagnosis at times so as to cause suspicion of other coexisting maladies, which usually are not present, and if so, not to the extent first suspected.

Concerning latent tuberculosis, there is a popular misconception, even among some ignorant and careless physicians, that in some way these two affections are connected, the one being causative of the other, but this is wrong, and careful study will soon dispel the thought of such relationship.

DIAGNOSIS.

Edema being common in both diseases we must differentiate from nephritis by careful urinalysis. Neurasthenia sometimes comes in for its share of attention, also hysteria, and observing headaches, hemicrania, neuralgia, especially the intercostal and gastric forms, tinnitus, insomnia and other nervous symptoms, warrant us in taking them into account, and often we find one or the other to be the chief affection. Hemorrhages, such as epistaxis, menorrhagia and hematemesis, are misleading, but rare, complications. The respiratory system frequently complicates matters. Slight laryngitis, rhinitis, functional aphonia and dyspnea are observed often. Bronchitis occasionally and tuberculosis develop in a fair number of chlorotics.

This last point deserves elaboration. It is a popular error, I wish to repeat with emphasis, with the public, whose information usually trails fifty years behind professional knowledge, that tuberculosis is caused by chlorosis, or, as they express it, with monthly troubles, especially amenorrhea. This view, I reiterate, is fortified by careless and ill-informed members of the profession, when we know the converse is true; namely, consumptives who have the disease in its incipiency simulate chlorosis, and also have amenorrhea as a simple conservative of Nature's vis medicatrix. We should all strive to correct this false teaching, because the public usually clamor for a restoration of the menses, claiming failure and inability on our part in case we do not accomplish it.

THE LACK OF IRON IN THE CHLOROTIC.

Intestinal and gastrointestinal disturbances are not rare; indeed, Forschheimer's theory is that the intestinal tract is the site and origin of hemoglobin formation, hence chlorosis is caused by alimentary canal disturbances, but this has so far not been proven. Virchow claimed it to be caused by arterial hypoplasia, also not proven, because we find arterial hypoplasia absent in many chlorotics and present in many who are free from the disease. Von Noorden thinks it due to an internal secretion of the ovaries, a disturbance of which causes the defective hematogenesis. Bunge's claim that the cause lies in the adolescent female storing up iron to be used in supplying the livers of her offspring is not easily susceptible of demonstration, though excess of iron is found in the breasts and uteri of adolescents. The fact remains that we are still ignorant of the anatomico-pathologic causes of the origin of this common affection, and a wider knowledge of this as yet unexplored field of blood chemistry may in the future reveal to some investigator what is as yet hidden. As to whether we have less or more of this disease than formerly the best authors differ widely. Vasomotor disturbances are very common among this class of cases, general and localized sweating, flushing, cold areas, as hands and feet, shivering, vague anginal pains, thyroid enlargement and simple polyuria, are frequently noticed, and a pseudo exophthalmic goiter has been noticed by a few. Plausible light on theories of etiology is given by the assumptions of Frederick Taylor, in which he holds that women have less iron, hence less hemoglobin than men, and during adolescence a greater drain is made on them than usual. Healthy women having a reserve store in their liver and spleen can easily supply an excess loss, until Nature comes to their rescue; if not, there will occur a deficit, hence a chlorosis or a chloro-anemia. If to the normal excretory loss we add menorrhagia or other hemorrhages the result is all the more emphasized. But when we have amenorrhea it should be considered a conservative measure, hence protective and beneficial to the patient.

THE TREATMENT BY ADMINISTERING IRON.

Now this view of chlorosis naturally suggests the treatment; namely, to supply what is lacking—iron. Even though there is a want of consensus of opinion as to the etiology, yet all writers agree as to the lack of hemoglobin, and in some cases a deficit in red blood cells, next gastrointestinal disturbances, constipation, bad food, indoor life, unhygienic surroundings, so much so that the treatment mainly consists in bringing about

opposite conditions, to-wit: the administration of iron, regulation of bowels and stomach, purgation, better food, outdoor life, except in the very worst cases where rest at first does most good, and the amelioration of general surroundings. Of all these the administration of iron and purgatives holds first rank, and will probably cure the vast majority of cases.

Now the preparations of iron with which the market is flooded are legion, each one making claims above all others, but few if any come up to the expectation we have from Blaud's mass of the carbonate of iron, either as originally made or compounded with purgatives, also with strychnin, arsenic and sumbul. The number of formulæ in pills or tablets is sufficient to satisfy the most fastidious in almost any case. Special claims have also been made for the lactate and oxalate of iron, also for a number of organic forms, of which ferratin made from the liver of animals is a good example, also numerous solutions such as the peptonates and dialyzed iron, but all of their extravagant claims are not substantiated while many of them are practically inert. In giving iron a pill containing three grains of Blaud's mass may be given after meals, and this amount gradually doubled and even tripled. Even though we know all of this is not absorbed, yet it is best that sufficient be exhibited to supply all deficiency as well as counteract any destructive chemical reactions with the sulphites of the intestinal tract.

When constipated, purgatives, such as aloes, cascara or the salines, alone or in combination with chalybeates, must be pushed to satisfaction to overcome the constipation and its auto-intoxications, and resorption of alimentary toxins. Such hygienic measures as cold sponging on rising, gentle exercise and, those who can afford it, a residence at some iron springs, will add much to a speedy recovery. Relapses must be guarded against and when they occur be treated. An occasional case of pernicious anemia or a latent phthisis may stare us in the face and mock all our therapeutic measures, thus proving the diagnosis wrong. As a rule, however, a careful diagnosis with an iron therapy will conquer the worst cases and make much reputation for the painstaking practitioner. The emancipation from mistaken notions of dress and education, combined with modern ideas of athletics and gymnastics, may do much in preventing this terrible condition among the young girls of the coming generation.

1007 Fifth Street.

DISCUSSION.

DR. E. F. WELLS, Chicago—The investigations of Lloyd Jones show conclusively that every young woman is skirting along the borderline of chlorosis, and that very little is required to cause her to fall over the brink. These investigations have occupied a number of years, and any one who is accustomed to making blood observations as a routine measure in young women will not be long in subscribing heartily to the conclusions of this investigator. That the essence of the matter, from a blood standpoint, is one of failure in the absorption of iron, and not a destruction of erythrocytes nor of too easy loss of hemoglobin from these corpuscles, seems to be almost conclusive when one examines carefully and properly-stained specimens for granules in the nuclei of the white blood corpuscles. In these cells the granulation will be found much less marked than in the ordinarily healthy woman, and showing a remarkable contrast to what is seen in pernicious anemia.

I am myself from the middle west, and I can not subscribe to the opinions put forward by the essayist that one method of diagnosis and one method of procedure which is applicable and useful in New York and Philadelphia, is not applicable to our middle western country. We can examine the blood and the patients just as well in Chicago, just as well on the prairies of Iowa as in New York or elsewhere, and it should be done, and must be done, if we are to make any pretense of doing justice to our patients and to the scientific medicine of to-day.

Any physician may make a careful examination of the blood, count the red corpuscles, estimate the hemoglobin, count the white blood corpuscles, stain them and make a differential count in from one-half to one hour. Such examinations are essential in the diagnosis and in the management of cases of chlorosis. These cases have interested me for many years, and after having read Niemeyer's glowing description of the value of Blaud's mass in the treatment of chlorosis, now incorporated in all the modern text-books, and noting the positive statements made as to the ready and rapid curability of chlorosis, I early followed his plan and met many disappointments. Without any reservation I can affirm, as the result of considerable experience, that chlorosis is not a quickly and easily curable disease. You will hear about others finding it so, but I will venture the assertion that you will not see it in your own practice. No matter what you give, or what you combine with your preparation of iron, you will find, by blood examinations made from week to week, that the patients remain almost at a standstill for some time. After from five to seven weeks, and without any special change in your line of treatment, these cases will improve and do so suddenly and rapidly. I believe that during this apparently stationary condition improvement is going on in certain directions. As is well known, the red blood corpuscles are almost as numerous as in health, but they are small and thin and do not contain the proper quantity of iron. If you will examine the blood of these patients with the hematocrit as well as with the blood counter, you will find that the percentage of blood corpuscles is increasing; that they are increasing in bulk, and judging from subsequent events are probably taking on, gradually, that receptivity for the absorption of iron which they lack and which is essential for improvement. All of these patients should be cautioned against exposure to cold. Cold sponging or bathing in the morning will retard the recovery of these patients. Rest in bed in severe cases is almost a necessity in the beginning of the treatment. After symptomatic recovery these cases still keep along the border of chlorosis, as shown by the tendency to relapses, and it takes years to bring them up to the full hemoglobin standard, and up to the normal standard for the size and number of blood corpuscles of health.

DR. I. A. ABT, Chicago—I wish to emphasize some points in the etiology. First, it should be remembered that chlorosis occurs most commonly about the period of pubescence, indeed, so commonly that one naturally concludes that there is some relation between the development of the organs of generation and the blood condition. A theory on which Dr. Wahrer has dwelt is that of intoxication from the intestinal canal. It has been suggested that girls at the age of puberty are so frequently constipated that a condition of intestinal toxemia is present, but I think greater credence should be given to the first theory. The importance of blood examination has been already emphasized. I believe iron has been given so long in these cases that we almost all look on it as a specific, yet how can the iron possibly act? Is this heavy metal taken up by the corpuscles, or does it act in the intestinal canal in some chemical way so that it combines with toxins or with sulphates, and in this way brings about the elimination of toxic products? This seems to be a reasonable explanation; certainly it appears to me more logical than to believe that heavy metallic iron can do any good by its direct absorption or its appropriation by the red corpuscles. I wish to call attention to the fact that these young people are sick for a long period, and to emphasize the fact that they need careful hygienic management. They should be directed to take a certain amount of rest. Often the pulse is soft and compressible, the heart is dilated, and the seat of blowing murmurs. Patients should be told to take longer hours of sleep or they should be subjected to a partial rest cure. I do not wish to be understood as speaking against iron in these cases, but I have often wondered as to whether it acts in the way we have supposed.

DR. MARGARET T. SHUTT, Springfield, Ill.—I have seen two cases in which most pronounced eye symptoms developed as a

result of chlorosis. One of these cases was seen in New York City. The woman had been sent to hospital with the diagnosis of an intracranial growth, and had suffered for a long time from constant headache and increasing loss of vision. She was unable when first seen to count fingers at a distance of a few inches. The possibility of an intracranial growth was negatived by the history and by absence of focal symptoms, and examination of the blood showed a moderate chlorosis, and this was thought to be a possible cause of the constant headache and the double-choked disc. She improved almost immediately on rest, baths and the administration of iron and bone marrow. Within six weeks vision was almost completely restored, and the headaches disappeared long before this. About one year ago I saw at my home a young girl with a severe choroiditis. Her hemoglobin was reduced to 32 per cent. For a year she had been anemic, and had been treated persistently by her father with many forms of iron and intestinal antiseptics, and by rest, but the anemia seemed to be increasing. I suggested the addition of bone marrow, and whether it was an accidental occurrence or not I can not say, but within a short time she had improved very markedly in every way, and the hemoglobin percentage had increased to 80 per cent.

DR. W. E. DARNALL, Atlantic City, N. J.—So far as I have been able to observe these cases of chlorosis I have been impressed with the importance of the intestinal toxemia theory. Last summer an Irish girl of 22 entered the Atlantic City Hospital during my term of service. The hemoglobin was reduced to 20 per cent. Instead of the usual temperature of 100 or 101 F. her temperature ran between 103 and 104.5 F., which gave strong suspicions of the presence of some other disease. She was, of course, constipated. If she were allowed to go for one day without a movement of the bowel, her temperature, which might have been near normal, would suddenly rise to 104 or over. Repeated examinations of the blood were made to eliminate typhoid fever and malaria, and these were positively excluded. Strict attention was then given to the bowels, and an evacuation was secured regularly twice a day. As soon as this systematic treatment was established the temperature fell to normal, and in a comparatively short time she was completely restored to health, as shown by the blood examination.

DR. WAHRER—I do not think it makes very much difference, therapeutically, what preparation of iron is selected, for no form of iron is absorbed into the system unless it has been converted into the chlorid. Then, why not give the chlorid? Well, it spoils the teeth, produces constipation and blackens the stools, and if long continued, interferes seriously with digestion. While we give peptonate of iron and many other forms, I wish to emphasize the importance of selecting one kind that seems best suited to the individual case. Our success with drugs depends very largely on our special experience with them. I made no special mention of eye symptoms, referring only to the pseudo-exophthalmic cases as an example. There are many cases described as chlorosis which probably should not be classified in this way; nevertheless this term presents a well-recognized symptom complex. I wish to say earnestly, in conclusion, that it is seldom that one finds two people who look precisely alike, and in the same way it is probable that there are no two people who possess exactly the same constitution. I believe every disease or disease complex is modified by this individuality. It is the business of the physician to study this point most carefully and treat the individual who is diseased, as well as the disease. Were this not true, we would need but very few drugs to treat such diseases as are amenable to drug therapeutics. Here again comes in that indefinable but sterling quality every good physician must have to insure success, namely, common sense, or good judgment, or whatever term is best to know it by.

Primary Tumors of the Heart.—Traina has collected in the literature thirty-six primary tumors of the heart. In order of frequency they were myxomata, fibromata, and their combinations, myomata, pure sarcomata, lipomata, fibrosarcomata, angiomata and one chondroma. He describes in the *Clinica Med. Italiana*, xli, 2, a personal observation of a case of primary fibromyxoma.

IS THE ADENOID OPERATION A JUSTIFIABLE SURGICAL PROCEDURE;

AND, IF SO, SHALL IT BE DONE IN ACCORDANCE WITH THE RULES OF GENERAL SURGERY?*

GEORGE L. RICHARDS, M.D.
FALL RIVER, MASS.

At first thought it would seem that to read a paper with this title before this Section is like raising up a man of straw and promptly proceeding to demolish it because it can make no resistance. I hope, however, to demonstrate that a paper with this title is neither untimely nor devoid of interest. The only logical answer to the query is an affirmative one; to which you will all mentally add, "We all operate that way"; and yet some of my observations have made me feel that in a good many instances this operation is not being done as though it were a justifiable surgical procedure, nor in accordance with the rules of general surgery.

Adenoid hypertrophy is a soft growth in the nasopharynx which interferes with nasal respiration and with the proper ventilation of the ear, and experience from the time of Meyer has taught it were better to remove it whenever symptoms of obstruction are present. Because they are easily reached for removal by operation—which operation must invariably be done in the dark—adenoids have frequently been removed in the most incomplete, and in many cases brutal, manner. And since they are done in the worst manner possible in many teaching clinics where Americans who are to be our future surgeons and specialists and members of our societies are taught, I am moved to relate to you some of my personal experiences in witnessing operations of this class done, not ten years ago, but so lately as a few months ago.

For many years German-speaking Europe was the great place for graduate study in the nose, throat and ear, on account of the wealth of material and the fame of the instructors; and of the audience before me probably the greater part have studied in German-speaking countries. As is well known to you all, the German is much more of an adept in the science of medicine and surgery, and especially in the pathology, than he is in the art; and at present most procedures are better done in America than abroad. It was, however, a surprise to me in revisiting a number of clinics to notice with what brutality, or at least so it struck me, the adenoid operation was done. While for obvious reasons I shall not give the names of the clinics or operators, the picture as presented is nevertheless an accurate one, and I have no doubt would be equally true of any number of teaching clinics.

Let me describe to you how I saw the adenoid operation done in five different foreign clinics, all of which have American students. In one the struggling child was taken in the arms of an assistant; the physician sat before the child, with an ordinary laryngeal mirror for a tongue depressor, without a mouth gag; the tongue was depressed, a Beckmann curette introduced behind the pharynx, one or two sweeps made, the child tipped forward and the operation was over. Plenty of blood came, but in the half dozen or more times that I saw the operation done in this way by this operator, and also by other operators in the same clinic, I saw no adenoids of any amount. The finger was not used to determine whether anything was left, nor was any at-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

tempt made to staunch the blood. The child shrieked loudly, was taken into an adjoining room, and the next child brought forward for operation.

In another clinic in the same city I saw the operation done in substantially the same way, only here the curette was used with such force that in one instance I saw a large portion of what looked like good healthy nasopharyngeal mucous membrane brought out. Here again no after-examination was made to determine whether or not the growth was removed.

In another clinic in another city I saw eighteen children operated on for enlarged tonsils and adenoids in one group. One after another they were seated around the room to shriek, and after they had all been operated on they were brought back for a second examination to see if any portions of adenoids were hanging in the pharynx or bits of tonsils remained. No cocain was used, but in this instance a tongue depressor and a mouth gag were employed, and the operations, while rapidly done, were more scientifically performed than in the two preceding instances.

In a fourth clinic the operation was done without anesthesia and with no attempt at mitigating the pain, yet from the surgical point of view aside from this I have no criticism to offer. Here I saw some twenty children operated on in one seance. While a nurse prepared a child for operation in one chair, the operator operated on another in another part of the room. There was good illumination with artificial light and a forehead mirror, and the instruments used were a most excellent mouth gag, tongue depressor and a Beckmann curette. The tongue was depressed, the curette skilfully used, and in three sweeps, one in the middle and one in each side, the growth was thoroughly removed, and an examination at once made with the finger to be sure that nothing was left. Here adenoids appeared in every instance. In the three preceding clinics I was always surprised at seeing how few adenoids were removed. As fast as the children were operated on they were all sent shrieking and spitting into an adjoining room; and you can imagine the pandemonium present when fifteen or twenty children, shrieking at the top of their lungs and spitting blood, were all assembled in one room. The skill of the operator, however, in this latter case admits of no question, and I am almost tempted to give his name.

In the fifth clinic, which was in England, adenoids were removed in the following manner: Nitrous oxid gas was administered by a skilled anesthetist, a nurse held the child in her lap, another nurse looked after the hands and feet of the patient, while the operator sat before the child, using a forehead mirror and artificial light. Anesthesia was usually complete in less than a minute, the tonsils were removed with the Mackenzie tonsillotome, and the adenoids with the Löwenberg curette followed by the Gottstein. The child's head was thrown forward, the bleeding was inconsiderable, the child was told to spit out the blood, and in about three minutes from the time of beginning the operation the child was able to walk into another room, where it was attended by a nurse until such time as it was able to go home, when it was given printed detailed directions for care for the next few days. For public clinic or hospital work this method seems ideal, since it is accompanied by an insignificant amount of blood as compared with an ether operation, is rapid and painless, and was used in this clinic for all but the very youngest children, whom it was deemed unsafe to anesthetize.

The methods in use in the first four clinics, which were large continental clinics, seemed to me absolutely brutal and incomplete; and I was told by a laryngologist of prominence that the operation itself had fallen somewhat into disrepute, as the growths frequently recurred. As you are all aware the German-speaking authors mostly advise the operation to be done without anesthesia, and now and then some of them claim that it is not painful. Even those who admit that it is painful seem to prefer to operate without anesthesia. Let me quote from several prominent authors: "The operation is painful without narcosis, and when very rapidly done can do harm to a very nervous child." But this author rather deprecates the necessity of employing narcosis, since, he states, the operation can be done in about three seconds. Another writer, an Italian, says: "I do not like narcosis, and only use it when I have children to operate on that can not be held rigidly enough, or when the parents object to its being done without. On the other hand, the pain is of so very short duration, and the operation lasts such a short time, that its risks ought not to be increased by the dangers of using narcosis." Another author states that the children do not realize much of anything until the operation is completed, and that good children have said after the operation that they have not suffered any pain. Furthermore, he states that the tissue contains few or no sensitive nerve fibers, and the child cries because he sees and feels the blood flowing out of the mouth and nose. He says that there are children so unruly, stubborn and obstinate that they can not be operated on except under narcosis. I noticed in my own observations that the children all cried much as they would have done in America; but I am glad to know that they cry, not from pain, but simply on account of the bleeding at the nose and mouth. There are signs of the dawning of a better day for these cases, as in a long monograph of recent date on adenoids, by a continental writer, anesthesia is spoken of as follows: "Local anesthesia is very incomplete and does not spare the child the psychic shock of the instruments and their introduction into the mouth. It is lymphatic, nervous, fearsome, delicate, sensitive children that have adenoids. The forcible holding, the light before the eyes, the large number of instruments, the forcing open of the mouth, the introduction of instruments into the pharynx, which is frequently too small for the instruments, the removal of portions of tissue—is all painful for the patient, as is also the scraping of the growth many times with the curette, which is perhaps not conformable to the pharynx wall, while the child is half suffocated with blood. This procedure frightens the child and causes a nervous shock. On the other hand, the operation is done more easily under anesthesia, and the danger of injury to neighboring structures is less." When I inquired personally among my continental friends as to why they did not use anesthesia for these operations they told me that the anesthesia was dangerous, the operation was short, the pain slight and it was not necessary. A friend of mine, of large private practice in one of the largest continental cities, told me, however, that he invariably used anesthesia, and frequently reoperated after the surgeons who did not regard anesthesia as necessary.

So much for operations across the sea. I am glad to state that, so far as I am aware, most American operators operate under anesthesia, and in a thorough manner. Yet no later than three years ago, in a paper read before this Association (I quote from the published proceedings, 1899), the finger-nail surgery was advocated

as the proper thing for the removal of adenoids, and the writer stated: "I have never seen or rather felt a case of adenoma which was not entirely removable by the finger-nail, provided the latter was in its normal condition and had not been injured or broken. . . . If not all removed, either the same day or the next, if possible, I will again enter the cavity and, if necessary, with the steel finger-nail remove every bit of the diseased tissue discoverable. . . . Two days after, I examine the region, and if everything is well I re-examine after a further period of about three or four days, when, if the healing has been perfect, the upper pharynx will feel smooth and soft, and there will be no danger of recurrence." The steel finger-nail—an instrument much better suited to the dark ages than to twentieth-century surgery—was shown, which was to be used whenever the operator's finger-nail was out of condition. In justice to the members of the Section on Laryngology of 1899, it must be stated that there was general dissent to the reader's proposition. I have also heard of other American surgeons who operate piecemeal for these growths.

The removal of the adenoid growth, if the growth is necessary to be removed at all, is an operation of moment to the person on whom it is done, and therefore should be done in as thorough a manner as possible, and with as little resulting shock. By the rules of general surgery as applied to this operation I mean: general anesthesia in children over two or three years of age, and in all adults in whom it is likely that cocain anesthesia will be insufficient, and proper preparation of operator and instruments, so as to minimize all the risks.

In older children and adults, where the nasopharynx is fully developed, the Schütz adenotome or one of its modifications can be advantageously used under cocain or even without any anesthesia. It is especially adapted for use where the adenoid is mainly central. I have been pleased with it and I know that others also have. I do not think it is adapted for very young children, as in these the pharynx is hardly large enough or sufficiently developed for its successful use. In these, as above stated, I prefer general anesthesia and the ordinary instruments. This adenotome has not yet acquired very general usage. I have never seen it used in any clinic.

The question of the anesthetic to be employed, whether ether, chloroform, bromid of ethyl or chlorid of ethyl, is one that must be determined in accordance with the experience of the individual operator. In most cases I personally prefer ether. Rapid, but careful, deliberate operating should be the rule, the operator being neither in haste to finish in any given number of seconds nor unduly prolonging the operation; and sharp instruments should be used, so that as much as possible the growth may be cut away rather than torn away, so as to leave a smooth cavity. The removal of the adenoids, not of all the structures to the spinal column, is what we desire. The pharynx ought to be covered with mucous membrane and not with fibrous connective tissue which will be a source of dry catarrh during the remainder of the life of its owner.

During the operation I believe in staunching the blood with tampons, since I see no reason for allowing the patient to lose any more blood than is necessary, although I read in all the books that staunching the blood is unnecessary.

Before regarding the operation as finished, determine by examination that the growth has been entirely removed. Keep the child in bed for a day or two following the operation, and do not feel in his nasopharynx at frequent intervals thereafter. If the operation was satisfactorily done no after-examination is necessary.

For the preliminary finger examination previous to operation and for post-operative examinations protect the finger with the rubber finger cot. The details of the operation, preparation, position, asepsis, instruments, etc., do not come within the scope of this paper.

Fortunately, unpleasant sequelæ in the way of sepsis or hemorrhage are almost unknown, considering the number of adenoid operations which are performed. I must, however, considering how difficult it is to properly disinfect or sterilize one's finger nail, protest against its use as a surgical instrument in these cases.

DISCUSSION.

DR. L. C. CLINE, Indianapolis—Two or three years ago I was severely criticised by some of the members of this society because I advocated doing this operation without an anesthetic. I believe the use of anesthetics is overdone in this operation, and only in the exceptional case is an anesthetic necessary. In the majority of cases as good results may be obtained without the use of an anesthetic, and we must admit that there is a danger in the use of anesthetics. Only a short time ago there were 18 or 19 deaths reported from anesthesia, and I am sure anesthesia is not without danger in this operation. We have all learned certain ways of doing operations, and when we become skilled in doing an operation in a certain way, that is the right way for us to do it. Other men may have as good success by some other procedure. My custom is, in the majority of cases, to have the child firmly held by an assistant. I do not have a great array of instruments to show the patient. I do not allow the parents to speak to the child about what I am going to do. I pick up my Gottstein instrument or a modification of it, and before the child realizes what has happened I have done my work. They cry a little afterward, but I would rather they would cry than to have to perform artificial respiration to bring them to after the use of an anesthetic. I have had that experience. We have to adapt our methods to the individual case, I think, and we are not justified in subjecting every case to an anesthetic. I would not use it in my own child, but I would treat it without an anesthetic unless an anesthetic seemed necessary. I believe a good, reliable, efficient operation can be done without even local anesthesia. Such a procedure may be described as brutal and all that, but if the adenoids are soft you can operate without much pain.

DR. J. H. MACDONALD, New York City—This operation is now a great deal in disuse and disrepute by the operators that have done it. The same preparations should be taken for it as for any other operation in surgery. The urine should be examined, the general conditions of the patient should be looked into, and the nervous condition of the patient and the age should be taken into consideration. Many of our clinics do not examine the urine, and do not even know whether the bowels are loaded, as happened in a case related by Dr. Cline. All these things are overlooked in what is considered the little operation for the removal of adenoids. This operation should be done with the proper technic, with the aid of nurses and intelligent assistants. There should be no struggling. Then the use of anesthesia would not be in disrepute. In regard to the choice of an anesthetic, I have, with Dr. Gleitzmann of New York, used bromid of ethyl in over 500 cases without a death. I have used the A. C. E. mixture and also chloroform. We are careful in the selection and the use of an anesthetic. We take the condition of the blood into consideration. We see that the child is thoroughly relaxed, that is, of course, in children over two years of age and who are not of a nervous temperament. That has been the teaching of Dr. Gleitzmann while I have been his assistant for over five years. In regard to ether, there is an unknown quantity. But if we go into the subject with the same care as if we were to do a laparotomy, there would not be half the deaths.

DR. SARGENT F. SNOW, Syracuse, N. Y.—I agree with Dr. Richards that this operation should be done as a surgical pro-

cedure. For about three years I have been trying the use of bromid of ethyl. I have also used other anesthetics, such as ether and chloroform and laughing gas. I must say that if I can have an assistant to hold the patient, who is familiar with the work and an anesthetist who is familiar with giving bromid of ethyl, I prefer it to all other anesthetics. With bromid of ethyl we get anesthesia in from 90 to 120 seconds, and sometimes in 60 seconds sufficient to amputate both tonsils and remove the adenoids. Almost immediately afterward our patient is conscious, with no sickness and with very little hemorrhage. This anesthetic is most excellent if the drug be fresh and our assistants acquainted with their work. The laughing gas in my hands so far has not proved all I wanted. The anesthesia I get from it is not sufficient. Perhaps my anesthetist has not pushed it far enough, but we do not get sufficient relaxation. I do like the patient in an upright position, which seems safe when we use bromid of ethyl.

Dr. G. McAuliffe, New York City—I did not understand from Dr. Richards' paper whether or not he staunched the bleeding. As soon as the adenoid tissue is all out, I have not witnessed any bleeding.

Dr. Richards—I did not give the details of the operation, but my plea was for good surgery. The current number of the *International Journal of Surgery* contains an article in which my own views are stated.

THE DIAGNOSIS OF CARCINOMA OF THE LARYNX.*

OTTO T. FREER, M.D.
CHICAGO.

It is unfortunately true that ordinarily carcinoma of the larynx is not discovered until nothing but total laryngectomy offers the patient a chance for existence. One of the reasons for this is the fact that the diagnosis of the affection is often difficult and may be impossible for even an expert. Another cause for the lateness of recognition of the disease is the slight regard usually paid by the patients to the persistent hoarseness that may precede the graver manifestations for years as the only symptom. A third and avoidable reason for the unrecognized advance of malignant laryngeal tumors is the widespread indifference to the acquirement of even moderate skill in laryngoscopy shown by a great part of the profession. Many physicians treat patients with chronic hoarseness by general means and do not even inspect the larynx. I have known a patient to be sprayed for six months for supposed laryngeal catarrh by means of an atomizer and tongue depressor while his unseen carcinoma rapidly advanced to a hopeless stage. In another instance the laryngoscope was not used until the carcinoma had penetrated the laryngeal cartilages and appeared as a tumor in the neck. A glance at the literature of laryngectomy will show how late carcinoma of the larynx usually comes to the operator. Chronic hoarseness, especially in men past forty should make a laryngoscopic examination an imperative duty to all practitioners.

There are no general conditions with the exception of age and sex that are of use in determining the existence of carcinoma. Until the disease has advanced to the stage of dysphagia, extensive ulceration, sloughing and perichrondritis, it does not interfere materially with health.

Though most of the patients affected with the disease have passed their fortieth year, a large proportion of cases is seen before this period and even childhood is not exempt. This is shown by the statistics of Sendziak containing 479 cases of carcinoma of the larynx and that of E. Kraus with 187 cases, a total of 666. Five of these were found in the two first decades of life, 26 between the 20th and 30th year, 59 between the 30th and 40th, 170 between the 40th and 50th, 264 between the ages of 50 and 60, 110 between 60 and 70, 15 between 70 and 80.

Sex is of importance in determining the existence of laryngeal carcinoma, as the statistics of numerous observers show that men are from six to seven times more liable to the disease than women.

None of the symptoms of carcinoma are of much value in proving its presence, but they are of great use in arousing suspicion of its existence. In the majority of cases hoarseness is the sole evidence of commencing malignant disease for a long period, generally from one to three years. Chiari mentions a case in which hoarseness lasted nine years before other symptoms made their appearance and voice disturbance in his other cases extended over an average of two years before there was a change in the manifestations. This long period of comparative latency of the disease gives abundant opportunity for conservative operative interference and serves to differentiate carcinoma from the rapidly destructive laryngeal lesions of syphilis and tuberculosis.

The symptom of pain appears in the later stages of carcinoma, characterized by sloughing and ulceration. It is common to all the ulcerative affections of the upper larynx and therefore not peculiar to malignant disease though in some cases a prominent feature. It serves to exclude the benignant growths from consideration as these are never associated with pain. In carcinoma this generally takes the form of otalgia, occurs during swallowing or sometimes spontaneously and darts from the larynx to the ear, angle of the jaw or back of the head. Fraenkel states that it always appears in the ear corresponding to the side of the larynx affected, and that he has never found pain as a symptom of carcinoma where the epiglottis or aryteno-epiglottic folds were not ulcerated. Ulceration of the cords did not, in his experience, give rise to otalgia. Delavan regards lancinating pain as an important symptom, but his views are not shared by the majority of authors, who agree that it is usually a late and inconstant manifestation. Scheier found in 102 cases of carcinoma only 9 who complained of otalgia or pain radiating to the back of the head. In my experience pain is not a regular or prominent feature of laryngeal carcinoma.

The dyspnea of carcinoma ordinarily lasts many weeks or months before it becomes dangerous, but if perichondritis or other acute inflammatory complication occur it may come on suddenly, and whether its onset be fast or slow it almost invariably demands tracheotomy. A history of slowly increasing laryngeal stenosis in an old man is very suggestive of carcinoma. The stench that carcinoma gives to the breath is a characteristic but very late symptom, which may also occur in syphilitic necrosis of the cartilages.

It is thus evident that the patient's general state and symptoms offer but slight aid in making a diagnosis and that dependence must rather be placed on laryngoscopic and microscopic examination.

It is customary to divide carcinomata of the larynx into intrinsic ones; those originating on the vocal cords, ventricular bands, in the ventricle or inter-arytenoid or subglottic regions and extrinsic carcinomata; those seated on the epiglottis, aryteno-epiglottic folds, in the fossa pyriformis and on the posterior surface of the cricoid ring. Observers agree that carcinoma has its origin

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. J. F. Barnhill, C. R. Holmes and G. H. Makuen.

on the vocal cords much more often than elsewhere in the larynx. Moritz Schmidt says that the center of the membranous part of the cord, so often the seat of benign growths, is very seldom attacked by carcinoma, and states that carcinoma is never primary over the processus vocalis according to his experience and that of B. Fraenkel and others. The inter-arytenoid region, the favorite location of tubercular papillomatous granulations, is rarely the source of carcinoma, while next to the vocal cords the ventricular bands are its favorite seat.

Intrinsic carcinomata are commoner than extrinsic ones, the epiglottis being more frequently attacked by the latter than other parts, though Jurasez finds carcinoma of the posterior surface of the cricoid cartilage not rare. The fact that the vocal cords are the favorite seat of carcinoma would be of more diagnostic value were it not that they are a common point of attack for so many other morbid laryngeal conditions. Most of the benignant growths begin here and tuberculosis and syphilis are common in this location.

Carcinoma in its early stage may have a deep or superficial origin, growing in the submucous tissues or invading the structure of the mucosa itself. It often

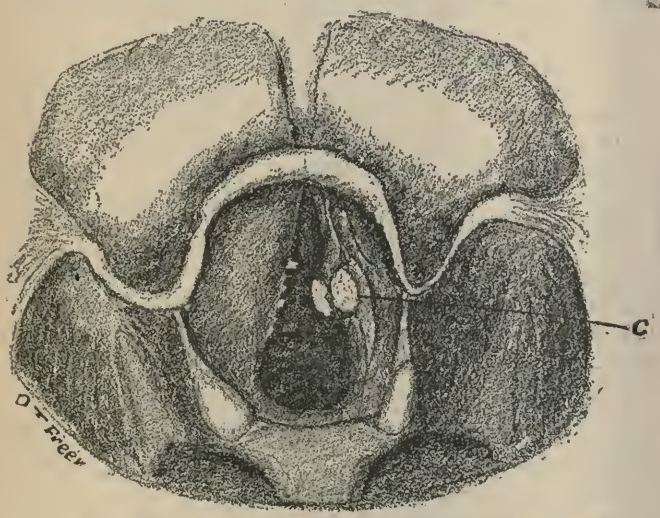


Fig. 4.—Polypoid carcinoma of the larynx. *c*, Carcinoma.

looks like papilloma and this resemblance may be due to the carcinoma tissue itself, when this is superficial and has the form of a hard verrucous, generally white rough thickening, the so-called pachydermia verrucosa. In other cases the carcinoma is of deeper variety and invading the submucous depths is covered with a growth of softer true papillomata which may precede its appearance for years, be removed again and again until finally the malignant tumor reaches the surface, appearing as a whitish yellow mass. In other cases the neoplasm is a mixture of true carcinoma elements surrounded by a zone of simple papillomata. In Figure 4 a number of accumulated papillary prominences may be seen fringing the edge of the right cord heralding the advance of the carcinoma across the anterior commissure and into the substance of the right cord. Moritz Schmidt has found that carcinomas that announce their coming to the surface by a growth of simple papillomata are apt to originate deeply near the perichondrium and to cause perichondritis early. The aspect of the surface of early carcinoma may strongly resemble that of papilloma; in fact, be of a truly papillomatous nature and so leave the most experienced observers in doubt. A piece removed for histologic examination may add to the confusion if too superficially removed. This is well shown in one of Chiari's cases. The patient had pieces excised for microscopic diagnosis five times during four years, the last piece only showing true carcinoma, the others being pronounced merely suspicious papillomata.

It is to the base of the neoplasm rather than to its surface that attention must be directed in the diagnosis of carcinoma from simple papilloma or other benign growths. Though there are even some pedunculated early carcinomata the base of the papillary carcinoma is generally broad, the mass of the growth seems to form a part of the larynx invaded, substitutes normal tissue by its elements and therefore rises but little above the surface while the superficial nature of the attachment of papilloma is striking. It is usually multiple while commencing carcinoma is solitary. The mosslike grouping of the long slender papillæ of papilloma forms a delicately regular structure in marked contrast to the broad, short and irregular proliferations of carcinoma. A typical papilloma is shown in Figure 8. I have removed successive crops of papillomata from the larynx of the patient from whom I made this drawing. The first operation was in 1897. The recurrences have all been typical papilloma.

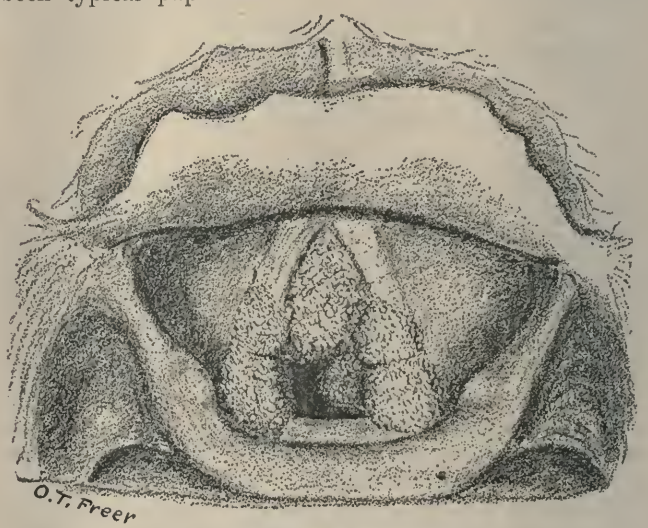


Fig. 8.—Papillomata of the larynx.

Virchow states: "If the papillary or aborescent outgrowth be seated on a narrow, superficial, non-suspicious base the neoplasm may be regarded as non-malignant. The base of the tumor constitutes the difference between the wart and the papillary carcinoma." Chiari says that the base of the papillary excrescences of carcinoma bleeds much more severely when these are cut away than does the base of a papilloma. The surface from which a papilloma arises is not altered or inflamed, while in the course of time an inflammatory area usually appears about the cancerous excrescence according to the rapidity of growth and consequent irritation of the tissues invaded. This is associated with edema of the mucosa due to the occlusion of vessels and venous stasis caused by the advancing growth. Ordinarily it is no hard matter to distinguish simple papilloma from carcinoma.

The form of tumor called carcinoma polypoides by Fraenkel is regarded by him and Semon as even more common than the papillomatous variety, but is less liable to be mistaken in diagnosis. It appears most commonly as a tumor of the cord in the form of a flat broad elevation. Benign growths grow in height and breadth, carcinoma more in depth, replacing normal tissue, so that carcinoma polypoides invades the glottis but little while it enters deeply into the cord. The surface of this form

of tumor is smooth at first or slightly irregular, its color grayish-white or even whiter than the cord itself. This condition is shown in Figure 4, where the button-like white epithelial nodules of the carcinoma are seen inlaid in the mucous membrane which is thrown into irregular folds by the carcinoma tissue underneath, while the outlines of the cord, ventricular band and ventricle are already effaced. The patient from whom I made this drawing was first seen by me, together with Dr. George Torrison, in October, 1901. His only complaint was of hoarseness of a year's standing. A series of illnesses prevented his seeing us again until January, 1902. The progress of the carcinoma in the interval is shown in Figure 5. We each removed a piece at this time for microscopic examination and typical carcinoma was found. The larynx was removed by the late Dr. Christian Fenger and it was discovered that the tumor, while showing such apparently small endolaryngeal progress, had already perforated the thyroid cartilage anteriorly. Figure 6 shows how the growth looked when the larynx was opened anteriorly and emphasizes how much more extensive carcinomata usually are than surface appear-

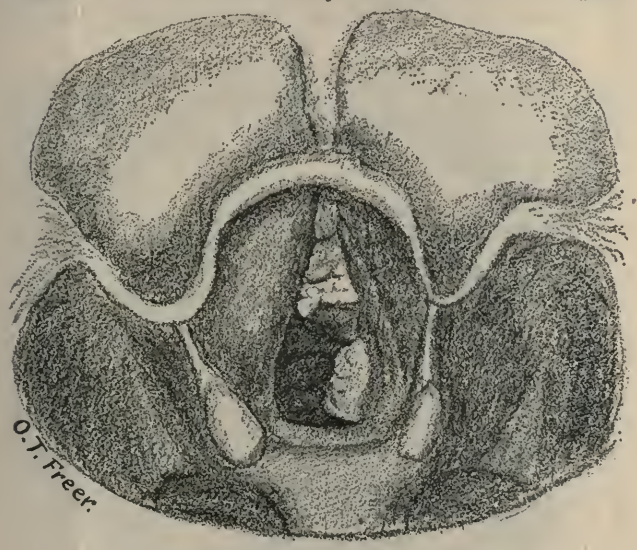


Fig. 5.—The same carcinoma as Fig. 4, three months later.

ances warrant. The left vocal cord in this case when first seen was not quite as movable as was the right, but even up to the time of operation retained a good deal of motion as the neoplasm had spared the arytenoid region and merely destroyed the membranous part of the cord.

The form of laryngeal carcinoma called carcinoma diffusum by B. Fraenkel appears most commonly on the cord and as a diffuse, superficial infiltration, which is distinguished with difficulty from other thickenings of the mucosa and is most likely to be mistaken for syphilitic or tubercular infiltration, pachyderma of the cords or hypertrophic forms of chronic laryngitis. The diffuse swelling enters into the healthy tissues without sharp border and though at first it resembles a mere thickening of the mucosa in time it becomes nodular and the color of the thickening variegated. Some places where the carcinoma tissue is superficial, are whitish, others hyperemic. The general outline of the cord and often its mobility are maintained. A diffuse carcinoma of the epiglottis and aryteno-epiglottic fold is shown in Figure 1. Its form is smooth and nodular while it merges insensibly into the surrounding tissues. Dr. E. T. Dickerman kindly allowed me to make a drawing of this larynx which was removed from a patient in his practice by Dr. A. D. Bevan, a perfect recovery following the operation.

Carcinoma of the ventricular band or aryteno-epiglottic fold is more vascular than that of the cord and contains less of epithelial elements, in accordance with its origin from mucosa covered with cylindrical epithelium. The color of the growth therefore is usually pink or deep red. Growth is also more rapid than on the cords and exuberant cauliflower excrescences commoner.

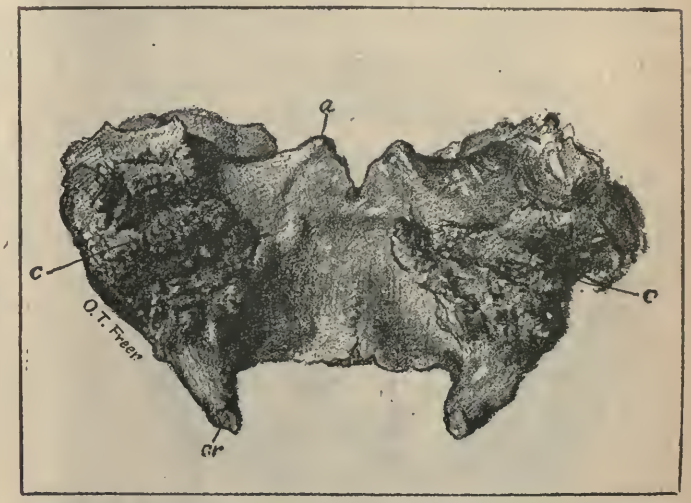


Fig. 6.—Carcinoma of Fig. 4, the larynx opened anteriorly after laryngectomy. *cc*, Bisected carcinoma. *cr*, Ring of cricoid cartilage severed. *a*, Arytenoid.

Very difficult to recognize in the earlier stages is carcinoma of the ventricle of Morgagni, or carcinoma ventriculare. This type of tumor for a long period remains hidden and pushes the cord, ventricular band and aryteno-epiglottic fold before it, interfering with the motions of the cord and finally forcing it into a posi-



Fig. 1.—Diffuse carcinoma of aryteno-epiglottic fold and epiglottis.

tion of extreme adduction, so that it crosses the median line. The mucous covering of the bulging swelling is hyperemic, but intact for a long time. In the early stages carcinoma ventriculare is hard to differentiate from swellings of the ventricular band or aryteno-epiglottic fold. Deep-seated gummata, perichondritis interna of the thyroid or cricoid cartilage, benign growths of the ventricle, distention of the occluded ventricle may present similar appearances, so that diagnosis by inspection and microscopic diagnosis may both be im-

possible, as instruments can not readily get at the hidden growth to remove a piece.

When carcinoma occupies the posterior surface of the cricoid cartilage it presents great obstacles to diagnosis. All that may be visible is hyperemic swelling of the mucous membrane of the arytenoid region at its posterior part, with more or less interference with the motion of the arytenoid bodies. By the time that the carcinoma has advanced far enough upward on the back of the larynx to become visible it usually has attained extensive growth, so that perichondritis of the arytenoid

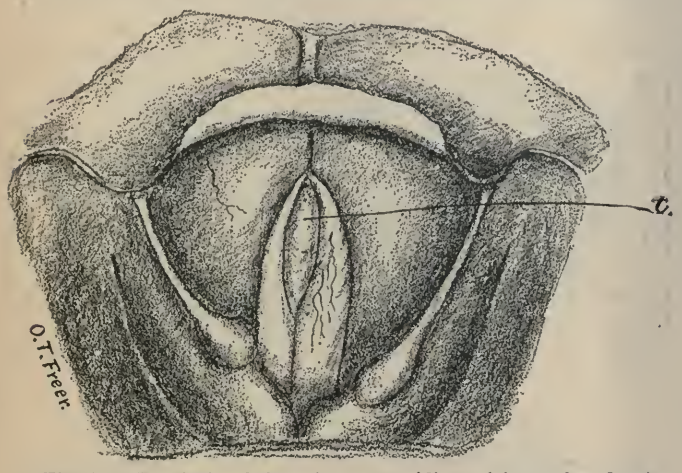


Fig. 10.—Paralysis of the crico-arytenoidi postici muscles, due to subglottic malignant tumor. *t*, Portion of malignant tumor pushing up between adducted cords.

cartilages is not uncommon as a complication. The chief symptom is dysphagia.

Carcinoma of the epiglottis usually occurs as a hard circumscribed tumor of a papillary or cauliflower form with constricted base, but is also found as a diffuse carcinomatous infiltration, as shown in Fig. 1. It may ulcerate early, so that destruction exceeds new growth, or form tumors so large that they prevent swallowing. The most marked symptom is dysphagia, and when the motions of the thickened epiglottis are stiffened or lost, food is apt to enter the larynx.

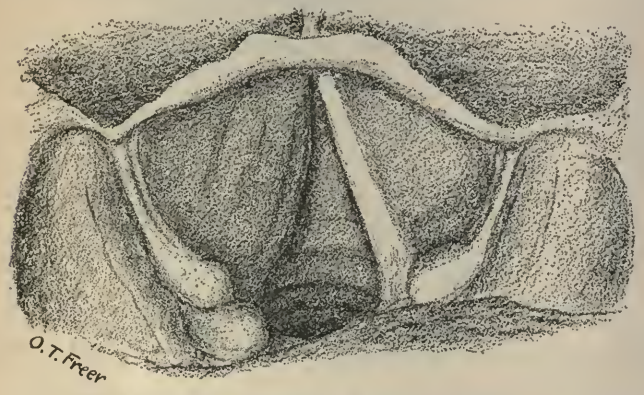


Fig. 15.—Syphilitic infiltration of right cord and ventricular band with fixation of cord.

A symptom of some importance in the early diagnosis of carcinoma of the larynx is retarded or lost motion of the cord. Semon regards this sign as of great value, but as there are other conditions beside carcinoma that quite often create it, it should not be overestimated. Schmidt says that the symptom will occur early if the tumor or its inflammatory surroundings have penetrated beyond the tissues of the cord fixing it to the neighboring parts but as long as it is confined to the cord loss of motion will not occur.

The motions of the cord are most seriously and often impaired by tumors that interfere with the movements of the crico-arytenoid joint, either by destroying the joint or by rendering it immobile by thickening the tissues about it, but neoplasms that have entered the muscles of the cord and transformed it into a rigid mass will also limit or stop its movements. When carcinoma is hidden in the subglottic space its first symptom may thus be fixation of the cord while the tumor may not be laryngoscopically visible.

Loss of motion of the cord in carcinoma is not only due to direct interference with its structure or the crico-arytenoid joint, but may be due to paralysis of the crico-arytenoideus posticus muscle. This is described by Moritz Schmidt as the result of a carcinoma in the sinus pyriformis, while Semon has seen double posticus paralysis with median fixation of the cords on account of the growth of a subglottic tumor. Figure 10 shows median fixation of the cords which seemed to me due to posticus paralysis caused by a large subglottic malignant tumor. The case was seen by me two years ago. The neoplasm when I made the drawing had penetrated the tissues outside of the larynx and trachea so

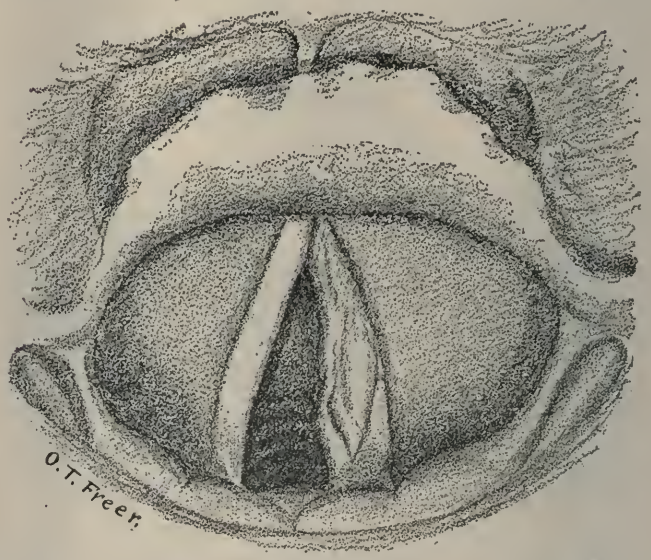


Fig. 11.—Tubercular ulceration of left cord with immobility.

that it caused pressure on the recurrent laryngeal nerves sufficient to destroy the function of the nerve fibers supplying the abductor muscles, a portion of the nerve which Semon has shown to be more vulnerable than the adductor part. A small portion of the growth may be seen forcing its way upward between the cords.

Both syphilitic and tubercular infiltrations may give rise to Semon's loss of motion of the cord as well as carcinoma. This is shown by two cases of my own. The first, Figure 15, had been considered carcinomatous infiltration by another physician, largely because of the fixation of the right cord accompanying a diffuse swelling of the cord and ventricular band. A suspicious white patch on the posterior pharyngeal wall on the summit of the infiltrated prominence shown in the drawing led me to a diagnosis of syphilis. Iodid of potassium produced complete recovery.

Figure 11 represents the larynx of a man, aged 63, who presented himself with complete immobility of the thickened left vocal cord with a shallow ulcer extending along its free border. Considering the patient's age and sex, carcinoma, possibly hidden in the subglottic space, was suspected. Examination of the lungs showed both

apices free from disease, but subcrepitant râles at the lower angle of the right scapula and the presence of numerous tubercle bacilli in the scanty sputum with the absence of anything like tumor formation as base for the ulcer convinced me that the disease was a tubercular infiltration of the cord.

Early carcinoma of the larynx is seldom hard to distinguish from tubercular infiltration, which is usually so characteristic that the laryngoscopist recognizes it at a glance. The typical pale, edematous, symmetrically swollen epiglottis and aryteno-epiglottic folds shown in Figure 13 can be nothing but tuberculous. In addition coexisting lung tuberculosis almost invariably makes the diagnosis easy. The usual symmetry of the lesions and pallor of the mucosa are characteristics of tuberculosis as opposed to the unilateral start and irregular, tumor-like growth of carcinoma, together with the deeper color of its surroundings and usual good health of the patient. The enormous frequency of laryngeal tuberculosis, however, often brings odd forms to view that have deceived the most experienced. Chiari pronounced tubercular a granulating ulcer which later proved to be carcinoma. Moritz Schmidt reports the

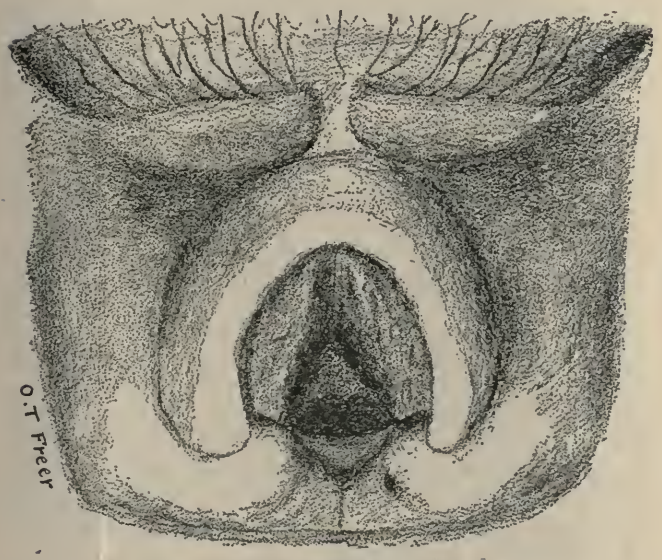


Fig. 13.—Tubercular infiltration of the larynx.

same experience. He mentions a case which Semon declared syphilis, Schmidt's assistant carcinoma, Fraenkel inflammatory infiltration, while Weigert's final microscopic diagnosis was tuberculosis. A tubercular infiltration of one cord may at times resemble carcinoma diffusum, papillary excrescences on ulcers with infiltrated base may simulate papillary carcinoma. This condition is common in the inter-arytenoid region, but here carcinoma very rarely has its beginning.

(To be continued.)

Honors for Brouardel.—On the occasion of the conferring of the title of "grand officer" of the order of the Legion of Honor upon Brouardel, his friends presented him with a souvenir medallion at a public ceremony, January 18. His achievements in forensic medicine, in hygiene and as dean of the medical faculty were reviewed by pupils of his who have also gained renown in these lines. The various medical and other societies of which he is or has been president were also represented among the speakers, as well as various departments of the government. The latter expressed the national gratitude for Brouardel's leadership in the present campaign against tuberculosis, to which he is now devoting almost all his energies.

UNIFORMITY IN MEDICAL PRACTICE ACTS.*

N. R. COLEMAN, M.D.
President of the Ohio State Board of Medical Registration and Examination.
COLUMBUS, OHIO.

It is but a brief period since a majority of the states enacted laws controlling and directing the practice of medicine, and yet this time has witnessed many and far-reaching changes. Some can recall when a person could, without special preparation or education, announce himself a physician and prey on the community without molestation; when medical colleges could graduate their classes after two courses of lectures of twelve weeks each; when a charter, irrespective of faculty, equipment or the fitness of its students, constituted a college; when the errant quack and vampire rode over the land in palace cars, robbing the people without let or hindrance; when the self-constituted midwife infected the mother or mutilated the child, and there was none to stay her course of death and destruction. But thanks to the labor, energy and wisdom of medical men the darkness and melancholy of those days have passed, and the brightness and hopefulness engendered by education, skill and law, are about our path to-day. There are now but few and isolated areas in our country over which the potent arm of the law does not extend protection by defining who shall guard the lives and health of its inhabitants. It is true that many of the states and territories have crude and imperfect laws, yet these are far better than no laws at all, and serve as foundations upon which the more earnest and enlightened members of the profession can base their efforts to dignify and elevate their calling and protect the people from fraud and imposition.

The laws that have been enacted do not seek to deprive people of their choice in the selection of a physician, or of their preference for any school of medicine whatsoever, but they do reserve the right, and wisely so, to determine the fitness of the physician in regard to educational qualifications and moral character. Their aim is to furnish, in higher degree, intelligence and medical skill exerted for the saving of human life and for the relief of suffering. One is often aroused to varying degrees of amazement, disgust, indignation or pity at the selfishness and greed which seek to weaken and overthrow such beneficent provisions. The legislative lobbies are thronged, not only by the unqualified, the dissolute, blatant quacks and the exploiters of new and strange arts of healing—all seeking the destruction of medical laws, but in some instances these have been joined by students in medical colleges seeking exemption from state examinations. No college claiming the facilities necessary for imparting an efficient medical education can tolerate such action by its students, and the students themselves are blind to their future interest and ignorant of the history of the medical profession when guilty of so gross an error.

Examinations are not burdens peculiar to physicians. All professions and callings, governmental and municipal departments, require recorded proof of the qualifications possessed by those seeking positions of trust. The moral support in the community educated to the need of these and similar requirements, will, ere long, enable the supporters of medical legislation to utilize some of the energies required to maintain our present position, in extending and perfecting our system of laws. To these laws must be given the credit of accom-

* Presidential address before the National Confederation of State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.

plishing the rapid and much desired reforms in medical education which have been indicated, and their abrogation would result in a lapse into much of the old-time disorder and neglect from which we have but just arisen.

The most urgent need, just now, it seems to the writer, is that a united and even front should be presented to the enemies of an enlightened and well-qualified profession. There is the old simile of the chain—not stronger than its weakest link. To attain our result we do not have to weaken the stronger links, but certainly we must strengthen the weaker ones. One state should not become the dumping-ground of another's refuse. We must get together; become embued with the same high ideals; extend the helping hand, and then hold on. It is urged by some that it is not necessary that the same high degree of efficiency in the education of physicians be extended to all parts of this country; that those who practice in the more sparsely settled and less cultured sections do not require so thorough an education as those located in cities and older communities. The fallacy of such argument lies in the assumption of unequal valuations of a life under mere circumstances of location, for experience has demonstrated that remoteness from counsel, skilled nursing and improved armamentarium and supplies requires a higher degree of natural and acquired ability to cope with accident and disease than when such aids are available. The average severity of illness and accident is too uniform to invalidate the above conclusion. The inference, then, is that it is essential that the various medical practice acts of the states and territories should be uniform in character and administration, for the greatest good to accrue to the greatest number. If this be so, let us briefly consider the important points of the various laws in which there seems the greatest discrepancy in application; for to this organization is given the opportunity of exerting the most direct influence toward uniformity in the scope and administration of medical legislation throughout the United States.

NECESSITY FOR A MORE UNIFORM DEFINITION OF THE PRACTICE OF MEDICINE.

This is the first point to which I would call your attention. There is no one subject connected with medical practice acts which has given rise to so much controversy and contention in the courts, causing increased expense and annoyance to those charged with the administration of the laws, as a definition of the practice of medicine; and with reason, as most of the violations of these laws and the prosecutions which follow involve this very question. This definition in every law, with, to the best of my knowledge, scarce an exception, has sometime proved defective when tested in the courts, and has demanded amendment; and to-day few of these definitions are adequate to successfully meet all the methods devised for their evasion. With due consideration of the accumulation of legal opinions given during the past fifteen years by the various courts throughout the country, and of the extensive and varied experiences of the state boards, it would seem that now a definition might be framed in terms sufficiently broad and explicit to include all possible violations of this provision. The need of such a definition is too obvious to require discussion. Therefore, your presiding officer would suggest the appointment of a committee composed of one member from each state, district and territorial board of medical licensure, to frame a definition of practice of medicine; and that such committee report the result of its labors at the next annual meeting of this body. Such a report would embody the full amount of our knowledge on this most important subject, and will be of permanent value as a standard by which old laws may be bettered and new ones framed, thereby leading, in time, to the greater uniformity and efficiency of all medical practice acts.

MINIMUM STANDARDS FOR ADMISSION TO MEDICAL COLLEGES.

During the period just preceding the more general enactment of medical practice acts there were admitted to medical colleges the greatest number of students devoid of the necessary preliminary education ever known in our medical history. A spirit of commercialism was then rampant among many of the medical colleges, and has been one of the greatest curses with which the medical profession has had to contend. In fact, it was a leading factor in establishing medical legislation, as the earliest efforts in that direction all empowered the boards to determine the standing of colleges. From a careful examination of state laws and of information sent out during the past few years by the medical colleges, one may believe that there is a rapid and substantial advance in the requirements for admission to medical courses; and this has seemed more notable and uniform since the minimum standard for entrance to medical colleges was adopted by this organization in 1899. This standard has been enacted into law, in its entirety or in part, by a few of the states and has been conformed to by some of our colleges. It is sufficient for immediate demands, but in a few years it should be made more stringent. In the meantime there is plenty of work to be done in securing greater conformity to its provisions. A number of states require only a common school education; others have requirements so vague or ambiguous that their exact determination is difficult. Such conditions are not to the best interests of either the public or the medical profession. Besides being a source of confusion and perplexity, they tend to foster commercialism among such institutions as can legally admit students upon a low standard of qualifications. As stated before, we may not be ready for the general adoption of the highest and best standard, but such as we have—and it is far from an insignificant one—let us uphold and extend till the country is a unit in demanding at least so much as a minimum requirement.

CURRICULUM AND TIME OF STUDY.

A subject which is exciting great interest and much discussion concerns the curriculum in colleges and the time of study, for recent requirements have greatly complicated what was once a very simple question.

Some years ago, when the requirements were three years of study with two courses of lectures, the instruction consisted of lectures on the fundamental branches repeated year after year, and the time requirement was met by study under a preceptor. Under such regimen a student could pursue but a small part of the course of study now required, yet these men, with a few facts well learned, have generally discharged their professional duties in an acceptable manner and have prospered in their business. Thirty years ago colleges were not very numerous and were well attended. This gave rise to a belief that it was a lucrative business to conduct a medical college. A charter was easily obtained, and so-called medical colleges sprang up all over the country in astonishing numbers. Requirements existed as much in the breach as in the observance, the only one uniformly exacted being that dues should be paid. These conditions did not obtain in all our colleges, but in far too many for the public good or the honor of the profession.

With this brief review of the courses existing in the past we turn to those which obtain in the present. In examining the various catalogues issued by medical colleges one is astonished to find the wide variations in preliminary requirements and in courses and time of study. Special influences, as the age, location and resources of the institution, modify in marked degree both requirements and curriculum. The time of study now required by most colleges is four years, during each year of which time the student must attend a full course of instruction extending over a period of at least six months. With such a statement laid down let us see how it may, and possibly often does, operate. The student enters the medical college wholly ignorant of medical technicalities, and, from this obstacle, for the first six months his progress in medical subjects is almost nothing. At the end of the term he engages in some other vocation till the opening of another year, and so he may be employed during each interim. At the end of the four courses his diploma is granted upon what is in reality but little over eighteen months of real study of medicine, instead of the four years which is presumed. State medical examining boards should make a clear and specific definition of what is meant by four full years of study and by four full courses of lectures each in four separate years, and then exact it from all who apply for examination.

Would it not be more definite for state boards to require students to be absolutely engaged in the study of medicine for a period of nine months in each of four separate years, and that during each of these periods at least six months must be spent in a reputable college, designating the number of hours to be spent in laboratory and class-room. Such specific statements could not admit of doubt or misconstruction.

ADVANCED STANDING.

The allowing of advanced standing to graduates in arts or science, in dentistry, pharmacy or veterinary medicine, is a subject to which much thought has been devoted and concerning which many suggestions have been evolved, but all seemingly without reaching a satisfactory conclusion.

It has been one of the chief aims of state boards to promote and encourage, in all honorable ways, the most complete educational training before entering upon the study of medicine. For this reason they have allowed the college to at once advance a student with a degree in arts or science to the second year's course, provided the student has made a satisfactory examination on the first year's curriculum. Such students have been well trained to mental efforts and habits of study which should enhance their progress in the study of medicine; on the other hand, the courses in anatomy, materia medica and physiological chemistry are not usually given in literary institutions with that exhaustiveness of detail demanded in the technical school. In the opinion of many, of whom I am one, these factors quite fairly offset each other, and that it is equable and just to allow advanced standing to graduates of literary colleges which require four collegiate years of nine months each and which include in their curriculum the branches taught in the first year's work of a first-class medical college. In the case of graduates in dentistry, pharmacy and veterinary medicine advanced standing should be withheld, unless their literary training is equivalent to that leading to an A.B. or B.S. in course, and their work has included that of the first year in a first-class medical college; because the mental training of their technical instructions alone would not warrant such advanced standing.

It is to be deeply regretted that some states still admit undergraduates to examination and so to the practice of medicine; and it is sincerely hoped that they may soon find opportunity to abandon this practice.

NIGHT SCHOOLS AND SUMMER SCHOOLS OF MEDICINE.

Another disturbing factor appears in the summer schools and night schools of medicine. These, with scarce an exception, have been inadequately equipped to acceptably discharge their duties as educational institutions. The only excuse for their existence being to serve as makeshifts, by which those unable to devote themselves to the requisite time, attention and study demanded by the regular course, might worm their way into the medical profession. Such institutions should not be recognized by state medical boards. A most serious objection to their recognition is the limitation of work and of opportunity imposed by the hours utilized. The extensive curriculum now demanded in good colleges requires for its fulfillment ten or twelve hours of absolute labor each day during four yearly sessions of from six to nine months each. Moreover, part of the work can not be so successfully prosecuted by artificial light. One of the most essential features of a medical education is a thorough clinical training, and this is almost wholly impracticable, as cases for instruction can not be utilized at night without entailing detriment and unnecessary hardships upon patients; and few hospitals would tolerate such disquieting and unseasonable intrusion. If the student has been employed for eight or ten hours in some other vocation, he requires rest and is in no physical condition to spend half the night listening to lectures, working in laboratory or dissecting room. Such an attempt must lead to either a neglect of business, failure in studies or physical disaster. Summer schools labor under the disadvantages of high temperature, the absence of many skilled instructors from the cities, the falling off of clinical material, the difficulty in prosecuting thorough anatomical work, etc. I may say, in passing, that the Ohio State Board has never recognized the work done in any night school, and in but one instance has it admitted that of a summer school.

The objects of medical legislation include the fullest protection to life and the amelioration of suffering. To boards are given the execution of certain provisions, but they should also ever strive to act in accordance with the purposes and intent of the law. To recognize schools lacking in the essential facilities for efficient instruction in medicine would surely violate the spirit which prompted the enactment. With splendid colleges all over this country, possessing the best equipment and strong teaching faculties, offering thorough medical training at but nominal expense, there is no necessity or excuse for such institutions as night or summer schools of medicine.

Both college faculties and examining boards have constantly to contend with too great variations in courses and times of study, and they would also gladly welcome some basis upon which to establish a more reasonable degree of uniformity. I would, therefore, again venture to suggest that a committee be appointed from this body with instructions to report at the next annual meeting, a curriculum and time of study which shall embody such features as, in their opinion, are demanded by existing conditions, and that the Association of American Medical Colleges be invited to be present when the report is made and to join in whatever discussion may follow.

EXAMINATION BY STATE MEDICAL BOARDS.

There is the widest range of variation in almost every leading point connected with the examinations made by

the state boards. The seven fundamental branches, of course, receive recognition from all, but when it comes to the special studies to be included in the examinations, such as pathology, bacteriology, biology, histology, neurology, psychiatry, gynecology, pediatrics, physical diagnosis, urinalysis, dermatology, rhinology, otology, laryngology, ophthalmology, venereal diseases and medical jurisprudence, they appear in all proportions. In the opinion of the writer there should be nine lists of questions, to include the seven fundamental branches, embodying in practice one or two questions each on pathology, neurology or psychiatry, bacteriology and medical jurisprudence, and, with surgery, questions on some of the following branches: dermatology, rhinology, otology, ophthalmology and surgical gynecology. There should be a list of ten questions in physical diagnosis, including urinalysis, making the eighth list, and five questions each on medical gynecology and pediatrics, making the ninth list. It is also of the greatest importance that a practical clinical examination should accompany and supplant, in part, the purely theoretical tests. No one can question the greater efficiency and justice of such practical determinations applied to either the recent graduate or the more experienced practician. Practical examinations of sputum, urine, blood and pathologic specimens can always be made available, and the clinical inspection of patients should be made possible and utilized. Some states do not indicate the branches on which their examinations are made, beyond the statement, "such as the board deems advisable"; others (as Virginia) prepare a list of questions, out of which the applicant can select and must answer a given number. So far as our observations have extended the questions given by all the various boards are fair ones, yet the examinations of some boards are more difficult than those of other boards. This is illogical, as the same skill should obtain in the examination and treatment of cases, irrespective of geographical location. There can be no adequate reason why the questions should not be more uniform in scope and severity. This change can be accomplished by devoting some time, at each annual conference of the state boards, to outlining and agreeing upon the extent and character of ensuing examinations. Such plan is feasible and should receive the earnest consideration of this body.

Adequate time should be given the applicant to make a full and complete answer to each question. Rapidity of thought and of its expression vary greatly, therefore the time allotted should be sufficient to meet the requirements of the slower thinker and writer. We find that some boards give but one hour in which to answer a list of ten questions, others an hour and a half, two, and up to three hours. It is evident to anyone having had experience as an examiner that no applicant can answer the average list of ten questions in one hour and do himself justice. Some may do quite well in two hours, but others, as proficient in knowledge, may have to curtail their work. We believe that three hours should be allotted for answering each list of ten questions, and that three such periods should be given each day until the examination is completed.

GRADING OF MANUSCRIPTS.

The grading of papers is one of the most important and exacting tasks which confront the examiner. It demands keen insight, mature judgment and ripe experience. While it may be true that no two examiners would place the same value upon each answer, still one is impressed by the uniformity with which a high or low grade applicant has been graded by various examiners. However, there are some points on grading to which your attention is asked.

Questions susceptible of being answered by yes or no should rarely, if ever, be used by examiners. It is very seldom that an applicant should receive 100 per cent. in any branch. Absolute perfection, implying that the answer embraces all that could be said on the subject, is almost impossible under the conditions attending a general examination. Some boards refuse a license to all below a certain per cent. in two or more branches; other boards when the general average falls below 75 per cent. (Massachusetts); and still other boards when the general average is below 75 per cent. (Ohio and other states). One state board (Washington) grants license to practicians of ten years' standing who attain an average of 70 per cent. or over; all others must average at least 75 per cent. We might go on showing more or less of variations among the majority of examining boards, but a basis of uniformity is more to our purpose. It is much easier for the applicant to attain a general average of, say 75 per cent. in all his papers than to reach 75 per cent. in each branch; yet, when the examination applies to both old practicians and recent graduates the basis of a general average possesses more of fairness, inasmuch as the man of experience should be proficient in the practical branches, so raising his grades, while the man just from college would maintain his standing by proficiency in the more technical branches. Every systematic method of grading has, doubtless, special advantages and also disadvantages. Our aim should be to establish one, the application of which will be attended with the highest degree of efficiency and justice. While there are advocates for each and every method of grading, may we not at least tentatively adopt a uniform standard—let us say a general average of 75 per cent., embodying as it does less of hardship and more of justice under the present condition of transition.

THE DISPARITY IN THE LAWS CAN BE OVERCOME.

The disparities in the medical practice acts and in their administration which have been referred to may, at first thought, seem difficult to harmonize, but such is not the case. The solution of this condition can be effected by the same means that has been applied to so many problems of modern existence, i. e., co-operation. The individual views of each board and of each member must be merged into the corporate views of a strong organization. Let the members of the confederation, after efficient investigation and exchange of views, agree to a uniform course of action, and in a very few years our laws would be in perfect accord. Any course that might be so adopted must be proved by strict adherence to its provisions, and as defects appear they should be remedied so far as possible. The result of such action by the confederation would be a stimulus to all reputable medical colleges to adopt uniformity in standards of preliminary education, curriculum, time of study, length of terms and methods of teaching. Their good standing would be jeopardized by falling below such standards. Colleges would thus have a basis upon which to establish their equality as educational institutions. Medical students would be greatly benefited by being placed upon the same legal standing in all colleges and states. Add to these conditions uniform state examinations, as hereinbefore outlined, and we have all the factors which are absolutely necessary to secure interstate indorsement of medical license. It is only by this perfected uniformity that such reciprocal relations can ever be established. The evolution of the process will

require time, as the ideas must be inculcated in the minds of legislators and civic officials as well as strongly ratified and upheld by the profession. The discouraging features in this great work are diminishing year by year. The beneficial effects of medical laws are more generally acknowledged and appreciated; there are fewer efforts to abrogate their provisions; the swindler and impostor have lost much of their power and influence, and the profession has developed strength. While the natural tendency of all laws is toward uniformity of application, we must not be content to simply hold aloof and criticise, but lend our best efforts toward its more speedy accomplishment. One of the greatest achievements in this work, already accomplished, is the uniting of the leading schools of medicine to secure necessary legislation. To-day we have the intense satisfaction of seeing them working side by side, imbued with the same high ideals of professional excellence and upholding the same educational standards. Can anyone say this is not substantial progress or doubt that much of what has been attained is due to this united action? Conditions change, and our modes of action must change with them. The demand now is for physicians and surgeons, not men imbued with sectarianism, pathies, fads or hobbies, but men of education, skill and high moral character; men that can meet upon the same plane and discuss matters with no other aims than the highest possible good for patient and public and the greater success of the medical profession. We meet here to-day, not for contention, but confederation. Our cause is just, its aims elevating. The efforts put forth to elevate the standard of scholastic attainment and personal character of the physicians and to protect the people from ignorant pretenders and swindlers, are not only making the profession stronger and more efficient, but raising American physicians in the esteem of other countries. Though the existence of this organization embraces but little more than the brief period of eleven years, its endeavors have been of great and far-reaching value in bringing about many of these beneficial results.

There is much yet to be accomplished, calling for our best judgment and earnest efforts, yet there is no one conversant with the history of medicine but must admit that a notable and substantial advance, from both scientific and sociologic standpoints, has marked American medicine during the past fifteen years.

While thoroughly conscious of the imperfection and inadequacy with which I have attempted to present some of the defects in our laws and in their administration, I earnestly trust that calling your attention to them may result in means for their correction. If, in considering some conditions, I may seem to have judged harshly or spoken inconsiderately, I must plead in extenuation my deep interest in the end to be attained.

Thanking you for the honor you conferred by making me the presiding officer of the confederation for the past year, also for the privilege of addressing you, I would wish you, both as an organization and individually, a year of usefulness and prosperity.

Sugar as an Exclusive Diet.—The Paris *Temps* has been publishing a series of articles on this subject. It recently received a letter from an engineer in South Africa, J. Jacquier of Johannesburg, who stated that during the late war he was caught between the two armies and was compelled to remain in his hiding place for six weeks with no food except a supply of sugar. He had six rabbits with him, and he fed himself and the rabbits exclusively with sugar mixed with sawdust. All thrived on it and the rabbits grew fat.

A NOTE ON MALARIAL VERTIGO.

THOMAS J. MAYS, A.M., M.D.
PHILADELPHIA.

That vertigo or dizziness develops in the course of malaria has been recognized occasionally, but the fact that this symptom may become so markedly accentuated as almost to claim for itself a distinct place in the nomenclature of disease, has been noticed by very few of our recent medical writers. Inasmuch as a number of such cases have occurred in my experience, it seems fit that I should briefly call attention to this important subject.

Malarial vertigo has been described by Triantaphyllides,[1] who states that vertigo may be intermittent or permanent, or merely a condition of dizziness, or it may be associated with other neuroses, but in a number of cases which he relates the vertigo could be attributed only to the malaria. There was no anemia, neurasthenia, dyspepsia, or any other manifestation of malaria, and the vertigo could be cured at once by hypodermic injection of large doses of quinin for four or five days. He attributes it to the probable alteration of the solar plexus by the malaria, similar to the gastric vertigo described by Trousseau. He states that the vertigo usually ceases when the patients recline, although in one of his cases compression of the sciatic and other nerve trunks induced the vertigo even when he was reclining.

Of the exclusive neurotic nature of this affection, as observed by Triantaphyllides, there is not the least doubt, as is well demonstrated by its principal symptoms, which will be considered in the following order:

VERTIGO.

This is the most prominent symptom of this disorder, and generally draws the patient's attention to his condition. In apparent good health he finds that his gait suddenly becomes insecure and unsteady, and he staggers as if he were suffering from alcoholic intoxication. In some of my cases this manifested itself so markedly that the patients fell to the floor, but in no instance was consciousness dimmed in the least. The attacks usually come on intermittently and during the day—in no instance have they appeared at night.

HEADACHE AND BACKACHE.

Headache is present in nearly all cases and is generally persistent. It sometimes alternates with a lightness of the head. There is frequently a fulness in the region of the occiput and neck.

Backache seems to be pretty constant in most cases and in some is of a very severe character. It is usually located in the lumbar region.

DEPRESSION OF SPIRITS AND EXHAUSTION.

Persons who in health are active and full of life gradually, and without good apparent reason, become moody and depressed, and tired and exhausted. The tiredness seems to be concentrated on the lower extremities below the knee, and is not relieved by sleep, since it is more prominent in the morning after rising than at any other time.

The bowels, as a rule, are costive, which is in all probability due to torpidity of the liver—a common condition in all forms of malarial poisoning.

HISTORY OF MALARIA.

In all the cases that came under my observation there was a well-defined history of intermittent fever, which had been more or less latent for some time, per-

1. Grece Medicale, iv, 6 to 9, as summarized in THE JOURNAL American Medical Association, May 17, 1902.

haps for years, before the appearance of the vertigo. In no case was the latter immediately preceded by a paroxysm of fever and ague. The heart and lungs were free from physical signs, and the pulse, respiration and temperature were normal.

Vertigo, in as severe a form as these attacks usually show themselves, leads to a great deal of anxiety and fear on the part of the patients and their friends, owing to the knowledge that this affection may pave the way for the outset of more serious nerve trouble. But if eye strain, gastric disorders, Meniere's disease and other prominent causes of vertigo, can be eliminated, and a clear account of previous malarial disorder be elicited, a favorable prognosis may at once be given and verified by appropriate treatment.

TREATMENT.

No remedy that I have administered in this disease acts more favorably and promptly than quinin in doses large enough to produce ringing in the ears. Indeed, the attacks of vertigo may develop while the patient is taking grain doses of the drug, but will vanish as soon as the dose is increased to eight or ten grains every three or four hours. Quinin will be more effectual when it is combined with strychnin, blue mass and capsicum than when given alone. The usual formula employed is:

℞. Quininæ sulphatis 3iiss
Pil. hydrarg. ..... gr. iv
Pulv. capsici ..... gr. ii
Strychninæ sulphatis ..... gr. i

M. Ft. capsulas No. xxxvi. Sig.: One capsule four or five times a day.

After the attacks have subsided smaller doses of quinin are to be administered in connection with strychnin and iron, interspersed occasionally with a dose of blue mass or calomel, the aim now being to enhance the digestive powers and to maintain the strength of the body. Any fresh manifestation of vertigo is to be counteracted with the larger doses of quinin and its combination given in the above formula.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.

Professor of Genito-Urinary Surgery, Medical Department, State University of Illinois; Surgeon to St. Mary's Hospital.

CHICAGO.

(Continued from p. 311.)

4. SYDNEY—NEW SOUTH WALES.

In a previous communication I qualified my enthusiastic description of the beautiful skies and placid seas of my Australian trip by stating that its serenity did not continue throughout. Between New Zealand and Sydney is a stretch of ocean which, for pure, unadulterated "cussedness," can not be excelled. When a sea captain of forty years' experience says that he is usually sick in crossing that bit of water, you would better take your troubles philosophically. Mark Twain has much to say of the extreme heat he experienced on his trip in "Following the Equator." He arrived in Sydney a week earlier in the spring than I did, and claims that the city was very hot, so hot that the doorknobs, which "melt in midsummer," were quite "mushy." I wonder what was the matter with Twain. I found flannels and an overcoat indispensable between Auckland and Sydney, and not uncomfortable in the latter place.

Having been forewarned as to what I might expect from Sydney Harbor, I was delighted, but not surprised, by the beautiful panorama which unfolded itself after our good ship rounded Sydney Head. Mere description could not possibly do the harbor justice. Completely landlocked, and presenting smiling bays extending in various directions, Sydney Harbor is peculiarly endowed both from the standpoint of scenic beauty and commercial facilities. It is well fortified, and a hostile fleet would have great difficulty in entering, even though it might possibly get near enough to drop a few shells into the town. It may be discourteous in me to say it, but the most beautiful feature of the harbor as I first saw it was Old Glory, flying from one of our Philippine transports.

It seems strange that a magnificent city of half a million inhabitants should have sprung up so far away from the great centers of civilization, and one must really see Sydney to fully appreciate the fact. With its clean streets, splendid public buildings—all in the best repair—and wonderful botanical and zoological gardens, this city may well be content with its comparative isolation. That the higher culture has not been neglected is shown by its magnificent art gallery, which contains a collection of paintings that any metropolis might covet. The only evidence that Sydney is not strictly up to date is the puff, puff of its dummy tram engines, and the absence of automobiles from its streets. The steam dummy and electric trolley on the same track are somewhat incongruous.

Medical Sydney is fully in keeping with the city's up-to-dateness in other respects. The Medical Department of the University of Sydney ranks with the best American schools. It was founded in 1883 and constructed at a cost of £80,000. The handsome structure is of the same style of architecture as the main university building, though, perhaps, not so ornate. The ground floor is devoted chiefly to the laboratories and practical class rooms of the departments of physiology and pathology, materia medica and medicine, and to a large anatomic museum. This museum, which was founded almost immediately after the commencement of the medical school, contains large numbers of normal and morbid specimens, and is an invaluable adjunct to the teaching appliances of the various departments. On the first floor are situated the dissecting room, measuring 51 feet by 41 feet, and five lecture theaters, of which the theater of physiology is the same size as the dissecting room, while the others are 45 feet by 36 feet, and each capable of accommodating about 200 students. Attached to the lecture room are the necessary preparation rooms. The basement contains, in addition to the caretaker's quarters, a laboratory for medical jurisprudence, and reading and luncheon rooms for the students. By the liberality of Lady Renwick, Dr. Sydney Jones, Dr. George Bennett, and Mr. John Harris, the building has been provided with stained-glass windows, while the corridor is adorned with busts of eminent physicians and surgeons historically arranged, all presented by private donors.

The hospitals of Sydney are something to be proud of. The principal hospitals are the Prince Albert—the most aristocratic and the most modern one—St. Vincent's and the Sydney. Prince Albert has a capacity of 230, St. Vincent's 130, and Sydney 316. These are all general hospitals and receive everything but contagious diseases. Prince Albert and Sydney hospitals are supported jointly by the government and private subscriptions. There is no special army and navy hospital. St. Vincent's Hospital is supported entirely by the Catholics. A new wing designed to accommodate 150 patients is in process of construction for Prince Albert Hospital.

The Sydney Hospital is the oldest in Australia (1845), but its present quarters are comparatively modern. The spacious buildings are built of brown stone, and their architecture is something to be remembered, even by an American physician who is used to the best in hospital construction. Its location is especially fine, the spacious hospital grounds adjoining the wonderful Botanical Gardens—Sydney's pride. The rear windows of the hospital overlook the gardens. The operating theater at Sydney is new and very much up to date, even to the point of pumping sterilized air into the room prior to and during operations.

The pathologic and *x*-ray departments of the hospital are its special features. Dr. Harris, who has charge of the skiagraphic work, stands third in the world as to experience in skiagraphs for renal calculi.

The Laboratory of Pathological Chemistry is equipped with apparatus which renders it possible to make use of the more

modern discoveries in physiologic and pathologic chemistry in their application to the improvement of diagnosis, prognosis and treatment in many cases which were formerly surrounded by almost insuperable difficulties and fallacies. Notably is this the case with some of the diseases of the digestive organs and, indeed, of metabolism in general. During the last few years certain methods of chemical analysis have been introduced which have led to a great advance in knowledge, and are, indeed, now gradually revolutionizing treatment. It is the distinction of the Sydney Hospital that to it belongs the honor of being the pioneer hospital of Australia, perhaps of the Southern hemisphere, in introducing modern chemical methods in diseases of the stomach, and metabolism generally.

The appendicitis work done at the Sydney is something to make one proud of American ideas and their adoption in alien lands. Radicalism is the basis of treatment. Cases operated on successfully are of course classified as cures, but it is very refreshing to note that cases of apparent recovery without operation are classified as merely "relieved." The general adoption of this classification would do much for surgical science and for humanity.

Sydney hospitals certainly can not complain of a lack of patronage. The total number of cases under treatment last year was 4,237. Of these 1,710 were accident or urgent cases. The number of operations performed during the year was 2,938, an excellent showing.

In the matter of accident or emergency work in general Sydney has really excellent facilities. A well-equipped ambulance brigade, with sub-stations here and there throughout the city, shows the acceptance of modern ideas in this far away part of the world. I say far away advisedly. Very few communities are so dependent on their own resources as is Australia. Reading European and American news six weeks old impressed this on me very forcibly. An infusion of American brains, energy and capital would make Australia a great country.

The staff of Sydney Hospital is as follows: Dr. C. V. Bowker, medical superintendent, the following gentlemen being associated with him as resident medical officers, viz.: Dr. Stacy, resident pathologist; Dr. Corbin, senior resident medical officer, and Drs. Cameron, Foster, Griffiths, Hart, Newman and Savage. The following gentlemen were the resident medical officers for 1902, viz.: Drs. Anderson, Ambrose, Coombes, Sharp, Seldon and Webb. Dr. Corbin and Dr. Cameron were the senior resident medical officers, with Dr. Griffiths as resident pathologist. Sydney Hospital has a large and efficient training school in which great attention is paid to instruction by the resident staff.

I inquired especially as to the genito-urinary service at the Sydney. The year's record was as follows: Circumcision 127, radical cure of varicocele 10, radical cure of hydrocele, 10, urethrotomy (external) 6, urethrotomy (internal) 13, dilatation of urethra 12, cystotomy (suprapubic) 4, cystotomy (perineal) 3, lithotomy 3, litholapaxy 5, opening of peri-urethral abscess 7, incisions for extravasation of urine 0, examination of bladder 2, removal of testicle 2, removal of calculus from ureter 2, prostatectomy 1, others 4, total 215. As may be observed, the service in this special department is light. Indeed, it would make a pretty small private practice for an ambitious man. The gynecologic department fares but little better. The yearly record is as follows: Abdominal section for ovariotomy and oöphorectomy 31, ectopic gestation 15, tubo-ovarian abscess 6, pelvic abscess 6, multiple abscess of broad ligament 0, ventrofixation 2, ovarian cyst 4, pyosalpinx 18, hysterectomy (abdominal) 10, hysterectomy (vaginal) 1, vaginal celiotomy 24, curettage 48, trachelorrhaphy 1, perineorrhaphy 3, Alexander's operation 23, repair of vesicovaginal fistula 2, total 216. The paucity of hysterectomies is especially noteworthy. A large general hospital with only one vaginal hysterectomy in a year—think of it!

Sydney is a city of contradictions, away behind the times in some few things, but in most it is worthy of emulation. Medically and surgically little exception can be taken to its status. There is not a decent eating house in the entire city of half a million inhabitants; if you want your shoes blacked you must go to a hotel and get out a search warrant for a porter, who wonders why you didn't have them polished twice during the previous night; if you want to quench your thirst or take a bath you are warned of the dangers of drinking the water, and instructed by the city to take a shower, not a tub, bath because water is scarce; but you can ride on a municipal tramway, and that is a great thing. The street cars, or trams, are run by the city and on the sectional system. The greatest distance costs three pence, and you can ride two miles for two pence. The employes work only 8 hours, and are well treated and well paid, yet the tram system netted £39,000 last year. This is something worth thinking about, all ye corporation-ridden American cities.

Sydney is not a suitable health resort for victims of insomnia. The postoffice clock and several rival sets of chimes vie with each other in the making of noise. The bell of the clock is a terror, and, to prepare its victims for the ordeal of listening to the striking of the hours, the various chimes play: "God Save the King." Then leaving Providence to deal with the king as best he may, the chimes retire for a spell and give a fair field and no favor to the clock: "Boom! boom! boom!" it goes and away flies balmy sleep. Just as you begin to doze, fifteen minutes later, the king gets into deep trouble again, and the chimes proceed to save him some more. And then you determine to economize nervous energy by remaining awake. Of one thing I am certain, the Sydney chimes save enough kings every day to insure England's line of succession for centuries. England should have a full hand of kings by this time. All the same I think it mean of Sydney to try to monopolize God's time. We need some "saving" in America.

Sydney has recently gone through its second epidemic of the plague. Much valuable knowledge has been gleaned by the local health board of Sydney. The epidemic just passed through was the second which Sydney had experienced. It afforded the first opportunity the world has had of studying plague occurring among white population and under modern scientific methods. The chief health officer, Dr. Ashburton Thompson, is a man of great ability and zeal and his industry is phenomenal. Simond's theory of the dissemination of plague by fleas from plague-stricken rats has been adopted as a working theory, and, as Dr. Thompson naïvely remarked, the health officers are supervising the health of the Sydney rats, rather than that of its people. The last plague rat was caught July 14 last. Since June 4,500 rats have been examined in the laboratory of the health board.

(To be concluded.)

Clinical Report.

FLY LARVÆ IN THE EAR.

GEORGE F. POPE, M.D.
RED LAKE, MINN.

August 25 there appeared at my office a man, 26 years of age, who seemed much agitated. He explained that he felt snakes in his right ear. By the aid of direct illumination I observed close up against the ear drum and in the canal just below it what appeared to be a mass of writhing white larvæ. Some of them were wiggling in a circular manner about the canal close to the drum membrane, but none ventured toward the external opening.

The rays of light from the mirror seemed to increase their movements and cause the patient greater pain and excitement. I therefore discontinued my examination and introduced a small pledget of cotton saturated with chloroform just within the canal. The movements of the larvæ soon stopped, as shown by direct illumination, so I syringed out the ear with warm water and got 21 dead larvæ. On undertaking a more careful examination of the drum I found an old scar in lower posterior quadrant, but failed to get a history of otitis-media.

The larvæ were sent to Prof. Louis Leroy of Vanderbilt University, Nashville, Tenn., for examination. He reports them to be from one of the common house flies. He informs me that they usually occur in ears in which some discharge of pus has been taking place.

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INTRAVASCULAR INJECTIONS OF FORMALIN IN SEPTICEMIA.

A case of puerperal septicemia recovered after the intravenous injection of formalin solution. We are told that the case was regarded as hopeless and that the effect of the formalin injection was "magical." This episode has been exploited in a sensational manner in the daily press and it has been heralded in medical journals as a discovery and an epoch in the history of medicine. While all would welcome the demonstration of a successful treatment of septicemia, there is unfortunately the very best of reasons for questioning the correctness of the inference that the recovery in the case referred to resulted directly or indirectly from the injection of formalin. The reasons for this doubt may be presented under two heads, namely, (1) the now well-known occurrence of spontaneous recovery from various forms of septicemia, or blood poisoning, and (2) the inadequacy of available evidence to show that formalin solution has any bactericidal or curative effect when introduced into the circulation of infected animals in nonfatal doses.

Every physician of experience has had the opportunity to observe apparently "hopeless" cases of septicemia suddenly change for the better and perchance after a remission or two go on to recovery. The bad prognostic significance formerly and even now attached to the diagnosis of septicemia or blood poisoning is sure to undergo considerable modification as the results of bacteriologic examinations of the blood during life and according to approved methods become more generally known. It has been shown conclusively that cases of bacteriemia, be it streptococcemia, pneumococcemia or staphylococcemia, may recover spontaneously even when the blood has been found to contain large numbers of bacteria, and even when metastatic foci, such as articular inflammations and endocarditis, have developed. This being the case, the recovery in a single, isolated instance of streptococcemia injected with formalin proves little or nothing in regard to the value of the latter. For aught we know it might be nearer the truth to say that recovery resulted in spite of the formalin injections. We can not regard the puerperal septicemia "as an otherwise fatal condition." In 47 cases of bacteriemia, demonstrated to be such by cultures from the blood during life by Bertelsmann,[1] death took place in 26. In this series there were 28 cases of streptococcemia, and of these 13 died. Other examples of this kind could be cited. Recently Herrick[2] has collected a number of cases from the literature of recovery after undoubted malignant endocarditis. He is fortunate enough to furnish the anatomic proof of the healing of ulcerative endocarditis in three cases in the form of healed valvular perforations. In view of these facts it is self-evident that the actual value of formalin injections in septicemia can be determined, from the clinical standpoint, only by systematic use in a large series of cases under careful control by persons capable of sober judgment.

Coming now to the experimental study of the curative and bactericidal action of formalin solutions in infected animals, then we may say, in brief, that the results so far are not at all encouraging. Fischer and Tieken[3] found that repeated intraperitoneal injections of formalin, 1/2000 or 1/1000, in doses of from four to eight cubic centimeters, had an unfavorable influence in guinea-pigs with peritoneal tuberculosis. The injected animals were less able to resist the tuberculous infection than those not injected. Fortesque-Brickdale[4] found that formic aldehyd in large doses so depresses animals infected with pneumococci that they die sooner than an untreated animal used as control. Formalin, i. e., formaldehyd, according to Waldemar Koch,[5] interferes with the normal proteolytic processes in the cells, and hence it would tend to reduce rather than strengthen the cellular resistance to noxious agents. Certainly not much may be hoped from the use in human septicemias of an agent that has proved so disappointing in animal experiments.

Pending scientific investigation, an emphatic caution should be given to the general practitioner. Six or more cases in which this agent was used are already reported in the newspapers, and most of these trials were undoubtedly suggested by the accounts of Barrows' case in the lay press. This indicates the eagerness of the profession to avail itself of any hope of relief in a desperate condition. The trial should certainly be left to cases *in extremis*. Barrows[6] warns the profession against indiscriminate use of this agent where proper blood cultures have not been made to determine the cause of the septicemia.

The technic of the injection is simple—that of any intravenous infusion and with all the usual surgical precautions. The solution used has been of a strength of 1 to 5000 of formalin in physiologic salt solution. As much as 750 c.c. have been injected. In determining the results the value of injections of physiologic salt solution itself, either with or without abstraction of some of the sepsis-laden blood, should be remembered. Control experiments would be of exceeding value in such cases if they were possible.

1. Verh. o. Gesellsch. f. Chir., 1902, xxxi, 291-304.
2. Trans. Assn. Americ. Physicians, 1902, xvii, 468-483.
3. Trans. Chicago Pathologic Society, 1902, v, 61-63.
4. Lancet, 1903, January 10.
5. Am. Jour. of Phys., 1902, vi, 325.
6. N. Y. Med. Jour., January 31.

CYTOTOXINS AND HEREDITY.

Aside from metaphysical and recondite distinctions with which the subject has been somewhat obscured, the question of heredity of disease may be stated as follows: Can parents, apart from direct antepartum or postpartum infection, transmit their diseases or defects to their offspring? As regards most germ diseases it is coming to be generally believed that they are not thus transmitted save in very exceptional cases, otherwise than through direct parental infection either after birth or during fetal life. In some cases where no parasitic origin has been definitely established, it is still assumed that such exists and that the same rules apply. While it is still largely recognized that in some diseases a predisposition may be created, yet even this is being questioned by some, and the favorite theory of germ transmission is invoked to account for the conditions existing. One does not have to look far in medical literature to find this tendency; it is not yet predominant perhaps, but it seems to have grown in favor of late years. The burden of proof has been, in a measure, shifted from the advocates of infection in a large class of disorders heretofore reckoned as due to transmitted anomalies of metabolism to those who would still maintain their constitutional and hereditary character. The influence of heredity has been minimized even in nervous disorders and insanity in some quarters, notwithstanding the very obvious evidence of its existence. Bacteriology and certain theoretical biologic views seem to have very largely discredited heredity—at least with some medical writers and thinkers. The sins of the fathers, they hold, are not visited on the children to the third and fourth generation, except in some vague way of impairment of the germ plasm or through the direct agency of infecting microbes.

To the average practitioner, however, there is still a reasonable probability of the inheritance of disease; it is the most natural way of accounting for clinical facts of daily experience. What we need is more thorough studies of the phenomena of degeneration as shown in the offspring of diseased parents and of their correspondence with the original lesions of the progenitors. The inheritance of a predisposition to a special disease would seem to imply a special weakness of the organs involved or lack of resistance to a special microbic agency, which is in reality not so essentially different from the actual inheritance of the disease itself. The distinction is more a metaphysical than a practical one.

In a lecture[1] recently delivered at the College de France, M. Charrin discusses this subject at length and gives the results of special studies as to the part played by the soluble toxins in the transmission of pathologic taints. He found that the fetal cells are directly influenced in their structure, function and secretions by paternal and still more by maternal disease so that it is difficult to avoid seeing the relation between them, and this without bacterial infection or, at least, without any characteristic species and without any causal factors in the environment. Instead of vaguely speaking of "the soil" or "the predisposition" Charrin thinks that we should discriminate between the various morbid manifestations which result from pathologic taints in the progenitors. He has been able to determine a deficient alkalinity in the plasma or an increase in the toxic substances in the humors in the infants of diseased parents. He has also observed in these or other infants a tendency to hypothermia capable of inhibiting phagocytic action. He gives the details of his findings in a number of cases and proclaims that it is necessary in each case to seek for the exact pathologic taint in the infant and counteract the morbid tendency by special, appropriate measures. He has been conducting much clinical and experimental research in regard to the transmission of cytotoxins, and thinks that such soluble substances play a very important part in the transmission of morbid tendencies. Among the experiments related is the subcutaneous injection of an emulsion of liver substance in a gravid goat. A total of 84 gm. was injected at various times, equal to 2 per 1000 of the animal's weight. Sixteen days after the last injection she was delivered of a kid that died at once. All its organs were macroscopically sound with the exception of the liver, which was reduced to a pulp. There were no traces of microbes. It is not difficult to conceive after witnessing such experiments that the disintegration of a tuberculous lung in a pregnant woman might lead to the production of a pneumotoxin. This pneumotoxin, passing through the placenta, might have an injurious influence on the development of the embryonal lung, not inducing necessarily any decided lesions, but preventing its full normal development. The lung in the offspring, therefore, would always remain a weak point. Such facts suggest an explanation for the fact that in certain families the liver is affected generation after generation, in others the heart or kidneys. More than this—we already know the mode of action of the lysins: they induce the production of or incite to action the alexins, complements, sensibilisatrices, etc. We also know how to combat them by inducing the production of antisubstances. There is thus a prospect that we may be able by this means to institute effective therapeutics based on our knowledge of the pathogeny.

M. Charrin's article is suggestive in many ways; we have given only a brief review of some of its leading features. The field of study it points out is apparently one well worth cultivation and one that may be fruitful in resolving some of the obscure problems of biology as well as giving possible direct practical results in the therapeutics of disease.

1. La Semaine Med., No. 51, Dec. 17, 1902.

COLOPEXY FOR EXTENSIVE RECTAL PROLAPSE.

Prolapse of the rectum as so frequently met in children usually yields to palliative measures even if the prolapse be very extensive; on the other hand, the treatment of prolapse in adults is far from being such an

easy matter, as can be seen by the numerous methods of operative treatment which have been advised. Many factors tend to produce prolapse, the most important being relaxation of the rectum, of the pelvic floor and of the sphincter. When there exists with this constipation and resulting straining at stool, the condition rapidly becomes aggravated enough to demand operative treatment.

Among the measures which have been suggested are various methods of narrowing the anus and of reducing the relaxation. The use of the actual cautery to produce cicatricial contraction has not been followed by satisfactory results, so far as cures go, and in some cases of extensive prolapse has been followed by perforation with fatal result. The method of narrowing the rectum by torsion of the intestine, as suggested by Gersuny, is frequently followed by failure. Excision of the mucous membrane, as in Whitehead's operation, is a simple operation, not accompanied by much danger, but which has failed to give permanent cures. Resection of the prolapse, as specially advocated by Mikulicz, has in the past been considered the most reliable method of treatment, although the operation is extensive and accompanied by some danger. This should be undoubtedly the operation of choice in those cases in which the prolapse is strangulated or in which there is extensive ulceration.

Suspension of the intestine is a method which has come into use very recently, and has been specially recommended by Ball of Dublin, whose Lane lectures on rectal surgery in San Francisco were recently listened to with so much profit. Von Eiselsberg[1] of Vienna has published the results of colopexy, or suspension of the colon, in 13 cases, and from his experience he believes with Ball that this is the method of choice in the treatment of extensive rectal prolapse. He finds that resection and the various methods of narrowing the lumen of the intestine or anus are unreliable, recurrences following frequently. Moreover, the operation of resection is severe enough to be followed by a considerable mortality. Colopexy may be performed through a small incision in the left side, not larger than that required for an exploratory operation. The prolapse is not only replaced, but drawn up so that the anus has a funnel-shaped appearance, and two or three rows of silk sutures fasten the denuded wall of the colon to the abdominal wall. He keeps his patient in bed from three to five weeks following the operation. The operation in his hands has not resulted fatally in any case. Recovery has been uneventful, and the permanent results entirely satisfactory except in two cases, in which the patients were, however, considerably relieved.

This operation has not come into very general use in this country. The advantages which it offers and the satisfactory results which have followed in the hands of reliable men, seem to commend it as an operation deserving to be much more generally employed.

1. Archiv für Klinische Chirurgie, 1902, vol. lxvii, page 745.

THE METRIC SYSTEM AND MEDICAL SCHOOLS.

It is now more than twenty years since the metric system was first indorsed by the American Medical Association. Within that time it has become more or less familiar to the medical public of this country, but its adoption is yet far from being accomplished. It is a difficult thing to supplant old habits, and all the conservatism of human nature comes into active play in such cases as the adoption of a system which not only in its medical, but in almost all other relations of life would require a change in our habitual conceptions and usages. Nevertheless, there are many physicians, though perhaps fewer just now than some years ago, who use this system in their prescription writing. It would be well if the practice were more general. The advantages are obvious, it would put us on the same footing with physicians throughout the greater part of the civilized world. Only in the English-speaking countries is the metric system not the usual one employed. We are constantly required to understand the meaning of grams, centigrams and cubic centimeters in our medical literature, with sometimes awkwardly confusing results; and serious mistakes have not been always avoidable because of the lack of care in properly stating the signs for grams and grains.

The change would not be a difficult one to the physician, and we believe there are few druggists who would be unable to adapt themselves to the newer system without serious difficulty. We can easily see the drawbacks in large economic industrial establishments where the sudden change of systems, it has been calculated, would cause a very great expense, reaching thousands of dollars in special establishments and manufactories. This, however, does not apply to the medical side of the question, where the change would be comparatively easy. The indorsement given by the Association has been repeated more than once, and there is just as much reason for it at the present time as ever. The public is already half educated to the change. It would take but little more for us as physicians to make it complete.

It may be that the solution of the question rests with the instruction in medical colleges. If the metric system were used primarily in them and the old apothecaries' weight only incidentally, instead of the reverse, as at present, the newer generation of doctors would perhaps go out metric habitués—so to speak—and the usage of the really more scientific and convenient medical notation come to be the rule. The text-books would then be obliged to follow suit. At present there is often a sort of lurking suspicion that metrically-written prescriptions may not be properly dispensed. Of course, with educated pharmacists there should be no question, but the suspicion undoubtedly exists and must be overcome. In the physician unused to the metric system his uneasiness is perhaps born of his own lack of knowledge. A little more attention to the subject in the medical schools would, we think, do away with this doubt. A disuse of

the old apothecaries' weights in the common school text-books would also be a help, but can hardly be expected as long as they are so universally in use. But when the physician and pharmacist cease using the old complicated weights, who else will want to use them? It is to the medical schools that we must probably look for the real initiation of the reform.

DECEITFUL TRADEMARKS LOSE THEIR PROTECTION.

The United States Supreme Court has recently given out a decision which has some bearings on medicine. The case at hand is that of a California medicine company against another patent medicine company for infringement on its trademark. It went through the various courts and finally reached the United States Supreme Court and was fully argued. In the opinion of Justice Shiras it was held that if any symbol or label claimed as a trademark is so constructed as to contain any distinct false assertion its exclusive rights can not be maintained. If the plaintiff makes any material false statement, says the court, in connection with the property which he seeks to protect, he loses his right to claim the assistance of a court of equity. Any advertising trademarks, therefore, for quack medicines with extravagant assertions or claims are hereafter useless.

DO MANUAL INJURIES DISABLE PHYSICIANS?

A physician is not a manual laborer, but the use of his hands is about as essential to him as it is to the larger proportion of the class that earn their living by their daily work. This, however, does not seem to be the view taken by an insurance company. An accident insurance company was sued to recover a disability policy by a physician who had his hand badly cut and was for several weeks deprived of its use. The special claim was made that he was prevented from performing several surgical operations. He simply asked for the $5 per week disability which the policy promises. In its reply the company, with the usual evasiveness of too many business corporations, claim that a physician is not disabled by any manual injury, but that he earns his living by the use of his brain. It thus apparently altogether ignores the claims of loss from disability to perform surgical operations. Of course, this is a matter that probably will not go beyond the court and will be quickly settled, we believe, to the discomfiture of the company, but the claim is a new one—that manual dexterity is of no value to a physician—and shows how business corporations as well as other organizations of individuals endeavor to exploit the medical profession.

THE PHYSICIAN AND THE PHARMACOPEIA.

It looks as though we were to have a reaction in the medical profession from the use of proprietary remedies and polysyllabic compounds to the employment of the simple but officinal drugs and compounds of the United States Pharmacopeia. It can not be denied that too many physicians are unfamiliar with that valuable work. Created by the medical and pharmaceutical professions, it has always been recognized by the pharmacist as a reliable and official guide, but to the physician it has been too often an unknown work and one seldom found on his book-shelves. Wilbert,[1] in a timely article, lays some of the blame for this unfortunate condition to the enormous increase in proprietary medicines, which have become, he says, an unmitigated nuisance. He notes with satisfaction, however, the return on the part of the ablest medical men to the use of the simpler but more efficient and safer remedies of the Pharmacopeia. Therein are described drugs and combinations of drugs to meet every therapeutic indication, while "among the untold thousands of patented preparations not a single one has been demonstrated to be able to produce any physiologic phenomena that can not be produced by one or more substances readily available in the ordinary channels of trade." There is a need in the literature of the day for more discussion of the common remedies and their therapeutic uses, such, for example, as is suggested by our Therapeutic department January 17, where sulphur is recommended as of value in many and various conditions. If the physician would study his Pharmacopeia more and proprietary circulars less, it would be better both for himself and for his patients and for the pocket-books of both. Wilbert further speaks of the recent Congress for the Unification of Heroic Remedies, and urges that the suggestions for international standards ought to be incorporated in the Pharmacopeia. The publication of the next revision may be expected in about a year, he says, and if medical societies should at once express themselves as in favor of such a course the revision committee would include the standards. This would be a long step toward their international adoption, which is so much desired.

Medical News.

CALIFORNIA.

To Ward Off Disease.—A bill has been introduced in the State Senate appropriating $100,000 for the use of the State Board of Health, to ward off contagious diseases.

Resort for Semi-Invalids.—Through the beneficence of N. O. Nelson of St. Louis, a resort for semi-invalids has been started at Indio in the Coachella valley. He has bought 127 acres of land, and will erect a central building and a number of cottages.

Polyclinic Election.—The trustees of the San Francisco Polyclinic have elected the following officers: President, Dr. George W. Merritt; vice-president, Drs. John Wilson Shiels and Henry L. Wagner; secretary, Dr. Martin Regensburger, and treasurer, Dr. Louis Bazet.

Smallpox.—At Big Sandy 10 cases are reported among the Indians. Kingsburg has had 51 cases, but the disease is now under control. In Fresno there are 10 cases at private houses and 4 in the county isolation hospital. Redding has had 3 cases. The disease, which was apparently epidemic in Tulare, is disappearing.

The Mortality of Los Angeles.—During 1902 there were in Los Angeles 2,290 deaths, about 300 more than in 1901. The death rate per thousand—16.96—is relatively high, due, as the health officer explains, to the immigration of patients in advanced stages of tuberculosis. Tuberculosis was the cause of 484 deaths, and of these 366 had been in Los Angeles less than 10 years, and 212 less than one year.

In Trouble.—Dr. Ralph A. Huntington, San Franciso, who was convicted Feb. 20, 1901, of manslaughter for causing the death of Miss Jennie McKown and was sentenced to serve the maximum term of ten years, has been granted a new trial by the Supreme Court.——"Drs." William Davis and H. L. Meyers, "oriental healers and seers," of Los Angeles, have been

1. The Physician and the Pharmacopeia. M. I. Wilbert, Ph. G., New York Medical Journal, January 3.

arrested for conspiracy to defraud.——Sylvester W. Richmond, a "layer-on-of-hands," of Los Angeles, has been convicted of practicing medicine without a license.——Julia S. Tickel, Fresno, is under indictment for alleged unlawful operations.

Personal.—Dr. Matthew Gardner, San Francisco, has been appointed a member of the State Board of Health, vice Dr. Walter B. Coffey, resigned.——Dr. Frank P. Wilson has been appointed assistant city physician of San Francisco.——Dr. George Chismore, San Francisco, was recently injured by a collision with an automobile.——Dr. Zemach Levin, San Francisco, has returned after six months' study in London and Berlin.——Dr. Edwin A. Kelley, Berkeley, has been appointed second assistant physician at the Agnews State Hospital for the Insane.——Dr. William N. Moore, Ukiah, has been appointed a member of the local board of health, vice Dr. Samuel L. Rea, resigned.——Dr. J. Coplin Stinson, San Francisco, has been appointed a member of the board of health.

DISTRICT OF COLUMBIA.

Returned from the Philippines.—Dr. Thomas C. Chalmers, major and surgeon, U. S. V., was honorably discharged from the medical service February 1. He will take up practice in New York City, and has been elected surgeon to the Twelfth Infantry, N. G., N. Y.

Health of the District.—The report of the health officer for the week ended January 28 shows the total number of deaths to have been 114, of which 69 were white and 45 colored. At the close of the week there were 148 cases of typhoid fever, 13 of scarlet fever, 13 of diphtheria and 7 of smallpox under treatment.

For School Medical Inspectors.—Senator Gallinger has offered an amendment to the district bill providing for 11 medical inspectors for the public schools to be appointed by the board of education, each at a salary of $500 per annum. Eligibility for appointment is based on five years' practice of medicine in the district and a competitive examination.

Resident Physicians Appointed.—At the competitive examination, held January 24, to fill vacancies in the house staff of the Central Dispensary and Emergency Hospital, Drs. John T. Dunn and W. Robert Perkins of the District of Columbia were successful and will become senior and junior assistant resident physicians. Dr. F. H. Warhart, the resident physician, retired February 1 and was succeeded by Dr. J. H. Cashman. Dr. Richard Lightburn Sutton, Kansas City, Mo., the former resident physician, has successfully passed a competitive examination and has been appointed first lieutenant and assistant surgeon in the Navy.

Hammond Relief Bill.—Senator Elkins has introduced a bill to amend the act approved March 15, 1878, so as to appeal the provision that Dr. Hammond should not be entitled to pay while on the retired list of the Army and providing that he shall be entitled to the pay of brigadier general on the retired list from the date of his appointment and retirement under said act, Aug. 27, 1879, up to the date of his death, Jan. 5, 1900, the same to be paid to Esther D. Hammond, his widow. The general impression is that the bill should and will pass and become a law. Mrs. Hammond is prominent in society, and an active member of many prominent charity organizations of the district.

Hospital Appropriations.—Senator Stewart has offered an amendment to the sundry civil bill appropriating $100,000 for the reconstruction and completion of the Providence Hospital. A modern morgue is to be added and the approaches to the hospital graded.——Senator Gallinger has offered an amendment to the district bill appropriating $75,000 for the erection of an additional building to the Homeopathic Hospital.——Senator Mason has offered an amendment to the same bill appropriating $200,000 for the erection of new buildings for the Freedman's Hospital. Two hundred patients will be accommodated in the extension, and it is provided that the Howard University shall furnish, from its medical department, free of cost, a medical staff.

Committee on Public Health.—Dr. D. Percy Hickling, chairman of the committee on public health of the board of trade, presented his report at the recent annual meeting of the association. It showed a large amount of valuable work done during the past year and contained a number of valuable recommendations, including general hygiene of the District, prevention of diseases, provision for public baths, public houses of convenience, and medical supervision of schools. Dr. Kober addressed the meeting, discussing general health conditions. Surgeon-General Sternberg read a paper on the prevention of tuberculosis, its origin and treatment. Dr. W. C. Woodward discussed the health needs of the District. Mr. Weller, secretary of the Association of Charities, delivered an illustrated lecture on the slums and disease-breeding localities of the District.

New Army General Hospital.—The new Army general hospital recommended to congress by the Secretary of War, to be established in the District of Columbia, is designed to serve as a base hospital in time of war, and to be so situated as to permit of immediate and temporary enlargement. On the outbreak of war troops would be assembled in the vicinity of Washington and there would be immediate need for such a hospital. This hospital is to form part of the equipment for the Army Medical School, enabling the student officers to become familiar with the method of administration, hospital inspection, the use of the Roentgen rays and other diagnostic apparatus, and to receive instructions in medical and surgical procedures having special application in the military service. The hospital will also have facilities for the practical training of the hospital corps and the army nurse corps. The staff will be composed of army medical officers having a special knowledge of surgery, diseases of the eye, ear, throat, etc., and special equipment will be provided for the treatment of such diseases. The need of such a hospital was evident during the recent war and a general hospital on a small scale was established at Washington Barracks, but this establishment has been found inadequate in size, and it can not be increased, as the ground is required for the erection of buildings for the Army War College at the post. Since this hospital was established in 1898, 3,000 hospital corps men have been trained and sent to military posts in the United States, Porto Rico and the Philippines. Hundreds of successful operations for hernia have been performed, thereby saving the government thousands of dollars in pensions. The student officers have had the benefit of hospital training in all its branches.

ILLINOIS.

An epidemic of measles at Taylorville is reported; 300 cases exist and 10 deaths have occurred.

Springfield Hospital staff has elected Dr. George F. Stericker, president, and Dr. R. Dillard Berry, vice-president.

Hospital for Waukegan.—Through the liberality of Mrs. Jane McAllister Waukegan is to have a new hospital to cost $20,000, which Mrs. McAllister will also equip.

In Memory of Dr. Kohl.—The St. Clair County Medical Society, at a special meeting in Belleville, adopted tributes to the life and character of its late member and president, Dr. Julius Kohl.

Dr. Murphy's Estate and Bequests.—The will of the late Dr. John Murphy, Peoria, devises an estate appraised at $400,000. St. Francis' Hospital, Cottage Hospital, Home for the Friendless and Home of the Good Shepherd, each receives $5,000.

Personal.—Dr. John F. Snyder, Virginia, has been elected president of the Illinois State Historical Society.——Dr. William R. Patton, Charleston, was thrown from his buggy, January 26, and dislocated his left shoulder.——Dr. William F. Grinstead, Cairo, left on February 1 for a trip of four months in Europe and the Holy Land.

To Create Tuberculosis Sanitarium.—Representative Hardin has introduced a bill to create a state sanitarium for the scientific treatment of persons afflicted with tuberculosis. The bill provides an appropriation of $200,000 for the institution and creates a board of trustees consisting of three members, one of whom is to be a physician.

Chicago.

Rupture Specialist in the Toils.—Edwin E. Rohrabaugh, an itinerant hernia specialist of Chicago, was recently arrested in Des Moines. The grand jury has found a true bill against him on the charge of violating the law whereby itinerant physicians in Iowa are required to pay a special license fee.

Deaths of the Week.—During the week ended January 31 586 deaths occurred, 35 more than in the preceding week and 69 more than in the corresponding week of 1902. Pneumonia caused 104 deaths; consumption, 52; bronchitis, 32; heart disease, 46; Bright's disease, 41, and violence, 42. The annual death rate per 1,000 for the week was 16.20.

Alexian Brothers' Hospital.—The annual report of the Alexian Brothers' Hospital shows that in 1902 2,981 patients

were cared for, of whom 1,912 were discharged cured. Of 305 who died during the year 122 were admitted to the hospital in a dying condition. Of all the patients treated, 1,681 paid fees in full, 397 paid partially, and 903 were treated gratis.

Smallpox.—During January 50 cases of smallpox were reported. Of these 24 were negroes; 24 had never been vaccinated. Only 6 had marks indicating previous vaccination, and these were old. An interne at the County Hospital was one of the infected. He was 30 years of age and had an old atypical scar. Of the 50 patients 11 were from points outside Chicago.

Founder's Day at Northwestern.—The alumni of Northwestern held their third annual banquet, January 27. Dr. William W. Keen, Philadelphia, was one of the guests of honor, and the arrangements were in the hands of Dr. Winfield Scott Hall. President Hadley of Yale delivered the address at the closing exercises on "The Place of the Professional School in the Modern University." The honorary degree of Doctor of Laws was afterward conferred on Dr. Keen.

Coal Famine and Mortality.—The department of health in its *Bulletin* for January 31 considers that the increased mortality for January is due directly to the shortage of coal.

Unrevised returns of mortality for the month of January, 1903, show an increase of 10.4 per cent. (or 344) in the actual number of deaths from all causes and at all ages, and of 11.4 per cent. in proportion to population, as compared with January, 1902, when coal was abundant at one-half the price or even less than that it now commands—when it can be obtained at all. These two facts are cited together because, in the judgment of the health department, the latter is the principal if not the sole cause of the former. A large proportion of the excess deaths is, as was stated in the *Bulletin* of January 10, due to cold and exposure caused by the coal famine, and which at that date had affected the health of fully 10 per cent., or nearly 200,000 of the population of the city. Had any other one cause so seriously menaced the public health and welfare a grave emergency would have been declared to exist, authorizing the exercise of the plenary power of the municipality under the warrant and law of "overruling necessity."

MARYLAND.

Baltimore.

Vital Statistics.—Pneumonia is largely prevalent, it is believed owing to the epidemic of measles. Of the 242 deaths reported last week, 47 were ascribed to it, while bronchitis caused 7. There were 204 new cases of measles reported, with 5 deaths, and 40 new cases of diphtheria were reported. The deaths reached the high rate of 23.02 per 1,000 per annum.

Magness Reindicted.—Dr. Thomas H. Magness, who was indicted at the last term of court at Parkersburg, W. Va., charged with taking the state medical examination there last spring in the name of David Shepler of Bellevernon, Pa., a student of the Baltimore University, of which Magness was then resident physician, and of personating the said Shepler, was indicted again January 27, the former indictment having been quashed on account of a technicality.

The Frick Library.—The Charles Frick collection of the Medical and Chirurgical Faculty now numbers 2,209 volumes. There were added during 1902 273 volumes, chiefly English, French and German works on diseases of the kidneys and internal medicine. Increasing appreciation of this collection is shown, 2,223 volumes being taken out for home use and 4,510 readers being registered during the year. A valuable addition lately made through Dr. Osler is a remarkable collection of theses by American students at the University of Edinburgh between 1760 and 1810. The Frick fund for 1902 included $500 from Mr. William F. Frick, $50 from Mr. Frank Frick, and $200 from Mrs. Dr. H. Barton Jacobs. In addition to this was the membership of the Book and Journal Club, amounting to about $500. This club, organized seven years ago, has contributed about $3,000. The above funds are devoted exclusively to the purchase of new books and the more expensive journals, while the appropriation set aside by the faculty is used for running expenses, and the larger bills for journals and binding.

Wood Alcohol Poisoning Case.—The trial of the wood alcohol poisoning case in the Baltimore Court was the leading medical feature here last week. The court refused to admit the analysis of Jamaica ginger made by the drug firm two years after the alleged poisoning. He also refused to take the case from the jury and decide it himself. A former employe of the drug firm testified that the latter used wood alcohol in the preparation of Jamaica ginger from 1897 to 1900, the proportions used being: wood alcohol 30 per cent., grain alcohol 50 per cent., and water 20 per cent. The attorney for the defense acknowledged that this proportion was correct, and that in the three years 65,376 bottles of the preparation were placed on the market. Drs. Herbert Harlan and Hiram Woods testified that Dr. Brehm's loss of sight was due to wood alcohol. Dr. Charles A. Crampton, a government chemist employed in the internal revenue department; W. A. Puckner, professor of pharmacy in the University of Illinois, and F. P. Kuehne, a manufacturer of flavoring extracts at St. Louis, testified that wood alcohol, in their opinion, was not poisonous.

MASSACHUSETTS.

Gifts to Harvard Medical School.—During 1902, $727,845 was given to Harvard University for capital account, and $367,891 for immediate use. For the medical school John D. Rockefeller gave $308,758, subscriptions were made amounting to $189,024, and for the George Higginson professorship of physiology, $100,000 was given by Mr. Higginson's children.

Alleged Operation Without Consent.—Suit has been brought by an aged Charlestown woman against Dr. Samuel J. Mixter, Boston, for $2000 damages. The plaintiff alleges that Dr. Mixter operated on her without having obtained her consent, and that in consequence she has since continually suffered and will continue to suffer, besides having been put to great expense.

Epileptic Hospital Report.—The trustees of the Massachusetts Hospital for Epileptics, Monson, have prepared their annual report. They ask for a group of farm buildings, which will relieve congestion in the institution buildings proper. These should cost about $50,000. The superintendent further states that next year a cold-storage plant, asylums for fifty men and fifty women during maniacal attacks, and a laboratory will be needed. There were, on September 30, 377 patients in the institution against 270 a year ago. The per capita weekly cost of maintenance was $4.31.

Violations of Law.—Ulderic St. Pierre of Fall River has been convicted for the third time of holding himself out to be a physician without being duly registered, and has been sentenced to pay a fine of $500 and to be imprisoned for five months.——George W. Bradley, North Adams, who, it is alleged, purported to be a physician without having registered, was fined $100, the minimum penalty. He took an appeal.——Henry D. Noel, a "suggestive therapeutist" of Fall River, charged with practicing medicine without being duly registered, was fined $125, and in default of bonds, was confined in jail.

Bequests to Hospitals.—Mrs. Mary Longfellow Greenleaf of Cambridge, in her will, bequeathed $5,000 to each of four hospitals.——By the will of Nancy E. Rust of Boston, $10,000 is left to the Addison Gilbert Hospital, Gloucester; $5,000 to the Perkins Institution and Massachusetts Asylum for the Blind, and the balance, about $15,000, is to be given to the Addison Gilbert Hospital in memory of Elias E. and Esther G. Davison.——Lucy Richmond Read of Boston, in her will, bequeathed $5,000 each to the convalescent home of the Children's Hospital, Wellesley; the Willard Hospital for Dipsomaniacs, Bedford; the Channing Home for Consumptive Women, Boston, and the Sharon Sanitarium.——Lamont G. Burnham, Boston, by his will devised $150,000 to the Boston City Hospital for a new building.——By the will of Mrs. F. L. Ames of Taunton $5,000 is given to establish a free bed in the Massachusetts General Hospital and a similar sum to endow a free bed in the Boston Home for Incurables.

MICHIGAN.

Personal.—Dr. William H. Haughey, Battle Creek, has been appointed local surgeon for the Michigan Central Railroad.——Dr. George Dock, Ann Arbor, is journeying through California.——Dr. Henry D. Thomason, major and surgeon, U. S. V., who has been stationed in the Philippines for two years, is on his way to the United States.

Faculty Changes at College.—Drs. Robert S. Linn, Detroit, and Vernon J. Hooper, South Lyon, have been appointed professors of tropical medicine at the Michigan College of Medicine and Surgery, Detroit; Dr. Peter M. Campbell will take the chair of electrotherapeutics; Dr. Heneage Gibbes that of internal medicine and pathology, and Dr. E. C. Watson will lecture on laryngology and rhinology.

Comparative Morbidity.—For December, 1902, compared with the preceding month, influenza, pneumonia, scarlet fever, erysipelas, smallpox, measles and dysentery were more prevalent; and diphtheria, intermittent fever, cholera morbus and puerperal fever were less prevalent. Compared with the average for December in the 10 years, 1892-1901, smallpox, measles

and whooping cough were more than usually prevalent: and consumption, intermittent fever, remittent fever, dysentery and puerperal fever less than usually prevalent.

Muzzle All Dogs.—At a meeting of the State Board of Health, January 9, Dr. Victor C. Vaughan, Ann Arbor, made a report of the special committee on the subject of hydrophobia, and offered the following preamble and resolution, which were adopted:

Inasmuch as hydrophobia is widely disseminated throughout the state, and many people are being bitten by rabid dogs,

Resolved, That the State Board of Health recommends that municipal and township authorities order the muzzling of all dogs at large, and make and publish regulations to that effect.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during December, 1902, at 10 places; whooping cough at 39 places; measles at 63 places; typhoid fever at 110 places; diphtheria at 113 places; smallpox at 126 places; scarlet fever at 177 places; and consumption at 239 places. Meningitis was reported present at 3 places more; whooping cough at 12 places more; measles at 15 places more; typhoid fever at 9 places less; diphtheria at 35 places more; smallpox at 85 places more; scarlet fever at 34 places more; and consumption at 1 place less, in December, 1902, than in the preceding month.

December Mortality.—There were 2,666 deaths in the state during December, an increase of 309 over the preceding month. The death rate rose from 11.7 to 12.8 per 1,000, being slightly higher than the rate for December, 1901. Important causes of death were as follows: Tuberculosis, 194; typhoid fever, 59; diphtheria, 68; scarlet fever, 16; measles, 11; whooping cough, 23; pneumonia, 291; meningitis, 26; influenza, 35; cancer, 122; accidents and violence, 173. As compared with the preceding month, an increase was shown in the deaths from tuberculosis, diphtheria, pneumonia, influenza and external causes, and a decrease in the number reported from typhoid fever and scarlet fever. There were 5 deaths returned from smallpox. One death was reported from hydrophobia in Saginaw.

NEW YORK.

Typhoid at Ithaca.—The epidemic of typhoid fever at Ithaca has attained serious proportions. The nurses at the City Hospital have been obliged to give up their rooms for patients. There are at least 200 cases in the city, and the number is rapidly increasing.

Personal.—Dr. George D. Whedon, Syracuse, while ill, fell and fractured his right leg below the knee.——Dr. Julius E. Haight, on leaving the Utica State Hospital for the Manhattan State Hospital, Central Islip, L. I., was presented with a handsome toilet set by the employes.——Dr. William A. Allen, secretary of the Flushing Hospital for many years, has resigned.

Deaths During 1902.—The annual report of the State Department of Health shows the number of deaths to be 124,160, or 5,000 less than in the previous year, making a death-rate of 17 per 1,000. The zymotic mortality was high, and deaths from typhoid and scarlet fever increased; those from smallpox remained stationary. There were 8,800 deaths from pneumonia, 5,500 from Bright's disease and 4,000 from influenza.

New York City.

Trachoma Department.—On Oct. 20, 1902, the health department opened, as a part of Gouverneur Hospital, a special department for the treatment of contagious eye diseases. Between that date and January 3,791 cases were treated, the majority of which were of trachoma.

Personal.—Dr. George T. Stewart, formerly superintendent of Bellevue Hospital, has been appointed superintendent of hospitals of the board of health. His duties will be executive. ——A fire at the residence of Dr. John H. French, January 28, did damage to the extent of $1,500.——Dr. John A. Irwin, on retiring from the presidency of the British Schools and Universities Club, was presented with a seven-quart loving cup.—— Dr. L. Rosenwasser, medical inspector, has been suspended by Commissioner Lederle for receiving a fee in the line of duty. ——Dr. Earle E. Woolworth, Brooklyn, fell from his wagon, January 21, fracturing his skull.——Dr. Jesse T. Duryea, former superintendent of Kings County Hospital, was presented with a bronze statuette by the attending staff, January 15.—— The board of education has appointed as director of physical training for the schools of Greater New York Dr. Luther Halsey Gulick, the inventor of basketball.——On February 4 the Society of Alumni of Bellevue Hospital held a dinner at Delmonico's, and presented to Dr. John W. S. Gouley a piece of silver in commemoration of the fiftieth anniversary of his connection with the hospital.

So-Called Specifics for Tuberculosis.—The committee on the prevention of tuberculosis of the Charity Organization Society of the City of New York has adopted the following preamble and resolution:

WHEREAS, It has come to the knowledge of the Committee on Tuberculosis of the Charity Organization Society that many so-called specific medicines and special methods of cure for tuberculosis have been and are being exploited and widely advertised, and

WHEREAS, The advertisements of some of these cures have made such reference to the Tuberculosis Committee of the Charity Organization Society, or to some of its members, as to create the inference that this committee, or its members, recommend or advocate the use of many such so-called specifics or special methods of cure for pulmonary tuberculosis, or consumption, and

WHEREAS, There is no specific medicine for this disease known, and the so-called cures and specifics and special methods of treatment widely advertised in the daily papers are in the opinion of the committee without special value, and do not at all justify the extravagant claims made for them, and serve chiefly to enrich the promotors at the expense of the poor and frequently ignorant or credulous consumptives, therefore,

Resolved, That a public announcement be made that it is the unanimous opinion of the members of this committee that there exists no specific medicine for the treatment of pulmonary tuberculosis, and that no cure can be expected from any kind of medicine or method except the regularly accepted treatment which relies mainly upon pure air and nourishing food.

PENNSYLVANIA.

Health Board Meeting.—Dr. Benjamin Lee, secretary of the State Board of Health, announces a meeting of city and borough health boards west of the Alleghenies in Pennsylvania, to be held February 12. The meeting is to consider measures to stop the spread of smallpox.

Warning.—We are in receipt of information from Allentown and Reading that an individual calling himself F. Whiting is endeavoring to collect money an account of THE JOURNAL, and of the American Medical Association. This person has no authority to make collections, and any information as to his present address will be appreciated by THE JOURNAL.

Philadelphia.

Typhoid Fever Cases and Deaths.—The health report for the week ended January 31 showed 325 new cases of typhoid fever. The new cases of this disease during January numbered 1,303, with 161 deaths. It is officially estimated that 4,000 cases of typhoid fever are now under treatment in the city.

The Coroner Was Busy.—January was an unusually busy month for the coroner. During the time 302 cases were investigated, an increase of 54 over the corresponding period of last year. There were 4 homicides and 14 suicides, and a large number of deaths from accidental asphyxiation and from falls.

Anti-Hospital Act Repealed.—The quick passage by the legislature of the Berkelbach bill, repealing the anti-hospital act, opens the way for the acceptance by Philadelphia of the proffered gift of $1,000,000 or more for the establishment of the Henry Phipps Tubercular Institute. The bill was the first one signed by Governor Pennypacker. The work of the institute will be begun within a few days in temporary quarters. There is some opposition by residents of the neighborhood to the location of the institution, but it is thought that this feeling will subside when the absence of danger of contagion is understood.

GENERAL.

Hawaiians protest against making their leper settlement a national leper colony.

The Mexican plague has extended to Guaymas and has also broken out in the soldiers' barracks at Mazatlan.

Gulf Quarantine Arranged.—Health officers representing Texas and Louisiana met at Galveston, Tex., January 26, and formed rules governing the shipping in the ports of those states.

Southern Pacific Hospital Cars.—This road will soon construct cars to be fully fitted out for medical and surgical aid and to be stationed on each division ready to be rushed to the scene of accidents when they occur.

Razlag's Leprosy Treatment.—Dr. Adolph Razlag is seeking a government to take up his plan of leprosy treatment which was mentioned in THE JOURNAL some time ago. He has sent a proposal to Washington by Consul McWade at Canton, China, near which city he is said to be curing lepers.

San Francisco Plague Report.—Dr. D. M. Currie gives, January 19, under direction of Surgeon A. H. Glennan, of the U. S. P. H. and M.-H. S., a review of the situation from which we note the following points: The Chinese object to autopsy,

and, having found that the sick who are examined and have a diagnosis of other disease established are not subjected to autopsy in case of death (as a rule), they report many cases of sickness in hopes of avoiding the autopsy which is held on bodies dead with suspicious signs or dead from indeterminable causes. They, however, can recognize typical bubonic plague and do not report such cases, knowing that autopsy is sure if the case is discovered. Some bodies, it is supposed, are removed from the city, but a spread of the disease is not probable from this cause, as observation has shown that few or no contacts contract plague. The report contains the following significant statement: "Except from the certificates of the attending physicians we have no means of ascertaining whether the whites in different parts of the city dying are infected with plague."

CANADA.

French-Canadians Banquet.—The French-Canadian members of the profession gathered in large numbers at the Place Viger Hotel, Montreal, on the evening of January 27, at the annual banquet of the Societe Medicale de Montreal. The event proved in every way most enjoyable.

Toronto's Health for January.—The number of contagious diseases reported in Toronto for January was as follows: Diphtheria, 57; scarlet fever, 105; typhoid fever, 12; smallpox, 5 cases, with 1 death. The medical health officer recommends an addition to the Isolation Hospital to be constructed at a cost of $30,000.

Vancouver Plague Quarantine.—Dr. McAlpine, medical health officer of Vancouver, B. C., received, January 22, a letter from the Board of Trade of San Francisco, stating that the plague is pretty well under control in that city, and that there have been no fresh cases since December 15. In view of this letter Dr. McAlpine does not think he would be justified in taking any immediate action with regard to the report of Dr. Fagan to the British Columbia government, and examine all passengers who arrive across the line in Vancouver.

Personal.—Dr. William Oldright, professor of hygiene in the medical department of the University of Toronto, with his son, Dr. H. H. Oldright, of St. Catherines, Ont., have returned from a trip to the West Indies, including Martinique.——Dr. W. W. Andrews, Mount Allison University, Sackville, N. B., has invented a microscope for dissecting purposes, which is said to be a very practical apparatus. Dr. George Hetherington, superintendent of the provincial lunatic asylum, N. B., entertained about thirty members of the St. John Medical Society at the institution one evening last week, when he delivered a general address on insanity.

FOREIGN.

King Edward has a mild attack of influenza.

French petroleum drinking is such an evil that measures are proposed to combat it.

Hydrophobia Germ.—Professor Sormagni of Milan is reported to have discovered the microbe of hydrophobia.

Thames Typhoid Scare.—The oyster source of typhoid in London has created a scare with regard to all edible products of the Thames river and threatens the business of the large population engaged in the fisheries.

Rejects Yellow-Fever-Mosquito Theory.—The Italian commission which has been studying yellow fever in Brazil reported February 3, at Rome, rejecting the theory of transmission by mosquitoes.

Weekly Edition of Archives de Medecine.—In entering on its eightieth year the Paris *Archives Gén. de Médecine* becomes a weekly instead of a monthly. It has included on its editorial staff such men as Claude Bernard, Trousseau, Duchenne de Boulogne, Velpeau and Broca. The present staff contains much young blood, and several new departments have been added.

Germans Report Value of Hypnotism.—The commission of experts in mental diseases, appointed by the German Ministry of Education a year ago to investigate the healing value of hypnotism, reports that it can be used in some instances to remove symptoms, but that it can not produce organic changes or cure epilepsy or hysteria. The report also remarks that hypnotism is less used than formerly. The commission consisted of Professor Mendel and Drs. Gock, Mentor and Aschenborn.

Formic Acid Vital to Organism.—Dr. Garrigue of Paris is reported in the lay press to have enunciated the theory that formic acid is a necessary product of the blood and that microbic invasions use it up and that formic acid is a valuable treatment in such cases, as it creates the oxygen that is essential to cell life. This is interesting in view of the fact that formic acid may be obtained from urine, sweat and blood and in view of the recently-reported successes with the injection of formalin solution in septicemia.

Matches Without Deadly Phosphorus.—A bill was proposed in the German reichstag, January 29, to prohibit the use of phosphorus in making matches on the ground that the government had acquired the patent of a new igniting substance harmless to the health of the employes and had placed it at the disposal of the match factories. In discussion, attention was called to the fact that France has a standing offer of $12,500 for the invention of a satisfactory substitute for phosphorus and the prize has not yet been awarded.

Diseases for Which Compulsory Notification is Advocated.—The Paris Académie de Médecine recently voted the following list of 14 diseases that should be invariably notified: Beside typhoid fever, exanthematous typhus, variola, varioloid and scarlet fever, measles, diphtheria, cholera and choleriform affections, plague, yellow fever and dysentery, it includes miliary fever, puerperal infections "when secrecy in regard to the pregnancy has not been enjoined," and also ophthalmia neonatorum under this same restriction. The list of diseases in which notification is optional includes 9: Pulmonary tuberculosis, whooping cough, la grippe, pneumonia and bronchopneumonia, erysipelas, mumps, leprosy, tinea, purulent conjunctivitis and granular ophthalmia. The list was drawn up at the request of the government. Laveran was anxious to have tuberculosis included in the first list and dysentery placed on the optional list, but was voted down. Brouardel stated that the public disinfection service is not prepared to undertake such a task as would be required if chronic tuberculosis were included in the compulsory class. The special committee had reported in favor of adding epidemic cerebrospinal meningitis and pneumonia to the first list, but were not heeded.

PARIS LETTER.

Hospital Reform in Paris.

Important reforms in the management of Paris hospitals are, it seems, about to be carried out. One of the most important is the suppression of the excessive centralization of all administrative measures, which prevented the hospitals from being relatively independent institutions such as those of London or New York. In Paris everything connected with any one of the hospitals must be reported to the central administration, which has its offices on Avenue Victoria, near the Hotel de Ville. The director of the hospital is a salaried employe, having no board of trustees to consult, and carrying out the wishes of the physicians in a more or less perfunctory manner. It will be sought to do away with all of this by giving each hospital its own autonomy, its annual budget. Each director will be able to show more initiative, and he will be counseled by a certain number of physicians and men known in the hospital quarter for their philanthropy and administrative ability. Such a reform would cause the French hospital to resemble more closely the English or American hospital.

Dr. H. de Rothschild's New Polyclinic.

A polyclinic was opened last month in one of the densely populated quarters of Paris. The money for its construction was furnished by Dr. H. de Rothschild, a member of the wealthy family bearing that name. The important specialties will each have a special section, such as ophthalmology, laryngology, orthopedic surgery, and radiography. Attached to the establishment is a large library of 10,000 volumes, chiefly concerning children's diseases. The inauguration ceremonies were carried out with some éclat, the minister of the interior, M. Chaumié, being present.

Bouchard and Robin at Variance.

At the Cairo Medical Congress, Dr. Bouchard made an important communication on the modern tendencies of therapeutics, and certified that general treatment was not apt to be so beneficial as local treatment. He described the results he had obtained by hypodermic injections of salicylic acid in rheumatic arthritis. Dr. Bouchard did not seem to wish to convey the impression that he was the inventor of this method, which is applied in many ways nowadays. In a recent number of the *Presse Médicale* Prof. Albert Robin

has published a letter in which he expresses his astonishment in seeing that Dr. Bouchard does not mention those who had previously carried out experiments on this very subject. He then quotes a passage from his work on "Diseases of the Stomach," p. 269, in which he refers to the use of drugs locally, and to the possibility of using small, minute doses in such cases. It yet remains to be seen how Professor Bouchard will accept this from Professor Robin, who is a younger man, and who has not the weight nor the universal reputation of the disciple of Charcot.

Lannelongue and Landouzy Decorated by the Emperor of Germany.

Professors Lannelongue and Landouzy, who attended the recent congress of tuberculosis held in Berlin, have been favored with the insignia of knights of the Royal Order of the Crown of Prussia.

Pasteur's Monument in Paris.

The site for Pasteur's monument has not yet been chosen definitely. It was to have been erected on the Place de Medecis opposite the Pantheon, then near the Sorbonne, lastly in the Avenue de Breteuil, opposite the dome of the Invalides. When work on the foundations was to be started it was found that the view of the Invalides might be interfered with on account of the height of the monument, so that the definite site remains an unsettled question.

Correspondence.

Dr. Croftan's Iodin Starch Test for Adrenal Extract.

CHICAGO, Jan. 29, 1903.

To the Editor:—Dr. S. P. Kramer, under the above caption (THE JOURNAL, Jan. 24, p. 257), mentions the fact that a series of organ extracts and ferment solutions other than adrenal or hypernephroma extract possess the power of decolorizing iodin starch solution. The inference is that this test is, therefore, of no value in the differentiation of adrenal tumors of the kidney from other tumors of this organ.

That the preparations enumerated by Dr. Kramer can decolorize iodin starch solution is known to me. The decolorization is, however, by no means so prompt nor so complete. I could supplement his list by a considerable number of other bodies with reducing properties that can do the same. The practical value of the hypernephroma test is not, however, impaired hereby. For, as I took pains to determine and as I expressly mentioned in my "Note," no other normal or abnormal constituent of the *kidneys* gives this test. It is hardly probable that the surgeon or pathologist will look for "Thyroid (P. D. & Co.), thymus (Armour), extract of meat (Liebig), pepsin (Fairchild), or pancreatic extract (Dry)" when attempting to identify a tumor of the kidney. None of these commercial products, moreover, give the other tests for adrenal tissue that I have described, with the exception of thyroid gland that may occasionally produce glycosuria, and pancreas that possesses diastatic powers.

I should advise Dr. Kramer to write me first hereafter before jumping into print with a criticism that is so misleading to the casual reader. ALFRED C. CROFTAN.

The Nobel Prizes, the Carnegie Institute, and the Promotion of Scientific Research.

CHICAGO, Jan. 26, 1903.

To the Editor:—The beneficiaries of the Nobel fund receive $40,000 as a reward for past achievement; the beneficiaries of the Carnegie fund, according to the last report of the "Institution," are to receive "not more than $1,000 a year" as an incentive to future achievement. The recipients of the Nobel prizes have arrived at the zenith of their scientific career and, presumably, do not need this stipend. The recipients of the Carnegie money are expected some day to climb to equal heights, presumably with the aid of a thousand dollars a year.

It is stated expressly that the men who are made beneficiaries of the Carnegie Institution must have shown "particular aptitude for the prosecution of original investigations," must be willing to devote all their time to advance research, and must agree to publish nothing without the approval of the Carnegie directors. In return they are to receive an emolument that approximately equals the salary of a policeman, a letter carrier or a street-car conductor.

It seems altogether improbable that any man who has really had an opportunity to show particular aptitude for original research will avail himself of this pittance under these conditions. It all depends on what we agree to understand by aptitude for original investigation. Much work passes for original research that is merely descriptive in character. The fact that a certain self-evident phenomenon has not been investigated and published heretofore may very well signify that no one has so far considered this particular fact or phenomenon worth investigating. Nine-tenths of the "research" that floods our journals consists of just such work, and constitutes in no way the solution of any problem that seems to urgently call for solution. The pathologist describes a tumor of the brain—this particular tumor, it is true, may never have been described before, but a thousand others like it have been described and redescribed; the physiologist measures the contractions of the unstriped muscles of the cat's bladder; the anatomist describes one of the thousand possible abnormalities in the course of the colon; the bacteriologist finds a new microbe in the shrimp, and bestows on it a long name, et cetera ad nauseam. This is not research. This is carrying the hod and carting bricks. True, some one must do this work, and it is well that some one should be doing it. The value of such investigations, however, is exactly on a par with the work of a corps of surveyors in a hitherto unsurveyed territory, or with the first reports of a gang of fire inspectors in regard to the architecture of this, that or the other of a thousand buildings. What we need are constructive geniuses, minds that can make this heterogenous conglomerate of disconnected facts the basis of some new conclusions; minds that, standing on such a fundament, can see far and beyond and can tell us what they see. Such men are rare; such men *have* shown a particular aptitude for research; such men receive the Nobel prizes, and such men are not for sale for $1,000 a year.

Even those young workers who, under the direction of a competent teacher of technic and a prolific purveyor of "ideas" and "problems," are willing to comply with the rules of the Carnegie Institution are ultimately damaged in their career. Assuming them, *exempli causa*, to be medical men, then three fields of activity stand open—practice, teaching, research. No one man can very well achieve great things in all three fields; it is quite feasible, however, for a man to practice or to teach and still find time to do creditable research work besides. It must be a poor practitioner and a poor teacher indeed who cannot command $1,000 a year by the time he is "particularly apt." Twenty laboratories are open to a man with such ambitions in this country, and fifty more abroad, where he will be received with open arms. While carrying on his research he is building up his practice or establishing his reputation as a teacher. The victim of the Carnegie munificence, as administered by the Carnegie directors, can do neither—he simply researches—and in so doing he gambles with his time; for unless he is investigating some phenomenon that is so patent that he *must* get some results—and such phenomena are manifestly not worth investigating at a sacrifice—he may find at the expiration of a year or of two years that the results of his investigation are *nil* or negative, for the reason that his or his chief's working hypothesis was wrong; this happens a thousand times in all laboratories. One might as well say to a promising young man with a philosophic bent of intellect: "Here, young man, is $1,000. This will enable you to eat for a year. Now show your particular aptitude for philosophy; philosophize for the term of your fellowship (subject to the approval of the Carnegie directors) and become an Emerson." Or, "Here, young friend, you have occasionally broken out into poetry; take this thousand, agree to do nothing else but follow your Muse, and become a Longfellow, to the glory of the Carnegie Institution." We do not think that an Emerson, a Longfellow, a Newton, nor a Lavoisier has ever been lost to this world for the lack of a thousand a year. A true

investigator can not be repressed, nor can he be created by relieving him, in a fashion, at the outset of his career of the most acute responsibilities incident to keeping his body and soul together.

What the Carnegie Institution promises to furnish by its research fellowships are technical assistants to a few men in this country who are already at the head of well-equipped laboratories and who, if they have any inspiration in their own souls, should be, and are, surrounded by a corps of inspired and enthusiastic volunteer workers. The stipend of "not more than $1,000" will attract few constructive geniuses to such positions.

What we need, apparently, is a Mæcenas of Science who will not bestow a fortune on the successful worker when he is resting on his laurels and when he no longer needs support; and who will not offer a pittance so miserable that it is barely sufficient to keep body and soul together to the struggling youth—with possibilities—who is reaching for his laurels; but who will endow the investigator in the full vigor of his working manhood, and after he has had an opportunity to show his contemporaries that he is really "particularly adapted to prosecute original investigation," with a sum of money sufficiently large to enable him to live decently and comfortably and thus to carry out unhindered by financial worries the work that he may reasonably be expected to accomplish for the good of humanity. ALFRED C. CROFTAN.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

FORMALIN INJECTIONS FOR SEPTICEMIA.

LISBON, IOWA, Jan. 30, 1903.

To the Editor:—On page 253, January 24, in "Formalin Injections for Septicemia," do you state the proportions correctly? If not, will it not be the means of causing deaths in patients of physicians who rely on it being correct? I have used formalin in a case where I was called as consultant in puerperal septicemia and the patient seems to be slowly convalescing. I used 500 c.c. of a 1 to 5,000 solution of formalin—in median basilic vein of one arm one day and the same amount in same vein of the other arm the next day. E. BURD.

ANS.—On consulting our correspondent, we find that the strength should have been stated as 1 to 5,000. A case is reported in which the use of a 1 to 2,500 solution caused collapse, but McGuire (*London Lancet*, Dec. 1, 1900) used a strength of 1 to 800 on himself without serious results. This illustrates the uncertainty of the effects of these injections and emphasizes the necessity of extreme care. Especial attention is called to the Editorial in this issue.

PRACTICE IN ARIZONA AND NEW MEXICO.

MINNEAPOLIS, Jan. 26, 1903.

To the Editor:—Will you kindly inform me through your columns of the requirements for practice of medicine in Arizona and New Mexico? To whom can I write for further information? S. E. S.

ANS.—The medical practice law of Arizona requires the passage of an examination by the board and an approved diploma. The present status of the law is a little uncertain as it has very recently been declared unconstitutional by a local court. Whether the case will be carried higher, we can not say. In New Mexico all but the graduates of eight medical colleges will have to pass an examination. The institutions whose diplomas exempt from examination are the following universities: Pennsylvania, Harvard, Johns Hopkins, Columbia of New York, Missouri, Yale, Michigan and Minnesota. Dr. W. G. Hope, Albuquerque, N. M., is the Secretary of the New Mexico Board of Health, and Dr. Wm. Duffield, Phœnix, Ariz., is the Secretary of the Arizona Board of Medical Examiners.

THE PHYSICIAN AND THE PHARMACOPEIA—METHOD OF REDUCING STRENGTH OF SOLUTIONS.

DES MOINES, IOWA, Jan. 30, 1903.

To the Editor:—Another example of how ignorant competent physicians are of the U. S. Pharmacopeia is evident in Dr. Hardcastle's statement published in your issue of January 24. The Doctor's "Method of Reducing Strength of Solutions" is the one explained, adopted, and used by the U. S. P. This is the official rule for making all dilutions. (See U. S. P. on acids, alcohol, etc.) ELI GRIMES.

COW-POX SERUM INJECTIONS.

Jan. 28, 1903.

To the Editor:—Has the serum of a cow suffering from vaccinia ever been injected into a patient afflicted with smallpox; if so, with what result? I have never read of any such experiments in my limited supply of literature. H. L. F.

ANS.—We have not seen any record of such experiments. Would not this be an interesting field for investigation?

TRAINED MALE NURSES.

736 HUDSON AVE., ST. PAUL, MINN., Jan. 29, 1903.

To the Editor:—I am interested in becoming a trained nurse, but do not know what to do or where to go. Can you kindly inform me? Is the male nurse in demand? I would like some Eastern school if I could. FRANK KODA.

CASE OF CONGENITAL MEASLES.

BENTLEY, ILL., Jan. 26, 1903.

To the Editor:—I wish to report the birth of a child Jan. 23, 1903, with the measles in eruption. The mother's eruption began Jan. 16, 1903, after tardy prodrome. Both doing well.

Very Truly, F. S. AGLER, M.D.

WANTS A SEQUARIAN LAMP.

LINTON, IND., Jan. 24, 1903.

To the Editor:—Where can I obtain a Sequarian lamp?

M. N. THAYER.

Marriages.

JOHN H. RINDLAUB, M.D., to Miss Marie Douglas, both of Fargo, N. D., January 31.

LOUIS A. GAUDIN, M.D., Convent, La., to Miss Louise Ilsley of New Orleans, January 21.

FRED SCRIVER SPEARMAN, M.D., to Miss Olive L. Pooler, both of Hawkeye, Iowa, Nov. 7, 1902.

J. ABNER PENTON, M.D., Goodwater, Ala., to Miss Mildred Parker of Equality, Ala., January 27.

LUTHER HAYS, M.D., Cullman, Ala., to Miss Ethel Olivia Watson of Vinemont, Ala., January 20.

JOHN DOUGLAS, M.D., Florence, Ala., to Miss Marguerite Pearl Burford of Birmingham, January 28.

CHARLES DICKENS WILLIAMS, M.D., Cleveland, Ohio, to Miss Annie Martin of Lisbon, Ohio, January 28.

JOHN L. WORCESTER, M.D., Birmingham, Ala., to Miss Elizabeth Blakeslee of Kansas City, January 28.

WILLIAM C. BLOOMER, M.D., Cleveland, Ohio, to Maud McConoughey of Chagrin Falls, Ohio, January 19.

EDGAR K. WARD, M.D., Park City, Utah, to Miss Myrtle Hale of San Francisco, at Salt Lake City, January 15.

T. A. JONES, M.D., Springfield, S. C., to Miss Annie E. Sawyer of Sawyerdale, S. C., at Perry, S. C., Dec. 17, 1902.

WILLIAM O. POWELL, M.D., Mackinaw, Ill., to Mrs. M. Louise Coney of Bloomington, Ill., in Chicago, January 21.

PEDER S. BRUGUIERE, M.D., San Francisco, to Miss Maryan Andrews of Pine Knoll, Cal., at Reno, Nev., Dec. 21, 1902.

JOHN W. BRAMLETT, M.D., Campobello, S.C., to Miss Eva Wilkes of Chester, S. C., at Spartanburg, S. C., January 26.

I. R. SHUMAN, M.D., Wagon Mound, N. M., to Miss Elizabeth C. Gotwats of Norristown, Pa., at Santa Fe, N. M., Oct. 4, 1902.

Deaths.

Eugene Foster, M.D. Medical College of Augusta (Ga.), 1872, a member of the American Medical Association; professor of practice of medicine and sanitary science and dean of the faculty of the medical department of the University of Georgia; president of the Georgia Medical Society in 1885; president of the Richmond County Medical Association in 1890; member of the New York Medicolegal Society; member of the American Public Health Association; member of the American Surgical Association; president of the board of trustees of the Georgia State Sanitarium; president of the Augusta Board of Health for twenty-five years, and one of the most prominent and highly-esteemed physicians of the state, died at his home in Augusta, January 23, after an illness of three months, from

cancer of the stomach, aged 53. He was an acknowledged authority on municipal sanitation, and his contributions to medical literature are numerous and valuable. The student body of the medical department passed suitable resolutions regarding the death of Dr. Foster.

Harrison Augustus Lemen, M.D. St. Louis Medical College, 1864, some-time president of the Denver Medical Society and of the Colorado State Medical Society; emeritus professor of principles and practice of medicine in the medical department of the University of Denver, and for many years a member of the State Board of Health, died at his home in Denver, January 21, after a long illness from kidney disease, aged 62. He retired from practice in 1893.

Margaret Stanton, M.D. College of Medicine, Syracuse University, 1876, formerly president of the Onondaga County Medical Society, died at her home in Syracuse, January 22, from tuberculosis, after an illness of several years, aged 58. At a special meeting of the Onondaga County Medical Society resolutions were passed lamenting the death of Dr. Stanton, offering a tribute to her memory and extending sympathy to her family.

Patrick H. Conley, M.D. Rush Medical College, Chicago, 1887, a member of the attending staff of Cook County Hospital, surgeon to the West Side Hospital and professor of obstetrics and diseases of children at the Chicago Clinical School, died, February 3, at Mercy Hospital, Chicago, after an operation for appendicitis, aged 43.

Eugene Davis, M.D. Medical College of Indiana, Indianapolis, 1893, a member of the American Medical Association and professor of ophthalmology at the Medical College of Indiana, died at his home in Indianapolis, January 19, from typhoid fever, after a short illness, aged 30.

Christopher Kiersted, M.D. Albany Medical College, 1846, a lineal descendant of Hans Kiersted, the first surgeon to settle in New Amsterdam, died from gastritis at his home in Jersey City, N. J., January 23, after an illness of several days, aged 81.

Joseph Edwin Clark, M.D. College of Physicians and Surgeons, New York, 1849, for many years president of the medical board of St. Peter's Hospital, Brooklyn, died in that institution, January 19, from pneumonia, aged 79.

Cyrus Allen, M.D. New York Homeopathic College and Hospital, 1864; Berkshire Medical College, Pittsfield, Mass., 1865, died from heart disease, January 14, after an illness of one year, at his home in Avon, N. Y., aged 65.

David C. Pusey, M.D. University of Louisville, Ky., 1853, president of the Meade County Medical Society and chairman of the board of health, died at his home in Brandenburg, Ky., January 20, after an illness of a year.

R. Otway Owen, M.D. Medical College of Virginia, Richmond, 1889, of Kansas City, Mo., died at San Bernardino, Cal., January 19, from concussion of the brain due to a runaway accident, six days before, aged 38.

E. Edwin Spencer, M.D. Eclectic Medical Institute, Cincinnati, 1860, chairman of the Cambridge (Mass.) Board of Health, died suddenly at his home in Cambridge, January 19, from heart disease, aged 69.

Charles W. Vimont, M.D. University of Louisville, 1889, died suddenly at his home in Chicago, February 1, from angina pectoris, while apparently convalescent from an attack of typhoid fever, aged 37.

Adam T. Van Vranken, M.D. Albany Medical College, 1873, a member of the New York State Medical Association, died at his home in Watervliet, N. Y., January 19, from paralysis, aged 55.

Joseph M. Donaldson, M.D. St. Louis Medical College, 1876, of Kansas City, Mo., died at Excelsior Springs, Mo., January 22, from nephritis, after an illness of several months, aged 53.

C. Everett Watson, M.D. Cleveland Homeopathic Medical College, 1898, of Conneaut, Ohio, died at Phœnix, Ariz., January 18, from laryngeal tuberculosis, after an illness of two years, aged 27.

Margaret Taylor Shutt, M.D. Cornell University, New York, 1899, a member of the American Medical Association, died at her home in Springfield, Ill., January 24, from typhoid fever.

John J. Manion, M.D. Rush Medical College, Chicago, 1895, died at his home in Charlotte, Iowa, January 24, from typhoid fever, after an illness of three weeks, aged 25.

Alpheus Dove, M.D. Eclectic Medical Institute, Cincinnati, 1854, died from paralysis at his home in Brookville, Ohio, aged 74.

Association News.

NEW ORLEANS COMMITTEE OF ARRANGEMENTS.

Meeting held in the rooms of the Orleans Parish Medical Society, New Orleans, Jan. 26, 1903.

[*Abstract from the New Orleans Med. and Surg. Jour. of February.*]

There were present with the Committee of Arrangements Drs. Frank Billings and George H. Simmons, President and Secretary of the American Medical Association.

Reports on Finance, New Membership and Entertainment.

DR. CALLAN, chairman of the Finance Committee, reported that subscriptions had been received aggregating $2,910 from physicians and $435 unsolicited from laymen. Of the physicians in the city but 2 had refused to contribute, 47 had not been seen, 18 were to answer later, and 197 had contributed sums ranging from $5 to $100; $259 in cash has already been collected. The subscriptions are due March 1, 1903. The committee is still continuing the work, and intends soliciting subscriptions from the physicians of Louisiana.

DR. F. W. PARHAM, chairman of the Committee on New Membership, said that 6,376 circulars had been sent out to members of state societies in Alabama, Louisiana, Mississippi, Florida, Arkansas and Texas and that Tennessee, Georgia and the Carolinas would be covered.

DR. L. G. LEBEUF, chairman of the Committee on Entertainment, reported progress as follows: Mrs. Maurice Stern had offered the use of her home and spacious grounds. Dr. Bloom had offered to take the Surgical Section or any fifty members of the association on a yachting party to the Tchefuncta river. The committee would arrange a river excursion on the Chalmette or some other big excursion steamer. An evening tea for the ladies would be held in the St. Charles Hotel palm garden. He mentioned some citizens who would probably extend the use of their homes and grounds for entertainments. In addition, several individual physicians had agreed to entertain at small dinings.

Meeting Places.

DR. JOHN F. OECHSNER, chairman of the Committee on Halls and Meeting Places, then submitted his report. It had been the intention of the committee to use Tulane Hall as a center, but in accompanying Drs. Billings and Simmons during the afternoon in a short visit to the various halls in view, he had come to the conclusion, after a conference with these gentlemen, that another arrangement would be better. Drs. Billings and Simmons were of the opinion that Washington Artillery Hall offered an ideal place for the location of the exhibit hall and one of the large sections. Another smaller hall in the same building was available. The comparison of floor space showed that in Washington Artillery Hall there would be an available area for exhibits of 11,000 square feet, as against 3,966 square feet available for this purpose in Tulane Hall.

The discussion of available halls in proximity to Washington Artillery Hall then followed. DR. FRIEDRICHS moved that Washington Artillery Hall be selected as a center. DR. PARHAM asked for Dr. Simmons' opinion. DR. MATAS requested Dr. Simmons' opinion as to disposition of various sections.

DR. SIMMONS had only seen the Council Chamber, Washington Artillery Hall and Odd Fellows' Hall. The exhibit hall he considered the most important factor under consideration. The registration bureau and postoffice should be central and in immediate proximity to the exhibit hall. He considered Washington Artillery Hall ideal for the purpose. The main hall would be ample for the exhibitors, registration and information bureaus and postoffice. He had seen Tulane Hall, and considers it not half large enough for the purpose. The various halls in Tulane Medical College and in the Polyclinic he advised the committee not to consider. He believed

that the amphitheater was not at all suitable for meetings of medical associations; while it offers an opportunity for the man reading the paper to be heard, the arrangement is not such as to be favorable for the discussion, which is often the most important part of the proceedings. He had seen Odd Fellows' Hall and considered it somewhat objectionable, because of the noise on Camp street. Quiet is an important factor. The Washington Artillery Hall, with its 11,000 square feet, he believed too large for any section, and suggested the use of canvas partitions. If a room is too large it will encourage the presence of idlers in the rear, who, not being themselves able to hear, talk and disturb the proceedings.

It was suggested that it would be advisable to put sections on medicine and surgery as near as possible. All sections wished to be near these two sections.

As a substitute to Dr. Friedrichs' motion, DR. DE ROALDES moved that the selection of the central meeting place be left to the discretion of the Committee on Halls and Meeting Places. He believed that immediate action would be premature.

DR. MATAS considered it advisable to bring up the question and decide it at once. The Committee on Exhibits had already planned to utilize Tulane Hall, and if a change were to be made it must be enabled to go to work at once to revise plans.

DR. KOHNKE suggested hearing the report of the Committee on Exhibits. At the request of the chair, Dr. Friedrichs withdrew his motion, and Dr. Kohnke, chairman of the Committee on Exhibits, then delivered his report.

The committee, believing that the selection of Tulane Hall was final, had drawn up diagrams of the space available for exhibits. There was a total of actual space, including the galleries, of 3,966 square feet, which would yield a total rental of $6,330, the prices for these spaces varying from $150 to $40. In closing, Dr. Kohnke urged on the committee the necessity for immediate action with regard to exhibit hall.

DR. BILLINGS said that in arranging for the meeting of a large body of medical men there are two most important considerations: First, comfortable meeting places, which should be easy of access. Second, sufficient hotel or other boarding accommodations. He believed Tulane Hall unsuitable for the exhibit hall; it would be absolutely impossible to get exhibitors to take space in the gallery. The smaller room in this building is not desirable. He considered the college amphitheater as a most undesirable meeting place—although for a medical body, still the atmosphere of medical colleges is not pleasing. As to the Tulane Medical College, he believed that the amphitheater on the third floor could not be used because of the number of stairs to climb to it. Washington Artillery Hall he considered an ideal place. He made the suggestion that a restaurant could be run, which would furnish a source of revenue. He did not approve of free lunches. It had always been a problem at previous meetings of the Association to secure an adequate midday meal during the noon hour. Churches had heretofore been the most satisfactory meeting places. Distance is not an objection, provided places of meeting are on a car line and within a few minutes' ride from hotel headquarters.

DR. FRIEDRICHS made his motion to read that the committee select Washington Artillery Hall as a location for the exhibit hall, bureaus of registration and information and postoffice, provided same can be secured. The motion carried.

DR. BILLINGS suggested that the Committee on Exhibits make a diagram of their hall, set a price on the whole, and divide it up as they saw fit.

Badges.

In the absence of DR. GESSNER, chairman of the Committee on Badges, DR. WALKER submitted the committee's report. The committee believed that 5,000 badges would be necessary, distributed as follows: Members, 3,000; guests, 1,500; exhibitors, 500; delegates, 150; sections, 24; committees, 50.

In discussing, DR. SIMMONS mentioned the fact that the badges for delegates were furnished by the Association. He advised against expensive badges, and did not consider guests' badges necessary. However, not over 50 might be provided for invited guests; 1,000 badges for ladies and 500 for exhibitors would be ample. He considered a ribbon most suitable. It should be demanded of every one that he or she show a badge of some sort before being admitted to the exhibit hall. Heretofore the exhibit hall had been open to the public, and such was objectionable both to the profession and to exhibitors.

DR. WALKER showed a design for a badge which the committee had selected. The cost, $175, with satin ribbons at $43, would aggregate $218. If finer ribbed silk ribbons were used it would bring the total expenditure up to $335. Various suggestions as to designs were made.

DR. OECHSNER considered that the committee should see to it that the badges should be worth preserving, and was of the opinion that the committee should not limit itself to $350 for this purpose.

Banquets.

DR. DE ROALDES, chair of the Committee on Banquets, asked for information from Dr. Simmons as to banquets of various sections.

DR. SIMMONS said the sections on surgery and gynecology sometimes combine in a banquet. The section on practice of medicine usually has a banquet, and the sections on laryngology and ophthalmology usually combine. He would suggest writing to the various chairmen of sections not later than February 15 for information with regard to the wishes of their sections in this respect. Each section pays its own banqueting expenses.

THE CHAIR stated that communications had already been sent out to the various chairmen in this regard. From one of the chairmen of sections came the suggestion that smokers would be more desirable in every respect than a formal banquet.

DR. BILLINGS said the arrangements for banquets were usually partially made on account of neglect of the members of the sections to signify their wishes. He believed the idea of general smokers to be a good one, that is, to have on the first night of the meeting—the only night of the meeting which is available—two or three smokers for the general membership.

Information Bureau.

DR. FRIEDRICHS, chairman of the Bureau of Information, reported as follows: This committee has held several meetings and has adopted the following plan to carry out its work: An apartment will be selected at the place of the general meeting. The committee recommends an arrangement with the Committee on Registration to have a place in common, where the work of the two committees can be more efficiently carried out. This room will be fitted up with telephone and connected with the messenger service. A sub-committee is collecting all needed information about the city and state for use of visitors.

From the present outlook I feel confident that this committee will have everything in readiness at least a month in advance of the time of the meeting.

Publicity.

DR. FELIX A. LARUE, chairman of the Program and Publication Committee, said: I beg to state that we have had very little to do. The *New Orleans Medical and Surgical Journal* has, from time to time, contained news of general information, which was sent to THE JOURNAL of the American Medical Association and other journals throughout the country.

Registration.

DR. R. MATAS, for the Committee on Registration, reported that instructions as to his bureau had been received from the treasurer, and the details would be carried out when a definite location had been assigned.

Hotels.

DR. MOSS, representing Dr. Martin of the Committee on Hotels, reported that he knew nothing of anything done since the last meeting of the Committee of Arrangements, November 15, except the negotiation with Ingram's Boarding House Agency, who would agree to take charge of the meeting for the sum of $200, to be paid by the committee. Or this agency would take the matter in charge for $100, provided they were allowed the privilege of issuing tickets to each applicant for a location, these tickets to be paid for by the applicant, to

cost $1.00, the price of which would be remitted on the board bill of applicant. This last arrangement did not meet with the approval of the committee.

DR. SIMMONS considered the work of this committee as of the highest importance. He considered that the attendance at the meeting would be about 4,000. Heretofore considerable overcrowding had been experienced in hotels. He would suggest that the Association would not be long in coming again if its meeting were well managed this time. He believed that private boarding houses are far better than crowding members into hotels. He cited the instance of the British Medical Association, at which meeting nearly all of the visitors were accommodated in private families, not really boarding houses. As to hotels, Dr. Simmons urged the necessity of getting from each proprietor prices for rooms, with bath, without bath, for one, two, three or four in a room; these rates to be given in writing and published in advance. Some hotel keepers do not care to furnish this information in writing. However, they can be given to understand that unless these conditions are complied with no notice will be made of these establishments in the advertising matter sent out.

Citizen's Auxiliary Committee.

MR. CHARLES FARWELL, chairman of the Citizens' Auxiliary Committee, reported that he had secured a number of ladies who had consented to act on the ladies' reception committee, of which Mrs. Samuel Delgado was chairman.

Medical Organization.

Conference on Organization.

A conference on organization by representatives of the state societies of Louisiana, Alabama, Arkansas, Florida and Mississippi was held at the Orleans Parish Medical Society rooms, New Orleans, January 27. Among those present were Drs. W. E. B. Davis, Alabama; J. P. Runyan, secretary of the Arkansas State Medical Society; J. H. Pierpont, president of the Florida State Medical Society; S. C. Red and H. A. West, president and secretary of the Texas State Medical Society; H. W. Folkes, J. F. Hunter, Mississippi; Isadore Dyer and W. M. Perkins, president and secretary of the Louisiana Medical Society; Dr. W. W. Hall, Aquilla, Miss.; some fifteen others interested in organization, and the president and secretary of the American Medical Association.

DR. FRANK BILLINGS acted as chairman and spoke first, calling attention to the reasons for such a conference and to the value to be derived from an organized profession, reviewing the work already accomplished. The difficulties already surmounted were referred to, and those yet to be overcome were outlined.

DR. SIMMONS called attention to the necessity of organization if the profession is to have any influence, and especially to its value to those who are isolated. He told of the new relationship of the National Association to the state society and the responsibility of the latter in creating the legislative body of the American Medical Association. It will not be long before it will be realized that one of the highest honors a state society can confer on a member will be to elect him to represent the state in the House of Delegates of the American Medical Association.

DR. W. E. B. DAVIS reviewed the history of the Alabama State Association, stating that the scheme now adopted by the American Medical Association for state societies originated in Alabama thirty years ago, and has proved wonderfully successful in spite of the fact that it had none of the advantage that will be had through coöperation when all the states are organized in like manner. He spoke of the fact that they have a record of every man licensed to practice in the state, know exactly how many there are, and where they live.

DR. RUNYAN of Arkansas stated that his state society had adopted the constitution recommended by the American Medical Association and described how well it is working. Heretofore there were no county societies, and at the last meeting the state society had less than 300 members. It has already increased to nearly 800. There are ten councilor districts, and the councilors are actively at work. For the present the per capita tax for state dues is $2.00, which is paid by the county societies.

DR. PIERPONT of Florida said that his state was poorly organized, the state society having less than 175 members. They hope to adopt the American Medical Association constitution for state societies at the next meeting.

DR. RED of Texas spoke of the serious difficulties which confront them in that state. The size of the state is one, and the fact that some of the large district societies are opposing the movement is the other. He thought, however, that the plan recommended would be adopted, modified by dividing the state into 17 districts, and have the county form the district and the districts form the state society.

DR. WEST also spoke of the difficulties in Texas, but thought that his state would come out all right next April and would be in line.

DR. HUNTER of Mississippi said that a committee on reorganization had been appointed and would report favorably on the adoption of the recommended constitution.

DR. DYER said that Louisiana will be in line next April, and that the committee had already printed the constitution adopted by the American Medical Association. Louisiana has already adopted the card index system for keeping a record of those licensed to practice in the state, and it is now about complete.

A general discussion then took place, nearly all present taking part. All were enthusiastic in believing that the plan now being adopted would result in an organized profession, such as was never thought possible heretofore.

Valley County (Neb.) Medical Society.

This society met at Ord, January 14, for organization and adopted the constitution and by-laws suggested by the American Medical Association. The officers elected were: Dr. Frederick D. Halderman, Ord, president; Dr. Chester A. Brink, Ord, vice-president, and Dr. D. S. Hogan, North Loup, secretary-treasurer.

Midland County (Mich.) Medical Society.

Dr. Harry B. Landon, Bay City, state councilor, organized this society at Midland, January 14. The following officers were elected: President, Dr. Abram D. Salisbury, Midland; vice-president, Dr. H. Watson, Edenville; secretary, Dr. William H. Brock, Midland, and treasurer, Dr. J. Henry Johnson, Midland.

Greene County (Tenn.) Medical Society.

The physicians of Greene County met in Greeneville, January 5, and organized this society with an initial membership of 17, and the following officers: Dr. John C. Marshall, Chuckey City, president; Dr. Eliot B. Smith, Greeneville, vice-president; and Dr. S. Walter Woodyard, Greeneville, secretary. The society will affiliate with the Medical Association of the State of Tennessee.

Summit County (Ohio) Medical Society.

In our issue of Nov. 1, 1902, the meeting of this society for reorganization on the lines proposed by the American Medical Association was noted; at the annual meeting in December the reorganization was effected, and on January 6 the following officers were elected: President, Dr. John H. Seiler; vice-president, Dr. Wellington W. Leonard; secretary, Dr. Edward W. Barton, and treasurer, Dr. Charles E. Norris, all of Akron.

Obion County (Tenn.) Medical Society.

Dr. Isaac A. McSwain, Paris, councilor for the district, organized the Obion County Medical Society, at Union City, Dec. 8, 1902, with 30 members. Dr. McSwain explained the need for organization and the plan proposed by the American Medical Association, after which permanent organization was effected, with the following officers: President, Dr. E. H. White, Rives; vice-presidents, Drs. P. N. Matlock, Mason Hall and J. M. Rippy, and secretary and treasurer, Dr. F. W. Watson, Union City.

Lorain County (Ohio) Medical Society.

This society met at Lorain, January 20, under the direction of Dr. Thomas C. Martin, Cleveland, councilor for the Fifth District and reorganized under the provisions of the new constitution suggested by the American Medical Association for county societies. The following officers were elected: Dr. Olney B. Monosmith, Lorain, president; Dr. Orlando T. Maynard, Elyria, vice-president; Dr. Clarence B. Wean, Lorain, secretary; Drs. Charles H. Cushing, Elyria, William C. Bunce, Oberlin, and Abraham N. Garver, Lorain, censors, and Dr. Ewan Cameron, Lorain, delegate to the state society.

Boyd County (Ky.) Medical Society.

The physicians of Boyd County, Ky., met at Ashland, January 16, to consider the question of organization. After adopting the constitution and by-laws framed by the American Medical Association the following officers were elected: President, Dr. Thomas R. Young, Ashland; vice-president, Dr. James W. Kincaid, Catlettsburg, secretary; Dr. Porter C. Layne, Ashland; treasurer, Dr. Alexander T. Henderson, Ashland; censors, Drs. John D. Williams, Catlettsburg, John D. Mutters, Rush, and J. Letton Martin, Ashland. There are 36 physicians in the county, and it is expected that every one will be enrolled in the society.

St. Joseph County (Mich.) Medical Society.

Pursuant to call of Dr. George W. Lowry, Hastings, councilor of the Michigan State Medical Society, fifteen physicians of the county met at Sturgis, Dec. 2, 1902, and organized a county medical society on the lines suggested by the American Medical Association. The annual meeting was held at Three Rivers, January 7, at which 7 new members were enrolled, and the following officers elected: President, Dr. Marden Sabin, Centreville; vice-president, Dr. Frederick W. Robinson, Sturgis; secretary, Dr. John R. Williams, White Pigeon; treasurer, Dr. Edward P. Partlow, Constantine; directors, Drs. Lawrence D. Knowles, Three Rivers, David V. Runyan, Sturgis, and Leal K. Slate, Constantine; committee on public health and laws, Drs. John H. Moe, Sturgis; Charles B. Long, Mendon, and Emory J. Brady, Constantine, and delegate to the Michigan State Medical Society, Dr. Lawrence D. Knowles, Three Rivers.

Kenton-Campbell County (Ky.) Medical Society.

The physicians of Kenton and Campbell counties met at Dayton, January 15, and organized this society, after an address by Dr. J. N. McCormack. The constitution and by-laws prepared by the American Medical Association were adopted, and the following officers elected: President, Dr. Charles B. Schoolfield, Dayton; vice-president, Dr. B. F. Laird, Covington; secretary, Dr. Frederick A. Stine, Newport; treasurer, Dr. Charles S. Helman, Ludlow; censors, Drs. Robert H. Thornton, Newport, William W. Tarvin, Covington, and August Helmbold, Newport. About sixty physicians were in attendance, and much interest and enthusiasm were manifested. As Covington, Newport, Dayton and Bellevue really compose one continuous city, although divided by a county line, it was thought best to organize the profession into one society, although this was a departure from the strict letter of the plan of organization.

Societies.

New York Academy of Medicine.—Dr. Louis J. Ladinski has been elected chairman, and Dr. Charles F. Adams, secretary, of the Section on Obstetrics and Gynecology.

Philadelphia College of Physicians.—This organization held its annual meeting January 7, at which Dr. Horatio C. Wood was elected president; Dr. Arthur V. Meigs, vice-president; Dr. Thomas R. Neilson, secretary, and Dr. Richard R. Harte, treasurer.

North Kentucky Medical Association.—This association convened at Erlanger, Dec. 11, 1902, and elected Dr. Charles W. McCollum, Erlanger, president; Dr. W. A. Scroggin, Dry Ridge, vice-president, and Dr. Myrix J. Crouch, Union, secretary and treasurer.

Rock County (Wis.) Medical Society.—At the annual meeting of this society Dr. William H. Palmer was elected president; Dr. Michael A. Cunningham, vice-president; Dr. George W. Fifield, secretary, and Dr. Frank B. Farnsworth, treasurer, all of Janesville.

Tipton County (Tenn.) Medical Society.—The annual meeting of this society was held in Covington, January 6, at which Dr. L. A. Yarbrough, Covington, was elected president; Dr. O. M. Walker, Munford, vice-president, and Dr. B. Vernon Dickson, Covington, secretary.

Winnipeg (Manitoba) Medical Association.—At the annual meeting of this body, Dec. 5, 1902, Dr. James W. Good was elected president; Dr. J. A. MacArthur, first vice-president; Dr. William J. Neilson, M.P.P., second vice-president, and Dr. Gordon Bell, secretary-treasurer.

Mahaska County (Iowa) Medical Society.—This society has been reorganized at Oskaloosa with the following officers: Dr. Joseph T. Coveny, president; Dr. Joseph C. Barringer, vice-president; Dr. Herman C. Homer, secretary, and Dr. Samuel W. Clark, treasurer, all of Oskaloosa.

Union County (Ky.) Medical Society.—At the annual meeting of this society in Morganfield, Dec. 1, 1902, Dr. William A. Richards, Morganfield, was elected president; Dr. T. E. Newman, Waverly, vice-president, and Dr. Roland H. Rhea, Jr., Morganfield, secretary and treasurer.

Wapello County (Iowa) Medical Society.—At the annual meeting of this society, held at Ottumwa, January 6, the following officers, all of Ottumwa, were elected: President, Dr. William B. La Force; vice-president, Dr. Charles R. Russell, and secretary and treasurer, Dr. Emma S. Powell.

O. A. Horr Medical Association.—At the annual meeting of this association, held in Lewiston, Me., Dec. 15, 1902, Dr. Wallace E. Webber, Lewiston, was elected president; Dr. E. A. McCollister, Lewiston, vice-president; Dr. Clarence C. Peaslee, Auburn, secretary, and Dr. John Sturgis, Auburn, treasurer.

South Texas Medical Association.—At the annual meeting of this body at Houston, Dec. 17, 1902, the following officers were elected: President, Dr. Hugh W. Crouse, Victoria; vice-presidents, Drs. John T. Moore, Galveston, and Sofie Herzog, Brazoria, and secretary and treasurer, Dr. Fred. B. Shields, Victoria.

Orange Mountain (N. J.) Medical Society.—The annual meeting of this society was held in Orange, January 9. Dr. Herman P. Gerbert, Orange, was elected president; Dr. Thomas S. P. Fitch, East Orange, vice-president; Dr. Richard D. Freeman, South Orange, secretary, and Dr. J. Minor Maghee, Orange, treasurer.

Huntingdon County (Pa.) Medical Society.—At the annual meeting of this society, held January 13, Dr. Bruce P. Steele, McVeytown (Mifflin County) was elected president; Dr. John M. Beck, Alexandria, vice-president; Dr. Howard C. Frontz, Huntingdon, secretary, and Dr. George C. Harman, Huntingdon, treasurer.

Medical Association of Porto Rico.—At the annual meeting of this association at San Juan, Dec. 14, 1902, the following officers were elected for a term of two years: Dr. Manuel Quevedo Baez, chairman; Dr. Jose N. Carbonell, treasurer, and Dr. Rafael Velez y Lopez, secretary, all of San Juan. The meeting was largely attended by physicians from almost every town in the island.

Portland (Me.) Medical Club.—The quadri-centennial of this club was celebrated Dec. 4, 1902. After a banquet and addresses by the retiring president, Dr. Arthur S. Gilson, on "The Advancement Made in Medical Science During the Past Twenty-five Years," and Dr. Frank W. Searle, the following officers were elected: President, Dr. Neil W. R. Straw; vice-presidents, Drs. Barzillai B. Foster and James K. Rogers, and secretary and treasurer, Dr. Herbert J. Patterson.

Philadelphia County Medical Society.—At a meeting of this society, held January 21, Dr. Francis M. Perkins was elected president; Dr. J. Cardeen Cooper, first vice-president; Dr. William S. Higbee, second vice-president; Dr. William S. Wray, secretary; Dr. Ross H. Skillern, assistant secretary; Dr. Collier L. Bower, treasurer, and Dr. William M. Welch, censor. Among proposed amendments to the by-laws, one making graduates of homeopathy eligible to membership was overwhelmingly rejected by the society.

St. Louis County (Minn.) Medical Society.—At the meeting of this society, held in Duluth, Dec. 11, 1902, the physicians of Lake, Cook, Carlton and Itasca counties were declared eligible to membership, the constitution having been so changed as to permit their admission. At the annual meeting and

banquet, January 8, Dr. John M. Robinson was elected president; Dr. Joseph D. Titcomb, first vice-president; Dr. Daniel D. Murray, second vice-president; Dr. Frederic J. Patton, secretary, and Dr. Clarence E. Lum, treasurer, all of Duluth.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Dec. 10, 1902.

The President, Dr. C. S. Fenton, in the Chair.

Coal Tar Products in Neuralgia, Etc.

DR. WHARTON SINKLER called attention to the fact that when first introduced the coal tar derivatives were used solely as antipyretics, experiments with these preparations having shown their power of reducing temperature. It was observed, however, that they relieved the headaches and neuralgic pains accompanying the fevers for which they were administered, and they, therefore, soon attracted attention as analgesics.

The preparations first introduced, namely, antipyrin, acetanilid and phenacetin have remained the most popular among the various coal tar products, although a great many others have been put on the market. The writer gave a list of the painful affections in which these preparations were most efficacious. Among these are migraine, neuralgias of various kinds, the pains of locomotor ataxia and ovarian and visceral pains. He called attention to the fact that these preparations are of little value in pains of organic origin. He also stated that although these preparations have been greatly abused, the legitimate use of them has increased and that the confidence of the profession in them is greater at the present day than it even was several years ago.

Coal Tar Products in Central Nervous Affections.

DR. F. SAVARY PEARCE read a paper, pointing out the use and abuse of these drugs. The practical side of the indications for this class of remedies was presented from an experience of ten years in their use, together with data gathered from many physicians in different parts of the United States.

The functional central nervous diseases, hysteria and neurasthenia, were dwelt on. The danger in the continued use of antipyrin and similar remedies for pain in these affections lies in the fact that a drug habit may be established, as in one case detailed, wherein a young man had taken as high as 150 grains of antipyrin "for pain in the head," and he had employed 15 different physicians in the effort at cure, which was finally done by absolutely withholding the drug, assisted by suggestion. Trional was considered the best of the hypnotics, in 15-grain doses.

In organic central nervous affections the coal tar products should be used in brain tumor or as analgesics in meningitis, but guardedly so, since there is danger of collapse due to further depression of already inhibited action of the cardiac and respiratory centers in the medulla. It is well to guard the analgesic by incorporating into the tablet from 2 to 5 grains of caffein citrate. Phenacetin is the safest drug to employ in any case with cardiac weakness. In tabes dorsalis, the coal tar products have their most helpful use. Salol is valuable in autointoxications.

Coal Tar Products in Diseases of the Skin.

DR. MILTON B. HARTZELL presented this subject. Their use he considered a small one, the claims of the manufacturers not being justified. Their properties suggest a local effect inimical to the lower forms of life and an analgesic effect.

Coal tar itself is useful in chronic eczema; some dermatologists think it most effective of the coal tar products. Carbolic acid is the one most generally useful. It is not especially valuable for its parasitic effect, but more effective where itching is a prominent symptom. As an antipruritic it has no contraindications. The cresols are closely akin, and creolin or tricresol may be substituted for carbolic acid, but they are not so good. Resorcin, properly belonging to the coal tar products, is excellent in a lotion in seborrheic eczema; in acne it has no superior. A 40 to 50 per cent. preparation applied to superficial epithelioma will sometimes cause their cicatrization. It is valuable in chronic leg ulcers. Beta-naphthol is a parasitic remedy, a substitute for other drugs in scabies. It rarely causes irritation. The use of orthoform is liable to be followed by dermatitis, may be even gangrene of the skin. Acetanilid, with bland powders, used locally, may have a decided toxic effect and is not in general use. The internal use of this class of drugs in skin diseases is narrow in its limitations. Where itching exists antipyrin given twice daily may be of service. Phenacetin and acetanilid are sometimes excellent for the itching of urticaria. The coal tar products form a small but important addition to dermatotherapy.

DISCUSSION.

DR. J. P. CROZER GRIFFITH, in the discussion, claimed that there had been too great a rebound from the use of coal tar products in fevers. He held that they should not be used often, but he finds cases in which they must be used to get results, and to abandon them is a mistake. Often the nervous symptoms in children accompanying fever are well influenced by these drugs.

Electrolysis for Aneurism.

The last subject presented was by DR. H. A. HARE, "Another Case of Aortic Aneurism Treated by Electrolysis." This was the fourth reported by Dr. Hare. Altogether he has performed the operation eight times. The patient had been struck in the upper part of the chest with the pommel of his saddle. Dull, boring, aching chest pain developed within a few months. Cough and expectoration of blood ensued. An egg-shaped tumor developed in the superior portion and median line of the chest, and the left chest wall bulged prominently. There was a general heaving impulse with a bruit and the classical symptoms of a large aneurism.

Operation was performed July 10, 1901. A hollow needle was inserted into the tumor, through which 9 feet of gold wire were passed. An electric current, beginning with 5 milliamperes, was then sent through the wire. The current was gradually increased to 55 milliamperes, when pain was complained of, and the current was gradually reduced to 10 milliamperes. At the end of one hour the needle was withdrawn, the wire severed and the wound sealed with compound tincture of benzoin. Patient left the hospital several weeks after operation very much improved, and continued in fair health for two and a half months, when the aneurismal swelling suddenly increased greatly in size, in an area not having been wired.

Returning to the hospital, the portion wired six months previous was firm and hard. To the right of this area the rapidly-enlarging growth was wired in a manner identical with the first operation. The skin about the needle was so poorly nourished that it failed to heal over the opening, and slight oozing occurred, and finally a superficial slough formed. Repeated hemorrhages, usually in clots, some of them 3 or 4 inches long, took place from this external wound, and, as a result of a profuse one, the patient finally died.

The conclusions reached by Dr. Hare from his experience are as follows: Electrolysis in properly selected cases of aneurism is a valuable measure and prolongs life. The operation is neither dangerous nor painful.

The failure of permanent cure does not depend so much on the failure of the operation to limit the disease locally as to the fact that the adjacent parts of the blood vessel are weak and, when the most bulging area is solidified by the clot, these lateral areas may later on give way. Even in these cases life is prolonged by the closing of the weakest area and it is not to be forgotten that in at least one case (Stewart's) life was prolonged three years, death taking place from an alcoholic debauch.

DISCUSSION.

DR. D. D. STEWART stated that he had operated on many cases since 1889. He does not favor a current of more than 20 milliamperes, continued for three-quarters of an hour. If the aneurism is a large one he introduces wire in several places—has done so with good success. He uses gold wire. He considers it important that the wire have spring so that it will form a coil.

In closing, Dr. Hare stated that the tendency is to use less wire than formerly, 3 or 4 feet now being considered sufficient. He would use not over 30 milliamperes. He agrees with others in believing a permanent cure practically impossible. Occasionally laminated clots form spontaneously in aneurismal

sacs. The case was cited of a woman living in Philadelphia who has had for years a healed aneurismal sac as big as the fist protruding from the chest. Two points of warning in doing the operation were made: to see that the insulation is good or the skin will be injured, and to beware of too strong a current or the patient's back may be burned by the clay electrode.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Toxemia in Pregnancy.

According to *Prog. Medicine* pregnant women should be taught the necessity of careful attention during their pregnant state, and to this end the study, by the physician, of toxemia in its various phases should be carried out. One of the most important organs to the pregnant woman and the fetus is the liver. By regulating the liver and keeping it in a condition to perform its best work the physician can prevent much discomfort and perhaps puerperal convulsions. The liver, according to the author, must not be trusted to bear the strains of pregnancy and parturition without assistance. The patient, in addition to proper attention to diet and hygiene, should take a pill similar to the following once a day:

℞.	Eunonymin	
	Hydrarg. chloridi mit.	
	Pulv. ipecac., āā .....gr. 1/8	0075
	Aloin .....gr. 1/12	005
	Podophyllin .....gr. 1/20	003

M. Ft. cop. No. i. Sig.: One such pill at bedtime.

The foregoing pill should prove sufficient to cause one natural bowel movement daily. Different cases will require different amounts varying from one to three pills a day. This pill may be given for two weeks and omitted for two weeks.

Hyperchlorhydria.

Stockton, in "Text-book of Applied Therapeutics," states that when hydrochloric acid is present in the stomach beyond the normal limit, after a test meal, hyperchlorhydria exists. This condition coexists with motor disturbances generally. The treatment should be directed toward the cause and relief of the subjective symptoms. In order to relieve the suffering and distress of the patient the diet must be properly adjusted. Generally a milk diet affords comfort taken hot, but not boiled, with a little lime water, or peptogenic powder may be added.

About six ounces should be taken every two hours. When the stomach has had a short rest as the result of this diet and the irritability has subsided, a small amount of well-cooked starchy food may be added two or three times a day. Zwieback supplies this need most satisfactorily, as mastication becomes necessary and it is finely divided before entering the stomach. An egg may be added to the diet after a few days, and as these articles are added, the amount of milk should be decreased. Last of all meat may be added. This is best given at the evening meal, and milk should be excluded at that meal.

Within a week three meals of solid food may be permitted: The breakfast should consist of soft-boiled egg, a dry, warmed-over roll, and a bit of broiled bacon. In the middle of the forenoon a glass of hot milk should be taken; at the noon meal a large amount of Zwieback and a glass of hot milk; in the afternoon another glass of hot milk, and in the evening a plain, substantial dinner, which consists of the following: fish, roast beef or mutton, with fresh vegetables, but no dessert. Weak tea or coffee may be given at breakfast. All highly-flavored and seasoned soups should be omitted.

In addition to diet a great deal of good can be done with medicinal remedies. The condition of the liver and intestine must be inquired into when such marked disturbances of the stomach are present. In order to lessen the acidity and to allay the irritability of the gastric mucous membrane the following is recommended by the author:

℞.	Cerii oxalatis .....gr. xv	1
	Bismuthi subcarb. .....gr. xxx	2
	Magnesiæ (calcined) 3i	4

M. Sig.: One teaspoonful stirred in an ounce of water and taken at the first intimation of gastric distress.

This may be given as often as necessary through the day. The dose of magnesia if repeated too often will produce its laxative effect on the bowels, which is desirable within certain limits, but should not cause too frequent movement. In such cases the following may be substituted:

℞.	Cerii oxalatis	
	Bismuthi subcarb., āā .....gr. xv	1
	Bismuthi subgal.	
	Cretæ prep., āā 3ss	2
	Carbonis ligni pulv. 3i	4

M. Sig.: One teaspoonful stirred in water and then taken as often as necessary.

The two foregoing powders may be administered alternately in order to keep the bowels in the proper condition.

Chronic Constipation.

The medicinal treatment of chronic constipation, according to the *Encyc. of Med. and Surg.*, should consist principally of four drugs: Nux vomica or its alkaloid strychnia, aloes, jalap and cascara sagrada. The use of ergot and belladonna, according to the author, should be discontinued. And in case of evidence of atrophy of the glandular structure of the intestinal wall, this action may be increased by the administration of sodium phosphate and ammonium chlorid. Belladonna may be of service in those cases due to hyperacidity, but it should not be continued. For such purposes the following combination should be used:

℞.	Calcined magnesiæ .....ʒss	15	
	Pulv. rhei. .....ʒiiss	10	
	Sodii carb. 3i	4	
	Ext. belladonnæ		
	Ext. nucis vom., āā .....gr. ii		12

M. Sig.: One half a teaspoonful three times a day, half an hour after meals. And when atonic constipation is associated with absence of hydrochloric acid or subacidity the following:

℞.	Acidi hydrochlor. dil. .....ʒss	15	
	Strych. sulph. .....gr. 1/3		02
	Tinct. rhei q. s. ad .....ʒvi	180	

M. Sig.: One tablespoonful in a wineglassful of water one hour after meals through a glass tube.

When acute attacks of indigestion accompany the constipation, calomel should be given in half-grain doses repeated every two hours or castor oil may be substituted.

In stout individuals with inclination toward passive congestion in the intestinal canal, and hemorrhoids, the salines, such as sodium and magnesium sulphate, sodium and potassium tartrate and sodium phosphate are of service.

Nothnagel recommends the following:

℞.	Podophyllin .....gr. ivss		27
	Ext. aloes		
	Ext. rhei, āā .....gr. xlv	3	
	Ext. taraxaci .....gr. xx	1	30

M. Ft. pil. No. xl. Sig.: One pill at bedtime.

When flatulency is present the following pill is advised:

℞.	Ext. colocynth. co .....gr. 1/3	02
	Res. terebenthinæ .....gr. i	06
	Pulv. aloes soc. .....gr. iss	09
	Ext. nucis vom. .....gr. 1/4	015
	Ext. hyoscyami .....gr. i	06

M. Ft. pil. No. i. Sig.: One such at bedtime.

Strümpell recommends the following containing manna:

℞.	Mannæ		
	Sacchari, āā 3ss	2	
	Aq. fœniculi 3ss	2	
	Pulv. iris rad. .....gr. ii		12
	Olei amygdalæ dulcis .....gtt. xv	1	

M. Sig.: One heaping teaspoonful at bedtime for the bowels. Other preparations such as senna and the mineral waters may be substituted.

In gastrointestinal atony following fevers and in the stage of convalescence of summer complaints the following is recommended:

℞. Pulv. calumbæ		
Pulv. zinziberis, āā	℥ss	15
Pulv. senna fol.	℥i	4
Aquæ bullientis	Oi	500

M. Fiat infusum. Sig.: Take one wineglassful three times a day.

Psoriasis.

Chauneil of Paris, in the *Med. Press*, recommends that the animal food be reduced and that strong cheese, alcohol, and fermented liquids be omitted from the dietary. Proper amount of exercise should be taken to keep the skin in order.

The internal medication should consist of potassium iodid in large doses, commencing with 60 grains daily well diluted and increasing to one hundred and eighty grains. The treatment should not be continued longer than one month. He considers thyroid gland as a dangerous preparation in this trouble. The external treatment is of importance. The scales must be removed by a warm alkaline bath, the patient rubbing himself with a brush and soft soap.

Locally the following applications are to be employed:

℞. Olei cadini	℥ii	8
Saponis mollis q. s.		
Glycerol amyli	℥iii	90
Essent. caryophylli q. s.		

M. Sig.: Apply locally.

The foregoing may be gradually increased in strength and applied according to the following:

Olei cadini	℥iss	45
Saponis mollis q. s.		
Glycerol amyli	℥iss	45
Essent. caryophylli q. s.		

M. Sig.: Apply locally.

Pyrogallic acid should be used on small surfaces only, on account of the danger of intoxication. The same may be said of chrysophanic acid. Mercurial preparations, naphthol, salicylic acid are successfully employed as in the following combination:

℞. Acidi pyrogallici		
Ichthyol		
Naphthol		
Acidi salicylici, āā	℥ss	2
Vaselini	℥iii	90

M. Sig.: Apply locally.

Hebra recommended the following, containing oil of cade, in the treatment of eczema or psoriasis:

℞. Sulphuris sublim.		
Olei cadini, āā	℥ss	15
Saponis viridis		
Adipis, āā	℥i	30
Cretæ prep.	℥iiss	10

M. Fiat unguentum. Sig.: Apply locally. The following is recommended by Shoemaker, which may be varied in strength to suit the individual case:

℞. Olei cadini	℥vii	210
Tinct. quillajæ	℥v	20
Glycerol amyli	℥viii	240

M. Ft. unguentum. Sig.: For local application.

Arsenic in Chorea.

F. M. Pope, in an abstract in *Month. Encyc. of Pract. Med.*, gives the following principles for the administration of arsenic in the treatment of chorea: See that the tongue is clear before commencing treatment, and, if not, give a mild mercurial purge and a stomachic mixture for forty-eight hours. Put the patient on a bland and easily-digested diet. Give the drug in a much-diluted form and in the same dilution throughout. Do not discontinue on the first attack of vomiting, which may be due to accidental causes. Increase the dose daily. Keep the patient in bed throughout the treatment. If vomiting persists, discontinue the drug for twenty-four hours and then give the same dose as the last. Examine the patient very carefully every day for any sign of toxic action. What must be aimed at, according to the author, is a form of shock action on the nerve tissues, and this may explain the failure of long-continued treatment with small doses. A preparation containing iron in some form should be prescribed for some time after discontinuing the arsenic.

Medicolegal.

Missouri Supreme Court on Magnetic Healing, So-Called.—The Supreme Court of Missouri, Division No. 1, has reversed a judgment for libel obtained by Weltmer and others vs. Bishop on account of the publication in a newspaper of an article calling the former "miserable charlatans," and which was libelous if their business was legitimate, and if the statements were false, and if the article referred to them. The evidence on the trial showed, among other things, that the parties suing, who were men without the pretense of scientific learning, and who possessed only to a limited degree even the rudiments of education, were engaged in a business at Nevada, Mo., which they called "Magnetic Healing." They employed for chief assistants three men who were also unlearned in any science, and of little common education, and in addition to these a large number of female typewriters. They advertised very extensively in the chief cities of the United States and in foreign countries. In their advertisements they professed to possess miraculous power to heal all diseases to which beings were liable, without medicine and without surgery; that to them had been committed the startling revelation whereby all ailments are dispersed as if by magic; that they had cured patients thousands of miles away, and could cure thousands in an instant; that they exerted the same powers that Jesus Christ exerted to cure diseases 1900 years ago. By far the greater number of their patients were at a distance, and the only communication with them was by letter. These they proposed to cure, no matter what the disease, and though thousands of miles away, by a mysterious influence of the mind of the healer over that of the patient. The chief direction in the letter to the distant patient was that at a certain hour in the day he should dismiss all disturbing thoughts, and bring his mind into a passive condition to receive the influence from the mind of the healer, who at that same hour in Nevada would bring his mind to exert the mysterious influence desired. Their patients of this kind numbered many thousands, and they were treated by the typewriters, who alone read the letters coming from the absent patients, and answered them. The answer to each was, in the main, a copy of a circular letter prepared by the parties suing, and furnished the typewriters for that purpose. One of these parties, who was the originator of the scheme, and the chief director of the business, explained that the process of this absent treatment was that, at the hour designated in the letter in which the patient was to make his mind passive to receive the healing influence, he (the healer) would bring the powers of his own mind to bear on that of the distant patient, and the beneficial result would follow. In this way many hundreds of men, women, and children in different parts of the world were treated at the same instant. When his attention was called to the fact that at a stated hour in Nevada, when the healer was exercising his mind to transmit its influence to the expectant patients in different parts of the world, that time would not correspond with the hour in distant and different localities, he gave no clear explanation of the point. It was also shown that, when he left the business and went to Colorado for a summer vacation, this absent treatment went on as efficiently through the instrumentality of the typewriters as when the healer was present. One of the witnesses for the parties suing testified that she was a married woman, living near Chicago; that she had been afflicted with cancer of the breast, and other troubles peculiar to women; that she took this absent treatment from Professor Weltmer from May 1 to July 1, 1899, and was entirely cured. This was one of the cures effected by this absent treatment, when the healer was himself absent, and no one but the typewriter in Nevada to transmit the healing influence. The testimony as to the method of treatment of those who came in person to Nevada showed that it was, in the

main, an abuse of their credulity, and in some instances consisted only of disgusting suggestion. Quite a number of witnesses testified that they had taken these treatments, and were cured or benefited; and the trial judge submitted to the jury to say if the business was legitimate, and in weighing that question they were to consider the results as disclosed by the evidence, and, on the whole, if the results had been beneficial, the business was not to be adjudged a fraud. But the Supreme Court says that courts are not such slaves to the forms of procedure as to surrender their own intelligence to an array of witnesses testifying to an impossibility. They are not required to give credence to a statement that would falsify well-known laws of nature, though a cloud of witnesses swear to it. We, the court continues, recognize that in the realm of science much is yet undiscovered, and especially is this so in the science relating to diseases of the human system and their treatment. Different schools of medicine contend with each other on vital questions, and, as long as the contest continues with reason, it can not be said that the right of either, as above the other, has been demonstrated. But if either school would convince us that it is right, or even that it is entitled to be recognized as a contestant, it must appeal to our intelligence, and discuss the subject on the basis of natural laws. If it can not be discussed on that basis, there is nothing to discuss. If a man come into court claiming to possess supernatural powers, and bring with him witnesses who swear he has done for them that which we know is impossible, we are not required to believe such evidence. Here was a woman, who perhaps believed what she said, who testified that by a mental process of one of the parties suing, transmitted to her through a letter several hundred miles away, she was entirely cured of a cancer of the breast. The fact that the party who was supposed to have transmitted the influence from Nevada was not there at the time adds to the absurdity of the statement. And the testimony of other witnesses, perhaps also sincere, to the effect that they were cured of otherwise incurable diseases by such mysterious process, can have absolutely no lodgment in our intelligence. Under the instruction above referred to, the jury were directed to heed such evidence, and if, on the whole, it showed that good had resulted to the community from the practices of the parties suing, the jury were to find that the business was a lawful one. It was an instruction, in effect, directing the jury to surrender their own intelligence to the preponderance of statements of witnesses, irrational though such statements were. Under the conceded facts, there was no evidence to justify the submission of the case to the jury, and the peremptory instruction for a verdict for the party sued should have been given. If there was anything in the business of the parties suing, which they call "Magnetic Healing," that entitled it to the protection of the law, and which was not perceptible to the uninstructed, the burden was on them to show the rationale of it; and, failing to do so, the court should close its doors against them. The law of libel is not designed to shield one in the practice of an illegal business. The business of the parties suing, as shown by their own evidence, is of such a character as that it is not entitled to protection under the law of libel. On a motion for rehearing, the court's attention was called to the recent decision of the Supreme Court of the United States in the case of the School of Magnetic Healing vs. McAnnulty, reported on pages 122 and 123 of THE JOURNAL of Jan. 10, 1903. But the Supreme Court of Missouri points out that that case was very different in its facts from this one. In that case it was held that upon the statement of facts admitted by demurrer to be true the business of the complainants was not within the class forbidden to be conducted by use of the mails, but it was not meant to preclude it being shown on the trial, if it could be, that the business, as in fact conducted, amounted to a violation of the statutes. The decision in this case is not based on a demurrer admitting that the business of the parties suing is a system of healing conducted on practical and scientific principles, but it is based on the character of the business as shown by the evidence at the trial. Motion for rehearing overruled. All concur.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

January 24.

1 The New York Academy of Medicine—Valedictory Address of the Retiring President. Robert F. Weir.
2 *A Study of the Deaths Occurring in New York City on the Opposite Sides of Twenty Streets During the Year 1895. Alfred E. Thayer.
3 Cases Illustrating Some of the Newer Points in the Surgery of the Day. Robert T. Morris.
4 Chronic Gastritis and Gastric Motor Insufficiency in Children. F. L. Wachenheim.
5 *The Treatment of Non-paralytic Strabismus, Including a New Operative Procedure. J. H. Woodward.

2. **Local Mortality.**—Thayer has studied the deaths occurring in New York City on the opposite sides of certain streets from 14th to 33d, selecting them mainly because of their larger proportion of individual residences and their east and west direction. He found that the mortality on the north side was decidedly higher than that on the south side. The excess of deaths was due chiefly to three diseases, pneumonia, phthisis and nephritis. The first two are specially fatal during cold weather, when the proper ventilation of living and sleeping rooms is most neglected. The third is also affected by lack of air and sunlight, and indirectly by mental depression due to darkness and poor air. On the south side of the street the greater freedom from these causes of death is chiefly due to the advantages of sunlight and ventilation enjoyed from the habit of New Yorkers of living in the rear part of the house, the south side residents thus having the better air and sunlight. Zymotic diseases appear to be independent of these conditions, and may occur in excess on the south side of the street, and the total mortality may be greater on that side. The rear houses are situated less favorably than the single houses on the lot, depriving the other house of its proper light and air also. The width of any street and the distance across yards, measured from the back of one house to the back of another, should be as nearly as possible the same; the latter should never be less than the former; and the height of dwelling houses should bear some relation to these measurements, so that one house will not deprive the other of its light and air. In the case of contagious disease in any family, the importance of keeping the other children from school is closely related to the question of infant mortality below the age of five years. In conclusion he urges people to keep their windows open and their shades up as much as possible, and this especially for dwellings on the north side of the street and during the colder months of the year when ventilation is most neglected.

5. **Stabismus.**—Woodward discusses the treatment of this condition and remarks that in his operations for strabismus he has confined himself in probably 90 per cent. to the deviating eye, and has advanced the opposing muscle in a great majority of cases, and in most of them cut overacting muscles. The result was an improvement on the practice of operating on both eyes, but yet it was not entirely satisfactory. In a smaller number of cases he has advanced the antagonist, omitting to divide the overacting muscle. Some of the results were gratifying. The chief difficulty encountered was that of maintaining the position of the advanced muscle until healing could take place. He devised a special needle that would neither tear nor cut the episcleral tissue, and was thus enabled to secure a hold that did not give way readily. Several methods of advancement were tried. Still, the pull of the overacting muscle on the sutures was always too great for security. Therefore, he tried to obviate that difficulty by stretching the overacting muscle, hoping to paralyze or weaken it temporarily. A strabismus hook was passed beneath the tendon and all the traction that seemed safe was exerted when the antagonist was advanced. He has tried this sufficiently to be convinced that stretching the tissues in this way will prove a very useful preliminary to advancement of the antagonist, and will later aid our endeavors to eliminate tenotomy from the treatment of strabismus.

American Medicine, Philadelphia.

January 24.

6 *Influence of Nephrectomy Upon Absorption. S. J. Meltzer and W. Salant.
7 Secondary Carcinoma of the Liver, with Report of a Case in Which the Liver Weighed 15,110 gms. (33½ lbs.). Henry A. Christian.
8 *Through-and-through Intestinal Suture, with Report of Additional Cases. F. Gregory Connell.
9 *Transmissibility of Plague. W. J. Calvert.
10 Karyokinesis in Malignant Tumors. Frederick G. Canney.
11 X-Rays in Surgical Diagnosis. Arthur T. McCormack.
12 Widener Memorial Industrial Training School for Crippled Children. DeForest Willard.

6. **Influence of Nephrectomy on Absorption.**—Meltzer and Salant have experimented on nephrectomized rabbits, introducing salt solution through a fine opening into the peritoneal cavity and removing it very carefully again after varying intervals. A normal animal was used as a control test in each case. The first series of experiments was made with a 0.8 per cent. solution of sodium chlorid, presumably approximately isotonic with the normal serum of the animal. The result was a surprise. The nephrectomized animal usually absorbed not less than normal, but distinctly better. Nephrectomy seemed to rather favor absorption. This directed their attention to a factor which had been hitherto neglected in nephrectomy, the increased osmotic pressure of the blood, which should explain the phenomenon. In the next experiments they carried out several series with solutions of 1, 1.2, 1.5 and 2 per cent. sodium chlorid concentrations and found a still greater absorption in nephrectomized animals. With the solution of 1.2 per cent. of sodium chlorid the absorption was at least twenty-four times as good as that which took place in the normal animals. Their experiments show that after nephrectomy absorption is considerably improved. They clear up the mystery why no edema was observed after nephrectomy in animals or in pathologic conditions of acute anuria in human beings lasting sometimes five to six days. The first effect of complete anuria is not in the increase of the normal transudation but an increase of the power of absorption of the blood.

8.—See abstract in THE JOURNAL, xxxix, p. 1,132.

9. **Transmissibility of Plague.**—Calvert has experimented on the viability of plague germs and observed the transmission, which he thinks may take place through fleas and other insects as well as by inoculation. He reports a case of infection through the genitals and has experimented unsuccessfully on monkeys to produce plague by infusion through the mouth. In conclusion, he says that the plague organism is long-lived; is carried by raw materials, insects, etc.; gains access to the system through superficial abrasions, wounds and the pulmonary tract, and that a relatively small number of organisms may cause the disease.

Medical News, New York.

January 24.

13 *Cases Illustrating the Therapeutic Uses of the Roentgen Rays. Samuel B. Childs.
14 *Subphrenic Abcess as a Complication of Appendicitis. Henry A. Christian.
15 *A Consideration of the Scientific Application of Mechanical Vibratory Stimulation in the Treatment of Disease. Maurice F. Pilgrim.
16 *Tonsillitis Classified as an Infectious Disease. Walter S. Mills.
17 *The Medical Inspection of Schools: A Problem in Preventive Medicine. (Concluded.) Lewis S. Somers.

13. **Roentgen Rays.**—Childs illustrates a variety of cases and outlines the promise of this agent.

14. **Subphrenic Abscess.**—Christian and Lehr finds out of 86 cases of death due directly or indirectly to appendicitis, that 7 or 8.13 per cent. showed involvement of the subphrenic region in the purulent process. While not all these were primary abscesses, they review them as they think they will be of use in illustrating the manner of formation and the comparative findings of these conditions. They discuss the literature of subphrenic abscess, finding it not a very common disease and report several cases in detail, with autopsy and microscopic examinations. Subphrenic abscess, they say, secondary to appendicitis, may occur in one of four ways: 1. As a localized abscess or part of a general purulent peritonitis; 2, by extension of the disease process from appendix to subphrenic region by the intraperitoneal route; 3, by extension of this process by the extraperitoneal route either by the lymphatics or by infiltration through the retroperitoneal tissue; 4, by way of the blood current as part of a general embolic septic process, or as a sequence of liver abscesses which are of embolic origin, by way of the portal vein. The greater number occurred by direct extension intra- or extra-peritoneally. The right side seemed to be most involved. The pleura may become involved from the appendix by extension from a pneumonic focus or infarct, or by extension from the abdominal cavity by way of the lymphatics or by erosion of the diaphragm. This latter form constitutes the appendicular pleurisy of the French writers. It is very often associated with subphrenic abscess as in four of the seven cases reported, and is almost always right-sided.

15. **Mechanical Vibratory Stimulation.**—This method is applied for the stimulation of nerve and nerve centers, stimulating and equalizing the blood currents, and for the stimulation of the secretions and excretions, and the lymphatics. Pilgrim argues for its utility, claiming especially good results from this method in ocular affections due to anemia or hyperemia, in goiter, exophthalmic and other forms, functional disorders of the digestive function and varicose conditions, and looks for good effects in malignant growths. He has seen marked benefit from it in the early stages of tuberculosis, and cases of subacute rheumatism thus far treated have been benefited, and most of them cured. The same is true of neuralgia, myalgia, etc. In conclusion he describes a special instrument, which he thinks is best adapted for this purpose.

16. **Tonsillitis.**—The infectiousness of tonsillitis is argued by Mills. The paper is simply to call attention to the contagious nature of the disease and give it the proper place in classification.

17. **School Inspection.**—Somers' article is largely a review of what has been done in certain cities, Cleveland, Chicago, Philadelphia, and others, and the advantages that have been obtained from proper medical inspection in the prevention of epidemics, rectification of evils existing and aiding the defective and other children who are laboring under damaging conditions and surroundings.

Medical Record, New York.

January 24.

18 *A Contribution to the Pathogenesis of the Uremic State; The Probability of Its Physico-electric Substratum. Heinrich Stern.
19 *Reasons for Believing that the Only Way in Nature for Yellow Fever to be Contracted by Man Is from the Mosquito. John W. Ross.
20 *Ankylosis of the Crico-Arytenoid Articulation, Due to Acute Inflammatory Causes. D. Bryson Delavan.
21 *The Relations and Treatment of Follicular Conjunctivitis and Trachoma. Ellice M. Alger.

18. **Uremic State.**—Stern holds it is made evident that the uremic state arises on the foundation of diminished electrical conductivity of the serum, or at least, that this is the potent contributing factor. A recapitulation of his article and remarks is given in the following:

1. None of the retained known products of metabolism are in themselves toxic to any degree.
2. In uremia there is a higher molecular concentration of the blood serum, which is due to the accumulation of normal products of catabolism.
3. Hyperosmosis of uremic serum is evidenced by determination of its freezing point. The freezing points of normal blood sera lie between -0.55 and -0.57° C., those of uremic blood sera are depressed to between -0.61 and -0.67° C.
4. The point of attack and the origin of the uremic convulsive phenomena is situated in the psychomotor centers of the cortex cerebri; the hyperosmotic condition of the blood and liquids in the brain may occasionally furnish the stimulus to the uremic attack, but there is no analogy between the degree of molecular concentration and the intensity of the uremic process.
5. In uremic serum there occurs invariably an abnormally large amount of retained nitrogen. There is no parallelism between the degree of freezing point depression and the amount of retained nitrogen.
6. Non-electrolytes do not only interfere with complete dissociation, that is ionization, but also retard ionic movement. Their presence, therefore, lessens the electrical conductivity of the watery liquid in which the electrolytes are contained.
7. In uremia the large amounts of retained albuminous derivatives exhibit most potent non-electrolytic qualities.
8. The ions as independent molecules participate in augmenting osmotic tension and in depressing the freezing point; the excessive high osmotic pressure of uremic serum is not due to its ions, but to its contents of neutral molecules.
9. Determination of the freezing point of uremic serum discloses the fact of its high molecular concentration, but not the degree of its electrical conductivity.
10. Dissociation of electrolyte molecules into ions occurs in the ratio of the dilution of the watery solution. The more concentrated the serum the smaller its conductive qualities.

11. The conductivity of the blood serum of healthy individuals varies between 106.18 and 119.12. The lowest conductivity of human blood yet found, 98.29, occurred in a case of uremia.
12. Intravenous injection of water for therapeutic purposes dilutes uremic serum in such a manner that it may exhibit greater conductive properties.
13. Normal conductivity of the serum is more readily and frequently re-established if the uremic state has developed on the basis of parenchymatous nephritis than if it occurs as the consequence of interstitial nephritis. A most potent reason for this is the fact of the existence of smaller amounts of retained nitrogen in the parenchymatous than in the interstitial type of the affection.
14. In most instances of uremia, especially in those characterized by deep and prolonged coma, the body temperature is considerably lowered. This fact again contributes toward reduction of serum conductivity. Elevation of temperature, on the other hand, as long as within well-defined limits, tends to increase the conductivity.

19. **Yellow Fever.**—Ross reviews the facts in regard to the transmission of yellow fever, restating those given by Reed, Carroll, Agramonte and others and remarking that while the attack made on the mosquito was thorough in Havana, other insect pests like bedbugs, fleas, etc., which are thought by some medical men to have some agency in the spread of the disease were not attacked at all, no attention being paid to such by the sanitary department. Nevertheless yellow fever was conquered. Yellow fever, he holds, is communicated through the mosquito, and through it alone.

20. **Crico-Arytenoid Ankylosis.**—This condition is not exceedingly rare, according to Delavan, and may be found in otherwise healthy subjects, a fact which he thinks should be more generally known. The majority of cases have been supposed to be due to perichondritis resulting from syphilis, gouty or rheumatoid arthritis, cancer and tuberculosis, but exanthemata, diphtheria and various traumatisms may give rise to them. Any acute inflammation of the posterior region of the larynx attended with infiltration may cause a temporary fixation of the crico-arytenoid joint. He reports cases illustrating the condition and discusses its diagnosis. In some cases it may be difficult to diagnose between this disorder and paralysis of the recurrent nerve, and only a careful process of exclusion may suffice to make it definite. Its prevention is not always easy, but certain prophylactic measures are worthy of mention, such as in typhoid fever, thorough and systematic cleansing of the nasal cavities and the mouth. Prevention is least effective in severe inflammation of the pharynx when it occurs. In most cases the fixation is not exactly in the median line, but a little to one side of it, the vocal band being in the so-called cadaveric position, thus rendering it less likely to interfere with respiration. He notices, in connection with the cases, a marked chest expansion that occurs in many of them, due to the necessity of greater effort to produce a given volume tone. All causes of local irritation should be avoided in this condition and proper chest gymnastics employed. "Taking cold" should be specially guarded against, and under fairly favorable conditions the majority of sufferers get along comfortably.

21. **Trachoma.**—Alger points out the differences between follicular conjunctivitis and trachoma, the symptoms being quite similar, but the former is only a trivial affection. We should depend on the presence of true conjunctival hypertrophy as a sign of trachoma. He gives the formulas for treatment of ordinary folliculitis, using simple solutions of ichthyol, iodin, glycerin applied to the conjunctiva, zinc sulphate and opiates, while in trachoma much more energetic measures have to be employed.

Boston Medical and Surgical Journal.

January 22.

22 *Vaginal Celiotomy, Its Scope and Limitations. J. Riddle Goffe.
23 A Case of Acute Pancreatitis, and Necrosis of Fat Tissue; Laparotomy; Drainage; Death Nine Days After the Operation; Autopsy. George H. Monks and David D. Scannell.
24 Cerebral Syphilis. Albert E. Brownrigg.
25 The Importance of Careful Examination and Frequent Cultures in Doubtful Throat Cases. W. P. Coues.

22. **Vaginal Celiotomy.**—Goffe holds that any operation that can be done through the vagina as well as through an abdominal incision is better done along the vaginal route. He thinks any pathologic condition that is confined to the true pelvis can be thus dealt with satisfactorily and with as permanent results and far greater safety than through the abdominal incision. His cases have embraced every variety of disease from simple retroversion to fibroid tumors and dermoid cysts. The method lends itself to every form of conservative work on the uterus and appendages that has been suggested in the trend of recent modern gynecology. He holds that it will grow in favor with experience. He describes his methods, favoring generally the anterior colpotomy method of opening as being less dangerous and liable to untoward and annoying consequences.

Philadelphia Medical Journal.

January 24.

26 *Tropical Diseases. Introductory Lecture in a Course on Tropical Diseases, etc. Charles F. Kieffer.
27 An Early Case of Osteitis Deformans. J. C. Wilson.
28 *Six Years of Medical Journalism; A Retrospect. James C. Johnston.
29 Spontaneous Rupture of the Heart, with a Report of Seven Cases. Arthur S. Hamilton.
30 *Atmospheric Pressure and Epidemic Influenza in Philadelphia. Howard S. Anders.
31 Legal Tests of Responsibility. Richard Webb.

26. **Tropical Diseases.**—Kieffer in this introductory lecture notices the lack of stamina of tropical natives, their insufficient nutrition, and the great advantage which the colonists in the tropics have over the native in the struggle for existence. He remarks that there are very few purely tropical diseases, but some of the common diseases undergo very strange intensifications and attenuations, thus measles is fatal to certain tropical populations, while scarlet fever and diphtheria may be mild and trivial. Leprosy is now particularly a tropical disease, because it is there unchecked. He notices as factors of disease, heat affections, infections which are largely the same as anywhere else, and only a very few that are peculiar; parasitic diseases which are numerous in the tropics, and he calls attention to alterations of type and malignancy. Tuberculosis in the tropical native is slow, though it may be virulent in a colonist. Other diseases like epithelioma seem to tend to chronicity. There is an "overlay" of filariasis over all diseases in the tropical native which mystifies the etiologic picture. It is not difficult to explain how this occurs when we note the customs of their agriculture. The problem of immunity is the same in one place as another. Acclimatization he considers consists in a re-adjustment of manners, morals and habits that effects a corresponding change in the organism to meet the new environment. The effects of heat are noticed in particular; the increase of body heat, the diminution of respiratory function, depression of digestion, appetite and assimilation, the greater activities of the skin function and depression of the nervous system.

28. **Six Years of Medical Journalism.**—Johnston writes amusingly and sensibly of medical journalism, noting the difficulties, temptations, and aggravations to which the medical editor is liable. He considers society proceedings largely superfluous, and speaks particularly of the difficulty of keeping up proper abstracts and the thanklessness of the work. He emphasizes the essential point of keeping the medical editorship absolutely divorced from the advertising functions of the journal.

30. **Influenza.**—Anders has studied the effect of barometric changes on influenza epidemics and gives tables to illustrate his paper. A comparative inspection and analysis of the figures of two groups of years, twelve of sporadic or non-epidemic years, and twelve of the epidemicity of influenza, fail to justify any generalization. A study of the mean maximums and minimums for the same group of months and years shows uniformly lower maximums and higher minimums of recorded means (monthly) for the epidemic, as compared with the non-epidemic group of years. We find that the monthly means of the greatest ranges of barometric record (between highest and lowest points) manifest nothing characteristic, but he has noticed in the Weather Bureau records that the greater monthly absolute range is a marked feature of severe influenzal periods as compared with mild or sporadic years, the difference amounting to as much as 0.4 inch higher for the epidemic months. Lastly, the suggestion is offered that any relation between meteorological conditions and the prevalence of influenza that may exist will probably be found in the sudden, frequent, rapid and extreme variations and alterna-

tions of the phenomena occurring on certain days, just before or simultaneous to the influenzal outbursts, and not in data of the means of large groups of monthly and annual recordings. It is the lack of equability in the absolute daily (sometimes almost hourly) extremes, and not in the monthly or yearly averages or means.

St. Louis Medical Review.

January 17.

32 *Transmissibility of Plague. W. J. Calvert.

32.—See ¶9 above.

Cincinnati Lancet-Clinic.

January 24.

33 The X-ray as a Therapeutic Agent. Wm. Jordan Taylor.
34 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

The Medical Age, Detroit, Mich.

January 10.

35 *Syphilis in Women. A. R. Williamson.
36 *The Physiological Action and Therapeutic Uses of the X-ray. C. M. Mutz.
37 To What Extent May We Hope by Treatment to Delay the Progress of Cataract? C. F. Clark.

35. **Syphilis in Women.**—The difficulties of diagnosis of syphilis in women are noticed by Williamson, the modified character of the chancre which varies with the tissue on which it occurs. The secondary symptoms are also different and confusing. Alopecia is apt to be slight and roseola likewise less prominent. The throat appearances may be variable and an uncertain guide. The sex is naturally lymphatic. This should be borne in mind in studying swollen glands and ganglia. Only in tertiary syphilis are the signs and symptoms the same in both sexes. Lastly, the cases are difficult to diagnose, because there is a natural tendency to deceive and conceal the condition which is perhaps stronger in women than in men.

36. **The X-Ray.**—Mutz thinks the *x*-ray a generally diffusible stimulant of the highest type, promoting the destruction of micro-organisms and inimical cells by increased phagocytic influence. It is not a universal germicide, however, and is certainly not an insecticide. He has not found its analgesic properties pronounced. Cataphoresis by the *x*-ray he considers dubious.

Annals of Surgery, Philadelphia.

January.

38 *Subdural Interposition of Rubber Tissue Without Removal of the Gasserian Ganglion in Operations for Tic Douloureux. Robert Abbe.
39 *Considerations Relative to Basedow's Disease. T. W. Huntington.
40 *Ureter-Catheterism: Its Purposes and Practicability. Bransford Lewis.
41 *On a Possible Cause of Difficulty in the Differential Diagnosis Between Renal Calculi and Hepatic Calculi. Charles E. Barnett.
42 *Some Points in Ligation of Arteries. Robert H. M. Dawbarn.
43 A Case of Tuberculosis, Resembling Carcinoma, in the Tongue of an Old Man. L. B. Zintsmaster.
44 Persistent Thyrolingual Duct; Complete Branchial Fistula. With Note on the Teaching of Embryology by Means of Clay Models. Horace J. Whitacre.
45 Cysts in Connection with the Teeth. John C. Oliver.
46 Excision of the Clavicle. H. Beeckman Delatour.
47 Osteoma of the Knee-joint. R. Tunstall Taylor.
48 Posterior Dislocation of the Head of the Tibia. John G. Sheldon.
49 An Apparatus to Facilitate the Application of Plaster Jackets During Spinal Hyperextension. Erasmus D. Fenner.

38. **Tic Douloureux Operations.**—Abbe advocates interposition of a sheet of rubber tissue as a permanent barrier to the reunion of a divided intracranial nerve, and holds that it would in many cases make unnecessary such severe operations as removal of the gasserian ganglion. He thinks operations on the ganglion have been overdone, and that resection of one-fourth to one-half inch of nerve anterior to the ganglion and within the cranium, and interposition of rubber tissue can be relied upon for a perfect cure up to six years at least. The probability of permanency is as great as in any other method. It is a simple, speedy and safe method, and therefore fulfills the highest aims of the best surgery. He reports a case of six years' standing with good results.

39. **Basedow's Disease.**—Huntington advocates early operation, before destructive tissue changes have occurred and before the function of important organs has been seriously, perhaps permanently, impaired and the patient's vitality lowered by chronic thyroid intoxication. Complete bilateral extirpation should never be attempted. A small fragment of the least affected lobe contiguous to the tumor can be isolated and left. He also favors local anesthesia in the operation, and in three of the four cases reported this was employed with good results by the Schleich method.

40.—This article appeared in THE JOURNAL, xxxix, p. 1184.

41. **Renal and Hepatic Colic.**—Barnett attempts to show the close relationship existing between the pelvis of the kidney and the upper portion of the ureter on the right side, with the gall bladder, cystic duct, hepatic duct and communicating duct of the liver and the terminal ducts of the pancreas, with a sometimes similarity of symptoms from a pathologic invasion of any one of them, and more especially from stone formation. His paper is illustrated by skiagrams and illustrative cases, showing the difficulty of diagnosis between hepatic and renal calculus.

42. **Ligation of Arteries.**—Dawbarn advocates ligation of the arteries by the aid of a semicircular needle and holder, making a purse-string suture around the artery. The second part of his article deals with ligation of special arteries, of which he describes the technic.

University of Pennsylvania Medical Bulletin, Philadelphia.

January.

50 *A Study of Two Cases Nourished Exclusively per Rectum, with a Determination of Absorption, Nitrogen-Metabolism, and Intestinal Putrefaction. David L. Edsall and Caspar W. Miller.
51 *Experimental Evidence of Biliary Obstruction in Floating Liver. J. Dutton Steele.
52 *Gastroptosis: A Critical and Clinical Study; with References to 100 Cases. Albert P. Francine.
53 *The Value of a Knowledge of Anatomy from a Practical Standpoint. Gwilym G. Davis.

50. **Rectal Nutrition.**—Edsall and Miller report their cases and discuss the condition at length, reviewing the literature. They say in conclusion:

> Rectal alimentation in exceptional cases provides enough food to the tissues to prevent tissue loss. Even in such favorable cases the best that can be done is to keep the patient from losing ground when he is already in a condition of decided subnutrition. Usually food administered per rectum is very imperfectly absorbed, and consequently rectal enemata, as a rule, supply only a very small part of the amount of food necessary in order to maintain a nutritive equilibrium.

51. **Floating Liver.**—Steele has experimented on cadavers to reproduce the conditions of floating liver so as to test the effects in inducing biliary obstruction. He found that the pressure rose steadily as the anterior border of the liver was allowed to sink, and at the lowest point was 2½ times that required when the liver was in its normal position. He goes to some length in explaining the conditions as they probably occur during life. In many cases the pressure is too transitory to permit of obstruction and absorption of bile, and the parts adjust themselves so that there is no kinking or torsion. The obstruction may not always be in the common duct. In conclusion he briefly reports cases, collected from the literature, of floating liver with jaundice without gallstones.

52.—This article has appeared elsewhere. See THE JOURNAL of January 17, ¶1, p. 192.

53.—This article appeared elsewhere. See abstract in THE JOURNAL of January 17, ¶1, p. 192.

American Journal of Medical Sciences, Philadelphia.

January.

54 *Sarcoma of the Third Cervical Segment; Operation; Removal; Continued Improvement. James W. Putnam, William C. Krauss and Roswell Park.
55 *Studies of Ovarian Embryomata, or So-called Ovarian Dermoid Cysts. William F. Jelke.
56 *Adrenal Tumors. Paul G. Woolley.
57 *On Adrenalin Glycosuria and Certain Relations Between the Adrenal Glands and Carbohydrate Metabolism. C. A. Herter and A. J. Wakeman.
58 A Report of Two Cases of Multiple Sclerosis, with Necropsy; with Remarks on Muscular Atrophy, Secondary Degeneration, and Loss of Tendon Reflexes, with Increased Muscular Tonicity, Occurring in this Disease. William G. Spiller.
59 *Eosinophilia in Pelvic Lesions and in the Vermiform Appendix. William H. Weir.
60 *The Pathology of the Tissue Changes Induced by the X-ray: Preliminary Report. A. G. Ellis.
61 *Paracolon Infections, with Report of Three Cases. Herbert W. Allen.

62 *Malta Fever: Its Occurrence in the United States Army, with a Review of the Literature. Charles F. Craig.
63 *On Multiple Serositis—The Association of Chronic Obliterative Pericarditis with Ascites, with Particular Reference to the "Pericarditic Pseudocirrhosis of the Liver" of Pick and the "Iced Liver" (Zuckergussleber) of Curschmann. Aloysius O. J. Kelly.

54. **Sarcoma of the Third Cervical Segment.**—The case described is considered unique for several reasons. 1. It is the only tumor of the spinal cord affecting the upper cervical region that has so far been recorded. 2. It is the only cervical cord tumor which has gone on to an uninterrupted course toward recovery. 3. It was definitely located and quickly removed without sacrifice of spinous processes and laminæ, and the short incision made a remarkably rapid closure. 4. The involvement of the phrenic nerve added an element of danger which was quickly removed during the progress of the operation. 5. From the surgeon's standpoint, it was located in the most inaccessible portion of the spinal cord, by virtue of the cervical curvature of the spinal column offering a concave field for operation instead of a convex. It was attached partly to the dura, and was about 2 cm. in length, and in diameter a little greater than that of a common lead pencil. The growth was not particularly vascular, but adrenalin solution was applied as a matter of precaution and the surgical recovery was perfect.

55. **Ovarian Embryomata.**—The subject of ovarian teratomata is discussed at length by Jelke, who favors the theory advanced by Wilms that the condition is not of congenital origin, but is of ovulogenous derivation. Three cases are reported. Structures from the three embryonal primordial layers were found in each of them, with the exception of one, and here advanced degeneration of the tissues interfered with the absolute distinction of tissues. In none of the specimens were there any fetal inclusions or remains of congenital malformations found.

56. **Adrenal Tumors.**—Woolley gives a general description of adrenal tumors, and details the varieties. He concludes with a tabulated statement of 22 primary carcinomatous tumors and an extensive bibliography.

57. **Adrenalin Glycosuria.**—Herter and Wakeman give an account of an experimental investigation which seemed to show that there is a close relationship between the adrenal glands and the carbohydrate metabolism. They do not deem, however, that we have as yet succeeded in obtaining unequivocal evidence that the phenomena described are due to excessive influence of the adrenal internal secretion or to the exclusion of this secretion from the circulation. They suggest that some of the phenomena can be accounted for by the imperfectly understood nervous factors in play. Further experiments are required to determine whether the internal secretion hypothesis is tenable.

59. **Eosinophilia in Pelvic Lesions.**—The following are Weir's conclusions:

1. Eosinophiles take a prominent part in the cellular infiltration associated with inflammatory and suppurative processes of the pelvic organs. 2. In such conditions they usually occur in the largest numbers in the subacute stage and associated with connective tissue hyperplasia. 3. Eosinophilic infiltration is found in most cases of carcinoma of the cervix and in almost all cases of pyosalpinx and ovarian abscess. 4. In inflammatory conditions of the endometrium eosinophiles occur in small numbers and in but few cases. 5. Eosinophiles represent a large proportion of the cells forming the stroma of the mucosa in the normal and the diseased appendix. 6. In inflammatory conditions of the pelvic organs associated with an eosinophilic infiltration of the tissues the percentage of eosinophiles in the circulating blood is rarely increased, and usually decreased.

60. **X-Ray Tissue Changes.**—The article by Ellis is largely a discussion of the literature and report of careful examinations of cases. A study of the cases shows: 1. Necrosis of cells and trabeculæ of varying degree, and in one also marked fatty degeneration. 2. Increase of elastic tissue in the three cases examined, both before and after exposure. 3. Fewer areas of lymphocytic infiltration in one case after exposure, about equal numbers in others. 4. A tendency to occlusion of vessels by deposits on their inner surfaces, marked in some instances, not so prominent in others. 5. Practically entire absence of infiltration by polymorphonuclear leucocytes. While these results do not warrant conclusions, especially as further studies are being made as regards the nerve and blood changes, he offers the following suggestions:

1. Beck and others lay great stress on blood vessel changes as the cause of necrosis. While endarteritis is probably induced by the *x*-ray, the accompanying tissue necrosis seems out of proportion to the vessel changes, suggesting the possibility of these being *pari passu* results of the same influence, instead of cause and effect.
2. The presence of immense numbers of cocci and bacilli in the tissues of Case 3, after twenty exposures to the *x*-ray, would argue against the possession by that agent of bactericidal power. It should be said that the pathogenicity of these micro-organisms was not proven.
3. The unsatisfactory clinical results as well as the slight microscopic changes in Case 3 can probably be safely attributed to the presence of the exceedingly numerous keratinized areas or pearls. This emphasizes the importance of curetting or cutting away diseased tissue, whenever feasible, before instituting treatment by the *x*-ray.

61. **Paracolon Infection.**—Three cases are reported by Allen with bacteriologic data and agglutination tests. He says while no definite conclusions can be drawn regarding the pathology of the disease, it is evident that we have in it a distinct infection from that of typhoid fever.

62. **Malta Fever.**—Craig reports cases occurring in the American soldiers, and reviews the other papers that have been written on the subject from the same point of view. He says the following conclusions may be drawn from a study of these cases:

1. There occurs in the tropics and sub-tropics a fever which may resemble in its acute stage either typhoid or malaria, and in its chronic stage articular rheumatism, caused by the *Micrococcus melitensis*. 2. There are no pathognomonic symptoms of Malta fever. The symptoms observed are so inconstant and confusing that no one of them can be said to be typical of the disease. 3. A differential diagnosis of this fever is almost impossible in the majority of cases without the aid of the microscope and the serum test.

63. **Multiple Serositis.**—Kelly points out the diagnostic differences between multiple serositis and other ascitic conditions, remarking that special attention should be directed to the following points:

History of previous attacks of acute pericarditis, pleuritis, peritonitis, perihepatitis, to the early occurrence of subsequent disorders, edema of the legs, to marked ascites with little or no edema of the legs, enlarged liver early in the course of the disease, absence or very late appearance of marked enlargement of the spleen, a tendency to the occurrence of repeated attacks, pain, tenderness, rigidity and possibly palpable and audible frictions in the right hypochondriac region, attributable to perihepatitic attacks, to the rapid recurrence of ascites after tapping, and to the physical signs of adherent pericardium, which are essential to the diagnosis.

In the diagnosis of adherent pericardium most help will be derived from a weak or absent apex-beat, especially in cases in which there is no increase in the area of cardiac dulness, systolic retraction of a considerable area about the apex, systolic retraction of the base of the left chest posteriorly, arrest of the normal respiratory movements in the epigastric angle, imperfect descent of the apex-beat during inspiration and the absence of change in the limits of the cardiac dulness during respiration, absence of increase of the cardiac dulness to the right, despite marked engorgement of the veins of the neck; a diastolic shock or rebound of the heart; evidences of dilatation or hypertrophy of the heart in the absence of valvular or other disease that might cause it; absence of the characteristic changes in the heart in the presence of definite valvular disease—that is, absence of the usual hypertrophy of the right ventricle in mitral disease and of the left ventricle in aortic disease; absence of pericardial effusion in the presence of pleural and peritoneal effusions; paradoxic pulse—inspiratory diminution in the force and volume of the pulse; diastolic collapse and inspiratory swelling of the veins of the neck; and, as suggested by Musser, the non-occurrence in young subjects with valvular disease and cardiac insufficiency of the characteristic improvement following the administration of digitalis. None of these is pathognomonic of adherent pericardium; all will not be present in every case; but in many cases a sufficient number may be present to warrant the diagnosis. Finally, this obliterative pericarditis with ascites may be distinguished from cirrhosis of the liver; by the aforementioned symptoms and signs of adherent pericardium; by the absence of etiologic factors of cirrhosis of the liver; by the slow, insidious, protracted and intermittent course of the disease; by the long periods of standstill during which the ascites may remain stationary and the patient in good condition; by the entire absence or the transient presence of slight jaundice; by the absence in most cases of portal congestion and gastrointestinal disturbances—hemorrhage, diarrhea, hemorrhoids, enlargement of the spleen, marked dilatation of the superficial veins of the abdominal wall, etc.; in some cases, by the association of an enlarged, smooth, and firm liver, with marked ascites; and by the fact that in many cases the patient survives a large number of tappings.

Journal of Nervous and Mental Disease, New York.

January.

64 *On Amaurotic Family Idiocy. A Disease Chiefly of the Gray Matter of the Central Nervous System. B. Sachs.
65 *The Postero-lateral Scleroses. Charles W. Burr and D. J. McCarthy.
66 Paralysis of all Four Limbs and of One Side of the Face, with Dissociation of Sensation, Developing in a Few Hours and Resulting from Meningo-myelocephalitis. Charles K. Mills and William G. Spiller.

64. **Amaurotic Family Idiocy.**—Sachs reports a case with necropsy findings, and discusses the condition. He thinks it indicates that the disease affected primarily, or at least to a great extent, the entire gray matter of the brain and spinal

cord, an abiotrophy, as Gowers calls it. There is a deficient vitality of gray matter of the central nervous system. He does not claim that all cases are identical, but it seems to him that the most reasonable inference is that in amaurotic family idiocy the entire central gray matter is the seat of intense degeneration, and that somewhat similar changes are found in conditions more or less closely allied to this special type of family disease. He thinks the subject should be carefully studied and every new case fully reported, with special attention to changes in the gray matter of the brain and spinal cord.

65. **Postero-Lateral Scleroses.**—Burr and McCarthy report several cases, with examinations, and note the difficulty of proper classification. They offer the following classification for clinical and laboratory purposes:

1. Friedreich's ataxia. 2. Tabes with associated diffuse sclerosis extending into the lateral columns. To this group may be added those cases of tabes associated with paretic dementia with secondary lesions in the crossed pyramidal tracts. 3. Tabes with degeneration in the crossed pyramidal and also in the direct cerebellar tracts, with or without degeneration in Clarke's column. 4. Posterior sclerosis with sclerosis of the lateral columns and disease of the anterior horns. (Chronic poliomyelitis.) 5. Primary lateral sclerosis with minor changes in the posterior columns. 6. Subacute diffuse degeneration of the spinal cord, due to anemia, cachexias, sepsis, etc., with sclerosis in the posterior and lateral tracts predominating, both in clinical manifestation and under the microscope. 7. Diffuse interstitial sclerosis, seen occasionally in chronic alcoholism with multiple neuritis, in which the parenchymatous degeneration is secondary to the overgrowth of glial and connective tissue elements. To this same group on account of similarity of the pathologic process may be added the syphilitic postero-lateral scleroses secondary to meningeal lesions. 8. A combined system disease of unknown origin, affecting the posterior and lateral columns, and distinctly confined to the direct and crossed pyramidal tracts and the posterior columns; the direct cerebellar tract may also be involved.

Medicine, Detroit, Mich.

January.

67 Restoration of Sight in a Nearly Blind, Cancerous Eye by Cancroin. Albert Adamkiewicz.
68 Surgery of Prostatic Obstruction. Louis E. Schmidt.
69 *The Practical Diagnosis of Gastric Cancer. A. L. Benedict.
70 *On Certain Precautions Required in Making and Interpreting the So-called "Colon Test" for Potable Waters. Samuel C. Prescott.
71 Centenarians in Massachusetts. J. M. French.

69. **Gastric Cancer.**—The symptoms are reviewed by Benedict. He warns especially against the use of age and duration of the disease in making the diagnosis. Cancer at about 30 is by no means rare, and he says patients may have what their former attendants call malignant cachexia for many years, and have continued well in spite of it.

70. **The "Colon Test" for Potable Waters.**—Prescott recapitulates the points made in his paper as follows:

1. Bacteria corresponding in every way to *B. coli* are by no means confined to animal intestines, but are widely distributed elsewhere in nature. 2. The finding of a few colonies of *B. coli* in large samples of water, or its occasional discovery in small samples does not necessarily have any special significance. 3. The detection of *B. coli* in a large proportion of small samples (1 cubic centimeter or less) examined is imperatively required as an indication of recent sewage pollution. 4. The number of *B. coli* in water rather than their presence should be used as a criterion of recent sewage pollution. 5. Inasmuch as some red colonies other than those of *B. coli* appear on a litmus-lactose-agar plate, this test alone cannot be regarded as diagnostic. 6. In tests for the presence of *B. coli* by the usual methods the possible inhibitory effect of lactic-acid-producing streptococci must not be overlooked.

Annals of Gynecology and Pediatry, Boston.

January.

72 Endometritis. H. J. Boldt.
73 *Some Views of Diphtheria and the Employment of Antitoxin. Charles C. Partridge.
74 Acute General Peritonitis a Sequela of Measles. Everett S. Hicks.

73. **Diphtheria Antitoxin.**—Partridge holds that diphtheria antitoxin is too little used and in too small a quantity; that we need not fear giving too much, and that the most careful asepsis should be employed in its administration hardly needs emphasis.

Chicago Medical Recorder.

January 15.

75 *The Changes in the Spinal Cord and Medulla in Pernicious Anemia. Frank Billings.
76 *Case of Funnel Pelvis with Cesarean Section. Charles B. Reed.
77 Arteriosclerosis of Retina and Choroid. Charles H. Beard.
78 Some Eye Disorders in Children Influenced by Malnutrition, Diathesis and Dyscrasia. A. C. Cotton.
79 The Most Prevalent Eye Diseases of Childhood. F. C. Hotz.
80 Eye Affections Indicative of Nervous Diseases. H. Gradle.
81 *Sclerosis of the Mastoid Process. Otto J. Stein.
82 A Curious Case of Emphysema. G. G. Taylor.

75. **Pernicious Anemia.**—Billings describes elaborately the spinal changes of pernicious anemia in severe cases, and offers general remarks on the condition. The conclusions which he draws are:

1. That there is a well-established relation of diffuse cord degeneration with pernicious anemia. 2. It seems probable that the hemolysis and the cord changes are due to the same toxin. 3. While the source of the toxin is unknown, the fact that gastro-intestinal disturbance is so common in the disease would lead one to suppose that it is of intestinal origin. 4. The diffuse degenerations of the spinal cord which occur in conditions without pernicious anemia do not appear to differ essentially from those of pernicious anemia. 5. It is possible that a common blood circulating poison exists, which may expend its force upon the blood in one individual, upon the nervous apparatus in another, and coincidently upon the blood and spinal cord in others.

76.—See abstract in THE JOURNAL, xxxix, p. 1612.

81.—Ibid., p. 1612.

Therapeutic Gazette, Detroit, Mich.

January 15.

83 *The Use of Morphin in Uremic Convulsions—A Symposium.
84 *The Therapeutic Status of the Coal-tar Products in Neuralgia and Other Painful Conditions. Wharton Sinkler.
85 *Coal-tar and Its Derivatives in the Treatment of Diseases of the Skin. M. B. Hartzell.
86 *The Therapeutic Status of the Coal-tar Production in General Nervous Affections. F. Savary Pearce.
87 A Study of Tuberculin and Allied Products, with Reference to Their Action and the Proper Method of Their Administration. F. M. Pottenger.
88 Another Case of Aortic Aneurism Treated by Electrolysis. H. A. Hare.

83. **Morphin in Eclampsia.**—The editor of the *Therapeutic Gazette* has sent out letters asking for opinions as to the value and utility of morphin in uremic convulsions. Answers are published from Drs. James Tyson, W. Hale White, William Ewart, Frank Billings, John H. Musser and James M. Anders. The general opinion seems to be that morphin is harmful in most conditions, especially in interstitial and chonic nephritis. It is only in cases of acute parenchymatous trouble that it may be of value, and then in moderate or very small doses. Still, there is some difference of opinion as to its exact application. Billings considers it a cardiovascular tonic and of great value in cases where there is dilatation of the heart with vasomotor stasis and a tendency to lung edema. He would give strychnin in connection with morphin. Musser has seen it apparently useful in one or two cases of chronic interstitial nephritis.

84, 85, 86.—See abstracts in report of Philadelphia County Medical Society in this issue.

Occidental Medical Times, San Francisco.

January.

89 Diagnosis of Diseases of the Gall-bladder. Wm. Watt Kerr.
90 Acute Phlegmonous Cholecystitis. L. W. Allen.
91 *Improved Treatment of Chronic Follicular Urethritis. George L. Eaton.
92 Obstetrical Technique in General Practice. Z. Taylor Malaby.

91. **Chronic Follicular Urethritis.**—Eaton describes the method of treatment adopted by him, which he thinks is simple and effective. He first had a canula made, 20 cm. long, No. 20 gauge, curved at its proximal end, with a smaller curved point, which can be introduced direct into the orifice of the ducts. This is attached to a syringe and a urethroscope of not less than 25 French scale introduced into the urethra. He first irrigates the urethra with saline solution before inserting the urethroscope and then applies a 50 per cent. peroxid of hydrogen solution directly into the follicles, through the point of the canula. After all the observable glands have been treated, he again irrigates the urethra, then reintroduces the urethroscope and re-treats each gland with a 5 per cent. solution of albargin. Finally, he again irrigates the urethra with normal saline solution for the third time, before the injections and after. He thinks many cases thus treated will be permanently relieved of urethral irritation.

The Journal of Advanced Therapeutics, Rahway, N. J.

January.

93 Epithelioma of the Tongue. Charles Dickson.
94 A New System for Producing a Slowly Alternating Current of Large Amperage for Therapeutic Uses. Lucy H. Brown.
95 *Some Clinical Indications for the Use of the Electric-light Bath. T. D. Crothers.
96 Report of the Committee on Current Classification and Nomenclature.
97 Clinical History and Progress of a Case of Pulmonary Disease Treated Exclusively by Mechanical Vibratory Stimulation. Maurice F. Pilgrim.

95. **The Electric-Light Bath.**—Crothers describes this bath, its method of operation, and its indications. It is a diaphoretic, antipyretic, soporific and heart stimulant. The disorders which seemed most influenced were neuritis, gastritis, myalgia and extreme nervous irritation. Exhaustion is never observed following it.

Cleveland Medical Journal.

January.

98 *The Prevention of Consumption. Frank Warner.
99 An Ideal Sanatorium. With Notes on the Black Forest. John H. Lowman.
100 A Plea for the Early Operative Treatment of Quinsy (Peritonsillar Abscess). J. Park West.
101 Exhibition of Specimens. Walter Lincoln.
102 Cleanliness in the Care of Child-birth. E. B. Shanley.
103 *Preliminary Note on a Method of Resuscitation of Apparently Recently Dead Animals. George W. Crile.

98. **Tuberculosis.**—Warner says the conditions which favor the introduction of consumption are: 1. Concentration of poison, modified by ventilation and environment; 2, intimate association and prolonged contact with a tuberculous individual; 3, ill health, especially the result of exhausting and debilitating diseases; 4, feeble power of resistance, known as hereditary tendency; many people are born with a phthisical tendency, and have a special susceptibility to the infection; 5, slight acclimatization of the individual to the tubercular infection; 6, occupation; 7, diet, and 8, climate. He recommends a better attitude of the public toward victims of tuberculosis, who are not dangerous if they take proper care of themselves.

103.—See THE JOURNAL, January 24, p. 244.

Virginia Medical Semi-Monthly, Richmond.

December 26, 1902.

104 New Method of Operation for Laceration of Perineum, and for Rectocele and Cystocele. Alfred B. Tucker.
105 Headaches and Their Treatment. C. W. Canan.
106 Antistreptococcic Serum in Septic Conditions. C. E. Ruth.
107 A Plea for Mothers and Their Offspring. Thomas S. Hening.

Virginia Medical Semi-Monthly, Richmond.

January 9.

108 Paucity of the General Symptoms Manifested in Some Cases of Brain Tumor. J. Allison Hodges.
109 Some Facts About Electricity as a Therapeutic Agent. F. B. Bishop.
110 A Unique Case of Priapism. Elmer Sothoron.
111 Formula of a New Modification of Ehrlich's Triple Stain. T. H. Toynbee.

Northwestern Lancet, Minneapolis.

January 15.

112 Fractures of the Skull. James H. Dunn.
113 Common Painful Feet. J. Clark Stewart.
114 Insanities from Autogenic Poisoning. W. A. Jones.
115 Peritoneal Adhesions Observed in Autopsic Abdominal Inspection. Byron Robinson.

Dominion Medical Monthly, Toronto.

January.

116 The Treatment of Rheumatism. J. T. Fotheringham.
117 Surgical Indications in Rheumatism. R. B. Nevitt.

Pacific Medical Journal, San Francisco.

January.

118 Venous Anastomosis for Ascites from Cirrhosis of the Liver. Winslow Anderson.
119 Medical Aspect of Venous Anastomosis of the Liver. H. D'Arcy Power.
120 The Use of Word Marks to Protect Science and Legitimate Commerce in Materia Medica Products. F. E. Stewart.
121 Imperforate Rectum; Operation; Recovery. Ernest Hall.
122 The Ideals of Preventive Medicine. (To be continued.) Victor G. Vecki.
123 Diphtheria and Antitoxin. Hubert N. Rowell.

Western Medical Review, Lincoln, Neb.

January 15.

124 The Business Phases of Our Daily Work. I. N. Pickett.
125 Influenza. Edward S. Blair.
126 Monstrosities. W. R. Hobbs.
127 Autointoxication in Relation to Nervous and Mental Disorders. Jay G. Roberts.
128 Significance of Nephroptosis. A. F. Jonas.
129 Some Phases of Typhoid Fever. J. M. O'Connell.
130 A Case of Hepatic Abscess. Emma W. Demaree.
131 Congenital Hernia of the Liver Into the Umbilical Cord, with Report of a Case. J. W. Bullard.
132 Intestinal Obstruction. W. J. Pinkerton.
133 The Smallpox Problem. W. H. Slabaugh.

Bulletin of the American Academy of Medicine, Easton, Pa.

December, 1902.

134 Time-allowance in the Combined Collegiate and Medical Course. A. L. Benedict.
135 Report of the Committee on Reciprocity in Medical Licensure. Edward Jackson.

Medical Sentinel, Portland, Ore.

January.

136 X-ray Therapy. N. G. Bialock.
137 Poisoning During Chloroform Anesthesia in the Presence of a Naked Flame. Keneim Winslow.
138 President's Address, Portland Medical Club. Sara Hill.
139 An Unusual Case of Umbilical Hernia. Ernest A. Hall.

Vermont Medical Monthly, Burlington.

December 25, 1902.

140 State Prevention of Tuberculosis. J. Edward Stubbert.
141 Some Therapeutic Considerations. Edward R. Clark.
142 Tuberculosis in Vermont. H. Edwin Lewis.

Medical Herald, St. Joseph, Mo.

January.

143 Chronic Muscular Atrophies of Surgical Origin—With Report of Cases. F. E. Coulter.
144 Surgical Treatment of Congenital Cleft Palate. A. P. Condon.
145 Ileo-colitis. W. Berry.
146 Uretero-cystostomy. A. I. McKinnon.

American Medical Compend, Toledo, Ohio.

January.

147 *The Irrational Starvation Treatment of Appendicitis. John B. Deaver.
148 Appendicitis. Wm. J. Gillette.
149 Cancer of the Stomach. M. Stamm.
150 Uretero-intestinal Anastomosis. Julius H. Jacobson.
151 Acute Glandular Fever. L. Marsh Dolloway.
152 Pneumonia. S. A. Hitchcock.
153 A Plea for Early Treatment of the Alcohol, Morphin, Cocaine and Allied Narcotic Drug Habits. Auguste Rhu.
154 Minor Injuries of the Eye. William B. Van Note.

147.—See abstract in THE JOURNAL, xxxix, p. 853.

Archives of Pediatrics, New York.

January.

155 *Peribronchitis and Interstitial Pneumonia. A. Jacobi.
156 A Case of Achondroplasia (Micromelia). Charles Herrman.
157 A Case of Rheumatic Purpura. George Montagne Swift.
158 Congenital Dilatation of the Small Intestine. J. N. Hall.
159 A Case of Double Mitral Disease, Probably Congenital. Leo Bernd.

155. **Peribronchitis and Interstitial Pneumonia.**—Jacobi suggests that so-called interstitial pneumonia, or what he prefers to call pulmonary hyperplasia with secondary sclerosis, is frequently an independent disease, and that full recovery from it is by no means an uncommon occurrence; that, indeed, a certain degree of pulmonary cirrhosis is not an obstacle to comfort and activity. He details the differential diagnosis. The best preventive is the avoidance of infection and colds. We can do much medicinally with tissue builders, arsenic, phosphorus, etc.; the equivalent of a grain of digitalis given daily, for several months in succession. A baby of a year may take ten drops of the elixir of phosphorus of the pharmacopeia three times a day for three months in succession. Children of 5 to 7 years who do not thrive on that treatment and get iron enough in their food should be suspected of a parasyphilitic infection. He speaks in conclusion of the advantages of climate and outdoor life.

Medical Bulletin, Philadelphia.

January.

160 The Pavilion and Open-air Treatment of Tuberculosis. John V. Shoemaker.
161 Congenital Dislocation of the Hip. Adolf Lorenz.
162 A New Operation for Excision of the Fifth Nerve. William L. Rodman.
163 A Clinical Lecture on Some Mental and Nervous Diseases. F. Savary Pearce.
164 Interesting Cases of Typhoid Fever: One Probably Illustrating a Prolonged Incubation-period; Another Complicated with Acute Articular Rheumatism. James M. Anders.

Merck's Archives, New York.

January.

165 Phosphorus Therapeutically Considered. W. C. Cooper.
166 The Treatment of Croupous Pneumonia. H. A. West.
167 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment (Cholera Infantum). G. Bjorkman.

Fort Wayne Medical Journal-Magazine.

December, 1902.

168 Some Therapeutic Uses of Carbolic Acid. J. S. Boyers.
169 Cryoscopy of the Urine. G. W. McCaskey.
170 Oviducal Glands. Byron Robinson.

Texas Medical Journal.

January.

171 A Proposed Bill for a State Board of Health.
172 A Report of Cases of Abdominal Surgery. Henry K. Leake.

Old Dominion Journal, Richmond, Va.

January.

173 Appendicitis. Maurice H. Richardson.
174 The Treatment of Syphilis by Hypodermic Injections of Mercury. Stanley H. Graves.

175 Laboratory Diagnosis and the General Practitioner. B. M. Randolph.
176 Demonstration of a New Holder for Gigli Saws. J. Shelton Horsley.
177 Pure Food. J. M. Whitfield.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 17.

1 *Geographical Distribution of Stone and Calculous Disorders. Reginald Harrison.
2 A Demonstration of the Operation of Internal Urethrotomy and of a Urethrotome. C. B. Lockwood.
3 Total Extirpation of the Prostate: Freyer's Operation. R. C. Elsworth.
4 Case of Bullet Wound of Bladder and Both Hips: Operation; Recovery. H. Goodman.
5 A Clinical Lecture on Two Cases of Chorea Gravidarum. D. Berry Hart.
6 Ovariotomy Seven Years After Vaginal Hysterectomy. G. Granville Bantock.
7 Removal of an Ovarian Fibroma from a Patient, Aged 73 Years. Frederick J. McCann.
8 Notes of Ten Cases of Hysterectomy for Fibroid Disease. Thomas H. Morse.
9 Rupture of the Uterus, with Recovery. Claude B. Pasley.
10 A Case of Transplanted Uterine Fibroid Giving Rise to Intestinal Obstruction. E. Percy Paton.
11 Case of Ruptured Ectopic Gestation. J. Gay Moffat.
12 Two Cases of Mitral Stenosis Complicated by Pregnancy. G. A. Wilkes.

1. **Calculus.**—Harrison notices the various geographical distributions of calculus and its origin. He agrees with Rainey's views as to formation, but says, while the presence of material is necessary, other conditions must exist. Geographical considerations indicate that there may be in certain places a fortuitous concurrence of conditions that effect a concretion of the normal or abnormal supply of concretable matter in the individual. This indicates the possibility of preventing local conditions. Certain mineral waters, for example, while not reducing the amount of uric acid in the system, seem to prevent its concretion. He mentions drugs such as sodium salicylate and benzoate, urotropin and boracite and what was called in olden times "Dutch drops," being a mixture of oil of turpentine, tincture of guaiacum, spirit of nitric ether and small portions of the oils of amber and cloves. From a trial of this latter he has no doubt of its efficacy. It can be conveniently taken in capsule form. Some years ago his attention was called to a salt called boracite, which he thinks is well worth attention in the preventive treatment of calculus. He has employed it in the last two years, and reports a case showing its success in disintegrating a kidney concretion.

The Lancet, London.

January 17.

13 *The Anesthetization of So-called "Difficult" and "Bad" Subjects. Frederic W. Hewitt.
14 The Intracranial Complications of Septic Ear Disease. Frederic Eve.
15 *Chronic Obstruction of the Cecum and Ascending Colon. W. Arbuthnot Lane.
16 *Some Observations on Cyanosis. G. A. Gibson.
17 Two Cases of Cesarean Section for Obstruction Due to Fibroid Tumors. Arthur H. N. Lewers.
18 Diffuse Carcinomatosis of the Stomach and Intestines. A. W. Nuthall and J. G. Emanuel.
19 *On the Results in 50 Cases of Abdominal Hysterectomy for Fibroid Diseases of the Uterus, with Remarks on the After-History of the Patients and on the Artificial Menopause. C. J. Bond.
20 *A New Film Dressing for Wounds. Peyton T. B. Beale.
21 The Restoration of the Inferior Turbinate Body by Paraffin Injections in the Treatment of Atrophic Rhinitis. R. Lake.
22 *The Variability in Virulence of the Pneumococcus. H. Sinigar.

13. **Anesthesia.**—Hewitt's second lecture deals first with bad subjects for anesthesia where the cause is due to some embarrassment of respiration, such as post-nasal growths, enlarged tonsils, fixity of the lower jaw, angina Ludovici, etc. In these cases all asphyxiating anesthetics are to be avoided. Pure nitrous oxid may be a poison in angina Ludovici, while the abuse of ether may also have a bad effect. They are best treated by a slow administration of a mixture of ether and chloroform with plenty of air, only moderate anesthesia being advisable in the worst cases. Where there is general bronchitis, tracheal stridor, orthopnea and some lividity, it may be hazardous to administer chloroform, even in analgesic doses. He has on two occasions known a lengthy administration of chloroform to an elderly patient with chronic bronchitis to be followed by fatal increase of the disease, and this points out a danger not always realized. Patients who have been confined to bed with some constitutional disease are not, as a rule, bad subjects for anesthesia, but it does not follow that a smooth anesthesia will be obtained. Much seems to depend on the type to which the patient belonged before his illness and the duration of the malady. The robust man who has suffered from appendicitis may not be a good subject. Patients suffering from heart disease are not bad subjects, provided the methods employed are suitable. Air-limitation in these cases must be practiced with caution, and he thinks even the administration of pure nitrous oxid contraindicated in the more advanced forms of heart affections. Many difficulties are explained by the assertion that the patient was nervous. He doubts whether mental disquiet leads to any great trouble, but in a few cases he has satisfied himself that the patient's nervous state has given him some trouble, and large quantities of anesthetic may be required. Alcoholic subjects are notoriously bad ones. Hewitt remarks as to the special influence of the excessive use of tobacco in making the anesthesia difficult. There is likely to be considerable spasm of the jaws in some cases, which he suggests may be due to suction, puffing and other movements, essential to the smoking of a pipe, and causing muscle hypertrophy. If in any case we find two, three or four of these conditions associated, the difficulty is naturally increased. The pure types are not common. Athletes frequently have nasal obstruction, which, with good muscle development and good teeth, may produce considerable trouble. If excessive smoking has also been the habit, the case will be still further embarrassed; similarly with drinking. In some of these cases the tongue has to be drawn forward while chloroform, the only possible anesthetic, is given. If there is grave constitutional disorder existing, as, for example, in a stout, breathless old man, an excessive smoker and drinker, suffering for years from nasal polypi and seized with acute intestinal obstruction, no worse subject can be imagined. He advises putting these patients on their side and using chloroform and ether mixture or the A. C. E. mixture to begin with, substituting for it ether when the anesthesia is continued. Lastly, he mentions cases where no cause is evident for the trouble, and he warrants the retention of the term idiosyncrasy for such cases.

15. **Chronic Obstruction of the Cecum and Ascending Colon.**—Lane calls attention to a condition which he thinks often is responsible for obstruction to the free passage of the intestinal contents, namely, angulation or semi-kinking of the hepatic flexure, due to a mal-development of the mesentery. He thinks that in a certain proportion of cases of so-called appendicitis the primary factor is just this condition, and that the trouble in the appendix is a secondary matter. The symptoms, of course, vary within wide limits, according to the different conditions, producing sometimes complete intestinal obstruction and in other cases either pain or uncomfortable sensation along the last dorsal, ilio-hypogastric, and ilio-inguinal nerves with dragging in the loin and tenderness on pressure or on percussion immediately below the last rib posteriorly. These suggest renal trouble, and mistakes may be made. The assumption of the recumbent posture and free purgation generally relieve these cases, but they may recur for many years. He thinks the habit of removing the appendix through a very small incision is injudicious. In the conclusion of his paper he describes his method of nephropexy, exposing the kidney with an oblique incision in the loin, freeing it from fat, and stripping the capsule on one side from its lower two-thirds in the form of six triangles, the bases being left intact. Each of these flaps are twisted up, and a piece of sterile silk twist is tied securely to it. The kidney is replaced within the abdomen in such a position that little more than one-half is exposed below the left rib. Needles are placed on each silk thread, and they are passed through the last intercostal space and through the abdominal muscles within an inch of their cut margins, so as to bring the raw surface of the kidney into apposition with the deep surface of the muscle wall freed

from fat and fascia. When these sutures have been secured the resistance offered by the capsule is sufficient to require the expenditure of a considerable amount of force to displace the kidney from the position in which it is fixed. The incision in the muscle wall and skin are then accurately closed. In this operation, as in any other requiring buried sutures, the surgeon should be exceedingly careful that no ligature left in the wound has been touched by the hand on any excuse whatever. He has never seen the method fail.

16. **Cyanosis.**—Gibson discusses cyanosis and reports cases and he recalls a former article in which he had explained the phenomena by assuming an increase of red corpuscles and hemoglobin, being due to diminished waste from lessened metabolism, and hence longer vitality of the cells. He reports two cases in which attempts were made to ascertain the effect of oxygen inhalations on the cyanosed condition, which would seem to indicate that they are barren of result.

19. **Fibroids.**—Bond analyzes fifty cases and concludes that the decision as to operation in fibroid disease of the intestine must depend on the danger to life and the amount of disablement, ill health and suffering which are caused by the disease. The social position of the patient may have to be largely considered, and where an invalid life can not be supported comfortably operation is more imperative. The operation of abdominal cervical hysterectomy as now carried out has a lower mortality in capable hands than is sometimes represented (4 per cent.), and may be compared with that of ovariotomy. The uterus can be safely amputated at any level, and the absence of recurrence of fibroid disease in the stump of the cervical portion of the uterus—in any case in the present series—is an argument in favor of cervical amputation as against panhysterectomy. It also leaves the pelvic floor intact. Myomectomy with preservation of the uterus as a whole is a conservative operation of much value, and should be practiced in the case of single and excessive tumors. In all cases where possible one or both ovaries should be left in the operation of hysterectomy for fibroid disease. The benefits are shown in a more complete convalescence and the modified character of the artificial menopause.

20. **A New Film Dressing for Wounds.**—Beale remarks that if we were to practice aseptic surgery and treat all wounds so as to give them the benefits of light and air it would be of great advantage. The next best thing would be hermetic sealing of a wound with some material which is aseptic and upon which we can apply as much pressure as necessary. If such substance were transparent he thinks it would be an ideal dressing. He says that within the last twelve months he has been using a thin film of substance called "velvril," one of the cellulose derivatives, which seems to be exceedingly satisfactory in many respects. It is easily applied and easily taken away, and yet is capable of causing hermetic sealing of the wound. He thinks that it will supersede protective (oil-silk), thin mackintosh and gum-elastic in surgical practice. It is practically indestructible and constant in composition at all ordinary temperatures. It is also used in solution, which is a valuable addition to its utility.

22. **The Pneumococcus.**—Sinigar reports an epidemic occurring in the Leavesden asylum, which seemed to show clinical evidence of variability in the virulence of the pneumococcus. During the height of the epidemic the fatality was very large among those attacked, while later, though the pneumococcus was numerous, the epidemic subsided. He thinks they were dealing with a pneumococcus which was at first of low vitality, then gradually increasing in severity, causing a more protracted illness, with occasional bronchial symptoms, and culminating in a case of lobar pneumonia in a nurse. At the time the female patients were taken with it its virulence was such that pulmonary symptoms were again in evidence. Short vague illnesses were few. Still the pulmonary signs were only those of patchy consolidation. When the utmost virulence was reached most of the cases were true lobar pneumonias, with a high mortality. Altogether 13 nurses, 17 male attendants and 43 female patients were attacked; the number of male patients attacked was not recorded. The pneumococcus, therefore, he thinks, may be changed from being a harmless resident of the mouth and nose to a virulent pathogenic organism. This last condition may be started up from the former.

The Practitioner, London.

January.

23 *The Mimicry of Gastric Troubles by Spinal Disease. Frederick Treves.
24 A Note on Salicylate of Quinin. John W. Moore.
25 *The Rôle of Percussion in the Diagnosis of Early Pulmonary Tuberculosis. R. W. Philip.
26 On Certain Diseases of the Cornea Met with in Children. C. Devereux Marshall.
27 Stammering, and Its Treatment by the General Practitioner. Hamilton G. Langwill.
28 A Case of Gastric Dilatation and Tetany; Recovery. W. E. C. Dickson.
29 A Case of Spontaneous Rupture of a Bicornuate Uterus During Pregnancy. A. Donald and W. K. Wallis.
30 Some Recent Work on Surgical Affections of Joints. Albert Carless.
31 Diseases of the Upper Air-Passages. St. Clair Thomson.
32 A Brief History of Cremation in England. Henry Thompson.
33 The Relationship between Voluntary Agencies and Sanitary Authorities in Public Health Work: Two Illustrations. George Newman.

23. **The Mimicry of Gastric Troubles.**—Treves reports several cases where the symptoms strongly indicated gastric troubles, and yet there was no gastric disorder. In one of the cases there was the deformity of old Pott's disease, and probably a slight recrudescence and rest in bed for a considerable period relieved the symptoms. Another one turned out to be one of sarcoma in the dorsal region of the spine. The moral to be derived, he says, is that suspicion may be aroused as to the genuineness of the gastric trouble when the pain is the all-predominating symptom, when it is intense and persisting, and when vomiting is at the same time either absent or insignificant.

25. **Tuberculosis.**—Philip calls attention to the significance of the supraclavicular triangle in relation to early changes in the lungs and the best line of percussion for the determination of slight degrees of apical involvement, and lastly the value of what he terms "tidal percussion." The normal upper limit of the lung resonance, he claims, reaches one and a half to two inches above the clavicle, and he gives illustrations. The best line of percussion for a slight obstruction of the apical involvement is described by him as follows: The pleximeter finger of the left hand is placed across the apex of the lung from back to front, approximately in a plane at right angles to the vertical diameter of the lung. Percussion is practiced with the middle finger of the right hand in a direction at right angles to the pleximeter. The percussion strokes should be firm and sharp, but not too strong. The finger should be laid a little above the clavicle, one and a half inches or more. What he calls "tidal percussion" is the practice of percussion more particularly at the apices, alternated during expiration or easy respiration and during full inspiration, which is quite markedly different in the healthy subject and in conditions of slight involvement. The value of "tidal resonance" is also remarked in observation of the course of the disease, and if it becomes arrested considerable improvement in tidal resonance is frequently to be noticed, and this return is a most satisfactory indication.

Australasian Medical Gazette, Sydney.

December 20, 1902.

34 Notes on Pylorectomy for Cancer. A. MacCormack.
35 The Blood in Enteric Fever. Sydney Jamieson and H. Skipton Stacy.
36 Some Sequelæ of Syphilitic Infection. R. Humphrey Marten.
37 A Series of Nine Cases of Hysterectomy. J. L. Beeston.
38 A Case of Beri-beri. W. F. Hayward.
39 A Case of Lichen Spinulosus (Devergie). F. A. Bennet.
40 Treatment of Tropical Dysentery. Fred Goldsmith.
41 The Cause of Pulmonary Emphysema. W. F. Litchfield.
42 The Advantages of Inoculation with Professor Haffkine's Plague Prophylactic. R. W. Hornabrook.
43 Profuse Hematuria from a Slightly Movable Kidney. R. Earle Newton.

Journal of Tropical Medicine, London.

January 1.

44 A Preliminary Note on the Presence of Living Adult Bilharzia Worms in Bilharzial Papillomata and in Bilharzial Fibrous Tissue. Frank C. Madden.
45 Case of Leprosy at Wei-hai-wei, Shantung Province, China. V. Gunson Thorpe.
46 New Observations on the Larvæ of Anopheles and Culex in the Winter. Bruno Galli-Valerio and G. Rochaz.

Annales des Mal. des Org. Gen.-Urin., Paris.

47 (XX, 13-14.) Des conditions de l'intervention dans la chirurgie urinaire. Guyon.
48 Contribution à l'étude de la hernie inguinale des organes génitaux. E. Legrain.
49 *Contribution à l'anatomie path. de la tuberculose de l'appareil (apparatus) urinaire. M. Hallé and B. Motz.

49. Tuberculosis of Urinary Apparatus.—This comprehensive work reviews the experience at the great Necker Hospital and reports in detail the clinical and laboratory data obtained. It is continued into the volume for 1903.

Annales de l'Institut Pasteur, Paris.

50 (XVI, 12.) Recherches sur la putrefaction de la viande de boucherie (meat). H. Tissier and Martelly.
51 *Contribution à l'étude des lésions des ganglions nerveux périphériques dans les maladies infectieuses. O. Goebel.
52 *Etudes biologiques sur la Vieillesse (growing old). E. Metchnikoff.
53 *De l'immunité active contre la peste, le cholera et l'infection typhique. Besredka.
54 Recherches experimentelles sur le charbon (anthrax) symptomatique. E. Leclainche.
55 Observations sur les anopheles de la banlieue de Paris. E. Sergent.
56 Nouveau broyeur (grinder) pour la preparation de la pulpe d'organes. Latapié.

51. The Ganglia in Infectious Diseases.—In 1900 Van Gehuchten discovered certain lesions in the peripheral nervous ganglia of animals dying from rabies, and accepted them as a means of differentiating the disease. Attempts to reproduce the lesions in animals were undertaken by Goebel, but failed. He has, however, discovered the same lesions in the ganglia of the pneumogastric in various chronic infectious diseases, in syphilis and tuberculosis in particular. The lesion consists in the disappearance of certain of the nerve cells in the center of the ganglion and their substitution by small round cells. These cells result from the proliferation of the elements of the endothelial capsule entailing the destruction of the nerve cells. The lesion was as pronounced in one case of syphilis, in particular, as has ever been observed in case of rabies. Goebel explains it as the result of the phagocytic activity of the endothelial cells exerted against the nerve cell when the latter is suffering under the influence of some toxin and thus its normal resisting balance disturbed. It is not specific for any one disease; Crocq noted it in a case of true croup. It is of the same nature as the histologic alterations observed in the intoxication of tetanus and botulinic intoxication.

52. Biologic Study of Process of Growing Old.—We remember Metchnikoff's announcement in 1901, that the blanching of the hair is the work of certain ameboid cells, pigmentophages or chromophages. These elements become stimulated to action by the influence of some yet unknown cause and at a certain moment commence to "swallow" the pigment granules in the hairs and deport them into the skin or away from the organism. Research in this line is rendered difficult by the fact that animals are short-lived and the process of growing old in a dog or horse, for instance, can not be compared with that in man, as their life cycle is complete in twenty-five years at farthest. Parrots live much longer and Metchnikoff has been studying some whose captivity is known to have extended over eighty years. Two were of the family of *Chrysotis amazonica*. One of these was a male, apparently healthy, sexual appetite well preserved, coloring of plumage brilliant, known to be over 70. In another the plumage was brilliant but scanty. The organs showed no lesions, but the central nervous system was the seat of an intense phagocytosis. The nerve cells were surrounded by neuronophages. The latter did not seem to "swallow" the nerve cells, but merely to suck out their contents. He observed a similar nerve cell destruction in a parroquet which died at 20, not from old age but probably from some food intoxication. In the aged parrot it was evidently the result of senile degeneration which may likewise be considered the consequence of a chronic intoxication. The results of this research on parrots confirm those obtained in mammals.

53. Improved Vaccination Against Plague, Cholera and Typhoid Fever.—Besredka proclaims that he has produced a vaccine which combines the advantages of serum treatment and Haffkine's method, and yet is free from either local or general reaction. The immunity conferred commences in twenty-four hours for cholera and typhoid fever and in forty-eight for the plague, while it lasts for five and one-half months at least, and possibly much longer. An emulsion is made from microbes scraped from the surface of a forty-eight-hour gelose culture, and heated on the water bath to 60 C. for an hour to kill the microbes. It is then poured into a vessel containing antiplague serum. The bacilli become agglutinated and fall to the bottom in twelve hours. The supernatant fluid is decanted and the clumped bacilli are thoroughly rinsed and then mixed with "physiologic water." The resulting emulsion is the vaccine to be injected. Cholera and typhoid vaccine are made in the same way except that the anti-serum is added before the microbes are heated. The entire process is complete in a day. The animals injected with the vaccines elaborate specific antibodies. The vaccines retain their immunizing properties a long time. By Haffkine's method the immunization obtained is durable but does not commence until the eighth to twelfth day, while the immunization obtained with prepared serum is rapid and harmless, but vanishes by the eighth to the fifteenth day.

Revue de Gynecologie, Paris.

57 L'hysterectomie dans le traitement de l'infection puerpérale. H. Fehling.
58 Contribution à l'étude de la tuberculose génitale chez la femme (in women). J. A. Amann.
59 La tuberculose génitale. J. L. Faure.
60 Ibid. A. Martin.
61 Ibid. J. Veit.
62 L'anatomie de l'utérus des quadrupèdes demontre la necessité de la menstruation chez les bipèdes. A. W. Johnstone (Cincinnati).
63 L'age de la première menstruation au pole et à l'équateur. G. J. Engelmann (Boston).
64 Discussion de la Tuberculose Génitale au Congrès de Gynecologie.

Semaine Medicale, Paris.

65 (XXII, 50.) *Chirurgie des artères; ses applications à quelques lésions de l'artère fémorale. M. Jaboulay.
66 (No. 51.) *Le rôle des substances solubles dans la transmission des tares (taints) pathologiques des ascendants. Charrin.
67 (No. 52) Nursling Consultations and "Drop of Milk" Societies. A. L. Peyroux.—Consultations de nourrissons et Gouttes de Lait.
68 (No. 53.) Sur l'acne chlorique. A. Jaquet.
69 L'air et le spray.

65. Surgery of the Arteries.—Jaboulay reports the case of a healthy young butcher who accidentally cut the femoral artery just above the thigh. As the arteries were in such good condition Jaboulay treated the case by tying the femoral artery above and below the wound and also a collateral near by. There was no general reaction, and after six days the only trace of the intervention was the absence of the pulse at the usual points in the leg. The elastic and supple tissues promptly adapted themselves to the new arrangement. In another patient, a man of 47, with alcoholic antecedents, intermittent claudication and pain in the right leg were the early signs of defective circulation which progressed to gangrene of the limb requiring amputation first at the knee and then at the hip. The same symptoms commenced to develop in the other leg, and he was treated by making an anastomosis between the femoral artery and vein, which has been done twice by A. San Martin of Madrid, as he published last year. Jaboulay performed the operation as in an intestinal anastomosis, but was obliged to apply a central ligature on each vessel while suturing. This ligature evidently had an injurious effect as the circulation was not re-established as hoped, and the local temperature progressively declined. The condition was evidently worse than before. The patient refused further intervention, but it might have been possible to improve matters by severing the external iliac and implanting it in the corresponding portion of the adjacent vein, with an end-to-end suture. Jaboulay's assistant, Carrel, has successfully anastomosed the carotid artery and jugular vein in dogs, and Jaboulay thinks that this operation may yet prove of service in cases of insufficient arterial irrigation of the brain from thrombosis or congenital defective development. Softening of the brain, ischemia and microcephalic idiocy should be the first to reap the advantage of this operation, which bofrows from the veins the route for the transportation of oxygenated blood. We know that arterio-venous aneurysms of the common carotid do not entail cerebral dis-

turbances, and we also know that venous stasis favors the development of a limb. An Esmarch bandage applied in a way to hinder only the return of the venous blood, leads in time to the hypertrophy of the member. It is, therefore, possible that an afflux of arterial blood in the veins of the neck and brain might arouse or augment the vitality of the latter. There need be no fear of venous stasis in the hemisphere corresponding to the anastomosis, as the communications between the veins of the two hemispheres and the extracranial veins are amply developed and ensure the return of the venous blood. We also have learned that ligature of the jugular vein does not entail edema of the brain nor any cerebral troubles. The first results of experimental research in this new field have been very encouraging.

66. **Role of Soluble Substances in Transmission of Pathologic Taints of the Progenitors.**—This important article is reviewed editorially in this issue.

Archiv f. die gesammte Physiologie, Bonn.

70 (XCIII, 5-6.) Vorschriften zur Ausführung (technic) einer quantitativen Glykogen-Analyse. E. Pflüger.
71 Studien über den Tetanus. Ueber die Abhängigkeit des Tetanus-Verlaufs von der Reiz-Frequenz bei maximaler indirecter Reizung. F. B. Hofmann.
72 Das Blut im Hoch-Gebirge. H. van Voornveld.
73 Weitere Untersuchungen über die entgiftenden (deintoxicating) Ionen-Wirkungen und die Rolle der Werthigkeit der Kationen bei diesen Vorgängen. J. Loeb and W. J. Gies.
74 Ueber die Ausnützung (utilization) des Glycerins im Körper und seine Bestimmung im Harn (determination in urine). H. Leo.

Archiv f. Verdauungskrankheiten, Berlin.

75 (VIII, 6.) Ueber die Pepsin-Bestimmung (determination) nach Mette und die Notwendigkeit ihrer Modification für klinische Zwecke. E. Nirenstein and A. Schiff (Nothnagel's clinic).
76 Pepsin-Bestimmung nach modernen Methoden und relativ digestive Insufficienz. F. A. R. Jung (Washington, D. C.).
77 *Die innere Behandlung der Gallensteinkrankheit (biliary lithiasis). L. v. Aldor (Carlsbad).
78 Ein Spul-Wurm im Gallenausführgang (bile duct) unter dem Bilde der Leber-Kolik. W. N. Clemm.
79 Extent of Albumin-Digesting Power of Stomach Contents. R. Schorlemmer.—Grösse der eiweissverdauenden Kraft, etc.
80 Ibid. A. Hammerschlag.

77. **Internal Treatment of Biliary Lithiasis.**—Aldor energetically condemns the usual method of watering-place treatment of gallstones, drinking the water and taking long walks, etc. He emphasizes the necessity of recognizing that the trouble is of infectious nature and that the resulting inflammation requires absolute rest to favor its healing, which is the essence of the cure. The behavior of the stones is a secondary matter. He orders his patient to stay in bed and has cataplasms as hot as he can bear applied to the region of the gallbladder from 7 to 12 a. m. and from 2 to 7 p. m. Every two hours the patient must drink from 100 to 200 c.c. of Carlsbad "Sprudel" at 50 to 55 C., thus ingesting in the course of the day 700 c.c. to 1.5 quarts, beginning at 7 a. m. and continuing until 7 p. m. He must have a mixed diet, as abundant as possible, with nothing tabooed except highly-seasoned and irritating dishes. This treatment must be maintained until the disappearance of the last trace of pain and sensitiveness to pressure. A complete cure is generally attained in four or five weeks and only rarely was it necessary to continue it to the eighth or tenth week; still rarer the cases in which an operation proved necessary after all. A course of Carlsbad waters does not necessarily mean at Carlsbad, but it must be carried out along these lines to be successful. He does not attribute any magic stone-dissolving or stone-expelling virtue to the waters but merely counts on their long-established efficacy in subduing inflammation in the biliary passages.

Berliner klin. Wochenschrift.

81 (XXXIX, 51.) Ueber Chorea elektrica. L. Bruns.
82 Zur Kenntniss der Teratome; blasenmolenartige Wucherung (vesicular proliferation) in einer Dermoid-Cyste des Eierstocks (ovary). L. Pick.
83 Untersuchungen über die Grösse der Eiweissverdauenden Kraft des Mageninhalts (power of gastric digestion of albumin). R. Schorlemmer (Boas' clinic).
84 Ueber ein neues Esophagoscope. M. Einhorn.
85 Zwei Fälle von Strammonium-Intoxication. Knaut.
86 (No. 52.) Echte Nanosomie (true dwarf growth) mit Demonstration eines Falles. D. v. Hansemann.
87 Results of Staining Unfixed Nerve Cells. A. M. Luzzatto.—Ueber Ergebnisse der Nervenzellenfärbung im unfixirten Zustande.
88 *Beitrag zur Chirurgie in warmen Ländern. H. Ziemann.
89 Klin. Beitrag zur Alopecia areata. E. Richter.
90 Ueber Adrenalinum Chlorid. mit Chloretin (Chloroform und Aceton) und die Anwendung in der rhinol. Praxis. Balza.
91 Anesthesin. A. Kennel.

88. **Surgery in the Tropics.**—Ziemann reports an instance of the remarkable way in which wounds heal at Cameroon. The patient was a primipara of 36, the wife of a missionary in a remote hamlet, tended only by an obstetric nurse, also a missionary. When Cesarean section became necessary as a last resort, the midwife shrank from attempting a longitudinal incision and cut across, 2 cm. below the umbilicus, making a transverse incision 16 cm. long, without chloroform or proper instruments, but with careful asepsis. A healthy boy was delivered and the mother made a smooth recovery. No attempt was made to suture the uterus.

Centralblatt f. Bakteriologie, Jena.

92 (XXXII, 6.) Beitrag zur Kenntniss der anaeroben Bakterien des Menschen. A. Welchselbaum.
93 Ist die Schlafkrankheit (sleeping disease) der Neger eine Intoxications- oder Infektions-Krankheit? H. Ziemann.
94 Zur Frage der Differenzierung der Diphtherie- und Pseudo-Diphtherie-Bacilli. J. Bronstein and G. N. Grünblatt.
95 Ueber die Bakterien-Flora der Nasensini und des Mittelohres (middle-ear). U. Calamida and E. Bertarelli.
96 Ueber den Alexin-Gehalt menschlicher Blut-Sera. R. Trommsdorff.
97 Die Leucocyten als Complement-Bildner (producers) bei der Cholera-Infection. L. Ascher.
98 Zur Frage der Precipitations-Vorgänge (processes). H. Haiban and K. Landsteiner.
99 Ueber Inactivierungs-Versuche (attempts) mit Precipitinen. L. Michaelis.
100 Zur Schnell- (rapid) Diagnose der Typhus Bacillus. G. Jochmann. (Tests of Weil's culture medium.)
101 Ueber eine neue regulirbaren Vorrichtung (adjustable contrivance) für den heizbaren Objekt-Tisch (table). R. Kraus.
102 Ueber einen Apparat zur bact. Wasserentnahme (removal of water). R. Kraus.
103 Ueber Versuche mit bact. Lab und Trypsin. A. Loeb.
104 Beitrag zum bakt. Nachweise von Trinkwasserverunreinigungen (impurities in drinking water) anlässlich infectiösen Erkrankungen. Mensburger and Rambousek.

Deutsches Archiv f. klin. Medicin, Leipsic.

105 (LXXIII, Kussmaul Festschrift). Die literarischen Arbeiten Adolf Kussmauls. W. Fleiner.
106 Klin. Erfahrungen (experiences) über Behandlung der Perityphlitis. Ch. Bäumler.
107 Zur Diagnostik des Sanduhrmagens (hourglass stomach). C. A. Ewald.
108 Bemerkungen über Gallen-Stein-Kolik. C. Gehrhardt.
109 Flow of Gastric Juice and Spasmodic Contraction in Case of Chronic Gastric Ulcer. J. Kaufmann.—Zur Frage des Magensaftflusses und der Krampfzustände bei chron. Magengeschwür.
110 Ueber 3 Dysenterie-Epidemien im Barmen, 1899-1901. H. Krige.
111 Die Wirkung der Kohlensäure (carbonic acid) auf die Magenverdauung (gastric digestion). F. Penzoldt.
112 *Ueber spindelförmige Erweiterung (dilatation) des Esophagus im untersten Abschnitt (in lowest segment). O. Zusch.
113 Ueber die Periphere Neuritis als häufigste Ursache (most frequent cause) der tabischen Larynx-Erlähmungen (paralysis). A. Cahn.
114 Geschichte eines Patienten dem operativ den ganzen Schläfenlappen entfernt war (history of patient after ablation of entire temporal lobe). L. Edinger.
115 Klinische Plauderei (chats) aus den letzten 40 Jahren (years). W. Erb.
116 Gleichseitige Lähmung des Hals- (uncrossed paralysis of cervical) Sympathicus bei unilateraler apoplectiformer Bulbarparalyse. J. Hoffmann.
117 Ueber das Vorkommen von Lichtstarre (no reaction to light) der Pupillen bei crouposer Pneumonie. F. Schultze.
118 Ueber die Beziehungen zwischen (relations between) Innen-Form und Aussen-Form des Schädels (skull). G. Schwalbe.
119 Fall von Neuritis der Nn. splanchnici. H. Stilling.
120 Zur Entwicklungsgeschichte (history of development) des Uterus. H. Bayer.
121 Eine seltene Complication des Puerperal-Febers. E. Dietz.
122 Beitrag zur Behandlung des Puerperal-Febers mit der Credé'schen Silber Salbe. Huffell.
123 Beitrag zur Casuistik und Diagnostik der interstitiellen Gravidität. M. Muret.
124 Ueber das Verhältniss der käsigen Pneumonie zum miliären Lungen-Tuberculose. P. Baumgarten.
125 Ueber Bronchiolitis fibrosa obliterans nebst Bemerkungen über Lungen-Hyperemie und indurirende Pneumonie. A. Fraenkel.
126 *Ueber die Bedeutung (importance) der Venendruckmessung (measurement of venous pressure) bei der dietetisch-physisch. Behandlung der Kreislaufstörungen (disturbances in circulation). A. Frey.
127 *Zur Phosphor-Therapie bei Osteomalacie. His.
128 Die Resultate der Diphtherie-Behandlung im Mulhauser Bürger-Hospital vor und nach der Anwendung des Heilserums. Jaeger.
129 Ueber lymphagoge Stoffe (substances) im Blut-Serum Nierenkranker (in kidney disease). A. Kast.
130 Mitteilungen aus den Grenzgebieten der Ohrenheilkunde (borderland of Otology). O. Korner.

131 Das sogenannte entzündliche (inflammatory) Glaucom, eine Neurose. L. Laqueur.
132 Ueber Alkalinurie. H. Leo.
133 *Die Behandlung des Scharlachs mit Reconvalescenten-Serum. E. v. Leyden.
134 Beobachtungen aus dem Landesbade in Baden Baden. F. Neumann.
135 Zur Lehre von der Pathogeneität des Bacillus pyocyaneus. O. Soltman.
136 Der Verdünnungsgrad (degree of dilution) der Lösungen (of solutions) und der Einfluss desselben auf letalen und toxischen Effect. Stokvis.
137 Einige Bemerkungen über das Wesen und die Diagnose der sog. nervosen Dyspepsie. A. Strümpell.

112. Spindle-Shaped Dilatation of Lower Portion of Esophagus.—Zusch has observed 11 cases of this affection and reviews 13 in the literature. He treats it by emptying the sac and rinsing the esophagus every morning before breakfast, feeding exclusively through a wide tube three times a day. He gradually intersperses between these meals a small amount of soft foods from time to time until able to abandon the tube feeding altogether. It is necessary to introduce the tube before bedtime so that no food may stagnate in the sac during the night. In rinsing the esophagus the amount of water used must be small in order not to distend the sac. Frequent sipping of some alkaline water during the day is the best means of alleviating catarrhal inflammation, thus neutralizing any acids that may form while keeping the esophagus clean. An important factor in treatment is lavage of the stomach immediately after rinsing the esophagus. Laxatives irritate the sac and should be avoided. In one case the feeding through a tube was kept up for six months, and the sac was reduced from a capacity of 220 to 50 c.c. Systematic perseverance is the main factor in curing the condition and the patients must learn to introduce the tube themselves. It usually stops as it reaches the cardia, but by swallowing and slight manual coaxing, it slides into the stomach. In case of a tendency to spasmodic contraction the patient should eat solids first and his soup last. Another important precaution is to take considerable butter at supper or a teaspoonful of olive oil. None of his patients would consent to an operation, but it should be borne prominently in mind. In seven typical cases the diagnosis was based on the characteristic anamnesis and subjective sensations, on the evidence of a cavity above the stomach whose contents differed both physically and chemically from those of the stomach, on the tapering of the cavity at top and bottom, and on the exclusion of cardiac stenosis. The tube could always be passed readily into the stomach.

126. Determination of Venous Pressure in Heart Disease.—Frey emphasizes the necessity of surveillance over the circulation as a means of determining proper dosage for the diet, for exercise and carbonated baths. The pressure should be noted before and after each single procedure. The measurement of the venous pressure will be found especially instructive in this respect. It not only enables us to watch the progress of the case, but, correctly interpreted, it may protect the patient and the physician from the most painful surprises.

127. Phosphorus in Osteomalacia.—His administered an oil solution of phosphorus in a case distinguished by numerous spontaneous fractures. The lime eliminated by the patient was calculated before, during and after the phosphorus treatment, and showed that there was a surplus eliminated of .07 to .17 gm. of lime a day ordinarily, but under the influence of the phosphorus there was retention of .301 gm. a day.

133. Serum from Convalescents in Treating Scarlet Fever.—The disease was apparently abbreviated to a notable extent in the 16 cases of scarlet fever which Von Leyden treated with 10 to 20 c.c. of serum taken from other patients convalescing from the disease.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

138 (XXVIII, 51.) Zur Kenntniss der congenitalen Larynx-Diaphragmas. P. Fraenckel.
139 Ueber ein für menschliche Placenta spezifisches Serum. W. Liepmann.
140 Fall von Myasthenia gravis pseudo-paralytica mit akutem Verlauf. Dorendorf.
141 Zur Casuistik der retroperitonealen Cysten. R. Schorlemmer.
142 Oxyuris vermicularis als Ursache akuter Appendicitis. Rammstadt.
143 Ueber Coxitis rheumatica. R. Friedländer.
144 Kneippiana. Spener.
145 Ueber einen neuen Elektromagneten zur Extraktion von magnetischen Fremdkörpern aus Augen (foreign bodies in eyes). H. Schenkel (Berne).
146 Zur Bottini'schen Operation. A. Freudenberg.
147 Ibid. S. Jacoby.
148 (No. 52.) Ueber den Einfluss von Temperatur und Jahreszeit auf den Ausbruch (influence of season on outbreak) des akuten primären Glaukoma-Anfalles. Kurt Steindorff.
149 Ueber ein besonderes Verfahren bei Behandlung der Otitis media und die dabei hauptsächlich verwandten Medikamente. Ehrenfried.
150 *Tremor und Harn- (urine) Intoxication. A. Hock.
151 *Eine neue Operation zur Heilung der Ectopia testis congenita. M. Katzenstein.
152 *Weitere Beiträge zur Lehre von den Syphilis-Bacillen. Max Joseph and Piorkowski. (Commenced in No. 50.)
153 Paraffin Prothesis in Dentistry. J. Witzel.—Ueber die Verwendung des Paraffins in der Zahnheilkunde.
154 (XXIX, 1.) *Ueber die Herz- (heart) Hypertrophie bei Nieren-Krankheiten (renal affections). H. Senator.
155 *Beiträge zur Chirurgie des Harnleiters (ureters). J. Israel.
156 *Suit for Damages for Neglect to Suture Lacerated Perineum. Zweifel.—Fall von Strafverfolgung gegen ein Arzt wegen der Unterlassung einer Dammnaht.
157 *Ueber biologische Mehrleistung (extra work) des Organismus bei der künstlichen Ernährung von Säuglingen (artificial feeding) gegenüber der Ernährung mit Mutter-Milch. A. Wassermann.
158 Streptococci Found Regularly if Not Constantly in Mouth of Nurslings. J. Herzberg.—Sind in der Mundhöhle mit Ammenmilch ernährter Säuglinge Streptococcen vorhanden?
159 Fall von spontan geheilter Perforations-Peritonitis bei Ulcus Ventriculi. H. Spicker.
160 Curettement bei Abort oder nicht? Michelet.
161 Intoxication nach Genuss von Brenn-Nessel-Thee (nettle tea), der mit Stechapfelblättern (datura leaves) verunreinigt war. G. H. Sieveking.
162 Permanent Exposition for Welfare of Laborers. H. Albrecht.—Die ständige Ausstellung für Arbeiterwohlfahrt im Charlottenburg.
163 Mesotan. J. Ruhemann.
164 *Ueber die Behandlung des Lupus unter Anwendung luftverdünnter Räume (rarefied air). Meidola (Hamburg).

150. Tremor and Urinary Intoxication.—Partial retention of urine is frequently not recognized by the subject and yet it is liable to cause serious symptoms from autointoxication. Among the more frequent are disturbances in the digestive tract, severe constipation, rebellious diarrheas, uncontrollable vomiting, cured at one stroke by removal of the obstacle to free evacuation of urine. Other symptoms observed are migraine, singultus accompanying cystitis, psychoses, etc., and Pawinsky has reported 5 cases of severe "vesical asthma," as he calls it. In the case described by Hock an intense tremor of the entire body, very annoying and assumed to be senile tremor, vanished completely as measures were taken to secure the complete evacuation of urine.

151. Operative Treatment of Ectopia Testis Congenita.—The aim of Katzenstein's operation is to fasten the testicle in its normal position until the cord has stretched and the nourishment is fully assured. He accomplished this in a case in which the atrophic scrotum offered no firm support, by bringing the testicle down into place by means of forceps passed up through an incision at the bottom of the scrotum. A pedunculated skin flap was then cut in the inner aspect of the thigh in contact with the scrotum and sutured to the newly brought down testicle, the raw side in. This not only holds the testicle firmly in its normal position but ensures abundant nourishment.

152. Syphilis Bacillus.—Joseph and Piorkowski announce that they have found a special bacillus in the semen of 39 syphilitics. They never found it in subjects who no longer exhibited any manifestations of the syphilis. Fifteen such cases were examined. In one case symptoms of syphilis continued to recur, notwithstanding energetic and repeated mercurial treatment. When examined for the bacilli a number of years after the primary infection they were found, but not so numerous nor so vigorous as in the others. In another case in which manifestations of the syphilis undoubtedly existed but in which wife and children had not been infected, the sperma and also the secretions of an ulcerative syphilid were constantly sterile. In 24 cases they were able to cultivate the bacillus from the secretions of ulcera dura, but never from ulcera mollia or other non-syphilitic lesions. Mercurial treatment banishes the bacillus from the secretions even years after the primary infection, and on the other hand it could frequently be found two months to several years after infection in the absence of specific treatment. If experience confirms these findings it may be possible to determine by the presence or absence of these

bacilli whether the subject should be allowed to marry or not. The bacilli differ from others in several particulars. They are non-motile, not acid proof, and grow on blood serum in isolated colonies like drops of dew. They form indol but not gas and develop within twenty-four to forty-eight hours, taking the Gram, the poles staining. Inoculation of animals has been negative or dubious.

154. **Hypertrophy of Heart in Kidney Disease.**—Senator cites evidence which establishes the tendency of the heart to hypertrophy in case of kidney disease, and its predominance in the left ventricle. He then suggests as an explanation of this fact that the nitrogenized extractives which are retained in the body by the deficient elimination through the kidneys, alter the composition of the blood and this in turn has an injurious action on the entire vascular system. In acute nephritis this retention is most pronounced, and the vessels suffer intensely from it; their nourishment is impaired and they become more permeable, allowing the passage of fluid through their walls and consequent dropsical effusions. This tendency to dropsy can be regarded as a compensatory phenomenon, an effort to free the blood from the extractives. They are found in the effusions in the same proportions as in the blood. As the kidneys recover from the acute nephritis conditions in the vascular system return to normal and the affection does not last long enough for the heart to be permanently affected. In subchronic nephritis the conditions are the same, except that they occur more gradually, and the vascular system feels the effect longer. The walls of the vessels become contracted, the muscularis thicker and shows the effect of inflammatory induration. This is especially liable to occur in the systemic circulation, which is further injured by direct pressure of dropsical effusions on certain vessels. This degeneration of the vessel walls entails exaggerated work on the left ventricle, which becomes hypertrophied in consequence. In chronic interstitial nephritis the morbid process in the kidney develops so gradually that the walls of the vessels are not injured to the point of becoming permeable and the extractives accumulate in larger and larger amounts in the blood. This slow, but ever-increasing irritation for the vessel walls causes their contraction and thickening in the systemic circulation and compels the entire heart to become hypertrophied while the left ventricle feels the effect more than the rest. It is possible that the noxious influence responsible for the kidney affection may also act simultaneously on the vascular system, as in chronic lead poisoning, arteriosclerosis, etc. In arteriosclerosis the left ventricle is peculiarly liable to suffer in case of sclerosis of the splanchnic arteries.

155. **Surgery of the Ureter.**—Israel had a patient with a solitary hydronephrotic kidney with one ureter completely and the other partially obstructed. The urine escaped through a fistula, and attempts to close it caused distension of the kidney owing to the imperfect drainage. He made a suprapubic opening into the bladder and inserted a rubber tube drain with broad lip in each of the fistulas, connecting the two drains with a rubber tube. The urine thus flows out of the kidney through the renal fistula and into the bladder through the suprapubic fistula, whence it is normally voided. He gives a cut of the connecting tube which has a special valve arrangement. The contrivance is satisfactory and the patient is dry and continent. He also describes two cases of implantation of the ureter in the bladder by an extraperitoneal operation. One patient operated on in 1898 has been permanently cured of all disturbance and he has since had another successful case.

156. **Suture of Perineum.**—Zweifel remarks that he has never witnessed a case of spontaneous healing even after a laceration of the first and second degree. The coating over of the outer skin is not actual healing when there is a gap beneath. In 25 cases of laceration of the third degree observed at the Leipsic Clinic, 20 different physicians had sutured the wound in 20 different cases, and the result had been a failure. In the Maternity 23 cases had occurred and suture was unsuccessful in 6, although the conditions in the hospital are incomparably more favorable than with a physician alone in a private house. Lacerations of the third degree occurred once in each 500 births at the clinic; lacerations of the other degrees thirty-seven times. The successful results of suture of those of the first and second degrees show that physicians are able to secure primary union. In the damage suit mentioned in the title of the communication, Zweifel testified to the above effect and the defendant was acquitted, particularly as he had notified a specialist that the patient needed the attention of an expert. Zweifel attributes the lack of success in most cases to the conditions at the first defecation. When the bowels are filled with scybalæ, accumulated by the frequently morbidly exaggerated appetite of the pregnant woman, the first evacuation is liable to burst the suture of the laceration and render the condition worse than at first. For this reason he advises administering magnesia or something of the kind to soften the fecal masses, and to clear out the lower bowel by introducing a large tube and allowing water to flow in and be constantly siphoned out again. The food should be exclusively fluid. The first step in the suture should be to insert a thread with long ends at each end of each side of the tear. This enables the lips of the wound to be coaptated. He then passes a row of sunken interrupted sutures through the recto-vaginal wall, from within outward, avoiding passing through the mucosa of the rectum. The vaginal portion of the laceration is next sutured in the same way, commencing at the inner angle. The central portion of the laceration is then sutured in the depths with a continuous catgut suture, not to leave any dead space, and the skin sutured above. He recommends catgut for the vaginal sutures and the buried running suture, but for the outer one, silkworm gut, silver wire or celluloid thread. Ordinary silk should not be used at all. Cocain should be injected as a preliminary measure, about four syringefuls, under the skin of the perineum four minutes before commencing to suture, which should not be delayed more than twenty-four hours after delivery. The intervention has thus six steps. 1, the cocain; 2, the "bridle" threads at the corners of the wound; 3, interrupted sutures coaptating the mucosa of the rectum without passing through it; 4, a row of sutures uniting the vaginal portion of the tear; 5, a continuous deep buried suture uniting the depths of the wound, and 6, the silkworm-gut suture of the perineum. Zweifel admits that he does not follow this technic himself in all particulars, but has thus simplified it for the general practitioner. The various steps are illustrated and he urges that no one should allow a laceration to go unoperated at the proper time.

157. **Biologic Extra Work in Artificial Infant Feeding.**—Wassermann, by means of the precipitation of albumin and other applications of the specific precipitation with prepared sera, has established that the albumin in cow's milk has to be elaborated by the infant organism before it can be assimilated like the albumin in human milk. This imposes on the infant organism as much of a task as if a workman, instead of being given steel with which to make a certain machine were given iron which he had to make into steel before he could commence on his task proper. He states that the nourishment of the infant by the mother's milk is merely a continuation and slight modification of the intrauterine nourishment of the fetus through the placenta. The essential albumin required is supplied in this form from the maternal organism, until the infant is old enough to dispense with it. The biologic extra work of the bottle baby is most excessive during the earliest weeks and months of its life. As lactation wanes, the bottle-fed and the breast baby approach the same plane.

164. **Treatment of Lupus Under a Vacuum.**—Meldola refers to the fact that absorption of fluids proceeds much more energetically in a vacuum, and states that he has applied this principle to the treatment of lupus with fine results. He uses the Gould apparatus, which produces a partial local vacuum while allowing the introduction of a fluid. He applied in this way a 50 to 70 per cent. solution of lactic acid with a vacuum over the part treated. Slight inflammation follows, but is transient, and no reaction occurs after the first application.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

165 (LXIV, 4.) Ueber die primäre Sarkome des Sinus frontalis. A. Kröglus (Helsingfors).

166 Hygroma colli cysticum congenitum. V. Schmieden.

167 Ueber Myositis ossificans traumatica mit Bildung von Lymph-Cysten. O. Wolter.
168 Untersuchungen über die als Parasiten gedeuteten Zelleinschlüsse (cell inclusions) im Carcinom. H. Nösske.
169 (Nos. 5-6.) Ueber Fremdkörper in den Luftwegen (foreign bodies in air-passages). Schlender. (Ten cases.)
170 Beitrag zur Behandlung der chron. Larynx-Stenose. N. Wolkowitsch (Kief).
171 4 seltene Fälle von abdominellen Cysten. M. Penkert.
172 Hernia inguinalis superficialis. R. Gobeli.
173 Pes calcaneous traumaticus. A. Wittek.
174 *Eine Methode zur Sterilisierung und zur sterilen Aufhebung (preservation) von Catgut. M. Claudius.
175 Beitrag zur Lehre von den intraabdominellen Hernien. O. Funkenstein.
176 Die Teleangiektasien der Blase (bladder). A. Berliner.
177 Eine retrorectale teratoide Geschwulst (tumor) mit adenocarcinomatöser Degeneration. H. Graff.
178 Ueber die Leber-Entzündung nach Ruhr (inflammation of liver after dysentery). Kramm.
179 Fremdkörper der Zunge (foreign body in tongue) in Tumor-Form. M. Silbermak.
180 Ueber eine Hernia traumatica sacralis nebst Bemerkungen zur Mastdarm- (rectum) Plastik. A. Tietze.
181 Zur Casuistik der Hüftgelenkspfannenbrüche (fractures of acetabulum). R. Graessner.

174. **Method of Sterilizing Catgut.**—Claudius describes the method of sterilizing catgut in use at Bloch's Clinic in Copenhagen, with constantly-increasing satisfaction. Ordinary raw catgut is wound on a glass spool, two knotted threads to a spool, and placed in an aqueous solution of iodin 1 part, potassium iodid 1 part and 100 parts water. The potassium iodid is first dissolved in a small amount of water, and then the finely-pulverized iodin added and dissolved in the same, after which this concentrated solution is diluted to 1 per cent. The glass jar is labeled with the date and after eight days the catgut is ready to use and is kept indefinitely in the same jar and fluid. When wanted, a spool is removed to a dish containing a 3 per cent. solution of carbolic acid or any indifferent sterile fluid. It is left in this fluid for one and a half to two hours, no longer, to rinse off the superfluous iodin solution. The threads are then cut below the surface of the fluid, and any not needed is replaced in the iodin jar. The catgut acquires a peculiar consistency by this method of sterilization, plastic and elastic, like that of a fine copper wire, and it is easy to tie. The strength is increased by the carbolized rinsing while the length is not altered. Tests showed that all spores are killed long before the eight days have elapsed. He states that none of the qualities of the catgut are impaired by even as long as five months in the fluid as he has established again and again.

Muenchener Med. Wochenschrift, Munich.

182 (XLIX, 51.) Fall von cerebraler Kinderlähmung (acute spinal paralysis). R. Goldman.
183 Ueber die Septum-Perforation der Chrom-Arbeiter (workmen). J. Bamberger.
184 Agurin, ein neues Diureticum. A. Nusch.
185 Ueber Cancroin "Adamkiewicz." J. Decker.
186 Zur Behandlung der Gonorrhoe mit protargol-Gelatine. Benario.
187 Praktische Erfahrungen mit dem Roentgen-Instrumentarium System Dessauer. V. Gosen.
189 *Ueber parenchymatöse Nephritis bei Lues. M. Wagner. (Commenced in No. 50.)
190 (No. 52.) *Zur Kritik der Beziehungen (relations between) Angina tonsillaris und Appendicitis. H. Weber.
191 *Die Innervation der Verdauung (digestion). O. Cohnheim.
192 Ueber die Exstirpation des puerperal-septischen Uterus. R. Gradenwitz. (Commenced in No. 51.)
193 (L, 1.) Ueber die Extraktion von Kugeln (bullets) aus der Schädel-Höhle (cranial cavity). O. v. Angerer.
194 Ueber primäre Aktinomykose der Fusswurzelknochen (tarsal bones). O. Bollinger.
195 Drs. Geist and Deltz. G. Merkel.—Zwei Typen bayerischer Aerzte aus der Mitte des XIX Jahrhunderts.
196 *Die Tuberkulose des Sehnervenstammes (optic nerve). J. v. Michel.
197 *Dosage of Exercise. Penzoldt.—Ueber das Mass der Bewegung bei der Behandlung der Lungen-Tuberculose.
198 *Altes und Neues zur path. Anatomie des nomatösen Brandes (gangrene). H. v. Ranke.
199 *Ueber Narkosen mit dem Schleich'schen Gemisch. I. F. v. Winckel.

189. **Parenchymatous Nephritis in Syphilis.**—Wagner describes 3 and reviews 11 cases in the literature, in which there was an unmistakable direct connection between the syphilitic infection and the nephritis and no other cause for the latter could be ascertained. In differentiating the affection a concomitant gonorrhea must be excluded, likewise the ordinary causes of nephritis, or a preceding affection of the kidneys, which may have run a latent course and been roused to an exacerbation by energetic mercurial treatment. In the 14 cases referred to the syphilis was inherited in 4, and the others were all, with one exception, in the secondary stage of syphilis. The nephritis developed simultaneously with or shortly after the appearance of the first secondary symptoms, and this coincidence is one of the most important points in the differentiation. The symptoms and course are about the same as in an ordinary parenchymatous nephritis. Five cases terminated fatally, one from an intercurrent affection and 4 from the results of the nephritis. Recovery was complete in 8 cases, both from the nephritis and the syphilis, as has been determined by observation extending over a number of years. Even in these favorable cases the onset was severe, the albuminuria intense and the anasarca profuse. Symptoms of uremia were noted in three cases, but of brief duration. The nephritis, therefore, may commence stormily and may prove fatal or may terminate in complete recovery, notwithstanding a tempestuous onset. The pathologic anatomy does not differ from that ordinarily observed. Opinions differ in regard to the practicability of instituting specific treatment. Specialists in syphilis advocate it while the internists point out the dangers. Senator is one of those who recommend only potassium iodid and not mercury, as he has witnessed aggravations of the nephritis follow mercurial treatment as frequently as improvement. In the 14 cases reviewed, 3 received no mercury, and 2 of these patients died with symptoms of uremia. In the third case, as the nephritis did not improve under potassium iodid, Zittmann's decoction was then given and the patient recovered. All the other patients were treated with mercury combined with the iodid, and in only one instance was any injurious effect of the mercury noted. In this case inunctions were energetically applied in the beginning of the syphilis and in its recurrences with no evil effects on the kidneys, but after the nephritis developed, an attempt to repeat the inunctions aggravated the kidney affection and mercurial treatment had to be abandoned. In none of the other 8 cases were any symptoms of injury of the kidneys observed. On the contrary, the nephritis subsided completely and permanently. These facts that 3 died out of the 4 not receiving mercurial treatment, while 8 recovered out of the 10 who were given courses of mercury, amply justify specific treatment in syphilitic parenchymatous nephritis. The first stormy onset should be allowed to subside under the ordinary dietetic-hygienic treatment before instituting it, and the doses should be small at first, carefully supervised and interrupted at the first signs of injury to the kidneys. Curschmann and others warn explicitly against injecting the mercury —cautious inunctions are the only means of applying it.

190. **Connection Between Tonsillitis and Appendicitis.**—Weber assumes a causal connection between the tonsillitis and the appendicitis in three cases he describes, although as the patients recovered without an operation it was impossible to determine the identity of the germ causing the affection at the two points. Kretz and Schnitzler found the streptococcus in both tonsils and appendix in their cases, and Adrians the influenza bacillus. Weber agrees with Kretz that the most probable means of infection is the swallowing of germs from the process in the throat and their lodgment in the appendix. In his cases the appendicitis developed seven days after recovery from the acute tonsillitis in one case, during its course in another and in the third both affections were present when the patient was first seen.

191. **Pawlow's Research on Innervation of the Digestion.**—Cohnheim spent his vacation inspecting Pawlow's famous laboratory entirely devoted to research on the mechanism of digestion. It is a small building in the outskirts of St. Petersburg, lavishly endowed, and here also Nencki conducted his studies in physiologic chemistry. Pawlow's work is done exclusively on large dogs weighing from 25 to 30 kilos., 60 pounds and over. He has forty-three in the establishment, all lively and healthy, but each with one or more fistulæ of various kinds. The "psychic gastric juice" is secreted by dogs with a fistula into the stomach and another in the throat. When the stomach is mechanically stimulated through the gastric fistula there is no response in secretion, but after the animal is given a piece of meat the stomach commences to secrete. The dog eats, chews and swallows the meat but it falls out through the hole in the esophagus and he picks it up and eats it over and over

again. After 5.5 minutes have elapsed the gastric juice begins to stream out of the stomach fistula although no food has passed into the stomach. Four dogs thus produce six to eight quarts of gastric juice during the morning, each about 5 to 15 c.c. a minute. They generally cease eating in about twenty minutes, but one dog continued the entire forenoon to eat the same piece of meat over and over again. The gastric juice thus produced is in demand for therapeutic purposes. It contains .5 to .6 per cent. hydrochloric acid and is purer than any gastric juice hitherto attainable. The innervation of the stomach is studied in dogs which have had a second small stomach formed out of the fundus portion, completely separated from the rest except in its innervation. The gastric juice derived from this second stomach differs in amount and in its ferments with the kind of food eaten, which fact is also observed in the "psychic gastric juice" secretion. Since Pawlow's previous publications he has been conducting research on the secretion after an acute gastric catarrh has been induced by application of heat or cold. The mucosa in this case secretes an alkaline mucus instead of the acid gastric juice. After the catarrh has subsided a period of hypoacidity is followed by hyperacidity before normal conditions are restored. In some cases an irritable state ensued, in which the secretion increased and also ceased sooner than normally, an excess of gastric juice being secreted at first, but the total amount below the average. In some of the dogs the psychic secretion was normal, while the chemical was deficient. This demonstrated that the glands were normal while the "reception organ" of the stomach epithelium was affected. Pawlow's research on the pancreatic juice has not fully confirmed his previous announcements on the subject, but it has established that this juice does not contain trypsin as such but in the form of zymogen. This zymogen is transformed into trypsin by the substance in the intestinal juice which he calls enterokinase. This enterokinase is not a constant constituent of the intestinal juice, but is secreted only when the pancreatic juice enters the intestines, evidently a specific chemo-reflex. The fat-splitting ferment becomes active in the same way under the influence of the bile. The pancreatic juice always contains ptyalin and steapsin in this form, but the trypsin occurs in the form of zymogen only when the dogs are fed on bread, milk or potatoes, while on an all-meat diet it occurs as the complete ferment, and on a mixed diet sometimes as one and then as the other. The aim of gastric digestion is to provide the stimulus for the pancreatic secretion, which is the contact of the hydrochloric acid with the mucosa of the intestine. He is still at work on the problem whether this is a reflex or material phenomenon. In his studies on the bile he sutured the orifice of the bile duct with a ring of encircling intestine in the cutaneous wound and has thus been able to study the reflex connection between the intestine and biliary system. He was unable to discover any "psychic" secretion of bile, or any influence of the hydrochloric acid on this secretion. Two substances alone influence it, peptone and fat, as they enter the duodenum. The entrance of fat into the duodenum is the normal stimulus to the secretion of bile. He announced in his published works that the simultaneous ingestion of fat and albumin retarded the secretion of gastric juice. This fact has been confirmed by later research, but he assumed at first that the fat in contact with the gastric mucosa inhibited the secretion. He has since learned that the inhibition is a reflex phenomenon which occurs when the fat comes in contact with the mucosa of the duodenum. The motor function of the stomach is also affected in the same way. If water or a solution of salt, sugar or peptone be introduced into the duodenum through a fistula, and at the same time 200 c.c. of water be poured into the stomach, the latter empties itself in less than fifteen minutes. But if, instead, an acid or fat be introduced into the duodenum, the chemo-reflex closes the pylorus and the water is still found in the stomach two hours later. The experiments also prove that exact experimental physiologic psychology can be studied on dogs. In research on the secretion of saliva, for instance, Pawlow found that dogs with a saliva fistula secreted thin saliva when such was needed to dilute acid or irritating substances taken in the mouth, while they secreted a mucilaginous saliva when needed to lubricate solid pieces of food. If hydrochloric acid was poured into the mouth of a dog, large amounts of the thin saliva were secreted at once. If the acid were stained black, the animal soon learned to recognize it, and on the mere sight of any black fluid the dog commenced to secrete the thin saliva in abundance. Thick saliva is secreted when the dog is given or even shown dry bread. As dogs have the habit of licking their sores, the saliva secretion commences as soon as a slight wound is inflicted on them. In fact, if the Paquelin were merely shown to the animal saliva would commence to flow, after a few experiences with it, and the slightest cauterization anywhere on the body would be followed by the increased secretion, with one exception. This exception was the top of the head. The dogs can not reach the top of their heads with their tongue, and no saliva secretion followed an injury at this point.

196. **Tuberculosis of the Optic Nerve.**—Michel describes and illustrates the pathologic anatomy of tubercular affections of the trunk of the optic nerve. They have been observed almost exclusively in children, and usually present the clinical aspect of a retrobulbar neuritis.

197. **Dosage of Exercise for Tuberculous Patients.**—Penzoldt argues that in case of doubt it is well to bear in mind that too little exercise in these cases is less injurious than too much. When the rectal temperature of a curable patient reaches or surpasses 38 C. he is best treated in bed. The bed can be moved on a veranda, and he therefore advises that all the bedrooms in sanatoriums should open on verandas. The bed rest must be as absolute as in case of typhoid fever. In all cases after acute onset or exacerbations of the tuberculous process the curable patients should avoid all unnecessary movements for an average of two months, even when the disease has seemed to become stationary. The patients should refrain from going up or down stairs, billiards, sports and even walks, except a very slow stroll to and fro. Much harm is done by the getting ready to go to a sanatorium, packing the trunk, etc. The patient should travel with a companion to carry all hand baggage and see that all arrangements are made as for a very sick person. Unless great care be used, the trip to the sanatorium is liable to induce an exacerbation that is responsible for the failure of treatment, and the fatal termination of otherwise curable cases. In determining the effect of exercise in the individual case, it is possible that much information may be derived from the pulse tested during, not after, the exercise and also from the respiration noted without attracting the patient's attention, possibly while taking the pulse. The temperature should always be taken deep in the rectum, and he urges that this method should supplant mouth temperature in all sanatoriums. When after a walk of fifteen to thirty minutes the rectal temperature is 37.8-9 C. (100 F.) it is suspicious, and 38 C. or over is a certain sign that the exercise was too vigorous. The temperature must be taken immediately after the end of the exercise, without any interval. A temperature of 37.8 C. is frequently noted in out-patients without the least trace of tuberculosis. The standard temperature in the evening after complete repose may be accepted as 37.5 C. Consequently tuberculous patients with this "repose temperature" or higher should be warned against unnecessary exercise. It should not be allowed until with material improvement in the general health the temperature does not rise higher with cautiously-attempted movements.

198. **Etiology of Noma.**—The assertions of Perthes in regard to the discovery of a mycelium in cases of noma have been confirmed by Sieffert and Von Ranke now presents illustrations of another case in which the thread fungi were prominently present.

199. **Schleich Narcosis.**—The Schleich Mixture No. 1 was used by Von Winckel in 100 cases and all the particulars carefully tabulated. They show that the time required and the amount of the anesthetic were less than in the narcoses with ether, but that threatening by-effects occurred more frequently and were more serious than with the ether.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Ear, Eye, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with the Collaboration of John B. Murphy, M.D., Chicago, Alexander D. Blackader, M.D., Montreal, H. C. Wood, M.D., Philadelphia, T. M. Rotch, M.D., Boston, E. Landolt, M.D., Paris, Thomas G. Morton, M.D., Philadelphia, James J. Walsh, M.D., New York, J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume IV. Twelfth Series, 1903. Cloth. Pp. 317. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1903.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or the Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan. Third Edition, Revised and Enlarged. Illustrated with 52 Engravings. Cloth. Pp. 756. Price, $3.75. Philadelphia and New York: Lea Brothers & Co.

RECENT ELECTRO-THERAPEUTIC WORK IN MEDICINE AND SURGERY. By John MacIntyre, M.B., F.R.S.E., F.R.M.S., M.I.E.E., Surgeon for Diseases of the Nose and Throat, Glasgow Royal Infirmary. Reprinted from the *Glasgow Medical Journal* for August, 1902. Cloth. Glasgow: Alex. MacDougall. 1902.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Thirteenth Series. Edited by H. L. Burrell, M.D., W. T. Councilman, M.D., and Charles F. Withington, M.D. Paper. Pp. 205. Boston: Published by the Trustees. 1902.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Sixteenth Session, Held at Philadelphia, June 5, 6 and 7, 1902. Volume XV. Cloth. Pp. 216. Philadelphia: Published by the Association. 1902.

U. S. DEPARTMENT OF AGRICULTURE. EIGHTEENTH ANNUAL REPORT OF THE BUREAU OF ANIMAL INDUSTRY, for the Year 1901. Cloth. Pp. 706. Washington: The Government Printing Office. 1902.

REPORT OF THE TERRITORIAL BOARD OF HEALTH FOR OKLAHOMA. E. E. Cowdrick, Superintendent, Enid, Oklahoma. Paper. Pp. 84. Guthrie, Okla.: State Capital Co. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from Jan. 19 to 24, 1903:

Branch, Frederick D., contract surgeon, U. S. A., now at East Springfield, N. Y., will proceed to Columbia Arsenal, Tenn., and report in person to the commanding officer thereof for duty, and by letter to the commanding general, Department of the Lakes.

Stone, John H., captain and asst.-surgeon, U. S. A., is detailed as a member of the examining board convened at Fort Leavenworth, Kan., vice First Lieut. David Baker, asst.-surgeon, hereby relieved.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week of January 24:

Drs. G. H. Hart, A. W. Kaines, T. C. Foster, W. H. Block and J. R. Dykes, appointed acting assistant-surgeons.

Surgeon W. F. Arnold, detached from Cavite Naval Station and ordered to Port Isabela, P. I.

Asst.-Surgeon C. M. Oman, detached from Port Isabela, and ordered to the *Frolic*.

P. A. Surgeon A. G. Grunwell, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Hospital, Washington, D. C.

P. A. Surgeon N. O. Huntington, detached from the Navy Yard, New York, and ordered to the *Maine*.

P. A. Surgeon D. B. Kerr, detached from recruiting duty and ordered to the *Wabash*.

P. A. Surgeon R. C. Holcomb, commissioned passed assistant-surgeon.

Asst.-Surgeon C. H. DeLancy, detached from recruiting duty, and ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon F. M. Bogan, detached from Naval Hospital, Washington, D. C., and ordered to the Navy Yard, Washington.

Dr. J. P. DeBruler, appointed assistant-surgeon, Jan. 3, 1903.

A. A. Surgeons R. A. Campbell, W. P. Keene and R. B. Chapman, ordered to duty with recruiting party.

P. A. Surgeon R. W. Plummer, detached from recruiting duty and ordered to the *Prairie*.

P. A. Surgeon F. M. Furlong, detached from recruiting duty and ordered to the Navy Yard, New York.

A. A. Surgeon J. T. Miller, ordered to recruiting duty.

A. A. Surgeon W. H. Janney, ordered to the Naval Hospital, Port Royal, S. C.

Surgeon A. M. Moore, retired, appointed member of board of examiners, civil engineers, Chicago.

Surgeon J. C. Byrnes, additional duty as member of board, examination of civil engineers, New York.

Surgeon E. M. Blackwell, additional duty as member of board, examination for civil engineers, New York.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 22, 1903:

Surgeon Preston H. Bailhache, leave of absence for thirty days from January 6, amended so that it shall be for 12 days.

Surgeon H. W. Austin, leave of absence for three days under Paragraph 179 of the regulations.

P. A. Surgeon G. M. Guiteras, granted leave of absence for seven days, under Paragraph 181 of the regulations, from January 19.

P. A. Surgeon J. H. Oakley, leave of absence for two days granted by Bureau letter of January 13 revoked.

Asst.-Surgeon W. A. Korn, to proceed to Delaware Breakwater Quarantine, and assume temporary charge of the station during the absence, on leave of P. A. Surgeon C. H. Lavinder.

Asst.-Surgeon J. S. Boggess, granted leave of absence for four days from January 21.

A. A. Surgeon F. F. Sams, leave of absence for thirty days from January 1, granted by Department letter of January 5, amended to read thirty days from January 5.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 4, 1903:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 28-Jan 11, 10 cases.
Colorado: Denver, Jan. 3-10, 7 cases.
District of Columbia: Washington, Jan. 10-17, 2 cases.
Illinois: Chicago, Jan. 10-17, 14 cases.
Indiana: Jan. 10-17, Evansville, 3 cases, 2 imported on river steamer; South Bend, 5 cases.
Kansas: Wichita, Jan. 10-17, 1 case.
Kentucky: Lexington, Jan. 10-17, 1 case; Louisville, Jan. 14, 1 case.
Louisiana: New Orleans, Jan. 10-17, 1 case.
Maine: Jan. 10-17, Biddeford, 15 cases; Lewiston, 17 cases.
Massachusetts: Jan. 10-17, Boston, 15 cases, 3 deaths; Cambridge, 1 case; Chelsea, 1 case; Melrose, 1 case.
Michigan: Grand Rapids, Jan. 10-17, 6 cases.
Missouri: St. Louis, Jan. 4-18, 31 cases.
Nebraska: Omaha, Jan. 10-17, 10 cases.
New Hampshire: Nashua, Jan. 10-17, 4 cases.
New Jersey: Jan. 10-17, Camden, 3 cases; Newark, 3 cases, 1 death; Plainfield, 2 cases.
New York: Jan. 10-17, Buffalo, 5 cases; New York, 2 cases, 1 death.
Ohio: Cincinnati, Jan. 2-16, 22 cases; Cleveland, Jan. 10-17, 16 cases; Dayton, Jan. 10-17, 4 cases; Hamilton, Jan. 10-17, 1 case.
Pennsylvania: Jan. 10-17, Altoona, 1 case; Erie, 4 cases, 1 death; Johnstown, 8 cases; McKeesport, 3 cases; Philadelphia, 35 cases, 2 deaths; Pittsburg, 19 cases, 3 deaths.
South Carolina: Charleston, Jan. 3-17, 9 cases.
Tennessee: Memphis, Jan. 10-17, 4 cases.
Texas: San Antonio, Dec. 1-31, 3 cases.
Utah: Salt Lake City, Jan. 3-17, 45 cases, 1 death.
Virginia: Danville, Jan. 10-17, 9 cases, 1 death.
Wisconsin: Green Bay, Jan. 11-18, 1 case; Milwaukee, Jan. 10-17, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 20-27, 5 cases.
Barbados: Dec. 19-Jan. 2, 9 cases, 1 death.
Belgium: Dec. 20-27, Antwerp, 4 cases, 1 death; Brussels, 2 deaths.
Brazil: Bahia, Dec. 13-27, 4 cases.
Canada: Amherstburg, Jan. 10-17, 2 cases.
Canary Islands: Las Palmas, Dec. 6-13, 2 cases.
Great Britain: Dec. 27-Jan. 3, Birmingham, 2 cases; Leeds, 7 cases; Liverpool, 48 cases, 3 deaths; London, 14 cases; Manchester, 5 cases.
India: Bombay, Dec. 9-23, 10 deaths; Madras, Nov. 27-Dec. 12, 2 deaths.
Italy: Palermo, Dec. 20-27, 13 cases, 1 death.
Mexico: City of Medico, Jan. 4-14, 4 cases, 2 deaths.
Russia: Moscow, Dec. 13-20, 2 cases, 2 deaths; Odessa, Dec. 20-27, 5 cases, 2 deaths; St. Petersburg, Dec. 20-27, 21 cases, 2 deaths.
Straits Settlements: Singapore, Nov. 8-Dec. 6, 12 deaths.

YELLOW FEVER.

Columbia: Panama, Dec. 29-Jan. 12, 9 cases, 3 deaths.
Ecuador: Guayaquil, Dec. 20-Jan. 3, 22 deaths.
Mexico: Tampico, Jan. 3-10, 6 deaths; Vera Cruz, Jan. 3-17, 9 cases, 8 deaths.

CHOLERA—INSULAR.

Philippines: Manila, Nov. 16-Dec. 6, 154 cases, 126 deaths; total to Dec. 9, 4,533 cases and 3,402 deaths. Provinces, Nov. 16-Dec. 6, 1,358 cases, 852 deaths; total to Dec. 9, approximate, 117,246 cases and 74,505 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Dec. 12-26, 21 cases, 16 deaths.
India: Bombay, Dec. 9-23, 3 deaths; Calcutta, Dec. 6-13, 35 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Dec. 31, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Dec. 8-23, 243 deaths; Calcutta. Dec. 6-13, 18 deaths; Karachi, Dec. 7-14, 17 cases, 14 deaths.

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Original Articles.

GUNSHOT WOUNDS OF THE THORAX AND ABDOMEN.

FROM THE VIEWPOINT OF THE CIVIL SURGEON.*

W. L. RODMAN, M.D.

PHILADELPHIA.

INTRODUCTION.

In a fifteen-minute paper it will be only possible for me to deal with a few of the most important principles involving the diagnosis, prognosis and treatment of gunshot wounds of the thorax and abdomen. They must, moreover, be treated in a general way, as extended consideration of the injuries possible to each organ or viscus is clearly out of the question. I shall largely avoid statistics, as they are unsatisfactory unless the size and character of the missile, its range and velocity, the probable condition of the viscus at the time of the injury, and the length of time supervening before the surgeon sees the case, are given. I shall also avoid all theories as to ballistics and the resistance of the different tissues as demonstrated by experimentation, leaving such matters to my good friend and distinguished confrère, Major LaGarde. I shall take the cases as we see them on the streets, in their home or in hospitals.

GUNSHOT WOUNDS OF THE THORAX. 1. CHARACTER.

Shot wounds of the thorax are penetrating or nonpenetrating, the former when the cavity is opened, the latter when there is only a superficial wound of the soft parts. The latter class may at once be dismissed as being of little more importance than other flesh wounds, the only difference being that shock is necessarily greater, and in a few cases very much more pronounced. I have known the wind knocked out of a man primarily, and marked shock caused secondarily, by a superficial pistol shot wound. Slight hemoptysis may also occur from concussion, and is not pathognomonic, as has been taught, of penetration.

Penetrating wounds may involve pleuræ, lungs and bronchi, or any tissue in the anterior, middle or posterior mediastinum, as pericardium, heart and great vessels, thoracic duct, esophagus, or indeed anything contained in the theoracic cavity. I have never known a bullet to injure the esophagus or other tissues placed in the posterior mediastinum, and it is remarkable how few such cases are recorded even by military surgeons, when we consider the great number of chest injuries received in battle. The number thus wounded in street fights also is large, for in an altercation where pistols are used as weapons at close range, the chest is usually aimed at. I should say, in a reasonably large experience with gunshot injuries, there have been ten times as many of the thorax as the abdomen.

2. DIAGNOSIS.

The diagnosis of penetration is, as a rule, not difficult, and should always be made without the use of a probe, as it is as harmful in thoracic as in abdominal wounds. The lungs, for manifest reasons, will suffer far more frequently than all other thoracic viscera, and the diagnosis of penetrating chest injuries is largely the diagnosis of wounds of the lung.

Injuries of the heart and great vessels are so quickly fatal that less interest attaches to their diagnosis. They are not invariably fatal, however, as many supposed before the days of the *x*-rays. Bullets have been located in the substance of the heart sometime after complete recovery. If the cavities of the heart are opened, death nearly always ensues. The diagnosis of penetrating wounds of the lung is to be made by shock; hemoptysis; external hemorrhage, which is rarely great, and when present is practically always due to a wound of an intercostal vessel by a ball of large caliber; by emphysema, local or general, or both. In balls of small caliber, as a 32, or those of lesser size, it is surprising how few symptoms may be present.

I have known a young wife, suffering from post-marital insanity, to fire two pistol balls, 32 caliber, through her lung in the region of the heart and present no symptoms beyond a slight hemoptysis when I saw her, three hours afterward. Her recovery was uneventful.

The amount of external hemorrhage in such cases is nearly always less than one would suppose from the vascularity of the pulmonary tissues. But other elements to reckon with are elasticity and slight resistance. Hemothorax, which sooner or later may be the most pronounced sign of a penetrating wound of the lung, is nearly always due to injury of an intercostal vessel, and is therefore from a parietal and not a visceral source. This is important to remember in the treatment of such injuries.

3. PROGNOSIS.

I wish to say most emphatically that my own experience leads me to reject absolutely the teaching of most of our standard text-books on surgery, and to accept that of modern military surgeons, which is exactly the opposite, and correct. Shot wounds of the chest, as we see them in civil life, either die at once from shock and hemorrhage or, very generally, get well. Later dangers as hemothorax, pyothorax, pleurisy, pneumonia

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

and abscess, are exceptional, and usually due to meddlesome surgery. Probing, either with an instrument or unsterile finger, has been the cause of death in thousands of such cases. Infection may be carried in with a bullet which has adherent to it a piece of skin or clothing, but such cases are, I repeat, exceptional. Thoracic wounds occurring in young or middle-aged subjects in good health, if kept from infection, very generally recover. I have treated dozens of such cases shot with pistol balls of caliber from 22 to 44, a few with rifle balls of large caliber, and two from slugs and large shot fired from a shotgun, and have never seen a death that did not occur in a few hours from shock and hemorrhage combined. A few cases, usually large balls in the lung substance, have had stormy convalescences, but a vast majority have had painless and uneventful recoveries.

I now recall the case of Sidney Smith, living near Louisville, Ky., who received two perforating wounds made by a 38-caliber revolver, one through the apex of the right lung, making its exit through the middle of the scapula, the other passing through the left lung just above the heart, lodging beneath the skin over the left scapula. There were no disquieting symptoms, and he actually wanted to leave his bed the following day to renew the difficulty with his assailants, and was only quieted with the information that one of them was *hors de combat* from an abdominal wound, and the other had left the country. I made but two visits to the case, as he lived ten miles from Louisville, and there were no reasons for going more frequently.

I recall another case treated in the Louisville City Hospital, where a burglar was caught entering a store early one Sunday morning and received a charge of slugs and shot in his right lung, fired at close range. An opening was made almost large enough to admit my fist, several ribs being severed into fragments. The house surgeon before my arrival, and I afterward, removed a large number of slugs, shot and clothing from the lacerated lung substance; the ribs were, of course, resected. To my great surprise this man also recovered and did not even suffer from a pyothorax. Free drainage saved him.

4. TREATMENT.

The treatment for shot wounds of the thorax should, as a rule, be a masterly inactivity. The less done the better. The wound should at once be covered with a sterile dressing, that side of the chest immobilized as far as possible, and the patient transported quickly and quietly to his home or a hospital. It is always better to have such cases in a hospital where the *x*-rays can be used if desirable. Hemorrhage, either external or internal, will rarely be great, and when it is, is nearly always due to injury of an intercostal vessel and will be controlled by strapping. Any attempt to ligate the vessel in an emergency case is liable to result in infection, and to be followed by pyothorax, pleurisy, pneumonia or all. I have but once seen free external hemorrhage after a shot wound of the lung.

A negro was caught trespassing on a farm after being warned to keep off, and was shot in the right side with a large rifle ball, which cut the fifth intercostal vessels. When I reached the man he was pulseless, of the peculiar ashy gray color seen in the negro suffering from shock and hemorrhage, the latter particularly, and blood was flowing from the wound in a steady stream, showing that the pleural cavity was partly full of blood; at least up to the level of the wound. The environments were not favorable for ligating the vessel, so I transfixed the wound with a needle, tied a figure-of-eight suture over it, strapped the chest and sent the case to the Louisville City Hospital. I had no doubt this man would die, but he recovered without a pyothorax. A large amount of liquid blood was aspirated a few days afterward, this being all that was necessary.

A study of all the cases of gunshot wounds of the chest during our recent war with Spain, the Anglo-Boer war and the Philippine insurrection will demonstrate the comparative benignity of such wounds, many soldiers again reporting for duty in a very short time. Hemothorax was a frequent complication only in soldiers transported a long distance. Pyothorax occurred only where there was emphysema secondarily. Aspiration, under the strictest aseptic precautions, is to be advised when there is dyspnea or other signs of pressure on the lungs. Absolute rest, cooling drinks, a little opium to control cough, with a sterile immobilizing dressing, constitute the only treatment necessary in the vast majority of cases. In severe hemorrhage saline infusion should, of course, be practiced. Any attempt to recover a lodged ball from the substance of the lung would be fraught with danger, and would rarely be justifiable. Nearly always will it remain a harmless tenant in the lung tissue, always unless it has carried in septic material. Now that bullets are so easily and accurately located by the *x*-rays, it is tempting to go for them at times when it is injudicious to do so. Patients are not only willing, but insist on the removal of the ball. In no other class of lodged balls is it more necessary to remember Abernethy's epigrammatic statement to his class when lecturing on the treatment of lodged missiles. He said: "Sir Ralph Abercrombie received a bullet in his thigh. The surgeons groped, they groped and they groped, and Sir Ralph Abercrombie died."

I am certain that I have seen death follow the removal of bullets that were doing no harm whatsoever, they having become encysted.

GUNSHOT WOUNDS OF THE ABDOMEN. 1. CHARACTER.

These are penetrating and perforating—the former when the peritoneal cavity is opened, and the latter when any contained viscus, its mesentery or the omentum is wounded. This definition, while not free from objection, is generally adopted in text-books and is therefore accepted.

A bullet may enter the neck, thorax, buttock or thigh, to subsequently penetrate the parietal peritoneum and to cause single or multiple wounds of the intestines or other abdominal contents. Douglass reports a case that entered the sacrosciatic foramen, and caused 13 perforations of the intestines.

Of penetrating abdominal wounds a vast majority are also perforating in character, at least 97 per cent. according to Douglass. That undoubted cases of penetration without perforaton, difficult as it is to understand, do occur even with large pistol balls, all must admit, as such cases are reported by Senn, Stimson, Oliver, Hunter McGuire and others.

I have had one such case: A telegraph operator at East Bernstadt, Ky., was shot with a 38-caliber ball, midway between the ensiform-cartilage and umbilicus, the ball cutting the spinal cord and lodging behind the eleventh dorsal vertebra. There were no symptoms whatsoever to indicate wound of either stomach or intestines, and the man was alive, though paralyzed, a year after the injury. He had been fasting for 24 hours and to this fact, perhaps, is to be attributed his escape from early and actual death, only to lead an existence infinitely worse, a living death.

Wounds above the umbilicus, especially antero-posterior ones, are recognized as being less likely to cause perforation. Those below, and especially oblique ones, are far more likely to be perforating in character; whereas those from flank to flank have heretofore been

generally considered as almost certain to cause one or more perforations.

The last statement, almost universally accepted as it has been, must either be modified so as to conform to the experience of military surgeons in recent wars, or to accept their conclusions that multiple perforations when made by reduced caliber bullets at high velocity may repair themselves spontaneously. Mr. Makin believes that the small intestines in some way escape, and thinks such good fortune is usually due to the fact that soldiers in battle have not infrequently been fasting for many hours.

Sir Frederick Treves, the late Sir William MacCormack, and many other British surgeons, as the result of their experience in South Africa, and Senn, Nancrede, Parker and LaGarde, all saw during our war with Spain penetrating wounds that seemed to be perforating ones, recover. A careful investigation of the subject will convince any one that both sides to the controversy are partly right, and that safety and conservatism lie in a middle course.

A larger per cent. of penetrating wounds than now usually admitted (3 per cent.) are non-perforating. Still, admitting this, and doubling or trebling the number, at least 91 per cent. are perforating in character. Of this 91 per cent. 65 per cent. injure the intestines. After all, this is the important fact to remember, for on its appreciation depends the proper treatment of shot wounds of the abdomen.

In general military surgeons contend that the reduced caliber bullet, nickel clad as it is and of high velocity, may produce one or more wounds of the intestines which in their nature are practically incised ones, and that they may heal spontaneously. They do not claim, however, that such a fortunate result will generally occur and that it is wise to expect it; but in emphasizing the possible fact, do, perhaps, hold out too great a hope of its probability. That it rarely occurs in civil practice with a leaden ball, more or less round and of low velocity, there can be no doubt. I have never seen such a case, and, moreover, have never seen a civil surgeon who had.

"Ever" and "never" are words that have no place in surgery, and it is only fair and reasonable to admit the possibility of spontaneous healing in wounds of any hollow viscus. It will occur so rarely in civil practice that it would be the height of folly to expect or assume that it will do so.

Much depends on the size, shape, character and velocity of the bullet; the viscus wounded, and whether or not it was empty at the time of injury, and of almost as great importance, whether it is a more or less fixed organ as the stomach and large intestines, or freely movable as the small intestines. A reasonable number of wounds of the stomach, large intestines, urinary and gall bladders have been reported by different surgeons as having recovered spontaneously.

Other cases of supposed perforating wounds of the small intestines have recovered without operation, and the case of Lange in civil practice and many others in military practice seem unquestionable.

Richard Douglass reports a case with 13 perforations of the small intestines, and although the patient walked without assistance one mile after he was shot, there was no evidence of intestinal contents having escaped at any of the openings 22 hours after injury, when a laparotomy was done. Now, if this can happen, we simply must admit the possibility of spontaneous cure in one or more favorable wounds of the small intestines. Many instances of pathologic perforations caused by gastric and intestinal ulcers have recovered spontaneously, yet they constitute so small a per cent. of such cases that a physician who rested his treatment and hopes on the slim chances of recovery without operation would be in every way recreant to the trust and responsibility placed on him when even the probable diagnosis of perforation is made.

Would any surgeon in this section hesitate to operate on a strangulated hernia because a few undoubted cases have recovered without operation?

2. DIAGNOSIS.

The time at my command is too precious to spend any of it in considering the symptomatology of intraperitoneal injury. There is nothing to add to what has already been said many, many times, and in fact by every one who has written on the subject.

There will rarely be positive evidence of either penetration or perforation. The only safe way to make a diagnosis is to sterilize the wound, enlarge it under cocain, and with the sterile finger follow the track of the ball until a diagnosis of penetration or non-penetration is made certain. Probes should never be used, as they are both misleading and dangerous. The diagnosis of penetration having been made, the probability of perforation must be assumed.

3. PROGNOSIS.

The prognosis of penetrating shot wounds of the abdomen can not be looked on as otherwise than most grave. Some, of course, are more dangerous than others. Wounds of the solid viscera, especially the liver, are less fatal than perforating wounds of the hollow viscera. Of the latter, wounds of the small intestines are the most dangerous.

As already intimated, wounds of the large intestines, especially the cecum, ascending colon and rectum, on account of their more fixed position, are somewhat less fatal. Contrary to what has usually been taught, extraperitoneal wounds of either intestines or bladder are more fatal than intraperitoneal ones. Of this Makin is positive, and he cites numerous cases to prove his position.

The prognosis of wounds of the abdomen above the umbilicus is better in general than that of those below. Douglass insists, and rightfully, that the difference is not so great as many have thought, for while perforations of the hollow viscera are less frequent, the danger of hemorrhage is much greater. To this also may be added concomitant injuries to the pancreas, kidneys, liver and spleen. So, with Douglass, I dissent from the comparatively favorable prognosis usually given of these injuries.

Antero-posterior wounds are on the whole less dangerous than oblique ones, and of all wounds those from flank to flank are the most fatal. Wounds from the back are more fatal than those entering in front, for two reasons: The uncertainty of diagnosis, and the greater difficulty of repairing the injury. Emptiness of a hollow viscus at the time of injury greatly influences the prognosis for the better.

Of penetrating wounds of the abdomen Seigel's statistics show that of 537 cases not subjected to operation 55.2 per cent. were fatal. Of 763 cases subjected to laparotomy 51.6 per cent. were fatal.

Douglass' statistics are both more recent and more encouraging, and do not include cases in Seigel's collec-

tion, as they were all operated on within the past five years, and were collected indiscriminately from literature since 1895. Of 65 cases operated on 44 recovered, 21 died; mortality, 32.3 per cent.

Douglass' personal statistics are much better, as in his last 8 operations there were but two deaths, and both, we may say, were accidental, as one died from leakage at the site of a Murphy button and the other from a mural abscess many days after injury.

H. H. Grant of Louisville has operated six times—three times resecting intestine—with five recoveries.

4. TREATMENT.

Admitting, as we have done, that small wounds of solid viscera frequently get well spontaneously and that perforations of hollow viscera may, though less frequently do so, no one with experience in such injuries will advise opium and a "do-nothing" policy; no greater mistake could be made.

But I am not here to advocate operation, as that is unnecessary, but I do wish to insist on as early a laparotomy as is consistent with the environments and condition of each case. Not an unnecessary moment should be lost in preparing for an aseptic operation.

It is not only an easy task to prove that cases operated on do better than those not operated on, but as easy a one to show that the chances for recovery are directly proportional to the earliness with which operative measures are begun.

Seigel's statistics (763 cases) show a mortality of 15.2 per cent. in cases operated on during the first four hours; it is 44.4 per cent. from 5 to 8 hours after injury; 63.6 per cent. 9 to 12 hours after injury. It is 70 per cent. in those operated on after 12 hours. The reasons for this are manifest. On impact a bullet causes a momentary spasm of the circular fibers, which produces a hernia of the mucous membrane or ectropion. This is immediately followed by intestinal paresis, and both the ectropion and arrested peristalsis have a tendency to prevent extravasation of intestinal contents.

Extravasation will occur sooner or later, and should always be expected. The important question is when does it occur? It may be moments in one case, hours in another, all depending on the size of ball, angle of impact, condition of wounded viscus—elements that can not possibly be reckoned with in the vast majority of instances. Knowing that it must occur sooner or later, owing to circumstances, it should be the endeavor of the surgeon to operate before dangerous, if not fatal, soiling of the peritoneum has occurred.

All surgeons of experience in such cases have realized that extravasation in gross amount has not usually occurred before the intestines are handled in the operation.

Protecting each aperture with gauze as soon as it is encountered should be the first desideratum. All openings should be quickly closed by Lembert sutures, and further secured, if necessary, by omental grafts. Unnecessary time should not be lost in paring the edges, unless it seems that they are devitalized. Fresh hemorrhage is often thus produced and valuable time wasted. In no other class of operations is judicious speed more necessary.

After all openings in the viscera are closed and hemorrhage controlled, the peritoneal cavity should be copiously flushed with warm sterile water. Sepsis and shock are both best combated in this way. Leaving a reasonable amount of sterile water in the cavity has much to commend it. The pretty general practice of using saline infusion during and subsequent to operation has perhaps done more than anything else to improve recent operative results.

It is my belief that drainage should very generally be employed in shot wounds of the abdomen. In wounds high up, in the lesser peritoneal cavity, for instance, posterior drainage should always be employed. It may also be made with advantage in some wounds low down, as shown by the cases of Harte and LeConte. As to the manner of drainage, some prefer gauze drains; others tubes; others, still, use both. In my judgment it matters little how drainage is made, but it should be made.

Early action of the bowels should be insured by beginning with small doses of calomel soon after the patient comes out of ether. This, I think, safer than injecting a saline into the bowel at the time of operation.

When the surgeon first sees a case of shot wound of the abdomen he may find it in profound shock, and the question of an immediate or delayed operation will be pressing. It can not be too strongly insisted on that in nearly all such cases shock is due to internal hemorrhage, and to wait for its subsidence or amelioration is very generally a fatal mistake. Shock emphasizes the necessity of an immediate operation. A saline infusion should be given at once by an assistant and a laparotomy proceeded with.

While insisting and believing that the safety of all cases of shot wounds of the abdomen will be best subserved by as early a laparotomy as is compatible with the environments, it is also my belief that late cases—even those seen in general peritonitis—should be given the benefit of operation.

In November, 1897, I operated on a case fifty-one hours after two wounds of the small intestines had been received, the man having been brought 250 miles, 9 miles of the journey being made in a wagon over a rough country road. The man was in general peritonitis; pulse, 130; temperature, 103; respiration, 36. I frankly told his brother that it was my belief that he would die on the table, and I operated from a sheer sense of duty. The cavity was full of fecal matter and the outlook could not have been less promising. There were two intestinal wounds. To the surprise of all of us he made a slow but satisfactory recovery, and is perfectly well to-day. For ten days he was delirious, difficult to keep in bed and markedly septic. Free sloughing of the external wound occurred, yet it did not result in ventral hernia.

I have also reported a case of perforating typhoid ulcer which was successfully operated on thirty-seven hours after the accident, the child being in marked general peritonitis, with a pulse of 165; temperature, 103½; respiration, 40.

These two cases have taught me a valuable lesson, and I am not inclined to withhold operation even in advanced general peritonitis—however caused—if I can feel the radial pulse.

Before closing I wish to enter a protest against the teaching which has gone out from time to time that every case of shot wound of the abdomen should be operated on regardless of environments and the ability of the operator. Inexperienced and timid men have, from a false sense of duty, been made to operate on such cases when their lack of training, want of assistants and inadequate facilities foretold disaster to their patient. I have no patience with the statement that I have heard made more than once in medical societies that such cases should be operated on in a stable with a pen knife rather than pursue a course of masterly inactivity. Such talk—I will not dignify it by the name of teaching—is absurd, and brings surgery into well-merited disrepute. A trained abdominal

surgeon should always be had if possible, and it is better to wait a few hours for such an operator than to have an immediate operation by an inexperienced person. Moreover, we have learned something in the past few years from military surgeons, and now know that a penetrating wound is not necessarily a perforating one, and that those of the latter variety may spontaneously recover where the ball is of small caliber and high velocity.

Were I unfortunate enough to receive a shot wound of the abdomen I should insist on an immediate operation if the services of a competent abdominal surgeon and reasonably aseptic environments were at hand; but I am equally certain that I should take my chances on the battlefield or under conditions much the same in civil practice, where either the operator or conditions surrounding presaged disaster. Abstention from all food and drink with opium to check peristalsis early in the case will save more cases than reckless operating.

DISCUSSION.

DR. THEODORE A. MCGRAW, Detroit—There is a widespread idea that a bullet will strike the abdomen and come out after making a circuitous course. Several years ago I read a paper in which I described a number of operations on the lower animals showing this to be impossible. A gunshot wound may run around a hard substance like the scalp, but never in the bowels. In shooting through the abdomen the bullet always goes straight through. The reason the mistake is made is because surgeons do not take into account the fact that the abdomen changes its shape frequently. Sometimes the anterior muscles are away down to the backbone. The route may look circuitous, but it is not, and I feel I can say positively that a bullet never takes a circuitous course in the abdominal cavity. Contractions of the abdomen explain a great deal about the course bullets take in the intestine. If you will put a fellow through certain exercises you will see that the intestines are forced back so that the abdominal wall nearly touches the backbone. The bullet can pass to one side or the other of the small intestine and escape the coils.

The prognosis in the empty intestine is better than in the full intestine. If a man is shot through the stomach after a feast things are very different. The man who has been fasting for hours may have a wound in the stomach, but there is nothing to escape, so that the prognosis in the empty stomach is the same as in the empty intestine.

As to treatment, I wish to emphasize what every practical surgeon feels, i. e., that these patients should be operated on immediately, and in some cases it is better not to wait to make everything absolutely aseptic. If you are called to see a gunshot wound a long way from home, you had better operate immediately, using whatever instrument you may have. Do not let time go by, as extravasation will occur. Besides, we have to consider hemorrhage, of which some patients die on the table. Sometimes we err on the side of waiting to get everything in perfect condition, but the quickness of the operation is of more importance than the cleanliness. I should operate within the first half hour if I could get at the case.

DR. W. W. GRANT, Denver—This question was recently discussed at the meeting of the Military Surgeons' Association in Washington. I think the profession, the army surgeon particularly, is averse to immediate operation in abdominal wounds on the field. This question in the affirmative was advocated by an army surgeon, who has, of course, to support his view, the extreme mortality that results, as shown in the recent wars from abdominal wounds in which the intestines have been cut. This is true in South Africa and in the Philippines, according to statements recently made. Several instances are mentioned in which men were shot through the intestine and stomach and lay upon the field for twenty-four hours with absolutely nothing to eat or drink. These men recovered, while others who had taken something to drink died. This was both significant and interesting, and is in favor of the same form of treatment as that advised and brought forward by Dr. Ochsner in reference to certain forms and stages of appendicitis.

Beyond this my opinion is that the sooner the operation is done the better, and Dr. Rodman's statistics emphasize this point. A delay of only a few hours adds to the gravity and the mortality and therefore a man who has been shot, whether in the army or in civil life, should be operated on in the shortest possible time, even though we have not the most thorough aseptic conditions at our command. The sooner the abdomen is opened and the hemorrhage stopped the sooner your patient will begin to improve; the sooner he is operated on the less danger there is of fecal extravasation.

Transportation increases the gravity in such wounds in both civil and military life; consequently the soldier should be operated on by a skilful surgeon, at the "first line of medical assistance," and in civil life it is not wise to delay long in order to secure the complete equipment and advantages of a modern hospital.

DR. J. C. OLIVER, Cincinnati—The essayist has very clearly and emphatically pointed out the important fact that gunshot wounds of the chest are, when properly treated, followed by a very slight mortality. The general impression gathered from writings on this subject is that these injuries are of a very serious and often fatal nature—this impression is, according to my observation and experience, entirely erroneous. If patients do not die within the first twelve hours from shock or hemorrhage (and I think in this class of cases the terms can be used interchangeably) the vast majority will recover without serious illness, provided rest is given the injured parts. Aseptic dressing, combined with fixation of the chest, and opium to decrease the depth and frequency of respiration, are the routine measures to be adopted. My personal experience leads me to believe that with this method of treatment gunshot wounds of the chest may be classed among the more trivial injuries.

As to gunshot wounds of the abdomen—in a large proportion of these cases the patients are fatally wounded and will die, either with or without surgical intervention. One can not with accuracy say just what this proportion is, but it is undoubtedly a pretty large one. Wounds of the large vessels will prove fatal in the vast majority of cases, because of the time that must necessarily elapse between the receipt of the injury and the opportunity for surgical relief. It is surprising how long a patient may live after injury to the large blood vessels. I recollect a man in whom a bullet passed directly through the ascending vena cava. He lived long enough to be transported to the hospital and have his abdomen opened before death took place. The main causes of death in this class of cases are shock, hemorrhage and infection. The early deaths are due to the two former conditions; the later mortality is due to infection.

Fecal extravasation, at least in appreciable quantity, is not a frequent complication. Its presence is noted in about 5 per cent. of the cases, and the proportion increases with the lapse of time following the receipt of the injury. It is very rare in the cases operated on early unless the intestine is the seat of a long wound, or of an unusually destructive lesion.

Statistics very clearly indicate that gunshot wounds of an empty stomach are less serious in their results when not subjected to operative procedures. Wounds of the full stomach are rapidly fatal unless treated by early operation.

Shock is not of much diagnostic importance in cases of this class. I have seen most pronounced shock in non-penetrating wounds. On the other hand, it may be entirely absent in penetrating and perforating wounds. As an indication of penetrating, the presence or absence of shock is of but little value. The best way to make a diagnosis of penetration is by following the bullet wound with incisions.

The question of drainage following operation is an important one. The wounds of entrance and exit may be drained, as may also the tract traversed by the bullet, but experience certainly indicates that the drainage will, in a few hours at most, be limited to the immediate vicinity of the drainage tube; hence

it will not be very efficient as a prophylactic against peritoneal contamination.

The important lesson to be learned from a study of these cases is that early operations are the ones in which success is possible. Delayed operations have a very high mortality, and are useless in the vast majority of the cases.

DR. JOHN B. ROBERTS, Philadelphia—I would like to say a word as to the value of general venesection in the acute pneumonias following gunshot wounds of the lungs, as I believe it will often save life. I wish to dissent from the statement that hemorrhage and shock are the same thing. The symptoms are similar, and the surgeon may be unable to make a diagnosis from the symptoms, but shock is not hemorrhage. In the interest of scientific accuracy it is important to bear this fact in mind.

DR. A. J. OCHSNER, Chicago—In gunshot wounds of the chest the important point is immobilization, but there are few surgeons who appreciate this. Personally, I confess that the immobilization which I practiced was very incomplete until I visited the City Hospital in St. Louis and the surgeon there demonstrated to me a case of gunshot wound of the chest. The bullet had perforated the chest through and through, but the patient was perfectly at his ease and breathing quietly. The resident surgeon informed me that they had treated nineteen successive cases of these wounds by the method he should use, without any more difficulty than that which was present in the case I observed. It was three years ago that I saw this case, and since that time my experience has been the same as that described above. The manner of immobilization was much more complete than that which I had previously practiced. It consisted in the application of a plaster-of-paris cast including the entire chest, so that the breathing was accomplished by the diaphragm entirely. The cast may be constructed out of adhesive plaster by covering the chest from top to bottom with several layers of the adhesive plaster, or it may be constructed of plaster of paris. It is interesting to note the effect on the chest. Instead of continually hacking the patient begins to breathe quietly, and within a short time his anxious, distressed appearance vanishes and he is able to rest.

In gunshot wounds of the abdomen the immobilization of the intestines is, of course, of the utmost importance. Every one who has frequently performed abdominal section knows that the intestine and stomach in healthy patients are ordinarily empty, with the exception of containing gas. The experiments of Cushing have shown that if a patient receives only aseptic food for a number of days pathogenic microörganisms in the intestines are rapidly reduced to a great extent. This is one reason why in military practice the patient frequently recovers spontaneously, although the intestine has been perforated. If the abdomen in these cases were opened more frequently I think we would find perforations in many cases which now recover without operation. Healing may progress as it would in a small typhoid perforation, provided the intestines are empty. In private practice this is an entirely different matter. These intestinal wounds almost always occur in drunken brawls, when the intestines are full of food, whereas in military practice the opposite is almost always the case. Of course the difference in the velocity and the size and construction of the ball, which Dr. Rodman has so thoroughly discussed, are of vast importance.

DR. ERNEST LAPLACE, Philadelphia—When food enters the alimentary tract the stomach and the intestines distend, and the immediate result is peristalsis. In gunshot wounds of the abdomen there is an immediate extravasation. When the intestinal tract is empty the intestines are collapsed and will contract when injured, so that there is no extravasation. We need not get septic food into our intestinal tract in order to have septic peritonitis. The normal intestines contain all the germs that ever produced peritonitis, and they are held in a harmless condition by the mucous membrane. Remove the membrane and let the germs out and see what happens; this explains peritonitis. No power can tell us precisely what condition the intestines were in when the bullet struck, and we should be clever enough to make a positive diagnosis so that should we proceed immediately a clean field of operation can be prepared. We must see what we do and do it perfectly; this is the doctrine of all medical science—fulfill the indication. There are two distinct things meant when you speak of shock. There is an immediate depression of the nervous system and cerebral anemia. If there is hemorrhage, that further adds to the cerebral anemia. As far as drainage is concerned, this will depend on the extent to which the peritonitis has gone. If there is very little peritonitis we need not drain, but if the peritonitis has started, let us do what we would do to an arm that was infected.

DR. H. H. GRANT, Louisville, Ky.—Almost every point has been considered except the technic of the operation. I believe we are all in accord that operative steps are immediately indicated when the diagnosis is made. In gathering statistics given by Dr. Rodman of 260 cases collected by me the question was asked if, in any case in which the abdomen was opened for perforating wounds, it was found that the operation had done any harm, and in every one of the cases the answer was "No." I took this to justify exploration in all doubtful cases. In determining the propriety of the operation we consider what is the danger to the patient from his injury. Practically speaking, it is always either hemorrhage or sepsis that kills, and no danger comes from putting the lesion before our eyes. The closure of the perforation, the removal of escaped fecal matter and blood, and the control of hemorrhage can be accomplished in no other way. In determining whether or not all the perforations are closed, it is particularly important, if possible, to decide on the direction of the bullet, as this will help determine the extent of injury to the intestines. As soon as the cavity is opened and the hemorrhage is controlled, the first perforation should be located and marked by a strip of gauze. Search of the intestines in both directions for ten or twelve feet for other perforations will usually find all damage; the number of perforations should, as a rule, be even. It sometimes happens that the bullet passes into, without escaping from the intestines, but if not found there suspicion of its escape should lead to further exploration. Sometimes also a knuckle of intestines is knocked off without perforation, making the number of perforations odd. If one perforation be overlooked, the whole object of the operation is defeated. In private practice the intestines are usually full of fecal matter, and its escape into the cavity soon takes place. Thorough irrigation is very important, as a small amount of fecal matter will surely escape. In the only death occurring in a series of ex-cases septic peritonitis resulted from imperfect cleaning, which was very difficult, owing to the great distension of the intestines with food. The propriety of eviscerating the abdomen is sometimes justifiable; better do this than overlook hemorrhage or perforation. When the intestines are pulled out there is considerable difficulty in getting them back, but I believe it is a wise thing to do in certain cases. As to drainage, I always use it, as I believe it is safer.

DR. WM. H. WATHEN, Kentucky—We must agree with the gentlemen who advocate an immediate operation in gunshot wounds penetrating the abdominal cavity, in civil practice where the shock is not too great and where the patients so often would have infection; but in military practice, where there is a delay of from six to twenty-four hours before the patient can be operated on, and it must then be done hastily, the indications are entirely different. In civil practice, many of the cases are wounded with a full stomach, which is not usual in military practice. If you have waited from twelve to twenty-four hours, your patient may be infected beyond remedial efforts, and you will get serious results. If the patient is then infected, he may not recover, with or without operation. In civil practice we do not have the same kind of bullet wounds. The new army rifle uses a .30 bullet, which makes a very small opening in the bowel or stomach, and seldom causes immediate or secondary hemorrhage. The second wound of the stomach, filled with a liquid or semi-

liquid, as in McKinley's case, is very large and ragged. This is accounted for in part by the direct impact of the bullet, but mainly by its explosive energy imparted to every part of the liquid. This has been demonstrated by the experiments of shooting into vessels containing water. Had President McKinley been drained posteriorly he probably would have recovered, and this could easily have been done by cutting through the back and introducing a gum drainage tube and gauze into the small peritoneal cavity. When the large peritoneal cavity becomes infected, it is doubtful if drainage will help matters. It is preferable to thoroughly wipe the cavity, and close it, without saline irrigation or drainage.

DR. R. H. GIBBONS, Scranton—The first important step in the treatment of these cases is the introduction of a catheter into the bladder and the next is to introduce a catheter into the bladder before the abdomen is opened. The first time settles the question of injury to the bladder and the second time of injury to the kidney or ureter. If you get bloody urine in the first instance you can come to the conclusion that it came from the injured bladder. Although it may be that either the ureter or the kidney is injured, you should search the lines of the ureters after exposure by celiotomy to see if you can find any perforation thereof. The kidneys should be most carefully searched. I know of death, in an otherwise surgically well cared for case, due to indirect wound of a kidney uncared for.

The next important thing is to make thorough repair of all injuries. Do not be in such a hurry to get the patient off the table, as Dr. Rodman rightfully says you should, for fear of lack of full repair. If a man has died under such circumstances something may have been improperly placed or unsurgically cared for. After repair, the peritoneum should be well cleansed by flushing with hot water, run in through a funnel and tubing. This is important and, above all, we should establish drainage of an efficient character.

In perforation of the chest the fixation of the chest and shoulders by plaster of paris is very important, far more so than most any other single act in the treatment of any kind of perforation of the chest walls; and this, too, regardless of whether the wound is one caused by a missile, accidentally or otherwise, or if it should be one premeditatedly made by the surgeon. I lost a case of removal of a large costo-chondroma due to the neglect of the use of this very means of fixation, given to us by a St. Louis surgeon a number of years ago.

DR. MILES F. PORTER, Fort Wayne, Ind.—I want to combat the pernicious teaching of Dr. Wathen, when he says that he would advise operation provided shock and hemorrhage are not too great. I am not ready to say that there is no such a thing as shock without hemorrhage, but I am quite positive we seldom see it. What we call shock is really hemorrhage. Shock as it ordinarily occurs is one of the indications for early operation. If it be nervous shock, you will have done no harm by putting the patient to sleep with an anesthetic. As to the possibility of severe injury from missiles which do not even penetrate the peritoneal cavity the essayist says nothing. I would like to hear what his experience along this line has been. My own experience has led me to think that such injuries are not very rare.

DR. FLOYD W. MCRAE, Atlanta, Ga.—Five cases of penetrating wounds of the chest and abdomen have come under my observation within the last 90 days, 4 in hospital service and one in private practice; 2 were stab wounds of the chest, knife penetrating the diaphragm and stomach; 3 were gunshot wounds of the abdomen, with intestinal perforation. While stab wounds of the abdominal cavity are less fatal than gunshot wounds, the reverse has been my experience in wounds of the chest. Of my 2 cases of stab wounds of the chest, both died, one within a few hours from hemorrhage, and the other from infection of the pleural cavity from the stomach. Of the 3 penetrating gunshot wounds, one died from general peritonitis, due to an overlooked perforation, convex border of the transverse colon. The exploratory operation was done by the house surgeon of Grady Hospital. Five days later I opened the abdomen, letting out a large quantity of pus and fecal matter. Patient died 48 hours after the second operation. The second case was in the service of Dr. Cooper; operation about two hours after the injury. Several perforations of the intestine were sutured. Recovery was uneventful. The third case was a private patient, Griffin, Ga. Operation was done about 8 hours after receiving a pistol shot, 38 caliber, median line, about one inch above the pubes, which made three perforations of the ileum and tunneled the bladder without cutting through the mucous membrane of the latter. The perforations were closed in the longitudinal axis of the intestine, bullet removed from the pelvic wall. Gauze drainage. Recovery.

DR. R. HARVEY REED, Rock Springs, Wyo.—No one has made reference to the direction in which the wound is received. Those cases of gunshot wound entering antero-posteriorly are not nearly so dangerous as those entering by the side, as experiments and experience have proven. In making our prognosis it is very material to know whether the bullet enters antero-posteriorly or laterally. I have seen instances where a person has been shot four or five times, with only a single perforation, while I have seen others in which one bullet entering laterally has made eleven perforations.

As to shock and hemorrhage, there is a vast difference between the two. We have instances almost every day in which there is a great amount of shock, but no hemorrhage. Hemorrhage and shock are entirely different factors. We should, as far as possible, make the diagnosis before we open the abdominal cavity. I have seen cases that have been shot through and through get well without any operation. If you have a perforation of the intestines it is your duty to at least make an exploratory incision.

DR. B. MERRILL RICKETTS, Cincinnati—I simply speak from an experimental point of view. It is hard to listen to men telling what should be done in the abdomen, and saying nothing about the chest, although the surgery of the chest is of as much importance as the abdomen. Various experiments have shown that injuries to the lung are also treated. Hemorrhage may be checked by ligature or compression. The Italians have frequently operated for gunshot wounds of the lung. The kind of missile has been changed, and is doubtless made aseptic by the time it reaches the point of contact. It has been said that the chest should be fixed with plaster of paris; fixation for what? Is it to prevent the lung from expanding? You may fix the chest to prevent the ribs from expanding in cases of fracture, but the lung goes on expanding just the same. The lung may be removed with the ligature in a dog, and any one or more ribs may be removed. One of the principal factors is the internal mammary artery, but this can be avoided. Danger from the intercostals is not so great.

DR. S. H. WEEKS, Portland, Me.—I can subscribe to nearly all that has been said, but I wish to take exception to Dr. Grant's statement that the abdominal cavity should be irrigated. There is occasionally a case where irrigation may be necessary, but I want to make a most emphatic statement that it is bad practice as a rule to irrigate the abdominal cavity. The line of infection is along the track of the bullet, and if you practice irrigation you will diffuse the septic material among the intestines. It is better to wipe with gauze than to irrigate.

DR. C. E. THOMSON, Scranton, Pa.—I had a case of gunshot wound of the chest and the bullet was found in the chest wall by the *x*-ray. An anesthetic was given, and the man struggled desperately while taking chloroform. We could not find the bullet, and put him back to bed. A second *x*-ray was taken the next day, and the bullet was located in the thoracic cavity, lying on the diaphragm. Recovery was uninterrupted, and the patient carries the bullet to-day. In another case, where the bullet perforated the intestines in four places, the patient died five days after the shooting from an undiscovered penetrating wound of the kidney. Wounds of the bowels which were closed by Connell stitch were found at the post-mortem to be completely healed.

DR. R. H. M. DAWBARN, New York—As to controlling hemorrhage from wounds of the chest and elsewhere, where we can not directly press by some means on the bleeding vessel (medical as distinguished from surgical hemorrhage), I think our profession has almost forgotten that very old and yet best of all ways, and this applies, too, to hemoptysis. I allude to cording the extremities close to the trunk, accumulating thereby blood in them until, from partial anemia elsewhere, faintness follows; whereon there is, from weak heart action, opportunity for clotting. As a point in technic, it is best to control the circulation in only three limbs at once, shifting after, say, a quarter hour to the fourth and letting up on the first limb, and so in regular order—this for the safety of the limbs.

Regarding gunshot surgery of the abdomen, like most surgeons in civil life I have had only a modest amount of it to do. But it happens that I have prepared in my life possibly half of the junior surgeons of both our army and navy (work I no longer do); and during the late war I kept in touch with many of these former students, to learn their practical experience on a large scale. As to intestinal surgery, their testimony is that non-operative measures are safer than operative in the emergency work following a battlefield. We can readily see why. Bowel surgery demands infinite attention to detail and scrupulous asepsis; conditions not readily obtainable where a line of desperately wounded soldiers await attention. At night, too, even in the tropics, the air is chilly, and chilling of the peritoneal cavity invites fatal shock. In a word, the "morphin splint" of the wounded bowels, at once stopping suffering and checking peristalsis, saves more lives. It puts the wounded organs at rest, preventing excessive leakage of stomach contents or of feces, and giving a good chance for adhesions to seal the wounds. It is imperatively wise to give absolutely no drink and no food, in order to avoid arousing fresh peristalsis and leakage. The morphin checks thirst and hunger by compelling sleep. In every sense, it is the wounded soldier's best friend; and, in my judgment, should be supplied in tablet form to the extent of one large dose in the surgical package for emergency use which is now placed in every knapsack.

DR. W. L. RODMAN, Philadelphia—I remember Dr. McGraw's paper very well, and I agree with what he says. Such an opinion is valuable. Soft tissues will turn a bullet as well as bone. Dr. Grant's picture has brought forward the question of what is to be done in military practice, but I kept off this subject because I thought Dr. LaGarde was here. Undoubtedly we have come to a parting of the ways, so far as the treatment of gunshot wounds is concerned. Military surgeons are right from their standpoint in advocating non-interference on the battlefield in view of the difficulties under which they labor. The wounds they see are altogether different from ours. They are made by a small conical angle bullet which cuts like a knife. It does not take in foreign material, and makes an incised wound. Single or multiple perforations will not be followed by fecal extravasation, and recovery may take place. In civil life we deal with a round bullet which usually takes in foreign material and practically always makes both a contused and a lacerated wound, which is nearly always followed by fecal extravasation. The military surgeons are right to a certain extent, but we can not admit that this method will do in civil life. Dr. Oliver is correct in stating that wounds of the stomach are less dangerous than those of the intestines, and there are several cases on record to prove this. There is no question that they do tend to recovery, and if the bullet is small this makes a great difference. Moreover, they sometimes result in abscesses and discharge posteriorly, just as a perforating gastric ulcer will sometimes result in abscess. Sometimes a traumatic perforation of the stomach will repair itself without operation. I said Mr. Makin stated that a bullet would not necessarily cause a perforation of the duct, but I also said he was opposed in this view by the vast majority of military surgeons. I mentioned the names of those who were opposed to Mr. Makin's views. I believe these perforations do heal in some instances. I agree with Dr. Porter as to shock and hemorrhage. I do not believe that shock is always due to hemorrhage, but it is very generally so. Ever and never are words that have no place in surgery. Where there is profound shock we shall do well to find the case that does not have a great deal of hemorrhage, but it will not do to say that shock is always due to hemorrhage. Dr. Gibbons' point in reference to the catheter is a good one, as it enables you to eliminate wounds of the bladder and kidney. Mr. Makin says that many wounds of the bladder recovered during the South African war, and he also states that an intra-peritoneal wound of the bladder, even though it be followed by extravasation of urine, is a less dangerous injury than an extra-peritoneal. He states that the same is true in reference to the intestine, and he cites cases to support this. I do not agree with Dr. Gibbons that one can take plenty of time to these cases. Those who have had the greatest success have been those who have taken some chances rather than to eviscerate and work indefinitely over a perforation. The operation should be done as soon as possible.

SANITATION AND POLITICS.*

WALTER WYMAN, M.D.
WASHINGTON, D. C.

The subject I have chosen is one on which I have reflected for some time, but I must confess at the outset that I have not given it the deep study and research required for its thorough and exhaustive treatment, so that these few remarks must be considered simply as preliminary in character with a view to stimulating both you and myself to a deeper study of the subject and a compilation of statistics and other facts bearing on it.

In discussing this and other interesting subjects in this Section, it is well for us to recall the real object to be attained and for which this Section on Hygiene and Sanitary Science has been established as one of the principal deliberative sections of the American Medical Association.

What is the object of hygiene and sanitary science? What can it be, except the elimination of preventable disease? Now this warfare on disease, to use a military metaphor, involves two methods: one by sortie or field work; the other by fortification. By sortie we corral disease in quarantine, we isolate the diseased persons and hold in observation the contacts, we clean up and disinfect infected places and objects; moreover, we establish sanitariums and hospitals for the cure of disease. By fortification we fortify our bodies against disease, so that the assaults of the latter may be repelled. We accomplish this by hygiene, by provisioning ourselves with pure air and sunshine, potable water, the rapid and safe removal of excreta, and in the meantime by laboratory investigation learn all that we can concerning the nature and habits of the enemy.

Now of these two forms of warfare there can be no question that fortification is the more important and, dropping here the military metaphor, how much greater is the necessity, how much wiser is the prevention of disease than its cure or restraint. It is but natural that in the growth of the human family attention should have been first directed to disease itself, just as formerly in its treatment the symptoms received greater thought and attention than its etiology; but it is one of the signs

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of the advancement of civilization, of the progress made in the uplifting of the human race, that prevention is rapidly being accorded its proper relative position. Our intelligence will be blinded if we fail to recognize this metamorphosis in the science of medicine, and our intelligence will be illumined and will light up the correct paths to a higher life if we recognize and act on the principle that prevention is better than cure.

Politics has been defined as the science or practice of government, and the definitions of government are "guidance, direction, regulation, management, control; the exercise of authority in the administration of the affairs of a state, community or society." Therefore, the correct interpretation of my subject is the relation between hygiene and sanitation on the one hand and government on the other, and I am using politics in its better sense.

It is pertinent here to urge that we guard ourselves against a wrong and unpleasant definition of politics. The word is essential in our national vocabulary, but too often is used as signifying that which is objectionable and even reprehensible, but because there are bad politics and bad politicians the term should not be considered one of reproach, and the science of politics should be no more disparaged than should the Christian religion because of backsliders and hypocrites. We should divest ourselves of prejudice against the name because it may be well utilized in the advancement of hygiene and sanitation and because it actually signifies the energy, the attention to duty demanded of a people who are blessed with self-government.

It would make an interesting chapter to detail the interference caused by faulty politics with sanitary affairs. No doubt all of us at this moment have in mind instances of the shameful sacrifice of sanitary and health matters to the selfish and unrighteous interests of unworthy politicians, but the simple inveighing against unprincipled politicians and impure politics has no corrective tendency. A more effective way is by substitution, by forcing to the front worthy issues on which the best citizens and worthy politicians may unite, and it has frequently occurred to me that such issues may be found in sanitary and hygienic policies. Thus can politics be made to aid us in hygienic and sanitary reforms and in the attainment of that sanitary welfare of communities and nations which means fresh air and sunlight, pure water and house drainage, sewerage and good paving, for the enjoyment of all. These the rich already possess, but the poor do not. But the rich can not reap the full benefits of these possessions until they are shared in by the poor, for the diseases incident to the overcrowding and bad sanitation of the homes of the poor find their way into the homes of the wealthy.

How these issues may be made, even in ward politics, is illustrated by the canvass and election of a certain councilman in a southern city, who made his political fight on the disinfection of school houses. In municipal politics the issue might well be made on the elimination of slums, the condemnation of insanitary buildings, the conversion of foul alleys into streets and courts, and the erection, either by municipal authority or by corporation, of sanitary tenements for the poor, the rent of which should not exceed the rent paid for the rooms or houses from which they should be evicted.

The discussion of these measures by the people and the politicians would be a most direct and practicable method of educating the poorer and more ignorant classes of our population in the principles of hygiene and the prevention of disease.

Political issues might also be made on the appointments on boards of health, both municipal and state, and state and municipal health officers, and the sanitary ideas which they represent. In state politics, inasmuch as crime as well as disease is frequently due, as stated by Dr. Alfred Carpenter, to vicious and insanitary habits and surroundings or the neglect of sanitary laws, there may well be made an issue with regard to sanitary and hygienic requirements as prerequisite to the granting of municipal or town charters. It surely is within the power of a state to demand that its cities and towns shall be properly sewered and paved and provided with wholesome water supplies.

With regard to national politics, the action of this great American Medical Association in providing a legislative committee and for a legislative conference of representatives of each of the state medical societies, and the action already taken by this committee and this conference are significant as illustrating issues already made in the domain of national medicine and sanitation. And even in international affairs there are indications that sanitation may in the near future become an important issue in international politics. I may here refer to the Second American International Conference which met in the City of Mexico in the latter part of 1901 and adjourned in January of this year, and to the resolutions concerning an international sanitary policy adopted by the delegates to that convention. These resolutions, published in the Public Health Reports of March 21, 1902, relate both to quarantine and sanitation, and provide among other measures that the governments represented shall co-operate with each other and lend every possible aid to the municipal, provincial and local authorities within their respective limits toward securing and maintaining efficient and modern sanitary conditions in all their respective ports and territories, to the end that quarantine restrictions may be reduced to a minimum, etc. And to give effect to their findings, they further provide for annual sanitary conventions of delegates from the several republics and the establishment of an international sanitary bureau with permanent headquarters at Washington. The first conference is to be held Oct. 15, 1902, and although the program, so far as I know, has not been announced, it will probably contain reports from the several republics on their quarantine laws, their prevailing diseases and sanitary measures now in progress and those proposed; furthermore, a discussion of the principles of quarantine, the scientific investigation of communicable disease and the sanitation of seaports. Thus we see how the doctrine of sanitation is spreading, how it may become a live issue in communities, towns, cities, states and national governments, and between nations. We see how sanitation may give life to politics and how politics may be made to serve the great cause of sanitation.

How frequently do we hear of the necessity of a campaign of education in sanitary matters. This education may in part be obtained from the school and the college and the university, through the daily press and through the bulletins of instruction so frequently issued by municipal, state and national health authorities, but, in my opinion, no means of providing this special education is superior, no method of reaching those whom it is most necessary to reach—the poor and ignorant—is superior to that of making this great movement an issue of politics.

DISCUSSION.

DR. H. O. MARCY, Boston—The subject is one which is of extreme interest and importance to all of us, and it has occurred to me that it might be of some value in introducing the discussion if I gave you briefly a chapter of our own work in Boston. Boston and the surrounding towns within an area of ten miles have a population of about 1,100,000, and twenty-six separate governments. These cover what is known as Greater Boston. The work of sanitation was commenced back in the days of my revered master, H. I. Bowditch. At that time it was pretty easy to manage the sewage system of the city of Boston, which was isolated from the surrounding towns. When, however, we were called on to bring into conjunction the combined interests of the twenty-five allied towns, we found that the task was not an easy one. As a matter of fact, it cost us many years of earnest political work to get the requisite laws passed through the legislature, and some of the difficulties are not quite settled yet. There always is, and, I am afraid, there always will be, a tendency on the part of particular towns to think that they are being required to pay a little too much, or that they are not getting their proper share in value of the money expended. The system as now developed is generally regarded as a very excellent one, and I have no doubt it compares favorably with that of any city in the world, but there is no gainsaying the fact that it caused us a great deal of trouble. The first thing we recognized was that it was of vast importance that we should bring general issues under the control of a central authority, and leave local issues in charge of local bodies. When you consider the difficulties we had to encounter in dealing with Greater Boston, and think of the enormously greater difficulties that must be overcome when you come to deal with the interests of different cities and states, you will commence to realize what an extremely complicated problem it is that presents itself for solution. By way of illustration I may say a word about one of our most formidable difficulties. It related to the water supply, and a common criticism has been that if we had gone to Lake Winnipisaukee, N. H., for our supply it would have cost no more than the present system, on which we are expending $40,000,000, and we would have had an unlimited supply, which would have met our wants in all coming times, without the destruction of towns and manufacturing villages. The large obstacle was that the lake was in a different state. Had it not been for that circumstance we could have had that fine water supply and, at the same time, have furnished all the towns along the Merrimac with all the water they require, and that at a cost not greater, and possibly a little less, than we are expending on our present works. Now, I repeat, if difficulties of this kind are met in local centers of population, how much greater the difficulties must be when we come to deal with the entire continent.

DR. STEPHEN SMITH, New York City—I also was reminded while listening to the paper of Dr. Wyman of the early movements made to secure sanitary legislation, and of the innumerable difficulties the pioneers encountered. We found how essential it was, in endeavoring to secure national and state legislation and even the passage of municipal ordinances, to get the political aspects of the question rightly fixed in the minds of the leading politicians. It was the same in Great Britain. The great sanitary reforms of that country were not effected until those questions regarding the protection of the public health had been introduced into politics and thus became a strong factor in the political issues of the day that the reformers succeeded in getting adequate legislation. Lord Beaconsfield was so impressed with the popularity of sanitary reform that he formulated the rallying cry of *Sanitas sanitatum omnis sanitas* for his party. It was eagerly taken up by his followers, and carried the election, and nearly all the sanitary reforms that have been introduced in Great Britain date from that time. Nor was the influence of that movement confined to that country. It extended to the continent of Europe and to America. We had the same experience in New York. For fifteen years we sought legislation through the efforts of medical societies alone, but in vain. It was only when we entered the political field and called legislators to account publicly that we succeeded in securing the passage of the law creating the Metropolitan Board of Health, the first board of health in the United States established on sound sanitary principles. The same facts are noticeable in the history of the New York State Board of Health. For many years the effort to secure proper legislation was made entirely through medical organizations, but with no success whatever. Disgusted with continual defeats, I proposed to my colleagues to pass the bill unaided if they would retire; they assented, and I at once enlisted two leading politicians in my effort. By their aid and judicious correspondence the bill passed both houses of the legislature by large majorities at the next session. No medical man went to the capitol, and it is still a mystery in the profession as to the agencies which passed the measure. And the same experience awaits us in efforts to secure national sanitary legislation. For years the medical profession has been struggling, through its various committees and organizations, to create a central sanitary authority, but with no results. Now, happily, the whole subject has been committed to the care of judicious leaders in Congress, and we are about to realize our highest and best anticipations. In our aversion to what is called partisan politics we are too apt to forget that all measures for the protection and promotion of the public health directly affect the policy of the state and hence must receive the approval or disapproval of the dominant party in the law-making department. We should on this account be very charitable in our criticisms of health officials who seek the aid of political leaders in securing proper legislation. State medicine must henceforth be regarded as a most important branch of our profession and those who devote their lives to its service are entitled to our highest commendation.

DR. S. A. KNOPF, New York—The preceding speaker, to whom we New Yorkers are so much indebted for the sanitary improvement of our port, has given you a bird's eye view of the situation as it existed some years ago. Unfortunately, things are not going on so well now in our state. We have had a hard time to get the necessary appropriation to build a sanatorium in the Adirondacks. The matter has been in hand for two years, and they have not commenced to build yet.

There is one thing particularly important that I would like to endorse in the address of Surgeon-General Wyman. It is the statement that we must interest ourselves in politics. Not until we do so can we hope to be successful in our efforts to clean up politics or to clean up some of the awful sanitary conditions in our cities and towns. It is of the greatest importance that we should have a national health board. Whether it ought to be connected with the Marine Hospital Service or with some other department is a matter of detail which ought to be easily arranged; but not until every state, city and town board of health can look to Washington for guidance shall we be able to make real and universal progress in sanitation in our country.

DR. SENECA EGBERT, Philadelphia—I am very glad Dr. Wyman has read this paper, because the subject is of very great interest and importance. Every one of us has duties right before us. Dr. Marcy, Dr. Stephen Smith, and others have discharged theirs, but we younger men have it within our power to do a great deal, and we ought to lose no time in doing it. In Philadelphia they have done a little work in the right direction. The mayor preceding the present one takes credit to himself for having had the alleys and smaller streets laid with modern pavements, and the present mayor, supported by a general public interest, has taken up the question of a new water supply. If we could only get the votes of the people who have had typhoid fever in their families we could possibly carry any election in Philadelphia. As a matter of fact, we are now in hopes, as the result of public agitation, of having part of the city supplied with pure filtered water within a very short period, and the whole city similarly

provided for in the course of two or three years. This means the expenditure of a large sum of money, and shows what can be effected when politics are brought into play as a motive power. Another small matter I may mention. In the part of the town where I live the neighborhood was isolated by what used to be a ravine, but which has now been converted into a very pretty park. We formed an improvement association and by looking after everything that pertained to the improvement of the locality we got all the residents interested. In this way we got rid of many nuisances and, what is more important, we frequently secured the interest of the select councilman of the ward and have had his cordial help. That man appreciates the power of the association, and knows that we can largely influence the vote of the district, though the association is neither partisan nor political. Whatever improvements we get, moreover, we get not for our own locality alone, but for the whole ward. This shows what can be effected even by a small community like ours. There is a National Village Improvement Association which is doing a great deal of good throughout the country, but while much can be done by voluntary effort the coöperation of those in authority is requisite if we are to make any tangible progress, and what we most require, it seems to me, is a central head. As a rule I do not believe much in centralization in politics, but I do not see how it can be done without, in sanitation. The various cities and country districts should be divided up into sanitary districts, each with its own officers, but all acting under the guidance of a central body. Only in that way can we get good scientific results and make correlated progress. Of course there are good and bad politics, and good and bad politicians, but even if we have to deal with the appointees under a bad system, it is better than to have no system at all. The first thing to aim at is the establishment of a department of health at Washington, and afterward the dividing of the country into districts in the way I have suggested, each with its health officers, who would work in harmony for the general betterment of the public health. In Pennsylvania there is at present a prospect of doing some good work by the correlation of the efforts of different state officers. Our state forestry officials have done much good by setting apart certain reservations for the use of consumptives. Platforms in these localities are also provided, on which the patients can erect their tents and other accommodations supplied. In this way great benefit has been derived by a considerable number of afflicted persons at almost no cost to themselves. That, as I have indicated, has not come through the board of health alone, but through the coöperation and willing assistance of the Forestry Department. I simply mention it to show how other branches of the governmental machinery can be utilized for the public good.

DR. WALTER WYMAN—Some of the facts mentioned by Drs. Marcy, Smith and others appealed to me as very interesting and full of practical suggestiveness. I hope they will lead to profitable results. The discussion of these matters brings out many facts with which we are not all familiar, and which it is of the highest importance we should know.

A Subsidized Press.—As an illustration of the place occupied in newspaperdom by quacks and patent-medicine makers the following figures convey some significance. Measured by column inches, the *Cleveland Press* of December 13 contained 1,181 inches of advertisements. Of these 1,181 inches, 549, or nearly one-half, were occupied by the advertisements of quacks and nostrums. In the figures there may be a possible error of less than five inches, but the figures are very nearly correct. When a newspaper derives nearly one-half its revenue from the "fake" in medicine it is not to be expected that human nature will enable such a paper to hold unbiased views in reference to medical affairs. Until newspaper editors and publishers are all educated men, the medical profession will be compelled to contend with the opposition of those who have no conception of medical science.—*Cleveland Medical Journal.*

THE DRAINAGE CANAL OF THE VALLEY OF MEXICO.*

HENRY O. MARCY, A.M., M.D., LL.D.
BOSTON.

For many reasons our southern republic has an increased interest to the people of the United States. The marvelous development which has taken place in Mexico during the last two decades reflects, in a large degree, the progress of civilization on this western continent. Under the extraordinary wisdom, energy and foresight of President Diaz, the former chaotic governmental rule has disappeared, to be replaced by a wise and good government, making life and property interests as safe as in the United States.

A network of railways is interlacing the republic in every direction. These now measure over seven thousand miles, built in great part by foreign, chiefly American, capital. Every department of industry is being developed with an hitherto unknown energy, and the enterprising American appears as the promoter or owner in all the more prominent sections of the country. This is especially noteworthy in the agricultural and mining interests. It is estimated that $400,000,000 of American capital has been invested in Mexico during the last two years, and $100,000,000 more is estimated for the investments of 1902. Although the finances of the country are on a silver basis, they were never as prosperous as at present, and the future of Mexico holds out an inviting field to young men of established habits and possessed of a certain amount of money for investment. This national prosperity, in striking contrast with the previous history of the republic, has made possible the accomplishment of great enterprises.

One of these is the recent completion of the sewage system of the City of Mexico and the great drainage works which control the water level of the entire valley of Mexico. It was my good fortune to spend last November in the republic as the guest of the American Institute of Mining Engineers. This most distinguished body of scientists, about one hundred and sixty in number, traveled in two superbly equipped special trains and were everywhere received as the guests of the nation. A scientific meeting of five days was held in the City of Mexico, and one of the special excursions was devoted to a careful examination of the great drainage works, under the personal supervision of Don Luis Espinosa, the chief engineer. This great scientist has won an international repute for the successful completion of this stupendous engineering problem, one without a parallel among the nations. So interesting is the history of the subject that I have presumed to sketch it a little in detail.

The City of Mexico, over six thousand feet above the sea level, is located in the lower part of a great hitherto undrained basin in the mountains. This basin, irregularly saucer-shaped, is about seventy-five miles in diameter, giving between three and four thousand square miles of superficial surface of drainage area. The sides of this valley are in many places very precipitous, culminating at the highest point in the southeast by the snow-covered mountains, of which the volcano of Popocatepetl towers in imposing if not unsurpassed grandeur over ten thousand feet above the level of the valley. At the time of the Spanish conquest, these mountain sides

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

were covered with heavy forestry, of which the mammoth cypresses of Chapultepec are almost the only survivors. Such forest growth, of course, greatly modified the ground water and evaporation. The average annual rainfall is only about twenty inches, and under the clear sunshine of this remarkable climate evaporation is greatly in excess of most localities. Volcanic in origin, the upheaval of the strata is very diversified, and, in some parts, especially the southwestern, is overlaid by a great sheet of volcanic eruptive rock. From



Fig. 1.—Main canal, up-stream from Santa Clara bridge.

beneath this issues an abundant quantity of pure, sweet water, which is utilized at Tlalpam as the best source of water supply for the City of Mexico, although the old springs of Montezuma at Chapultepec are still in use. The old aqueduct from these springs, built by the Aztecs, has long since disappeared, and only a few arches, built by the Spanish viceroys, still remain as picturesque monuments of this early engineering work.



Fig. 2.—Mouth of canal from Lake Texcoco.

The history of the unnumbered centuries is measured, in a degree, by the accumulation of the filtrate of the waters of this basin, collected in the dead seas or lakes of Mexico. In these the soda salts are naturally in excess. The drainage of such an immense valley naturally forms at certain seasons of the year very considerable streams of water, correctly denominated rivers. The overflow from this valley was by the single stream, the Tequixquiac.

The waters of Lake Texcoco, the lake nearest to the City of Mexico, are the lowest in the valley, usually about twelve feet below the level of Lake San Cristobal, which again is about eighteen feet lower than the waters of Lake Zumpango, which forms the northernmost link of this dangerous chain. The level of the great square of the City of Mexico is only four feet and one inch above that of Lake Texcoco, and consequently is over twenty-five feet below the level of Lake Zumpango, which receives the largest influx of water of any of the lakes of the valley. This lake, suddenly swollen by excessive torrential rains, forms a junction with the waters of San Cristobal, and the combined force burst the dikes which separate them from Lake Texcoco. In this way the inundations of the city proper have occurred. All this was scientifically recognized by the Aztec civilization, and the causeways, still pointed out to the traveler, over which the Spanish charged with such dire consequences in the capture of the city, were really great dikes, built to protect the Aztec capital from inundation.

These overflows, so excessive as to endanger the population of the city, have been of rare occurrence. Yet most disastrous effects took place in 1553, 1580, 1604



Fig. 3.—St. Cristobal bridge, fourteenth mile.

and 1607, in each of which years the dikes constructed for the protection of the city were entirely destroyed, and the city itself was inundated, with an enormous destruction of property and many thousands of lives. These misfortunes compelled the government to devise some better way to avert the possible impending danger. A French engineer by the name of Henry Martin (Spanish, Enrique Martinez), was commissioned in 1607 by the Marquis of Salinas, who was then viceroy, to attempt the drainage of Lake Zumpango by the stupendous canal known under the name of the "Desagra de Huehuetoca." The plans of Martinez were very comprehensive, intended to accomplish the drainage of the lower lakes as well as that of Zumpango on the higher level, the superfluous waters of which were to be drained into the valley of Tula, on the north, by a tunnel. The latter of these plans was adopted by the government, and the great subterranean gallery of Nöchistongo was commenced Nov. 28, 1607. No nation had a larger number of men, life-long trained in subterraneous mining, than Mexico, and this experience especially fitted them for such a stupendous work. Fifteen thousand Indians were employed, work

having been commenced by a number of different shafts, and this stupendous work was completed in eleven months, which gave a tunnel of 6,600 meters in length, or nearly five and a half miles. The breadth of this tunnel was sixteen feet and height thirteen feet when finished. The northern extremity of the tunnel conducted the waters into an open cut or canal over six miles in length to the river Tula. The facing of the tunnel was composed of the ordinary sun-dried brick of Mexico, very probably the only material that Martin had at command. Very naturally this was inefficient to resist the velocity of the waters within the tunnel and soon disappeared.

A facing of wood was tried which proved to be equally inefficient. Masonry was at last resorted to, but this did not answer permanently the purpose for which it was intended, because the engineer, instead of using the elliptical arch, constructed a sort of vault, the sides of which rested on a foundation of no solidity. The consequence was that the walls were gradually undermined by the water and the vault itself in many parts fell in. The tunnel was finally abandoned sixteen years later, closed by order of the government, and the old system of dikes and embankments was again put in



Fig. 4.—Main canal, up-stream, twenty-second mile.

order. Martin was again placed in charge of the works. The rainy season having set in with unusual violence, the tunnel was closed lest the water pressure on it should be too great, when, on June 20, 1629, in a single night, almost the entire City of Mexico was laid under water. For five years ensuing the water in the streets was so deep that canoes formed the only medium of communication. The foundations of many of the principal houses were destroyed and trade was paralyzed. The lower classes were reduced to the extremest state of misery, and orders were actually given to abandon the city and build a new capital in the elevated plain between Tacuba and Tacubaya, to which the waters of the lakes, even before the conquest, had never been known to extend. In 1684, which was a year of unusual drouth, a series of earthquakes so rent the valley in various directions that the waters gradually disappeared. This was accredited as a miracle, due to the intercessions of the Virgin of Guadalupe in behalf of her miserable worshipers.

Martinez, who had been imprisoned because of the disasters to his tunnel, was again placed at the head of public works by a new viceroy, when he commenced the building of the great dike to separate Lake San Cristobal from Lake Texcoco. This is over four miles in length, thirty feet wide and ten to fifteen feet in height. It was composed entirely of stone, with buttresses of solid masonry on both sides and three sluices, by which, in any emergency, a communication between the lakes could be effected and at the same time regulated. The entire work was completed in eleven months, although at the sacrifice of many lives, since the welfare of the Indians was held in little esteem.

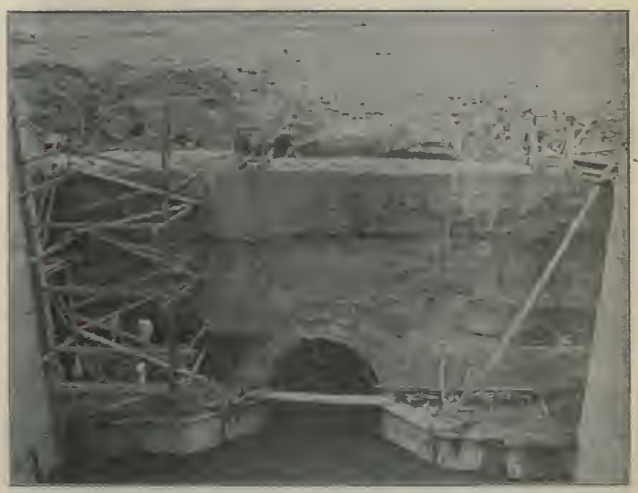


Fig. 5.—Entrance to tunnel.

The tunnel of Martin proved to be of great service, until finally it became choked by accumulated debris, and one hundred and thirty years after its completion it was determined to change the tunnel into an open cut or canal, and the work was concluded in 1789. The highest elevation necessary in cutting this canal varied from one hundred and fifty to two hundred feet, with a linear measurement of over thirty-six hundred feet.



Fig. 6.—Front elevation of dam.

To obtain such an immense depth of cutting the width was necessarily from two hundred and fifty to three hundred feet. The entire length of the cut was 67,537 feet, or seven and one-half miles, and yet all this immense mass of material was removed by hand labor and carried on the backs of the docile Indian and deposited on either bank. It is said that the lives of more than twenty thousand laborers were sacrificed in this stupendous work.

It was shown that by far the greater part of this expenditure would have been saved had this great engineer, Henry Martin, been permitted to carry out his first plans as he designed them, since the size and construction of his tunnel were greatly modified to save expense.

Martin also designed to build the tunnel at a lower level, in order that he might the better control the waters of the southern lower lakes.

This was about the state of affairs until the revolutions in 1810 and 1820, during which period all public works were abandoned, and the great canal became choked by debris, thereby greatly lessening its efficiency. The heavy rains of 1865 again inundated the city and valley of Mexico, resulting in enormous damage. However, the political events prevented entering on any measures worthy of record.

The present elaborate scheme for the proper sewage of the city and the drainage of the valley of Mexico was inaugurated by President Diaz in 1879, and the work was first under the charge of the engineer Don Luis Espinosa, who commenced to serve on the drainage works in 1871. He based his deductions on the average volume of water within the valley during a period of fifteen years, which gave him a comparatively safe basis for the estimated dimensions of the tunnel, which resulted in a calculated flow of seventeen and a half cubic meters per second. The work was completed March 17, 1900, at a cost of about sixteen million dollars, which included the entire outlay of the board in charge from 1886.



Fig. 7.—Rear elevation of dam.



Fig. 8.—Outlet of tunnel.

These works are now in full completion, and five objects are attained. First, the prevention of the inundation of the valley; second, the reception of the sewage from the City of Mexico and its discharge outside of the valley; third, the control of the water level of the valley; fourth, the use of the outflow fall for dynamic purposes; fifth, by irrigation for agricultural uses.

The works are composed of three principal parts, a canal, a tunnel and discharge cutting. The canal starts on the eastern side of the city and continues on that side to the Guadalupean range, between it and Lake Texcoco. A little before reaching the sixteenth mile it changes its direction toward the northwest, diagonally crossing Lake San Cristobal, part of Lake Xaltocan and through Lake Zumpango, passing close to the town of Zumpango before reaching the tunnel. The canal has a total length of nearly thirty miles. The bottom has a level of about eight feet at its beginning and at its end of about twenty feet, which level has its fixed measurement at ten meters below the line marked on the west tower of the cathedral, on the spot that was formerly occupied by the lower tangent of the Aztec calendar before it was removed to the museum. The canal has a uniform grade of about two feet per thousand. The depth of the canal below the surface at the starting point is about sixteen feet, and at the commencement of the tunnel about sixty-five feet. The sides have a slope of forty-five degrees and the width at the bottom is sixteen feet for the first sixteen miles and about twenty feet for the rest of the canal. These first sixteen miles may be considered as a prolongation of the great sewer, since it chiefly receives the sewage. The rest of the canal has communication with Lake Texcoco, and is intended to govern its waters, as it is the lowest in the whole valley and can receive the waters from all parts, for which reason the canal is designed to carry the largest volume that could pass through the tunnel, seventeen and a half cubic meters per second.

The ground through which the canal has been opened is essentially a clay formation. The filtrations or ground waters were found to be sufficient to cause a flow of two and a half cubic meters per second. The canal is crossed by four aqueducts and thirteen bridges, four of which are steel for railway service. The canal ends in a dam, the walls of which are built of stone and the front of which is strengthened by pilasters. The upper part, where the mechanism is placed for moving the sluice gates, has a width of twenty-five feet. These gates are moved on rollers in frames set into masonry. These raised, the water rushes out in a cascade on account of the difference of level between the bottom of the canal and that of the tunnel, amounting to about eight feet. The object of the dam is to control the discharge of the waters from the canal and stop the current whenever found necessary.

The entrance of the canal which receives the waters consists of an arch with the radius of five meters, supported on vertical walls. This section gradually diminishes until it is reduced to that of the tunnel, so that between the commencement and the final point of reduction it is the section of a cone.

The tunnel is a little over six miles long, the height is about fourteen feet and the width about thirteen. The tunnel has a brick lining of about sixteen inches.

At a distance of four hundred meters from each other are twenty-four shafts, having a width of two by three meters, the deepest of which is about three hundred feet. One of these I examined, being let down to the bottom by a modern elevator.

The tunnel opens into a discharge cutting, which is the third and last of the principal parts that compose the work and was the first to be completed. It is about a mile and a half in length and was formed by opening a natural excavation made by the waters in the ravine Acaplan, the stream having been turned by a special canal. All the water flowing through the canal and tunnel is utilized for motive power and afterward discharged into irrigating ditches and used for purposes of fertilization.

This stupendous piece of engineering is entitled to take the first rank in the solution of modern sanitary problems, and compares favorably with our own sewage system of Boston and the modern drainage works of the city of Chicago. The conditions of the problem of Boston render it impossible to utilize the outflowing currents for dynamic purposes. In this respect, however, Chicago has a better fortune, since the outflowing currents from the lake are being utilized for motive power; but Mexico, most of all countries needing irrigation, utilizes the drainage of the entire valley, enriched by the albumin excreta of her large population, for plant life, rendered doubly effective by climatic conditions which permit successive crops for food production during each of the months of the entire year.



FIG. 9.—Cut at outlet of tunnel.

Of the admirable sewage system of the city proper, I need make but brief mention, since it is not unlike the modern systems of sewage adopted by the chief cities of the world. The large main sewers discharge into the grand canal and are built of brick. The smaller sewers are made of vitrified clay pipe. No pumping is required except for the purpose of flushing the sewers, which is done by forcing the water from the springs found at a higher elevation at the south of the city, and is carried to the sewers by means of cast-iron pipes. In this way it is rendered possible to flush the whole system of sewers in the city every day by sudden rushes of water, which flow through the pipes with a velocity of one meter per second, although in many parts this can be more than doubled. It is undoubtedly not necessary to flush the entire system every day, but if for any reason this may seem desirable it is only necessary to employ four men for this purpose in each district, and as there are only five districts, twenty men only will be required to clean the whole of the sewers every day. These existing conditions are so favorable that they are almost unique, and the board of public works calls especial attention to the fact "that up to the present date there is no city in the world that can flush its sewers every day as can be done in Mexico, whenever it is considered necessary or desirable to do so."

The details of the dimensions of the sewers have been carefully studied from data covering several years. The large collecting sewers, built of pressed brick with cement mortar, are circular in form with a diameter of about eight feet, and these are carefully ventilated with every precaution taken to prevent silting.

The cost of the work now completed under the direction of the sanitation board amounts to about six million dollars, but this sum total of expense, and also of that of the drainage canal and tunnel, of which it is a part, must be considered comparatively small, since the labor cost is scarcely more than a third as much as in the United States.



FIG. 10.—Cut at Tequixquiac. Terminal canal. End of the work.

We have as a result the capital city of the republic rendered safe from future inundations, the ground water of the valley kept at a desirable level, the sanitary condition of the City of Mexico comparable to that of any other on the continent. The City of Mexico already possesses a population of 400,000 people, and is growing with a rapidity of one of our western cities. It is lighted by electricity, equipped with lines of electric cars, and its main avenues are paved with asphalt. The genius of the twentieth century broods over the entire republic, and the patient, downtrodden people are awakened to a new life in their endeavor to keep step with modern civilization.

MEXICO, May 28, 1902.

Dr. Henry O. Marcy, 180 Commonwealth Ave., Boston.

Dear Sir:—I am pleased to reply to your welcome letter of the 21st of last April, and ask you to excuse my delay.

You wish to know the area of the Valley of Mexico which is drained. If what you wish to know is the total area limited by the crests of the ridge of mountains encircling the valley, I may say it is estimated to be actually 8,060 square kilometers (3,125 square miles). But if you wish to know only the area of the lakes (marshes) which exist in the bottom of the valley, it has been a variable one.

Normally it is estimated at 511 square kilometers, distributed as follows:

Texcoco	272.2
Zumpango	21.7
Xaltocan	54.1
San Cristobal	11.0
Chalco	105.0
Xochimilco	47.0
	511.0

In times of flood the area of the lakes is increased. The last of these inundations took place in 1866, and it is estimated that the area occupied by the lakes was 844 square kilometers, of which that of Lake Texcoco was 438; 213 to those of the North, Zumpango, Xaltocan and San Cristobal, 193 to those of the South, Xochimilco and Chalco.

The mean rainfall in the Valley of Mexico is represented by rise in the rain meter of 0.52 m. (about 20 in.), according to observations of the five years preceding 1901-1902. It should be observed that there is less rain in the northern region than in the southern. On a separate sheet is a statement of the rainfall observed, giving an average of 0.52. In the City of Mexico the average rainfall is considered to be 0.62 m. (24 + in.).

The evaporation has been little studied. Observations made in special metallic vessels show that evaporation takes up from 5 to 8½ millimeters each 24 hours in the dry months from October to April, making an average of 6.8 millimeters. Other observations show 3 millimeters on the surface of the canals and lakes.

Another of your questions is: How low can the level of the lakes be reduced without affecting unduly (unlawfully) the level of subsoil water, unfavorable to vegetation in the valley? The extreme lowering of the level of the lakes does not affect the level of the subterranean (subsoil) water. This level has altered only in the zone through which the canal and drainage tunnel pass, lowering it from 5 to 8 meters; but this zone has been arid naturally, and therefore there has been no appreciable injury to its vegetation.

Finally, you desire to know by what per cent. it is hoped to reduce the quantity of salts of potash and soda, which are the injurious elements in the soil, as a result of the regular drainage of the valley.

The salts of soda are the only ones to be taken into account since the salts of potash are properly only present as traces. These salts of soda are found in the waters of Lake Texcoco in the proportion of 5½ or 6 thousandths; as soon as these begin to be eliminated there will remain those from the filtration of the subsoil which feeds the drainage canal, in which the salts of soda are reduced to 4 or 5 ten thousandths, and this is the minimum to which one can hope to reduce the brackishness of the water which will come from the valley in order to use them in irrigation.

I hope that these are the facts for which you asked me, and that I have been able to answer them to your wish.

I take this opportunity to repeat to you my sincerest regards, etc. [Signed] LUIS ESPINOSA.

DISCUSSION.

DR. BENJAMIN LEE, Philadelphia—Those who accompanied the Public Health Association to Mexico some years ago will remember a delightful day we spent in examining this tunnel, then in process of construction. Dr. Marcy has not used extravagant language in his estimate of the magnificent conception of the undertaking and the admirable manner in which it has been carried out. These works are simply stupendous. That is the only word that can properly be used to describe them. They have been carried out by a combination of mining and hydraulic engineering and native labor which in some repects was amusing. A great deal of the actual labor was performed by natives who filled baskets with the stone, earth and debris required for making the embankments, and placing the baskets on their heads carried them up the steep banks. Shortly before our visit the engineer in charge of the operations had decided that he would relieve the toiling Indians of this awful burden. Accordingly he imported a large number of American wheelbarrows. The natives were delighted when the barrows arrived. They thought them most useful contrivances, and divided them up with great care and interest. Next day the engineer went up to see how the work was going on, and you can imagine his surprise to find all the natives carrying the wheelbarrows on the tops of their heads.

Americans visiting Mexico for the first time generally go with the idea that they are going to teach the people a great deal. When they get there they frequently find themselves pretty well taken down. Dr. Marcy has mentioned the fact that you can travel with as much safety in Mexico as in the United States. I wish to surpass the Doctor's statement. I say you travel with much greater safety. There are no trains held up there. At every station going through these immense deserts you find a squad of mounted police. They patrol every mile of the railroad, and the result is that, while here scarcely a month passes without acts of brigandage and murder being committed, in Mexico that sort of thing is now obsolete.

There is one other point that struck me particularly when I was in Mexico. Most of us who are connected with boards of health find ourselves hampered by want of means. The State Board of Pennsylvania has a miserable little office on the ninth floor of an office building. Some state boards are better off, others worse. In Mexico the Superior Board of Health has a magnificent palace with a suite of rooms, ten, twelve or perhaps more rooms—each devoted to some special branch of work with all the arrangements admirably systematized. All the officials, moreover, are well paid. The chief engineer of the board is a man of great intelligence and ample salary, and the entire work of the board is carried on in such a way as to be an object lesson to visitors from this and other countries.

A third matter: The American Academy of Medicine, which has just been in session here, has been endeavoring for years back to raise the standard of education in the profession in this country. They are endeavoring to reach the point when every physician must be a college graduate. That condition has existed in Mexico for thirty or forty years. No man can commence his medical studies without having previously taken his degree in arts, and the result is a high standard of education. I assure you that if you have an opportunity of visiting Mexico you will come back wiser and better men.

SPORADIC CRETINISM IN CHILDREN,

WITH REPORT OF A CASE FROM THE UNITED HEBREW CHARITIES DISPENSARY.*

ROSA ENGELMANN, A.B., M.D.

Assistant Clinical Professor of Pediatrics, Rush Medical College.

CHICAGO.

TERMINOLOGY.

To J. Hilton Fagge, in 1871, belongs the credit of distinguishing sporadic from endemic cretinism and assigning to it the name sporadic cretinism. Jacobi was the first in America to present a sporadic case to his colleagues. Townsend and Lloyd, respectively, published "A Case of Congenital Cretinism" and "Sporadic Cretinism" before Osler's comprehensive monograph on this subject appeared in 1893. In 1897 Osler had collected 60 cases in America. Bullard, Booker, Rotch, Fruitnight, Northrup, Peterson and, most conspicuously, Koplik have augmented the literature with a special reference to the incidence of this disease in infancy and childhood. Heubner recently raised the point as to a more suitable name for this disease when occurring in early life. He protests against the term myxedematous idiocy, since neither relative nor absolute idiocy need accompany the infantile form of this disorder. I agree with him on this score, and on the further ground that pronounced myxedema may likewise be wanting, and that idiocy and cretinism are

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

terminal and preventable states, dependent on absence of or disease of the thyroid gland. Hence close reasoning and expression requires that this disease in childhood be called "sporadic, infantile, congenital and acquired athyrea," or "sporadic, infantile, congenital and acquired myxedema," and that the terms "sporadic cretinism" and "myxedematous idiocy" be confined to the untreated and adult cases.

HISTORY OF RESEARCH.

As late as 1896 Eichhorst said: "Myxedema is very infrequent in childhood." Since that time observation has proven the fallacy of this observation. Again, Ewald's dictum as to the absence and infrequency of congenital myxedema in children has not been sustained, and he himself has lately exhibited such patients. Both congenital and acquired cases of infantile myxedema have been studied and discussed in Germany by Heubner, Escherisch, Simon, Siegert, Stoelzner, Quincke, Neuman and others. Hertoghe of Holland has brought the subject up to date. Great Britain, by such writers as Bramwell, Beach, Pruden, Ord, Horsley, Murray, Mackenzie and Thompson, has widened this nosologic horizon. Such a body of workers and illustrative cases surely demonstrate the importance and frequency of this generally unrecognized disease.

In our country Koplik is the one who has been earnestly studying and pleading for its earlier recognition and differentiation from other diseases, such as rachitis, rachitic dwarfism, different forms of idiocy, infantilism, lipomatosis universalis, hydremic anemia. He has made the diagnosis before the third month of life, and hence has obtained the most satisfactory results from treatment. He reports one or more cases in the past year. Packard another. I have seen 3, Neuman of Berlin 5, Ewald 3, Heubner 1 in private and with Stoelzner 4 additional cases in polyclinic practice; 18 recorded and probably numbers of unrecorded cases in one year; certainly not an infrequent disease of infancy and very significant of growing knowledge and diagnostic acumen. In a collection of 52 cases in Great Britain half of the patients presented symptoms before the eighteenth month, and among the 52 cases enumerated by Fletcher Beach 9 were congenital. In Osler's 60 collected cases 18 were children, and 2 of these were of the congenital type.

ETIOLOGY.

Heredity seems to be a factor in the adult form. Its influence has not been determined in the infantile variety. Scanty statistics with reference to sex, nationality, climate and country on this subject prevent conclusions as to their etiologic import.

There is a growing belief as to the infectious origin of this disorder, but proof is still lacking. Myxedema is an infrequent but acknowledged sequel of such infectious diseases as typhoid, rheumatism, syphilis and erysipelas. What it is, however, that causes absence of anomalies and disturbed function of the thyroid gland and the consequences of the same, is not determined. Experimental work is being done and the importance of the parathyroids in the human dwelt on. The latter are known to develop in advance of the thyroid lobes and to be concerned in the nutrition of the general nervous system and in the regulation of the cerebral circulation.

The animal experiments of Vesale, Generali and Edmunds show that ablation of the parathyroids, with preservation of the thyroids, results in the disappearance of the thyroidal colloid substance and substitution by a watery secretion, making round vesicles, into which branching cells grow, similar to the histologic-pathologic picture of a compensatory hypertrophy of the thyroid gland. These findings apparently imply the assumption of a secretory function by the parathyroids, and a storage function by the thyroids. The interdependence of nervous control and secretion is recognized, but as to whether the one or the other is the primary causal factor is undecided. Exner and Edmunds, by removal of the superior and inferior laryngeal nerves of one lobe and a thyroidectomy of the opposite lobe, produced tetany in the dog experimented on; evidence of the regulation of thyroid secretion by the central nervous system. Microscopic sections of the above thyroids after this neurotomy showed, first, complete absence of colloid material, and second, incursion of the cells into the cavity of the vesicles, viz., a typical picture of compensatory hypertrophy, above referred to. Thus anomalous innervation seems to be the probable cause of defective secretion and the mainspring of the vicious circle. Von Cyon states that in goitrous animals and in athyrea of humans the excitability of the vagi (the vasodilators and inhibitors) is diminished or abolished while that of the sympathetic (the vasoconstrictors and accelerators) is increased.

DIFFERENTIAL CHARACTERISTICS.

The landmarks or differential characteristics of this disease in infancy and childhood are first and foremost:

1. Absence of atrophy or disease of the thyroid gland.
2. Mental torpidity and physical backwardness.
3. Weak musculature.
4. Paleness, puffiness and dryness of the skin with later a thickening and inelasticity of underlying tissue.
5. Abdominal distension.
6. Constant existence of umbilical hernia, that disappears promptly on thyroid feeding. Parker and Sargent call attention to this defect that in histories, at least, is overlooked, but always illustrated in the pictures of cretins, they say.
7. Obstinate constipation.
8. Not a retarded but a rudimentary dentition, evolutionarily parallel to that of a normal child of the same length or height as the cretin.
9. A brachycephalic skull and a general skeletal arrest more marked in the long bones; a dwarfism, due to slow enchondral and osteal diaphyseal progression, but not to an epiphyseal cartilaginous hyperplastic growth and an excessive deposition of the bone cells as seen in rickets. The process is a slow, lineal, symmetric delay of ossification rather than an epiphyseal and periosteal overgrowth.
10. A radiographic verification of this fact, demonstrating the parallelism and symmetric development of the long bones of the cretin as compared to that of a normal child of corresponding height, but not of corresponding age.
11. A radiographic exhibition of the absence of partial or backward evolution of the small bones of the hands contributing with the associated shortening of the phalangeal and metacarpal bones to the spade-like appearance of the hands.
12. The presence of Koplik's stigma of degeneration, viz., an excessive prominence of and over the os pisiformis separating the wrist crease from the antithenar prominence. Koplik does not believe that this deformity is consequent on pressure from crawling, since he has seen it in a three-months-old babe.
13. Diminution of the white and red blood corpuscles and the hemoglobin percentage. A progressive anemia.

14. Small heart, slow and almost impalpable pulse, cold and mottled surface, subnormal temperature.

15. Suprascapular and supraclavicular and other connective tissue or colloid pads. See Figs. 1, 2 and 3.

16. Hoarse, low-pitched cry and voice.

17. Peculiarities of posture and gait manifested when standing by a broadened base and by a swaying of the body when the feet are brought together, with closed eyes and by a sluggish gait.

CORRELATION OF THYROID, THYMUS AND PITUITARY GLAND FUNCTIONS.

Kocher was the first to indicate the direct influence of the thyroid gland on bone and blood formation. Virchow, in 1853, announced that dwarfism of rickets



Fig. 1.—B. L., cretin, at the age of 3. No treatment.

took place after the disease process had ceased and was a result of premature ossification. Bourneville, in 1890, Telford Smith and Horsley, in 1896, and later Hellier and Hertoghe experimentally and histologically proved that the skeletal changes of cretinism were absolutely opposed to those of rachitism.

Klebs had already noted the lack of distinct zones of ossification in the long bones of cretins. Feldman, Hofmeister and Eichelberg, in a very recent experimental and histologic work, demonstrate a distinct cartilage atrophy or dystrophy, as a result of thyroidectomy in dogs. These microscopic specimens showed a distension and separation of the epiphyseal cartilage with dissolution of its ground substance and formation of vesicles with shrinkage and destruction of the cellular elements. Mikulicz and Quincke are of the opinion that the offices of the thyroid and thymus glands are intimately correlated. The diminution of the leucocyte count in athyrea, and a preponderating number of persistent



Fig. 2.—B. L., at the age of 3½, after six months' treatment. He clings to the railing for support.



Fig. 3.—B. L., at the age of 7 years 1½ months; after two weeks' thyroid feeding.

thymus glands at the autopsies of cretins would seem to indicate such a correlation. Ord and Mackenzie describe enlarged thymus glands at the postmortems of all cases of Graves' disease observed by them. Hektoen, in his exhaustive work on this subject, concludes that the coexistence is more than accidental.

Some unknown connection between the pituitary body and thyroid gland is assented to by Poufik and others, and the hypophysis cerebri is supposed to act compensatorily in diseases of and absence of the thyroid gland. Packard's postmortem of a child cretin revealed an enlarged pituitary gland, calcareous degeneration of thyroidal and cerebral vessels, a cerebral abscess, fatty liver, granular spleen and swelling of cardiac muscle.

A section in Quincke's case of acquired myxedema, in which at the sixteenth month the thyroid was pea-sized and had vanished at the fourth year, revealed atrophy of the thyroid, diminution in size of the pituitary and smallness of the thymus glands. In another postmortem on a 3-year-old child, which had suffered from acquired myxedema, the thyroid was replaced by fibrous



Fig. 4.—B. L., at age of 9 years and 4 months, after two years' treatment. (Photograph taken July, 1902.)

tissue; the hypophysis was much congested and showed areas of increased cystic formation.

Poufik's observations and the histories of a few cases suggest the common heredity of acromegaly and myxedema. A father is cited to have been suffering with acromegaly and a daughter subsequently with acquired myxedema. Another instance is that of a father becoming acromegalic fourteen years after the birth of a cretinous daughter, whose dulness and dwarfishness were not noticed until her fifth year.

Sternberg gives the following points of similarity between the two disorders: The tongue of cretins is often large, the lips puffy and thick, the nose snubbed and short. Long bones in cretins are thick and short. The jaws of both acromegalics and cretins are prognathous. An enlarged sella turcica is found in skull of both and frequently a hypertrophied hypophysis. Indolence in both is marked and the skin of the back of the hands of acromegaly is much like that of myxedema. In acromegaly the thyroid gland is abnormal when examined histologically. An overgrowth of the hypophysis has been discovered to compensate for loss of thyroid function.

Relevant to this question of associated and correlated function are the physical and clinical findings in dwarfism, gigantism, asymmetric myxedema, acromegaly, micromegaly, scleroderma, etc.

Opinion is unanimous as to the benefit of thyroid feeding and as to an improvement proportional and constant according to its early institution and continuance. A perfect mental and physical restoration is thus dependent on a timely diagnosis and the establishment and continuation of this medication. Koplik and others assure us that the most rapid and brilliant effect takes place within the first six weeks of treatment. This apparent mental and physical growth spurt is a probable "making up for lost time," that settles down to a gradual evolution similar to that of the normal individual, so soon as the cretin's skeleton conforms to or catches up to that of a normal child of corresponding height. Ewald, Thompson and others believe, however, that continuous treatment causes a uniform growth and intellectual progression. The following table of two of Ewald's cases illustrates this belief.

GIRL 8½ YEARS OLD, DISEASE NOTICED AT FOURTH MONTH.

June 29, 1890, 31⅞ inches in height.
March 19, 1891, 32⅛ inches in height.
Jan. 8, 1893, 34½ inches in height; began thyroid feeding.
Feb. 13, 1893, 35½ inches in height; grown 1 inch in 1 mo.
June 30, 1893, 36¾ inches.
Feb. 8, 1894, 38½ inches in height.
May 11, 1895, 42½ inches in height.
March 8, 1898, 46 inches in height; normal of 8½-year-old.

7½-YEAR-OLD GIRL; DISEASE SINCE BIRTH.

Aug. 16, 1894, 30 inches in height.
Oct. 4, 1894, 31¼ inches in height.
Nov. 7, 1894, 32 inches in height.
Dec. 17, 1894, 33½ inches in height.
May 9, 1895, 36½ inches in height.
May 21, 1898, 46¼ inches in height.

Showing gradual continuous growth through four years of treatment.

THE AUTHOR'S CASE.

Thompson's patient was not thyroid fed until her third year. At her fifth year she outclassed her normal schoolmates of the same age. My patient did not regularly receive thyroid feeding until his seventh year, and his growth progression compares favorably with Ewald's cases. While mental and physical betterment is marked it is not commensurate to his skeletal improvement. As a matter of experiment he was placed on pituitary gland extract, and thyroid extract was omitted, when a general mental and physical retrogression was noted with, however, a decided accession of long bone growth. On the restoration of a regular morning dosage of thyroid gland extract and the continuance of an evening dosage of pituitary gland extract the child returned to his normal state, and still continues to improve, although he does not yet approximate to the normal of an 8-year-old, but rather about that of the normal for a 3-year-old. (Since this was written he has grown an additional inch and one-quarter in three months.) The history of my patient is as follows:

Benjamin L., 7 years 1 month old, weight 39⅜ lbs., height 2 feet 11 inches. About normal for 3-year-old child. Was a

nursling. Born at full term in America, of Russian parents, not related. One of eight children, one of whom is paraplegic. No family history obtainable. The mother has a medium-sized parenchymatous goiter, unaccompanied by symptoms. Has been, and is, a healthy woman. She noticed that this child was unusually cold and pallid at his ninth month, and that he did not act as a child of his age should. He was obstinately constipated from birth and had a pot belly without umbilical hernia or signs of rickets. Did not sit up until after his first year and did not walk until the middle of his third year. No eruption of teeth until after the first year, and the anterior fontanelle was not closed until his fourth year. Survived croup at his sixth week, and passed through attacks of measles, scarlet fever, diphtheria and pertussis. Began to talk imperfectly in a low-pitched, hoarse voice during his fourth year, and until he was placed under treatment; suffered also from incontinence of urine and feces. At 3½ years, after which for a short time he was placed on thyroid feeding, he presented the typical signs of a myxedematous idiot. See Figs. 1 and 2.

When first seen by me at his 8th year he was dwarfed to the size of a 3-year-old child; walked with waddling gait and stood with a broadened base, clinging to something for support. He swayed when he closed his eyes. His head was too large for his body. He presented a stolid, unintelligent, bloated, ashy countenance, with wrinkled forehead, flattened, broad, thick nose and thick lips, behind which were the decayed, deciduous teeth. His hair was slightly roughened, but plentiful. When asked his name he huskily and unintelligibly muttered it. There was mental apathy and slowness of speech. His neck was short and thick. His skin was so harsh and dry that, on removal of his clothes, the scales showered about him. He was cold to the touch and the skin was mottled. There was also thick, boggy, subepidermic infiltration more pronounced on the extensor surfaces of the extremities; and supraclavicular and suprascapular colloid pads. They also existed on the dorsal surfaces of the feet and hands. The temperature was 98, pulse 76, hardly palpable over the radial artery; the respiration 22 per minute. Heart small and apex beat hardly palpable or perceptible. Lungs normal. Thyroid impalpable, absent. Spleen and liver normal; pendulous abdomen; small, shortened and thickened extremities. Upper and lower extremities without other deformity except fatty tumors of the dorsum of the feet and hands. After two weeks' thyroid feeding he began to look and act more intelligently. No albuminuria, no glycosuria. See Figure 3.

That anemia is a pronounced characteristic of cretins is proved by his blood examination made May 3, 1902: Hemoglobin, 65; corrected, 71; no poikilocytosis; reds, 3,993,600; no leucocytosis. Differential count: small lymphocytes, 23 per cent.; large lymphocytes, 28 per cent.; indented lymphocytes, 2 per cent.; polymorphonuclear neutrophiles, 44 per cent.; polymorphonuclear eosinophiles, 3 per cent.

Synopsis of History and Treatment.—First seen March 27, 1900; 3 feet in shoes, 2 feet 11 inches in bare feet. Aged 7 years 1 month. Weight, 39⅜ lbs.

March 30, treatment began.

May 11, 2 feet 11¼ inches. (Grown ¼ inch.) Weight, 35 lbs. 10 oz. Lost 4⅜ lbs. Abdomen less prominent; fatty tumors disappearing; talks plainer, countenance brighter. Given 3 grains thyroid extract, t.i.d.

May 15, 2 feet 11¼ inches. Weight, 34¾ lbs. Temperature, 99. Shows a little color in ear tips and cheeks (before this ashen white).

May 24, 2 feet 11½ inches. Weight, 35 lbs. Has grown ½ inch. Temperature, 99.2. Disappearance of incontinence of urine and feces. Given 4 grains, four times a day.

June 14, 2 feet 11¾ inches. Weight, 34½ lbs. Has lost ¼ lb., gained ¾ inch in height. Temperature 100.8. Walks better, talks plainly, color in cheeks and lips; temperature above normal; urine normal.

July 24, 3 feet ½ inch. Weight, 29½ lbs. Has lost 5 lbs., and for the first time in his life perspired during hot weather.

July 27, weight 32 15/16 lbs. Can stand with a firm base, without grasping something for support. No longer sways on closing eyes; can bring feet together; runs easily; skin moist; temperature, 99.8; urine, no sugar nor albumin; pulse perceptible. Reduced thyroid extract to 2 grains, a. m. and p. m.; no symptoms of thyroidism except slight rise in temperature.

October 2, 3 feet ½ inch. Weight, 36¼ lbs. Had intermittent feeding during summer and passed out of observation until October 2, when he had gained in weight, but had not grown any. Skin again rough and scaly; abdomen enlarged, reappearance of supraclavicular pads; (eruption of one permanent molar and cuspid). Thyroid extract, 3 grains t.i.d.

October 26, 3 feet ⅝ inch. Weight, 38¼ lbs. Gained ⅛ inch in height; total gain, ⅜ in.

November 30, 3 feet ⅝ inch. Weight, 38 lbs. Temperature, 100; pulse, 88; thyroid, 2 grains, t.i.d. until January 24.

Jan. 24, 1902, 3 feet 1½ inches. Weight 37¾ lbs. Grown ⅞ inch in this interval, or total of 1½ inch. Hemoglobin 66.57. More intelligent, talks quite fluently in low voice, color in cheeks, lips and ears. Skin not so dry or harsh; urine normal.

February 26, 3 feet 1½ inch. Weight, 37¾ lbs. Stopped thyroid gland extract.

March 5, 3 feet 1¾ inches. Gave pituitary gland extract, 1 grain morning and evening, as an experiment on growth.

April 19, 3 feet 2 inches—¼ inch gain. Weight, 38¼ lbs.—½ lb. increase. Intercurrent bronchitis. Suprascapular pads reappeared, skin dry and harsh, he looks loggy; abdomen prominent, constipated; grew ¼ to ½ inch in a little less than seven weeks, but mother said child retrograded decidedly in every respect. Gave thyroid, 2 grains, morning, and pituitary gland extract, 2 grains, evening. Temperature 100.

May 15. Again became thinner, skin moist. Temperature, 99.2. Fatty tumors disappeared, abdomen smaller, limbs more symmetrical. Appeared bright. Permanent incisors cut. Greater growth symmetry and intelligence. He is still dwarfed, as I believe he always will be, since regular treatment was instituted too late for a perfect restoration. (Since writing the above the boy has grown 1¼ inches and has become more intelligent.)

BIBLIOGRAPHY.

A. Gordon Peterson: "Sporadic Cretinism," The Lancet, vol. II, 1897.

Rushton Parker and John Thompson: "Sporadic Cretinism and Its Treatment," British Medical Journal, September, 1896.

Henry Koplik: "Sporadic Cretinism and Its Distinction from Forms of Idiocy and Other Diseases," N. Y. Medical Journal, September, 1897.

Packard: Medical Record, June, 1891.

J. Beard: "The Source of Leucocytes; the True Function of the Thymus," Ant. Anz., vol. xviii, pp. 550-560, Jena, 1901.

W. Wyllys: "Three Cases of Myxedema of Varied Type," Lancet, London, pp. 1331-1332, 1901.

F. M. Pope and A. V. Clarke: "Cases of Acromegaly and Infantile Myxedema Occurring Respectively in Father and Daughter," Brit. Med. Jour., London, 1900, pp. 1563-1564.

P. F. Barbour: "A Case of Sporadic Cretinism," Pediatrics, N. Y., 1900, vol. ii.

Koplik and Lichtenstern: "A Contribution to the Symptomatology of Cretinism and Other Forms of Idiocy," Arch. of Ped., February, 1902.

Quincke: "Ueber Athyrea Im Kindes Alter," Deutsch. Med. Wchs., Leipzig, vol. xxvi, pp. 787-790, 805-807.

C. Benda: "Demonstration Mikroscopische Präperate von Cretinhypophysen," Berl. Klin. Wochsch., 1901, vol. xxxviii, pp. 80-82.

Ewald: "Forstellung Eines Falles von Myxoedema," Berl. Klin. Woch., 1900, vol. xxxviii.

J. Steinhaus: "Zur Casuistic der Knochenmetastism vom Normalen Schilddrüsen Gewebe," Cent.-Bl. f. Allg. Path. und Path. Anat., Jena, 1901, vol. xii.

Sultan (C.): "Beitrag zur Kenntniss der Schilddrüsen Function," Arch. f. Klin. Chir., Berlin, 1901, vol. lxiii.

Hackove: "Neue Beitrage zur Lehre von der Wirkung des Thyroidealen Saftes auf das Centralnervensystem," Wien. Med. Bl., 1900, vol. xxiii.

H. Neuman: "Ergebniss der Schilddrüsen Behandlung bei Sporadischen Cretinismus," Berl. Klin. Woch., 1900, vol. xxxvii.

F. Zeigert: "Zur Pathologie der Infantilen Myxidiotie des Sporad. Cretins oder Infantilen Myxoedems der Autoren," Jahrbuch für Kinderheilk., Berlin, 1901.

Stoelzner: Im Jahrbuch für Kinderheilkunde, 1900.

DISCUSSION.

DR. E. SHELLY, Atchison, Kan.—I have had a case of this sort under observation for the past seven years. When first seen by me the child was 5 years old, but had the appearance of a child of 6 or 8 months. The child has improved, but now, although 12 years old, has a mental development of a child of 6 or 7 years. She takes the thyroid extract every

morning, and is apparently in good health. At first, the thyroid was pushed until the onset of disagreeable symptoms, using about 3 grains three times a day; then I gave about half the former dosage, and latterly the thyroid has been given once daily.

DR. A. JACOBI, New York—I desire to specially emphasize the probability of a correlation of the ductless glands. We are in the habit of generally attending to one, and not infrequently with an indifferent result. I believe that many of the failures of poor treatment are dependent on this, because I think it would be well, for practical reasons, to combine the extracts of several of these glands in insufficient or faulty development. In a number of instances in which I have done this the results have seemed to be better. In myxedema, however, thyroid feeding is usually sufficient. I wish also to direct attention to a point in the gross anatomy. We have been told in the paper that Virchow, fifty years ago, drew our attention to the condition of the base of the cranium—the shortening of the cranium observed in most cases of cretinism. This shortness is the result of early synchondrosis between the sphenoid and occipital bones. When a rachitis develops after birth and the bones become eburnated the limbs remain short; if rachitis runs its full course before birth there is calcification of the occipito-sphenoid synchondrosis before that time; hence the base of the cranium remains short, and this explains why the basal ganglia of the brain can not develop. This should not be lost sight of. I think it was Baillarger who first pointed that out, even before Virchow. What has been called fetal rachitis resembles myxedema more than it does rachitis; they are not the same histologically. We have been prone to forget this important fact in recent years. I was particularly interested when this subject was presented in 1853, and, hence, in 1857 I published a paper on ossification of the sutures and fontanelles of the cranium. Since that time I have seen a good many such cases, and have found that whether they are improved by thyroid or not, if the base of the cranium is short, the improvement will not be marked. I have in the hospital now a child of 6 years looking like a baby of 14 months. The fontanelle is four times the normal size, and all of the teeth are decayed. There is a large thyroid and a still larger thymus. There was no evidence of intellect until thyroid was given in very large doses. The child took first 2 grains, three times a day, of Welcome and Burrough's preparation, and the dose was gradually run up to 24 grains, three times a day. Then a little tachycardia and perspiration appeared, and the remedy was stopped for a few days, and resumed in the dose of 12 grains, three times daily. This dose has been taken for a long time; it is not an excessive dose in this case, because it does not give rise to bad symptoms; on the contrary, the patient is improving.

DR. DAVID RIESMAN, Philadelphia—In Philadelphia a large number of cases have been presented at society meetings in the last two or three years. I believe that more brilliant and tangible results are to be obtained from preventive medicine in this class of diseases than in any other. The reader of the paper has designated these conditions as congenital or acquired athyrea. If intended to imply a functional athyrea, the term is well chosen; but otherwise, not: for only in sporadic cases is the thyroid generally absent. But I take it that the author means to refer to a functional athyrea. With regard to achondroplasia, I would say that histologically it has nothing to do with rickets, nor is it identical with cretinism. One of the differential points is that in achondroplasia there is penetration of the periosteum inward, between the epiphysis and the diaphysis—a peculiar periosteal ingrowth, which is not seen in cretinism. There is also a sclerosis of the marrow of the diaphyses of the long bones in the former affection.

In connection with cretinism and achondroplasia, it is well to consider some other affections, such as infantilism, dwarfism, etc. We can not say that these are not all in some way related; and, from the practical standpoint, it seems to me advisable in all of them to give a trial to thyroid gland. It can do no harm if cautiously used, and may do good. If it does good, we are dealing with a cretinoid state, no matter what else may be present. In endemic cretinism, thyroid gland has not accomplished much. This would surprise us if we did not know the attending circumstances. The reasons are these: In the first place, the cause persists in endemic foci, whether in the water or in some other agent. Another cause of failure is that people are ignorant, and will not adopt such remedies as are for their own good. Fortunately endemic cretinism does not exist in this country, though a considerable number of cases have been reported from one part of Canada. Where it does exist, education will accomplish a great deal of good.

DR. ENGELMANN—Where the cases are brought under treatment late, there is almost always a hiatus left like that described by Dr. Shelly. In my case there has been a decided advance in growth on using the pituitary gland. When there is general mental and physical retrogression I make use of the thyroid in the morning and pituitary gland in the evening. In my case the only evidence of thyroidism observed was a rise of temperature, and as this caused the child no discomfort, the dose was not reduced. As to Dr. Riesman's criticism, it seems to me a very just one. I have in mind, however, another case in which the gland is very much enlarged and, on second thought, I will allow my name athyrea to stand for it and the former condition as well.

REPORT OF TWO CASES OF DERMOIDS IN CHILDREN:

ONE OF THE TESTICLE AND ONE OF THE OVARY: WITH NOTES ON THE INFREQUENCY OF THE FIRST: THE ORIGIN OF BOTH.*

SAMUEL W. KELLEY, M.D.
Professor of Diseases of Children, Cleveland College of Physicians and Surgeons; Pediatrist to the Cleveland General Hospital and to the City Hospital, Etc.
CLEVELAND, OHIO.

In this fragmentary paper I shall first deal with the infrequency of dermoids of the testicle, giving a list of cases hitherto reported; and will give secondly a résumé of the theories of the origin of dermoids; thirdly, the characteristics on which the diagnosis is based, and fourthly and lastly, reports of two cases, one of the testicle and one of the ovary.

CASES OF DERMOIDS OF TESTICLES HITHERTO REPORTED.

In 1885 Verneuil[1] published an analysis of nine cases, all he was able to find in the literature, to which he added one case observed by himself jointly with Mr. Paul Guersant. Dr. Theodore Kocher[2] refers to these ten cases of Verneuil and adds four more cases, which were all he was able to find; one each from Tilanus,[3] Geinitz[4] in Altenberg, Lang[5] in Innsbrück and Pitha and Bilroth.[6] Mr. Holmes (1869) refers to Verneuil's cases and then adds one from Dr. Van Buren[7] of New York. Mr. Curling states (1845) that "Dr. Duncan of Edinburg removed a congenital tumor of the testicle from a boy 8 years of age. Dr. Goodsir examined the tumor and found skin, hairs and portions of cartilage in it," and he mentions Erichsen's allusion to Mr. Marshall's case[8] (1852). I do not know whether these cases were among those known to Verneuil.

In 1886, D'Arcy Power[9] reported a case and exhibited before the London Pathological Society a specimen of a dermoid tumor of the testicle removed from a boy of 4 years. Power remarks that in the previous 200 years only ten cases had been recorded. Possibly he alludes to those collected by Verneuil. Manly[10] reported a case (in a man 61 years old) before the New York

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

Academy of Medicine Feb. 14, 1899. C. C. Morris[11] reports a case of dermoid of the testicle removed by him from a boy of 12 years.

These are the only cases that a cursory look through the literature brought to my notice. There are probably others, but dermoids of the testicle certainly are not common, for Mr. Curling, with all his vast experience, writes as follows:[12] Cysts containing skin, hair, bone, teeth and other structures foreign to the part have, in some rare instances, been found in the scrotum in connection with the testicle. No case of the kind has fallen under my notice."

Senn says (1900): "There is no doubt that most of the cases of dermoid tumors of the testicle that have been reported were not within the testicle, but were on it—that is, were dermoids of the scrotum. That dermoids in this locality are not common is evident from the fact that Kocher[13] found only fourteen cases recorded in literature."

Ovarian dermoids are not nearly so rare as those of the testicle, but the reported cases are more numerous than we can reveiw to-day. However, ovariotomies at the seventh or eighth year have not been so frequent as to be without interest, and my case presented additional symptoms of obstruction of the bowels.

THEORIES OF THE ORIGIN OF DERMOIDS.

It is interesting to read in Guersant's "Surgical Diseases of Children," which was published in English no longer ago than 1871, the following statement: "In the newborn we sometimes, but quite rarely, meet with cysts in various parts of the body which contain the bones, teeth, hair and different portions of a fetus. These curious and familiar facts may be explained by the unequal development of two germs, one of which is encroached upon by the other, and remains, so to speak, nestled in it. They are sometimes for a very long time stationary, and in some cases terminate in inflammation." Thus dermoid cysts and fetal inclusions were confused. Again, in his chapter on cancer of the testicle, Guersant warns against confounding "these degenerated testicles with tumors produced by a false conception, sometimes seen in this region."

Holmes[14] writes (1869): "Dermoid tumors, when they occur in later life, are justly regarded as having no relation to fetal inclusion; but if one should be of congenital origin it might be difficult to distinguish it from an included fetal formation. Again, Mr. Holmes[15] writes: "The tumors of the testicle and scrotum met in children are almost all of a cancerous nature, or cystic, or included fetal remains. . . . Congenital dermoid cyst, or so-called fetal inclusion, is an affection very rarely met. . . . Teeth, bone and hair are the most common structures found in these cysts. As in those of the sacral region, . . . their real nature is doubtful. Some pathologists regard them as portions of a second fetus originally developed in the abdomen and following the testicle in its descent; others believe also in their fetal origin, but consider that they are originally developed in or near the testis; while the more general opinion at the present time seems to be that they bear more analogy to the dermoid cysts, such as are found so commonly in the orbit, than to cases of fetal inclusion. I incline to the latter view, founding my opinion partly on the analogy of such cases as that of Sir B. Brodie and Mr. Athol Johnson's, above referred to. In such cases tumors which arise congenitally are found, after death or removal, to contain scattered through their substance irregular masses of bone and other structures, but to present no evidence of any inclusion. The difficulty in the way of accepting this view of the congenital scrotal tumors is the occasional occurrence in them of structures (such as the gray matter of the brain in one case) which is ordinarily regarded as of too high organization to be produced by morbid action. Allowing, however, the accuracy of the observations, and admitting the fetal origin of such tumors as those which present compound tissue of this kind, we may still say that for the majority of congenital tumors in this region no different origin from that of the ordinary dermoid cysts has as yet been proved."

As you are well aware, the generally accepted opinion at the present day is that dermoids are caused, not by inclusion of one individual by another, but by disassociation or dislocation of some of the blastodermic elements of one individual; in other words, by an accidental malposition of a portion of one or more of the layers of the blastoderm, which took place during the developmental infolding of these various layers. These misplaced matrices developing produce specimens of their various structures—for instance, skin or mucous membrane, or epithelial cells (columnar, ciliated or squamous), hair follicles and consequently hair, sweat glands and their resultant secretions, teeth, bone, cartilage or nerve tissue; simple or more complex according to the nature of the embryonal elements that are displaced and intermingled. This places them in a class by themselves—the teratomata, distinguished from all other classes of tumors in which only one blastodermic layer is represented.

This theory of their origin also is supposed to account for the position in which dermoids are most often found, namely, where the different germinal layers fold in and coalesce, near the orbit, in the neck, in the coccygeal region, in the ovary, in the testicle or scrotum. Though they have been found in various other regions.

But now it seems that some embryologists claim that after impregnation of an ovum a single segmentation cell may split off before the establishment of the germ layers. And they say that it may be presumed as probable that almost up to the formation of the germinal layers any single segmentation cell even if dislocated, possesses the potentiality of producing all of the layers if necessary. So that if a cell of this kind were caught and infolded in the layers formed by the other cells it might proceed to develop into a parasitic growth of complex or organized structure.

In that case the difference in the origin of included fetus and of dermoid tumor would be that the former came from dissociated segmentation cell, while the latter was derived from a misplacement taking place after the formation of the layers.

In 1895 Max Wilms[16] published the results of careful and extensive studies, in which he claims that dermoids of the ovary are not teratomata, and are therefore not present congenitally; but that they are formed directly from an ovule in the ovary, by a kind of parthenogenesis. Kroemer's studies support the views of Wilms; and Kroemer shows that it is hardly proper to call the process parthenogenesis because, while this is a normal process in lower plant and animal life for the propagation of species, in the case in hand it is a pathologic process in which the growth and development of organs or portions of organs are atypical and without any definite law. Dr. Hans Arnsperger[17] agrees with Wilms and Kroemer, and they all take the view that the embryologic parts are formed from the ovule and the cystic parts from the follicle. Wilms explains dermoid

cysts of the testicle in somewhat the same manner, by a pathologic growth of the sperm cell. Wilms proposed the name "rudimentary parasites" or "embryomata" for encysted tumors and "embryoid tumors" for the solid variety.

B. Novy[18] announces after a series of microscopic studies, results virtually agreeing with the views of Wilms, who seems to be the first to have advanced proof of the ovulogenous theory. Dr. Francis Munch[19] gives an elaborate critical review of Wilms' work. After referring to the fact that dermoid cysts of the ovaries and testicles are distinguished from dermoid cysts occurring elsewhere, in that they are composed of three layers of the blastoderm, namely, the ectoderm, the endoderm and the mesoderm, Munch suggests the name of tridermic tumors as more appropriate than the name proposed by Wilms. He seems convinced that the theory of the parthenogenetic origin of these tumors so far as the ovary is concerned is well sustained, but that the exact similarity of those occurring in the testicles has not yet been definitely proven, although they are probably also of parthenogenetic origin.

This subject is very curious and fascinating, but let us take up something more practical and understandable.

THE CHARACTERISTICS OF DERMOIDS.

The characteristics on which the diagnosis clinically of dermoids is based are: the position, where the embryonal layers blend or of the testicle or ovary; the time of their appearance, which may be congenital or later. Of course, the beginnings of all dermoids, as of all teratomata, are present at birth and may be noticed then or they may not be discovered until later. According to Wilms these "rudimentary parasites" or "embryomata" of the testicle or ovary form an exception, or rather are put in a class separate from the teratomata. They are slow of growth and are painless unless inflamed. They may or may not fluctuate, according to whether they are cystic or solid, flaccid or tensely filled; or the same tumor may fluctuate in one part and be perfectly unyielding in another. Subcutaneous dermoids are not connected with the skin. They do not implicate adjacent glands unless inflamed or the seat of carcinomata.

It is to be remembered that sarcoma is the most common of the abdominal tumors found in childhood. That ovarian tumors in childhood are very rare; and when present are most apt to be dermoid cysts, carcinomata or teratomata. Also, that a dermoid may become the seat of carcinoma.

REPORTS OF TWO CASES. ONE OF THE TESTICLE AND ONE OF THE OVARY.

Case 1.—The first case I have to report is the following: Wm. T., aged 2½ years, was brought to me by his mother on account of a growth of the size of an English walnut in the situation of the left testicle. She was positive it had not been there at birth nor until he was a year old; but since appearing it had grown slowly, but steadily, notwithstanding they had used both internal medicines and local applications from several physicians. I found the tumor firm, the lower end being of a bony hardness and the upper portion, though fluctuating slightly, very tense. No pain, redness, tenderness, nor apparent heat. The scrotum was movable over it. The veins showed rather large and blue over its surface. There was no enlargement of adjacent lymphatics. Upon these data I based a diagnosis of a dermoid cyst, and advised its removal.

The parents consenting, I removed it in the presence of Drs. E. S. McIntosh and Alice M. Perry. The tumor corresponded anatomically to the testicle and did not involve any structure but the testicle. It was easily dissected out. Only the spermatic artery required tying. I closed the wound with catgut, and dressed with iodoform gauze. He made a good recovery, and is now a large, healthy boy, seven and one-half years after.

The tumor contained bone, fine hairs and several cavities filled with the sebaceous appearing material found in dermoids.

Case 2.—The other case I have to report is that of Elsie M., a girl of 7 years and 10 months. She is American born of German parents, who had six children, one of whom, the firstborn,



Fig. 1.—Dermoid of testicle. About one-half natural size.

was always sickly and died of "teething" at 16 months. Two children older and two younger than Elsie are now living and healthy. Elsie was small for her age, weighing 41½ pounds. (The average weight for girls at seven years is 48 pounds, at eight 52.9 pounds.) She appeared a rather pale and delicate, fair and flaxen-haired little girl, but bright and lively. When I was called to see her on June 11, 1900, they told me she had



Fig. 2.—Dermoid of ovary. About one-half natural size.

had no children's diseases but whooping cough when a babe and measles at 5 years of age. But that 2½ months previously she had been very sick with what had been called "inflammation of the bowels," with severe pain in the abdomen, some obstruction of the bowels, etc. During this sickness a "lump" was discovered in the region of the bladder. This was the first suspicion that the parents had of a tumor. She urinated frequently and urgently.

Seven weeks later she had suffered a second similar attack, which was severe for 4½ days, when it subsided rather promptly.

On my first examination, June 11, 1900, the tumor was easily palpable in the hypogastric region and seemed to be of the shape of a distended bladder. It extended nearly to the umbilicus, was dull on percussion, and firm, no fluctuation being made out. It was only slightly movable in its position. On catheterization I drew off ½ ounce of urine, of a strongly acid reaction. Evacuation of the urine made no difference in the tumor. On digital examination per rectum I found the uterus normal, but I could not satisfy myself about the ovaries. The tumor seemed to be at the fundus of the bladder.

June 18 I examined her again. The tumor was much more movable. I could press it upward till its upper margin was nearly an inch above the umbilicus and a space separated it from the os pubis, and could move it to either right or left of the middle line. On the previous day the child had had an attack of pain lasting about an hour. She had passed only about a pint of urine on the day of the pain, though she generally passed nearly a quart, it was said.

June 25 the tumor was much more freely movable than before. I could move it upward and to the left lumbar region freely—not so far to the right side. By this time I was pretty sure I had to deal with an ovarian tumor on the left side, and an exaggerated Trendelenburg position, massaged and manipulated the abdomen carefully and used a copious enema. These manœuvers were rewarded with a prompt relief of the pain and a free escape of feces and intestinal gases. That ended the attack of "inflammation of the bowels" and I believe my theory as to the cause of the obstruction was correct.

By this time the parents were convinced that the tumor must be removed. However, it was not until September that they would give final consent. On September 29 I operated on her at the Cleveland General Hospital, removing the tumor through a small median incision without any particular difficulty. It proved to be a dermoid cyst of the left ovary, of the size of an orange and consisting of a cyst containing fluid and a solid portion containing irregular-shaped pieces of cartilage, part of which is ossified, masses of atheromatous material and fine hairs.

The accompanying chart shows the progress of the case after operation. The slight rise of temperature in the second week was due to digestive disturbance merely, and was soon relieved. She made a fine recovery, went home two weeks after the operation, and has been well and has gone to school ever since.

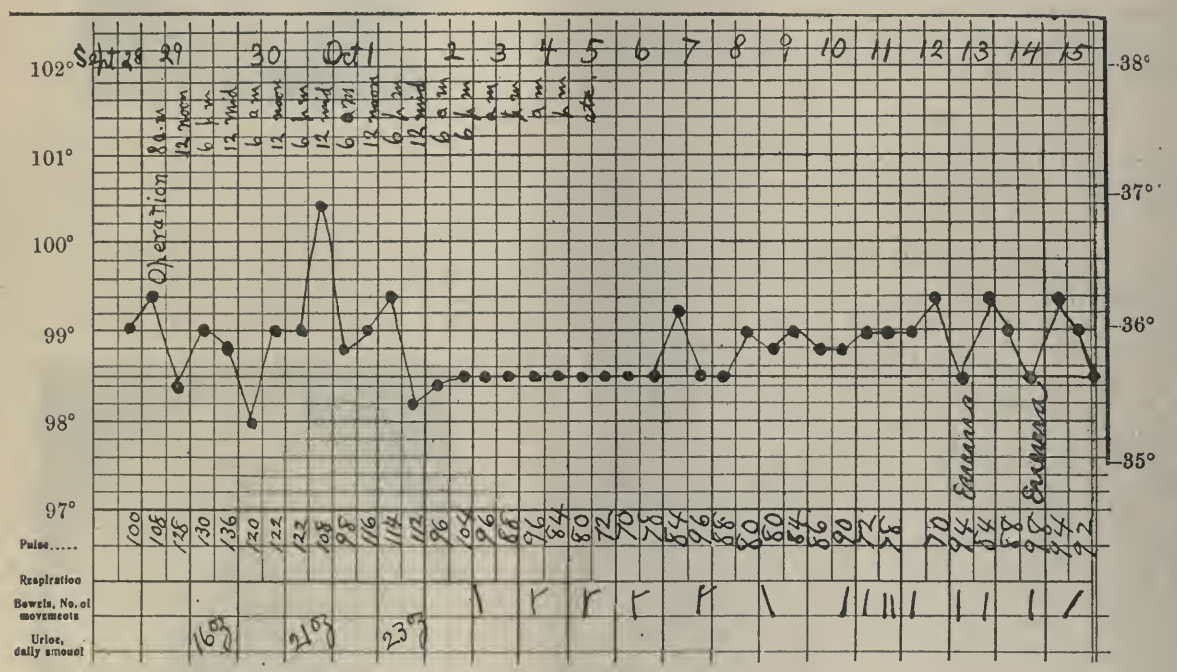


Figure 3.

probably a dermoid, and on July 9 I tried to get a skiagraph or a view with the fluoroscope in the hope of seeing teeth or bones, but without any satisfactory result.

I advised operation, but the parents refused, although I explained the possibility of danger from the supervention of malignancy, from purulent inflammation and resultant peritonitis which might be fatal or cause adhesions and render removal of the tumor more difficult later, from twisted pedicle, from obstruction of the bowels, or from pressure on the bladder. I gave her albuminate of iron, for she was rather anemic, and a mixture of acet. et citrate of potassium for the acid urine.

On July 23 I was summoned in alarm to see Elsie in what appeared to be the onset of another attack of "inflammation of the bowels," her parents said. I found her with extreme abdominal pain, worse in paroxysms, a quick pulse and partial obstruction of the bowels. They had given enemata and applied heat without any relief.

Aside from the ordinary causes of pain this might be caused by a twisted pedicle; but with the symptoms of obstruction I reasoned that probably a loop of intestine had slipped from behind the tumor and was imprisoned behind the tumor and between the tumor or its pedicle and the spine. So I placed the patient's body almost vertically with the head downward in

BIBLIOGRAPHY.

1. Archives Generales de Medicine 5e serie t. v et vi.
2. Krankheiten des Hodens und seiner Hüllen, des Nebenhodens Samenstrangs und der Samenblasen, p. 390.
3. Schmidt's Yahrbücher, 100, 171.
4. Deutsche Klinik, 1862.
5. Virchow's Archiv, Bd. 53.
6. Chirurgie, Bd. iii, Abth. ii, T. Lief'g.
7. Referred to in the New Syd. Soc. Bien. Retrospect for 1865-6, p. 33.
8. On Diseases of the Testis, p. 406.
9. London Lancet, Oct. 23, 1886.
10. Jour. Cutan. and Genito-Urinary Diseases, v, 17 (1889), p. 229.
11. St. Louis Med. Review, vol. xliv, No. 19, p. 326, Nov. 9, 1901.
12. On Diseases of the Testis, by T. B. Curling, p. 406.
13. Pathology and Surgical Treatment of Tumors, 1900, p. 655.
14. Holmes' Surgical Diseases of Children, p. 7.
15. Holmes' Surgical Diseases of Children, p. 625.
16. Deutsche Archiv f. Klin. Med., Bd. lv.
17. Archiv für Patholog. Anat. und Physiologie und für Klin. Med., Bd. 156. (Fünfzehnte Folge, Bd. vi.) Hft. i. Zur Lehre von dem sogenannten Dermoidcysten des Ovarium.
18. Wiener Klinische Rundschau, Aug. 6, 1899.
19. Semaine Medicale, Sept. 6-13, 1899.

"The discovery of what is true and the practice of that which is good are the two most important objects of philosophy."—Junius.

A STUDY OF THE CONTENTS OF THE VESICLES AND PUSTULES OF SMALLPOX.

A PRELIMINARY REPORT.*

JAY F. SCHAMBERG, M.D.

Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Physician to the Municipal Hospital for Infectious Diseases.

PHILADELPHIA.

Although we have convincing evidence that the *causa causans* of smallpox is contained in the purulent contents of the cutaneous lesions, the elusive micro-organism has thus far defied all efforts to establish its identity. The failure to discover the cause of variola has not been due to any inactivity on the part of investigators, for researches in this field have already given rise to a most extensive literature.

The bacteriologic investigation of smallpox is indissolubly associated with the study of the cause of vaccinia; according to the most authoritative opinion these two diseases have a common origin, and depend in all probability on the same causative agent.

HISTORICAL SUMMARY.

Sacco, in 1809, was the first to point out the presence in vaccine lymph of motile granules. Since this time scores of investigators have noted the presence of cocci of various kinds in vaccine lymph. In addition, larger round and oval bodies, not cultivable on ordinary media, have been described, first by Renault in 1881 and later by Guarnieri and others, and regarded by these observers as animal parasites. That bodies such as have been described exist both in vaccinal and variolous fluid is beyond contention. As in the case of the alleged cancer parasite the question is, are these bodies the result of cytoplasmic changes or are they in reality protozoa? Each side in this controversy has its array of champions, and the battle is being warmly waged.

Guarnieri and his school regard the vaccine and variolous bodies as sporozoa. Ferroni and Massari believe that they are derived from the nuclei of epithelial cells. Salmon states that the staining properties of the so-called parasites correspond in all respects with those exhibited by the nuclei of migratory leucocytes, and concludes after careful study that the pseudo-parasite is derived from this source. Ewing has recently declared that at least some of the vaccine corpuscles in human vascular tissues have their origin in degenerated and fragmented red blood cells. Whether or not these bodies bear any etiologic relationship to vaccinia and variola time and further study alone will determine.

It is pretty generally admitted that the micro-organisms in the fluid of vaccine and variolous lesions which are readily cultivable on ordinary media play no part in the production of these diseases. Klein and Copeman have independently found in vaccine and smallpox lesions a minute bacillus, which the latter observer has been able to grow on hens' eggs. Copeman's inoculation experiments with this organism are highly interesting, but as he himself admits they are as yet scarcely conclusive.

The preliminary work herewith presented is confined to a morphologic and cultural study of the contents of variolous vesicles and pustules.

THE TECHNIC OF THE PRESENT RESEARCH.

Cultures were made from 82 lesions in 51 cases of smallpox. The technic employed was as follows: The skin was washed with 95 per cent. alcohol and wiped dry with sterilized cotton; the vesicle or pustule was then transfixed with a two-edged lancet or a double-edged needle and one-half of the epidermal roof lifted up. A platinum loop was then inserted and a drop of the contents transferred to the culture tube. The earliest lesion cultured was a third-day vesicle. The investigator, who is familiar with smallpox and who has tried to obtain material for culture, knows how difficult it is in the early lesions to secure sufficient fluid to deposit on nutrient media. In unmodified smallpox with slow evolution of the efflorescence it is frequently impossible as late as the fourth day of the eruption to obtain a satisfactory amount of variolous lymph for culture purposes. On the other hand, in smallpox modified by vaccination one may at times secure pus from the lesions on the third day of the eruption. The writer was careful in cultivating early lesions to see that the platinum loop contained fluid and that this was properly placed on the media used for cultivation. The number of tubes inoculated was considerably in excess of 82, inasmuch as cultures were not infrequently made on three different media from the same pustule. The media employed were nutrient agar, glycerin agar, glucose agar, boullion, Loeffler's blood serum and coagulated egg albumin. The majority of the cultures were made on plain agar alone, but the other media were also freely employed. The tubes were incubated at a temperature of 37.5 C.

THE RESULTS.

Of the 82 lesions cultured 64 gave absolutely negative results, the culture tubes remaining perfecty free of growth of any kind. The remaining 18 tubes exhibited cultures presently to be described.

The age of the lesions from which cultures were taken is appended in tabular form. The day mentioned is the day of the eruption and not of the disease.

Third day	1 culture,	1 negative,	0 positive.
Fourth day	10 cultures,	10 negative,	0 positive.
Fifth day	12 cultures,	11 negative,	1 positive.
Sixth day	12 cultures,	12 negative,	0 positive.
Seventh day	13 cultures,	10 negative,	3 positive.
Eighth day	7 cultures.	5 negative,	2 positive.
Ninth day	13 cultures,	9 negative,	4 positive.
Tenth day	7 cultures,	4 negative,	3 positive.
Eleventh day.....	4 cultures,	2 negative,	2 positive.
Twelfth day.....	2 cultures,	0 negative,	2 positive.
Thirteenth day....	1 culture,	0 negative,	1 positive.
Total	82 cultures,	64 negative,	18 positive.

Of cultures made from lesions before the seventh day of the eruption 33 out of 34 proved to be sterile.

In 10 cultures the *Streptococcus pyogenes* alone was found.

In 2 cultures it was associated with a small bacillus resembling the diphtheria organism.

In 3 cases a small bacillus resembling the diphtheria bacillus was found.

In 2 cases the *Staphylococcus pyogenes aureus* was found alone, and in one more case associated with the streptococcus. On several occasions a growth was obtained from a pustule on one medium, for instance, bouillon, and negative cultures obtained on agar and blood serum. These cases have been classed with the positive cultures.

COMPARISON WITH THE WORK OF EWING AND BERGEY.

These results are in striking contrast with those recently obtained by Dr. James Ewing of New York, and embodied by him in a paper before the Association of American Physicians. He made cultures of the skin lesions in 23 cases of smallpox. In 17 he obtained the streptococcus in pure culture, in one case streptococcus

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and *Staphylococcus pyogenes aureus,* in one streptococcus and a bacillus (Martin's bacillus?), and in a late lesion *Staphylococcus pyogenes aureus.* In one of the sterile cases streptococci were seen in sections of the skin. In other words, streptococci were found in 87 per cent. of the 23 cases examined. In my investigation, 77 per cent. of the cultures of 82 lesions remained sterile. I am at a complete loss to reconcile this discrepancy. I have in many cases deposited on the culture medium a large drop of yellowish creamy pus from a sixth, seventh or eighth day pustule and have failed to secure any growth from it. At the end of twenty-four or forty-eight hours the yellowish pus could still be seen, but no colonies were visible.

In view of the wide divergence in the findings obtained by Dr. Ewing and myself I have recently communicated with Dr. D. H. Bergey, first assistant in the laboratory of Hygiene of the University of Pennsylvania, to whom I had some months previously sent variolous lymph for certain investigations which he desired to carry out. This material was collected and sent in sealed sterilized capillary tubes. Only the largest pustules were selected in order to facilitate the gathering of the lymph, consequently the fluid represented late lesions, certainly not earlier than seventh-day pustules.



Fig. 1.—From fourth day smallpox vesicle. In Figures 1, 2, 3 and 4, "*a*" represents the so-called vaccine or variolous bodies. Each illustration is magnified 670 diameters.

Dr. Bergey has kindly permitted me to incorporate the results of his work in this paper. I quote that portion of his letter referring to the cultures:

The findings in each of the 12 cases examined are herewith given in detail:

CASE 1.—*Streptococcus pyogenes, Staphylococcus pyogenes aureus, Bacillus pseudo-diphtheria.*

CASE 2.—*Streptococcus pyogenes, Staphylococcus pyogenes aureus.*

CASE 3.—Cultures remained sterile.

CASE 4.—*Streptococcus pyogenes, Staphylococcus pyogenes aureus, Bacillus pseudo-diphtheria.*

CASE 5.—*Streptococcus pyogenes, Bacillus pseudo-diphtheria.*

CASES 6 and 7.—Cultures remained sterile.

CASE 8.—*Streptococcus pyogenes.*

CASES 9, 10, 11 and 12.—Cultures remained sterile.

It is seen from the above that of the 12 specimens of lymph examined 7 remained sterile. This would indicate a negative result in 58 per cent. of the examinations made. If the percentage of negative results in the seventh day and older lesions in my own series is computed it will be found to be 64 per cent.

Roger in his work on *"Les Maladies Infectieuses,"* page 456, says:

Frequently we have examined and cultured pus from variolous lesions without discovering any organism colorable or cultivable by present-day methods.

In well-marked cases of smallpox there frequently develops during the period of incrustation, about the twelfth to the fourteenth day, a number of flat blebs, a condition which may be appropriately called an impetigo variolosa. These blebs may result from direct conversion of variolous pustules into blisters, the lesions enlarging peripherally and the contents becoming thinned; or a reddish ring with raising up of the epidermis may form around the pustules and grow by peripheral extension. More infrequently blebs may form on healthy interpustular areas of skin. Under all these circumstances the affected pustules fill up with a watery dirty-yellow fluid which swarms with streptococci, diplococci and at times also bacilli. The fluid from a series of such lesions was inoculated on culture media. In every instance a growth was obtained in which streptococci were found in abundance. A small quantity of fluid from a large bleb was injected subcutaneously into the abdominal wall of a dog. In a few days there developed an egg-sized swelling apparently filled with a fluid material. A small bleb appeared on the surface of this swelling and rupturing left a dime-sized superficial ulceration. The tumefaction, however, subsided without breaking down, and the animal exhibited no further evidence of local or general disturbance.



Fig. 2.—From fifth day vaccination.

MICROSCOPIC EXAMINATIONS OF VARIOLOUS FLUID.

Smears of 15 vesicles and pustules were made and subjected to microscopic study. Lesions of different age from the fourth to the twelfth days were in this manner examined. Two smears of each lesion were prepared, the one being stained with Loeffler's methylene blue and the other with thionin. In addition some were stained with eosin-methylene-blue and with Gram's stain. It would occupy too much space to go into a detailed description of each slide. All of the preparations contained a considerable number of polymorphonuclear leucocytes and also mononuclear leucocytes. These were, of course, more abundant in the fully developed pustules. Eosinophiles were met with only in a few preparations. Nearly all the preparations showed more or less leucocytic degeneration. A number of large granular leucocytes without colorable nuclei were noted. Shreds of fibrin

were abundantly present in nearly all of the specimens. Bacteria were conspicuous by their absence. In some of the later lesions a few micrococci singly and in pairs were found on careful examination. On one or two occasions a few chains of short streptococci could also be discovered. The paucity of micro-organisms in the thick viscid pus was at first a source of considerable surprise. When cultures were made at a later date the explanation of this became evident.

Whenever the material in the pustules began to be converted into a watery substance; in other words, when pustulo-blebs began to form, the microscopic picture was at once changed. This fluid under the microscope was seen to swarm with myriads of streptococci, micrococci in pairs and not infrequently bacilli. This observation is of interest in view of the work of Sabouraud of Paris, who claims the streptococcus to be the cause of "impetigo contagiosa." The development of an extensive impetigo in the course of smallpox, by no means a rare complication, prolongs the convalescence and increases the liability to boils, abscesses, erysipelas and cutaneous gangrene. In a few cases the writer has seen death result directly from this extensive secondary involvement of the skin. Pus from a number of abscesses,



Fig. 3.—From sixth day smallpox vesicle.

boils and from several cases of cutaneous gangrene, all complicating smallpox, was examined and was seen to contain large numbers of streptococci, many in long chains.

In all of the preparations were found the so-called sporozoa described by Guarnieri and others. They were round or oval and varied in size from a large micrococcus to half the diameter of a red blood corpuscle. The average was perhaps four times the size of a staphylococcus. These bodies were found in leucocytes, but were for the most part free. Thionin stained them intensely, causing their contours to stand out in sharp relief. On coloring the bodies with Loeffler's methylene blue many of the larger ones were seen to be surrounded by a granular cell protoplasm. With both stains the coloration of these bodies was more intense than the nuclei of the leucocytes. It was noted, however, that the leucocytic nuclei did not stain in an entirely uniform manner, some being deeper in color than others and closely approaching the tint of the small round bodies. With eosin-methylene-blue these bodies did not stain differently than with Loeffler's blue. The Gram stain decolorized the bodies in the same manner as it did the nuclei of the leucocytes.

The fluid from several vaccinations was also examined and the same bodies found to be present. In fact, it would have been difficult under the microscope to distinguish between vaccinal and variolous fluid.

A thin watery fluid containing yellowish granules obtained from a fourteenth-day vaccination showed a considerable number of these bodies. This fluid inoculated on nutrient agar was proven to be perfectly sterile.

CONCLUSIONS.

The above results, it appears to me, justify the conclusion that the pustulation in smallpox is not due to secondary infection with any of the ordinary pyogenic germs, but is the result, in all probability, of the action of the micro-organism which produces the disease. Streptococci and other adventitious bacteria may be present in the late pustules, but occur only exceptionally in the early lesions. It is probable that the streptococcus plays an important part in the development of impetigo, boils, abscesses, erysipelas and gangrene which so commonly complicate smallpox.

I desire to acknowledge the valuable assistance rendered to me in carrying out this work by Drs. E. L. Graf and G. B. Walp, resident physicians at the Municipal Hospital, and Mr. J. B. Mencke, Jr., a medical student of the University of Pennsylvania.

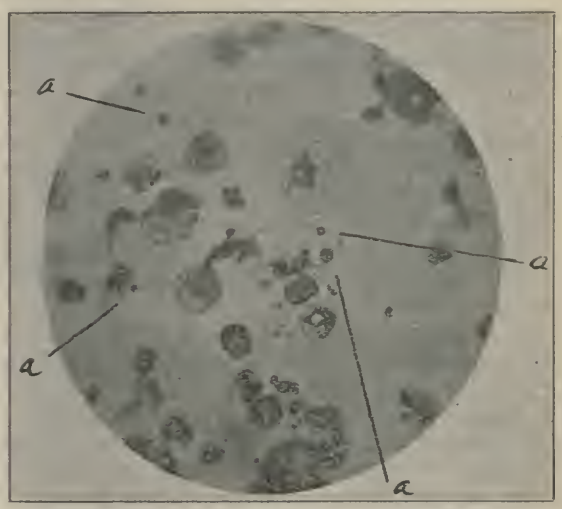


Fig. 4.—From fourteenth day vaccination.

DISCUSSION.

Dr. Louis C. Ager, Brooklyn—I would like to ask Dr. Schamberg if he thinks the small round bodies which so many think are the small cell nuclei differ in any marked respect from what we suppose to be the white cell nuclei in other forms of pus. We often find in pus the degeneration of leucocytes, apparently with free nuclei. Is there any marked difference between these conditions?

Dr. George Blumer, Albany, N. Y.—I heard Dr. Ewing's paper on this subject in Washington, and I was under the impression that his cases were all old postmortem cases, and that would account for the large number of streptococci present.

Dr. J. F. Schamberg, Philadelphia—I think my information is correct in regard to Dr. Ewing's findings, as the data were taken directly from a letter received from Dr. Ewing on this subject. I am aware that in addition to the work to which I have referred he reported having found streptococci in various organs; I have also found them in the heart, spleen and other organs at autopsy.

As to the nature of the so-called "variolous bodies," and as to their identity with granules resulting from leucocytic degeneration, that is the question to be solved. You will see from the photographs that some of these granules are ex-

tremely small, not exceeding in size the large micrococci commonly found on the skin.

DR. F. F. WESBROOK, Minneapolis—Are these bodies the same as those found in epithelioma?

DR. SCHAMBERG—Probably not.

POSTMORTEM EXAMINATIONS.*

W. D. HAINES, M.D.
CINCINNATI.

RESPONSIBILITIES OF MEDICOLEGAL EXAMINATIONS.

The legal aspect of postmortem examinations and reports of cases involving inheritance, crime and insurance entails responsibility second to none allotted to man in his relation to his fellow beings. The evidence elicited by medicolegal examination may very properly be regarded as the basis on which conviction or acquittal will rest in criminal cases, and the liberty or life of the defendant at bar, in many instances, is wholly in the hands of the pathologist.

Admitting the above propositions as true, the necessity of care, painstaking and thoroughness in the prosecution of this work is equally patent to physician and jurist. We are frequently asked, not only to ascertain the cause of death, but to actually fix responsibility for same. This is often difficult from the evidence at hand and occasionally impossible, although a succinct account of the antecedents of the injury is before us for investigation and analysis. Take, for example, the case of an individual who is a heavy drinker; the brain of such a subject is "watery" in life and has a marked tendency to rapid, extensive, fatal edema following injury. A blow that would cause little or no inconvenience to a well man may be followed by dire consequences in the alcoholic, and the fixing of moral and legal responsibility will annoy you not a little.

Death ensues occasionally during a physical examination of large uterine fibromata associated with inflammation of the pelvic veins, in the application of caustics to the faucial mucous membranes or after paracentesis. The situation is embarrassing in the extreme, nevertheless we must be honest with ourselves and admit that the examination, application and operation, like the blow which felled the alcoholic, were the exciting causes of death.

Persons dying suddenly with little or no history of deceased for a few days preceding death, are the most troublesome cases which confront the examiner. They are numerous in every large city, and the pathologic analysis will often tax to the utmost the acumen of the medical jurist. Unfortunately, the press and public assume in nine of every ten of the cases that some crime has been committed and the "sleuths" of the press, minions of the law and gossip of the vicinity where the corpse was found suffice to set the machinery of the coroner's office in motion. Thus we begin a legal inquiry into the cause of death, with a view to establishing the circumstances leading up to and fixing, if possible, the responsibility for same. The position in which the body lay when first discovered will assist us materially in determining the manner if not the actual cause of death.

POSTMORTEM STAINING.

In case the body has been moved postmortem staining, when present, if carefully studied, will elicit definite information. The position which the corpse occupied likewise throws a ray of light on cause of death. The under surface of the body becomes stained first, except where pressure had existed—call them "pressure points"—and these patches remain white in the Caucasian race, and sometimes exhibit images of objects on which the corpse had rested. Much importance is given to the presence and extent of livor mortis; it is one of the signs of death and is therefore of great value in differentiating cases of suspected death from suspended animation. Too much reliance, however, must not be placed on this sign, as there are trustworthy exceptions; the writer has seen this discoloration take place several hours prior to death in a case of gangrenous appendicitis with perforation.

Postmortem staining is prone to ensue soon after death in persons afflicted with arteriosclerosis; on the other hand, it is much delayed in subjects dead of long-continued, exhaustive disease or hemorrhage. It must be differentiated from ecchymosis following trauma; this may be done in the following manner: By incising the skin covering the parts and noting the condition of adjacent tissues. In ecchymosis we find diapedesis of red blood corpuscles, while in postmortem staining we find an exudation of serum and deeply congested condition of blood vessels in the immediate vicinity. Postmortem staining will change color and position in recent cases if the body be turned; it will remain stationary in ecchymotic discoloration, the variegated hues of ecchymosis lending material assistance in determining this point.

POSTMORTEM RIGIDITY.

Rigor mortis is an important feature in a medicolegal necropsy, in that it has a more or less definite relation to the cause of death and will assist in establishing the length of time which has elapsed since death ensued. We must ever bear in mind that the cause of death invariably modifies the time of appearance, extent and duration of this phase of evidence. It appears instantaneously in certain cases, is much delayed in others and so transitory at times as to entirely escape the attention of the examiner. It usually appears from two to fifteen hours after death and remains from twenty-four to thirty-six hours. Subjects dead of injury to the spinal cord, poisoning from large doses of arsenic or carbolic acid and those dying suddenly while in good physical condition become rigid soon after death; conversely, those dead of exhaustion, hemorrhage or shock will manifest no rigidity immediately after death; it will appear late, be slight and transitory.

Our physiologists are fond of referring in their reports to the condition of the heart at time of death. They say that the animal died in systole or diastole, and attach much importance to this incident; to the pathologist it signifies the presence or absence of postmortem rigidity in the heart muscle. Thus we rationally account for those peculiar phenomena of the cadaver which ever and anon excite the wonder and astonishment of the laity, persons found standing upright, resting against some object, riding on horseback and in the attitude of prayer though cold and rigid in death for many hours. While much has been written on this early and ever-constant postmortem change, extensive research is being made and valuable evidence may be had by a study of postmortem rigidity in any given case, it is singularly unfortunate that the one important forensic question, "At what time did death take place?" can not be answered by deductions drawn from this source. If asked by the court to testify as to the length of time which had

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elapsed between death and the time of your examination experience admonishes great circumspection in your answer.

LATENT MENINGITIS.

The writer would like to accentuate the importance of latent meningitis. It exists in a large percentage of chronic alcoholics beyond middle life and is a prominent feature in every instance of sudden death when present. It is almost a daily occurrence for one of these old topers to get into a friendly scuffle with some younger person. He is pushed, thrown or falls down, and in falling strikes his head on some object: a scalp wound or a bloody nose is sustained; he walks, unassisted to a physician's office, his wound is dressed, he returns to his lodging, retires, becomes unconscious and is found dead next morning. The person with whom the deceased had a scuffle is apprehended by the police and a charge of manslaughter is placed opposite his name in the records. In your autopsy you will find adherent, thickened meninges studded with plaques of plastic lymph, subdural hemorrhage, edema of the brain, sclerotic, atheromatous and fatty degeneration of the organs throughout the body; a frail, disabled physiologic bark which a mere zephyr of adversity might waft into eternity. What shall we say of the moral and legal responsibility of the person who caused the fall which resulted in death? Is he guilty of this man's blood, or was he but the exciting cause of death? The courts have very properly ruled that he is not responsible for death in such cases. To be sure, we have had none of the classic symptoms of meningitis presenting during the life of our subject, and this fact admonishes us to employ the utmost care in conducting a medicolegal inquiry, for we are here dealing with a pathologic condition which is rarely or never diagnosticated during life and is only discovered on autopsy. We must look to the histologic conformation of the inflammatory deposit within the skull for an explanation of the singular discrepancy between cause and effect in such subjects. The arteries, ramifying the hyperplastic tissues of the membranes, are anomalous, in that they contain but two coats, the intima being absent, hence the ease with which transudation and hemorrhage may and does take place following injury.

SUICIDE BY CARBOLIC ACID.

Some years ago, in Cincinnati, a despondent prostitute in a fit of desperation swallowed a quantity of carbolic acid. Death was prompt and painless, since which time this has been adopted as the favorite method of the courtesan. The method is not wholly confined in its application to the lower world; occasionally some weary, soul-starved member of respectable society embraces this rapid, painless means of fleeing "to ills we know not of."

There have been 25 suicides reported to the coroner's office at Cincinnati the past year in which carbolic acid was the means selected to destroy life. This series may be divided into three classes with reference to time of death, viz.: those who die immediately, those who succumb in a few minutes and those who perish several hours later. The shortest time in which death followed was two minutes, the longest period was seventeen hours. The first division comprises the greatest number and the rationale of death is interesting to the medical jurist. The history of these cases after swallowing the fatal potion is short; they lapse into a state of somnolence in a minute or two from which they can not be aroused, death supervening a few minutes later.

The body stiffens quickly, postmortem staining appears at once and rapidly spreads over the entire surface of the body, the body temperature is slightly elevated and the time of its disappearance as compared with other cases is seemingly prolonged. A brown discoloration of the cornea with widely dilated pupils is frequently associated with death from carbolic acid poisoning. The skin about the mouth is usually discolored brown; this is caused by spilling the acid over the surface. The lips and tongue are of a peculiar white color, lending the effect, in appearance, of a mouth filled with cotton. Autopsy reveals but little, and this is only confirmatory evidence that would assist in determining the cause of death. The mucous membrane lining the esophagus and stomach is very white, eroded and easily removed by brushing. The kidneys, spleen, liver and lymph spaces are deeply congested.

DEATH BY INHIBITION.

It would be difficult, indeed, to render an intelligent verdict based solely on these meager data, but with the history of the patients having swallowed carbolic acid and remembering the neck as one of the "privileged" regions of the body, we readily see in the above account an illustration of Prof. Brown-Sequard's classic description of inhibition. The tendency of any strong irritant (and this applies to the therapeutic use of caustic applications) on the faucial surface, is toward inhibition, by its influence on the pneumogastric filaments distributed to the neck.

The writer has long held an opinion that death from chloroform occasionally results in the above manner. The anesthetizing of patients is often entrusted to students or non-medical persons. The jaw of the patient falls, his mouth is wide open, chloroform is poured too rapidly, a few drops find their way to the surface of the throat, the patient ceases breathing and expires at once.

Death from inhibition follows the lodgment of a bolus of food in the pharynx, notwithstanding the obstruction is quickly removed; again, slight blows, mere taps on the anterior surface of the neck, have caused instantaneous death. It has been observed that death from inhibition ensues most frequently when exposure follows soon after the ingestion of a full meal. Therefore, it is highly essential for the welfare of the patient that his stomach be emptied of all its contents by washing before administering an anesthetic. Sufficient data have not been obtained by the writer to speak authoritatively on the cause of death in the second and third divisions of the carbolic acid series—some die of shock, others of acute congestion of the kidney associated with dysuria and alteration or suppression of secretions in general. Our physicians are employing whisky as an antidote, with an encouraging measure of success in the treatment of cases which survive the initial shock.

IMPORTANCE OF KIDNEY LESIONS IN SUDDEN DEATH.

The kidney has been the most prolific source of death, from a medicolegal standpoint, in the writer's experience, this organ being the principal factor in probably 80 per cent. of all cases examined. The kidney is relatively large in infancy and youth, of definite proportion to body weight in adolescence and manhood, decreasing in size as age advances, becoming quite small in the aged.

Injurious substances introduced or deleterious products (toxins) generated within the body are more readily excreted by young persons than by the aged; an infection which would cause little or no discomfort in the young has been followed by death in older persons. Brouardel mentions an instance:

A market woman had a turkey left over; she invited a number of friends to help eat it; soon after the repast was finished all of those who had partaken of the turkey were seized with a sudden illness, the hostess succumbing. Examination of the dressing of the turkey revealed a substance resembling conicin; it was also found in the organs of the dead woman. It was not shown that this unfortunate woman ate more than the rest, but defective kidneys prevented rapid elimination of the poison and death ensued; the guests recovered.

Post-scarlatinous, puerperal and rheumatic nephritis exist in many persons who go about their daily avocations, unsuspected, until some accident befalls which demands for its relief increased activity on the part of the kidney, failure to respond resulting in death.

Practitioners are sometimes at a loss to account for the wide range and grave degree of mental symptoms in mild infections. Cases of influenza of seemingly mild type show an alarming array of mental symptoms. These are subjects of unsuspected nephritis and mortality is high in this class of patients.

In latent kidney disorders associated with heart disease it is sometimes impossible to say which affection should be given priority in time of appearance. For our purpose it matters little which began first, as inflammation of this organ is rarely followed by complete histologic recovery; functionally the kidney may be, to all appearance, working perfectly; let some disturbance occur which will markedly raise the interarterial pressure for any considerable time, an infection, for example, and the kidney becomes acutely congested, impeding circulation, increasing heart action, resulting in hypertrophy, and finally loss of compensation, dilatation, death. There are many certificates of death on file in our health department asserting edema of lungs to have been the cause of death, which, when carefully scrutinized, would appear to have been cases of desquamative nephritis. The pulmonary symptoms predominate in these cases and the lungs contain large quantities of frothy secretion similar to the lungs of persons dead of drowning. Coma is occasionally the first symptom of diabetes; gastrointestinal, convulsive and fulminating forms of kidney lesions will demand your attention in sudden deaths. A man is said to be as old as his arteries; it were more fitting to say, he is as old as his kidneys.

THE DIAGNOSIS OF CARCINOMA OF THE LARYNX.*

OTTO T. FREER, M.D.
CHICAGO.

(Concluded from p. 375.)

Tubercular tumors of the larynx resemble more papilloma or fibroma than carcinoma, as they are generally strictly circumscribed, smooth, with intact mucosa, broad-based or pedunculated and arise from the surface of the larynx in the manner of the benign growths. They may be covered with papillomata. In some cases, however, where the tumor is broad-based and diffuse, it may simulate carcinoma, as in the case reported by Gussenbauer, who extirpated a larynx supposing a tubercular tumor to be a malignant one. Hajek reports five cases of tubercular tumor of the larynx, all of which occurred after the fiftieth year, so that age is of little use in the diagnosis from carcinoma. Pulmonary tuberculosis is usually but not always present, so that the microscope may be needed for the diagnosis. The very rare association of carcinoma and tuberculosis in the larynx needs only to be mentioned.

The laryngeal affections of secondary syphilis can not well be mistaken for early carcinoma, but the tertiary forms of the disease may simulate it very closely.

While laryngeal tuberculosis is a very common disease authorities are agreed on the rarity of tertiary laryngeal syphilis. The forms likely to be hard to differentiate from early carcinoma are syphilitic gummatous infiltration and the true gummy tumor. The first resembles diffuse, the second circumscribed carcinoma. Though in most cases syphilitic infiltrations ulcerate early, quite often in resistant individuals they persist with unbroken surface or with but superficial ulceration for a long time. It is these forms that closely resemble the diffuse variety of carcinoma as shown in Figures 14 and 15. Diffuse gummy infiltration may involve only the mucosa or extend deeply into the muscles or perichondrium, hence often causes fixation of the vocal cord. It is especially apt to attack the epiglottis, but may involve the ventricular band, cords or a whole side or the entire interior of the larynx. The surface may be smooth or wrinkled, but does not usually present the nodular or warty excrescences due to carcinoma. The color is dusky red. In difficult cases inspection alone can not distinguish syphilitic infiltration from that of carcinoma.

Gummata of the larynx are a rare form of laryngeal syphilis. They form red, smooth, flat, circumscribed elevations covered with intact mucosa in the first part of their existence, and, according to Neumann, are more often multiple than single, being grouped on the anterior surface of the posterior pharyngeal wall, or on the epiglottis, ventricular bands or vocal cords. Their size may reach that of a pigeon's egg. They may interfere with the motions of the cord or arytenoid cartilages. The fact that they seldom inflame the tissues about them serves to differentiate them from growing carcinoma; in some cases, however, they are accompanied by diffuse reactive infiltration, inflammatory edema, and instead of their usual smoothness they may have a papillary surface. The most useful distinguishing quality possessed by the gumma before ulceration is its smooth, bright red, intact mucous covering which differs from the nodular irregular carcinomatous surface. As it softens the center of the gumma acquires a yellow hue.

In many cases of laryngeal syphilis it is not possible to get a luetic history, or the one obtained is so indistinct that it is rather misleading than enlightening. Confirmatory traces of the disease should therefore always be sought elsewhere, and it is important to inspect the pharynx and nose where other tertiary manifestations are often present. Iodid of potassium is our most valuable aid in diagnosis of syphilis from carcinoma, as a week of its use will usually bring vast improvement in syphilis. Some cases, however, are resistant to the drug, and many observers have seen temporary shrinkage of carcinoma under its use.

The rare condition called pachydermia laryngis by Virchow has usually a bilateral location over the processus vocales, a position very rarely the seat of carcinoma which may, however, originate in the pachydermatous tissue there. The elevation of pachydermia above the surface, the typical dovetailing of the thickened mass on one processus vocalis into the hollow of the opposite one make a confusion with carcinoma unlikely unless the papillæ of pachydermia be large enough to be macroscopically visible and the neighborhood of the swelling be roughened. As shown by Chiari in the report of a

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. J. F. Barnhill, C. R. Holmes and G. H. Makuen.

case of pachydermia of the floor of the ventricle which presented as a chalky white tumor on a red base, this affection in other than its typical location may cause errors in diagnosis. In Chiari's case laryngo-fissure was performed to remove the supposed carcinoma. Fibroma of the larynx when broad based and seated in the submucous tissues may be mistaken for carcinoma polypoides and the microscope may be needed for a de-

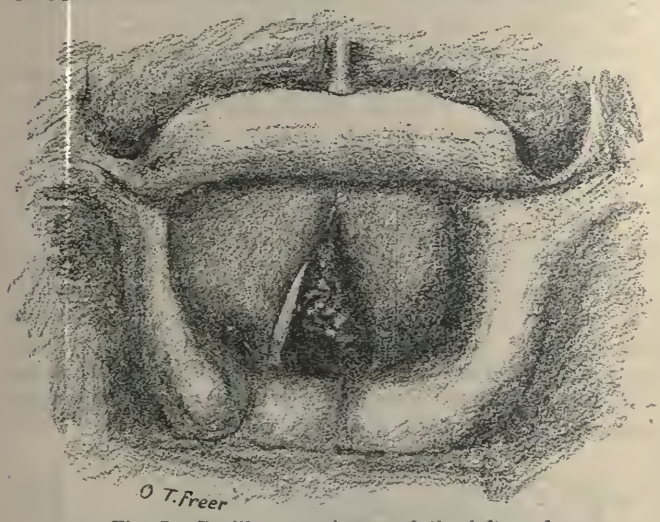


Fig. 7.—Papillary carcinoma of the left cord.

cision. Cysts, if deep seated, might cause doubt; ordinarily their translucence makes mistakes impossible. The benignant growths are distinguished from carcinoma by their seat on and not in the mucosa, by their very slow growth, absence of ulceration and inflammatory reaction. The mucous membrane covering them is usually normal in color and appearance.

The later stages of carcinoma of the larynx present more pronounced forms and the diagnosis as a rule be-

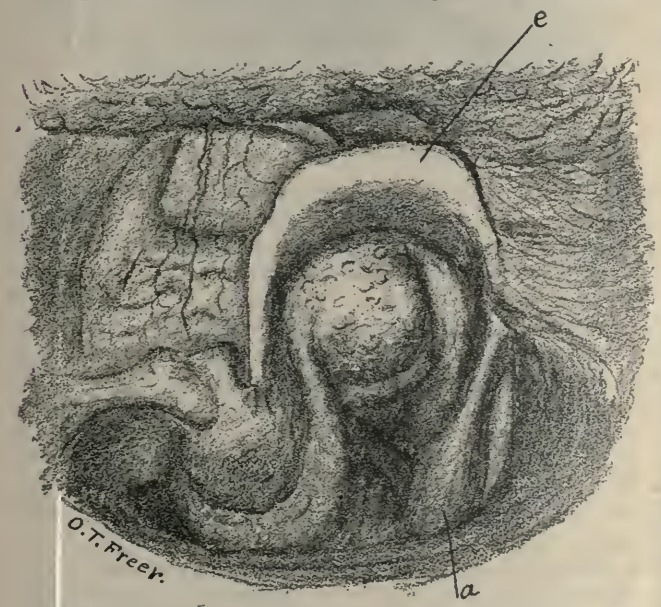


Fig. 2.—Diffuse carcinoma displacing larynx to the left. *e*, Epiglottis. *a*, Arytenoid cartilage.

comes easier. Carcinoma of the cord usually follows it to the anterior or posterior commissure and crosses over to the other cord forming the so-called circular carcinoma, as shown in Figure 5. The cords may thus become unwieldy, shapeless, nodular masses. On the ventricular bands a like circular course may be followed. Whatever its location in the larynx the spreading carcinoma usually causes chronic inflammatory reaction and edema in the invaded regions, creating monstrous swollen deformities of the arytenoid region, arytenoepiglottic folds and other parts. The assymmetry of these swellings is very characteristic, but they often hide the carcinomatous tissue partly or completely from view, as shown in Figure 7, where the edematous false cord permits a view of only a few sprouting excrescences of the tumor, a papillary carcinoma.

Ulceration seldom begins in carcinoma before a year has elapsed and in some forms it is absent. This is shown in Figure 2, where a large carcinoma has changed the entire laryngeal interior into a rigid, convoluted mass. Nowhere is ulceration visible. The right pharyngo-epiglottic fold is filled with the neoplasm and has pushed the entire larynx over to the left. At first, on account of the lack of ulceration in spite of its great size, the tumor impressed me as sarcoma, but micro-



Fig. 3.—External appearance of carcinoma shown in Fig. 2.

scopic examination of a piece showed it to be alveolar carcinoma. The age of the patient possessing this growth was 47 when it was first seen. The tumor had lasted eighteen months at this time. The symptoms began with hoarseness, to which the appearance of a large metastatic tumor in the right retro-maxillary region was soon added. The chief complaints were hoarseness, dysphagia and dyspnea. There has never been any pain or any stench to the breath. Tracheotomy became necessary and proved very difficult, as I had to enter the trachea just above the manubrium sterni on account of the situation of the tumor in the neck, which is shown in Figure 3, and which resulted from penetration of the carcinoma through the laryngeal skeleton. The patient's general health remained excellent for months until the increasing size of the tumor made swallowing impossible so that rectal feeding had to be resorted to.

The carcinoma shown in Figure 1, though large, also was not ulcerated.

The ulcerations of carcinoma arise from a neoplastic mass, new formation exceeding destruction as a rule, while the ulcer is apt to be filled with and surrounded by sprouting cauliflower protuberances of carcinomatous tissue. It is hard to tell where the ulcer ends and the intact epithelial surface begins. These characteristics of the carcinomatous ulcer are most often simulated by the ulcerations of syphilis and tuberculosis, which may offer great difficulties in diagnosis, as the granulation tissue they produce often forms tumor-like conditions and their histologic progress is really neoplastic in character. Usually, however, ulceration in these states so much exceeds new formation that doubt does not occur. The average syphilitic ulcer is deep, clean cut and crater-like, and has smooth, red, swollen borders, more like inflammatory than tumor tissue. Serpiginous and shallow ulcerations have likewise fairly sharp borders and smooth floors and impress the observer as seated on simple inflammatory infiltration. Doubt may be caused by ill-defined, superficial, granulating, syphilitic ulcers with massive, nodular infiltration underlying them and

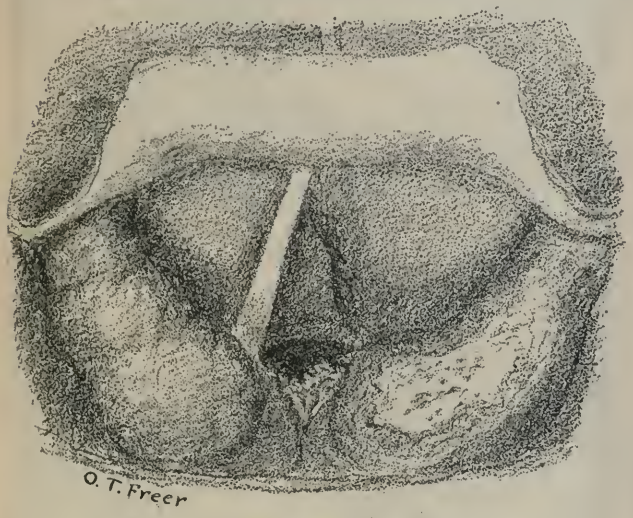


Fig. 14.—Tertiary syphilis of the larynx.

associated with immobilization of the arytenoid body. An example of this kind is shown in Figure 14. In this case the suspicion of carcinoma was removed by the discovery of a gumma of the clavicle.

Tubercular ulcers ordinarily are easier to distinguish from carcinoma than are those of syphilis. Frequently the ragged ulcerations, often seated on the cords, are purely destructive and have no infiltrated base. This type is commonly accompanied by such marked constitutional symptoms that mistake is impossible, and is characteristic of florid phthisis. A large ulcer of this sort that has destroyed the epiglottis is shown in Figure 12. The variety of tubercular ulcer accompanying the infiltrative kind of laryngeal tuberculosis leaves also little room for doubt, as the symmetrical chronic edemas of this form of disease do not resemble tumor formation. Even in this more chronic type pulmonary involvement is rarely absent and the purulent secretion of the ulcers contains numerous tubercle bacilli and may be swabbed off for examination.

Cicatrization of laryngeal carcinoma is regarded as a rare curiosity and serves to distinguish it from inveterate tertiary syphilis of the larynx, which is marked by a tendency to the formation of webs between the cords, stenosis due to cicatrices and cicatricial transformation of infiltrated submucous tissue, even where no ulceration has preceded. Carcinoma may, however, originate in syphilitic scars.

The last stage of carcinoma is that marked by perichondritis, perforation of the cartilages and extension to other parts beyond the larynx. This period is distinguished by suffocative dyspnea and often by otalgia, stench and dysphagia. The neoplasm may perforate the cartilages and appear externally early in the disease. This was the case in the carcinoma shown in Figures 7, 2, 10 and 5. In the latter the growth was found to have pierced the anterior junction of the thyroid cartilages after the larynx was removed. In the cases represented by Figures 7, 10 and 2 the tumor, after growing through the laryngeal skeleton, had transformed the larynx and upper part of the trachea into a hard, non-sensitive mass, that felt like a potato under the skin of the neck.

The external tumor is largely due to inflammatory thickening of the connective tissue under the sternohyoid and sterno-thyroid muscles caused by the advance of the carcinoma beyond the larynx, but it also contains varying amounts of the neoplasm. In the case shown in Figure 7 this fascial

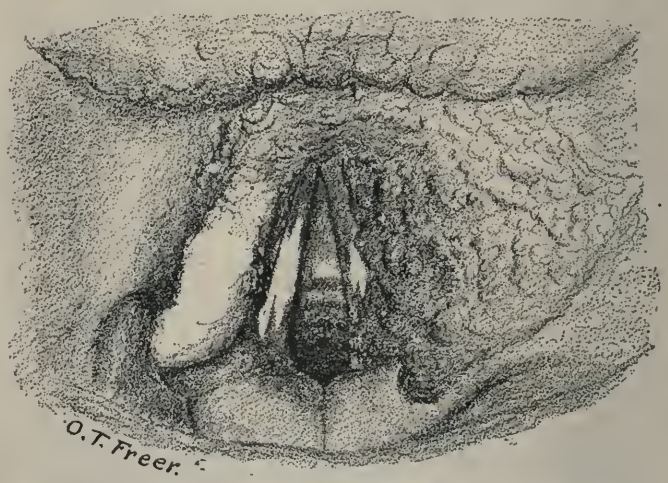


Fig. 12.—Destructive tubercular ulcer of the epiglottis.

inflammation had entered the sheath of the great vessels and compelled the late Dr. Christian Fenger to abandon laryngectomy already begun, as the larynx was united by a rigid mass to the vessels about it and could not be separated from them. The only things that these hard, usually painless external laryngeal tumors are likely to be confounded with are the swellings due to external perichondritis of the thyroid or cricoid cartilages. Such perichondritis may indeed be caused by carcinoma itself. Perichondritis phlegmons are painful often pit on pressure, later fluctuate and discharge pus. Their deep seat makes them feel like hard tumors in the beginning. Perichondritis is not uncommonly caused by carcinoma, but is also often due to syphilis and tuberculosis. It may involve the cricoid, arytenoid or thyroid cartilages, and is so closely simulated by inflammatory swellings or phlegmons of the submucous tissues that its existence should not be positively declared until it is proven by a view of the dead cartilage. The appearance, however, of pus welling up from an opening in a chronic inflammatory swelling in the larynx, especially in the region of the processus vocalis or anterior commissure, is almost proof of a necrosis of one of the cartilages. The great endolaryngeal swelling caused by perichondritis, especially that of

the thyroid or cricoid cartilages, may hide the syphilitic, tubercular, carcinomatous ulcer or other condition causing it so completely from view that a laryngoscopic diagnosis of the source of the perichondritis may be impossible for many weeks, and in some cases carcinoma thus hidden has not been found until a postmortem examination was made. The deep-seated inflammatory conditions so change the view of the laryngeal interior that the mirror often shows merely a confusion of edematous, translucent folds, the anatomical parts of the larynx being unrecognizable. The sudden appearance of a perichondritic abscess may be an early sign of a carcinoma that up to the time had been almost latent, so that the sudden and urgent dyspnea suggests an acute inflammatory condition rather than the chronic course of a malignant tumor.

Lymphatic involvement in intrinsic carcinoma is acknowledged by most authors to be usually late. Fraenkel states that in some patients who died of laryngeal carcinoma no localization was found in the lymphatic glands. Scheier's statistics show a large number of cases of the disease in which there were no lymphatic metastases. The fact that intrinsic carcinoma of the larynx so often remains local for a long time is an argu-

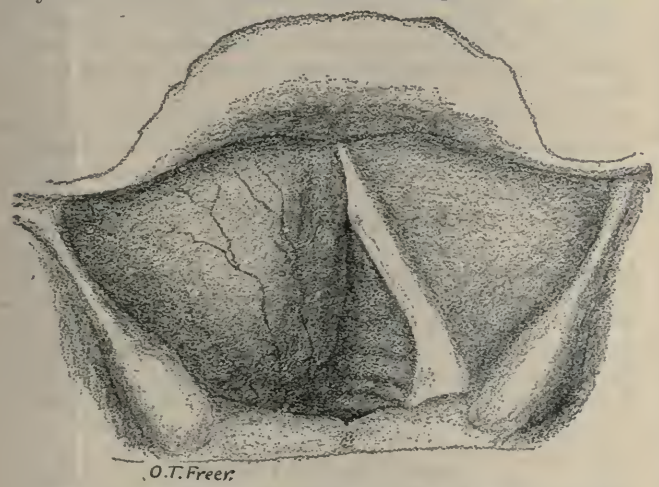


Fig. 9.—Angio-sarcoma of the right cord and ventricular band.

ment in favor of conservative and even endolaryngeal operations in early carcinomata of this order. In extrinsic carcinoma lymphatic involvement is usually much earlier and the spread of the tumor more rapid. An exception to this was presented by the carcinoma shown in Figure 1, which, in spite of large size, showed no infection of the lymphatic glands.

The diagnosis of carcinoma from sarcoma of the larynx may require the microscope. The localizations of sarcoma are the same as those of carcinoma, and the cords are also favorite seats. The tumor is generally better defined than carcinoma, has almost always a smooth surface and shows almost no tendency to ulcerate or create inflammatory reaction or edema. The painful swallowing, otalgia and stench of the later stages of carcinoma are absent. Dyspnea in time becomes a marked feature. The tumor as viewed laryngoscopically shows usually a covering of normal or hyperemic mucosa, while branching vessels may be seen traversing its surface. It may present convolutions and sulci. The deep congestion, ulceration and cauliflower excrescences of late carcinoma are absent, perichondritis and necrosis of the cartilages very rare. Sarcoma, like carcinoma, is commonest between the fortieth and fiftieth year, but more apt to occur in the earlier decades than carcinoma. Figure 9 shows an angiosarcoma occurring in the larynx of a woman of 25. Hoarseness was the only symptom for two and a half years before the patient came to me in May, 1901.

Her case had been declared tubercular a year before, thus illustrating the difficulties of diagnosis by inspection. A piece was removed with difficulty from the tough tumor with the Landgraf-Krause double curette, and proved to be angiosarcoma. I removed the tumor later by laryngotomy, and it was found that the cord and ventricular band had merged into its substance.

The foregoing has shown how difficult and even impossible may be the diagnosis of carcinoma of the larynx merely from the symptoms and by inspection. For this reason it is necessary in many cases to remove a piece of tumor for microscopic examination. This procedure has been opposed on the ground that it favored autoinfection with carcinoma elements, stimulated the growth of the neoplasm and led to errors in diagnosis. As the carcinoma cells are in intimate contact with the blood and lymph vessels and may readily enter these channels when the latter are intact, it seems unreasonable to consider the slight additional risk incurred by opening a few of them when the patient's life depends on a prompt and accurate diagnosis. An increase of glandular infection after test incisions is not mentioned in the literature, as it would be were it a usual or striking occurrence.

Chiari in 28 excisions for microscopic diagnosis only once saw more rapid growth of the tumor. As radical operation usually follows the diagnosis as soon as possible, added rate of growth is not a matter of much moment.

A positive microscopic test is conclusive if properly performed; that is, with the microtome sections vertically to the surface of the fragment of tumor. A negative result should, in most cases, lead to further excisions until the diagnosis is certain.

Errors occur if the cutting forceps seize only the mucosa or papillomata on the surface or at the periphery of the tumor. For this reason a piece must be taken from its center and the instrument crowded in deeply. For this purpose I prefer the forceps of Scheinmann with its projecting beak. As my naked-eye diagnosis of carcinoma in the case shown in Figure 7 was doubted, I succeeded in removing several pieces of typical carcinoma tissue from underneath the swollen ventricular band with the Scheinmann forceps, though at the time none of the growth could be seen and I knew of its location merely from previous examination. For tough tumors the double curettes are better.

Chiari, Rice, Thacher, Gerhardt, Virchow, Semon, B. Fraenkel, Neumann, Ernst Schmidt and Hajek advocate the removal of a piece for microscopic diagnosis as indispensable in many cases in order to attain a positive diagnosis of laryngeal carcinoma. To discard the aid of the microscope in so important a matter would be a reversal to primitive methods and like dispensing with the search for the tubercle bacillus. On the other hand, to follow the microscopic findings blindly would be a mistaken course, as it may be impossible to obtain an unequivocal fragment for the microscope.

Laryngotomy for diagnostic purposes is advocated by John N. Mackenzie, who has thus suggested an important means of recognizing laryngeal carcinoma. It is suitable to all those cases where a tumor is suspected but invisible or too deep seated for the obtaining of a fragment, or where inflammatory swelling fills up the larynx. As the voice is usually hoarse or lost possibly

injury to it from laryngotomy need not be considered. It is to be hoped that laryngeal carcinoma will be recognized earlier than heretofore by physicians so that laryngotomies and endolaryngeal operations will take the place of the too frequent laryngectomies.

BIBLIOGRAPHY.

B. Fraenkel: Der Kehlkopfkrebs, seine Diagnose und Behandlung. Deutsche Med. Wochenschrift, 1889, Nos. 1 to 6.
O. Chiari: Beitraege zur Diagnose und Therapie des Larynxkrebses. Archiv für Laryngologie, vol. viii, p. 67.
Ernst Barth: Ein bemerkenswerther Fall von Kehlkopfkrebs. Fraenkel's Archiv für Laryngologie, vol. x, p. 330, 1900.
Bryson Delavan: Cancer of the Larynx. New York Med. News, March 31, 1900.
W. K. Simpson: Case Illustrating the Importance of Early Recognition of Malignant Growths of the Larynx. Laryngoscope, March, 1900.
James F. McKernon: Epithelioma of the Larynx Exhibiting Early Esophageal Symptoms. Laryngoscope, March, 1900.
Charles H. Knight: Epithelioma of the Larynx. Laryngoscope, March, 1900.
Edmund Meyer: Zur Endolaryngealen Behandlung des Kehlkopfkrebses. Berliner Klinische Wochenschrift, No. 52, 1899.
John N. Mackenzie: A Plea for Early Naked Eye Diagnosis and Laryngectomy in Cancer of the Larynx. Transactions Am. Lar. Assoc., June, 1900.
J. H. Farrell: Primary Carcinoma of Larynx. Laryngoscope, October, 1900.
Jos. S. Gibb: Carcinoma of the Larynx, Laryngectomy. Laryngoscope, October, 1900.
Felix Semon: Indications of Thyrotomy. Lancet, Aug. 11, 1900.
B. Fraenkel: Ueber die pathologisch-anatomische Diagnose des Larynxcarcinoms. Thirteenth International Medical Congress, August, 1900.
Moritz Schmidt: Diagnose des Kehlkopfcarcinoms. Trans. Thirteenth International Congress, Paris, 1900, p. 4.
Kelmer: Carcinom nach Gumma des Kehlkopfes. Monatschrift für Ohren-heilkunde, No. 2, 1899.
Scheppegrell: The Treatment of Incipient Cancer of the Larynx. N. Y. Med. News, Aug. 5, 1899.
J. Neumann: Syphilis. Nothnagel. Specielle Pathologie und Therapie, vol. xxiii, p. 485, 1896.
Lewin und Heller: Smooth Atrophy of the Base of the Tongue, Virchow's Archiv für Pathologische Anat., vol. cxxxviii, p. 1, 1894.
Anton Eisenberg: Fall von syph. Gummata der Larynxmuskeln. Archiv für Dermatologie und Syphilis, vol. xxix, 1894.
O. Seifert: Ueber Syph. der oberen Luftwege. Deutsche Med. Wochenschrift, 1893.
Semon: A Clinical Lecture on Laryngeal Tuberculosis. The Clinical Journal, p. 155, 1894.
H. Strauss: Ueber Lues tarda laryngis im Kindesalter. Archiv für Kinderheilkunde, 1892, vol. xiv, p. 512.
Von Schroetter: Syphilis der oberen Luftwege. International Med. Congress, 1890.
Grabower: Ueber Kehlkopfsyphilis. Deutsche Med. Wochenschrift, 1888, p. 78.
Semon: Syphilis hyperplastica laryngis. Lancet, 1887, vol. i.
Schnitzler: Die Kehlkopf- und Lungensyphilis. Wiener Med. Presse, 1886.
Schnitzler: Ueber Combination von Syphilis und Tuberculose des Kehlkopfes. Internat. Klin. Rundschau, Nos. 3, 8, 1887.
Gruenwald: Ueber Combination von Syph. und Tuberculose. Muenchener Med. Wochenschrift, 1887.
J. W. Gleitsmann: The Early Diagnosis of Malignant Tumors of the Throat. New York Med. Jour., Nov. 10, 1894.
Hajek: Tuberculose Larynxtumoren. Internat. Klinische Rundschau, Nos. 37, 38, 1893.
Ernst Schmidt: Ueber Carcinoma des Larynx. Deutsche Med. Wochenschrift, 1897.
Waldeyer: Carcinoma. Virchow's Archiv, vol. xli, p. 500.
Gerhardt: Kehlkopfgeschwülste. Nothnagel Specielle Pathologie und Therapie.
D. B. Delavan: Malignant Diseases of the Larynx. N. Y. Med. Jour., 1896.
W. S. Jones: The Early Symptoms, Diagnosis, and Differential Diagnosis of Carcinoma of the Larynx. JOURNAL A. M. A., 1895.
Pluder: Carcinom des Stimmbands. Deutsche Med. Woch., 1899.
Edmund Meyer: Zur endolaryngealen Behandlung des Kehlkopfkrebses. Berliner Klin. Woch., No. 52, 1899.
Anton Brosch: Theoretische und experimentelle Untersuchungen zur Pathogenese und Histogenese der malignen Geschwülste. Virchow's Archiv, vol. clxii, p. 32, 1900.
Virchow: Zur Diagnose und Prognose des Carcinoms. Virchow's Archiv, vol iii, p. 1.
A. Jurascz: Die boesartigen Neubildungen des Kehlkopfs. Heymann's Handbuch der Laryngologie und Rhinologie, vol. i, p. 885.

DISCUSSION.

DR. E. FLETCHER INGALS, Chicago—The paper furnishes points of diagnosis of great importance in the early recognition of malignant growths. If we are to accomplish anything by operative measures, the disease must be recognized early. I wish especially to commend the author's drawings and his plan of presenting them to us in duplicate photographs so that we may examine them while the paper is being read. The difficulties of diagnosis are very well illustrated in Figure 14, which, I confess, I should have mistaken for a typical case of tubercular laryngitis if the Doctor had not demonstrated that it was syphilis.

DR. ROBERT C. MYLES, New York City—As to the question of diagnosis of malignant growths, it is important first to ascertain whether the patient wants it for practical purposes or not. If the patient does not intend to submit to a radical operation, it is, I think, rather foolish to take out pieces for a microscopic examination. As to the question of naked-eye and microscopic diagnosis, I have been fooled in both ways. Cases have been said, on the one hand, to be malignant on naked-eye examination, and subsequent events have shown that they were not. I have had the same experience with the microscopic diagnosis. So there is an element of uncertainty. The only hope of cure is through early action, and if we will impress on the patient and the general practitioner the importance of early diagnosis and operation, our results will be better and we will have more to show in the way of permanent benefit.

DR. O. T. FREER—The question of removal of a portion of the growth for microscopic examination has a number of opponents, and some of the members in the last international congress in Paris objected to this procedure on the ground that the histologist so often returned a vague report and added to the uncertainty. Though this is not infrequently the case the great majority of authorities are agreed that usually the microscopic test is unequivocal and an indispensable resource. The arguments of those who claimed that cutting away portions of a benignant tumor for microscopic purposes might lead to a change to malignancy have been refuted by Semon, and this reason, therefore, need not deter from taking away a piece of a papilloma suspected to be possibly a carcinoma. Though the laryngologist may be sure of the diagnosis of carcinoma from gross appearances, he may need a microscopic test to convince the patient and sometimes a doubting consultant.

I have found that a great number of physicians regard the laryngoscope as an instrument for the use of the specialist, and when asked to inspect a larynx many are quite unable to even direct the light properly on the mirror. It is this widespread lack of laryngoscopic skill that is responsible for the advanced stage at which laryngeal carcinoma is almost always discovered. If seen early enough the disease may be even eradicated by endolaryngeal modes, as proven by B. Fraenkel, and at least earlier recognition of carcinoma of the larynx would spare many patients laryngectomy and enable them to get radical relief from laryngotomy or partial laryngectomy.

Special Article.

VACATION NOTES.

G. FRANK LYDSTON, M.D.
Professor of Genito-Urinary Surgery, Medical Department, State University of Illinois; Surgeon to St. Mary's Hospital.
CHICAGO.

(Concluded from page 381.)

5. MELBOURNE, VICTORIA.

No visitor to Australia should leave without seeing Melbourne. Victoria is justly proud of her capital city, and, despite the envious criticisms of Sydneyites—there is great rivalry between the two cities—there is much of interest and beauty in Melbourne.

The railway between Sydney and Melbourne is itself worthy of comment. The two sections of the road are owned respectively by the governments of New South Wales and Victoria, and are run by the people and for the people. The Victorian railway has 32 lines—mostly short ones. The road loses £300,000 annually, but the people are well satisfied, as they get the benefit of the outlay, and it is more than repaid by the commercial and agricultural advantages of the road. There has been drought for seven years in Australia, and the farmers have sorely needed relief. The government railway has done yeoman service in this direction. An annual reduction of £250,000 in freight tariffs and £80,000 in fares has been made for the benefit of the farmers. During the bad seasons the road transports stock to distant good grazing ground free of charge. Feed and produce are also carried free. When farmers

have been the victims of bush fires the government supplies them with seed for new crops. Victoria has a debt of £50,000, £39,000 of which is invested in her railways. The investment is deemed a good one, and, if need be, private capital would take the roads off the government's hands very quickly. The government gladly builds new lines where necessary to open up the country.

The rolling stock of the Australian railway system seems very light and frail in general, but the roadbed is the best I ever saw. It is so well ballasted that one can move about quite comfortably while traveling at a 50-mile clip. The sleeping cars are American built, but the day coaches are on the English compartment plan.

The scenery of South Australia along the railway is somewhat disappointing. It has much of beauty, but nothing of grandeur. The fruit trees were in bloom—think of a September spring—and recent showers had brightened up the landscape. Here and there a pretty cottage with an English hedge about it lent color to the scenery. Prosperous-appearing farms and ranches were abundant. Distant glimpses of the Blue Mountains—Australia's pride—were had. These mountains are blue indeed. No imagination there. A touch of the bizarre is added by flocks of black and white crows. Queer birds, but this is a land of queer things. Bears two feet long, the platypus, and parrots that come in flocks to destroy grain—these are all queer. Queerest of all is the placard that stares at you from all the dead walls and fences of Melbourne: "Directions for treating snake bite. Symptoms and results of snake bite." And then the placard sagely advises the victim not to get excited, as the poison never kills under three hours, and sometimes takes twenty-four hours. Which reminds me of Nélaton's advice—was it Nélaton's?—not to get excited if you accidentally cut the carotid, "for it takes two minutes for the patient to faint, three minutes for him to die, and a minute and a half is all you need to tie the artery." Ugh!

Melbourne is well laid out, and in this respect suggestive of some American cities. The streets are clean—which is decidedly not American—but, thank heaven, the city has some good restaurants, which brings her again close to the American heart. Like her rival, Sydney, Melbourne is notably lacking in negroes and Chinese. An occasional picturesque East Indian or Singalese alone relieves the white monotony. The Australian colonist, like his English cousin, is a bit insular and provincial. He is given to rude, open-mouthed staring at strangers, still, taken "by and at large" he is not a bad fellow, and, if he would only come to America and learn English, he would do very well. After one has been advised, be it ever so courteously, that "the wye to the 'ospital is through that gyte hup the street a bit" a few times, he yearns for the land where atrophy of the "H" center is not epidemic.

Melbourne has ample hospital facilities, but is not yet strictly up to date—indeed, she is not even "a good second" to Sydney. The principal hospital is the Melbourne. This was founded in 1846, and it looks it. The building is of brick and stone and is the worse for wear. The interior comports with the exterior, save in the case of the wings, built several years ago, which are a little more modern. The grounds are spacious, but not attractive. There is a large tennis court for the resident staff and attendants. The capacity of the hospital is 320 beds, 120 surgical, and 200 medical. There is a large training school, with 90 nurses in attendance.

The operating theaters, of which there are two, show a slight tendency to modernism, but it will take much white paint and numerous modern appliances to put them on an aseptic basis. There is no special operating room for pus cases. Distinctively septic cases are operated on in the same room as the minor surgical cases—in the old operating theater all classes of cases are taken—contagious included. The Melbourne is the only hospital in the city which is open to the latter class. There are three tents devoted to contagious cases—men, women and children. This is all that Melbourne, with nearly 500,000 inhabitants, has to offer for the care of contagious diseases. There is a single tent with only five cots for the diphtheria cases. Two hundred and thirty cases were treated in this small diphtheria ward last year. Tracheotomy was performed on 20 of these for the relief of urgent symptoms, and of these 9 died. Intubation was performed on 33, and there were 21 deaths in all. Sixteen cases of scarlet fever, 75 measles, and numerous cases of septic poisoning of various kinds were treated in the tents. Many cases of scarlet fever, measles and diphtheria were refused admission for want of accommodation.

The city is building a £25,000 contagious disease hospital, but, for lack of £2,000 to complete it, no work has been done on it for two years. This shows a public spirit worthy of a New York. The surgeon in charge at the Melbourne, however, says he can do more work with his tents than in buildings twice their size. A new and commodious deadhouse shows that the Melbourne Hospital tries to finish well. This has excellent facilities for students doing special autopsy work, and a small private lecture hall.

That the Melbourne Hospital has a field for its work is shown by its census of last year. Nearly 5,000 in-patients and nearly 18,000 out-patients were cared for. The surgical operations numbered 1,566. The hospital has a large amphitheater for clinical teaching. About 160 students were in attendance at the time of my visit. They were mostly from Melbourne University. None of the hospitals, however, are appendages of a medical college.

The status of appendicitis at the Melbourne Hospital is unexceptionable. Early operation is the keynote. Radicalism is the war cry. The suprapubic operation for stone is in vogue. Keegan, Freyer, *et al*, do not seem to have done any missionary work here. The prostate is not often attacked and when it is, the suprapubic method is used. I, of course, again said a good word for the perineal route. Palliation is more popular in Melbourne than it should be, but, as with us, is often adopted because of circumstances over which the surgeon has no control.

There is no obstetrical department at the Melbourne. Such cases are sent to the Women's and Maternity Hospital. This institution attends a large number of obstetrical cases yearly, and has about 40 beds in its gynecologic department. The other hospitals are the Alfred and the St. Vincent's. The nomenclature of these is patterned after the Sydney hospitals—indeed, St. Vincent's is a branch of the Sydney hospital of the same name. Alfred Hospital has a capacity of about 180 and is very modern in its appointments, but will not enjoy the distinction long, for St. Vincent's small building is to be replaced by a modern 300 bed hospital, built and furnished on strictly American lines. This is the ideal and nobody knows it better than the Australian.

There is a small special eye and ear infirmary and a special hospital for children. Melbourne has had no epidemic of plague. Two cases developed during the Sydney epidemic, that was all. Melbournites say they have no plague because they are cleaner than Sydney. To which the Sydneyites, in the true scientific, not in the vulgar sense, cry "rats!"

In passing I wish to remark that the persons who chew tobacco, or are catarrhally inclined, would best not visit Australia. The rigid enforcement of the anti-spitting law has evolved a new race of beings who never expectorate. This has driven the cuspidor out of business. Look where you will, in hotel corridor, restaurants, public buildings, and in your own room, you will find it not. The warning placard is now superfluous, although still in evidence.

The scarcity of water in Australia has impelled the authorities to direct the people to take shower baths only. The tub bath is tabooed. Perchance the bathtub may follow the cuspidor. Evolution works wonders. Whatever the explanation of the scarcity of the "expectoroon," Australia would seem to be no place for throat specialists or their patients.

In operating near the female bladder it must be remembered that the latter is never perceptible to the touch unless distended, or, better still, unless an instrument such as a sound has been passed into it.—*Toledo Med. and Surg. Reporter.*

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THE SURGICAL TREATMENT OF OLD EMPYEMATA.

Nearly all physicians have come to recognize that the presence of pus in the pleural cavity is generally a definite indication for immediate operation, and a large percentage of rapid recoveries and complete cures has become the rule in such cases. We recently noticed a method[1] that has been successfully used by Dr. E. Fletcher Ingals in these cases, and which is available to the general practitioner without surgical assistance. In the great majority of cases this conservative operation is all that is required and cases go on readily to recovery.

Neglected cases are still occasionally met, however, in which the purulent exudate has been allowed to compress the lung for so long a time that the visceral pleura has become so much thickened and so inelastic that expansion of the lung is impossible, even after evacuation of the pus. Operation offers the only method of successfully dealing with these cases. While fortunately rare, such cases are frequent enough so that all surgeons of extensive practice are occasionally called on to treat them, and their successful management has been one of the most difficult problems in surgery. Three methods have been used with more or less success. Estlander of Helsingfors, Finland, was the first to bring about a cure in these cases by resecting a large number of ribs, thus permitting the chest wall to collapse and close the cavity existing between the permanently contracted lung and the parietal pleura. Finding that even after extensive resection of the ribs, as suggested by Estlander, the thickened parietal pleura sometimes prevented falling in of the chest wall, Schede of Bonn combined extensive excision of the parietal pleura with excision of the ribs, and this method has proved a satisfactory means of dealing with the obstinate cases which do not yield to the simpler procedure of Estlander.

George R. Fowler[2] of Brooklyn first attempted to obliterate these cavities, not by permitting collapse of the chest wall, but by providing for the expansion of the contracted lung. He succeeded in stripping off the very much thickened layer of visceral pleura, thus permitting the lung to expand and obliterate the cavity. Whenever it is possible to perform this operation the lung partly or entirely resumes its function and the deformity from extensive resection of the chest wall is avoided; advantages sufficiently great to make this the operation of choice in suitable cases. In foreign literature this procedure is generally referred to as Delorme's operation, credit for priority being given to the French surgeon on the basis of a report of some experiments on the cadaver which he presented before the French Surgical Congress in April, 1893. Fowler operated, however, entirely without knowledge of Delorme's experimental operation of a somewhat similar character, and as the first to successfully demonstrate its feasibility on the living human being he undoubtedly deserves the credit for priority. Delorme did not perform the operation until some time after Fowler's successful operation.

Since Delorme's publication decortication of the lung seems to have become generally recognized by European surgeons as a valuable method of dealing with these cases, but it is apparently seldom employed in this country, the only paper besides that of Fowler being by Ferguson[3] of Chicago. At the last French Surgical Congress the operation was introduced for discussion by Gangolphe[4] of Lyons. He reported two cases of chronic empyema, one of which had lasted three and a half years, the other six and a half years, both of which were successfully operated on, although secondary resection of some ribs was necessary to complete the cure in one of the cases. Statistical studies by Kurpjuweit,[5] who reports five cases from Garré's Clinic at Königsburg and has collected 56 cases from the literature, show 35.7 per cent. of complete recoveries, 19.7 per cent. improved, 33.9 per cent. unimproved and a mortality of 10.7 per cent. Comparing the results of decortication with extensive resections of the ribs we find that the latter operation gives 56.3 per cent. of cures, 20 per cent. improved, 3 per cent. unimproved and a mortality of 20 per cent. Although the percentage of permanent cures after decortication is not so great as after Estlander's or Schede's operations, 56.3 per cent. as compared with 35.7 per cent. in favor of extensive rib resections, the smaller mortality and the possibility of expansion and more or less complete resumption of function of the lung and the avoidance of extensive deformity are important factors which can not be disregarded in favor of decortication. That the function of the lung is regained to a very great extent is shown in at least one case which has been reported in which a patient recovered from a severe pneumonia of his sound lung by the aid of a crippled lung which had been partly restored to its function by decortication.

If all cases of empyema were treated by early and free drainage extensive operations of all kinds would prove unnecessary, but as long as physicians fail to recognize the very evident physical signs of this condition and neglect the use of an aspirating needle, such cases will continue to be overlooked. The operation of decortication of the lung, devised by an American surgeon and shown to be an efficient means of treatment of these cases seems worthy of more attention than it has thus far received by surgeons in this country.

1. The Journal A. M. A., January 17, p. 177.
2. Medical Record, Dec. 30, 1893.
3. The Journal A. M. A., Jan. 9, 1897.
4. Revue de Chirurgie. 1902, vol. xxii, p. 651.
5. Beiträge zur klinische Chirurgie, 1902. vol. xxxiii, p. 627.

RHEUMATOID ARTHRITIS: A THREE-DISEASE GROUP.

Probably nothing did more to remove some of the mystery and the opprobrium of ignorance that attach to many so-called rheumatic affections than the acceptance of the doctrine of a disease bearing certain relations to gout and rheumatism, but absolutely distinct from either. To this, at first, for want of a better, the name rheumatic gout was given. Later the terms rheumatoid arthritis and arthritis deformans came into use, the luxuriance of nomenclature, as in so many other cases, bearing a direct ratio to our lack of knowledge of the affection. Much of the progress with regard to this disease is due to English clinicians for special observations of the greatest practical value. It is of more than ordinary interest, then, to find that a number of the English authorities on this class of diseases are now pretty well agreed that under the name arthritis deformans at least two and probably three diseases distinct from one another exist.

Dr. Bannatyne[1] gave definite expression to the opinion that the rheumatoid arthritis group contains three perfectly distinct joint affections. These are, first, the pathologic condition commonly confined to the hip joint, seen rarely in any but elderly men, and consequently very properly spoken of as senile osteo-arthritis. Second, the affection met more frequently among women about middle life, the symptomatic course usually beginning by bony enlargements in the terminal joints of the fingers and in the carpo-metacarpal joint of the thumb. Thirdly, there is the class of cases which occurs mostly in women who are seldom much over 20, the first symptom being a tumefaction of the proximal phalangeal joints. The swelling in these cases, however, often becomes noticeable in the wrist early in the disease. The characteristics of the affection are its acuteness, its distinctly symmetrical character and the fact that the swelling extends well beyond the affected joints so that, for instance, the fingers take on a fusiform appearance.

The first form of the disease has been recognized by medical men generally as a more or less distinct pathologic entity for some time. The second form, beginning in the terminal finger joints, is by no means infrequent. In its preliminary stages it is often considered of little significance, being spoken of as Heberden's nodes. It may give no serious symptoms for many years, but the deformity may eventually become considerable, the bony outgrowth characteristic of the disease spreading to many joints and the patient, usually a woman, becoming a helpless cripple. The symptoms are never acute, however, and there is never any temperature. In the third form of the disease, acuity is the prominent feature. The disease begins with pain, swelling and redness, the temperature rises every day to above 100, and may reach 102. The febrile course continues for three or four weeks, when by self-limitation that suggests the infectious nature of the ailment the temperature sinks to normal, though the pulse does not become normal for a considerable period later. Marked immobility, deformity and muscular atrophy remain after the attack is over and the patients are often chronic invalids. Recurrences are almost the rule, and each attack leaves the patient permanently a little worse off than before. For this form of rheumatoid arthritis Dr. Garrod has suggested the name acute rheumatoid arthritis, which is fairly descriptive and seems to deserve a place in the permanent literature of the subject.

At the meeting of the British Medical Association in 1901, Dr. Garrod advanced the opinion that the only way to make our knowledge of these varieties of disease definite was to admit the existence of these three forms and look for the results of autopsies to confirm the clinical distinction.

Dr. W. Hale White,[2] in the last volume of Guy's Hospital reports, gives the results of an autopsy on a case of acute rheumatoid arthritis, the first, we believe, that has been made with the definite purpose of locating the exact lesions present in this disease. The pathologic changes consist in a chronic inflammation of the synovial membrane, together with a thickening of the tissues outside of the joints. Perforations of the cartilages were found, but were traceable to the pressure of the thickened synovial membranes. Changes in the bones were also secondary to the irritation of the redundant synovia. There was nothing like bony or cartilaginous outgrowths present. From the synovial fluid a coccus was cultivated, growing at times in pairs, never in chains. Dr. Bannatyne, in a similar case, found a short bacillus that stained especially at both ends and so resembled at times a diplococcus. While these studies do not definitely settle the existence of three distinct diseases in the arthritis deformans group, they do furnish an excellent basis on which to found further investigations of an interesting and important medical question, for which opportunities are not lacking here in America.

1. The Practitioner, May, 1900.

2. Guy's Hosp. Reports, vol. lvii (series 3, vol. xiii), London, 1902, p. 9.

UP-TO-DATE JOURNALS.

There is an unfortunate practice—we do not know how far it is unavoidable—of certain medical journals appearing later than their advertised time and yet having nothing on their pages to show the exact date of appearance. We have in mind one otherwise excellent journal which habitually appears about three months late, the October number usually appearing in January, and so on through the year. This is, in one sense of the word, an imposition on its readers, and is more important when one comes to consult files of some years back. For instance, if a journal has an article giving an account of something new, some new discovery of importance, very serious questions of priority might arise, and unless the fact of the delayed appearance were generally known, injustice be done. An article published in a journal dated three months or even one month earlier than its actual appearance might get the credit of priority undeservedly. Such things have happened in the past, and are of more serious conse-

quence than perhaps at first appears. Another questionable procedure is that of certain high-class publications which appear more or less irregularly and do not have the exact date of their appearance anywhere in their pages. A reform in this matter would also be advisable.

JOURNALISTIC NOTES.

The *Interstate Medical Journal* introduces a valuable feature with its January issue. The whole number is devoted to a review of the medical literature of the year 1902, each department being under the direction of a specialist. In this way it forms a brief but convenient and fairly full statement of the principal progress that has been made during the year. This is to be a feature of the journal hereafter, each January issue containing an epitome of the medical and surgical progress of the preceding twelve months. The *Journal of Cutaneous and Genito-urinary Diseases* will hereafter appear under a new title, the *Journal of Cutaneous Diseases, Including Syphilis,* under the management of Dr. A. D. Mewborn of New York. The old association with genito-urinary diseases which, the editor remarks, were in no way related to dermatology, has been dropped. The syphilodermata belong to dermatology and have no relation with genito-urinary surgery. Syphilis should be considered as truly a dermatosis as leprosy or skin tuberculosis. It will be seen that the scope of the journal is somewhat narrowed, but its usefulness will be in no way diminished and the specialty of dermatology is certainly large enough to support a first-class organ in this country.

MEDICAL ADVERTISEMENTS AND THE RELIGIOUS PRESS.

THE JOURNAL has had occasion to note the carelessness, to use no worse term, of religious journals as to the character of their advertisements. It is a pleasure to notice that in some quarters at least this is no longer to be the case. There are nine official journals of the Methodist church, the advertising pages of which are all under one management, and the announcement is made—as we see by the *Medical Standard*—that after Jan. 1, 1903, no medical advertisements of any character will be accepted, and that only such contracts as are at present in force will be carried out, and then not renewed on any terms The enforcement of this rule will clear these journals of whatever share of reproach they may have before deserved; they have not been the worst examples of such reprehensible advertising, as we have had occasion to notice in the past. It is to be hoped that other religious journals will follow this example and clear their advertising pages of what is in direct opposition to the teachings of their editorial pages, in spirit if not exactly in letter. As the advertising agent of the Methodist journals says, it may be a financial loss for the time being, but his opinion that the advertisers that are accepted will profit by it and in time make up for the loss is, we believe, a correct one. The journal which is careful in its advertisements gives at once a recommendation to whatever it advertises. This should be especially the case with the religious journals.

LESIONS OF THE PANCREAS ASSOCIATED WITH CIRRHOSIS OF THE LIVER.

By reason of the part played by the liver in carbohydrate-metabolism glycosuria developing in the course of diseases of that viscus has been attributed to derangement of its function. Such a result, it was thought, is due to the entrance of the metabolic products directly into the general circulation, instead of passing through the liver, whose portal vessels are obstructed in consequence of the morbid process present. When it was shown that cirrhosis of the liver is but rarely attended with dextrosuria, it was suggested that the appearance of sugar in the urine under such circumstances is due to failure on the part of the liver cells, by reason of the existing disease, to retain the sugar brought to them. It was, however, found that glycosuria developed at times in the absence of disease of the liver and failed at other times to develop notwithstanding the presence of such disease. More recently, however, disease of the pancreas has been held responsible for the glycosuria, and it has been found that it is especially lesions of the islands of Langerhans that are associated with that condition. In some cases interstitial hepatitis has been found together with interstitial pancreatitis. With the object of reaching a definitive opinion in the matter, Dr. F. Steinhaus[1] undertook an anatomic study of 12 fatal cases of cirrhosis of the liver. Six of these were of perilobular type, 1 was associated with malignant adenoma or adenocarcinoma, 1 was probably syphilitic, 3 were cases of diffuse subacute interstitial hepatitis and 1 was an example of typical portal cirrhosis. In all, with the exception of the last, there was found distinct inflammatory hyperplasia of the interstitial tissue of the pancreas, exhibiting various points of correspondence with the inflammatory process in the liver. The changes consisted in cirrhosis, partly perilobular and partly periacinous, in the most marked degree associated with considerable destruction of glandular parenchyma. Inasmuch as foci of small-cell lymphocytic infiltration also were present, together with hyperplasia of blood capillaries and pancreatic ducts, the process may be designated an interstitial pancreatitis in the same sense as the term interstitial hepatitis is used. The islands of Langerhans were unchanged in structure in 11 of the 12 cases in which they were examined. As in cases of true diabetes associated with cirrhosis of the liver, whether attended with hemochromatosis or not, the demonstrable severe disease of the pancreas renders it probable that not the disease of the liver, but rather that of the pancreas, is of paramount significance, so from the results of the investigations under consideration the reduction in the limits of tolerance for sugar on the part of patients suffering from cirrhosis of the liver may be attributed to changes in the pancreas. The fact that diabetes does not develop in all cases of cirrhosis of the liver is to be interpreted from experimental observations as indicating that the pancreas under such circumstances still possesses relatively sufficient functionally active tissue to prevent the development of diabetes. Accordingly, it appears as little necessary to differentiate the glycosuria attending cirrhosis of the liver from pan-

1. Deutsches Archiv für klinische Medicin, 74, B., 5 u. 6 H., p. 537.

creatic diabetes principally in accordance with its pathogenesis as to distinguish from pancreatic diabetes other forms of glycosuria for which recently the possibility of derangement of the function of the pancreas has been demonstrated (for instance, arteriosclerotic diabetes). Thus the grounds for a uniform conception of diabetes are increased. This will be manifested by the occurrence of diabetes mellitus, of whatever form, only in consequence of derangement in the function of the pancreas, and the fact that this organ alone subserves the function of consuming sugar in the metabolism of the organism.

Medical News.

CONNECTICUT.

Money for Hospital.—By the will of George Griffin of Derby, about $50,000 is available for the emergency hospital proposed for that city.

A whooping cough epidemic is reported in Norwich, with more than 500 cases. A strange popular error seems to exist that whooping cough is not a dangerous disease, notwithstanding the constant iteration of the fact that it causes more deaths than either measles or scarlet fever.

Tuberculosis Hospital Assured.—Gifts have been made to the New Haven County Anti-Tuberculosis Association sufficient to enable it to proceed with its plans. It is proposed to buy land on Woodbridge Heights, north of New Haven and thereon to erect three cottages of eight rooms each.

More December Deaths.—By mortality reports received there were 1,298 deaths during December. This was 215 more than in November, and 158 more than in December of last year, and 76 more than the average number of deaths in December for the five years preceding. The death rate per 1,000 was 17.5 for the large towns, for the small towns 16.0, and for the whole state 17.1. The deaths reported from infectious diseases, including diarrheal, were 230, or 17.7 per cent. of the total mortality.

Deaths of the Year.—The total deaths for 1902 was 14,376; 480 less than in 1901, and 1,992 less than in the year 1900, also 330 less than the average of the previous 10 years. When it is remembered that three of the most contagious and often the most fatal diseases, measles, scarlet fever and diphtheria, have each occurred in more than 100 of the 168 towns in the state, and that smallpox has been present in about one-fifth of the towns during the year, it is remarkable that the number of deaths has diminished rather than increased. The State Board of Health remarks:

> Two facts satisfactorily explain this unexpected condition: One is that all these maladies have appeared in an exceptionally mild type; the other is, that although these diseases are epidemic in character, the vigilance and intelligent supervision of the local health officers, and the willing co-operation of citizens, have kept them under better control than ever before. It is only a just tribute to the town health officers of Connecticut to assert that under their judicious and well-directed efforts they have saved hundreds of lives during the year.

DISTRICT OF COLUMBIA.

Hospital Bequests.—By the will of the late Frederick Pilling, at the death of his wife, $1,000 each is to be paid Garfield Hospital, Emergency Hospital, City Orphan Asylum, Associated Charities, and Huddlesfield Infirmary of Huddlesfield, England.

Health of the District.—The report of the health officer for the week ended January 31 shows the total number of deaths to have been 135, of which 67 were white and 68 colored. During the week there developed 22 cases of typhoid fever, 3 of scarlet fever, 3 of diphtheria, and 1 of smallpox.

Quarantine Station.—The health officer has reported favorably to the commissioners of the district on the proposed amendment to the appropriation bill providing for the purchase, erection and equipment of an isolation building. The estimates call for $10,000 for the site and $15,000 for the building and equipment.

Eight Hour Day for Nurses.—Mr. Mudd has introduced a bill in the House to regulate the hours of service and compensation of nurses and attendants at the Government Hospital for the Insane. It provides that quarters and rations shall be supplied, that eight hours shall constitute a day's work, and that 30 days' sick leave and 15 days' annual leave shall be granted.

To Prevent Spread of Disease.—Senator Hansbrough has introduced a bill for the further prevention of the spread of communicable disease in the District of Columbia. It provides for the immediate report to the health officer of all cases of measles, whooping cough, chicken-pox and epidemic cerebrospinal meningitis, and further provides for their supervision by the health department.

School Quarantine Regulations.—As the health officer has no legal authority to quarantine mild contagious diseases, the school board has adopted a resolution which provides that no children sick with measles or chicken-pox shall be admitted to the schools for a period less than three weeks from the onset of the disease. Those suffering from whooping cough shall not return to school for at least four weeks.

GEORGIA.

Erysipelas is a contagious disease, according to the Atlanta Board of Health, and hereafter those suffering from it will be isolated.

Counterfeiter Sentenced.—In Rome, January 31, sentence was passed on Dr. Russell D. Stallings, Clem, who was convicted about a year ago of counterfeiting.

Fined for Failure to Report.—Dr. Isaiah J. Griffith, Atlanta, was recently fined $25.75 for failure to report a suspicious case of illness which afterward developed into smallpox. By reason of his neglect, it is alleged by the city health officer that two deaths and at least four cases of smallpox have occurred.

Personal.—Drs. Henry M. Fullilove and A. C. Holliday, recently elected city physicians of Athens, have resigned because of the meager salary allowed them by the city council.——Dr. Thomas D. Longino, Atlanta, alderman and chairman of the council sanitary committee, has been elected president of the local board of health, vice Dr. William C. Jarnagin, term of service expired.——Dr. George Brown, Atlanta, has been made surgeon-general and Dr. J. Cheston King, assistant surgeon general, Georgia State Troops.——Dr. Charles J. Montgomery, Augusta, has been appointed a trustee of the Georgia State Sanitarium, Milledgeville, vice Dr. Eugene Foster, deceased. ——Dr. Theodore E. Oertel, Augusta, has been made temporary dean of the medical department, University of Georgia, Augusta, vice Dr. Eugene Foster, deceased.——Dr. Thomas D. Coleman, Augusta, has been designated to act as president of the local board of health until the vacancy caused by the death of Dr. Eugene Foster shall have been filled by election.——Dr. Harry Ainsworth, Thomasville, has been appointed traveling medical examiner for the relief department of the Atlantic Coast Line, with headquarters at Thomasville.

ILLINOIS.

Physician Afflicted.—Dr. Edward W. Paul, Forest City, is quarantined at his home on account of smallpox. It is said to be a mild case.

Smallpox Scare in Spring Valley.—On account of a case of smallpox brought into Spring Valley the Dominican Convent School in that city was closed and the convent placed in quarantine.

New Bills.—Bills have been introduced in the General Assembly, providing for the creation and establishment of the Illinois State Colony for Epilepties, and for the location, erection, organization and management of a state sanatorium for persons afflicted by tuberculosis.

Health Board Attorneys Paid by Fines.—In his annual report, the secretary of the State Board of Health announces that with the exception of $1,200 a year paid to W. A. Shaw as an investigator, all of the payments to special attorneys made by the board have come out of fines collected from violators of the law after prosecution by those attorneys. The practice of the board is to allow its special attorneys as fees all money collected as fines in consequence of prosecutions by them, they paying all costs. Thus the board's attorney in Chicago collected in fines from violators of the medical practice act, from June 1, 1901, to Jan. 10, 1903, $6,210.83. Of this amount he paid out in court costs, to investigators, agents to secure evidence, office rent, clerk hire, and other expenses, $3,997.28, leaving $2,213.55, which he was allowed to retain as fees.

Chicago.

New School for Nurses.—The Presbyterian Hospital is organizing a school for nurses, with a three years' course. Lectures will be given by members of the visiting staff of the hospital, and by the faculty of Rush Medical College.

Statement of Mortality.—In the week ended February 7 596 deaths were reported, an annual rate of 16.48 per 1,000, which compares unfavorably with that of the week previous, 16.20 per 1,000, and with that of the corresponding week of 1902, which was 15.18 per 1,000.

Colored Physician Wins Suit.—Dr. Anna B. Schultz was given a verdict of $2,037 for false imprisonment May 7, 1901, against several detectives of Pittsburg, Pa. They appealed to the United States Circuit Court for a new trial, and on February 2 this was refused and judgment was ordered for Dr. Schultz.

Physician Sued.—On February 5 a jury awarded an 18-year-old girl a verdict of $18,000 against Dr. George W. Webster, president of the State Board of Health. The plaintiff alleged that by reason of a mistaken diagnosis she suffered loss of her leg near the hip. Dr. Webster considers the case one of attempted blackmail, and will, if necessary, carry it to the highest court.

Smallpox to the Front.—The health department makes the following report for the week ended February 7:

Smallpox has been found during the week in all quarters of the city, and in most of the cases the source of the contagion could not be traced. Dr. Spalding, chief medical inspector, says: "The pest is attacking unvaccinated children under the school age of 6 years. Parents are careless about getting children vaccinated before they are compelled to do so when they present them at school. There are five children in the hospital under 6 years old."

Cold and Exposure Kill.—The health department announces:

Since January 1 there has been an increase of 36 per cent. in the deaths of infants and young children—under 5 years of age—and of more than 18 per cent. in the deaths of those beyond 60 years over the numbers in the corresponding thirty-eight days of last year. During this period in 1902 there were 3,058 deaths at all ages; this year the total deaths number 3,612—an increase of 18.1 per cent.

This chief increase of mortality among the aged is from pneumonia and from the chronic diseases—consumption, cancer, diseases of the heart and kidneys, and, to a lesser extent, from diseases of the nervous system.

KANSAS.

Bill to Govern Oculists.—A bill has been introduced in the senate providing for a state board of examiners in optometry.

Personal.—Dr. John J. Wood, Coffeyville, still holds the proud title conferred on him by Polk's Directory of being "probably the oldest physician in the United States, if not in the world," as he recently celebrated his one hundred and first birthday anniversary.

Many Medical Practice Bills.—Over a dozen bills regulating the practice of medicine have been introduced into the legislature. The principal one proposes to abolish the State Board of Medical Registration and require the State Board of Health to do the work of that body.

The State Board and Patent Medicines.—A bill was introduced in the senate, January 21, which will compel manufacturers of patent medicines to secure licenses from the State Board of Health before their medicines can be offered for sale or advertised in Kansas. The fee provided is $5. The bill also calls for an annual statement from the manufacturers showing the amount of medicine sold in the state, the statement to be accompanied by 2 per cent. of the gross receipts. Wagon peddlers will be required to pay a yearly license of $100.

Convictions and Arrests.—Dr. J. S. Hamilton, Coffeyville, has been convicted of the illegal practice of medicine.——In the Federal Court at Leavenworth, Kansas, Judge Hook recently fined J. W. Clements $25 for sending through the mails medicine known as a monthly regulator, the medicine and the directions accompanying it being held to be contrary to the statutes.——"Dr." J. C. Brownfield, formerly an itinerant medicine man, has been found guilty of forgery, at Eldorado, and sentenced to seven and one-half years in the state penitentiary.——Dr. Clement E. V. Sams, Haven, has been arrested on a charge of violating the quarantine law by failing to report a case of diphtheria in a family at that place.

MARYLAND.

Baltimore.

Contract Awarded.—The contract for the new surgical building for the Johns Hopkins Hospital has been awarded. It will be five stories high, of brick and stone, and will cost about $125,000.

Personal.—Dr. Smith Hollins McKim is making a voyage up the Nile.——Dr. Hector H. Goodwin sailed February 7 for a trip through Europe and the Mediterranean countries.——Dr. H. W. McComas, Oakland, has gone to Hot Springs, Ark., for a short sojourn.

Bequests.—Mrs. Margaret M. Smith, recently deceased, bequeathed $4,000 to the Church Home and Infirmary for the purpose of endowing a bed for an adult person, to be known as "The Charles Fisher Smith Bed," and also $1,000 to the Home for Incurables.

Medical College Sued.—Suit for $10,000 damages alleged to have been done the adjoining property by unwholesome smells and noxious matters issuing from the premises occupied by Baltimore University as dissecting rooms, has been brought against the owner of the property and the university.

Vital Statistics.—The death rate continues unusually high. There were 245 deaths during the week ended February 7, whereas for the corresponding week of 1902 the number was only 187. The annual rate per 1,000 was 23.22. A noticeable change in the proportion between the white death rate and that of the colored people was shown. Ordinarily the proportion is as 1 to 2 or 1 to 2½, but last week the proportion was as 21.67 to 31.70. The cause of this variation is not apparent. There were 40 deaths from pneumonia and only 28 from consumption. 234 cases of measles were reported.

The Wood Alcohol Blindness Suit.—The Boehm suit (see previous issues of THE JOURNAL) continues to excite deep interest. The experts for the defendants have contradicted the statements of the ophthalmologists, and testified that purified wood alcohol or Columbian spirits is no more poisonous than grain alcohol. Frederick T. Gordon, a pharmacist in the navy, testified to having taken one ounce twice a day. He also fed a cat a teaspoonful daily for over a month without harmful results. Dr. E. L. Whitney had taken 1½ ounces of Columbian spirits in three hours without bad effect. A special feature was the drinking in open court of 2 ounces of Columbian spirits by Mr. William E. Gilbert, one of the defendants. It was freely diluted with water, and no apparent ill effects were experienced. The counsel began arguing the case this week.

MICHIGAN.

Vaccination Train.—A special train containing vaccinators and vaccine has made the trip over the Grand Rapids and Indiana Railroad, leaving sore arms at every station. It is said that every employe of the road has been vaccinated.

Organization of Health Service.—The State Board of Health has been so successful in its endeavor to secure for every locality the appointment of a health officer, who shall be the executive officer of the board, that in the final report for 1902, returns were received from all but two villages and one township, out of nearly 1,600 townships, cities and villages in the state.

Physicians Win Suit.—One of the most tedious malpractice suits of recent years has just been decided in favor of the defendants in the Circuit Court of Macomb County. Drs. Henry G. Berry and Harry F. Taylor, Mt. Clemens, were called in 1901 to see a case of appendicitis. Dr. Angus McLean, Detroit, confirmed the diagnosis, and the appendix was removed. The patient died ten days later from uremic poisoning. Thereon suit was brought for malpractice, and damages of $10,000 claimed. As the defendants did not respond to offer of compromise, the case came to trial, and after a few minutes' deliberation the jury returned a verdict of "no cause."

In the Hands of the Law.—Dr. Roy W. Griswold, Bay City, convicted of complicity in the death of Agnes Eberstein by criminal operation, was sentenced, January 27, to imprisonment for two years in the state reformatory at Ionia.——W. I. J. Bruinsma, Olive Township, Ottawa County, has been arrested for practicing medicine without a state license. He was released on $500 bonds.——Henry M. Salisbury, Belding, has been arrested, charged with practicing medicine without a state license. ——Calfernia J. S. Smith, Grand Rapids, charged with having performed an unlawful operation on Bertha Van Norman, from the effects of which she died, was convicted and sentenced to imprisonment for seven years in the Detroit House of Correction.——D. C. Gee, Centerville, has been served notice by the State Board of Registration in Medicine to cease practicing medicine until he has complied with the law, and registered. ——P. Van Dystervelt, Little Muskegon, has been arraigned,

charged with practicing medicine without a license.——Dr. Wallace E. Newark, Charlotte, has been arrested, charged with causing the death of Mrs. W. H. Wirtz, by an illegal operation.

NEW YORK.

To Abolish Coroners.—A bill has been introduced into the legislature by Senator Elsberg for the abolition of the coroner's office of New York City and the substitution of a system similar to that of Massachusetts.

To Exempt Society Property.—A bill has been introduced into the legislature by Senator McCabe exempting from taxation property of medical societies in New York and Kings County to the amount of $150,000.

State Board of Charities.—The total number of beneficiaries in institutions subject to the inspection of this board was 60,804 on Oct. 1, 1902. There are 200 epileptics awaiting admission to the Craig Colony.

Typhoid Epidemic in Ithaca.—According to reports made to the board of health, Ithaca has a serious epidemic of typhoid, the total number of cases already reaching over 300. It is said that the epidemic has been traced to an infection of the city water supply.

A new quarantine hospital, costing $40,000, was recently opened at Rochester. The epidemic of smallpox is now practically over there being only 33 cases left in the old Hope Hospital. At one time there were more than 200 smallpox cases in Rochester. Many were cared for in the city election booths.

McKinley Memorial Hospital Incorporated.—An application for a charter for the McKinley Memorial Hospital for Diseases of the Digestive Organs was made to the State Board of Charities at Albany, January 10. The directors are Drs. Carl Beck, Ramon Guiteras, Reynold W. Wilcox, Mark I. Knapp and Mr. Edward Lauterbach of New York.

Stony Wold Sanatorium for Consumptives.—The board of directors of this corporation raised during the last week of January the sum of $18,000 for the work of the sanatorium. The organization has contributed $100,000 up to date toward the $200,000 building fund, and $6,000 has been given toward the endowment fund. The latest and largest gift, $20,000, was made by Mrs. Henry Siegel.

Opposed to Tenement Law Amendments.—At the January 27 meeting of the State Medical Society a resolution was adopted "deploring any weakening of the present tenement-house laws, and urgently requesting the legislature to permit no changes to be made that will in any way decrease the amount of light and air available for the people living in such houses, or in any way take a backward step in regard to their sanitary conditions."

Medical Examiners' Report.—The State Board of Medical Examiners was in session in Albany, January 28. The president, Dr. William Warren Potter, submitted the annual report, which shows that since the establishment of the board 7,034 candidates for license have been examined, of whom 5,528, or 78.5 per cent. have been successful, and 1,506, or 21.5 per cent., unsuccessful. The number of candidates for medical license has been decreasing since 1898. In that year the maximum, 869, was reached. In 1902 there were only 685. Dr. William W. Potter was elected president of the board for the ensuing year; Dr. Maurice J. Lewi, secretary, and Drs. George R. Fowler and Lewi were appointed a question committee.

Bubonic Plague and the Legislature.—A resolution has been introduced into the state legislature in anticipation of a probable outbreak of the bubonic plague in the east in the near future. The preamble rehearses what has happened in connection with the plague on the Pacific Coast and quotes from a recent conference at Washington of the representatives of state boards of health to the effect that it will be necessary for the Federal authorities to take cognizance of the spread of this malady, and that action on the Atlantic Coast will soon be imperative. The resolution itself is as follows:

Resolved, That the Commissioner of Health of the State of New York report to the assembly the part taken by him in the Washington conference, and the plans adopted or proposed to be adopted to prevent the introduction of the bubonic plague into this state.

New York City.

Vaccinators Dismissed.—The health commissioner has dismissed three physicians in the service of the health department in the Borough of the Bronx on the charge of falsifying reports of vaccination work. One physician reported that he had vaccinated 156 persons one week, when, it is said, the actual number vaccinated was two.

Arrests for Promiscuous Spitting.—Forty sanitary policemen were sent out in one day recently to arrest persons found violating the ordinance regarding expectorating in cars and other public places. The men made 39 arrests. It is announced that this crusade is to be kept up until the public show a proper respect for the law.

Summer Courses at Columbia.—An important extension of the work of the College of Physicians and Surgeons is the establishment of summer courses. This has long been under advisement, and will first be realized during the coming summer by the giving of practical courses in the various departments. Each course continues for from three to five weeks, and the work will be adapted to the needs of senior students and practitioners.

Rockefeller Laboratory for New York City.—Although no formal announcement has been made public, the fact has become known that Mr. Rockefeller has given a handsome sum for the erection of a fine laboratory, or probably a collection of laboratories for medical research. It is not denied that negotiations have practically been completed for the purchase of a large tract of land in the vicinity of East 80th Street. It is said that the ground alone will cost about three-quarters of a million dollars.

Mount Sinai Hospital.—At the annual meeting, January 25, President Isaac Wallach read the fiftieth annual report of the hospital. During the fiscal year ended Nov. 30, 1902, 34,879 cases had been treated, and there had been 6,287 applicants for admission and 3,032 patients admitted, this making a total of 75,569 patients since the founding of the hospital. The bequests to the hospital for the year amounted to $85,890, making a total of $1,366,000 so far contributed, and an additional $250,000 required to complete the building under construction at Lexington Avenue and Sixty-sixth Street. When completed the hospital will require about $225,000 per year for its support. At present it has a list of 3,705 members, an increase of 230 over the membership of a year ago.

Consumption in New York City.—According to the estimate of the board of health there are 30,000 persons in this city suffering from consumption, most of whom live in the tenement houses, and yet the city provides a hospital on Blackwell's Island accommodating 354, a pavilion for consumptives in connection with the Kings County Hospital, accommodating 65, and one at Bellevue Hospital which has at present only 10 beds for consumptives. In addition, about 200 patients are received at the Seton Hospital, a semi-private institution. Dr. Henry P. Loomis, therefore, very properly urges the building on Blackwell's Island, a site readily accessible from all the boroughs, and having a good supply of light and air, of a hospital sufficiently large to accommodate all consumptives who are very ill; this to be supplemented by a country pavilion annex for incipient cases.

Buffalo.

Typhoid in a Suburb.—The number of cases of typhoid fever in the steel plant district of West Seneca, a suburb of Buffalo, is increasing. There are at present 62 cases in the vicinity.

Antonius' Associate Fined.—Dr. Franklin Stuart Temple, an associate of "Antonius the healer," was fined $250 and $23 costs in the municipal court for failing to register with the department of health. Unfortunately Dr. Temple possesses a diploma from the Albany Medical College, and thus is protecting Antonius from criminal prosecution.

Consumptives Forsaken.—The board of visitors to the Buffalo State Hospital report that the consumptive patients are still in the forlorn corridors, forsaken and alone, except for necessary care, with none of the pleasant surroundings that mitigate the pain of mind consequent to a helpless condition of the body. Recommendations are made for a nurses' home and a residence for the superintendent.

Dr. Hall in Buffalo.—Dr. Winfield Scott Hall of the medical department of Northwestern University, Chicago, was the guest of honor at a banquet of the Alpha Omega Delta fraternity. He spoke on "Educational Principles in Medicine" and Dr. Matthew D. Mann, dean of the medical department of the University of Buffalo, also responded to a toast. Previous to the banquet Dr. Hall was entertained at a luncheon by Dr. Roswell Park and later a reception was given in his honor by Dr. Floyd S. Crigo.

OHIO.

Damage Suit Thrown Out.—The malpractice suit of John H. Minser against Dr. J. F. Baldwin, Columbus, was thrown

out of court by the presiding judge at the completion of the plaintiff's testimony, the court holding that the prosecution had failed to present a "scintilla of evidence" against the defendant.

Detail Contagious Diseases.—Dr. Probst, secretary of the State Board of Health, has issued the following list of contagious or infectious diseases: Smallpox, chicken-pox, diphtheria (membranous croup), scarlet fever, Asiatic cholera, bubonic plague, yellow fever, puerperal fever, erysipelas and typhoid fever.

Personal.—Dr. A. G. Appleby was recently burned by sulphuric acid, sustaining severe injuries.——Dr. George Bubb, Warren, has gone to Italy for a course of special study.——Dr. Morton W. Bland, Shelby, was seriously injured, December 9, by a fall from a train.——Dr. Francis E. Tibbitts, Geneva, major-surgeon, Fifth Infantry, O. N. G., has resigned.——Dr. George W. Crile, captain and assistant surgeon, Troop A, O. N. G., has resigned.——Dr. Nathaniel R. Coleman, after seven years of service, has resigned as president of the State Board of Medical Registration and Examination.——Dr. C. R. Justice, Poland, fell on the ice, January 20, dislocating his left elbow.

Cincinnati.

Personal.—Dr. Byron Stanton has been reappointed a member of the State Board of Health for a term of seven years.——Dr. Otis L. Cameron has resigned his position as city bacteriologist to accept the position of deputy coroner under Dr. Walter B. Weaver; Dr. William H. Crane has been appointed to succeed Dr. Cameron.

New Hospital.—Colored physicians of this city will soon erect a new hospital to be known as The Peter Fossett Memorial Hospital and Training School. Among those interested and who will probably form the staff are Drs. Norval C. Vaughan, Louis A. Cornish, Frank John, James C. Erwin, W. A. B. Kerr, and Duval Cooley.

Compulsory Vaccination.—There has been considerable opposition in Cincinnati to the stand recently taken by the local health department in regard to the compulsory vaccination of school children. The department has refused to accept the certificates of family physicians of repute and, as a result, over 3,000 children are absent from schools. The school principals, at a recent meeting, protested against this and appealed to the board of education, which advised the principals to accept the certificates of reputable physicians. The matter has been carried to the city corporation counsel, whose opinion is that the department has wide powers if it is thought that there is danger of a general epidemic. As it is hardly likely that the department is prepared to go so far, the board of education is conceded to have scored its point.

PENNSYLVANIA.

Suit Filed.—The widow of Dr. J. M. Broomall Wood has filed a libel to recover $75,000 damages for her husband's death. In the affidavit, his death is attributed to the neglect of the master and crew of the vessel in leaving the hatchway insecure down which Dr. Ward fell.

Joseph Huff.—It was erroneously announced, January 31, that Joseph Huff, deceased, was a graduate of the Western Pennsylvania Medical College in 1901. We are informed that he was a second-year student of that institution and that he died from exhaustion, consequent on cellulitis of the arm, while suffering from smallpox.

Examiners Reappointed.—Governor Pennypacker has made the following reappointments on the State Board of Medical Examiners: Regular—Drs. Henry Beates, Jr., Philadelphia; Hiram S. McConnell, New Brighton, and Robert W. Ramsey, Chambersburg. Homeopathic—Drs. John J. Detwiller, Easton; G. A. Mueller, Allegheny, and C. S. Middleton, Philadelphia. Eclectic—Drs. C. S. Johnstombaugh, West Bethlehem; L. P. O'Neal, Mechanicsburg, and C. M. Ewing, Tyrone.

Philadelphia.

Contagious Hospital Deeds Filed.—Deeds have been filed conveying to the city the Macalester farm of 58 acres in the Thirty-third ward, which will be used for the location of the Municipal Hospital. This insures the removal of the hospital for contagious diseases from its present site, a question long agitated.

Hospital Sued.—The Woman's Hospital is made defendant in a suit brought by Miss Vera Anderson to recover $5,000 damages alleged to have been sustained when a patient in the institution. She affirms that, while undergoing an operation for tumor, and while under an anesthetic, portions of skin, without her consent, were removed from her body and grafted on another patient. The latter procedure is made the ground for suit.

Hospital Project Fails.—The final meeting of an organization formed to build a private hospital, to be known as the McKinley Memorial Hospital, for the treatment of contagious diseases, was lately held. For about eight years an effort to collect funds for the building has been made, with rather poor success. The assets of the organization are $12,656. A considerable sum will be left after the settlement of the liabilities, and this sum will be kept and turned over to a similar organization that may be formed to carry on the work in the future.

UTAH.

Smallpox.—The prevalence of smallpox in the state is causing alarm. There has been a notable increase in the number of cases in Sanpete, Sevier, Salt Lake and Davis counties.

Want Unclaimed Bodies.—The Salt Lake County Medical Society has appointed a committee to request the legislature to pass a bill enabling the society to obtain unclaimed bodies to be used for scientific investigation.

Bound Over for Murder.—Dr. Edward S. Payne, Salt Lake City, charged with having caused the death of Miss Anna D. Hill, by a criminal operation, has been bound over to the District Court to stand trial on a charge of murder in the second degree, and in default of $7,000 bail has been remanded to the county jail.

Registration of Osteopaths.—By a bill introduced into the senate provision is made for an osteopathic board of registration and examination. The requirements for practice are the payment of a fee of $25, the presentation of a diploma of a reputable school of osteopathy, and the passing of an examination in such branches as the board may deem desirable.

Utah To Be Clean on One Day.—A bill has been introduced in the legislature setting apart the first Monday in October as a legal holiday, to be known as "Health Day." The act provides that:

> The owner, or in case of leased premises, the lessee in possession, of every occupied dwelling house, or living apartment and every hotel, restaurant, boarding house, church, school house, theater, rooming house, or dance hall, in active use, shall thoroughly disinfect the same on said "Health Day" with the disinfectant and in the manner provided by the State Board of Health.

Failure to do this is punishable by a fine of $50.

WISCONSIN.

New Hospital.—Charity Hospital has been incorporated at Stevens Point, without capital stock, by Drs. Carl von Neupert, and Frank A. Southwick and E. D. Glennen.

Medical Staff Dine.—The Board of Trustees of the Milwaukee Hospital for the Insane, Wauwatosa, and Dr. Moses J. White, superintendent of the institution, gave a dinner to the consulting staff of the hospital, January 30.

Medical Journal Incorporated.—The *Wisconsin Medical Journal* Company has been incorporated at Milwaukee, with a capital stock of $2,000, by Drs. Arthur J. Patek, Frank E. Walbridge, Arthur J. Burgess, and Solon Marks.

No Affiliation.—The regents of the University of Wisconsin have decided not to take action on the proposed affiliation with it of the Milwaukee College of Physicians and Surgeons. It was stated that the initial cost to the state of affiliation would be about $65,000.

Illegalities.—"Dr." A. W. Dude, Milwaukee, has been held to the Municipal Court on the charge of causing the death of Miss Alpha Leister by a criminal operation.——Suit has been brought against Drs. Harry A. Sifton and Leopold Schiller, Milwaukee, for $10,000 damages alleged to have been due to the unskilful setting of a broken leg.——Harry Spencer, Milwaukee, alias "Dr." Clark, convicted of securing a license to practice by false pretenses, plead guilty and has been sentenced to one year's imprisonment.——Louis Tauvars, a dentist of Marinette, has been arrested on the charge of practicing medicine without a license.

GENERAL.

Manila Cholera Gone.—Quarantine was raised at Manila, February 4, the government officials having declared the port free from cholera.

Rear Admiral Winslow Retired.—Medical Director George F. Winslow, after more than 40 years' service in the navy, was retired January 19 with the rank of rear admiral.

Congress Money to Fight Plague.—A bill has been introduced into Congress providing for a commission to investigate the conditions on the Pacific Coast and appropriating $50,000 to aid in stamping out the Mexican plague.

Army Hospital in Black Hills.—The Battle Mountain Sanitarium is to be established for sick and disabled soldiers at Hot Springs, S. D. Congress authorized the project, and a board selected the location because of the climate and springs.

Leaves Hawaiian Health Board.—Dr. H. C. Sloggett has resigned from the presidency of the Board of Health of the Territory of Hawaii, after efficient service. Dr. W. L. Moore is the probable successor, and Dr. W. H. Mays will be added to the board.

To Instruct Militia Surgeons.—The Secretary of War has a plan to give instruction to medical officers of the National Militia at the Army Medical School in Washington in the special subjects of camp diseases, wounds caused by weapons, camp hygiene and other military subjects.

Army and Navy Tuberculosis Hospital.—It is proposed to enlarge the Army Sanatorium at Fort Bayard, N. M., to make room for Navy patients. The enlargement would accommodate 100 patients and cost $100,000. The value of the Fort Bayard institution for the Army indicates its extension to include the Navy.

Foot and Mouth Epidemic Subsides.—Dr. Salmon of the Bureau of Animal Industry reports that the epidemic of foot and mouth disease is practically over. Not a single case of the disease has been reported outside New England, though a general epidemic was feared. He reports that about 3,000 animals so affected have been slaughtered in Massachusetts, Rhode Island, Vermont and New Hampshire, and that the government has paid the owners of the cattle a sum aggregating $100,000.

Army Contract Surgeons and Dentists.—The Secretary of War has decided that civilian physicians and dentists may be employed as contract surgeons and contract dental surgeons by the Surgeon-General of the Army. They will be entitled to transportation and fuel allowances of first lieutenant, and when on duty at a post or station where quarters are provided by the United States, they will be entitled to the quarters allowed by the regulations to an assistant surgeon with the rank of first lieutenant. They will not be entitled to commutation of quarters nor to the 10 per cent. increase of pay when serving beyond the territorial limits of the United States.

Pension for Colonel Walter Reed's Widow.—The House committee on pensions gave a hearing February 6 on the bill to provide a pension for Mrs. Emile Lawrence Reed, widow of the late Walter Reed, colonel United States Army Medical Corps, at the rate of $333.33 per month. The Senate has already passed a bill pensioning Mrs. Reed at the rate of $125 per month. Those who were invited to be present and address the House Committee were President Gilman and Prof. William Welsh of Johns Hopkins University, Prof. Alex. Graham Bell, Surgeon-General Robert O'Reily, U. S. A., Major J. R. Kean, medical department U. S. A., and Dr. H. L. E. Johnson, chairman of the Committee on National Legislation of the American Medical Association.

To Return the Remains of Yellow Fever Patients.—The Senate committee on the District of Columbia has reported favorably on the bill providing for the removal of the remains of two yellow fever patients from Santo Domingo to the District of Columbia for reinterment. The bill has received the favorable report of the district health officer. The report says that, as Mrs. Donaldson and her daughter died of yellow fever, the present law operates against the removal of their remains for burial in the District of Columbia, but, as investigations recently conducted by the late Major Walter Reed demonstrate that their removal can be accomplished without danger of infection, the committee reports favorably on the measure.

Mexico to Ask Plague Damages from U. S.—News from Mazatlan indicates better conditions. The supply of Yersin plague serum, long awaited, has arrived and is causing recoveries in many cases. The Mexican government investigation is reported to have shown that the disease was brought from San Francisco by a small steamer, the *Curazo*. That government will present a statement, it is announced, of the loss of life and extraordinary expense because of the infection, and will inquire what the U. S. Government wishes to do in the way of payment for these damages caused by San Francisco. The report that Guaymas was infected appears to be unconfirmed. Mexican officials say it will be difficult to eradicate the disease from Mazatlan because of the character of the poorer quarters of the city.

CANADA.

Hospital for Truro, Nova Scotia.—Various entertainments have recently been held in Truro for the purpose of raising funds for a new hospital, and a handsome amount has been realized.

Doctor Secures a Government Appointment.—Dr. Elliott of Wolseley, N. W. T., has been appointed commissioner of agriculture in the Haultain cabinet, in the place of Hon. A. L. Sifton, made chief justice of the territories.

Scarlet Fever Outbreak.—There is a pronounced outbreak of a malignant type of scarlet fever reported from several districts in Ontario, especially Leeds County and Peterboro. Many cases in Toronto this winter are also of a very severe form, several deaths resulting.

Ontario Asylums Full.—The report of the provincial inspector of asylums for Ontario for the past official year is now in the hands of the printers. It shows that practically every available bit of space for patients in the various asylums is taken up and provision for further room is urgently needed.

The Diet Dispensary of Montreal.—At the twenty-fourth annual meeting the secretary read the annual report which, owing to the change in date of the meeting, this year only embraces the work of nine and one-half months. During that time 10,842 orders were filled. The three nurses attached to the institution paid 4,073 visits. The financial report showed a balance to credit of the society of $606.35.

Canadian Alumni in New York.—At a meeting of the New York Graduates' Society of McGill University, Montreal, held January 30, the following officers were elected for the ensuing years. President, Dr. Wolfred Nelson; vice-presidents, Drs. James A. Meek and Hiram Vineberg. On the same day there was formed in the same city the University of Toronto Club. The graduates in Chicago and the west from McGill have also formed a society under the presidency of Dr. St. John.

Indians of the Dominion of Canada.—According to the annual report of the department of Indian affairs, the population of Indians on reserves throughout the dominion increased during the past year, through additions of Indians beyond treaty limits, by 7,518, bringing the total population up to 108,112. There was a somewhat heavy mortality among the children during the year, due largely to the prevalence of malignant measles. Apart from measles and smallpox, which hovered in the neighborhood of many of the northwest reserves during the year, the other disease most prevalent was tuberculosis. There were, during the year, 2,500 births and 2,349 deaths, or a net gain of 151, as against 239 for the preceding year.

Low Birth Rate in Ontario.—The registrar-general for Ontario, Dr. P. H. Bryce, again reports a decrease in the birth rate in Ontario for 1901. The births totaled 46,061 in 1901, as compared with 46,126 for the previous year. As for the birth rate in the cities, Ottawa alone, with 315 increase in population, showed a satisfactory increase in keeping with the increase of population. The report gives the number of marriages in 1901 as 18,035, an increase of 928 over the previous year. The number of deaths in 1901 was 29,608, a decrease of 114 from the preceding year. The deaths from tuberculosis numbered 3,243; in the previous year, 3,484, a decrease of 241. There were seven deaths from smallpox out of a total of 3,000 cases.

Medical Missionary Work in Labrador.—Dr. Wilfred T. Grenfell, superintendent of the Royal National Mission to Deep Sea Fishermen, Labrador, is now in Canada, and will shortly visit Chicago. The work, which is distinctly medical in its character, now extends to some 30,000 people, the object being to reach those isolated cases of sickness among the fishermen on the Newfoundland and Labrador coasts that otherwise would receive no medical or surgical treatment. Dr. Grenfell lectured in Toronto last week. His field covers 1,500 miles of coast. He is assisted by two physicians and two trained nurses. There are three hospitals located in the mission field, as well as two hospital ships to ply along the coast. During their first year, 1892, they treated 900 patients. Last year 2,774 were treated. The mission cost $20,000 last year, of which amount $2,000 was contributed by Canadians. The hospitals contain 24 endowed cots.

FOREIGN.

The plague in Natal, South Africa, is reported to be spreading seriously.

Typhoid Serum Search.—The typhoid problem in London has given a stimulus to the investigations of the *Bacillus typhosus* and the search for a serum.

The Ninth International Anti-Alcohol Congress will be held at Bremen, April 14-19. For particulars address the secretary, F. Hähnel, Dorandtstrasse 13, Bremen.

Trendelenburg Position as Remedy for Seasickness.—Marcel Baudouin, noticing the analogy between the effects of seasickness and of chloroform anesthesia, imagined that possibly the Trendelenburg position, which is sometimes able to avert vomiting in the latter, might prove equally effective in the former. Experiments on himself and others have convinced him of the correctness of his surmise, at least for certain individuals. In his own case, on a recent short voyage he was able to avoid all symptoms of seasickness by this means, but five minutes before reaching the dock he was obliged to rise to his feet when all the horrors of his usual seasickness befell him at once.

Appropriations for Medical Purposes in Germany.—The German government has appropriated $16,250 for experimental research on tuberculosis, with special reference to the relations between human and bovine tuberculosis, and protective inoculation of cattle. The statistics of the results of sanatorium treatment are also to be conducted with lavish care, and $3,750 has been appropriated for the 30,000 cards required. A sum of $2,500 has also been appropriated to pay physicians for repeated examinations of discharged sanatorium patients. A bacteriologic institute is also to be built near Berlin, at an expense of $19,000, and $12,500 has been appropriated for collection of statistics in regard to the morbidity and mortality of the various trades and professions. The greatest innovation, however, is the creation of three "flying typhoid stations," for which $37,500 has been appropriated. Each is to have a medical director and two assistants. They will be sent wherever typhoid fever is endemic, and stamp out the disease on the lines adopted for other infectious diseases. The total appropriations are thus nearly $100,000.

Post-Graduate Course in Medical Law.—A semi-official central committee in Prussia has been organizing free courses of post-graduate lectures in the various medical centers during the last year or so. They have proved extremely popular, and the committee now announce a course in medical law (Rechtskunde). The subject is to be divided into four branches: The physician before the law; medical responsibility; medical practice in its various social relations, and the organization of medical affairs. The first branch includes four lectures: Legislation in regard to the practice of medicine; public professional duties of the physician; the physician as a citizen before the law, and the judicial basis of medical practice from the economic standpoint. The subject of medical responsibility is disposed of in two lectures, one discussing the physician's councils, the other his professional acts. The third branch requires five lectures: The physician and medicine for the poor and the insane; in private insurance; in estimating the working capacity in regard to industrial insurance, and lastly, the physician and legislation in regard to drug stores. The Paris *Semaine Méd.* comments gloomily on the above as a striking proof of the way in which the "socialization" of the medical profession is progressing, while every step is a blow to the material interests of its members. Duties and responsibilities are being piled higher and higher on their shoulders, but their rights are never considered. The only legal privilege enjoyed by the physician is the right to sue a delinquent debtor. The editorial concludes with the remark that the profession must sooner or later resolve on some effective means of combating this incessant introduction of legislative or administrative measures, which are almost invariably detrimental to the material interests of the medical body. "But for our part," it adds, "and this avowal costs us much, we sincerely declare that we do not know of any effective measure."

LONDON LETTER.

The Social Influence of British Medicine in India.

Some time ago Dr. Takamine, the celebrated Japanese chemist, in an address delivered in Edinburgh, showed the important part played by medical science in initiating the Japanese renaissance—perhaps the most remarkable event in the history of the world. The wonderful practical capacity to assimilate western civilization of the Japanese was first brought into play by medicine. Their physicians quickly perceived the superiority of the practice of the Dutch medical men who settled in Japan in 1850-60 over the Chinese system which was in vogue, and proceeded to learn European languages and methods at a time when the government was hesitating to open foreign commercial relations. When these relations were established, the demand for Japanese with a knowledge of foreign languages was supplied by medical men and medical students. In similar manner and lesser degree British medicine has been, and probably will be, the most important influence in India in breaking down eastern prejudices and introducing western civilization. In a paper published in the *Asiatic Quarterly Review,* Surgeon General Beatson pays a well-deserved tribute to the Indian medical service, which he says has been associated with the foundation of the British Empire in India and has had a great influence in supporting it, in harmonizing differences, and in reconciling to British rule the multitude of races inhabiting India. Indian medical officers have been largely concerned in bringing to perfection the post and telegraph systems, the forest department, the management of gaols, and state sanitation. They have helped to introduce the study of English literature and science into the scheme of native education in India. They have established a system of medical education which has produced a well-educated class of native practitioners, who administer the hospitals and dispensaries provided everywhere by the government.

Proposed Compulsory Revaccination.

The president of the local government board has received a very influential deputation of the Imperial Vaccination League, which includes Sir W. Church, president of the Royal College of Physicians, Prof. Clifford Allbutt, the chief rabbi, Dr. Patrick Manson and Dr. McVail. Dr. McVail pointed out that the evidence in favor of vaccination applied equally in favor of revaccination. The league requested that when a child was approaching the age of 12 the parents should receive notice requiring revaccination, but it did not propose to interfere with the so-called "conscientious objector." Mr. Long, the president of the board, entirely sympathized with the object of the deputation and promised to bring the matter before his colleagues in the government. Any attempt to reform the law would meet with violent opposition from the anti-vaccinationists, but he thought that if the principle of allowing exemption to the "conscientious objector" were preserved, no opposition would come from reasonable people.

X-Rays Cure Xeroderma Pigmentosum.

At the Edinburgh Medico-Chir. Society Dr. Allan Jameson showed a case of xeroderma pigmentosum which had been treated by the *x*-rays. The patient was a little girl, the youngest of two children, who had suffered from the disease. At the age of 12 months she began to develop freckles at the side of the nose. Later telangiectasis and whitish spots began to develop on the face. The disease had extended to the hands and wrists. When seen on October 1 there were an epitheliomatous growth on the tip of the nose of the size of a sixpence and numerous warty growths on the face. Thirty-four exposures to the *x*-rays, each of 5 minutes for the face and 13 minutes for the right hand were given. The growth on the nose and all the warts on the face disappeared. An *x*-ray dermatitis was produced. The nose is now whiter than the rest of the face and there is marked improvement of the right as compared with the left hand. This case shows the difference between the action of the *x*-rays and the ordinary actinic rays of the spectrum, for the latter tend to increase pigmentation of the skin.

The London Hospital.

In an appeal for help addressed to the *Times,* the chairman of the London Hospital, the largest hospital in the metropolis, brings forward some interesting statistics of the institution. Last year there were 13,160 in-patients and 162,147 out-patients. To these people 2,500,000 pills and about 3 tons of cough lozenges were dispensed. In dressings 92 miles of lint, 476 miles of bandages, 6 tons of cotton wool and 9 miles of plaster were used. Every day half a ton of ice and 400 siphons of soda water are consumed. It costs $425,000 a year to maintain the hospital. Great improvements have recently been made. An isolation block has been built, at a cost of $160,000, 5 of the finest operating theaters in the world at a cost of $65,000, a pathologic department at a cost of $100,000, and a new out-patient department at a cost of $350,000, which will be opened by the king.

Correspondence.

A Criticism of Pneumonia Mortality Statistics.

Denver, Jan. 28, 1903.

To the Editor:—Your editorial of January 24, on Dr. Reynolds' announcement of the increased mortality from pneumonia (Bulletin of Chicago's Health Department, January 17), being under discussion, permit me to add a word. I would not seem to detract from the just conclusion that we are evolving a better resistance to and curative management of tuberculosis, as shown by the lessening mortality from consumption during the past forty years. However, it is but right we should recognize any coincident facts in the history of these two diseases, consumption and pneumonia, which might explain the remarkable changes in their reported mortality results.

You mention influenza infection as a contributing cause of this increased pneumonia mortality, and we all know that it not only enters into the etiology, but also gravely influences the prognosis of pneumonia. In this discussion it is unfortunate, yet perhaps not to be avoided, that acute lobar and catarrhal pneumonias are classified with the chronic and fibroid variety under the name of pneumonia. But the fact of the prolongation of life through the arrest of tuberculosis should be recognized as opening up a larger field for the ravages of acute pneumonia, because this inflammatory infection is a frequent *method of dying* for the tuberculous. This is important for, so far as these two diseases are concerned, every death ascribed to pneumonia which might otherwise, in justice to the predisposing cause, tuberculosis, be classified as tuberculosis, is "robbing Peter to pay Paul," and doubles the addition to or subtraction from a given percentage, as the case may be.

That there have been influences at work during the past twenty to forty years contributing to such an unjust classification of these consumptive-pneumonia statistics is a fact to which I wish to call attention.

First, the growing fear of the contagiousness of tuberculosis, the prevalent "phthisiophobia" which, it is to be hoped, has now about reached its climax, infecting the minds of physicians as well as of the laity; this leads to a tendency to call the chronic disease anything rather than tuberculosis. In this day and generation a person is not going to brag much of having tubercle bacilli in his sputum, especially if he is under the unenviable necessity of hunting a boarding house in a new town. The greater danger of infecting one's self than of infecting another goes unrecognized; and it is much nicer to die under the egis of pneumonia, either acute or chronic, "heart failure," or nervous exhaustion than the dreaded tuberculosis!

Second, and very important, it seems to me—almost everybody has his or her life insured. The insurance companies, naturally prejudiced against tuberculosis, are constantly more and more vigorously "hedging" against losses by that route. From the standpoint of the insured and his beneficiary, a dyscrasia or weakness which was the commencement of a finally fatal tuberculosis must be covered up by some cause which is immediate and unobjectionable—more respectable, so to speak. The wish is often "father to the thought," and the death certificate may perhaps be influenced by this sophistry. If there is any excuse for it, pneumonia is given as the cause of death. Again, the doctor who has unfortunately made a mistaken diagnosis of malarial fever instead of concealed acute tuberculosis which really exists, is he going to change his opinion when he writes the death certificate? Perhaps this is another case of "where ignorance is bliss 'tis folly to be wise."

Anyway, it often happens, I believe, that the *immediate* cause of pneumonia takes the place of the *remote* cause, tuberculosis, in the death certificate. Take as an example a young man I have lately seen. He says he was insured a year ago in a respectable company. He did not particularly care for the insurance, but the agent was a friend of his who was sure he would be accepted. So he was, but how wisely is shrouded in doubt when his history and present condition, in the third stage of pulmonary tuberculosis, are taken into account. Now, supposing he were at home in the environment of this mistaken estimate of his life possibility, supposing he should there have any form of pneumonia, or supposing he had had it at any time in the last half year, and, with not more than one chance in fifty of living, had died, would the pneumonia or the tuberculosis have gotten the credit of the death? From my knowledge of other cases of the kind, I should say the chances are vastly in favor of the pneumonia. Yet in private practice how seldom death occurs in middle life from uncomplicated pneumonia.

So much depends on the *soil* in which the infectious pneumonia *seed* is planted that statistics of the relative prevalence of pneumonia and tuberculosis are bound to be affected, notwithstanding we endorse the explanation of Chicago's Health Commissioner for the greater prevalence of pneumonia in winter, namely, the close housing of people in unventilated homes.

The suspicion is strong in the mind of the writer that much of the difference in mortality statistics of consumption and pneumonia during the past twenty to forty years is to be accounted for by the results of increasing prejudice, however unreasonable it may be, against consumption.

Charles Denison.

Connell Suture Not Cause of Death.

Leadville, Colo., Jan. 31, 1903.

To the Editor:—On page 91 of the December issue of the *American Journal of Surgery and Gynecology* I notice an item entitled "Death from the Connell Suture." A perusal of this item reminds one of the definition that appeared some time ago in a small school dictionary, where the word "crab" was defined as "a red fish that crawls backward." Now, to the superficial observer, this definition was eminently satisfactory; but to the inquiring mind—one that was after the facts in the case—it was found to be all right, too, except that a crab is not red, nor is it a fish, nor does it crawl backward.

So, too, with the item referred to, the superficial observer is satisfied. It is enough for him to read that death and the fatal hemorrhage were caused by the "Connell suture," and that had a "Czerny-Lembert suture been employed, this fatal termination might have been prevented." One after the facts, however, would find that the Connell suture was not employed, nor did the method that was employed cause the fatal hemorrhage, nor would a Czerny-Lembert have prevented the fatal result.

The feature most enthusiastically recommended in the Connell suture is the placing of all the knots in the lumen of the bowel, after penetrating the entire intestinal wall. This was not done in the fatal case of Dr. Tait, in which the gastroenterostomy was finished with two Lembert sutures, including but a portion of the walls and knotted on the serosa. The method that Dr. Tait did employ did not cause the hemorrhage, but it was the direct result of the use of the interrupted suture. When the abdomen and stomach were opened a second time, the hemorrhage was immediately stopped by the insertion of a whip stitch, continuous, penetrating all coats and knotted in the lumen.

Kocher has already, and in a very forcible manner, called attention to the importance of the continuous suture in gastric surgery, in the following terms: "The continuous suture so warmly advocated by Rydygier and Lauenstein appears to us to be absolutely essential to success," and farther on in the same paragraph, "moreover, it appears very important to carry the continuous suture through the entire thickness of both gastric and intestinal walls, as it is only by this means that reactionary hemorrhage, which has been the cause of, at any rate, a certain number of fatal cases, can be prevented with certainty." *A priori*, it would appear that the Lembert suture, penetrating the walls of the stomach and bowel a part of the way only, would have no advantages, as a hemostatic, over the stitch that penetrates all the coats.

By the inquirer after the facts it will be found that the patient died from hemorrhage, following gastroenterostomy, and that death from this cause has been reported, and steps to prevent this fatal result have been recommended long before the Connell suture had been devised.

F. GREGORY CONNELL.

The Medical Library Journal.

To the Editor:—In the issue for January 31 of THE JOURNAL there is an editorial on a *Medical Library Journal*, as you say, edited by "Doctors Albert Tracy Huntington and John Smart Browne." May I ask you to correct this? Neither of these editors is a doctor. If you will take the pains to read the index heading in the first number of this monstrosity of a journal once more you will convince yourself that these editors furnish conclusive evidence that they are no men of learning, no doctors. It is to be hoped that nobody will quote titles of books from the list given in this *Library Journal*, because many of these titles are misspelled. A. ROSE.

Marriages.

B. S. ADAMS, M.D., Hibbing, Minn., to Miss Vida Brugger of Minneapolis, January 29.

SIMON CUTHBERT LEVY, M.D., to Miss Lillie Silber, both of Plaquemine, La., January 28.

SAMUEL LOWRY BEARD, M.D., to Miss Jessie McClure, both of Shelbyville, Ky., February 11.

WILLIAM E. JEWETT, JR., M.D., to Mrs. Lulu Bean-Spence, both of Adrian, Mich., January 28.

ALBERT M. CLINKSCALES, M.D., Vinita, I. T., to Mrs. Lucie Matkin of Winsboro, Texas, January 20.

WILLIAM HAYDEN ROCKWELL, JR., M.D., to Miss Mary Jane Watson Haight, both of New York City, February 14.

I. HAMILTON GOSS, M.D., Athens, Ga., to Miss Virginia Cary Anderson of Clarksville, Tenn., at New Orleans, January 27.

HAROLD D. CORBUSIER, M.D., acting assistant surgeon, U. S. A., to Miss Louise Shepherd of Battle Creek, Mich., February 4.

Deaths.

John Morris, M.D. Bellevue Hospital Medical College, New York, 1868, of Baltimore, a member of the legislature, 1852-56; member of city school board, 1856-57; postmaster of Baltimore, 1857-61; member of city council, 1867; president of Pathological Society, 1868 and 1872; president of Maryland Inebriate Asylum, 1875-77; president of Baltimore Medical and Surgical Society, 1874-75; president of Baltimore Medical Association, 1879; vice-president of American Medical Association, 1879; vice-president of American Chirurgical Faculty of Maryland, 1888-89; president of Pennsylvania and Maryland Medical Society; president of the Maryland State Board of Health, and up to the time of his death president of the Lunacy Commission of Maryland, died at City Hospital, Baltimore, January 29, from nephritis, aged 79, after an illness of eight months. During the epidemic of yellow fever in Norfolk and Portsmouth, Va., in 1855-56 he volunteered his services as physician to the stricken cities, and there contracted the disease, recovering only after a tedious illness. He was given a gold medal by the citizens of Norfolk for his services on this occasion.

James M. Ridge, M.D. University of Pennsylvania, Philadelphia, 1852, of Camden, N. J., a member of the American Medical Association, Bucks County (Pa.) Medical Society, Pathological Society of Philadelphia, Camden County Medical Society, and New Jersey State Medical Society; a member of the Camden Board of Education for sixteen years, and for a long term one of the New Jersey State Board of Health, died at his home in Camden, January 30, after an illness of more than a year, from Bright's disease, aged 76.

J. M. Broomall Ward, M.D. Jefferson Medical College, Philadelphia, 1891, of Chester, Pa., quarantine physician at Marcus Hook Station, was killed, January 21, by falling through the hatchway of the Danish steamer *Euxinia*, which he had boarded for inspection. Dr. Ward was major and surgeon of the Sixth Regiment of the National Guard of Pennsylvania, and was a member of many medical organizations.

Ira L. Welch, M.D. University of Wooster, Cleveland, 1879, some-time president of the Fort Dodge Medical Society and of the Boone Valley Medical Society, a member of the Iowa State Medical Society, county treasurer for four years, and a member of the state legislature, died at his home in Humboldt, Iowa, January 25, from paralysis, after an illness of three months, aged 74.

William Gibson, M.D. Pennsylvania Medical College, Philadelphia, 1853, a member of the American Medical Association, and one of the oldest physicians of Alexandria, Va., died at his home in that city, January 28, aged 73. At a meeting of the Alexandria Medical Society, held January 29, resolutions of respect to the memory of Dr. Gibson were adopted.

John Murphy, M.D. University of Edinburgh, Scotland, 1840, for nearly 50 years a practitioner of Peoria, Ill., died at his home in that city, January 21, from debilities consequent on old age, after an illness of several weeks, aged 86. He retired from active practice in 1897.

Pembroke M. Womble, M.D. Jefferson Medical College, Philadelphia, 1847, died at his home in Baltimore, January 30, aged 75. He was associated in practice with the late Dr. J. R. W. Dunbar, and retired from practice in 1884 on account of heart disease.

Walter B. Wine, M.D. University of Maryland School of Medicine, Baltimore, 1893, was found dead in his office in Dupuyer, Mont., January 7, and the coroner's jury found that he had met his death by blows delivered from behind his back.

James Mercer Garnett McGuire, M.D. University of Pennsylvania, Philadelphia, 1855, who served as major and surgeon in the Confederate Army, died suddenly at his home in Berryville, Va., January 24, from heart disease, aged 70.

Augusta B. Engstedt, M.D. John A. Creighton Medical College, Omaha, 1899, of Oakland, Neb., died at St. Joseph's Hospital, Omaha, January 26, after an operation for cancer, aged 29.

Roswell P. Chambers, M.D. Columbus (Ohio) Medical College, 1877, of Portland, Ore., died while undergoing an operation at the Good Samaritan Hospital, Portland, recently, aged 49.

James G. Leffingwell, M.D. University of Michigan, Ann Arbor, 1870, of Pittsburg, Pa., died at Wilkinsburg, Pa., January 29, after an illness of two weeks, from pneumonia, aged 57.

Hawkins Stone, M.D. University of Virginia, Charlottesville, 1837, who had practiced more than 60 years in Garrisonville, Va., died at his home near that place, January 20, aged 87.

Irwin L. Benner, M.D. University of Pennsylvania, Philadelphia, 1893, of Sellersville, Pa., died, January 24, at the home of his parents in Iron Hill., Pa., from typhoid fever, aged 30.

James E. Walters, M.D. University of Michigan, Ann Arbor, 1884, died from pneumonia, after an illness of three days, at his home in San Miguel, Cal., Dec. 26, 1902, aged 40.

Hilbert B. Tingley, M.D. Baltimore University School of Medicine, 1889, of Oceanus, Rockaway Beach, was instantly killed, January 14, while attempting to board a train.

Herman Mynter, M.D. University of Copenhagen, Denmark, 1871, died at his home in Buffalo, N. Y., February 9. A more extended notice will appear in the next issue.

Isaac George Reed, M.D. University of Pennsylvania, Philadelphia, died, January 24, in the Manhattan State Hospital for the Insane, Ward's Island, N. Y., aged 67.

John Gabriel Seabrook, M.D. University of Pennsylvania, Philadelphia, 1844, died at his home in Columbia, S. C., January 20, after a long period of invalidism, aged 81.

I. K. Scott, M.D. Starling Medical College, Columbus, Ohio, 1872, died from consumption, January 10, at his home in Larue, Ohio, after an illness of a year, aged 59.

Samuel E. Burchfield, M.D. University of Michigan Homeopathic Medical College, Ann Arbor, 1881, died from sepsis at his home in Latrobe, Pa., January 21, aged 48.

Wellington C. Burke, M.D. University Medical College, Kansas City, 1892, died at his home in Los Angeles, Cal., January 15, after an illness of five weeks, aged 36.

John C. Hackett, M.D. Jefferson Medical College, Philadelphia, 1883, died at his home in Millington, Md., January 21, from paralysis, after a long illness, aged 45.

John C. Tribbett, M.D. Miami Medical College, Cincinnati, 1873, died at his home in Montezuma, Iowa, January 20, from pneumonia, after a short illness, aged 56.

William L. Martin, M.D. Jefferson Medical College, Philadelphia, 1852, died at his home in Rancocas, N. J., January 27, from pneumonia, after a short illness.

Charles H. Haessler, M.D. College of Physicians and Surgeons, New York, 1853, died at his home in Pottsville, Pa., January 22, from diabetes, aged 73.

Stephen C. Johnson, M.D. Albany Medical College, 1849, died at his home in Luzerne, N. Y., January 27, from la grippe, complicated with cystitis, aged 77.

Alexander Scott, M.D. Detroit Medical College, 1871, three times health officer of Forest, Ont., died suddenly at his office in that place, January 20, aged 62.

John Lord, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1866, died at his home in Biddeford, Maine, from shock, January 21, aged 59.

James Elliott Sweet, M.D. University of Michigan, Ann Arbor, died at his home in Hartford, Mich., January 12, from heart disease, aged 82.

Theodore F. Stair, M.D. Chicago Medical College, 1871, died suddenly from heart disease at his office in Evansville, Wis., January 17, aged 59.

Gerald D. Fitzgerald, M.D. Queen's University, Kingston, Ont., 1893, of Amherst, Nova Scotia, died, January 10, from apoplexy, aged 31.

Elizabeth L. McMahon, M.D. Homeopathic Medical College of Missouri, St. Louis, 1875, died at her home in Marion, Ohio, January 17.

George Blakey Proctor, M.D. University of Nashville, Tenn., 1895, died at his home in Milton, Fla., January 16, from typhoid fever.

John W. Smith, M.D. Kentucky School of Medicine, Louisville, 1853, died at his home in Gosport, Ind., January 11, aged 73.

Albert Dunlap, M.D. University of Maryland, Baltimore, 1864, died at his home in Creston, Iowa, January 13, aged 63.

James Morton McKim, M.D. St. Louis Medical College, 1858, died at his home in Newark, Mo., January 22, aged 76.

John V. Epler, M.D. Pennsylvania Medical College, Philadelphia, 1858, died at Reading, Pa., January 20, aged 65.

George D. Slocum, M.D. University of Buffalo, 1861, died recently at his home in Marine City, Mich., aged 62.

E. McClain, M.D., of Lawrenceburg, Tenn., died, January 14, from pneumonia, after an illness of one week.

J. B. Holcomb, M.D. Albany, 1885, of Newport, N. Y., died at the county house near Middleville, recently.

A. E. Bentley, M.D., died at his home in Hopkinsville, Ky., January 19, from paresis, aged 65.

James H. M. Knox, Jr., M.D., died at his home in Baltimore, January 21.

Book Notice.

How to Succeed in the Practice of Medicine. By Joseph McDowell Mathews, M.D., LL.D., President of American Medical Association. 1898-9. Cloth. Pp. 215. Price, $2.00. Louisville: John P. Morton & Co. 1902.

However much and justly we may exalt medical teaching of to-day when we recall what it was twenty, even ten, years ago, the candid must admit that the student still leaves college, in some respects, poorly equipped for the successful practice of medicine. All can not serve as resident physicians in a large hospital where every variety of disease will be shown, explained and successfully treated. All can not have the opportunity to observe and associate with leaders, perhaps masters, in the profession and study them as well as their cases, and in this way understand and appreciate why they have been successful socially, professionally and financially. All should have what few, if any, schools give their classes, a more practical insight into the business side of our profession—for are we not business as well as scientific men and women? True it is that most schools give a so-called course on ethics and medical jurisprudence which is so superficial and incomplete as to be of very little value.

This course, which is now technically compulsory, could easily be so amplified as to really teach ethics in such a way as to enable any beginner in the noblest of professions to so conduct him or herself at the outset as to enlist the sympathy and the support of older practitioners so that they would extend a helping hand to ambitious, worthy, and modest novitiates instead of attempting to crush them under the iron heel of disparagement, social ostracism, and contumely.

Faulty as may sometimes be the reception given new comers by those already established, who seem to think that the place belongs to them and that it is rank impertinence in other Richmonds to enter the field, it has ever been my observation that the greater fault was on the other side. It is hardly fair to expect the members of a profession to enthuse over and take into their arms a newcomer who calmly announces on the street corners, the court-house steps and at prayer meeting that he has been asked to settle there "because the town actually needs a good, moral, and sober doctor." Everyone has known of such instances; most of us dozens of them. It is indeed the rock on which the hopes of most young men are dashed to pieces, and they make the mistake once, twice, perhaps three times, before it suddenly dawns on them that it is about time to find an abiding place, and that "A rolling stone gathers little moss." The next place they move to they learn that it is better to say respectful and decorous things of the leading practitioners instead of hinting that they are "back numbers," "drink too much," "give too strong medicine" and all such stuff that is never taken seriously by listeners, but instead rightly estimated as jealousy. It is even much better after waiting a reasonable time to waive all formality and make the first call, assuming that the intentions of his competitors are the best, and that a want of opportunity, not inclination, has prevented them from calling first. They are far more likely to throw a case to such a man than to one who speaks harshly of them because of an unintentional slight. After the first meeting comes the first consultation. How necessary is it for the young man to bear himself with becoming modesty, dignity and yet self-confidence, for by his behavior now will he be judged by the community hereafter.

This little book of Professor Mathews is verily a "Multum in Parvo." No young man entering the profession can afford to miss the good advice to be found in it and given withal in such an interesting way. It is not only full of good advice, but teems with wit, eloquence and good cheer. Those of us who have known the author for many years; who have basked in his sunshine and been the recipients of his kindness; ever receiving just a little more courtesy than the occasion or our merits led us to expect, will not wonder at the great success of Professor Mathews' life. To those who have not known him intimately this little book is the key. I know that he acted and preached to the students of the Kentucky School of Medicine the gospel he now writes to the students of other schools and the general profession.

He was the most considerate and delightful of colleagues; a charming and versatile lecturer; and his "heart-to-heart talks with the boys," of which this book is practically a compilation, were thoroughly enjoyed by all, and I doubt not, have been the guiding star in the lives of many of his successful students. I wish that it were possible, in the space allotted, to refer to the different chapters and point out the merits of each. Suffice it to say that all contain valuable suggestions and advice—from the first, which largely deals with the questions of preliminary education, habits, morals, etc., of the physician, to the last, a beautifully pathetic one on lights and shadows.

The chapters on "marriage," "specialties in medicine" and "medical societies" are particularly good. Concerning "specialties," the author gives the best possible advice, and holds to views that will be heartily endorsed by practically all save those he well denominates pseudo-specialists.

The chapter on medical societies is short but much to the point. The advice here given, if followed, will make anyone a useful member of his society, and, if he has natural ability, a brilliant one.

Perhaps as interesting a chapter as any is the one on "Art in Medicine." From it the young physician will glean much of real value to him, both as a professional and business man. In no other part of this book is the rare common sense and

acute observation of the author more in evidence. It emphasizes what every observant practitioner knows—that a knowledge of drugs is oftentimes distinctly of less value in the treatment of disease than diet, exercise, vocation, climate, interesting books and beautiful flowers. Certainly the practitioner who is full of sympathy and humanity for his fellow man; who is eclectic in its broadest sense; who studies patients and anxious relatives as well as disease, will, other things being equal, meet with the fullest measure of success. Cheerfulness of mien and a proper knowledge of how to enter and leave a sick room, be it one of anguish or hope, constitute, perhaps, the most valued asset of the family doctor.

No one is more competent than the gifted author to write such a book. His varied experience, first, as a general practitioner in the country; later, as a successful specialist in a city; his twenty-five years' experience as a teacher; his large acquaintance with the profession of America and Europe, which has brought him the highest honors within the gift of his confrères, municipal, state, and National, all eminently fit him to send this message of sunshine and usefulness to the younger and struggling members of our guild.

The knowledge that he has succeeded in lightening the burden of others, will, I am sure, be the author's greatest reward for having written this delightful little volume.

WM. L. RODMAN.

1626 Spruce Street, Philadelphia.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

WANTS AUTOMOBILE INFORMATION.

BOULDER, COLO., Feb. 4, 1903.

To the Editor:—In this the "horseless age," I am sure that many physicians are seriously contemplating the purchase of automobiles, yet have some misgiving as to their being at this time on a basis practical enough to entirely displace the horse. May we not hear through your columns from some members of the profession who have had experience with them? I am sure such information will be very much appreciated by a large number of your readers.

OSCAR M. GILBERT.

SYRINGE STERILIZATION.

ST. LOUIS, Feb. 2, 1903.

To the Editor:—Kindly state in your Queries and Minor Notes Column the best manner of sterilizing a new syringe (glass barrel).

J. R. CLEMENS.

ANS.—The syringe should be taken apart and boiled for about fifteen minutes in a 1 per cent. solution of sodium bicarbonate. If the plunger is of rubber, this will not harm it, if it is kept away from the sides and bottom of the vessel in which it is boiled. If the plunger is of leather it is hard to say how it can be sterilized without injury.

MEDICAL PRACTICE QUERIES.

CHICAGO, Feb. 9, 1903.

To the Editor:—Please give me the addresses of the secretaries of the boards of medical examiners in Iowa and Minnesota.

C. C. SMITH.

ANS.—Minnesota, Dr. C. J. Ringnell, Minneapolis; Iowa, Dr. J. F. Kennedy, Des Moines.

WASHINGTON, D. C., Feb. 8, 1903.

To the Editor:—Will you kindly inform me of the requirements for practice of medicine in the state of Oregon? To whom can I write for information? M. FLORES.

ANS.—An examination is required. Write to the secretary of the State Board of Medical Examiners, Dr. Byron E. Miller, Portland.

THE PHYSICIAN AND THE PHARMACOPEIA—METHOD OF REDUCING STRENGTH OF SOLUTIONS.

U. S. MILITARY HOSPITAL, FT. SLOCUM,
NEW ROCHELLE, N. Y., Feb. 5, 1903.

To the Editor:—Referring to the letter of Dr. Hughlett Hardcastle communicating his discovery of a formula for the reduction of percentage solutions, published on page 257 of THE JOURNAL of January 24, permit me to invite the attention of the Doctor and yourself to foot note on page 131 of the eighteenth edition of the United States Dispensatory, in which the formula and several others of equal value are published. This edition is now and has been for the past five years the official standard in its line.

Very respectfully, ARTHUR NEVILLE,
Hospital Steward, U. S. Army.

HYDROGEN PEROXID—ABSCESS DRESSING—LUDWIG'S ANGINA.

NEW YORK, Feb. 5, 1903.

To the Editor:—Kindly inform me as to the exact region and anatomic structures involved in angina Ludovici; 2, also the present status of opinion as to the use of hydrogen peroxid in the irrigation of abscess-cavities; and 3, the kind of dressing that would best suit an abscess that has been opened and the walls of, and tissues surrounding, which are indurated and inflamed? A. M. S.

ANS.—1. Ludwig's angina is an acute phlegmon of the connective tissue occupying the space from the symphysis menti to the hyoid bone, usually but not always unilateral, though not sharply defined and due most commonly to an infection with a streptococcus or staphylococcus. 2. The use of hydrogen dioxid in the irrigation of abscess cavities is not nearly so general as it was a few years ago, though it has advantages in special cases. Do not use it in wounds or cavities without free exit for the gas formed. 3. As a general proposition, a not, moist, antiseptic dressing.

LEMON JUICE PROPHYLAXIS AGAINST TYPHOID.

ROGERS PARK, CHICAGO, Feb. 6, 1903.

To the Editor:—At the present time, when so much notoriety has been given to the use of lemon juice to kill typhoid bacilli, I would like to state it is *not* a new fact, as appears to some. Many years ago I was warned to use lemon juice when traveling, as was the custom of my father, the late Dr. John Latham, of Lancashire, Eng. He made a practice of doing so and urging patients to do the same. Since teaching in universities I seldom failed to give the same suggestion to students, especially those from out-of-town districts, until they became used to the water supply. So many people have used the lemon with water to get rid of the earthy or brackish taste in mountain and country districts, and especially on shipboard in the tropics, that it was always thought it was for safety. Another use is the drinking and gargling of throats or swabbing by the grandmother or parents in children suffering from diphtheria, for it is well known to kill the bacilli very quickly—especially when used pure. Its use may be compared to the common practice of gargling with vinegar, or the use of tobacco ash and vinegar for ringworm, and such old household remedies, whose scientific value has not been worked out. It is to be hoped that lemon juice may be worth the position given it for it is certainly an easier, simpler and more palatable remedy for a common and preventable disease. Again, sailors are apt to regard lemons as a cure for jaundice, liver troubles and their allies, as it is supposed to act on the bile both to aid its antiseptic and intestinal effects. Few sailors will go to the tropics without lemons or lemon juice and as one who sails the Brazil said, "It's better than your pills except quinin for the chills," and here again they remember it aids in solubility and flavor. V. A. LATHAM.

Association News.

New Members.

List of new members for January, 1903:

ALABAMA.

Anderson, E. C., Anniston.
Greene, A. A., Anniston.
Chilton, D. H., Corona.
Gordon, John, Hollinger.
Johnston, L. W., Tuskegee.
Richardson, W. W., Bessemer.
Rogers, MacK., Birmingham.
Compton, F. H., Birmingham.
Hogan, Geo. A., Bessemer.

ARKANSAS.

Bramlitt, Edw. T., Malvern.
Brunson, Asa, New Gascony.
Chenault, John C., England.
McGinty, John, Jenny Lind.

CALIFORNIA.

Winchester, R. F., Santa Barbara.
Wightman, W. M., San Francisco.
Wakeman, W. F. B., San Francisco.
Bennett-Ritter, Mary E., Berkeley.

COLORADO.

Patterson, Jas. A., Colorado Spgs.

CONNECTICUT.

Arnold, E. H., New Haven.
Bishop, E. H., New Haven.
Teele, Julia E., New Haven.

DISTRICT OF COLUMBIA.

Corey, Geo. B., Washington.
Hazen, D. H., Washington.
Snyder, A. A., Washington.
Gorney, J. L., Washington.
Hammett, C. M., Washington.
Fowler, W. C., Washington.
Robins, W. L., Washington.
Johnson, L. B. T., Washington.

GEORGIA.

Wheichel, H. C., Dahlanega.
Fitts, Pryor W., Greenville.
Tucker, C. L., McDonough.

ILLINOIS.

Holke, T. J., Freeport.
Harter, Isaac F., Stronghurst.
Small, A. A., Chicago.
Dunn, L. D., Moline.
Wood, C. M., Decatur.
Sims, J. M., Collinsville.
Webb, C. C., Charleston.
Riley, J. A., Chicago.
Knudson, F. B., Chicago.
Mathews, A. A., Oak Park.
Williamson, C. H. S., Chicago.
Gose, C. J., Kinderhook.
Higbee, E. H., Roodhouse.
Bridge, W. C., Elgin.

Fairhall, Jos., Danville.
Morony, J. J., Breese.
Winstead, M. L., Wetang.
Lofton, E. A., Glen Ellyn.

INDIAN TERRITORY.

Grubbs, J. O., McAlester.

INDIANA.

Spohn, Geo. W., Elkhart.
Meyer, F. E., Pennville.
Lambert, I. C., Colfax.
Spink, T. F., Washington.
Taylor, U. T., Newburg.
Cramm, C. J., Spencer.
Hunt, W. A., Lynnville.
Eads, C. V., Ambia.
Vaughan, I. J., Topeka.
Watters, P. J., Indianapolis.
Prough, W. C., Goodland.
Caplinger, Chas. A., Wallace.
Pell, Geo. Milton, Carbon.
Wollenmann, A. S., Ferdinand.
Seaton, Guy, Martinsville.

IOWA.

McGrath, W. J., Elkader.
Wiggins, C. C., Osage.
Kern, L. C., Waverly.
Printz, E. T., Moulton.
Devine, W. S., Marshalltown.
Sailor, E. A., Clarence.

KANSAS.

Martin, W. M., Wellington.
Connett, A. H., Great Bend.

KENTUCKY.

Busey, W. B., Louisville.
Kennedy, O. A., Louisville.
Brown, E. J., Stanford.
Leathers, C. A., Lawrenceburg.
Moore, N. W., Cynthiana.
Antenwasser, H., Covington.
McDowell, M., Cynthiana.
Foley, John G., Pineville.
Bouriand, Wm. O., Early.
Loomis, J. F., Independence.

LOUISIANA.

Moss, Edmund, New Orleans.
Chaviguy, Chas. Noel, New Orleans.
Friedrichs, E. D., New Orleans.
Feingold, Marcus, New Orleans.
Metz, A. L., New Orleans.
Bruns, H. D., New Orleans.
Smyth, John, New Orleans.
Bel, Geo. S., New Orleans.
Conn, Jos., New Orleans.
Borey, Chas. A., New Orleans.
Friedrichs, Andrew G., New Orleans.
Martin, E. D., New Orleans.
Nelken, Abe, New Orleans.
Drouin, G. L., Mansura.
Hamner, O. O., Bienville.
Howell, Chas. F., Wells.
Allain, A. A., Bayou Goula.
Arceneaux, L. B., Church Point.
Morgan, Gordon, Woodside.
Rand, Isaac T., Cades.
Richard, G., Leouville.
Alison, H. L., Bayou la Chute.
Ducote, C. J., Cottonport.
Tarleton, T. T., Grand Coteau.
Davis, Dane B., Bunkie.
Callaway, I. M., Shreveport.
Boyer, J. H., Moreauville.
Bonnette, J. V., Pollock.
Henry, E. L., Lecompte.
Dowling, Oscar, Shreveport.
Bennett, F. C., Loring.
Aucoin, A. A., Plattenville.
Buquoi, J. F., Pointe-a-la-Hache.
Sterling, L. G., Baton Rouge.
Carruth, F. H., Lobdell.
Litton, L. E., Georgetown.

MARYLAND.

Wegetarth, Arthur, Baltimore.
Keller, C. J., Baltimore.
Hamburger, L. P., Baltimore.
Smith, C. U., Baltimore.
Gibbons, E. E., Baltimore.

MASSACHUSETTS.

Croft, B. P., Greenfield.
Merrill, A. E., Somerville.
Bixby, J. P., Woburn.
Christian, H. A., Boston.
Greene, R. W., Worcester.

MICHIGAN.

Langlois, T. J., Wyandotte.
Winslow, R. C., Sault Ste. Marie.
Charters, J. H., Flint.
McKay, E. B., Detroit.
Mesic, A. G., Milan.
MacKinnon, Geo. W., Oxford.
Biddle, A. P., Detroit.
Fischer, O. E., Detroit.
Hendrick, R. G., Jackson.
Randall, H. E., Lapeer.

MINNESOTA.

Mintener, J. W., Minneapolis.

MISSISSIPPI.

Stevens, J. J., Hattiesburg.
McNair, J. C., Fayette.
Arnold, E. F., Bellefontaine.
Thomas, J. R., Centerville.
Catching, J. M., Hazlehurst.
Heath, T. A., Shiloh.
Street, H. N., Gloster.
Wendel, R. P., Aberdeen.

MISSOURI.

Burke, J. P., California.
Floyd, F. M., St. Louis.
O'Connor, C., Kansas City.
Callison, E. C., Brashear.
Fuchs, W. H., St. Louis.

MONTANA

Treacy, Fred'k, Lewistown.
Attix, F. F., Lewistown.
Atchison, J. B., Lewistown.

NEBRASKA.

Jack, J. B., Wymore.
Fleetwood, E. J., Wakefield.
Williams, J. J., Wayne.
Sackett, C. C., Laurel.
Allenburger, C. A., Shelby.

NEW JERSEY.

Noble, W. C., Montclair.
Pulsford, H. A., South Orange.
Rogers, R. H., Newark.
Robertson, S. E., Newark.
Long, H. W., Newark.
White, W. H., Bloomfield.
Cook, R. L., Dover.

NEW MEXICO.

Black, B. D., E. Las Vegas.

NEW YORK.

Jackson, W. H., Springville.
Sherman, D. H., Buffalo.
Healy, J. R., New York.
Weinstein, Jos., New York.
Specht, E. E., New York.
Swinburne, G. K., New York.
McChristie, Wm., New York.
Urban, A. H., Buffalo.
North, Jr., N. L., Brooklyn.
Parrish, J. W., Brooklyn.
Macy, W. A., Willard.

NORTH DAKOTA.

Hyslin, Evan, Kindred.
Wheeler, E. C., Fargo.
Ekern, Andrew, Grand Forks.

OHIO.

Johnston, C. E., Sidney.
Gahm, J. L., Jackson.
Talmage, E., Canton.
Dando, E. T., Wellsron.
Pearce, C. T., Cincinnati.
Southgate, Louise, Cincinnati.
Allgaier, S. A., Cincinnati.
Cone, S. E., Cincinnati.
Thompson, E. H., Cincinnati.
Ratterman, B. J., Cincinnati.
Landis, J. H., Cincinnati.
Stephenson, R. A., Manchester.
Grothaus, J. B., Cincinnati.
Murphy, W. E., Cincinnati.
Brown, J. E., Cincinnati.
Francis, R. W. C., Cincinnati.
Speidel, C. G. E., Cincinnati.
Sollmann, T., Cleveland.
Brundage, N. E., Delphos.

OKLAHOMA.

Smith, R. V., Guthrie.
Upjohn, L. W., Norman.

OREGON.

Schroeder, A. C., Cascade Locks.

PENNSYLVANIA.

Geist, J. W., Wilkesbarre.
Hemminger, R. J., Confluence.
Hirschler, Rose, Philadelphia.
Tyson, T. M., Philadelphia.
Wilson, J. M., Pittsburg.
Boggs, R. H., Pittsburg.
Post, F. S., Pittsburg.
Edwards, Lewis, Edwardsdale.
Tilbrook, J. R., Claridge.
MacKellar, J., Hazleton.
Ross, F. E., Erie.
Speer, O. K., Tamaqua.
Ohail, J. C., Allegheny.
Hartman, Irvin H., Reading.
Coll, H. I., Connellsville.

RHODE ISLAND.

Jacoby, D. P. A., Newport.

SOUTH CAROLINA.

Bottum, G. H., Greenville.
Peters, Lindsay, Columbia.
Young, J. P., Richburg.
Allen, J. H., Spartanburg.

SOUTH DAKOTA.

Edwards, Wm., Bowdle.
Sediacek, F. A., Tyndall.

TENNESSEE.

Bicknell, G. O., Madisonville.
Berlin, H., Chattanooga.
Smith, F. T., Chattanooga.
Hardin, J. A., Sweetwater.

TEXAS.

Becton, E. P., Greenville.
Caldwell, A. J., Tioga.
Vaughan, S. F., Jonesville.
Rosborough, J. F., Marshall.
Russ, Witten B., San Antonio.
Belton, J., Greenville.
Erwin, J. C., McKinney.
Knox, R. W., Houston.
Schramm, C. J., Fayetteville.
Morris, J. E., Madisonville.
Herzog, Zofie, Brazonia.

UTAH.

Thorn, E. I., Salt Lake City.

VERMONT.

Roberts, E. G., Fair Haven.
McSweeney, J. E., Barre.
Bryant, W. N., Ludlow.

VIRGINIA.

Venable, C. S., Charlottesville.
Dunkley, J. H., Saltville.
Sellers, F. E., Petersburg.

WASHINGTON.

Potter, W. W., Spokane.
Edwards, O., Seattle.
Dean, S. J., Seattle.
Harrison, I. M., Seattle.
West, Pearl Caleb, Bickleton.
Chisholm, Jas., Evereth.

WEST VIRGINIA.

Preston, B. S., Pratt.
Burwell, W. N., Parkersburg.
Culp, I. J., Farmington.
Harris, T. A., Parkersburg.
Hall, E. T. W., Freemansburg.
Maloy, J. S., Meadowbrook.

WISCONSIN.

Kendall, A. O., Prairie du Sac.
Beard, E. A., Milwaukee.
Breckenridge, H. E., Racine.
Herbert, H. A., Kenosha.
Cunningham, Wilson, Platteville.

Societies.

Saline County (Neb.) Medical Society.—This society was organized at Crete, January 30.

Decatur (Ill.) Medical Society.—The second annual banquet was held at the Decatur Hotel, January 23. Covers were laid for forty-six.

Robertson County (Tenn.) Medical Society.—This society was organized at Springfield, January 20, with Dr. George W. Menees, Springfield, president.

Barry County (Mich.) Medical Society.—This society was organized at Hastings, January 29, and asked affiliation with the Michigan State Medical Society.

Central Kentucky Medical Association.—At the annual meeting in Danville, January 17, Dr. William D. Powell, Harrodsburg, was elected president, and Dr. Steele Bailey, Stanford, secretary and treasurer.

Atlanta (Ga.) Medical Library Association.—A charter was granted to this association, January 30, on the petition of Drs. William S. Elkin, Virgil O. Hardon, E. Bates Block, and Floyd W. McRae, and Alexander W. Stirling.

Atchison County (Kan.) Medical Society.—This society was organized at Atchison, January 10, with Dr. J. F. Preston, Effingham, president; Dr. Charles S. Ferguson, Atchison, secretary, and Dr. Matthew T. Dingess, Potter, treasurer.

San Bernardino County (Cal.) Medical Society.—At a meeting held in San Bernardino, January 22, a new constitution and by-laws were adopted and application was made for affiliation with the Medical Society of the State of California.

Calloway County (Ky.) Medical Society.—At the annual meeting at Murray, January 15, Dr. E. B. Curd, New Providence, was elected president; Dr. J. T. Wall, Murray, vice-president, and Dr. Wildy H. Graves, Murray, secretary and treasurer.

Brashear Medical Society.—At the regular quarterly meeting in Chaplin, Ky., January 20, Dr. Squire B. Crume, Bloomfield, was elected president; Dr. J. W. Baird, Chaplin, vice-president, and Dr. Wiley Rogers, Taylorsville, secretary and treasurer.

St. Joseph (Mo.) Medical Society.—At the annual meeting, held January 14, the following officers were elected: Dr. Daniel Morton, president; Dr. Barton Pitts, vice-president; Dr. Louis J. Dandurant, secretary, and Dr. Charles Wood Fassett, treasurer.

Blackhawk County (Iowa) Medical Society.—At the annual meeting, January 9, in Waterloo, Dr. Elmer E. Dunkelberg was elected president; Dr. Thomas N. McManus, vice-president, and Dr. Fred W. Keehl, secretary and treasurer, all of Waterloo.

Alameda County (Cal.) Medical Society.—At the annual meeting held in Oakland, January 14, Dr. Oliver D. Hamlin was elected president; Dr. Jeremiah Maher, vice-president; Dr. Albert H. Pratt, secretary, and Dr. Charles A. Dukes, treasurer, all of Oakland.

Blue Earth Valley (Minn.) Medical Association.—At the quarterly meeting held in Blue Earth, January 13, Dr. Albert J. Franklin, Blue Earth, was elected president; Dr. S. C. Schmidt, Blue Earth, secretary, and Dr. Gustav H. Luedtke, Fairmont, treasurer.

Maury County (Tenn.) Medical Society.—The organization of this society was effected in January at Columbia, and the following officers were elected: Dr. M. M. Cook, Santa Fe, president; Dr. Hazle Padgett, Columbia, vice-president; Dr. Otey J. Porter, Columbia, secretary, and Dr. Russell S. Perry, Bigbyville, treasurer.

Newport (R. I.) Medical Society.—At the annual meeting, January 30, Dr. Christopher F. Barker was elected president; Dr. V. Mott Francis, vice-president; Dr. Mary E. Baldwin, secretary; Dr. Douglas P. A. Jacoby, treasurer; Dr. William S. Sherman, librarian; Dr. Harry J. Knapp, curator, and Dr. Charles W. Stewart, bacteriologist.

Bay County (Mich.) Medical Society.—At the annual meeting in Bay City, January 19, the retiring president entertained the members at a banquet. Dr. Everett A. Hoyt, Bay City, was elected president; Dr. George W. Moore, Munger, vice-president; Dr. Morton Gallagher, Bay City, secretary, and Dr. Charles H. Baker, Bay City, treasurer.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Meeting held Jan. 19, 1903.

The President, Dr. Edward F. Wells, in the Chair.

Streptococcus and Staphylococcus Bronchitis.

DR. JOSEPH M. PATTON read this paper. After referring to the classifications of bronchitis, and going exhaustively into the literature of the subject, three case histories, taken from a number of cases, were cited by the author to illustrate and support the occurrence of a form of bronchitis due to infection by streptococci or staphylococci, or both, and probably primary, which exhibit more or less characteristic features, and in some cases simulate the early clinical history of tubercular infections.

These cases did not present a history of a primary influenza, but exhibited marked physical signs of local or general bronchitis, with continuous temperature, persistent cough, occasional night sweats, loss of expansion, and, in some, modifications of pitch, which might be suggestive. The sputum showed streptococci and staphylococci. In one of the cases cited staphylococci alone were present. No influenza bacilli were present. These cases completely recovered in a few weeks.

The subjective symptoms are not sufficient for diagnosis. The physical signs may be only suggestive, especially in cases of staphylococcus infection, with lack of sudden onset, a tendency to localization, and the subacute character of the subjective signs, which much resemble the onset of tuberculosis, involving the terminal bronchial tract, the principal difference being the infrequency of apical localization. Dr. Patton called attention to the unsatisfactory results from the usual sedative or stimulating expectorant treatment, and remarked that the best results come from alterative medication, and the use of soothing and stimulating local medication by deep inhalation.

DISCUSSION.

DR. ARTHUR R. ELLIOTT stated that it has been his experience, in cases of bronchitis secondary to other organic lesions, particularly bronchitis, which develops in the later stages of nephritis and is secondary to myocardial diseases, in which pulmonary congestion and bronchial symptoms develop, that bacteriologic examination of the sputum occasionally shows the presence of streptococci. This infection, he thinks, must be largely accidental, and the secondary one invited by the low resistance of the tissues resulting from the primary disease.

DR. EDWARD F. WELLS said that it has been his practice for some years to make use of the iodid of potassium in small doses, giving, say, three or four grains four times a day for three days, for the purpose of increasing the amount of serum from the bronchial surfaces in the diagnosis of suspected cases of pulmonary tuberculosis. Numbers of cases of chronic bronchitis have come under observation under these circumstances. A number of them have been subjected to this and other methods of examination for a few months for some years. These cases have all been examined many times bacteriologically. He has made observations that are applicable to the paper read. *First*, there was a mixed infection in all cases of chronic bronchitis, staphylococci and streptococci being present in large numbers, also various other organisms, more especially the pneumococcus. *Second*, that while the treatment of such cases by sedatives, especially by opiates, has been quite unsatisfactory, the report made by patients invariably, after taking iodid of potassium, has been that they were benefited by it. Their cough has been rendered less frequent. He has not followed this sort of treatment, but would not be surprised if it should be a valuable remedy in all forms of bronchitis in which the cough is dry and frequent.

A number of cases of bronchitis have come under his observation during the last few months, in which bacteriologic examinations were made within twenty-four or forty-eight hours of the onset of the symptoms. These cases have had a very common symptomatology—slight chilliness, a feverish condition, headache, aching pains, stuffy condition of the nostrils, at first a serous, then mucous and purulent discharges from the nostrils, the inflammation extending down and accompanied by a considerable amount of tonsillitis, terminating, within twenty-four or forty-eight hours, in bronchitis, with slight expectoration. The nasal discharges have been examined and cultural experiments made of such discharges as have been obtained early from the bronchial tubes. The cases, without exception, showed bacilli in large numbers, and by the time the secretions became purulent the infection was mixed, mainly staphylococci and streptococci being present. In the majority of these cases particles of sputum from different parts, when put in different culture boxes, showed almost pure staphylococcus and streptococcus, apparently showing that in different parts of the respiratory tract one or the other of the germs had located, and had spread by the infection in that locality, but both were found present generally.

DR. PATTON, in closing the discussion, stated that the cases which he cited were selected with special reference to discarding that class of cases that had shown absolutely no subjective or objective sign of congestion or inflammation of the upper respiratory tract, in which the infection seems to have begun in the bronchial area, and it is here that streptococci and staphylococci are most frequently found. The question of principal interest to him is as to whether these infections, acute bronchitis, or subacute or chronic bronchitis, as the case may be, are not preceded by an influenzal condition of the upper respiratory tract, because those that have been preceded by such a condition have uniformly shown a primary influenzal infection, followed by secondary development of the other organism. But in those cases that have not been preceded by an influenzal condition, it is a question whether they are not primary infections with staphylococci or streptococci, either by inhalation infection, by exposure, or something of that kind, giving a type of bronchitis which is somewhat different in its symptomatology and in its reaction to medication from the ordinary types of secondary bronchitis, even though one may find the same organisms in the secondary bronchitis, differing in its symptomatology from the fact that there is a more irritating cough, continuous and moderately high temperature, night sweats, indications of physical signs resembling closely the early signs of tuberculosis in the streptococcic form; in the staphylococcic form, a lower temperature, but just as continuous, with less cough, less expectoration, a more localized area involved, but a condition which resists the ordinary expectorant medication just as persistently as does the other form.

Cockroaches as Conveyers of Typhoid Infection.

DR. ROSA ENGELMANN read a paper on this subject. She gave the history of a house epidemic of typhoid fever which, in the opinion of Dr. Edward F. Wells and herself, was spread by cockroaches. She could find no other record of such conveyance in the literature. Flies, mosquitoes, fleas, bedbugs and cockroaches belong to the same large family and order of insects. All but the cockroach have been demonstrated to be not alone the active or intermediary hosts, but also accidental carriers of various diseases, including typhoid fever and its allied disorder, bubonic plague.

In October, 1902, on the complaint of Dr. Wells, the essayist was instructed by the health department to investigate a house epidemic of typhoid fever, which in five months had claimed as many victims in one large, eight-flat, well-constructed apartment building. A similar neighboring building, furnished in common with an artesian well-water supply, general and janitor service, was and had been free for two years of any sickness. Another peculiarity was the fact that the typhoid cases, with one exception, were confined to the south tier of apartments and occurred in four families. Dr. Engelmann detailed the cases and the food and hygienic conditions of the families. The cases began on the first floor in June and extended upward, the last occurring on the fourth floor in October. The tenant on the fourth floor, south flat, complained during the summer for relief from a perfect pest of cockroaches. They were on the food and in the beds and all over the drawing room, so that this family was having daily and deadly raids on these unwelcome invaders, which not only permanently installed themselves in every room, but came up in additional hordes in the clothes baskets when brought up from the basement. The place was literally alive with cockroaches. Why was this basement overrun with them, while the neighboring basement was exempt? The people were well and every flat occupied in the second apartment building, while in the first one there was sickness in two families, with consequent neglect of housekeeping. The second closed flats above next became ridden with vermin and communicated this condition to the top flat from which the greatest complaint came and in which the last case of typhoid fever appeared.

The etiology of the first case is uncertain, although it can probably be ascribed to culinary and toilet use of the city water, which, at intervals during the spring and early summer, had been turned into the house mains by the janitor when his artesian well pump broke down. He also at monthly intervals turned on the city water into the tank in order to wash it out, for it was less labor to scrub it with city water than to carry up the artesian water from the pump level to a sixty or seventy-foot tank elevation. Not only did the artesian well tank water become contaminated, but the house mains. This state of affairs ceased with the employment of a new janitor later in the summer, who notified tenants when the city water was turned into the house mains. If the infection was due in all these cases to the water supply, why was there no further incidents of the disease in the other twelve families, and why was it almost confined to the tier directly over the first case? The artesian well water, freshly pumped, and the tank supply were examined twice in October and found to be free from typhoid germs. The pump connections, piping and drainage were perfect, as were the plumbing and sewage connections. On repeated complaints of the tenants during the summer the catch-basins were finally cleaned in the fall, but probably not until after the cockroaches had carried sewage, typhoid infected by case 1, or possibly case 2, to the food supplies of the other afflicted families. By October the vermin were also beginning to be exterminated by the efforts of professional exterminators, and no more cases appeared. During this time the adjacent building had been comparatively free from cockroaches.

DISCUSSION.

DR. JOSEPH M. PATTON thought there was nothing strange or improbable in the supposition that cockroaches may carry typhoid infection, because they carry nearly everything else they come in contact with, and they are so numerous and frequent and such pests about apartment buildings in large cities that if it were only once thoroughly established that they are carriers of typhoid infection, it would have an immense hygienic value, and undoubtedly would remove a source of infection that is dangerous, and which is practically continuous in all buildings that are steam-heated in cold weather.

DR. EDWARD F. WELLS said that in the families resident in these two flats the surroundings of all seemed to be alike, with the exception of the presence of numerous cockroaches in the flats mentioned by the essayist. All of them had the same water supply. Dr. Engelmann made a number of visits to the house, carefully investigated the flats, and had given the results of her observations in regard to cockroaches being a prominent factor in the conveyance of typhoid fever. The tenants of the building complained of the cockroaches, not having in view any hygienic features except they were disgusted with their presence.

DR. ENGELMANN, in closing the discussion, said that possibly the most instructive thing in the future would be the more careful investigation as to the presence or absence of typhoid bacilli in the gastrointestinal canal of the cockroaches. Very recently Japanese investigators have found the pest bacillus, and have shown that bedbugs and fleas are active or intermediary hosts of the pest bacillus. She thought the same line of investigation might be applied to the cockroach as a host for this or various germs.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Acute Myocarditis.

Lemoine, in an abstract in *Amer. Med.*, states that strophanthus is the best remedy in the treatment of acute myocarditis when a heart stimulant is indicated. He recommends it combined as follows:

℞. Ext. strophanthi .....gr. 1/12 | 005
Syr. acaciæ q. s. ad.

M. Ft. pil. No. i. Sig.: One such pill morning and evening.

In case of collapse strophanthus should be associated with a rapidly diffusible stimulant such as the following:

℞. Camphoræ .....gr. viiss | 50
Spts. etheris.
Aq. destil., āā 3i 4

M. Sig.: Fifteen to forty-five minims to be injected subcutaneously in twenty-four hours.

Quinin to Children.

The following combinations, containing quinin, as noted in *Pract. Drug. and Review*, are recommended in administering that drug to children:

℞. Quininæ sulph. .....gr. x | 65
Aquæ (acidulated) .....m. lxxv 5
Mellis albi 3x 40

M. Sig.: One small teaspoonful every two or three hours as indicated; or:

℞. Quininæ hydrochloridi .....gr. ivss | 27
Ext. glycyrrhizæ .....gr. xlv 3
Aq. destil. 3x 40

M. Sig.: To be given in divided doses according to the age of the child; or:

℞. Quininæ sulph. 3i 4
Acidi citrici
Syrupi simplicis
Syrupi aurantii, āā .....3iiss· 10
Aquæ destil. 3v 20

M. Sig.: Ten drops in two ounces of water to which are added 45 grains of sodium bicarbonate and drunk while effervescing.

As a suppository the following:

℞. Quin. sulph. .....gr. iss to viiss | 09-.50
Olei theobrom. q. s.

M. Ft. suppos. No. i. Sig.: One to two suppositories daily.

Bronchitis and Bronchopneumonia in Children.

Mitchell, in an abstract taken from *Archives of Pediatrics*, recommends, in the treatment of bronchitis and bronchopneumonia of children, that the feeding, clothing, bathing and exercise be carefully watched. And while prophylactic medicinal treatment is often necessary, any drugs which tend to disturb

the appetite or digestion must be discarded. He recommends the cotton jacket instead of the heavy poultice. Antipyretics should never be used to control the fever, the gradually-reduced bath being substituted.

For the cough, steam inhalations, simple or medicated, are of value. When the cough is harsh and dry, opiates may be given. In subacute or chronic cases, creosote or guaiacol carbonate are of benefit. Strychnia may be used as a heart stimulant.

Obesity.

The following outline of treatment of obesity is suggested by M. Kisch in *Med. Press.* When the accumulation of fat is in the lumbar or abdominal regions, besides the usual diet treatment the following is recommended locally:

℞.	Pot. iodidi	3i	4
	Iodi	gr. vi	35
	Vaselini	ʒi	30

M. Sig.: To be rubbed in night and morning over the lumbar region, and the parts covered with a large compress steeped in a solution of aluminum acetate:

℞.	Plumbi acetatis	3ii	8
	Aluminis	3ss	2
	Aquæ	ʒviii	240

M. Sig.: Locally on compresses. A sheet of oiled silk should be placed over the compress.

For friction to the abdominal wall the following ointment is recommended:

℞.	Pot. iodidi	3ii	8
	Aceti scillæ	ʒviii	240

M. Sig.: Apply locally.

Capsicum.

Sir James Sawyer, according to *New York Med. Jour.*, recommends the non-alcoholic ethereal tincture of capsicum as a splendid local application in the treatment of subacute and chronic gout, muscular and chronic rheumatism, and in certain forms of bronchitis. He prefers ether to alcohol because of its action on the sebaceous secretion of the skin, and it is easily mixed with turpentine and other essential oils. The following combination is recommended by him as an excellent rubefacient:

℞.	Tinct. capsici (ethereal)		
	Sol. ammoniæ		
	Spts. terebinthinæ		
	Olei lini, āā	ʒi	30

M. Sig.: Apply locally to the affected parts.

Scabies.

The following combination is frequently recommended in the treatment of scabies:

℞.	Menthol	gr. xl	2	65
	Ichthyol	3iv	15	
	Calcii sulphid.	3i	4	
	Sulphuris	3ii	8	
	Lanolini			
	Oleo olivæ, āā, q. s. ad.	ʒiii	90	

M. Sig.: To be applied locally.

W. B. Brown, in the *Post-Graduate*, recommends that the skin be well washed with soap and water and scrubbed with a brush. The following ointment should then be applied twice a day for three days:

℞.	Potassii carb.	ʒss	15
	Sulph. sublim	ʒi	30
	Adipis	ʒiv	120

M. Fiat ung. Sig.: Apply locally.

The same author recommends the following in the treatment of sycosis barbæ (barber's itch):

℞.	Bismuthi subnit.	3ii	8
	Acidi salicylici	gr. xv	1
	Adipis	ʒi	30

M. Sig.: Apply locally; or:

℞.	Ung. hydrarg. oxidi rub.	3ii	8
	Ung. sulphuris	3iv	15
	Ung. zinci oxidi	3ii	8

M. Sig.: Apply locally and bind on with a bandage at night.

Gonorrhea.

The following combination is recommended by Joseph Webb, in the *Med. Summary*, for the treatment of gonorrhea:

℞.	Acidi borici	3iss	6
	Tinct. iodi	3ii	8
	Glycerini	ʒi	30
	Aquæ destil.	ʒiv	120

M. Sig.: To be used as an injection morning and evening.

Stubborn Bronchitis.

In the same periodical J. J. Caldwell recommends the following mixture for the relief of a stubborn bronchitis:

℞.	Heroin		
	Ammon. hypophos., āā	gr. ii	12
	Tinct. hyoscyami		
	Syr. white pine, āā	3i	4
	Syr. tolutani	ʒi	30
	Glycerini q. s. ad	ʒiv	120

M. Sig.: Shake, one teaspoonful three times a day.

The white pine, according to the author, serves as a tonic to the throat and bronchi and allays the night sweats. The balsam of tolu is an aromatic stimulant. The heroin relieves the irritability of the respiratory tract, being a valuable antispasmodic.

Ginger.

Ginger, according to W. O. Bunnell, in *Med. Council*, is a common but useful remedy in a great many different conditions. It is a stimulant, rubefacient and sialogogue. When chewed, according to the author, it increases the flow of saliva and acts as a stomachic and carminative by increasing the flow of the gastric juice and exciting muscular activity of the alimentary canal. It may be used in conjunction with other preparations and astringents to check diarrhea and dysentery.

Forty to 50 grains in a cup of hot water are recommended to be taken at bedtime in order to check a cold. In the treatment of dyspeptic conditions it may be given in 15 or 20-grain doses in hot water every two or three hours.

He recommends it as a remedy in violent headaches by forming it into a plaster with hot water. The same is of service in swollen joints, lumbago, pain in the stomach or bowels.

Oil of Cloves.

W. A. Briggs, in *Amer. Med.*, recommends very highly the use of oil of cloves in surgical dressings. In punctured wounds, such as by nails, he packs the wound with sterilized gauze saturated in pure clove oil. The same procedures are carried out in treating localized abscesses, first evacuating the pus and then packing the cavity with gauze saturated with dilute oil of cloves. He uses it in disinfecting his hands in obstetrical cases. He also recommends it as an antiseptic dressing for the umbilical cord by saturating the dressings with a 30 per cent. solution of clove oil in olive oil, changing the gauze each day. The advantages claimed for these purposes as set forth by the author, are:

1. It is practically non-toxic. No constitutional disturbances have ever been observed.
2. It is a powerful antiseptic and local analgesic.
3. It affords rapid, simple and ready means of disinfecting the hands and keeping them in an antiseptic state. The skin is rather sensitive at first, but rapidly becomes accustomed to it and remains in good condition.

Burns.

Biddle, in *Penn. Med. Jour.*, states that he applies locally, in the treatment of burns, a mixture composed of lead carbonate, pulverized acacia, linseed oil and sodium bicarbonate. This should be made thin enough to spread easily on soft cloth. He states, after applying this treatment, very few scars are left. If the outer skin has been devitalized he removes it at once with scissors in order that the dressing may be more directly applied to the diseased areas. The dressings are frequently changed, and if the granulations get too high, salicylic acid should be dusted over the surface. The lead dressing is usually applied for about ten days.

He recommends that skin grafting be done early in those cases where much destruction of tissue has occurred or in

parts near tendons where contractures are most apt to follow. He states, owing to the addition of the acacia to the lead mixture, that he has never seen serious absorption of the lead take place. If symptoms of lead poison should occur he gives the usual doses of magnesium sulphate. If diarrhea sets in, due to intestinal inflammation, he administers salol, bismuth subnitrate or creosote.

Diabetes.

Yeo, in *Clin. Ther.*, recommends the following combinations to be employed in the treatment of the different conditions in diabetes:

AS A MOUTH WASH.

℞.	Sodii boratis Pot. chloratis, āā.....3i	4	
	Glycerini Mucil. acaciæ, āā .....℥i	30	
	Aquæ q. s. ad.....℥viii	240	

M. Sig.: To be used as a mouth wash; or:

℞.	Sodii boratis 3ii	8	
	Tinct. myrrhæ .....℥ss	15	
	Aquæ q. s. ad .....℥vi	180	

M. Sig.: To be used with an equal quantity of warm water.

FOR THE ITCHING.

℞.	Sodii sulph. .....℥ss	15	
	Aquæ .....℥vi	180	

M. Fiat lotio. Sig.: Apply locally; or:

℞.	Acidi hydrocyanici dil. 3i	4	
	Glycerini .....℥i	30	
	Aquæ q. s. ad.....℥vi	180	

M. Fiat lotio. Sig.: Apply locally.

SYSTEMIC TREATMENT.

℞.	Lithii carb. .....gr. xxx	2	
	Sodii arsenatis .....gr. i		06
	Ext. gentianæ .....gr. xv	1	

M. Ft. pil. No. xx. Sig.: One pill night and morning; or:

℞.	Iodoformi .....gr. xv	1	
	Ext. lactucarii .....gr. xv	1	

M. Ft. pil. No. xx Sig: One pill three times a day; or:

℞.	Antipyrini 3iiss	10	
	Saccharini .....gr. iii		20
	Sodii bicarb. .....gr. ii		12
	Infusi coffeæ .....℥v	150	

M. Sig.: One tablespoonful two or three times a day.

Medicolegal.

Duty to Take Seamen Into Port for Surgical Aid.—The U. S. Circuit Court of Appeals, Ninth Circuit, says, in the case of the *Iroquois*, that it has no doubt that it was the duty of the master of that vessel to bear away to some port of distress as soon as possible after one of its seamen had accidentally, and without fault of his own or fault of the ship, sustained a fracture of two ribs and both bones of his right leg below the knee. The vessel was at the time of the accident a few miles to the southward of Cape Horn. The master, whose only knowledge as to the treatment of fractures had been derived from his own experience at some time previous when he had received treatment from a surgeon for a fractured leg, set the seaman's leg as well as he could, bound it and placed it on a cushion in order to elevate it above the body, and instructed the steward to give the injured man gruel, mush and other light food. The broken ribs healed, but the bones of the leg failed to unite, and after the vessel reached San Francisco the leg had to be amputated a little below the knee. The court holds that it was no excuse that the master was ignorant, or that he believed the broken leg was healing properly, and for that reason thought it unnecessary to bear away from his course. Nor was he excused by the fact that the injured seaman at the time made no complaint of the treatment he received, and made no demand to be taken to a port of distress. The duty of the master to him was a positive one. He had been disabled while in the service of the ship, and without any fault on his own part. By the maritime law he was entitled to be healed at the expense of the ship. His injury was a serious one, and the master must be presumed to have known that it required careful and scientific treatment.

Not Entitled to License Without Taking Examination.—The Supreme Court of South Carolina holds, in the case of Moore vs. Napier and others, that the petitioner, who received a diploma from the South Carolina Medical College, but who studied the course for only three years, was not entitled to a writ of mandamus requiring the board of medical examiners to issue to him a license to practice medicine without standing an examination before the board as to his qualifications and knowledge of medicine. It appeared that when he matriculated as a student of the South Carolina Medical College the course of study established for graduation was only three years; that before receiving his diploma the South Carolina Medical College established a four years' course of study, commencing with the collegiate year of 1901; and that, as above stated, he took only a three years' course. The change in the course of study from three to four years was apparently made to enable graduates holding diplomas to receive the benefit of the amendatory statute of Feb. 15, 1901, exempting from the necessity of standing an examination before the board of medical examiners as to qualifications and fitness "regular graduates, holding diplomas issued by any college of established reputation in this state which has a four years' course of instruction and a standard of not less than 75 per cent. on examination." The court holds that it was the manifest intention of the amendatory act to make the exemption stated when satisfactory evidence of the standing of the college is made to the board of medical examiners, and when the graduate has studied the course for four years. And it says that, in the exercise of its discretion, it will refuse the writ of mandamus when the effect of granting it would be to violate the intention of an act of the legislature.

Admissibility of Radiograph on Its Own Merit.—The Supreme Court of Nebraska holds, in the malpractice case of Carlson vs. Benton and others, that, to constitute a foundation for the introduction of an *x*-ray photograph in evidence, it is not essential that it appear that it was taken by a competent person, nor that the condition of the apparatus with which it was taken and the circumstances under which it was taken were such as to insure an accurate picture, provided that it has been shown by the evidence of competent witnesses that it truly represents the object it is claimed to represent. The discretion of the trial judge in the reception of such evidence is not absolute, and may not be exercised arbitrarily; and where the evidence as to the accuracy of the photograph leaves no room for a difference of opinion, its exclusion on the ground that a sufficient foundation has not been laid is an abuse of discretion. In this case an *x*-ray photograph of an injured leg, taken after the injuries had been treated by the parties sued, was offered in evidence. The uncontradicted testimony of three surgeons left no room for a difference of opinion as to the accuracy of the photograph, and it is held that to exclude under such circumstances, on the ground that a sufficient foundation had not been laid, was an abuse of discretion. The novelty of the *x*-ray photograph, it is said, does not extend to the rules governing its reception in evidence. Maps, photos, drawings and models are admissible in evidence when it is shown that they fairly represent the object or objects under investigation. There is no good reason why the same rule should not apply to photographs of this character. Lastly, it was urged that, whatever error there might have been in the exclusion of the photograph, it was error without prejudice, because there was no conflict in the testimony on the question of the existence of a dislocation and improper union of the bones. But it is answered that, if the record bore out this statement, it would not be safe to say that the exclusion of the photograph worked no prejudice to the party suing. The condition and position of the bones of his leg after it had been treated were among the matters to be investigated by the jury. It is hardly possible to convey such matters to the average mind as clearly by oral testimony as it may be conveyed by means of a photograph. The verdict of the jury in favor of the parties sued was general, and it would be rash to assume that it was not influenced by the exclusion of the evidence in question.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

January 31.

1 *The Limitations of the X-Ray in the Treatment of Malignant Tumors. William B. Coley.
2 A Plea for a Neurologic Hospital in New York. L. Pierce Clark.
3 *The Negro as a Criminal and His Influence on the White Race. Louis Edelman.
4 *Affections of the Labyrinth Resulting from General and Organic Disease. Thomas R. Pooley.
5 *Is Any Diseased Condition Necessarily Self-limited? Edwin R. Maxson.

1. **The X-Ray.**—Coley gives his experience with the *x*-ray. He believes that the interests of both science and our patients will be best subserved by strictly limiting the method to inoperable cases and to cases after operation, as a prophylactic measure. The method is still on trial, and it is to be hoped that we may be able to give the *x*-ray its proper place soon, but for the present we should give it an impartial study.

3. **The Negro as a Criminal.**—Edelman points out the great increase of crime in the negro, which he attributes to slavery, to ignorance and to environment. He thinks the educated negro does not become a criminal. What the race needs is labor. Lynching has a bad effect on the white race; it is no way of meeting the conditions. He thinks the proper method would be the establishment of convict farms where the negro criminal and idler could be sent and made to be self-supporting.

4. **Labyrinthine Disease.**—Pooley's article is largely a review of the literature and is quite an extensive discussion of the subject.

5. **Self-Limits of Disease.**—Maxson doubts whether any disease is necessarily self-limited, and gives his experience with typhoid as an illustration. He has been able, by using antiseptics, cathartics, warm baths, and regulated diet and tonics to arrest the disease and even partially abort it. He believes that many so-called contagious diseases originate *de novo* in individuals from bad environment and habits, and without such propagation of many of them would be almost impossible.

American Medicine, Philadelphia.

January 31.

6 *A Note on the Anatomy of the Perirenal Fatty Tissue. W. W. Keen.
7 *Twelve Cases of Malignant Disease Treated by the Roentgen Rays. Henry P. Moseley.
8 *Some Notes on Pollacci's New Method of Detecting Albumin in the Urine. Gordon Lindsay and William J. Gies.
9 *Tuberculous Peritonitis. A. E. Halstead.
10 *Chronic Bilateral Parotitis Among the Insane, with a Detailed Account of Five Cases. Douglas Symmers.
11 *Tea and Coffee Intoxication. Emil King.
12 *The Natural Struggle of Mankind Against Contagious Disease. Claude du Bois-Reymond.

6. **Perirenal Fatty Tissue.**—Keen calls attention to the fact that there are two distinct layers of fatty tissue surrounding the kidney, one which should be called the transversalis layer of fat and the second the proper perinephric fat or fatty envelope of the kidney. In operating on the kidney so soon as the fat bulges through the incision, if it is carefully cut or torn through, gradually deepening the incision or tear, a distinct interval between these two layers will be found. A layer of connective tissue, then a second layer of fat presents itself. He has consulted over a score of anatomies and found this mentioned in but one book, Da Costa's "Modern Surgery," and the fact was communicated to the author in this case by himself.

7. **The X-Rays.**—The conclusions from twelve cases of malignant disease treated by Moseley are given as follows:

1. The small superficial cases of malignant disease seem to be most susceptible to this method of treatment.
2. The relief of pain is a very prominent feature of the Roentgen ray treatment, and is often noticed after the first exposure. In cases which have not progressed too far, it is almost possible to promise the anesthetic effect.
3. It is impossible to determine from our present knowledge without trial what cases will be favorably influenced by treatment, but patients should be warned not to be too hopeful.
4. The danger of burning is a real one. Patients should appreciate the possibility of it before treatment is started, although with precautions it may be avoided. In hospital work when the operator is doing much Roentgen ray work, the greatest precaution should be exercised in the care of his own face and hands. The apparatus should be arranged so that all changes in the tube necessary to be made while it is running can be accomplished by switches or mechanical devices so placed that the operator can control them at a distance of 12 or 15 feet from the tube.

8. **Pollacci's Method for Albumin Detection.**—The original description of this method appeared in the *Schweizerische Wochenschrift für Chemie und Pharmacie* (1901, xl, p. 168). The formula is given as follows:

A. 1 gram tartaric acid
   5 grams mercuric chlorid } dissolved in 100 c.c. water.
   10 grams sodium chlorid
B. Solution A + 5 c.c. formaldehyd (40% solution).

Solution B. is used for the detection of albumin as in Heller's test, care being taken to stratify the solutions and prevent their admixture. Should a white zone appear at the line of contact of the two fluids the urine contains pathologic albumin. Pollacci claims that this is more delicate and sensitive than the Spiegler reagent or than other methods. Lindsay and Gies have examined this method and conclude as follows:

1. Pollacci's reagent readily precipitates various proteids—simple, compound and albuminoid.
2. The test is too delicate for ordinary clinical purposes, since the normally occurring urinary proteids are precipitated by the reagent.
3. Various nonproteid substances occurring in the urine in health and disease are probably also precipitated by the reagent.
4. The latter possesses little or no advantage over Spiegler's fluid.

9. **Tuberculous Peritonitis.**—Halstead discusses the condition and its literature with special reference to laparotomy and the benefit derived. The operation itself is not entirely devoid of danger as shown by a case he here reports. The evil outcome was probably due to a toxemia, the toxic substances being probably liberated from changes which occurred consequent on operation.

10. **Chronic Bilateral Parotitis.**—Symmers reports five cases occurring in the insane and discusses their probable causes. The first one he thinks was a stigma of degeneration, the second, third and fourth had a history or suggestion of syphilis and in the fifth there was a history of ulcerative laryngitis which may have been responsible.

11. **Tea and Coffee Intoxication.**—King calls attention to the tea and coffee inebriates and reports two cases. He thinks we should bear in mind this possibility in the study of our cases, especially if the symptoms are such as would suggest it. In the treatment the essential point is to stop the habit. Other methods are only symptomatic. It does not seem to lead to organic disease like alcohol, though in the insane asylums of Ireland tea excess is considered as a prominent cause of mental disorder.

12. **Contagion.**—In this special article, Du Bois-Reymond uses a sort of mathematical method in the study of the spread of disease by contagion, especially tuberculosis, which he considers practically non-contagious as compared with such diseases as measles, which he also uses as an illustration. What we need in the fight against tuberculosis is not so much restoring the health of the individual as it is to decrease the number of predisposed individuals. We can not kill them, but the best thing to be done is to keep in mind the prophylaxis of the disease, especially in children. The entire rising generation ought to be trained from birth upward to the use of fresh air, bathing, sunshine and breathing gymnastics, and individual dwellings converted into sanatoriums.

Philadelphia Medical Journal.

January 31.

13 The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Lawrence F. Flick.
14 *Tropical Dysentery. Charles F. Kieffer.
15 *Insanity Among Soldiers of the American Army in the Philippine Service. A. B. Richardson.
16 *The Relation of the Prefrontal Lobes to Mental Function. Charles W. Burr.
17 Case-Book Record of 183 Operations on the Mastoid Bone. Levi J. Hammond.

14. **Tropical Diseases.**—This second lecture by Kieffer is devoted to the various forms of dysentery, endemic or amebic, epidemic or bacillary, sporadic, traumatic, etc.

15. **Insanity Among Soldiers.**—Richardson gives the results of experience at the Government Insane Asylum with returned insane soldiers from the Philippines. Only 260 out of 396 cases sent home as insane reached the hospital. Nearly all the remainder were found to be practically recovered when they landed or recovered while at the Presidio, California, and were returned to duty. A few were discharged for disability, and a very few died. Out of the total of those received at the hospital, 187 were discharged as recovered up to June 30, 1902, and 14 discharged as improved, 6 died and 112 remained under treatment. The recovery rate is therefore high. The form of the disease was largely melancholia, which Richardson considers in a large majority of cases should be included in the Kraepelin classification as exhaustion and infection psychoses. Nearly all of the cases had been in service only one or two years, and there have not been half a dozen veteran soldiers received since the commencement of the Spanish-American war. He considers that the popular impression of the prevalence and unfavorable character of insanity among American soldiers in the Philippines has been greatly exaggerated.

16. **The Prefrontal Lobe.**—The relation of the prefrontal lobes to mentality is discussed at some length by Burr, who goes over the opinions of others and reports a case of tumor of this region. He does not derive the opinion from his study that the prefrontal region is the center of mind, but favors the view that it is in closer relation with the mental processes than some other parts of the brain.

Medical Record, New York.

January 31.

18 *The Open-air Treatment of Syphilis. Edward H. Douty.
19 A Case of Disease of the Acoustic Nerves, Causing Profound Deafness, Accompanied at a Later Stage by Pleuritic Effusion and Fibroid Phthisis—Recovery. D. B. St. John Roosa.
20 *The Principles of Protection Against Roentgen-Light Dermatitis. Carl Beck.
21 Maritime Quarantine Without Detention of Non-infected Vessels from Ports Quarantined Against Yellow Fever. Edmond Souchon.
22 *On the Solarization of the Nude Body by the Sun and Electric Arc Light Rays, and the Physiological and Physical Influence of These Rays on Iron Preparations after Their Internal Administration. J. Mount Bleyer.
23 *A Treatment for Spina Bifida, with the History of a Case. Frederic Griffith.
24 A Case of Carbolic-acid Poisoning. G. G. Marshall.
25 The Hereditary Influence in Nystagmus Remarkably Illustrated. Isaiah Frank.
26 A Case of Eclampsia. P. P. M. Jorgensen.
27 The Treatment of Diseases of the Liver. H. Richardson.

18. **Syphilis.**—Douty's article is a plea for the open-air treatment for the first six months or a year in many cases, and if possible for two years. He has noticed that a large proportion, 30 per cent. or more, of men patients who have phthisis were syphilitic, and other observers report similar figures. He thinks that a syphilitic should certainly devote one year to an open-air life, the Alpine region with its pure air, and stimulation of metabolism is especially favorable for such cases. In his experience well-to-do persons who led an out-of-door life generally suffered lightly from their syphilis.

20. **The X-Ray.**—Beck believes in idiosyncrasy as a cause for *x*-ray injuries, and in the tentative use of the rays to determine this. He advises a first exposure of five minutes with a soft tube and light just strong enough to show the carpus of the operator black without structural details. After a week, repetition of the exposure, lasting ten minutes. If after the third exposure, two weeks from the first, no reaction has occurred, the patient is apparently not susceptible. During the tentative exposures the distance from the tube should be five inches and the vicinity of the irradiated area should be protected. He reports and illustrates a case showing the effects of the *x*-rays in malignant disease, and in such cases he did not use the tentative exposures, applying the tube as near as possible to the diseased area, not exceeding two inches. After a slight erythematous reaction has occurred, within the immediate vicinity of the growth, the distance is increased for the following seance, the rays reaching a larger surface. When this widened field also becomes erythematous, the rays should be stopped for a few days until the erythema shows signs of disappearance, though it is not advisable to wait until the last little sign of dermatitis has vanished. He thinks the farther the carcinomatous infiltration has extended, the more resistance to dermatitis exists. This non-susceptibility seems to be greatest in the fibroid variety of carcinoma. With extensive ulceration, causing retention of pus, the irradiation should be continued until the area is fully exposed and the necrosed tissue is curetted away. Without this, the power of the rays is not only inhibited, but toxemia from local decomposition is added to cachexia. He does not consider that the production of dermatitis in the treatment of malignant disease is desirable, but with our present means, the use of the rays should be thorough enough to produce dermatitis, which is unavoidable. His experience shows that whenever the dermatitis has appeared the size of the growth has diminished, edema and pain have decreased, and the general condition has been improved. Of course, in operations for hypertrichosis or for similar superficial growths the condition is somewhat different. In conclusion he calls attention to the advisability of prophylactic irradiation shortly after removal of malignant tumors.

22. **Therapy of the Air and Light Treatment.**—Bleyer thinks that exposure of the nude body to the light has a decided effect on the action of iron given internally, greatly assisting its remedial action.

23. **Spina Bifida.**—Griffith reports the case of an infant in which an operation was performed for spina bifida at the age of less than 4 months. The child was kept in the inclined position, head down forty degrees, during the operation without any bad effect. The general anesthetic used was ether. The child seemed to do well for three of four days, during which the inclined position was maintained, but then some threatening symptoms appeared, which were accounted for by the extensive drainage of the cerebrospinal fluid. The cause of death was an accident, the child falling from its mother's arms. Griffith thinks, from a study of the case, that in the future he would be justified in attempting more or less active operative procedures, bearing in mind the delicacy of the subject. He is especially impressed with the value of the inclined position in the treatment of these cases. Slung by the legs, assisted by the child's nightgown, drawn together below the feet, thus equalizing pressure, the child will be found to have adequate movement on the face or side. Nursing and all necessary toilet procedures can be readily accomplished in this position, and if so held until healing is well established, greater hopes for a successful issue seem possible. To overcome the siphon action of dressings, it would seem advisable to hermetically seal the urea surrounding the wound from the rest of the dressing by means of rubber tissue dissolved about its edges with chloroform, or by collodion upon cotton.

Boston Medical and Surgical Journal.

January 29.

28 *Chylous Ascites. Report of a Case Due to Total Occlusion of the Thoracic Duct. Perley P. Comey and Wm. W. McKibben.
29 *Lesions of the Tibial Tubercle Occurring During Adolescence. Robert B. Osgood.
30 *The Side Chain Theory. Addison S. Thayer.
31 *The Open-air Treatment of Syphilis. E. H. Douty.
32 A Report of Eleven Cases of Morbus Coxæ Senilis. W. E. Blodgett.

28. **Chylous Ascites.**—In the case reported by Comey the cause of the trouble was a chronic lymphangitis, involving some eighteen inches of the thoracic duct and completely occluding it. The pathologic part of the article is written by McKibben, who seems inclined to suggest the tubercular origin and that it may have been due to the revival of some old focus of infection.

29. **Lesions of the Tibial Tubercle.**—The following are the conclusions of Osgood's article:

The adolescent tibial tubercle, from its situation and mode of development, is susceptible to injuries, especially in athletic subjects. These lesions are usually caused by a violent contraction of the quadriceps extensor. Fracture and complete avulsions of the tubercle are rare, cause loss of function, and are easily diagnosed, usually clinically and always by means of the *x*-ray. Avulsions of a small portion and partial separation of the tubercle are more common. They do not cause complete loss of function, but without treatment, long-continued serious annoyance. The diagnosis should

be made by a combination of the clinical and *x*-ray pictures, and before the latter are accepted as evidence both knees should be skiagraphed and accurate technic observed.

30. **The Side Chain Theory.**—Thayer describes the modern theories of immunity, especially the side chain theory of Ehrlich, and remarks in conclusion in regard to his contention that every toxin, every parasitic bacterium and every variety of animal cell has its own specific affinity in side chains of the corporeal protoplasm, that if this be granted it is conceivable that under favorable conditions immunity may be established against anything. One has only to irritate the cell in the proper way and it will furnish specific side chains for every irritant.

31. **Syphilis.**—See also ¶18, above.

New York Medical Journal.

January 31.

33 *The Treatment of Acute Septicemia by the Intravenous Infusion of a Solution of Formaldehyde, with Report of a Case. Charles C. Barrows.
34 *Rectal Fistula Curable Without Operation. A. Rose.
35 Report of a Case of Intestinal Obstruction Due to Meckel's Diverticulum. J. S. Price.
36 Fourteen Cases of Smallpox from the Buffalo Epidemic of 1901-1902. D. E. Wheeler.

33. **Formaldehyd in Septicemia.**—Barrows reports a case of puerperal streptococcus septicemia in which he used two intravenous infusions of 500 and 750 c.c. of a 1 to 5,000 aqueous solution of formalin with remarkably good results. He quotes from Maguire as to the safety of such injections, often in much larger proportions than those above given, and also his authority that in the quantity of 1 to 200,000 it is an efficient germicide. Barrows cautions against the indiscriminate use of the method where proper blood cultures are lacking. The success will depend on its correct and scientific application. The case reported is that which has caused a good deal of comment in the daily press, and has been utilized rather sensationally by lay reporters. See editorial in THE JOURNAL, February 7.

34. **Rectal Fistula.**—Rose reports a case of rectal fistula completely cured by the use of applications of carbonic acid gas, and offers the case as an illustration of a probably valuable treatment in such conditions.

St. Louis Medical Review.

January 24.

37 *Corsets and Their Cause: A Case in Point. Fayette C. Ewing.

37. **Corsets.**—The charges against the corset and tight lacing are, in a measure, opposed by Ewing, who reports the case of a young lady who had worn corsets since the age of 8, and had a typical fashion-plate figure, a magnificently developed bust and middle chest and a pronouncedly tapering lower chest, with hooped ribs extending clear down to the liver and crest of the ileum. The liver was displaced downward two inches. The breathing capacity was 32 to 34 inches in the upper chest, somewhat more in the middle and only 23½ to 26 in the lower chest. The expansion of the middle chest, he remarks, is specially interesting, in light of our knowledge that the region is usually incapable of as much expansion as here shown in the average slender woman. The lady, according to her accounts, never suffered from any ill health, though she had a cardiac murmur without any history of rheumatism. She had never been in the habit of practicing deep inspiration. Ewing discusses the cause of the popularity of the corset, and thinks it is in the doctrine of antithesis. Men and women instinctively admire their opposites.

Cincinnati Lancet-Clinic.

January 31.

38 Expectorants. Robert Ingram.
39 The Medical Profession. J. W. Axline.
40 Half-Inch to Inch Incision in Appendectomy. Evan O'N. Kane.
41 Coughs and Their Treatment. Alex. DeSoto and C. W. Crimpton.
42 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Medical-Fortnightly, St. Louis.

January 26.

43 Diagnostic Points of Difference between Spermatorrhea and Seminal Pollutions. F. R. Sturgis.
44 *Report of Cases Treated with Roentgen Rays. (Continued.) Wm. Allen Pusey.
45 Diseases of the Pulmonary Vessels. Albert Abrams.

44. **The X-Rays.**—Pusey continues his report of cases treated with the *x*-rays, giving an account of a number of consecutive cases of epithelioma, all of which he thinks can be considered as successes. He can not say that recurrences will not occur, but the character of the scars do not indicate that this is likely, and if they do occur *in situ* there is every reason to believe their management will be less troublesome. He does not believe any other treatment can show such results, and his experience in epitheliomas has given him great confidence in the method. Thus far he has had no case in which the disease has failed to yield, and usually promptly. The scars are soft, free from induration, smooth, and of the color of the normal skin or white, and absolutely healthy looking, in fact there is almost no scarring.

Pennsylvania Medical Journal, Pittsburg.

January.

46 *Food Adulteration; Its Extent and Control. John Hamilton.
47 Hodgkin's Disease, with the Report of a Case. Thomas C. Ely.
48 The Treatment of the Infectious Diseases. Adolf Koenig.
49 *Infant Feeding. Adelaide M. Underwood.
50 *Amputation Through the Shoulder-Joint as a Routine Procedure in Axillary Carcinoma, Secondary to Mammary Tumors. John B. Roberts.
51 *Empyema, with Special Reference to a New Method of Drainage. Leon Brinkman.
52 *Polypoid Growths in Children vs. Prolapse. Lewis H. Adler, Jr.

46.—See abstract in THE JOURNAL, xxxix, p. 930.

49.—Ibid.

50. **Shoulder-Joint Amputation in Carcinoma.**—Roberts calls attention to his former advocacy of disarticulation of the arm at the shoulder joint as the routine method in all cases in which axillary carcinoma occurred secondary to excision of the breast for malignant disease. He reports a case operated on in 1899, in which the arm was ultimately removed, but the patient died. He had hoped to save the limb, but if he had had better knowledge of the case he would have started with the intention of removing it. The points he specially desires to emphasize are that this amputation should be adopted as a routine measure in all axillary carcinomas secondary to malignant disease of the breast, and that the subclavicular arteries and veins should be ligated above the clavicle before disarticulation. Then the arm should be cut off and the lymph nodes and other affected tissue removed. A flap from the outer aspect of the arm may be retained to cover the axilla and chest if needed. He also notices cases of this method of operating reported by Mynter and Dent.

51. **Empyema.**—The new method of drainage here suggested is a modification of the ordinary rib resection. The incision is identical with that commonly used; the skin, superficial fascia and muscles divided as before and the ribs exposed; from here on the method differs in that the blunt retractor is not introduced directly into the chest cavity, but is carefully pushed under the rib between it and the pleura, leaving the pleura intact; the rib is excised and in this manner each rib dealt with until the requisite number have been removed. An incision is then made through the parietal pleura parallel with the incision in the skin, the fluid evacuated and a careful survey of the chest cavity made to determine if the lung be adherent to the upper part of the chest cavity. In this case the adhesions can be separated and the lung allowed to expand. The chest cavity is not washed out, which he thinks is not only unnecessary, but dangerous, having in some instances induced fatal syncope. The operation is completed by stitching the pleura to the skin, thus allowing a large and free outlet to the succeeding secretion. In order to avoid injury to the diaphragm, the incision in the pleura should be made from above downward, and the finger introduced into the chest cavity to assure the reaching the lowermost point. It is possible extensive thickening of the pleura and softening may cause difficulty in suturing to the skin, but Brinkman thinks this is hardly likely. There is but one possible objection, which is that occasionally it will be found

necessary to freshen the edges of the wound and approximate the divided surface after suppuration has ceased. In 22 cases done in the above way, the period of convalescence varied from three weeks to five months in the longest period of duration of the purulent discharge. Brinkman summarizes the benefits of the procedure over the ordinary one, in the simpler operation; a large opening, through which the secretion will find exit without the use of tubular drainage, which most commonly is responsible for the continuance of the discharge, no danger that the tube will drop within the chest cavity and be a source of future trouble, and that the period of invalidism is curtailed, thereby minimizing the drain on the system. Inspection of the progress within the chest cavity is possible at all times, and a tendency to the formation of pockets can be eliminated.

52. **Polypoid Growths in Children.**—The object of Adler's article is to call attention to the fact that polypoid growths in children are of much more frequent occurrence than generally believed, and that errors of diagnosis are often made in considering such protrusions, when they occur at the anus, as cases of prolapse. Many cases undergo a spontaneous cure without coming under the surgeon's notice. In size they vary from that of a pea to that of a butternut. Larger ones are occasionally met, but they are exceptional. Intussusception is not an uncommon complication due to the presence of polypi in higher portions of the intestine. A polypus high up in the rectum is generally not attended with any marked symptoms, but when it is low down its presence gives rise to a sensation of fulness and distress in the anal and sacral regions, and bleeding may also be present and of considerable diagnostic importance. The only conditions that could confuse the diagnosis are hemorrhoids and prolapse, and an examination after an enema will usually suffice to clear away all doubts. The only plan to be recommended is removal. It is not safe to cut or tear polypi on account of the possible hemorrhage, and ligature application is not easy. The clamp and cautery may be employed, but the procedure is rather formidable. The ligature may be used, but the simplest method is to grasp the pedicle close to its base with hemostatic forceps and with another pair applied to the balance of the pedicle to gently twist the uppermost one until it comes away. This avoids hemorrhage, pain and long confinement to bed. If the polypus is of considerable size, or if its pedicle is broad and short, a ligature or clamp and cautery should be employed.

St. Louis Courier of Medicine.

January.

53 Infantile Palsies, with Diagnostic Table of Other Nervous Affections. W. L. Johnson.
54 *The Weight of Infants as a Diagnostic and Prognostic Means. John Zahorsky.
55 *The Gruber-Widal Reaction Often a Misleading Factor in the Diagnosis of Typhoid Fever. O. E. Lademann.
56 *Bright's Disease Benefited by the Use of Apocynum Cannabinum. R. R. Paine.
57 Malformation of the Heart. Bernard W. Moore.
58 Spina Bifida Associated with Hydrocephalus. A. Levy.
59 Gunshot Wound of the Stomach. Frank G. Nifong.
60 Systemic Gonorrhea. Joseph L. Boehm.
61 Professor Adolf Lorenz in St. Louis. F. B. Hall.

54. **The Weight of Infants in Diagnosis and Prognosis.**—Zahorsky figures out the proper growth of infants, giving tables for children artificially and breast fed, and insists on the importance of variations from these scales. In case of loss of weight for one or two weeks, the question of infectious disease should be considered as well as of inefficiency of food supply or disturbance of digestion or metabolism. The quantity and quality of the breast milk must be examined and the condition of the gastrointestinal tract examined, the vomitus, stools, the mouth, and a physical examination of the abdominal organs. The metabolism is studied by urine examination. He calls special attention to the importance of daily weighing the baby for the purpose of adjusting therapeutic measures in infantile disturbances. A continued loss means that our treatment does not succeed, while a corresponding gain speaks favorably. He mentions, however, that a possible error may be due to infantile edema and the loss that necessarily follows change of food. If, in spite of all care, the infant loses in weight and the digestive disturbance is not worse or better, there is good ground for suspecting latent tuberculosis or syphilis.

55. **The Widal Reaction.**—Lademann criticises the technic of the Widal test, claiming that it is by no means a pathognomonic sign of typhoid, but may occur in other conditions, such as sepsis, icterus, etc. He does not denounce the Widal reaction, as it is of some aid if properly done, but denies it has a pathognomonic importance.

56. **Apocynum Cannabinum.**—Paine calls attention to the utility of this drug in Bright's disease and reports a case which was greatly relieved. He thinks we should utilize it in these cases for making life more endurable, though not absolutely a curative agent.

American Journal of Obstetrics, New York.

January.

62 *Personal Views of the Surgical Treatment of Perforated Gastric Ulcer, with General Infection of Peritoneal Cavity. Henry Howitt.
63 The Mechanism of Labor, and Instrumental Assistance When the Head Is Transverse in the Pelvic Brim. William Gillespie.
64 The Mechanism of Labor in Posterior Positions of Vertex Presentations. Sigmar Stark.
65 *Removal of Vesical Papilloma Through an Incision in the Septum with the Patient in the Knee-Chest Posture. Howard A. Kelly.
66 Malformations of the Uterus. R. S. Hill.
67 A Report of Two Cases of Pregnancy Complicated by Severe Heart Lesions. William R. Nicholson.
68 Treatment of Gonorrhea in the Female. William B. Small.
69 *Puerperal Eclampsia. Edward T. Abrams.
70 Hernia of the Uterus, Both Ovaries—One of These Being Cystic—Fallopian Tubes, Bladder and Rectum in a Sac Formed by the Vagina. Manning Simons.
71 *Etiology and Prophylaxis of Lesions of the Female Pelvic Tract Following Labor. Edward J. Ill.
72 Rupture of the Urinary Bladder. John W. Keefe.

62.—See abstract in The Journal, xxxix, p. 854.

65. **Vesical Papilloma.**—Kelly reports a case of removal of malignant papillomatous growth in the interior of the bladder by his operation of incision of the septum, with the patient in the knee-chest posture. He quotes cases as showing the wide applicability of this method on account of the lack of vascularity of the bladder and the direction of the hemorrhage, the thinner wall, the possibility of everting the vesical walls into the vagina and the security of resection and suturing in this way. Lastly, the easy removal of the stitch through the speculum, which makes it possible to use silk or even fine silver-wire ligatures and sutures in the bladder.

69. **Puerperal Eclampsia.**—Abrams sums up the treatment in the word word "elimination," which can be effected, as regards immediate results, in any patient by blood-letting followed by infusion and transfusion of saline solution. If the patient is anemic, do not bleed, but use the saline solution alone. The uterus should be emptied later.

71. **Pelvic Lesions Following Labor.**—Ill discusses the various accidents following labor and calls special attention to the danger of using the forceps before the cervix has become retracted, as more frequently producing serious conditions than many other operative mistakes.

International Medical Magazine, New York.

January.

73 *Diet After Abdominal Operations. Wilmer Krusen.
74 *Diet in Rheumatism. G. O. Jarvis.
75 *The Dietetic Treatment of Contracted Kidney. Carl von Noorden.
76 Some General Considerations Concerning Diet in Diseases of the Digestive System. Boardman Reed.
77 Amblyopia Due to the Use of the Common Accessories of Diet. Walter L. Pyle.

73. **Diet After Abdominal Operations.**—The importance of the after-treatment of abdominal surgical cases is insisted on by Krusen, who advises the use of one or two teaspoonfuls of hot water only, every fifteen minutes or half hour, after twelve hours, to relieve the thirst, but a still better way is to give a rectal enema of a quart of normal saline solution immediately after the operation. This causes a remarkable alleviation of thirst, as well as the reduction of vesical irritability. Food is usually first administered at the end of forty-eight hours, and may be given by the rectum if the patient is feeble, before that time. The peculiarities of the case and

the tolerance of the stomach must be the guide. The first food should be a teaspoonful of either hot weak tea, beef juice or liquid peptonoids. Milk is a bad food. Good home-made beef tea or any of the numerous concentrated beef jellies may be given in teaspoonful quantities on the second day. Egg albumin is tasteless and nutritious. It is not advisable to give alcoholic stimulants by the mouth, as hypodermics of strychnia and hypodermoclysis of normal saline solution are better. He quotes Penrose, who advises buttermilk as one of the best foods to begin feeding the patient with. It relieves thirst and is more readily digested than milk; one-half to an ounce may be given every hour until the retentive power of the stomach is ascertained. He has found that clam juice or plain clam broth will be retained, and hot oyster soup without the oysters is often acceptable. When rectal nourishment is needed the surface must be cleansed from all mucus and feces and irritation allayed as far as possible. The quantity and quality of the food should be such that it will not excite peristalsis and yet allow of complete absorption. Only such materials should be employed, otherwise they will be irritants. Ewald recommends the following prescription: Beat the whites of two eggs with a tablespoonful of cold water, add a teaspoonful or two of starch boiled in a half teacupful of a 20 per cent. glucose solution. Mix at a temperature below the coagulation point of the albumin. Other things have been advised; meat juice, egg albumin, and peptones, and Senn has cited the use by Kummell of forced nutrition by the subcutaneous injection of sterilized olive oil under the fascia of the thigh in quantities varying from 40 to 60 grams. From the third to seventh day, if the patient is doing well, a soft diet may be given, soft boiled eggs, milk toast, chicken, mutton or beef broth, soups, custards, and jellies and usually after the first week an ordinary diet is allowable.

74. **Diet in Rheumatism.**—Jarvis sums up the diet in rheumatism as a liberal meat diet, cooked by being either broiled or roasted and served rare as being more rapidly digested. Meats should not be boiled until all the salines have been dissolved out of them. Eat carbohydrates in moderation and selected so as to avoid those likely to undergo pathologic fermentation in the digestive tube. Fats in rather small amounts. Water in plenty, and especially some between meals. Alcohol should be prohibited unless it is absolutely impracticable, and only one cup of coffee or tea allowed daily.

75. **The Diet in Contracted Kidney.**—Von Noorden believes in shielding the kidneys from irritation and first of all would exclude alcohol. Unless prescribed, the patient should be instructed that it is a dangerous poison. Most spices should be prohibited, not, however, including salt, vinegar and lemon juice. It is difficult to say just what substances are always harmful, but he would eliminate the following until their non-injurious character is established: White and black pepper, cayenne pepper, paprica, curry, cloves, vanilla (?), nutmeg, English and German mustard, anise, leek, garlic, caraway, knob celery and table celery, asparagus (?), mushrooms (?), morels and truffles. Coffee, tea and tobacco are injurious irritants, though he would not say they should be completely withheld. Restriction should not be delayed, however, until the injurious effects actually appear. The common belief that white meat only should be allowed is objected to by Von Noorden, and he finds it is much easier to get along with a diet selected so as to include dark meats. The allowance of water should be restricted, at least in many cases, as in cardiac disease. According to his experience, it is well to restrict the quantity of fluid to one and one-fourth liters, this to include everything taken in liquid form. This may be difficult in practice and makes special trouble in home treatment. He advises allowing the patient to drink as much water as he chooses one day in the week. If the disease has become incurable, there is no use in aggravating the patient by unduly restricting the diet, but over-feeding is dangerous. The amount should ordinarily be regulated to 4/5 of the calculated normal diet. It is not usually advisable to carry restrictions beyond this point. It is better to prescribe many small meals than a few large ones. As a rule nothing need be eaten between early breakfast and midday dinner but a light lunch, and nothing between dinner and supper but a few mouthfuls late in the afternoon to decrease the appetite for the two chief meals of the day to such an extent that the patient is not in danger of eating too rapidly or of eating too much at one sitting. In more advanced stages of the disease, when the heart is beginning to grow weak, it is best to insist on a light meal every two hours.

Journal of Cutaneous Diseases, New York.

January.

78 *Dermatitis Coccidioides. Douglass W. Montgomery, H. A. L. Ryfkogel and Howard Morrow.
79 *Report of a Case of Favus of Scrotum, Coexisting with Ringworm of the Thigh, Giving Identical Trichophyton-like Cultures. A. D. Mewborn.
80 A Case of Cutaneous Blastomycosis, Followed by Laryngeal and Systemic Tuberculosis—Death—Autopsy. Frank H. Montgomery.
81 Fibrosarcoma Cutis. James C. Johnston.
82 The Proposed Dermatological Reform. M. L. Heidingsfeld.

78. **Dermatitis Coccidioides.**—The history of a case, with findings, is fully reported by Montgomery, Ryfkogel and Morrow. The patient suffered from an eruption and enlargement of limbs, with irregular pigmentation, papules, pustules and nodules, involving various parts, the neck, ear and elsewhere, and a superficial elephantiasis with no active inflammation and very little discomfort. The condition broke down into an offensive ulceration with severe pain, fever and rapid respiration, in spite of treatment by the *x*-rays and other methods. The patient finally succumbed. The postmortem revealed a sort of miliary disease of the lungs, resembling tubercles, and extensive areas of broncho-pneumonia. The organism found has a double cycle of growth, one in the tissues and the other in the culture media, which have no features in common, thus differing markedly from blastomycetes. In the tissues it takes the form of a sphere between three and one-half and five microns in diameter, surrounded by a clear, double contoured capsule, the outer wall covered with spines. The smaller capsules have clear or granular contents, the larger one are filled with endogenous spores. Some have a clump of large granules in their center, and frequently they rupture, setting free the granules or spores. The spores are circular, clearly defined, largely refractive and every stage from this sphere to the adult body can be traced. No micropyle has ever been found in the capsule. Frequently when stained with carbol-fuchsin the capsules resist decolorization with acid. Besides the absence of budding, the much larger size of the bodies and their greater number in the tissue distinguish this organism from the blastomyces. In cultures two or three mycelial threads will be seen to spring from a medium-sized capsule, and rapidly branch, and henceforth their life cycle is of the extra-corporeal type, which is that of a mould fungus. In bouillon it appears like fluffy thistledown, and on solid media it is at first white and shiny, and if the media be dry, it sends off aerial hyphæ, forming a fluffy growth particularly well seen on potatoes and carrots. It grows rapidly on all the ordinary media, and liquefies gelatin slowly. It is not anaërobic and does not form gas on any of the sugars. In cultures no coccidial-like bodies are found and no budding forms have been observed. Inoculation experiments proved fatal to guinea-pigs, with lesions of the lungs, peritoneum, kidneys and a general adenopathy without febrile reaction or leucocytosis. The guinea-pigs emaciated rapidly and great numbers of organisms were found in the pus.

79. **Favus.**—Mewborn thinks the same trichophyton produced in different parts of the body two clinically-distinct diseases, favus and ringworm. It appears that the cup-form of favus is due to lack of best suited conditions of the soil. This agrees with the results of experimental study by Bukovsky.

Proceedings of the Philadelphia County Medical Society.

December 31, 1902.

83 *Symposium on the Therapeutic Status of the Coal-Tar Products. Wharton Sinkler.
84 *Coal Tar and Its Derivatives in the Treatment of Diseases of the Skin. M. B. Hartzell.
85 *The Therapeutic Status of the Coal-Tar Products in Central Nervous Affections. F. Savary Pearce.

86 Another Case of Aortic Aneurism Treated by Electrolysis. H. A. Hare.
87 Report of a Case of Twin Pregnancy, Polyhydramnios and Anencephalic Monstrosity. Anna M. Reynolds.
88 *Two Cases of Perforation in Typhoid Fever with Inconclusive Symptoms. James Hendrie Lloyd and Thomas L. Coley.
89 *The Physical Signs and Symptoms of Gastroptosis. Albert P. Francine.

83.—See abstract in THE JOURNAL, February 7, p. 396.

84.—Ibid.

85.—Ibid.

88. **Typhoid Perforation.**—Lloyd and Coley report two cases, in neither of which were the symptoms conclusive or diagnostic, and gave little evidence of the presence of perforations and fecal accumulations in the abdominal cavity. There was pain, but not characteristic, vomiting with more or less abdominal rigidity and later tympanites. He thinks there is need of the careful observation of cases in view of the importance of early diagnosis of perforation of typhoid fever.

89. **Gastroptosis.**—The method of determining dilatation of the stomach, recommended by Francine, is inflation with air through the stomach tube, following lavage, and outlining the stomach by percussion. Special points in the diagnosis are mentioned. Diastasis of the recti muscles should be looked for as an important sign. The blood is usually negative in these cases and the stomach contents usually show subacidity. The urine has been negative, except in the bad cases, where there is excessive elimination of the ethereal sulphates and the presence of oxalates. The presence of a floating tenth rib, considered by Stiller as pathognomonic, seems to Francine to indicate more a special weakness or anomaly in the individual. It is too infrequent to justify much stress being laid on this particular point. The same is true of the splashing sound. The characteristic symptoms of gastroptosis are those of motor insufficiency plus nervous influences. These two react on each other. In so-called primary cases they consist chiefly in distress and flatulence after meals. When general dilatation exists there is apt to be more retention, functional disturbance, gastric pain, nausea, vomiting and some marked autointoxication. There may be palpation of the heart and dyspnea. The pain may be due to associated gastric catarrh or to hyperacidity or to pressure on the solar plexus from the dropping of the stomach. Pain in the back or lumbar region and a sense of dragging of the abdomen are frequent symptoms. Headache, weakness, drowsiness and malaise are often present. Constipation is the rule, though it may be alternated with diarrhea, and diarrhea alone may be present. Nausea on rising may be complained of. Palpitation of the heart, dyspnea and vomiting are not uncommon; anorexia may exist. There is usually some loss of flesh, coated tongue, cold hands and feet, dizziness, numbness of the extremities, etc. There are also various nervous symptoms. The gastroptotic neurasthenic female is a manufacturer of symptoms. Gastric crises, described by Dietl, may consist in attacks of gastric tenderness and pain with slight rise of temperature and transitory jaundice. They have been variously explained as being due to torsion of the pedicle of the kidney, kinking of the duodenum, and recently Stengel has suggested that they may be due to direct pressure of the kidney on the duodenum. The constitutional and neurasthenic picture is very similar to that due to displacements of the uterus, and probably many cases which have fallen into the hands of gynecologists are really suffering from gastroptosis. The author suggests that the two frequently go hand in hand. More attention should be directed to the stomach in these cases; sometimes attention to this point will cause complete relief of all the symptoms.

Maryland Medical Journal, Baltimore.

January.

90 *The Value of an Accurate Knowledge of Arterial Blood Pressure to the Clinician. John Bradford Briggs and Henry Wireman Cook.
91 *Some Observations on the Bacteria of Ice Cream. Henrietta M. Thomas.

90. **Blood-Pressure Estimates.**—The value of an accurate determination of blood pressure in the various diseases is insisted on by Briggs and Cook. While the educated finger is the best assistant in a large proportion of cases it does not quite meet the demands where extreme accuracy is required. The discrepancy between the results obtained by the finger and those of the instruments of precision with the personal equation eliminated, will be surprising to any one who notes it for the first time. The special diseases in which they point out the value of the experiments are in cerebral hemorrhage, nephritis, and especially in obscure comatose conditions where the exact lesion is not readily determinable. The blood pressure may rise in intracranial hemorrhage to a much higher degree than is possible in nephritis, in fact beyond the recognition by the finger, and in the use of drugs which are intended to lower the arterial tension, the occasional use of the Riva-Rocci apparatus may be of great value. In the pseudo form of angina pectoris the knowledge of the actual blood pressure is of great assistance to distinguish it from the true form. Numerous other conditions, such as lead poisoning, gout, and diabetes are also mentioned. They do not wish to be understood as making extravagant claims for a blood pressure instrument nor as denying the value of the educated finger tips. No instrument can ever supplant the "tactus eruditus" but they believe any judgment concerning arterial tension will be a better reflection of actual conditions, if tactile impressions are supplemented by the sphygmomanometer.

91.—See abstract in THE JOURNAL, January 17, p. 179.

Indiana Medical Journal, Indianapolis.

January.

92 Report of a Case of Obstruction of the Bowels. L. H. Dunning.
93 *The Uses of Mydriatics. Eugene Davis.
94 Address, Training School for Deaconesses and Nurses at the Deaconess Hospital, Indianapolis. L. H. Dunning.
95 *Intubation of the Larynx, with Personal Reminiscences. F. E. Waxham.
96 *Epithelium and Albuminuria—A Synopsis. Frederick R. Charlton.
97 Tinnitus Aurium. L. C. Cline.
98 *A Century of Arm-to-Arm Vaccination in Mexico. Eduardo Liceaga.

93. **Mydriatics.**—The value of mydriatics in refraction work is specially emphasized by Davis. He thinks in astigmatic cases it is most essential. He has discarded homatropin for this purpose on account of its unreliability and expense, and prefers scopolamin. He prefers the one-grain to the ounce solution, three instillations before refraction.

95. **Intubation.**—Waxham gives his reminiscences of his early work in intubation, introducing it into private practice, which are interesting as illustrating the difficulties and prejudices which he met.

96. **Epithelium and Albuminuria.**—Charlton summarizes as follows:

Just in ratio to destruction of tubular epithelium will albumin be present. Acute parenchymatous nephritis: an active desquamation, but still an acute process, with much of the epithelium maintaining its integrity, hence albumin well marked (0.2-1) but not as high a percentage as in the chronic form. Chronic parenchymatous nephritis; extensive and generalized desquamation, advanced degeneration, lowered resistance, hence larger albumin (0.2-5). Chronic interstitial nephritis: a change in connective tissue with epithelial elements not directly involved, hence little albumin or none. Renal epithelium—the barrier sentinel to the escape of the serum-albumin—the clinical index to albuminuria.

98. **Vaccination.**—This article is a little mixed as to its apparent authorship. It seems to first argue for the efficiency of a single vaccination during life, which is Dr. Liceaga's opinion, as also his endorsement of the humanized vaccine. In the latter part of the article, which is signed by Drs. P. H. Bryce, Wm. H. Welch and Eduardo Liceaga, the history of vaccination is reviewed, and bovine vaccine, especially the glycerinized form, is studied. The principal thing that has been lacking has been the final testing on persons of the quality of each batch of lymph, but this lack must inevitably continue on account of the great demand, absence of a regular supply of persons for experimental purposes and the gradual deterioration of lymph and the necessity of delay in sending it out on account of the possibility of germs. The committee suggests that it would be advisable for the state boards to recommend for use to the local boards only the lymph of such firms as will agree to pay for the presence in their establishment of a trained officer, who could certify that all lymph sent to such state or province has been tested and found to meet all the require-

ments which science to-day demands for the preparation of a lymph of the highest degree of excellence.

The Post-Graduate, New York.

January.

99 *Final Results After the Mechanical Treatment of Pott's Disease. Henry Ling Taylor.
100 *The Microscope as an Aid at Operations. George M. Edebohls.
101 The Use of the X-Rays. James Y. Welborn.
102 The Lorenz Method. Henry L. Taylor.
103 Notes from the Clinics (Laryngeal Growths). Bryan D. Sheedy. Coin in Intestine, Fracture of Clavicle, etc. Inslee H. Berry.

99. **Pott's Disease.**—In 39 cases treated in private practice by the use of the Taylor apparatus where the cases were observed and the results recorded for ten years or more, it was found that:

1. The application of spinal support was nearly always promptly followed by the relief of pain and other acute symptoms, and by improvement in the general health.
2. The disease was cured in 33, and in a considerable number the cure was practically perfect as regards health, figure and function.
3. The result was good as regards deformity in half the cases; 13 cases showed arrest or decrease of deformity.
4. As regards the final amount of deformity, the location of the disease was more important than any other factor, the cervical region being the most favorable, the lumbar next, and the dorsal the least.
5. It was necessary to continue spinal support in most cases long after the pathological cure, owing to the tendency to increase of deformity from static conditions.
6. Ankylosis is therefore later, rarer and less extensive than is usually assumed.

100. **The Microscope in Operations.**—Edebohls remarks on the fact that the use of the microscope was apparently not an adopted procedure in surgical operations in England and France and points out some of the advantages derived from its use, the determination of the character of uterine scrapings, the nature of tumors, etc.

Journal of Eye, Ear and Throat Diseases, Baltimore.

November-December, 1902.

104 *The Treatment of an Infected Corneal Wound with Acetozone. J. F. Klinedinst.

104. **Acetozone.**—Klinedinst reports a case of infected corneal traumatism in which this agent was used with marked success. He has been surprised by the rapid manner in which acetozone controls bacterial infection and thinks that the ophthalmic surgeon has in this agent a germicide which is at once safe and more powerful than any other known. The solution of 1 grain to 2 fluid ounces is strong enough for the eye, though a stronger solution did not seem to do any permanent harm, and only caused greater temporary burning and pain.

Texas Medical News, Austin.

January.

105 *Non-Operative Treatment of Acute Appendicitis by the Ochsner Method (Exclusive Rectal Alimentation). Ernest J. Mellish.
106 The Lorenz Treatment for Congenital Dislocation of the Hip-Joint. R. W. Knox.
107 The Children: How to Examine and What to Look For. George L. Morgan.
108 The Prompt Action of Antidiphtheritic Serum Illustrated in the Histories of Two Cases. J. A. Pipkin.

105. **Appendicitis.**—Mellish advocates the use of Ochsner's treatment by rectal feeding and absolute deprivation of all food by way of the mouth, and elaborates on its advantages. He formerly used small doses of salines in most cases of acute appendicitis, with fair results, and was slow to adopt Ochsner's method in consequence. To show that gangrenous appendicitis can be safely treated in this way he gives a history of a case seen before he left Chicago, and he reports another case in his practice after reaching Texas, which, if operated on at the time, would undoubtedly have proven fatal, but was tided over by the starvation treatment. In order to get the best results from this method, one must have faith in it because it requires courage in the physician to carry it out in every detail. He concludes that treatment by exclusively rectal alimentation is indicated in all cases in which the diseased appendix can not be safely removed by surgical operation. Some points in its favor that are mentioned are that it can be employed by any practitioner under any circumstances, and in case of doubt as to the diagnosis of appendicitis the patient can be safely observed under this method. The conditions most commonly mistaken for appendicitis would be benefited by this treatment. If it is necessary to send a great distance for a competent surgeon, the patient's chances for recovery are not reduced by the necessary delay.

Colorado Medical Journal, Denver.

October, 1902.

109 Ocular Manifestations of Syphilis. George F. Libby.
110 Vaginal Hysterectomy Without Ligature or Clamp. Harlan Trask.
111 *Relapsing Septicemia. W. G. Lockard.
112 Neurasthenia. Edward C. Branch.
113 The Great Need of the General Practitioner. L. A. Robinson.
114 Nervous and Mental Phenomena of Arterio-capillary Fibrosis and Atheroma. J. E. Courtney.
115 Eruptive Fevers. T. J. Forhan.

111.—See abstract in THE JOURNAL, xxxix, p. 328.

American Practitioner and News, Louisville.

November 1, 1902.

116 The Present Status of Brain Surgery. (Concluded.) H. J. Whitacre.
117 Notes on Obstetrics by a Country Doctor. C. L. Venable.
118 Follicular Tonsillitis. M. F. Coomes.
119 Five Years' Experience with One Remedy in the Treatment of Typhoid Fever. W. R. Perry.
120 Typhoid Fever in the Country. B. F. Fyke.
121 The Treatment of Diphtheria with Antitoxin. W. W. Lasley.
122 Retention of Urine, with Report of Cases. E. M. Frey.
123 Gallstones: Report of a Case. W. R. Burr.
124 Paralytic Dementia. Ernest Rau.
125 The Most Practicable Organization for the Medical Department of the United States Army in Active Service. Thomas Page Grant.

Medical Age, Detroit, Mich.

January 25.

126 The Forms of Paralysis Associated with Epilepsy. Robert H. Chase.
127 Cough in Phthisis. M. E. Fitch.
128 Four Cases of Typhoid Fever in Which Acetozone Treatment Was Employed with Satisfactory Results. Charles E. Brack.

Physician and Surgeon, Detroit and Ann Arbor, Mich.

October, 1902.

129 The Use and Abuse of the Uterine Curette. Reuben Peterson.
130 The Symptomatology and Treatment of Typhoid Fever. W. P. Derck.
131 Widal Test and Treatment of Typhoid Fever. H. E. Randall.
132 Seminal Vesiculitis. Theodore H. Smith.

Proceedings of the New York Pathological Society.

December, 1902.

133 Cholesterin Giant Cells. F. S. Mandelbaum.
134 The Influence of Nephrectomy upon Absorption. S. J. Meltzer and W. Salant.
135 Demonstrations of Cultures of the Meningococcus and Micrococcus Catarrhalis. H. L. Celler.
136 Remarks on the Meningococcus and on Its Relationship to the Gonococcus and Micrococcus Catarrhalis. E. Libman.
137 Experiments Relating to the Fixation of Strychnin by Animal Tissues. G. Langmann and S. J. Meltzer.
138 Remarks on Vasomotor Nerves, with Demonstrations. S. J. Meltzer.
139 Glioma of the Brain. T. C. Janeway.

Fort Wayne Medical Journal-Magazine.

January.

140 Puerperal Eclampsia. H. V. Sweringen.

Oklahoma Medical News-Journal.

January.

141 Ectopic Gestation. W. Gill Wylie.
142 Administration of Ether. S. M. Hunter.
143 Points on the Preparation of the Skin for the Surgeon and Patient before Operation. Robert T. Morris.

Medical and Surgical Monitor, Indianapolis.

January 15.

144 Some Elements to be Considered in Urinalysis. (To be continued.) J. W. Crismond.
145 The Endosalpinx or Tunica Mucosa Oviductus. Byron Robinson.
146 Has the Medical Profession Kept Pace with the Progress of Civilization, or Has It Lost Its Prestige? (Concluded.) J. T. Montgomery.
147 Injuries of the Eyeball and Their Importance, Together with Some Cases Illustrating Same. John L. Masters.

Columbus Medical Journal,

January.

148 Recent Epidemic of Smallpox in Marion, Ohio. Robert C. M. Lewis.
149 Nasal Hemorrhage. J. C. Bishop.
150 Some Applications of the Principles of Infection and Immunity. (Concluded.) George F. Zinninger.
151 Hemorrhage from Rectum. Sherman Leach.

Toledo Medical and Surgical Reporter.

February.

152 Membranous Croup. William G. Dice.
153 The Treatment of Diphtheria. Charles L. Van Pelt.
154 Bow Legs; Their Treatment. W. V. Anderson.

155 Some Remarks upon Electrical Therapeutics. S. W. Beckwith.
156 Smallpox Experience. D. D. McNaughton.
157 Cynanche Maligna. J. T. Woods.

Charlotte Medical Journal.

January.

158 On the Diagnosis of Ectopic Gestation. H. A. Royster.
159 Report of My Own Case of Yellow Fever, in Progreso, Yucatan. Edward T. Hargrave.
160 Report of Some Surgical Cases Treated at the James Walker Memorial Hospital, Wilmington, N. C. Joseph Akerman.
161 Gonorrhea in the Male. F. R. Millard.
162 The Value of Palpation in Certain Abdominal Diseases. F. T. Meriwether.
163 Mastoiditis. Charles P. Jones.
164 New Method of Delivery by the Obstetrical Tractor. E. D. St. Cyr.

Kansas City Medical Record.

January.

165 Acute Tonsillitis. J. T. Mitchell.
166 A Successful Treatment of Rheumatism. H. H. Fletcher.

Southern California Practitioner, Los Angeles.

January.

167 Ventrofixation—Cause of Death in Childbirth. Fred. C. Shurtleff.
168 Goiter and Asepsis in Surgery of the Neck. Claire W. Murphy.
169 Surgical Treatment for Acute Gastric Hemorrhage. A. W. Morton.
170 X-Rays in Surgery. M. R. Toland.
171 Is Another Chapter in Public Phthisiophobia About to be Written? F. M. Pottenger.

Mobile Medical and Surgical Journal.

January.

172 Atresia of the Vagina. R. S. Hill.
173 Message of the Retiring President. Mobile County Medical Society. W. T. Henderson.
174 Address, Mobile County Medical Society. Chas. A. Mohr.

New England Medical Monthly, Danbury, Conn.

January.

175 Some Thoughts on Appetite and Appetizers. Samuel Green.
176 Tuberculosis—The Soil. H. H. Spiers.
177 Asthma, Intermittent Fever, Mastitis, Varicose Ulcer, Preparation of the Patient for Operation. R. K. Langson.
178 Relief of Cough in a Severe Case of Bronchopneumonia in an Infant. W. H. Murray.
179 On the Behavior of Soluble Silver (Collargolum) in the Body. J. L. Beyer.
180 Immunity. C. P. Robbins.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Bulletin de l'Academie de Medecine, Paris.

1 (December 16.) *Transmission parasitaire de la peste. Gauthier.
2 *Appareil pour narcose par inhalation de vapeurs de chloroforme dosées à l'aide d'un courant d' oxygène determiné. Guglielminetti.
3 Le nagana au Chari. Kermorgant.
4 L'arrhénal est-il un spécifique de paludisme. A. Laveran.
5 Sur l'appendicite. Lucas-Championnière.
6 Du traitement du pneumothorax et de certains épanchements pleurétiques par l'emploi d'un drain à valves formant soupape (valve). Boinet.
7 (December 23.) Annual Meeting. (See THE JOURNAL of January 10, p. 110.)
8 (December 30.) *Report of Permanent Committee on Hygiene of Children.
9 Report of Committee on Drugs, Dressings, etc., Required in Penal Institutions, etc.
10 Résultats obtenus par l'emploi des composés organométalliques de l'arsenic dans la malaria. A. Gautier.
11 *Les maladies de la demineralisation organique. L'anemie plasmatique. A. Robin.

1. **Transmission of Plague by Fleas.**—Gauthier has been experimenting at Marseilles in regard to the transmission of the plague by fleas. He found that the disease was certainly transmitted from rat to rat by these insects alone. Simple contact or promiscuous intercourse between the rats and infected rats or their cadavers never transmitted the plague in his experiments, while only one out of nine tests with fleas was negative. He also established that the fleas from the rats would bite human beings. The species of fleas found on the land rats was the *Pulex fasciatus*, but another species infested the ship rats, resembling more closely the ordinary flea, that attaches itself to human beings, only possibly a trifle smaller.

2. **Apparatus for Chloroform-Oxygen Narcosis.**—The exact amount of each substance can be gauged and either can be turned off at any moment. The apparatus has a long bag of thin rubber through which the chloroform and oxygen have to pass before reaching the mask. The suction in inspiration alters the shape of the bag so that the respiratory function can be estimated by its changes.

8. **Hygiene of Children.**—This report comprises over 150 pages and reviews all the articles, works and statistics presented to the Académie on this subject during the past year. It includes the report of the children that are charges of the state in its various asylums, etc.

11. **Maladies from Organic Demineralization.**—Robin advocates physiologic instead of chemical therapeutics. Its aim is not like that of the latter to supply what is lacking or neutralize what exists in excess, but it has the higher aim of restraining exaggerated excitability and arousing dormant activities. He proclaims that there is a group of morbid conditions in which one of the factors is a demineralization of the organism or the incapacity of the plasms and tissues to take up and retain the inorganic elements in the food. He recognizes five groups, one including pulmonary phthisis, another phosphorus intoxication, the third a special variety of hemoglobinuria, the fourth various cases of albuminuria which at first merely functional, may terminate in Bright's disease. These include the phosphaturic and dyspeptic albuminurias. The fifth group comprises the anemias, among which certain ones present the clinical aspect of chlorosis. The organic demineralization is evidenced by the increase in the mineral residue of the urine and in the coefficient of demineralization, with corresponding decrease in the proportion of minerals in the blood. Closer analysis will show that this demineralization affects the blood plasm, whose balance in salts is thus upset. The immediate result is either an alteration in the red corpuscles or delay in their renewal or loss of their activity, or all combined. The anemia in such a case might be called "plasmatic anemia," and it can be treated and cured with mathematical precision by restoring the balance of salts to normal. This can be easily accomplished in fifteen to fifty days, as he has proved by his experience. After the balance of the plasm in salts has been restored the red corpuscles soon recuperate under the influence of iron. In a case described gastric insufficiency with hypochlorhydria and secondary acid fermentations succeeding to years of gastric hypersthenia, had entailed profound anemia, which he proved to be of this plasmatic variety. He aroused the dormant glandular and muscular functions by a powder administered five minutes before eating, containing .05 gm. each of potassium sulphate and nitrate, which are stimulants for both the circulation and musculature; .3 gm. of sodium bicarbonate to stimulate the secretion of acid; .01 gm. of pulverized ipecac which acts on the muscular coat and the peripheral nerve center of the stomach, and .25 gm. of pulverized crabs' eyes for a mechanical stimulant. The doses are so small that their action is restricted to the gastric mucosa alone and here they produce a powerful effect. Bread and fermented foods were prohibited and also butter and fats which, by forming a protecting coating over the particles of food, prevent the action of the gastric juice on them. After the meal he administered a mixture of 5 gm. of tincture of ignatia which has a direct stimulating action on the contractility of the muscular coat, and just at the moment when the contents of the stomach require to be stirred up with the gastric juice; with 2 gm. of tincture of ipecac, supplementing this action and stimulating the glands, the mixture completed by 5 gm. of tincture of illicium, which adds its action to the preceding and disguises their bitter taste. Eight drops of this mixture were given in a tablespoonful of a solution of ammonium fluorid in the proportion of .2 gm. to 300 gm. water. This latter drug has the property in minute doses of suspending the activity of the figured ferments while it respects the soluble ferments. It thus checks abnormal fermentations due to the lactic, acetic or butyric ferments, while it does not affect the action of pepsin. In sixteen days the patient had gained five pounds and the stomach treatment was suspended. The remineralization of the organism was then commenced. Robin has been using for four years more or less the following combination for this pur-

pose, every ingredient of which has its definite purpose and efficacy. It contains besides the inorganic salts and iron, both lecithin and albuminoid and ternary substances: Chlorid of sodium, 15 gm.; of potassium, 10 gm.; phosphate of sodium, 13 gm.; of potassium, 6 gm.; glycerophosphate of lime and of magnesia and sulphate of potassium, each 1 gm.; carbonate of iron, .5 gm.; pulverized hemoglobin, 2.5 gm.; glycerophosphate of iron, 15 gm.; yolk of egg, 15 gm.; lactose, 10 gm.; casein, 5 gm.; pulverized ignatia, 1 gm.; and rhubarb powder, 4 gm. It is divided into 100 powders. One is taken before the two principal meals, increasing progressively, according to tolerance, to a maximum of 6 a day.

Centralblatt f. Bakteriologie, Jena.

12 (XXXII, 7.) *Weitere Studien über die Sterilisation von Trinkwasser (potable water) auf chemischem Wege. Engels (Marburg).
13 Weitere Studien über die Fällung des Caseins durch Lab und Lakto-Serum. P. T. Müller.
14 Beitrag zum von Drigalski-Conradi'schen Verfahren des Typhus-Bacillus-Nachweises und zum Identifizierung typhusverdächtiger Bacterien durch die Agglutinations-Probe. P. Kluger.
15 Zur quantitative Bestimmung der Wasserkeime (germs in water). W. Hesse.
16 Ueber die Färbung der Geisseln (flagella) bes. das Verfahren von van Ermengem. W. Kuntze.
17 (Nos. 8-9.) *Ueber kleinste Bakterien und das Durchwachsen von (growing through) Filtern. E. von Esmarch.
18 Zur Biologie der Anaeroben. K. Kominski.
19 Ein die Gelatine verflüssigender Pneumococcus. A. Kindborg.
20 Ueber das Vorhandensein der sog. säurelicbenden (acidophile) Bakterien im Stuhl des erwachsenen Menschen (in stool of adults). A. Cipollina.
21 *Syphilis und Malaria. R. Ruge.
22 *Neue Beobachtungen über die Larven von Anopheles und Culex im Winter. B. Galli-Valerio and Mme. Dr. G. Rochaz.
23 Ueber eigenartige Parasiten-Befund bei Syphilis. M. Schüller, Berlin. (Commenced in No. 6.)
24 Zur Kenntniss der Myxosporidien. L. Cohn.
25 Heronimus chelydræ. W. G. MacCallum.
26 Ueber befruchtete und unbefruchtete Ascariden-Eier (eggs) im menschlichen Kothe (stools). K. Miura.
27 *Ueber Hand-Desinfection. H. Bonhoff.
28 Ueber das bactericid. Vermögen des Fluor-Silbers (Tachiol Paterno) im Vergleich zum Silber-Nitrat, zur Karbol-Säure und zum Sublimat. H. Kercz.
29 Einwirkungen (action) von Mikroorganismen auf einige chem. Normal-Lösungen (solutions). H. Beck.
30 Zuchtung (cultivation) der Trichophytie-Pilze in situ. C. Plant.
31 Zur Züchtung der Infl. Bacillus. E. Czaplewski.
32 (No. 10.) Ueber ein dem Pest-Bacillus ähnliches (similar) Bakterium. B. Bristoleuse. E. Klein.
33 Case of Extensive Necrosis of Bone of Skull and Face with Pus Formation Produced by Hitherto Undescribed Microorganism. H. F. Harris (Atlanta, Ga.)
34 Ueber eine von einem atypischen Coli-Bacillus veranlasste typhus-ähnliche Haus-Epidemie hydrischen Ursprungs. V. Sion and V. Negel. (Commenced in No. 9.)
35 Zur Biologie der Influenza-Bacillus. A. Cantani.
36 Die Malaria perniciosa; Biologie und Morphologie ihres Erregers, Symptomatologie, etc. G. Maurer.
37 Cephalogonimus americanus (n. sp.). J. Stafford.
38 Ueber die Untersuchungen des Pockenerregers (agent of smallpox). K. Tanaka.
39 Zur Erforschung der Immunität durch die Vaccination. Ibid.
40 Biochemische und different.-diagnostische Untersuchungen einiger Bakterien mittels Phenol-Phthalein-Nährböden (culture media). R. Zielleczky.
41 (No. 11.) Les races colibacillaires. Etude de la seroreaction individuelle. G. Cany.
42 Fragen und Probleme der modernen Malaria-Forschung (research). R. Ruge.
43 Ueber Distoma goliath., etc. M. Braun.
44 Anti-Hydrophobia Substances in Man. R. Kraus and B. Kreissl.—Ueber den Nachweis von Schutzstoffen gegen Hundswuth beim Menschen.
45 Ueber Streptococcen-Sera. Piorkowski.
46 Protective Inoculation Against Anthrax. R. Emmerich.—Schutzimpfungen durch Anthrakase-Immunproteidin gegen Milzbrand.
47 Darstellung (production) des Ibid. J. Thöhnessen.
48 *Beitrag zur Anaeroben-Züchtung (cultivation). D. Rivas.
49 Einige neue Apparate zum Schöpfen von Wasser zu bakteriellen Zwecken. E. Myer.
50 Negative Experimental Tests of Antiseptic Power of Credé's Colloid Silver. Cohn.—Ueber den antisept. Wert des Arg. Colloid. Credé, und seine Wirkung bei Infektion.

12. Chemical Sterilization of Water.—Engels has been testing Traube's chlorid of lime and other methods of sterilizing water. The results were far from satisfactory, and he thinks that there is little to be hoped from chemical sterilization except possibly from ozone.

17. Bacteria Growing Through Filters.—Esmarch has had filters examined in thin sections and found that, with the exception of clay (Thon) filters, all were more or less permeated with minute cavities or pores. These pores frequently communicated, and in this way small bacilli were sucked in with the fluid and passed entirely through the filter by capillary attraction.

21. Syphilis and Malaria.—Ruge suggests that possibly the infection in syphilis may be due to a protozoon as in malaria, only in the former disease it requires years instead of weeks to complete its cycle of development.

22. Resistance of the Larvae of Mosquitoes.—The tests reported prove that the larvæ are extraordinarily resistant to cold and mechanical influences.

27. Disinfection of Hands.—Bonhoff announces that the combination of alcohol with formaldehyd and other disinfectants immeasurably enhances the disinfecting power in comparison to aqueous solutions. By far the best results were obtained with an alcoholic 1 to 3 per 1,000 solution of mercury in the form of sublamin.

48. For Cultivating Anaerobics.—Rivas of Nicaragua describes a contrivance which he has found extremely convenient in the cultivation and study of anaërobics. It is merely a flat, rectangular vial, fused at both ends, and so thin that it will slide into the microscope. He has it made with a capacity of 8 c.c.

Centralblatt f. Gynaekologie, Leipsic.

51 (XXVII, 49.) *Zur experimentelle Pathogenese der Eklampsie. A. Ascoli.
52 Fall von Sectio cesarea bei Eklampsie. H. A. von Guerard.
53 Zur Geschichte der fötalen Theorie über die Ursachen der Eklampsie von C. Mouton. A. Christiani.
54 Randbemerkung zu Krönig's Mitteilung: "Die doppelseitige Unterbindung (ligation) der Aa. hypogastricæ, etc." L. Kleinwächter.
55 *Die Formalin Behandlung der chron. Endometritis nach Menge. E. Odebrecht.

51. Experimental Pathogenesis of Eclampsia.—Ascoli believes that the side chain theory may yet explain a number of the physiologic and pathologic phenomena of pregnancy. Veit has found that the animal organism reacts to injection of placenta tissue with the production of a cytotoxin or syncytiolysin, which induces albuminuria and may entail hemoglobinemia. Ascoli has been studying these syncytiolysins closer. He used for the purpose a syncytiolytic serum obtained by preliminary treatment of rabbits with placentæ from guinea-pigs. Gravid guinea-pigs were injected with the serum, and contrary to the action of the serum *in vitro* the animals showed no disturbance when the serum was injected under the skin or into the circulation. But when even a small amount of the serum was injected under the dura the animals sank into profound coma, interrupted with tetanic, clonic and tonic spasms, affecting parts or the whole of the body and terminating in death, without delivery, in progressive coma. Reduction of the amount produced the same picture, but much less intense and the animals finally recovered. Ascoli expressly states that he experimented with such numbers of animals and with sera from so many sources that the facts announced are absolutely established beyond question. Similar injections of normal serum were borne without any reaction and after the prepared serum was heated to 60 C. its effect was remarkably attenuated. On the other hand, rabbits treated with this serum showed no disturbance, showing that it is strictly specific for guinea-pigs. The testimony thus offered by Ascoli's experiments, that the syncytiotoxins elaborated in the organism after introduction of placenta tissue are capable of inducing a clinical syndrome resembling eclampsia when injected into other gravid animals, suggests that the deportation of placenta cells swept away by the maternal blood current may have a share in the production of eclampsia. If this assumption prove to be correct it would explain the predominance of eclampsia in primiparæ, as a certain immunity may be acquired in time. The evil effects of the toxin may be felt principally in the nervous system or in the kidneys, or both may be affected at the same time, as manifested by the coincidence of albuminuria with the eclampsia. The tardy appearance of eclampsia postpartum might be explained by the length of time required for the organism to form such antibodies, as a certain period of incubation may be assumed.

55. Formalin in Chronic Endometritis.—Odebrecht has been using formalin for local applications in the uterus on an

extensive scale, according to Menge's suggestions (*Arch. f. Gyn.*, lxiii, 1). His experience has been remarkably favorable, and he thinks that much less harm is liable to result from its use than from other local measures. He extols its efficacy in the treatment of fluor, hemorrhages and pains and the benefit to the general health as local lesions subside. An interval of a week is usually necessary; four to ten days is his range, and his maximum has been eight to ten applications of a 50 per cent. solution. He applies it on cotton with a Playfair sound. Decidual and hemorrhagic endometritis require curettement, but with these exceptions the formalin will be found the best treatment known to date and it does not conflict with curettement or other measures later if deemed necessary.

Centbl. f. Krankh. der Harn.- und Sex.-Org., Leipsic.

56 (XIII, 7-8.) *Ueber die idiopathische Entzündung (inflammation) des Zell-Gewebes des Cavum Retzii. C. Hassler.
57 *Die Catheter-Sterilization. B. Goldberg.
58 (No. 9.) Die perineale Prostatectomie bei Hypertrophie der Prostata. J. Verhoogen.
59 *Prüfung (tests) der Urethroscope mittelst der Endophotographie. J. Cohn.
60 Ein Sterilisations-Apparat für die urologische Sprechstunde (office).
61 (No. 10.) Ueber die Brauchbarkeit der Hefegärung zum Nachweise des Traubenzuckers (yeast test of grape sugar) im normalen Harn (urine). H. Malfatti.
62 Die Sonderung des Urins der beiden Nieren (segregation of urine). G. Luys.
63 Nierenreizung (irritation of kidney) durch Phloridzin. O. Pielicke.
64 Fall von epidermoidaler Metaplasie der Harnwege (urinary passages). F. Stockmann.
65 Urologische Casuistik. M. Kreps.
66 (No. 12.) *Ueber die Ausscheidung (elimination) der in die arterielle Blut-Bahn injizierten Bakterien durch die Niere. P. Asch.

56. **Idiopathic Inflammation of Cavum Retzii.**—Hassler thinks that cases published under this heading have been in reality consecutive to some latent affection of the urogenital system, probably gonorrheal. He does not believe that there can be an idiopathic inflammation, but occasionally a submuscular hematoma may be the source of the irritation. The hematoma may occur as the result of trauma or severe coughing or from degeneration of the wall of some vessel.

57. **Sterilization of Catheters.**—Goldberg infected the catheters by submerging them for one to several hours in purulent urine. Sterilization afterward was always readily and most easily accomplished by boiling the catheters in water for five to ten minutes in a vessel longer than the instruments. He advises cleaning them mechanically with hot soapy water immediately after using. A current of steam at 100 C. is also an effective means of sterilization, but fluid antiseptics are entirely unreliable.

59. **Endophotography of Urethra.**—Cohn gives several photographs of the views obtained through the urethroscope. Those obtained with the Nitze-Oberland urethroscope were superior to the others.

66. **Elimination of Bacteria Through the Kidneys.**—Asch injected the colon bacillus and the lactis aerogenes into the arterial circulation of animals. They were never eliminated through the kidney as long as it was sound. If the bacilli were discovered in the urine some affection of the uropoietic system was always present.

Zeitschrift f. Dietet. und Physikal. Therapie, Leipsic.

67 (VI, 5.) *Ueber das Nahrungsbedürfniss (food required) der Diabetiker. W. Schlesinger (Nothnagel's clinic).
68 *Ueber den Einfluss des Lichtes (influence of light) auf den motorischen Apparat und die Reflex-Erregbarkeit (excitability). T. Büdingen.
69 *Die Fango-Kur und deren Indicationen. E. Mory (Adelboden, Switzerland).
70 Verwenden älterer Fahrrad- (application of antiquated bicycle) System zu therapeutischen Zwecken. A. Martin (Zurich).
71 Ein neuer Zerstäubungs- (spray) Apparat für Allgemein-Inhalationen. Rossnetz.
72 (No. 6.) Ueber die orthopädische Behandlung der spinalen Kinder-Lähmung (paralysis). A. Hoffa.
73 *Ueber die Behandlung der Enuresis. K. Walko (Clinic of Von Jaksch).
74 Einfluss (influence) der Mineral-Wässer auf den osmotischen Druck (pressure) und den Wasser-Gehalt des Blutes. K. Grube.
75 Zur Therapie der Barlow'schen Krankheit. C. Bolle.
76 Ueber die Diät Friedrich's des Grossen. G. L. Mamlock.
77 (No. 7.) *Blut-Befund (blood findings) bei Schwitz (sweat) Proceduren. W. Krebs and M. Mayer.
78 *Ueber die tägliche Wägung (daily weighing) als diagnostisches Hilfsmittel besonders bei Herz-Krankheiten (especially in heart disease). H. Jacobäus (Finsen's sanatorium, Copenhagen).
79 *Action of Peat Baths on Affections of Myocardium. A. Loebel.—Beitrag zur Wirkung der Moorbäder bei Herzmuskelerkrankungen auf Grund von Blut-Druck und neuramöbimetrischen Messungen.
80 Russian Contributions to Dietetic Therapeutics. A. Dworetzky. Collective Review in German.
81 (No. 8.) Ueber den Unterricht (instruction) in der Diätetik. Moritz.
82 Ueber die physikalische Therapie der Neurasthenia sexualis. M. Weinberger.
83 *Zur Physiologie und Technik der Heissluft- (hot air) Behandlung. R. Grünbaum.
84 Ueber Nahrung und Ernährung (food and nourishment). B. Laquer. Critical Review.
85 *Eine alte dietetische Behandlung des akuten Coryzas. M. Sternberg.
86 (No. 9. December.) Lässt sich das Klima der Nord-See-Inseln auch im Herbst und Winter therapeutisch verwenden? M. Edel.
87 *Zur Kenntniss der Temperatur-Schwankungen (fluctuations) bei Lungen-Phthisis während der Heilstatten- (sanatorium) Behandlung. D. Kuthy.
88 Adrenalin. G. L. Mamlock. Collective Review.
89 Analysen 2 essbaren Erdarten (edible dirt) aus Central Africa. M. E. Heiberg.

67. **Food Required by Diabetics.**—The results obtained by tests of diabetic patients at Nothnagel's clinic are given in tabulated form for each group of patients, classed according to the predominance of certain symptoms. Schlesinger mentions that in several cases the moment the last trace of sugar vanished from the urine the weight suddenly increased out of all proportion to the amount of food ingested. He suggests that possibly the sugar draws the water out of the tissues and as soon as the proportion of sugar is reduced to normal, the tissues take up water with avidity, which simulates an increase in weight. He has noticed that the tissues of diabetic cadavers are always remarkably dry. But even accepting this assumption the abrupt increase is still incomprehensible.

68. **Influence of Light on Motor Apparatus and Reflex Excitability.**—In experiments on sixty frogs Büdingen was unable to detect the slightest indication of any action of blue and red arc light or sunlight on the nerves or muscles or the reflex excitability, nor on respiration or metabolism. He adds that the only influence of light thus far established is that on the eye, on the spirits and on the skin, and on a few micro-organisms pathogenic for man. Quincke has also established an increased oxidation in pus cells, leukemic blood and ground human organs, but no proof has yet been offered that these oxidations occur in the same way in the living body under the influence of light.

69. **Indications for Mineral Mud Treatment.**—In Mory's experience the results of this treatment have been brilliant in chronic rheumatic affections of the joints and also in acute or chronic attacks of gout. Even in the midst of a typical acute attack when the slightest contact caused excruciating pain, the application of several pounds of fango relieved the pain at once. The foot did not feel any contact but felt as if suspended in air and softly touched with velvet. Old gouty subjects who have spent a small fortune on piperazin, etc., are the most enthusiastic in its praise. He applies it at 55 C. The fango is also indicated in lumbago and cures every case of sciatica uncomplicated by caries of spine or pelvic tumors. It is also effectual in neuralgia elsewhere, even in head and face. The fango from Battaglia is a volcanic heat product from the bowels of the earth and has never come in contact with the earth's surface. It is liable to give excellent results in gynecologic affections, metritis, oöphoritis and salpingitis. In one case a patient had been confined to bed for eight months on account of a febrile gonococcus adnexitis. The surgeon declined to operate owing to the multiplicity of suppurating foci. After three weeks of fango treatment she was able to get up. Two months later there was recurrence of some of the symptoms which were definitely banished by six more fango packs. He sometimes supplements local application in such cases by filling the vagina also with the fango. In gallstone colic he has frequently witnessed the relaxation of the duct and expulsion of the stone after ten minutes' application of the fango. The pains from sprains and fractures are likewise amenable to fango treatment.

73. **Treatment of Enuresis.**—Walko has cured 10 cases of idiopathic and 3 of symptomatic enuresis. In one case of tabes the enuresis was unaffected by his measures, but a second similar case was cured. In one case the enuresis was a symptom of slight cystitis and subsided under treatment of the latter. Combined massage through the rectum succeeded in three to five applications, the patient in the knee-elbow position or on his back. One hand applied above the symphysis presses against the hand in the rectum, followed by light massage of neck of the bladder. In one case the enuresis of twelve years' duration was cured by hypnosis in a single sitting. He is convinced that in many cases the cause of the enuresis is an inhibiting phenomenon of a psychic order occurring in a normally-developed organ. The circumstance that enuresis lasting from early childhood and past puberty could be completely cured in this way, as occurred several times in his experience, demonstrates that there can be no question of an anomaly in development or of weakness in the musculature.

77. **Action of Sweats.**—Krebs proclaims that the benefit of therapeutic sweats does not lie in any qualitative or quantitative alteration in the blood. It is due rather to its influence on the tissues by the modification induced in the conditions of the circulation.

78. **Value of Daily Weighing in Heart and Liver Affections.**—Jacobäus states that it is possible to determine whether more dropsical effusions, ascites, etc., are accumulating or whether the fluid is being eliminated, if the patient is weighed every day as a routine procedure. Abnormal retention of water may be detected by this means long before any clinical signs of dropsy are apparent. Daily weighing showing gain or loss is an important guide for the continuance of carbonated baths or other measures and also for the diet. The patient need not be restricted in drinking if the daily weighing is satisfactory. The aim in treating a chronically-diseased organ is to train the sound organs to supplement or substitute it and the value of the skin in this respect in heart disease must not be overlooked. Here again the progress gained can be estimated by daily weighing.

79. **Peat Baths in Heart Disease.**—Loebel has found peat baths useful in neuroses and arteriosclerosis of the heart, especially in cases of fatty degeneration, with high blood pressure. Dropsical disturbances in compensation are beyond their reach and they are contraindicated in this condition on account of the low blood pressure. He never orders the baths with a blood pressure of 130 mm. or under, as he has known of too many instances of the heart giving out under these circumstances. The peat baths require even greater vigilance than the carbonated baths in this respect.

83. **Superheated Air Therapy.**—Grünbaum points out that higher temperatures can be attained with hot air than with any of the other local applications of heat. With water the highest limit that can be reached without burning the tissues is 40-50 C.; with peat or fango, 45-55 C.; with steam, 50-60 C.; with sand, 55-65, but superheated air can be borne at a temperature of 80-90 C., equivalent to 194 F.

85. **Dietetic Abortion of a Cold.**—Sternberg has revived a method of aborting a cold promulgated by Williams in 1841. He has found it effectual on himself and others and recommends it as a simple and easy method of curing coryza. It consists merely in refraining from the ingestion of any fluid for twenty-four hours after onset of the cold and for twenty-four additional hours after the coryza develops. The natural fluid secretions are not curtailed by this abrupt cessation of all intake of fluid, but the cells do not have enough moisture to generate the abnormal catarrhal secretions. Consequently the irritation of the tissues by the catarrhal secretions is eliminated, and the tissues rapidly recover their normal tone. The morbid membrane, no longer irritated by its own secretion, speedily resumes its normal condition instead of the perpetuation of the vicious circle as in the ordinary coryza. Thirty-six hours are frequently long enough to completely abort the cold. It is not followed by a cough and expectoration. Chronic nephritis is the only contraindication to this water starvation of a cold.

87. **Range of Temperature in Tuberculous Sanatorium Patients.**—Kuthy makes a point of studying the fluctuations of the temperature in all tuberculous patients, even in the afebrile. The lesser the range the better the prognosis, he thinks, and aims to reduce it to a fraction of even the normal range. When this can be accomplished it shows that the diseased organism, while taking in and putting on all aids to its defense, is also becoming saving of its outgo, thus making less demands on its chemical energy.

Zeitschrift f. Geburtsh. und Gynaekologie, Stuttgart.

90 (XLVIII, 1.) *Ueber die Ursachen (causes) der Ansiedlung des Eies im Eileiter (settling of ovum in tube). E. Opitz.
91 *Course of Pregnancy After Preceding Rupture of Uterus. W. Stroganoff.—Schwangerschafts- und Geburts-Verlauf nach einer Gebärmutterruptur.
92 *Zur Opitz'schen Diagnose des Abortes aus den Veränderungen der uterinen Drüsen (diagnosis of abortion from modifications in uterine glands). L. Seitz.
93 Ueber Chorionepithelioma (Deciduoma malignum autorum). L. Krewa.
94 *Neue Beiträge zur Lehre von den Zwillingen. W. Weinberg.
95 Eine Mischgeschwulst des Uterus (Endotheliom mit Fett- und Knorpel-Gewebe). C. Gebhard.
96 Ueber die sog. Carunkeln der weiblichen (female) Urethra. M. Lange.

90. **Primary Cause of Tubal Pregnancy.**—Opitz found traces of old salpingitis in the tubes involved in 23 cases of tubal pregnancy. Trivial adhesions and folds, the relics of the old inflammatory process, had evidently favored the retention of the ovum in the tube. His findings impel him to emphasize that all tubal pregnancies should be regarded as malignant tumors and treated accordingly.

91. **Pregnancy and Childbirth After Rupture of Uterus.**—Stroganoff sutured the rupture in the case he describes by celiotomy. The patient was a v-para and the rent extended from 3 or 4 cm. inside the left round ligament to beneath the right ligament. The woman returned later at term with a normal pregnancy, which proceeded to a normal termination. The only intervention necessary was version and extraction owing to the non-elasticity of the cervix from the cicatricial tissue. He remarks that women conceiving after a rupture of the uterus should be placed in a favorable environment during the last two or three months of gestation, with oversight and preparations for prompt operative aid at need. He has since had occasion to observe a second somewhat similar case. The patient was a vii-para and laparotomy was necessary as the fetus had escaped into the abdominal cavity. The rupture extended from the front, left lower third of the cervix upward to the attachment of the right round ligament. The left round ligament was also involved in the rupture. The following pregnancy was normal, but as in the first case the fetus did not present at the inlet to the pelvis owing to the rigidity of the cicatricial tissue in the cervix. The patient was artificially delivered with bougies dipped in glycerin. The head presentation was changed to a breech by external manipulations. The uterus is liable to rupture a second time so that everything must be ready for a laparotomy. After delivery the site of the rupture should be inspected. In a case reported by Kriwsky the rupture was not complete and consequently was not sutured. The uterus ruptured again at the close of the following pregnancy, requiring supravaginal amputation.

92. **Opitz's Sign of Abortion.**—Some time ago Opitz announced that in 140 scrapings of the uterus in 40 cases of preceding abortion he had found striking alterations in the glands which he assumed to be evidence of the preceding abortion and of a pregnancy of at least eight weeks' duration. Seitz now reports that he has discovered the same alterations in four characteristic cases of endometritis in which the assumption of a preceding gestation or abortion is absolutely out of the question. He accepts them as evidences of endometritis glandularis hypertrophica. In one patient an old bilateral gonorrheal adnexitis rendered conception improbable. In the others menstruation had been regular and profuse to the day of operation.

94. **Study of Twins.**—Weinberg presents statistics of twins with one and with two ova, and discusses the origin of sex.

Medizinskoe Obozryenie, Moscow.

97 (LVII, 9.) *Appendicitis in Pregnant Women. M. I. Rostovtzeff.—Peritifilit u beremennykh.

98 Acquired Idiopathic Atrophy of the Skin. N. N. Pismenny.—Slutchai idiop. priobryetennoi atrophii kozhi.
99 *Treatment of Elephantiasis with Calomel. M. Tiptzeff.—Lyetchenie slonovosti calomelem.
100 *Phosphorus in Alopecia. V. A. Byalobzhesky.—Phosphor pri lyechenie alopetzii.
101 *Formalin in Intertrigo, Hyperidrosis and Certain Eczemas. Velyamovitch.—Derivaty formaldehida pri lyetchenii intertrigo, etc.
102 Study of Blood Plates. Viasoff and Sepp.—O yadrye i dvizhenii krovyatchnykh plastinok.
103 (No. 10.) *Treatment of Local Tuberculosis. V. Serenin.—Lyetchenie myestnoi bugortchatki.
104 Five Unusual Cases of Ecchinococcus Affections. G. A. Gontcharoff.—Slutch. echinokokkovoi bolyezni.
105 *Trophoneuroses of Extremities. N. B. Michailoff.—K utcheniu o trophonevrozakh konetchnostei.
106 *Local Carbolic Injections in Scarlatinal Angina. A. A. Polievktoff.—Lyetchenie skarlatinoznoi zhaby injectiami karbolovoi kisloty.
107 (No. 11.) Benefit from Calomel in Elephantiasis of Vulva in a Syphilitic. M. A. Tchlenoff.—Syph. i slonovost vulvy.
108 *Extragenital Syphilitic Infection. Blanche de la Roche.—2 slutchaya vnyepolovova zarazheniya tverdym chancrom.
109 *Prophylaxis of Extragenital Syphilis. P. A. Pawlow.—K voprosu o prophylaktikye ibid.
110 *Suprarenal Extract in Therapeutics. A. Ivanoff.—O vytyazhkye iz nadpotchetchnykh zhelez v terapii voobshtche i v oto-rhinologii v tchastnosti.
111 (No. 12.) Case of Actinomycosis of Liver. L. E. Eokheles.—Slutchai netipitcheskova aktinomekoza petcheni.
112 *Involvement of Kidneys in Croupous Pneumonia. S. S. Abramoff.—O porazhenie potchek pri croup. pneum.
113 *Laparotomy During Pregnancy. L. N. Warnek.—O tchrevosyetche na beremennykh.
114 Hysterectomia totalis abdominalis. A. Eberlin.
115 *Superheated Air in Treatment of Affections of Nose and Throat. L. Sverzhevsky.—Primyenenie goryatchova vozdukha k lyetcheniu nyekotorykh zabolyevanii gorla i nosa.

97. **Appendicitis in Pregnant Women.**—Twelve cases of appendicitis occurring during the course of pregnancy or in the puerperium are described in detail. In 4 of the 9 cases in pregnant women, the pregnancy continued without interruption to term, although the appendicular abscess was evacuated in 2 of these a few weeks before delivery. In 4 premature delivery or abortion occurred before death. The patients were in the first, fourth, eighth or ninth month. Five of the 9 pregnant women died, and one of the 3 in the puerperium. Only 2 died out of the 6 operated on for generalized peritonitis. The benefits of prompt operation were so apparent that Rostovtzeff urges as a principle that surgical intervention should be exceptionally prompt in case of appendicitis occurring in a pregnant woman. In the majority of cases the pregnancy will not be interfered with, and in case abortion does occur, the consequences will not be so serious as in the unoperated cases. He unconditionally discountenances artificial delivery on account of appendicitis, which has been recommended by some writers.

99. **Calomel Injections in Elephantiasis.**—Two Russian physicians have reported excellent results from calomel, and Tiptzeff now describes another case in which the improvement was marked after intramuscular injections of .05 gm. calomel in vaselin oil every second to fourth day, for three and a half months. He thus injected a total of .7 gm. calomel in fourteen injections. The patient was a woman of 39 and her legs were gradually reduced in size by .5 to 2.5 cm. and in certain portions by 3 to 7.5 cm., and appeared comparatively normal. She was a syphilitic, but the syphilis had been acquired after the development of the elephantiasis. [Tchlenoff also reports in No. 11 a case of elephantiasis in a syphilitic notably improved by subcutaneous injections of calomel. Another Russian has since published the cure in a month of an old, rebellious leg ulcer in a woman of 61, treated by a subcutaneous injection of .05 gm. of calomel once a week, supplemented by a compressing bandage. He also noted that lupus patches healed very rapidly after curetting if calomel were injected.—Ed.]

100. **Phosphorus in Alopecia.**—Byalobzhesky treats alopecia on the assumption that it is a nervous affection, administering phosphorus in small doses. There is no further falling out of the hair, and the bald patches gradually grow over, commencing at the periphery. His formula is .06 gm. of phosphorus dissolved in olive oil and mixed with .1 gm. of arsenic acid and some vehicle to make 120 pills. One to four are taken every day for two to four months with intermissions of a week, until two or three hundred of the pills have been taken.

101. **Formalin in Cutaneous Affections.**—The preparation of formalin, tannoform, is proving remarkably effective in the treatment of intertrigo, especially for children. Also for hyperidrosis of feet and axillæ. In Velyamovitch's experience a 25 per cent. solution of formalin is still more effectual for the feet, and a very weak solution for the axillæ, not more than 5 to 7 drops of formalin in half a glass of water. In the sweats of pulmonary tuberculosis he uses a still weaker dilution. He recommends undiluted formalin for cauterizing dirty, infected wounds or ulcers, and makes a practice of soaking the field before operations with a compress impregnated with a .5 to 1 per cent. solution of formalin applied for fifteen to twenty minutes, as a preliminary to surgical intervention.

103. **Cure of Local Tuberculosis.**—After fifteen years of experience and observation of hundreds of cases, Serenin proclaims as a fundamental principle in the treatment of local tuberculosis that such patients should not stay in hospitals a day longer than is absolutely necessary. If an operation is required it should be done as promptly as possible, and then the patient should at once be given the benefit of country air, although kept under medical surveillance. Recovery proceeds more rapidly in exact proportion to the level of the general health. He also states that surgical intervention should aim to remove all the diseased parts into sound tissue, but if this is impracticable, the wound should not be closed, but merely tamponed with gauze.

105. **Trophoneuroses of Extremities.**—Michailoff gives 5 illustrations and descriptions of 11 cases of trophoneurosis, angioneurotic disturbances or angiosclerotic gangrene.

106. **Local Injections of Carbolic Acid in Scarlet Fever.**—Polievtkoff gives a cut of a mouth gag and Pravaz syringe with a long needle bent in an obtuse angle to the body of the syringe. He injects with the aid of these instruments a 3 per cent. solution of carbolic acid directly into the tonsils or soft palate in case of scarlet fever and has found the procedure simple and effective in curing the angina and preventing diphtheria. He has thus treated 110 hospital patients, and his mortality has been 16 per cent. The best results are attained when the injections are commenced the second day of the disease. He keeps them up for four or five days, or until the fever subsides, but in the severer cases for seven to eight, with close watch over the urine for symptoms of intoxication. Heubner in such cases repeats the injections twice or three times a day, but Polievtkoff makes only one injection on each side once a day, graduating the dose to the age. The syringe holds 3 gm. and one-third is used for one injection in children under 6, and two-thirds for older children at each injection. He tabulates the exact results obtained.

108 and 109. **Prophylaxis of Extragenital Syphilis.**—Roche reports a case in which a young woman of good family contracted syphilis from a kiss on her neck by her fiancé, who was found to have a syphilitic lesion in the mouth alone, undoubtedly due to his having smoked a cigar taken from the mouth of a syphilitic friend. Pawlow describes the experience with syphilis in the Moscow department of the army, and states that the largest majority of cases had more or less discharge from their lesions, rendering the subjects possible sources of contagion. In fact extragenital infection was contracted in this way by 29 soldiers, notwithstanding the strict prophylactic measures enforced and the efforts made to educate the populace in regard to the dangers of venereal diseases. He suggests that syphilitic soldiers should be detailed to special companies from which the non-syphilitic should be weeded out.

110. **Value of Suprarenal Extract.**—Ivanoff lauds suprarenal extract as a harmless and vigorous vasoconstrictor, destined to the widest application in hemorrhages of internal organs and also in the treatment of acute and chronic inflammations of the mucous membranes, describing his experience.

112. **Kidneys in Croupous Pneumonia.**—Abramoff describes 6 cases of croupous pneumonia in which there were evidences of acute glomerulonephritis. The patients were between the ages of 22 and 52. The involvement of the kidneys was manifestly the cause of death in these cases, while in 6 other cases of croupous pneumonia observed during the same

year, death was due to fatty degeneration of the heart muscle in 3, and to suppurative meningitis, chronic endocarditis or excessive hypertrophy of the heart in one each.

113. **Laparatomy on Pregnant Women.**—Warnek states that all of his 17 patients operated on during pregnancy recovered. Abortion occurred in 3 out of the total 17, while 2 were delivered at the eighth month and 6 continued to term. The ultimate outcome is not known in 6 others, but the pregnancy continued undisturbed when last seen. In 10 of the patients the ovary was removed on account of a cyst or dermoid tumor, and with one exception all the patients were presumably delivered at term afterward. This exception was a case of dermoid tumors in both ovaries. In one of the patients part of the tube was removed with the ovary, and in another two-thirds of the second ovary. The recovery from the laparotomy proceeded normally in every instance. In 2 the patient was delivered at the eighth month, that is, four or five months after the intervention, which in all probability had nothing to do with the premature birth. In one patient, ten days after removal of the ovary and part of the tube, an adenoma of the breast was extirpated. The patient was in the sixth month of pregnancy. It continued to term, but there was considerable hemorrhage with delivery and fever for six weeks. The patient became pregnant again in four and one-half months afterward. His eleventh patient was relieved of the products of a four-months', ruptured, tubal pregnancy, without interfering with a six months' normal pregnancy, which continued to a normal termination with the delivery of a healthy child, the mother in her thirty-fifth year. Cases 12 and 13 demonstrate that surgical intervention is possible on the uterus itself without interference with the pregnancy. In these cases a submucous fibroma or myoma located in the fundus was removed without disturbing the three and five months' pregnancy. In case 14 the diagnosis wavered between an ectopic pregnancy, adnexitis or abnormal uterine pregnancy. Conditions were found normal at the laparotomy except that the uterine walls were extremely flabby. The abdomen was sutured, and three days later a macerated fetus was expelled. The uterus required curetting a week later, after which the patient rapidly recovered. No temperature after either operation; wound healed by first intention. In 2 other cases the laparotomy revealed adhesions which prevented the normal development of the pregnant uterus. After their removal gestation proceeded to an uninterrupted termination. The last case was one of umbilical hernia, which required a plastic operation. The pregnancy continued undisturbed. The age ranged from 18 to 40, and the patients had nearly all borne one to several children before.

115. **Superheated Air in Rhinolaryngology.**—In 40 patients with various affections of the throat and nose, 25 were cured, 2 improved, and no results could be determined in 13, all treated by the application of superheated air. It proved most effective in cases of acute and subacute coryza, swelling and hypertrophy in the throat, gumma breaking down, in ozena and in neuroses. It did not prove effectual in atrophic processes nor in case of hypertrophy of the nasal passages.

Gaceta Medica de la Acad. de Med., Mexico.

116 (II, 9-10.) *Estudios acerca de los abcesos del higado (liver). Localizacion del abceso en la glandula y emigraciones naturales del pus. D. Mejia.
117 (Nos. 12-13.) Estudio del tratamiento de los fibro-miomas de la matriz. A. L. Hermosa.
118 El terigion (pterygium) como punto diagnostico del alcoholismo. A. Chacon.
119 *Pronostico del tabardillo (typhus). J. Terres.
120 (Nos. 14-15.) Necesidad de la sobrevigilancia médica en el puerperio. M. Gutierrez.
121 *Mosquitoes in Transmission of Disease. D. Orvananos.—La plaga de los moscos.
122 (Nos. 16-17.) Algunas ideas sobre el tratamiento quirurgico de las retro-desviaciones uterinas. F. Hurtado.
123 Mortalidad de Vera Cruz. M. S. Iglesias.
124 Ileus. Su diagnostico y tratamiento. A. Benavides.
125 (Nos. 21-22.) *Contribucion al estudio y tratamiento de la septicemia puerperal. A. L. Hermosa.
126 M. Carmona y Valle. Obituary.
127 Patogenia de algunas anexitis extrinsecas. R. S. Gamboa.
128 Tratamiento de las epididimitis blennoragicas. G. D. Lombardo.
129 Analogia de la enfermedad de los perros jovenes (young dogs) con algunas fiebres eruptivas del hombre (in man). M. G. Aragon.

116. **Emigration of Pus from Abscesses in Liver.**—Mejia's article is illustrated and shows that exact knowledge of the location of the pus and of its bacteriology are of the utmost importance in treatment. The pus generally makes its way toward the bronchi and right lung, but it may make irruption into any of the thoracic or abdominal organs. Intervention should always be preceded by puncture, which is perfectly harmless in the liver if the needle is not twisted from side to side. This is liable to cause hemorrhage. When the abscess in the liver protrudes in the epigastrium the incision should be made as close to the ribs as possible in order not to interfere with healing by retraction of the liver. He calls the region including the three lower interspaces on the side of the trunk the "teritorio hepatico," and states that all intervention directly on the liver should be in this region. It embraces the interspace above and follows the costal arch below.

119. **Prognosis of Mexican Typhus.**—Sweats are not a favorable sign unless they coincide with improvement in other symptoms. As a general rule Terres thinks that it is almost impossible to draw an accurate prognosis, especially in apparently mild cases. He states that the deaths from this cause in Mexico were 6, 896 in 25, 327 cases recorded between 1893 and 1901, a mortality of 27.22 per cent. The mortality in the Juarez Hospital was 26.56 per cent. In the discussion that followed his address several speakers mentioned that the disease was much less serious among the illiterate. The wealthy and medical students seem to succumb to it in greater numbers. This may possibly be due to their fear of the disease. Mendizabal remarked that possibly excessive care and medication were responsible for the greater mortality among the well-to-do. They died from "typhus complicated by physician." All concurred in accepting that intellectual work and chronic alcoholism materially affect the prognosis in an unfavorable manner.

121. **Mosquitoes in Transmission of Disease.**—Orvananos notes the coincidence of the occurrence of epidemic typhus in Mexico with innumerable mosquitoes in the quarters attacked. He believes that malignant carbuncle and other diseases are propagated by the mosquitoes, as he has watched the insects at night flying around the rooms and "palpating" every exposed surface. When a colored powder was scattered lightly over certain exposed surfaces the proboscis of more than half of the mosquitoes could be seen stained with the powder next day.

125. **Puerperal Septicemia.**—In 59 cases of this affection observed by Hermosa he noticed that the cervix was open and the muscular fibers of the lower segment of the uterus were relaxed from the very beginning of the infection. In other cases of febrile accidents during the puerperium, the cervix was not dilated and experience proved that the infection in these cases was not in the uterus. When the cervix was found closed the infection invariably proved to be due to some intestinal or other trouble and the uterus was disregarded in treatment. In case of grave uterine infection he administered large doses of quinin and strychnin, for their antithermic, antiparasitic, tonic and oxytocic action, with a milk diet and subcutaneous injections of large amounts of artificial serum, slightly iodized. He has lost only one out of his total of 59 cases thus treated, none in his private practice.

The Lancet, London.

January 24.

130 *Tumors of the Bladder. P. J. Freyer.
131 *On Reflex Convulsions in Growing Boys and Girls. Eustace Smith.
132 *The Prevention of Sea-Borne Plague. Richard Freer.
133 *Fatalities to Workmen Caused by Breathing Sulphuretted Hydrogen. Thomas Oliver.
134 *The Surgical Treatment of Rheumatic Fever. John O'Conor.
135 The Early Diagnosis of Pulmonary Tuberculosis. H. Hyslop Thomson.
136 Directions for Photomicrography. Frank Crosbie.
137 A Case of Hernia into the Fossa Duodeno-jejunalis. Charles T. Andrew.

130. **Tumors of the Bladder.**—Freyer describes the different forms. Papilloma is the most common, usually single and varying from the villous form—like a swab—to the mere substantial sessile or the pedunculated growths. The latter may

occasionally become detached. Cystitis is not an infrequent sequel of these tumors. One type of tumor consists of short thickset papillæ, more dense in composition, which he calls fibro-papillomata. The presence of villi is not an indication of non-malignancy. The size of the papilloma may vary from that of a pea to an orange and the growth may be either rapid or slow. He mentions a case where it undoubtedly existed for eighteen years. Between the benign papilloma and the malignant, there is a type he calls the transitory, which has a tendency to recur, after removal, become more and more fleshy, with infiltration of the surrounding mucous membrane and the patient ultimately dies of true cancer. Adenomata are rare if they ever occur. Epithelioma is next to papilloma in frequency of occurrence and is very rare before the age of 40. It may commence as a warty outgrowth, a simple fissure or an irregular ulcer, but rapidly advances. It may in the later stages ulcerate into the bowel or may appear in the groin or make its way through the sacro-sciatic foramen and involve the sacral nerves. Connective tissue tumors are rare. Fibromas must not be confounded with fibro-papilloma, which has its origin in the mucosa while the fibromas spring from the fibrous tissue in the muscle coat and are rarely pedunculated, and almost invariably found in adults. Myxomas usually occur in young children and are generally multiple. Myomata are extremely rare; they arise in the muscle coat and may project inward or outward. Sarcoma is the most common of the connective tissue tumors, but it is rare in comparison with epithelial growths. It may occur at any age as a dense rapidly-growing tumor involving the entire thickness of the bladder wall. The round- and spindle-celled varieties are those most frequently found. The symptoms are noted, such as hematuria, increased frequency of micturition, pain, urinary retention and pus in the later stage after cystitis has developed. The cystoscope is described and the technic of operations for bladder tumors. When a malignant growth is confined to the apex of the bladder where section may be performed extraperitoneally by stripping off the peritoneum over an extensive area, Freyer considers operation not only justifiable, but advisable. When the base of the bladder is involved he considers any attempt at resection futile.

131. **Reflex Convulsions in Growing Boys and Girls.**—Smith questions the diagnosis of epilepsy frequently made in the case of convulsions of children after infancy and points out that such convulsions very often co-exist with digestive disorders or some other local irritation and cease when the local condition is removed. Many cases also of hysterical attacks in young unmarried women are, he considers, of such a nature. He reports a number of cases and calls attention to the certain fact that the impressionable nervous system may be permanently affected if the irritation is long continued. One common symptom in all instances quoted was that of habitual cold feet, which he remarks as indicating a condition which may thwart our best efforts to treat a chronic complaint of children, indirectly affects the nutrition, heightens the sensibility to chills and thus any weakness or injurious tendency is aggravated. In some cases the attacks recur in spite of treatment. It is probable that they are then not true cases of reflex convulsion, even at the beginning, but as a rule the intellect does not seem to be affected. Such cases are exceptional. In the majority of instances where the fit occurs in a child who is the subject of temporary digestive upset, we may reasonably expect complete cessation of symptoms and permanent restoration of health by proper treatment. Many observed cases warrant him in saying that young persons who have been subject to such seizures as late as 12 years old, may grow up into perfect adults without showing any later symptoms of the weakness of their childhood.

132. **Sea-Borne Plague.**—Freer gives his experience as a ship surgeon and criticises the way in which the directions of the Venice convention have been carried out. He thinks it is almost impossible to clear a ship of rats by any method of disinfection. Passenger ships are worse than freighters in this respect. The disinfection of clothing and crews is very imperfect. Owing to the precautions taken where surgeons are employed, it is most unlikely that any person infected with plague can board a ship at an infected port and in the majority of cases the ships are infected on board either by rats, clothing, bedding or cargo. He thinks the time has come for the recommendations of the Venice convention to be reviewed and modified. He is of the opinion that no native sailor should be allowed to bring any clothing or effects from his home on board the ship, even if disinfected. The isolation of the ship from shore rats is very defective. The funnels which are placed on lines connecting the ship with the shore are often very little protection, and the rats go up and down the gangplanks, often unmolested. He also believes there should be some continuity of action and uniformity in methods for granting pratique to vessels in different ports. A scheme should be devised by an international commission that would be fundamentally the same at all ports.

133. **Sulphuretted Hydrogen Poisoning.**—Oliver reports several cases occurring in a caisson in building a dry-dock and remarks on the dangers of alkali waste, slag, etc. It is difficult to tell just how sulphuretted hydrogen kills. He has not found the hemoglobin in the blood altered in any way in the cases examined, neither the men who succumbed to the gas nor the dog subjected to the gas experimentally. He remarks that excavations close to slag heaps or the waste of chemical works should be conducted with the greatest caution. It is dangerous to allow buildings, especially for living purposes, to be erected close to either slag or chemical waste products. The odor of sulphuretted hydrogen should be regarded at once as a danger signal. Before allowing men to work in confined spaces where there is a suspicion of sulphuretted hydrogen, the plan might be adopted of exposing a piece of filter paper soaked in lead or silver solution. A cylinder of oxygen should be at hand, together with other measures for reviving those who may be overcome.

134. **Rheumatic Fever.**—O'Conor reports cases of his method of opening the joint in cases of rheumatic fever. He says:

> While advocating early surgical interference in rheumatic fever I can not too strongly deprecate any attempt at the same without the operator feeling assured that he commands all the ordinary essential elements with which to carry out an ordinary aseptic operation. It is obvious that under septic conditions this method of cure might readily be attended with greater disasters than might even originate from the disease itself. To any one about to put my practice to the test may I suggest: (1) do not puncture, open knee-joints; (2) ligate all bleeding points; (3) drain, do not cork.
>
> Also, I wish to insist on the great value of thorough drainage in these cases, for it would be a more imbecile act to close a joint containing such toxemic stuff than to seal hermetically a recent ischio-rectal abscess cavity. In order to carry this properly into effect in operations on the knee-joint an incision an inch long is made on each side of the joint through the capsule. Through both openings a long closed forceps is passed and a fenestrated india-rubber tube, half an inch in diameter, is drawn across the synovial pouch, leaving about half an inch of tubing presenting at each wound. Drainage having been thus secured the joint is washed out every morning with a jugful of warm carbolic lotion (1 in 60) and the tube is generally dispensed with on the third or fourth day. Irrigation of the joint is daily continued until healing no longer permits of the passage of fluid.
>
> A little superficial necrosis of wound tissue caused by pressure of the drainage tube need not excite alarm, as this rapidly disappears under an iodoform gauze dressing. The latter, by the way, is made fresh for each dressing by immersing pieces of dry sterilized gauze in a solution of equal parts by weight of iodoform, alcohol and glycerin. A little formalin (1 in 500) is added to the mixture before use. In arthrotomy of the wrist and ankle-joints drainage is attained by a piece of gauze passed into the joint through the open blades of a dressing forceps previously inserted.

Journal of Tropical Medicine, London.

January 15.

138 *Surgical Tuberculosis in Egypt. Frank C. Madden.
139 Case of Double Continued Fever. V. Gunson Thorpe.
140 Remarks on the Individuality of "Filaria Diurna." (Continued.) Louis W. Sambon.

138. **Surgical Tuberculosis in Egypt.**—According to Madden, the surgical forms of tuberculosis are remarkably frequent in Egypt. They are rarely associated with medical tuberculosis, such as phthisis, meningitis and intestinal lesions. While the majority of cases occur in the young, the average age is higher than in England. They can fill every ward over and

over again, he says, with patients suffering from surgical tuberculosis, waiting for admission. Lupus vulgaris is very common and though sunlight is excellent, the Finsen method is so slow and tedious that it would be hard to make it practical. Tubercular cervical glands are extremely frequent also, sometimes enormous. Bone tuberculosis is also common. In 30 cases recently seen there were 4 of tuberculosis of the sternum, which is a much more frequent affection in Egypt than in England, and tubercular dactylitis is also very common. Another form is that affecting the posterior surface of the lower end of the femur. Spinal caries is not frequent, but there are many cases of tuberculosis of the pelvic girdle. Tubercular joints are also rather frequent; that of the knee is fairly common and also of the ankle. Tubercular shoulder is rather rare, but tuberculosis of the wrist, elbows and ankles almost always requires amputation, and also tubercular knee joints, as they are so advanced when seen. He also mentions tuberculosis of the epididymis and testis, but has never seen a case of tuberculosis of the kidney or bladder. Primary tuberculosis of the peritoneum is fairly frequent. If only the lower class of natives can be educated to observe the ordinary rules of cleanliness, and of the head in particular, good results might be expected, but the difficulties are very great. It is certain that if something is not soon done, tuberculosis must come to be numbered among the modern plagues of Egypt, in the same category with syphilis.

Indian Medical Gazette, Calcutta.

January.

141 The First Two Hospitals in Calcutta. C. R. Wilson.
142 Notes on the Early Hospitals of Calcutta. D. G. Crawford.
143 Notes on the Origin of the Presidency General Hospital, Calcutta. (To be continued.) D. M. Moir.
144 Experimental Inoculations of Malaria, with a Relapse After Eight Months. C. F. Fearnside.
145 Remarks on the Differential Count of the Leucocytes in Malarial and Other Fevers of India. S. P. James.
146 Serum Agglutination and Acute Dysentery. W. G. Pridmore.
147 Medicolegal Notes. Arthur Powell.
148 A Note on Operation for Hernia. A. Neve.
149 Utility of Saline Injections in Hemorrhage. B. K. Chaudhuri.
150 Case of Hernia of the Brain. B. M. Pubohit.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

HUNTINGTON'S ABDOMINAL ANATOMY. The Anatomy of the Human Peritoneum and Abdominal Cavity Considered from the Standpoint of Development and Comparative Anatomy. By George S. Huntington, M.D., Professor of Anatomy in the College of Physicians and Surgeons, Columbia University, New York City. 590 Pages, Including 300 Full-page Plates in Colors and Monochrome. De Luxe Edition. Price, $10.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

QUIZ COMPENDS. A COMPEND OF DISEASES OF CHILDREN, Especially Adapted for the Use of Medical Students. By Marcus P. Hatfield, A.M., M.D., Emeritus Professor of Diseases of Children, N. W. U. Medical School. Third Edition, Thoroughly Revised, with a Colored Plate. Cloth. Pp. 241. Price, $0.80 net. Philadelphia: P. Blakiston's Son & Co. 1903.

AN EPITOME OF PHYSIOLOGY for Students and Practitioners of Medicine. By Theodore C. Guenther, M.D., of the Norwegian Hospital, Brooklyn, and Augustus E. Guenther, B.S., Formerly Assistant in Physiology in the University of Michigan, Ann Arbor. Cloth. Pp. 250. With 57 Engravings. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1903.

ANNUAL REPORT OF THE DEPARTMENT OF HEALTH, City of Niagara Falls, N. Y. For the Year 1902. Submitted by Carl G. Leo-Wolf, M.D., Health Officer. Paper. Pp. 61. Niagara Falls, N. Y.: The Gazette Press.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ended January 31:

P. A. Surgeon J. C. Rosenbleuth, resignation accepted, to take effect Jan. 23, 1903.

Medical Director G. F. Winslow, retired from active service on his own application, after forty years' service.

Medical Director J. A. Hawke, retired from active service, having reached the age of 62 years.

Drs. H. L. Brown, T. C. Blackburn, P. L. Cocke, G. F. Duncan, V. Dabney, J. B. Mears, P. S. Rossiter and P. F. McMurdo, appointed acting assistant-surgeons from Jan. 23, 1903.

Asst.-Surgeon M. V. Stone, detached from the Naval Training Station, Newport, R. I., ordered home and granted sick leave for two months.

Asst.-Surgeon W. E. G. High, ordered to the Naval Training Station, Newport, R. I.

Asst.-Surgeon J. S. Taylor, ordered to report to the Chief of Bureau of Medicine and Surgery, Navy Department, for duty.

A. A. Surgeon A. W. Kaines, ordered to the *Gloucester*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 29, 1903:

Assistant Surgeon-General H. D. Geddings, detailed to represent the service at meeting of Ohio Health Officers at Columbus, Ohio, Jan. 29-30, 1903.

P. A. Surgeon E. K. Sprague, granted leave of absence for six days from Jan. 15, 1903, under provisions of Paragraph 181 of the regulations.

Asst.-Surgeon M. H. Foster, to report to chairman of board of examiners at San Francisco, Feb. 16, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon. Jan. 27, 1903.

Asst.-Surgeon L. L. Lumsden, to report to chairman of board of examiners at San Francisco, Feb. 16, 1903, for examination to determine his fitness for promotion to the grade of passed assistant-surgeon. Jan. 27, 1903.

Asst.-Surgeon B. S. Warren, granted leave of absence on account of sickness, for one month from February 1. Jan. 29, 1903.

Pharmacist L. P. Hall, granted leave of absence for seven days from Jan. 9, 1903, under the provisions of Paragraph 201 of the regulations.

BOARDS CONVENED.

Board convened at Washington, D. C., for the physical examination of an applicant for position in Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon B. S. Warren, recorder.

Board convened at the marine-hospital, San Francisco, Feb. 16, 1903, for the examination of Asst.-Surgeons M. H. Foster and L. L. Lumsden to determine their fitness for promotion to the grade of passed assistant-surgeon. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon C. H. Gardiner; P. A. Surgeon H. S. Cumming, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 31, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Jan. 4-17, 6 cases; San Francisco, Jan. 11-18, 8 cases.

Colorado: Denver, Jan. 10-17, 9 cases.

Illinois: Jan. 17-24, Chicago, 11 cases, 1 death; Galesburg, 1 case.

Indiana: Evansville, Jan. 18-24, 1 case, 1 death; Indianapolis, Jan. 10-17, 37 cases, 6 deaths; South Bend, Jan. 17-24, 5 cases.

Kentucky: Lexington, Jan. 17-24, 4 cases.

Louisiana: New Orleans, Jan. 17-24, 2 cases.

Maine: Aroostock County, Presque Isle included, Jan. 20, 150 to 400 cases; Biddeford, Jan. 17-24, 10 cases.

Massachusetts: Jan. 17-24, Boston, 5 cases, 3 deaths; Cambridge, 1 case; Chelsea, 1 case.

Michigan: Grand Rapids, Jan. 17-24, 21 cases.

Missouri: St. Louis, Jan. 18-25, 17 cases.

Nebraska: Omaha, Jan 17-24, 6 cases.

New Hampshire: Manchester, Jan. 10-24, 7 cases; Nashua, Jan. 17-24, 1 case.

New Jersey: Jan. 17-24, Camden, 1 case; Newark, 8 cases.

New York: New York, Jan. 17-24, 1 case.

Ohio: Chillicothe, Jan. 17-24, 1 case; Cincinnati, Jan. 16-23, 8 cases; Cleveland, Jan. 17-24, 14 cases, 3 deaths; Dayton, Jan. 17-24, 5 cases; Hamilton, Jan. 17-24, 2 cases.

Pennsylvania: Erie, Jan. 17-24, 9 cases; Johnstown, Jan. 18-25, 2 cases; McKeesport, Jan. 17-24, 5 cases; Philadelphia, Jan. 17-24, 13 cases, 2 deaths; Pittsburg, Jan. 17-24, 23 cases, 4 deaths; Reading, Jan. 19-26, 1 case.

South Carolina: Charleston, Jan. 17-24, 3 cases.

Tennessee: Memphis, Jan. 17-24, 8 cases.

Wisconsin: Milwaukee, Jan. 17-24, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 27-Jan. 3, 9 cases.

Belgium: Antwerp, Dec. 27-Jan. 3, 6 cases, 3 deaths; Ghent, Dec. 21-Jan. 3, 3 deaths.

Canada: Amherstburg, Jan. 17-24, 2 cases.

Great Britain: Birmingham, Jan. 3-10, 1 case; Dublin, Jan. 3-10, 1 case; Glasgow, Jan. 9-16, 1 case; Leeds, Jan. 3-10, 3 cases; Liverpool, Jan. 3-10, 59 cases, 6 deaths; London, Dec. 27-Jan. 10, 5 cases; Manchester, Jan. 3-10, 6 cases; Sheffield, Dec. 27-Jan. 10, 4 cases.

Russia: Dec. 27-Jan. 3, Odessa, 4 cases; St. Petersburg, 18 cases, 5 deaths.

Straits Settlements: Singapore, Dec. 6-13, 2 deaths.

YELLOW FEVER.

Colombia: Panama, Jan. 12-19, 6 cases, 2 deaths.

Mexico: Tampico, Jan. 10-17, 2 deaths.

CHOLERA.

Egypt: Alexandria, Dec. 28-Jan. 4, 9 cases, 6 deaths.

Java: Batavia, Dec. 6-13, 1 case, 1 death.

PLAGUE.

India: Karachi, Dec. 13-20, 25 cases, 13 deaths.

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Address.

IDEALS IN MEDICINE.*

NORMAN BRIDGE, A.M., M.D.

EMERITUS PROFESSOR OF MEDICINE, RUSH MEDICAL COLLEGE, CHICAGO.
LOS ANGELES, CAL.

The career of every man is made in part by his opportunities, his powers, his equipment for the particular work and by the accidents of life. It is made quite as much by the plan and conception of his work and of himself, with which he starts out—and these are his ideals; and the ideals of no two men are ever exactly alike.

That a man's ideals are his making or his destruction is a very old truth, but it refers mostly to the cardinal virtues. The standards of honesty, truthfulness, uprightness and personal cleanness are the teaching of the best of all time. They are the indispensable ideals. To enlarge on them now would be to preach a sermon, and that is not a part of this program.

I would rather present some of those usually forgotten or unthought of ideals, those hidden standards that guide and govern the life in unexpected and surprising ways. These are numerous and varied, and nearly always possess a man without his knowing it; often without his friends knowing it. But they are automatic and never stop, and they control a man like a fetish. They are the hidden leaks that lose the wine, or some undiscovered supply that increases it. A man may forget for an hour his good resolutions or his religion, but these stealthy, idealistic guides will stick to him like his habit of breathing—they work with the certainty of subconscious mind. These ideals create habits that control us inevitably—and we are often ignorant both of the ideals and the habits they have created.

What are ideals for? To make an upright life? Yes, but also to make a successful one; to increase our power to do for ourselves and for others.

The greatest success on the average comes to those with symmetrical powers and character; not to those who are warped and one-sided. That ideal is of most worth which makes a man stronger in his weakest power; that is most worthless that increases his unbalance and accentuates his warping. Wherefore there are fit and unfit ideals.

But the surprising paradox is that, apart from the greater virtues, the ideals a man usually selects or becomes in some way committed to—what we may call his secular ideals—are unfit; that is, they are such as increase rather than lessen his asymmetry.

The reason for this is not strange—our ideals of this sort come to us along lines of least resistance. The reverse ought to be the case; we need ideals that will help us over our defects, not to increase them.

We do the same thing many times in our educational methods. A boy selects as the branch to study that which he learns easiest and knows most about, and neglects the tasks that for him happen to be harder. This tends to make the great talent greater and to let the lesser talent atrophy. When carried to an extreme degree this state of things constitutes genius; carried a little farther it is degeneracy, and the world is not sufficiently in need of geniuses to make degeneracy, or even the borderland of it, profitable.

The sometime gospel of pedagogy has said that the child, from the beginning, may select his course of study—learn what he likes and omit what he pleases. Of course, he likes those things in which he is apt and strong, and hates those hard ones in which he is weak—and so he grows more uneven. Happily, all educators do not agree to this tenet; some believe that a child's course of study should tend to make a symmetrical man, not favor asymmetry. This is logically the part of wisdom.

Thus of a man's ideals. They ought to contribute to his power and increase his happiness. But unfit ideals—both positive and negative—are the source of a great amount of grief, failure and chagrin. That man who knows (from his examination papers or otherwise) that his use of English is crude and blundering, should have the perfection of the language for one of his ideals, and try to acquire a critical sense of it. But this is the very thing he is least likely to do, both because his consciousness of his fault is dull and because the ideal is hard. The lack of such an ideal has kept many a man below his deserts and sometimes even blasted a career. I know of several notable examples of this sort. One was a man of great superiority in the science of medicine who failed of appointment to an important professorship he had coveted for years, and for no other reason than the lack of such an ideal.

If a man could know that in his demeanor he is liable to be rude, brusque and impolite (as his neighbors know it) he might erect an ideal of gentleness and courtesy with great profit to his spirit, and, if he practices a profession, profit to his purse also. Probably he has already fully or over-developed powers in other directions, most likely in force and effectiveness. Can he discover the need of a new ideal and create it? Perhaps he can, but nothing short of a new birth in introspective psychology will enable him to do it.

On the other hand, the man who is naturally courteous and thoughtful of the feelings of others in little things,

* An address delivered at the Commencement Exercises of Rush Medical College, in affiliation with the University of Chicago, Oct. 2, 1902, the introductory remarks being omitted.

and especially in the entertainment of others, is in danger of overdoing a good ideal. For it can be carried so far—and often is—as to entail a burden in the manifold duties which it imposes. It is a greater burden in the fear, dread and terror it often produces in its possessor lest it may be violated. And when it is in excess it has no compensating advantages, except some very dubious ones. The standard requires the person to be polite and to entertain others in conversation—so a sick man wears himself out entertaining thus a lot of people to whom he is under no obligation. A distinguished friend, when on his death-bed and too weak to talk to anybody, actually felt called on to apologize for not talking. The ideal sometimes grows to be a sort of craze—not only to talk, but to believe it a duty to talk whenever within earshot of others. Then follows a species of deception and finesse—for we get tired of people, even our friends, and tired of talking to them; so we shun them, keep out of their way, avoid them, give a lot of fictitious excuses for not coming and for being out. For we know perfectly well that once in their presence nothing but syncope or death can stop the wagging of our tongues. That we have enough of plain courage to stop it, is unthinkable!

Ideals as to personal appearance, dress and adornment lead to many bypaths that take us into unexpected regions. Sometimes the effect is grotesque in its influence on character and success in life. The sum total of it is usually unfortunate, if not bad, the one advantage being the happiness which the individual himself seems to get out of his indulgence. It is a cheap sort of happiness, always yoked with a degree of vanity, but some people can be made happy by such things. Once there was a judge in the east who, for a quarter of a century, appeared daily with his hair wrought into large curls. It was inevitable that it should influence his character and his relations with others. Not that the curls amounted to anything *per se,* except as they singled him out from among the rest of the community, but solely through the introspecting influence, the egoism which is engendered in the man.

If it were the custom for men to wear rings in their noses it would mean little except a thraldom to a mere fashion—a thing we are constantly victims of. Fashion allies us to a race, a guild or a set of people. For one man in a hundred thousand to wear a ring in his nose takes him conspicuously *out* of the fashion and into the realm of vain conspicuousness.

The curls of the judge even failed as a mark of defiance of that fashion whose purpose is show. Such a defiance would have required a fine sort of courage and independence. If that kind of fortitude had been required in order to wear the curls he never would have had them. It needed only a species of vanity, a desire to do something others did not or could not do, something that would distinguish this man from all his fellows; or an abounding desire to please his personal fancy. It was different, too, from a wholesome desire to distinguish the self from others. That could have been sought through work, art, achievement, skill or daring—what countless thousands of men and women are doing every day. This took no courage worthy of the name, no work—save a few minutes each morning with his curling facilities—no attainment, or study, or skill. He paraded his curls like the color of his skin, or the shape of his features, or the gait of his walk, and without a particle of credit of any kind.

Now the curls were a trifle, like an inch-long fingernail or a beard the length of the body. These are all little things in themselves and amount to nothing in the world's greater arithmetic. But they are vital if they signify a mental quality, an emotion, which colors the life and segregates in some way an individual from his fellows—and they always mean a weaker rather than a stronger purpose. They are more lamentable still if they beget, as they tend to, an emotion that lessens the power of the individual in the world. Such a waste of personal force and influence is a sin.

It is no adequate reply to the criticism to say that such habits are happifying to the individual, for joy can come as truly from ennobling and developmental emotions as from weak and minifying ones.

To make oneself odd by defying a useless or injurious fashion, when it takes courage to do it, is commendable. That is to defy the class conscience and take a stand for the sake of individual conscience. The fashions in trifles, like neckties and ribbons, is the refuge for souls that lack courage. To refuse to use tobacco or liquor, or wear high collars or tight corsets, sometimes takes the manner of courage that pushes a man into battle, or makes him face an epidemic of deadly disease and not run away from it. No case can be made out against such courage—it can not even be laughed down.

There are some ideals which a practitioner of medicine can not afford to do without, as there are those he ought to shun with all his power. One of the latter that is very common to us is that of our own certainty and sufficiency. We fall into it unavoidably. We have, we believe, the very foundations of all wisdom, and we are bent on reforming the world, if not making it over, in the first decade. So there grows up within us a great amount of dignity and personal importance that is sure to be jarred by sundry experiences of life. But we feel bound to protect and defend them, nevertheless. When a patient fails to take the medicine as ordered, or otherwise ignores our advice, we are affronted and get warm or grieved over it, and so waste a store of good energy that we might put to a better use.

It is a slow lesson that people have notions of their own—foolish ones often—which they have been following very much for centuries, and that they have some rights to follow them, even if they are foolish; also, that they frequently will follow them in spite of any and all of our efforts to the contrary. And we gain less rapidly when our sense of independence and personal importance runs against theirs. It is a long step forward when the young physician can say to the misbehaving patient, and say it gently: "Of course, you do not *have* to take the medicine I prescribe or to follow my advice. They are both given on the theory of doing you good, but you can omit them if you wish; only remember that if you do omit them, not I, but you, take the responsibility. I am willing, even glad to be freed from responsibility if you wish me to be." Say that and see how quickly the moral atmosphere will change.

Have an ideal that you will do your work honestly, faithfully, not lazily or carelessly; that you will keep written records of your work and not trust to your memory of it, and that then you will take the consequences without grumbling or whining. This is of the very essence of the best courage. Moreover, after you have planted your seed as best you may, watch for its sprouting, but don't dig up the ground to see if it has sprouted or is growing downward.

Shun the vicious ideal of speculating in your mind

as to what in general others think of you. Don't walk down the street metaphorically asking people whether they recognize in you the sort of a fellow you think you are. To do it distracts the mental attention and prevents serious work; or leads to worry, fear, suspicion, jealousy and heart-burnings. It doesn't pay. And when you begin to guess—for many will, and usually guess wrong—as to how others think and feel about you, then you are walking along the rim of the grand canyon of gentle lunacy. You may never do it—pray that you never will—but you can then very easily plunge over into the canyon.

I once had a friend, eminent in the profession, who, when called in an emergency to see a patient of another physician in his absence, always prescribed with ingenuous loyalty, both to the patient and his physician. But he would go round the next day and make an unexpected call on the patient. When asked why he did it, he said: "I do it to see how I stand with the family." He was a good man in most things, but he was wrong in this, and the foolish ideal tinged to his discredit his whole career. He had no call to constitute himself a detective to find out whether the people thought well or ill of him—and it was little advantage if he did know, for if it was well his vanity grew, which was needless, and if it was ill he increased his bitterness, which was unnecessary. His duty ended when he had served the patient honestly and scientifically, and he ought to have had the courage to rest his case there. His duty, like the duty of all men, was to know himself that his conduct was correct and that it tallied with the Golden Rule.

One of the best ideals of all is that we will not and can not afford to be petty and trifling. This is a hard one to hold to, so naturally do we fill our heads with the trivialities of life. We talk about trifles, hear about them by the hour, and read them in the columns of personal gossip in the daily papers. If you care for a curious study in the anatomy of your own daily life, just make a list every night for a week of all the trifles that have concerned your mind during the respective days, and lay the record aside for a year. Reread it then, and say whether you think it was a profitable week.

One of the hardest things of all to do—and one of the most important to be done—is to make sure that we do not regard to-day that thing to be momentous which to-morrow we shall know to have been a trifle. The struggle after real consistency is a hard one.

One of the greatest achievements of a young physician is to be able to be dismissed by a patient and be serene about it. It is a question of point of view and the relation he thinks he holds to his patients. If he has the only right view, namely, that he is a servant of the public, and that his relations with his patients must be of absolute mutualness, and that he most of all desires that the relations shall cease the moment the mutualness is broken—if he can get himself up to this platform he has smooth sailing—otherwise, he encounters repeated seas of hot water that rob him of many of the joys of life.

Numerous physicians go through life with such false and artificial notions about their fees as to create for them a lot of trouble. Their difficulties are chiefly of two kinds. One is an unreasoning idea, acquired out of nothing and from nowhere, that all patients must be averse to paying for their medical services, and resent being asked to pay. So the young physician is likely to feel that sending a bill, and particularly the dunning of a patient, has some of the qualities of a challenge to combat; and that it will be at best a very unpleasant task. This is all wrong; the average patient expects to pay a fair fee for faithful attendance, and to take the contrary view discredits both the physician and the public. Of course, there are a few men and women who have no appreciation of their just obligations, and always try to shirk them—but they are the exception, and we ought to be willing to teach them some lessons by wholesome insistence, and to do it without anger and without looking or acting as though we had been stealing.

The opposite ideal with which a few start out is that of coveting the enormous fees they have heard of a few men receiving. This attitude is unfair to the people, who should only in the rarest instances be expected to pay such sums—and can only in a few cases afford to pay them—and it does the physician discredit, since it begets a spirit of sordidness, and works against the best service of the profession to the public, which is one of the most sacred of all the duties of the physician.

Let us first be scientific and faithful to our patients; let us acquire friends and a large clientele if we can; then let us raise our fees to keep down a flood of work that happens to flow our way. When, if it ever comes, something leads the public and the profession to make a large enough market for such talents as we have, then let our fee bills to those able to pay recognize the fact, but let us never, as we hope for future happiness, be grasping with the poor people who give the world its best lessons in frugality and honesty; and let us, as we hate meanness, never forget our own days of small things.

Let us be honest to science and to ourselves. If we have to shade the fact to the patient for his own good, and even to give him placebos to the same end, we must never deceive either science or ourselves. There is only one right way to study and practice medicine, and that is in a spirit of humility to the truth, and especially to the new truth—but to the truth proven.

Probably the most effective mental quality that most young practitioners lack—that few men have at beginning—is the power of imperturbability. No other quality so makes the physician superior to accidents, emergencies and trouble as this; as no other is so profitable in making his reputation as a power.

If a patient dies on the operating table, or goes out in a minute from pulmonary hemorrhage, or if you discover you have blundered, you must not shake; and you must not throw up your hands while life lasts. However appalling the emergency you must not be dismayed; and you must make your best fight when the tide sets against you. In athletic games that man is worth little who can only play his best when victory and the shouts of his friends are in the air. So in this professional life, the man who is strong only when no calamity threatens is worth little. In this civilian career the best quality of a soldier is needed, that quality is dependableness in times of trouble.

Finally, there are a few ideals that are so vital for an all-round success that they are sacred. One is that this business of life is too important for us to waste time and energy in contentions for personal ends. If we contend it must be for some principle or for a benefit to the public whose servants we are. There is one sovereign remedy for all personal quarrels that anybody may attempt to get you into—that is to ignore them and go on

with your work. If you will only have pleasure in this and let it fill your days, you will have no time to contend, and your neighbors will soon know the fact.

Another ideal, and the most sacred of them all, is one of discontent—a discontent that must only end with your latest breath of mentally competent life. You must be dissatisfied with the many unsolved questions of science, problems of the greatest interest; problems that concern the lives of all the people. It is an unending work of love and interest to solve them; and the long night of our past ignorance about them must not discourage you. So much new science has come by the labors of our profession within the memory of men still young, that nobody should be discouraged as to the future. Cancer will be understood and pernicious anemia and diabetes, and a hundred other diseases, and the greatest enemy of all, tuberculosis, will be controlled—and toward these ends every man can contribute. If you can not become an investigator you may help hold up the arms of another who is, and so shall have some part in the cumulative consummation. Stirred by this discontent your eyes must look steadily forward for new light—beware of the false ones—for the true light will appear and you shall not be surprised because you have been looking for it all the years—so shall you grow and learn to your latest day, and you shall escape mental fossilization. This deplorable fate of so many physicians comes of a fixed notion that most of the knowable is known, and that science will remain as it was. But whoso postulates that many things are yet to be discovered, and that some of his most precious theories may one day have to be given up or recast, and that it is a disgrace to stand still—that man will keep his heart warm and his interest close to the moving column. He can never become a mental fossil; and though living into age he shall die young.

The medical profession must progress and grow in knowledge, and the new knowledge must make for higher usefulness. But we are in danger—and the more volatile of us in most danger—from this very fact. We are liable if not likely to be side-tracked in a pursuit of one idea and to be governed by it, and so lose our sense of proportion; to become seized with a fad and try to square the world with it. The rapid progress of our science and art during the past few years has increased this danger, and we have had plentiful examples of medical men being dominated by a single thought, and losing all judicial judgment. Some of the more enthusiastic of them have had a new fad each decade for forty years. Hardly one of them has attained to great success in any way, unless the occasional riding into pecuniary fortune, possibly in the saddle of their fads, may be called success.

No professional man has great success merely because he makes money—success requires also usefulness to his public, loyalty to the truth, the approval of the great body of his associates, and a clear conscience of his own. Thorough sanity and moderation in all our judgments is, therefore, the only safe ideal, and there is more need now than ever before for this standard in the medical profession. To "prove all things; hold fast to that which is good," has not ceased to be wisdom. We can be progressive and be sensible also.

We can be moderate and judicial, refuse to be stampeded either for or against a new doctrine, and yet put every new truth to its best use. We have no warrant, simply because we have discovered a new fact, to throw our hats into the air and forget that this fact has important relations with a hundred old truths that can not be abandoned, and we will show our wisdom by searching for those relations. If complete salvation ever comes to us it must be through all the truth, not a mere fragment of it. And a due sense of proportion—otherwise common sense—as an unswerving and insistent ideal is, in a work-a-day life, the best guide for a safe journey.

Original Articles.

THE CHEMISTRY OF THE TROPEINS.*

A. B. LYONS, M.D.
DETROIT.

It is now more than seventy years since Mein announced the discovery in belladonna of an organic base. The discovery was made independently two years later by Geiger and Hesse, who in the same year discovered in stramonium a similar base to which they gave the name daturin, also in henbane another which they called hyoscyamin. It is needless to follow the details of the subsequent investigations which even yet are not complete. Suffice it to say that they have led to the conclusion that the bases discovered in the several mydriatic drugs, belladonna, stramonium, henbane, mandragora, duboisia and scopola, and named at first from these respective drugs, atropin, daturin, hyoscyamin, mandragorin, duboisin and scopolamin, are mixtures chiefly of three or possibly four alkaloids, two of which, atropin and hyoscyamin, are isomeric; the other two, if we adopt the views of O. Hesse, are also isomeric, although differing somewhat in atomic composition from the former. All have the property of producing extreme dilation of the pupil of the eye, but it is probable that no two exactly coincide in their physiologic or medicinal action.

There has been a good deal of confusion in the past in the nomenclature of these alkaloids. In the first place the alkaloids, and so the products of manufacturing houses, have generally contained more than one of the alkaloids. Atropin in particular has frequently contained a large proportion of hyoscyamin, while commercial hyoscyamin contains always some atropin. More serious than this, however, is the confusion that has arisen from the use of the term "amorphous hyoscyamin," applied to the residual alkaloid from henbane from which hyoscyamin has been removed. This residual alkaloid was rightly believed to represent the characteristic action of henbane as distinguished from that of belladonna, and, in fact, consisted chiefly of what is now commonly known as hyoscin, the distinctive alkaloid of henbane. When the crystallized hyoscyamin appeared physicians naturally supposed that it was simply a purer product, and they have been rather slow in discovering that in its action it resembles more nearly atropin than the amorphous hyoscyamin they had formerly used.

The confusion was increased when later a crystalline salt of hyoscin was produced, not from henbane, but from *Scopola atropoides,* and was offered under the name scopolamin hydrobromate. Then, finally, the physician learns that the principal alkaloid of the common European scopola is hyoscyamin, and he couples this fact with the information that has come to him that scopolamin is identical with hyoscin, and concludes,

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very naturally, that hyoscyamin, which he supposes is the distinctive active principle of henbane, is identical with hyoscin.

Now the facts are that: 1. Hyoscyamin is the most widely distributed of the mydriatic alkaloids, being found in belladonna, stramonium, henbane, duboisia, mandragora and scopola; in fact, in every solanaceous plant possessing mydriatic properties. It has been reported even as present in lettuce, a plant of a different family, but the announcement seems to want confirmation. 2. Hyoscin, on the other hand, while present in minute quantity in most mydriatic drugs, is an important constituent only of henbane and of *Scopola atropoides*. 3. Hyoscyamin is easily converted into atropin, so that it is the latter alkaloid rather than the former that is obtained by the ordinary manufacturing processes, even when the drug originally contained chiefly or only hyoscyamin.

I may add that chemists are not as yet wholly agreed as to the nomenclature of these alkaloids. There is no longer any disagreement regarding the names atropin and hyoscyamin, but some chemists prefer the name scopolamin to hyoscin, the latter having been originally applied to the "tropin" derived from hyoscyamin. O. Hesse, while adopting the name hyoscin for the distinctive alkaloid of henbane, finds that commercial scopolamin is a mixture of this with another isomeric alkaloid to which he gives the name atroscin, and his views are now widely accepted.

According to principles generally recognized in scientific nomenclature, the name hyoscin should be ruled out as having been originally applied to a different substance. The principle is "once a synonym, always a synonym." The later name, scopolamin, would stand next in succession, but to which of the two alkaloids should it be applied? The fact that scopolamin was identified with hyoscin before it was discovered that the former consisted of two different alkaloids should decide us to retain the name as synonymous with hyoscin, which name must be abandoned for the reason just given. It is true that from 40 to 80 per cent. of commercial scopolamin consists of the more recently discovered alkaloid, but that is no reason why we should not adopt the new name proposed for it by its discoverer. This name, atroscin, is, moreover, etymologically appropriate. It suggests the idea of kinship at once with atropin and with hyoscin—although the hyoscin in question is improperly so called. Dr. Hesse maintains that his atroscin is related to scopolamin (hyoscin, he calls it,) in precisely the same way that atropin is related to hyoscyamin.

This brings us to the question of the relation to one another of atropin and hyoscyamin. The two alkaloids have the same ultimate composition, the empirical formula of each being $C_{17}H_{23}NO_3$. The chemical behavior of the two is almost identical, but corresponding compounds differ materially in physical properties, and by taking advantage of such differences the alkaloids may, with some difficulty, be separated. Thus, of the aurochlorids, that of atropin is much less soluble in water, and accordingly when a solution of gold chlorid is added drop by drop to the mixed hydrochlorids of atropin and hyoscyamin the precipitate which forms at first consists almost wholly of atropin aurochlorid. The precipitate is amorphous, having a melting point of only 135 to 138 C. When crystallized from its solution in boiling water, acidulated with hydrochloric acid, it takes the form of minute crystals, which, after drying, are without luster. The corresponding compound of hyoscyamin forms a crystalline precipitate consisting of golden yellow scales which retain their luster after drying, and have a melting point of 160 to 162 C.

Atropin itself has a melting point of 114.5 C. and crystallizes in needles or minute slender prisms. Its solutions are optically inactive, i. e., they do not rotate the plane of polarization of a ray of polarized light. Hyoscyamin has a melting point of 108.5 C., considerably lower, therefore, than that of atropin. It crystallizes in very slender needles, frequently in radiating clusters. Its solutions turn the plane of the polarized ray strongly to the left. When hyoscyamin is heated to a temperature slightly above its melting point, or kept in contact with solutions of potassa, soda or even of ammonia, it is gradually converted into atropin.

The latest researches indicate that it is probably hyoscyamin which is formed at first in the plant in all cases. The flowers and young leaves and shoots of plants like stramonium or belladonna yield chiefly or wholly hyoscyamin. Mature plants and old roots yield mainly atropin. In the ordinary processes of manufacture no doubt a large proportion of the hyoscyamin is converted into atropin.

If it turns out that there is a decided difference in medicinal action between the two alkaloids, it will become a matter of importance at what season such a drug as belladonna is collected. Even soil and climate may be found to have a heretofore unsuspected significance in connection with these drugs. It has been recently observed that stramonium grown in Egypt contained no alkaloid but hyoscyamin. An Indian species of henbane, *Hyoscyamus muticus*, yielded also almost pure hyoscyamin, and the same plant grown in Egypt was found extraordinarily rich in that alkaloid. The European henbane yields, beside its characteristic alkaloid, scopolamin (or hyoscin), both atropin and hyoscyamin.

According to Dr. Hesse, scopolamin (hyoscin) corresponds with hyoscyamin; atroscin with atropin. Both scopolamin and atroscin have the empiric chemical formula $C_{17}H_{21}NO_4$. Scopolamin melts at 55 C. It rotates the plane of polarization to the left. It may probably be converted into atroscin by the action of alkalies, the latter alkaloid being optically inactive, and having a fusing point at 82 to 83 C. Since the views of Dr. Hesse are not universally accepted, I ought to state that the old view, that the so-called hyoscin from henbane is isomeric with atropin and hyoscyamin, is still held by some chemists, the relation which this hyoscin bears to scopolamin from *Scopola atropoides* remaining undetermined.

Regarding the chemistry of atropin and hyoscyamin, however, the facts, which are of unusual interest, are well established. By the action of alkalies or of mineral acids, the alkaloids are readily "saponified" or split into a basic and an acid constituent. This saponification or hydrolysis is most conveniently effected by baryta, and results in the formation of tropin and tropic acid according to the equation $C_{17}H_{23}NO_3+H_2O=C_8H_{15}NO+C_9H_{10}O_3$. Under the influence of acids the reaction is $C_{17}H_{23}NO_3=C_8H_{15}NO+C_9H_8O_2$, atropic acid being formed in place of tropic acid.

Tropic acid and tropin can be made to recombine, although the union is not precisely of the same kind as that between acid and base. What is more interesting and more important is the fact that tropin may be made to combine in a similar way with other organic radicals forming new synthetic alkaloids. Ladenburg, who first established these facts, gave to these alkaloids the gen-

eric name *tropeins,* this name applying equally to the natural and to the synthetic alkaloids.

The other alkaloids found in Nature associated with hyoscyamin and atropin are also tropeins, or else are similarly constituted so that they are saponified by the action of baryta, some of them yielding, instead of tropin, an isomeric base called pseudotropin. According to Dr. Hesse, scopolamin and atroscin yield instead of tropin the base oscin, to which he assigns the formula $C_8H_{13}NO_2$. In the older view these alkaloids also are tropeins. The important facts are that they are split up under the action of alkalies and of acids in the same way that the tropeins are, and that they act on the pupil of the eye in the same way that the natural tropeins do. This characteristic property, it is interesting to note, does not belong to all the artificial tropeins, although possessed in a high degree by some of them. Benzoyl-tropin dilates the pupil strongly; salicyl-tropin, differing from the preceding only in having in its molecule one more oxygen atom, produces no such effect.

Accompanying hyoscyamin and atropin in belladonna and other mydriatic drugs, there have been found the allied alkaloids belladonnin and atropamin. These differ from atropin in containing the equivalent of one molecule of water (H_2O) less. They are, therefore, distinguished as anhydro-tropeins. It is not certain that these actually exist in the drug. They may possibly be produced by the action of the chemicals used in extracting the alkaloids. They are split up by baryta into an acid and a basic constituent, the former isomeric with tropic or atropic acid, the latter isomeric with tropin, but differing from that base in its properties and called pseudotropin. An allied alkaloid, yielding by saponification benzoic acid and pseudotropin, has been found in coca leaves, although it appears not to be a constant constituent of these. None of these alkaloids, so far as I know, are mydriatic. Some of them act as powerful irritants when applied to the conjunctiva. None of them are known to have medicinal properties of importance and they do not form a large constituent of the alkaloids in any mydriatic drug so far as is yet known.

Of the mydriatic drugs, only three, belladonna, stramonium and henbane, are used to any extent medicinally in this country. The two former are generally considered to have practically the same medicinal action, differing only in degree. If a distinction exists it has not yet been made a subject of scientific analysis. The action of henbane, however, is without question quite different from that of belladonna. All three drugs contain the three alkaloids, hyoscyamin, atropin and hyoscin (or scopolamin), but in different quantities and in different proportions. Belladonna is believed to contain generally chiefly atropin, although hyoscyamin may sometimes predominate. Stramonium probably contains generally more hyoscyamin than atropin, although this may prove to be not uniformly true. Henbane contains relatively a much larger proportion of hyoscin (scopolamin) than either of the other drugs. Good belladonna leaves should yield of total alkaloids as much as 0.30 per cent., the proportion varying, however, between 0.1 and 0.5 per cent. or more. Belladonna root contains generally more alkaloid than the leaves, but the drug varies greatly. Stramonium leaves should yield 0.25 per cent. total alkaloids, the proportion ranging from 0.1 to 0.4 per cent. Henbane contains very little alkaloid. If it yields to assay 0.1 per cent. total alkaloids, estimated as atropin, it is of exceptionally good quality.

From the great variability of these drugs in strength it is exceedingly desirable that we should have reliable assay processes by which to ascertain their quality and that certain standards should be fixed by the pharmacopeia as minima of strength for each. Satisfactory assay processes are as yet a desideratum. As long as we are in doubt whether there is any important difference between the therapeutic action of hyoscyamin and that of atropin, the result of an assay that determines only total alkaloid leaves much to be desired. Particularly is this true when there are liable to be present also other alkaloids, such as atropamin and belladonnin, which are medicinally inert, or which may produce even undesirable effects. Under such conditions all that we can hope to learn from an assay is whether or not there is present a minimum amount of something which contains the active principle of the drug, and probably consists largely of that active principle. In view of the fact already stated, that specimens of the drug are often met with which contain less than 30 per cent. of the quantity of alkaloid ordinarily present, even such an assay is of distinct value.

But suppose an assay is made of belladonna leaf or of belladonna root, which are really not belladonna at all, but scopola—and this is a very common substitution —the drug will be reported to contain a normal amount or very possibly much more than the normal amount of alkaloid, with no hint that this consists mainly of hyoscyamin and not atropin. We have no method as yet of effecting a quantitative separation of these two alkaloids when dealing with the minute quantities obtained in ordinary assays, rarely more than 40 or 50 milligrams, but we may resort to the polariscope, and with a sufficiently sensitive instrument we may be able to determine approximately how much of the alkaloid is hyoscyamin, in absence of other optically active alkaloids. Much experimental work would have to be done before we could be sure that the results were trustworthy.

Possibly some satisfactory method may be devised of testing the strength of these drugs empirically, i. e., by the so-called physiologic method. We are certainly not in position as yet to devise any such method of testing. If it were possible to measure accurately the mydriatic action of the drug we should still have to determine accurately the mydriatic action of each of the alkaloids present, and it is easy to see that if there are more than two of these we shall have a greater number of unknown quantities than we have of equations.

The assay of henbane is still further complicated by the undoubted fact that the characteristic effect of the drug is produced by the third alkaloid, hyoscin (scopolamin), or by the combined action of this with hyoscyamin. The total quantity of alkaloids, moreover, is exceedingly small. The most we can hope to do is to ascertain whether the drug contains as much as a certain proportion of total alkaloid, but even this is not so simple a matter as at first appears. The alkaloids themselves are very easily changed by the action of the chemicals used in extracting them. The accidental presence even of a few drops of alkaline water during the final evaporation of the ethereal solution of the alkaloid may reduce the apparent yield 50 per cent. or more. After every precaution has been used to avoid change or loss of alkaloid, we have still the problem of determining how much alkaloid we really have. Our product is so impure that we can not rely on weighing it. We must ascertain its neutralizing power, and from this calculate the weight. But the neutralizing power of

hyoscyamin is not precisely the same as that of hyoscin (scopolamin), so that we must use a mean value or else report our alkaloid in terms of hyoscyamin, or of atropin, which amount to the same thing.

The polariscope can not aid us very much because both hyoscyamin and hyoscin (scopolamin) are levorotatory. There is one important difference probably. Hyoscyamin combines with a larger proportion of iodin than hyoscin under similar conditions. Possibly this may serve to show approximately the relative proportion of the two alkaloids, but this is a suggestion that must be worked out experimentally. Up to the present time we certainly have no satisfactory way of determining the therapeutic value of a sample of henbane, except by actual trial—the method that our fathers had to use before us.

I speak of these things, not to belittle the value of chemical assays. I am a firm believer in such assays. I have full confidence that science will overcome the obstacles that seem now almost unsurmountable; that the day is not far distant, indeed, when the particular difficulties which surround the assay of mydriatic drugs will have been conquered. But this can only be hoped for if we clearly understand the nature and the magnitude of the difficulties.

Recurring now to the tropeins as compounds of some organic acid with tropin, I call attention to the peculiar interest which attaches to the latter (basic) constituent by reason of its relationship with the organic base pyridin, and so with coniin and nicotin and with the decomposition products of cocain. It will not be profitable to enter here into the details of these relationships. It suffices to know that modern organic chemistry is rapidly mastering the intricacies of the molecular constitution of compounds so complex as the vegetable alkaloids.

That this knowledge is not purely transcendental, but capable of practical application, is proved by the fact that the chemist is able not only to reconstruct from its constituents, one of which he is able already to produce synthetically, the alkaloid atropin, but also to form new artificial alkaloids, one of which, homatropin, is already familiarly known as an article of the materia medica. Some of these synthetic alkaloids, as I have already said, have a strong mydriatic action; others little or none. A wide field is opened for useful experiment on their physiologic and possible therapeutic action.

Who shall pursue these researches and in what spirit shall it be done? Many of them will lead only to negative results. A few will lead to discoveries that will enable us to cope successfully with morbid conditions that now baffle our skill. Such rewards appeal to two classes: to men on the one hand whose profession binds them to unwearying, strenuous effort to possess themselves of every resource for the ministering to human needs; to men on the other hand who understand the commercial value of a new popular medicine. Which of these classes will be most likely to find the treasures that lie hidden in these new mines? Which will make such use of those treasures when found as will make the world richest through them?

The work, friends, is ours. To the toil it involves our lives are consecrated. To us alone is known the true value of the objects of this search. To us of right belong the honor and the glory of discoveries such as we hope for. It should be a shame to us to have to pay tribute to the mercenary explorer who has adventured more for gold than we for humanity—and the chance is that any such tribute is after all bare-faced imposition.

It is not alone the glory, it is the work, that is ours—patient, plodding, self-sacrificing toil, and the place above all others to do that work is right here in the Section on Materia Medica, Pharmacy and Therapeutics of the American Medical Association. It is our task; it is also our glorious opportunity. Let us see that the opportunity is improved.

THE PHYSIOLOGIC ACTION OF THE MYDRIATIC ALKALOIDS.*

HORATIO C. WOOD, Jr., M.D.
Demonstrator of Pharmacodynamics, University of Pennsylvania.
PHILADELPHIA.

The number of drugs which dilate the pupil is so very large, and the physiologic relations of many of them so distant, that a consideration of all those substances which might be called mydriatics would not only consume much more time than is at our disposal, but would necessitate classing together of drugs not naturally so related. I shall, therefore, confine my remarks to those alkaloids which belong to the series of tropins; and for similar reasons of brevity omit the consideration of the synthetic alkaloids of this series, such as homatropin.

Before, however, taking up the consideration of the physiologic action of these substances, I wish to call attention to the very unfortunate confusion in the nomenclature of the active principles of the solanaceous plants. As various investigators have from time to time discovered in different members of this family alkaloidal principles, they have given new names to their discoveries, which in many cases were subsequently found to be identical with alkaloids already described. Thus, for example, the active principle of *Datura stramonium* has been called daturin, it being in reality atropin; scopolin is synonymous with scopolamin; while the active principle of *Duboisia myropoides,* known sometimes as duboisin, seems to be a mixture of hyoscin and hyoscyamin. There are four of these mydriatic alkaloids occurring in Nature which have become of practical importance to the physician: atropin, hyoscin, hyoscyamin and scopolamin. These group themselves naturally into two pairs, atropin and hyoscyamin, hyoscin and scopolamin.

ATROPIN AND HYOSCYAMIN.

As closely allied physiologically to atropin as it is chemically is the isomeric alkaloid hyoscyamin. This is perhaps the most widely distributed of all the solanaceous alkaloids; it occurs not only in both *Atropa belladonna* and *Hyoscyamus niger,* but also in the *Duboisia myropoides, Datura stramonium,* and especially in certain species of scopolia; while atropin is found chiefly in belladonna and stramonium. The frequent substitution of the rhizome of *Scopolia carniolica,* the dominant alkaloid of which is hyoscyamin, for belladonna, renders the question of the comparative effect of these principles of great importance.

It is to be noted that of these two plants belladonna contains hyoscyamin and atropin, the latter being the dominant alkaloid; while scopolia contains hyoscyamin and hyoscin. The amount of hyoscin, however, present in the rhizome of *Scopolia carniolica* is so small as to have little bearing on the physiologic action of this plant, notwithstanding the contrary assertion sometimes made

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

by interested manufacturers. (This statement does not hold true of *Scopolia atropoides,* in which the dominant alkaloid seems to be hyoscin.) In an investigation which I made a year ago concerning the relations of *Scopolia carniolica* to *Atropa belladonna,* I was unable to detect any differences either between the action of hyoscyamin and atropin, or between scopolia and belladonna, except one of dose; and what I shall say of the action of atropin, therefore, applies also to hyoscyamin.

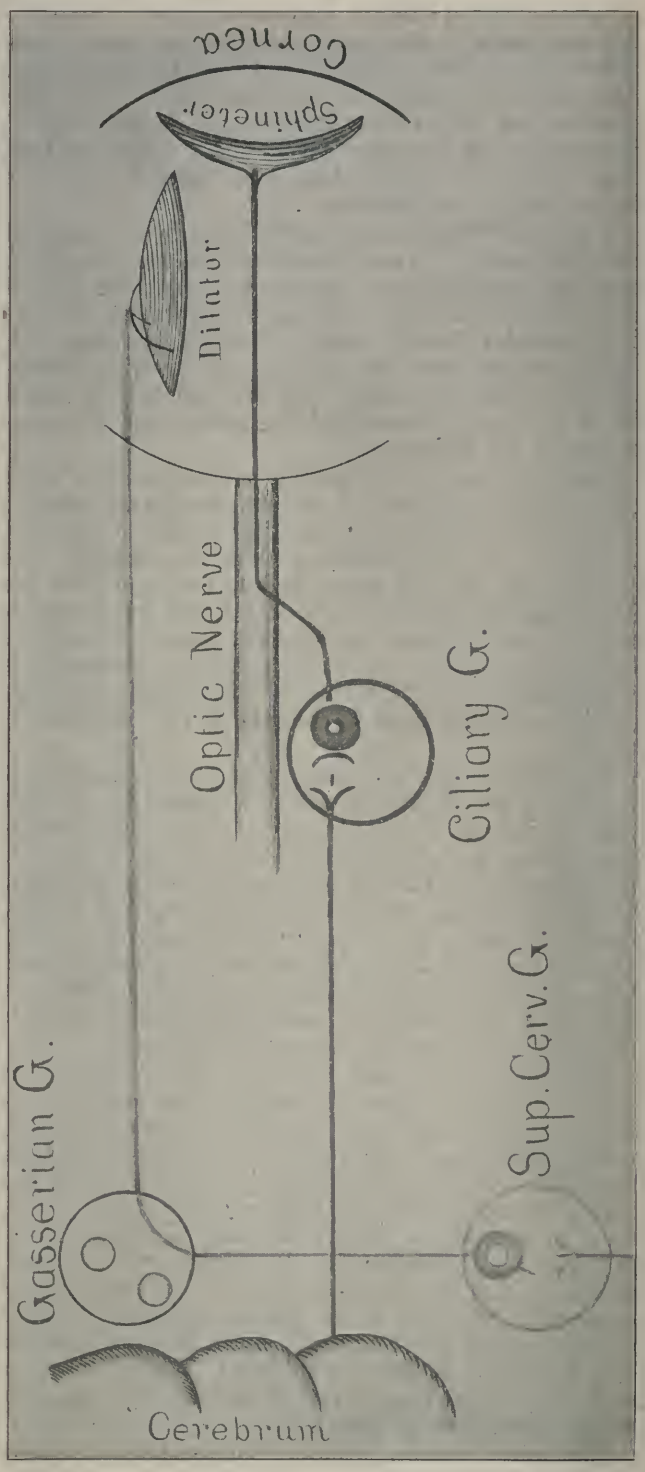
In generalizing the physiologic action of atropin the most characteristic effects seem to be a paralysis of the involuntary muscle fiber, a paralysis of the peripheral nerve endings and a peculiar stimulation of some of the higher nerve centers. The peripheral nerves which are most susceptible to the action of this substance are the cardiac inhibitors, the nerves regulating secretion and those which supply the pupils. Since we have grouped these drugs together on account of their action on the eye it is logical to consider this portion of the subject first.

Eyes.—Atropin has two effects on the eye: it dilates the pupil and paralyzes accommodation. These actions, although usually associated in the same drug, are not so of necessity. *A priori,* there is no reason why a drug might not either affect the pupil and leave intact the ciliary muscle, or vice versa, paralyze accommodation without alteration in the iris.

For the purpose of closer study of the manner in which atropin dilates the pupil, I have prepared a diagram representing the innervation of the eye, which will not only save a great deal of circumlocution, but perhaps make the subject clearer than a lengthy description. In the first place, we must remember that under the only condition in which it is possible to examine the eye, that is, in the presence of a certain amount of light, the sphincter pupillæ is always in a state of partial contraction. It is evident, therefore, that a drug may dilate the pupil, not only by stimulating the dilator mechanism, but also by paralyzing the contractor mechanism. If we glance for a moment at the diagram we see that these effects may be either on the centers governing these muscles, on the nerve trunks which carry the impulses from the centers, or on the muscles themselves. It is evident, therefore, that the pupil may be dilated, on the one hand, either by stimulation of the sympathetic ganglia, representing the dilator centers, or of the nerve which carries the dilator impulses to the muscle, or by a direct action on the radial fibers of the iris. On the other hand, the pupil may be dilated by paralysis of the contractor mechanism, the oculomotor centers in the brain, the oculomotor nerve which supplies the sphincter pupillæ, or, finally, by a direct influence on this muscle.

That the dilatation brought about by atropin is not dependent on any action on the centers is shown by the fact that when instilled into one eye it causes dilatation of the corresponding pupil without affecting the other. Since after application to the eye the atropin would be able to reach the centers only by being absorbed, and carried there through the general circulation, as after any other method of exhibition, it would necessarily be carried equally to both centers, and we would get a bilateral instead of a unilateral widening of the pupil. Further, Claude Bernard has found the mydriasis to occur in animals after section of the oculomotor, and H. C. Wood has seen it in man, both in cases of paralysis of the oculomotor nerve and of the sympathetic nerve, and, moreover, a number of observers have obtained dilatation of the pupil by atropin even when the eye has been completely removed from the orbit.

The drug, therefore, affects the pupil peripherally, that is, the dilatation is due to either an action on a portion of the nerve beyond the ganglia or else an effect



on the muscle. Bernstein and Dogiel found that electrical stimulation of the oculomotor nerve in cases of atropin mydriasis had no effect on the pupil, indicating again a peripheral palsy, but that when the electrodes were applied directly to the sphincter fibers of the iris the pupil was narrowed, showing that the muscle itself

had not lost the power of responding to stimulation. The dilatation, therefore, must be due to an action on the peripheral ends of the nerves.

The question as to whether the oculomotor nerve is paralyzed or the sympathetic stimulated is less easily answered. The fact that stimulation of the oculomotor fails to affect the atropinized pupil shows that this nerve is paralyzed; but whether or not the sympathetic is at the same time stimulated is a matter of some dispute. The fact that stimulation of the sympathetic, either electrically or by means of other drugs, such as cocain, is able to still more widely dilate the atropinized pupil, is brought forward as evidence that the sympathetic fibers are not stimulated by the drug. This, however, is by no means positive proof, for it is perfectly plausible to suppose that although atropin might have a stimulating effect on the sympathetic fibers, other measures could cause a still greater stimulation of these same fibers. It would be as logical to reason that because the combination of strychnin and atropin gives a greater increase in the respiratory movement than atropin alone that therefore atropin does not stimulate the respiratory center, as to reason that the sympathetic is not affected by atropin on the evidence given above.

Clinical experience in cases of adhesions within the eye shows that the dilatation of the pupil which occurs under atropin is more than a merely passive one, because it has force enough to frequently break up these adhesions. More than this, it has been found that when the eye has been completely separated from the body atropin is capable of causing dilatation of the pupil; and since in the removal of the eye the oculomotor nerve is entirely destroyed the further dilatation must be due either to a stimulation of the sympathetic terminals or a selective action on the radial muscles of the iris, which action is extremely improbable. We must conclude, therefore, that atropin dilates the pupil by paralyzing the peripheral end of the oculomotor nerve, and at the same time stimulating the terminations of the sympathetic.

Spinal Cord.—The effect of atropin on the higher nerve centers is a very complex one, and understood but very imperfectly. In the first place, every one knows that a large dose of atropin has some peculiar action on the brain, causing a wild delirium. Our knowledge of the brain, however, is not sufficient to allow us to determine more exactly the causes of this delirium.

Coming to the spinal changes, we note that although we find several theories to explain the effects of atropin on the spinal cord, our information is, after all, hardly definite enough to be called knowledge. To dismiss the question, as does one prominent text-book, with the remark that atropin affects the spinal cord like strychnin, not only avoids a perplexing problem, but is also a very inaccurate statement, for although there is, under the influence of atropin in the lower animals, a secondary stimulation of the spinal cord, more or less resembling a mild case of strychnin poisoning, the primary action of this drug on the reflex centers is widely different from that of strychnin. As was first discovered by Fraser, this early excitation is followed in the frog by a palsy so complete that in his earlier experiments Fraser thought the animal dead. Later, however, he showed that there was not only a return, but even a very distinct excitation of the reflexes. In other words, that atropin causes the following sequence of events: lessening of reflex activity, followed by paralysis, and followed again by excitement. Since pharmacology gives no instance of a drug which produces an exaltation of function after a primary depression, it is evident that atropin affects something more than merely the motor cells in the spinal cord. Fraser explained the series of phenomena by supposing that the spinal cord was excited from the beginning, but that in the early stage there was a paralysis of the motor nerves which prevented any impulses reaching the muscles; and that this paralysis of the motor nerves passed off more rapidly than the stimulation of the spinal cord, causing the appearance of the symptoms of excitation. Although it is true that a sufficient dose of atropin will paralyze the motor nerves in a frog, Ringer and Murrell have shown that protecting the nerve from the action of the poison by ligating the artery supplying it does not prevent the development of the paralysis, and that consequently the palsy is not dependent on any action either on the nerve or muscle. Moreover, in my own experiments, I have found that the time consumed in the spinal cord for the fulfilment of the reflex act is distinctly prolonged by atropin, indicating a lessening in the functional activity in the spinal centers.

The most plausible explanation of this peculiar sequence of events is that based on the supposition of the existence of a spinal inhibitory center. Of course, this is no time to discuss the truth or falsity of Setschenow's theory of spinal inhibition; suffice it to say that there are a number of pharmacologic facts inexplicable on any other hypothesis. We know that atropin paralyzes inhibition in the heart, and we know that atropin paralyzes inhibition in the intestinal tract, and it is only reasonable to suppose that it might also paralyze spinal inhibition. With the acceptance of this theory the explanation of the spinal action of atropin becomes a matter of comparative simplicity: there is first a paralysis of the spinal cord and also a paralysis of Setschenow's inhibitory centers. The paralysis of the motor cells does not last as long as the inhibitory depression, so that as the reflex centers of the cord regain their power the normal restraint is lacking and we have as the result a combination of abnormally exaggerated reflexes with muscular weakness.

Circulation.—The effect of atropin on the circulation is so well known that I shall dismiss it with but a few words.

Under the influence of the moderate dose of atropin there is a marked elevation of the blood pressure, accompanied by a very pronounced increase in the frequency of the pulse. The rise of blood pressure is due certainly in part to the increased heart action resulting from vagal palsy, but chiefly perhaps to the narrowing of the blood vessels. This is demonstrated by the fact that after previous section of the pneumogastric nerve atropin is capable of still elevating the blood pressure; and since after section of these nerves atropin has no effect on the pulse rate, the rise must be due to vasomotor stimulation. Furthermore, it has been shown that the drug is incapable of causing any considerable rise in the pressure after section of the spinal cord, that is, after destruction of the vasomotor centers; proof positive that the drug has a direct stimulating influence on the centers in the medulla controlling the blood vessels.

The increase in the work of the heart is due chiefly to the excessive rapidity of the pulse, which is dependent on removal of inhibitory restraint. That the

increased rate of the pulse is due to paralysis of the pneumogastric nerve is clearly proven by three facts: First, in those animals whose pneumogastric nerves are not in a state of tonic activity, as the rabbit, for example, atropin has little effect on the pulse rate; second, in those animals which, like man, have active inhibition, if the pneumogastric nerve is divided atropin is incapable of causing any distinct increase in the rate of the pulse; and, finally, electrical stimulation of the atropinized vagus does not slow the pulse.

It is probable, however, that the minute dose of atropin has a certain amount of stimulant influence directly on the cardiac muscle, for Beyer has found that the isolated heart of the terrapin is stimulated by small quantities of the alkaloid, and Langendorff brings evidence to show a similar effect on the frog's heart.

With this very cursory glance at some of the more prominent points concerning the physiologic action of atropin and hyoscyamin, we pass to the consideration of our second group.

HYOSCIN AND SCOPOLAMIN.

When we start to discuss the physiologic action of hyoscin, or rather before we start, we open a question on which there is so much disagreement that we can hardly claim to have any definite knowledge; indeed, even the existence of hyoscin is frequently denied, it being by many authorities considered to be identical with scopolamin. There seems to be but little doubt that in the majority of cases the substance sold under the name of hyoscin is in reality scopolamin; and there is certainly justification for the German Pharmacopeia in substituting for the name hyoscin the term scopolamin. Nevertheless, I am one of those who believe that there are two solanaceous alkaloids similar in their physiologic effects, and yet different enough to allow distinction, which have been known under the names of hyoscin and scopolamin. Both substances have, unfortunately, been called hyoscin, and as the true hyoscin seems not at present to be extant in commerce, what is to-day employed under the name of hyoscin is in reality scopolamin.

It is noteworthy in this connection that when Schmidt first asserted the identity of commercial hyoscin with the alkaloid scopolamin, he did not deny that the substance described by Landenberg might have been something else, and it is certainly taking a great many liberties with the work of an authority so well known as Landenberg to assert that his descriptions, both of the formula and of the properties of his discovery, were incorrect. There is both chemical and physiologic evidence of the separate identity of these two alkaloids.

Hesse has shown that certain specimens of scopolamin contain a substance with an optical rotary power muscle inferior to that of scopolamin itself. Louis Merck has brought confirmatory evidence to this discovery of Hesse's, in that he found that whereas the hyoscin prepared from hyoscyamus had an optical rotary power of 25 degrees, that from *Scopolia atropoides* had at times as low as 13.5 degrees; suggesting that in one or the other of them there was some other alkaloid which changed the effect of this substance on the rays of light.

Leaving out the chemical evidence we find that the physiologic evidence that there are two narcotic alkaloids belonging to the tropin series is sufficiently convincing. As far as I have been able to find, there have been but three careful complete researches on the action of hyoscin: those of Clausen, of Kobert and of H. C. Wood. All of these authors are in accord that hyoscin differs distinctly from atropin. For example, they all agree that it is not an excitant to the spinal cord; they agree that it is a somnifacient, although they are not unanimous concerning the power of its hypnotic action. It is interesting, however, to find that whereas the earlier researches, those of Clausen and Wood, showed throughout a fair degree of similarity, the later researches of Kobert differ quite widely from them in many respects. Thus, Clausen and Wood both found that the pulse was slowed by hyoscin in marked contrast to the effect of atropin; but Kobert, with full knowledge of the results of these investigators, and presumably exercising therefore even more than ordinary care, found that hyoscin affected the pulse precisely as did atropin, producing the same paralysis of terminal ends of the vagus. Moreover, whereas Wood found that comparatively small quantities of the alkaloid were distinctly depressant to the respiration, Kobert failed to obtain any lessening in the breathing, even with enormous doses. It is hardly possible that into the investigations of an experimenter of such ability as Professor Kobert, especially working as he did with knowledge of previous contrary results, there could have entered sufficient error to explain the differences of his results and those of the previous investigators; and it is equally illogical to suppose that the results of Clausen and Wood, one made in Europe and the other in America, at least one of the investigators being an acknowledged authority, would agree so closely in their results unless they had both been substantially correct. In the face of such contradiction the conclusion seems to me inevitable that Kobert had a different substance from that with which Wood and Clausen were working.

The clinical evidence of the separate identity of these two substances is also worthy of consideration. Both Wood and Kobert experimented on human beings concerning the effect of these substances on the brain; but whereas Kobert found that it was a comparatively feeble hypnotic, useful in only a minority of cases, Wood came to the conclusion that it was a hypnotic of considerable power. Every physician who has used hyoscin to any extent has noticed a very marked irregularity in its somnifacient action. At times it will seem to deserve a place among our most certain narcotics; on other occasions it will produce a condition more closely allied to the atropin delirium than to sleep. I myself believe that these differences can be most easily explained by the supposition that we are dealing with different substances.

In view of our ignorance concerning the identity of hyoscin and the dispute concerning its physiologic action, it is hardly possible to give in detail the physiologic action of hyoscin. In order, however, to consider the question of the action of mydriatic alkaloids in all its bearings, I shall very briefly point out the differences between atropin on the one hand and hyoscin as described by Wood and hyoscin as described by Kobert on the other.

It will be remembered that atropin is a powerful vasomotor stimulant; hyoscin, on the other hand, according to both the authorities quoted, exercises at no time any stimulant effect on the blood pressure. According to Kobert even enormous quantities have absolutely no effect on the blood pressure; but according to Wood, if the dose is large enough there is some weakening of the vasomotor centers. On the pulse rate Wood has found that hyoscin has not a great deal of effect, but tends somewhat to slow the pulse. On the other

hand, Kobert has found that the alkaloid overcomes the inhibitory stimulation of muscarin, and produces in the dog and in man an atropin-like paralysis of inhibition with consequent rapidity of the pulse.

Another difference between the actions of atropin and hyoscin is in their effect on the higher nerve centers. All authorities agree that under hyoscin there is lacking the primary stimulant influence of the central nervous system characteristic of atropin. According to Kobert, with the exception of the brain, hyoscin has no effect on the nervous system. On the other hand, Wood has found that hyoscin is distinctly depressant, not only to the brain, but also to the respiratory centers and to the motor side of the spinal cord.

In this very brief summary of some of the more vital points concerning the pharmacologic relations of the solanaceous alkaloids I have endeavored to present as fairly as possible the true state of our information, not attempting to hide our ignorance under the cloak of any unproven theory however ingenious and attractive it may be. It is painfully evident that there are many gaps in our knowledge of these principles; gaps which unfortunately limit their usefulness as practical remedies. The helplessness of the clinician to supply this lack in our knowledge is but another evidence of the value to practical medicine of scientific research. Until the scientist shall have demonstrated beyond cavil the chemical identity and the physiologic properties of these alkaloids, the practical physician, unable to know certainly what he is giving, can not expect to obtain definite therapeutic results from their use. And yet, many of these alkaloids seem to possess virtues which would make them extremely valuable to the physician if more clearly understood, and there is to-day as urgent need of careful scientific study of the mydriatic alkaloids as perhaps of any other group of drugs which are employed for the purpose of alleviating human suffering.

THE MYDRIATIC DRUGS AND THEIR ACTIVE PRINCIPLES.

THE OPHTHALMOLOGIC RELATIONS.*

CHARLES A. OLIVER, A.M., M.D.
PHILADELPHIA.

The drugs spoken of as mydriatics are ophthalmologically divisible into four classes—analgesics, mydriatics, iridoplegics and cycloplegics. They receive their generic name from the most prominent objective sign that is produced by their action. By reason of their many-sided effects they are the most valuable diagnostic and therapeutic agents which are employed in ophthalmic practice, the effects being mainly dependent on varying grades of true peripheral palsy.

They always act locally. This has been proven by the application of mydriatic-containing aqueous humors to other eyes, and by the action of the drugs after excision of the heart, after decapitation and after isolation of the eyeball. Further proof of their local action is shown by their increased activity after removal of the external layers of the cornea. Moreover, local applications never affect the fellow organ in a similar way.

Most prominent among the mydriatic agents are: holocain, cocain, eucain, euphthalmin, homatropin, mydrin, atropin, scopolamin, daturin, hyoscyamin, hyoscin and duboisin.[1] As is well known, many of these alkaloids, although differing by but one or two elemental atoms each, or even when absolutely isomeric, have variable physiologic actions on one and the same series of ocular structures. So, too, with the supposedly identical alkaloids derived from the same genus of plants grown in various countries, under varying conditions, or when obtained from one and the same plant at different ages. These peculiarities of action are probably dependent on idiosyncrasies of molecular arrangement of the same number of contained elements, the relative optimal and subinvolutional conditions of the contained cell-forms, and the variability of the ocular structures.

The only true method of differentiating these effects and grading the relative degrees of therapeutic usefulness of the drugs is to study their comparative powers on the excessively rare normal emmetropic eye or on the carefully corrected and healthy ametropic organ; a plan which gives a series of known factors on which to base desired effects on irritated, inflamed, and at times, weakened tissues.[2]

The chief effects of this class of therapeutic agents on the eye consist in external and internal analgesias combined with local paralyses of the sphincter muscles of the iris and ciliary body. By some observers most of the drugs (particularly atropin, daturin, scopolamin, hyoscyamin and duboisin) are supposed to exert simultaneous excitatory actions on the radiary fibers of the iris and the ciliary body. Some of the drugs are said to contract the blood vessels and to act on the peripheral ends of the nerves. A number of authorities believe that cocain-, holocain- and eucain-mydriases are due to local irritation of the sympathetic nerve endings in the iris (both vasoconstrictor and pupil-inhibitory fibers).

The local effects of the drugs are increased by bodily rest, with non-usage and non-exposure of the ocular organs. Cold applications diminish both the primary and secondary actions of the drugs. Heat tends to promote both of these results.

While the drugs are in use, colored glasses—preferably smoke-tinted coquilles which are free from blemishes and optical imperfections—should be worn. The degree of tinting should be regulated by the feelings of the patient and the conditions of the case. All of the solutions should be freshly prepared in small quantities, made neutral and kept only for brief periods of time. Some ophthalmologists prefer to add boric acid or some preservative to the solutions, but this is not necessary if the above rules are followed. During the instillation of the drugs care should be taken to prevent their passage into the lacrymal and the nasal passages.

The drugs which are employed for the definite and determinate purpose of pure mydriasis in ophthalmology are comparatively few. In the writer's hands they are limited in the order of their relative values to the following: euphthalmin, homatropin, mydrin and ephedrin. Used in the strict sense of the term they serve an im-

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1. Several other less frequently employed alkaloids, delphinin, solanin, etc., are not considered here. A number of experiments with the biborate and the salicylate of solanin have been conducted by the writer, but the results are reserved for a paper on another subject. The writer has not considered drugs, such as gelseminin, coninin, aconitin, which produce local effects on the eyeballs and their related structures by ingestion and topical application elsewhere, even when they are thus intended: for example, the internal administration of hyoscyamin for spastic conditions of the interior and exterior ocular muscles. Such drugs as strychnin and curare also have not been considered.

2. In the tests which have been conducted by the writer similar conditions in regard to illumination, time of day, condition of eyes, form of apparatus, and choice and use of drugs have been maintained.

portant purpose by permitting a broader view of the interior of the eye.

Euphthalmin is usually employed in the form of the hydrochlorate. Two drops of a 5 per cent. strength solution produce almost a maximal mydriasis, which lasts some two or three hours, and which is maintained under strong light stimuli, the pupil returning to its normal size in from twenty to twenty-two hours' time. The action of the drug on the ciliary muscle is very slight, a similar amount of the same strength solution evidencing its primary weakening influences on the power of accommodation in from ten to fifteen minutes' time, the maximum effect being reached in sixty to eighty minutes, and the last remnants of action not ceasing until five to seven hours have elapsed.

The drug is the best agent which we possess for pupillary dilation for ophthalmoscopic diagnosis. It is more powerful than mydrin. It is slower than homatropin in its action, yet its effects pass away more quickly, and it neither degenerates the corneal epithelium nor possesses any irritative or general intoxicant effects.

Homatropin, a mandelic ether of tropin, is generally used in the form of the hydrobromate. It is prepared synthetically. In 2 per cent. strength solutions it is used as a mydriatic. (In greater strengths, or by repeated instillations, it is employed by many as a cycloplegic for the estimation of refraction. For this purpose many ophthalmologists instill two drops of a 1 to 4 per cent. strength solution into the conjunctival sac every five or ten minutes until three or four instillations have been made, examining the eye for lenses in thirty minutes' time after the last instillation. These strengths of the drug employed in this manner will produce palsy of the ciliary muscle which will last at least sixty to ninety minutes, recovery usually taking place in about forty-eight hours' time.)

For mydriatic purposes, one drop of 1 to 500 strength solution instilled into the conjunctival sac every five minutes until five instillations have been made will produce a maximum effect of dilation on the pupillary area in from three-quarters of an hour to an hour's time, the pupil commencing to dilate in from six to fifteen minutes and returning to its normal size in about fourteen to eighteen hours' time.

(Its effect on the iris and the ciliary muscle is increased by the addition of cocain. This can be accomplished by placing one-fiftieth of a grain each of the two drugs in discs which are allowed slowly to melt on the conjunctival surface, and from thence to be absorbed into the interior of the organ. Oleaginous menstrua and oily excipients hold the drug in position for a longer time and thus increase the amount which is absorbed into the interior of the eyeball.)

In some cases, the mydriasis produced by this drug will partially disappear temporarily when the subject is placed under the influence of a general anesthetic.

Mydrin is an artificial preparation composed of one part of homatropin hydrochlorate to one hundred parts of ephedrin in a 10 per cent. strength aqueous solution. Applied to the conjunctiva the pupil begins to enlarge in from six to ten minutes' time, dilating to a maximal size of some 4 to 7 millimeters in about thirty to thirty-five minutes. Twenty to twenty-five minutes later the enlarged pupil begins slowly to diminish in area until in from four to six hours' time all artificial mydriasis has disappeared. This mixture is much more effective as a mydriatic agent than either of its constituents in their uncombined proportions. Powerful light stimuli, forced accommodation and strong convergence impulses either exerted separately or in association will give rise to iris-play with slight pupillary contraction. (The belief that the drug does not exert any paretic action on the ciliary muscle is untrue. Repeated experiments in regard to this question by the writer have conclusively shown the loss of one, and even of two, diopters of accommodative power gradually taking place in about eighteen to twenty minutes and passing away slowly in from six to eight hours' time.)

Such a drug, therefore, is useful for mydriasis of brief duration, rendering it valuable as an adjuvant for diagnostic purposes.

Ephedrin is an alkaloid which is derived from *Ephedra vulgaris.* One or two drops of a 2 per cent. strength solution will give rise to almost complete mydriasis in an unirritated and healthy eye in about fifty minutes' time. (The action on the iris can be noticed in about eight minutes and lasts for eleven or twelve hours. There is a very slight effect on the ciliary muscle, and, as a rule, there is not any increase of intraocular tension.)

The writer has successfully and usefully employed this drug in weak solutions for partial pupillary dilation for diagnostic purposes. In a series of unpublished experiments with single instillations of the one-hundred-and-twentieth, the one-sixtieth, the one-fortieth, the one-thirtieth, the one-tenth and the one-fifth of a grain of the hydrochlorate salt, he has found both corneal and conjunctival analgesia preceded by slight hyperemia with the stronger percentages, and irregular pupillary dilation (from four to five millimeters with the weaker strengths, and from seven to eight millimeters with the stronger ones); all appearing in ten to fifteen minutes and lasting from twenty to thirty hours. With most of these amounts there was a series of definite recessions of the near-point, these being obtained at periods averaging thirty to forty minutes after the use of the drug. No general symptoms, except an increase of the pulse-rate in a few minutes and a slight frontal headache in a case or two could be noticed.

In combination with homatropin the drug acts more rapidly and with increased energy.

DISCUSSION

ON THE PAPERS OF DRS. LYONS, WOOD AND OLIVER.

DR. A. W. BAER, Chicago—I regret that the members of the Section on Ophthalmology could not have been present to hear these papers. I do not know any other class of drugs which are used as commonly and as indiscriminately as the mydriatics, or which, when carelessly used, are capable of leaving such bad effects. I can recall cases in which mydriatics have been used to dilate the pupils, and I do not believe that the patients have ever regained the full use of their ciliary muscles. Atropin acts directly on the neuron and alters its condition so as to produce paralysis, which, at least to some degree, may be permanent. I hope that this point will be brought out more fully in the remarks of other speakers who have more experience in this class of drugs.

DR. W. J. ROBINSON, New York—There can be no question with regard to the occasional bad effects following the use of mydriatics. This may be accounted for by the bacterial contamination, or infection, of the stock solutions which physicians keep in their offices. This is not merely a theoretical assumption, but has been made the subject of positive demonstration. Many practical suggestions have been made in order to prevent this contamination. For instance, boric acid has been used, a few grains being added to the stock solution; but it is not always desirable or suitable and, besides, its antiseptic power is slight. Many other antiseptics have also been tried. I think the preferable plan is to make the stock solution with

45 per cent. alcohol, for in this medium the alkaloids will keep very well. Other solutions of any desired strength can be made extemporaneously, by adding recently boiled distilled water. In the *Correspondenz-Blatt fuer Schweizer Aerzte*, there recently appeared a very complete review of this subject, in which the writer, after considering the various methods which had been proposed, spoke approvingly of this solution with alcohol (45 per cent.). In it the alkaloids do not undergo any change. Some of the stock solutions have been kept as long as seven months, and have shown no signs of decomposition or alteration.

DR. A. B. LYONS—The last paper illustrates what I attempted to show, that in prescribing these articles by their names, atropin, hyoscyamin, digitalin, hyoscin, scopolamin, etc., it is necessary to consult first with the chemist in order to ascertain what these articles really are, and whether they consist of the pure alkaloids, or whether they are a mixture of several principles and, if so, in what proportion. If it is found that they contain only one alkaloid, we must find out just which one it is; atropin, hyoscyamin, hyoscin, etc. These are among the most variable of substances known to the chemist. Unfortunately, unless special care be taken, the experimenter with these drugs will be in this precise predicament. He buys an article, like scopolamin, for instance, and he gets commercial "scopolamin" and not what the chemist would call by that name. In the same way the physician may prescribe one of these alkaloids for his patient, to be compounded in a capsule, but, after doing so, he is not in a position to say exactly what was really used in making that capsule, or what its effects should be on his patient.

DR. H. C. WOOD, JR.—I wish to emphasize the remark just made by Dr. Lyon, that in prescribing this class of drugs we do not know exactly what we are using. Physicians very commonly use the solanaceous plants, but I am sure that frequently they do not know precisely what they are giving to their patients even when they order the alkaloids. Dr. Robinson has spoken about sterilizing the solutions in order to ensure the permanency of the drug. This is a very necessary procedure. I had a very instructive experience illustrating this point. I had a bottle of atropin, obtained from one of the most reliable houses in Philadelphia, and from it I made solutions for use in experiments. Not having occasion to use it for several months, it remained unopened on the shelf, until I had occasion to make some control experiments with atropin. I made a fresh 2 per cent. solution and injected an ordinary dose into a dog, but got no characteristic effect, even after greatly increasing the dose, beyond dilatation of the pupil. I made a fresh solution, with the same negative result; I could get no atropin reaction whatever. I concluded that the drug had undergone some change, probably from bacterial action, although the bottle had been tightly corked. The contents of the bottle had become completely changed without giving any evidence to the eye. The same change may occur in the stock of the druggist. Therefore, I have very little confidence in supplies from the ordinary druggist and I do not think that we get exactly what we ask for when we prescribe these mydriatic alkaloids. If we ask for scopolamin, we may get hyoscin; if we ask for hyoscin, we may get scopolamin or hyoscyamin.

The Importance of the Prognosis.—The late Professor Gerhardt of Berlin used to say "the prognosis is the highest and ultimate achievement in the art of medicine as it presupposes everything else. The prognosis is based not only on knowledge but also on skill made possible by natural gifts and acquired by experience. It also has to take into account the sum of the personal properties of the patient, usually styled the 'resisting power.' This is the point in which the experienced family physician frequently surpasses the learned specialist. How differently, for example, is pain borne by different persons, bravely and unflinchingly by one, with an agonal expression by another. When the physician is certain of his prognosis, courage to proclaim it should come with it. It is easy to avoid mistakes by saying nothing. He who does not shoot at all will not miss the mark. But neither will he ever become an expert marksman."

THE EARLY APPEARANCES, DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE UPPER AIR TRACT.*

WALTER F. CHAPPELL, M.D.
M.R.C.S. Eng.; Surgeon, Manhattan Eye, Ear and Throat Hospital.
NEW YORK CITY.

The subject embraced in the title of this paper is really too important to be fully considered during the time at my disposal, and can therefore only be treated briefly from a somewhat personal standpoint. At one time I thought any one who had ordinary opportunities of studying tubercular manifestations on mucous surfaces could have little difficulty in recognizing their appearance in the upper air tract. Some mistakes on my part, and a wider experience in this branch of our special work, have changed the views I formerly held, and I now consider it most difficult and I might almost say impossible to arrive at a correct diagnosis in certain cases. Of course, this does not refer to patients who have all the typical, local and general symptoms, but rather to those where they are absent and the conditions simulate some other affection. No part of the respiratory tract is immune from tuberculosis, but certain points in the upper air passages seem more liable than others. These in order of frequency are the larynx, pharynx, trachea, tongue and nasal chambers. If time permitted it would be most interesting and instructive to consider what determines the special localities, and by what means the infection is conveyed. We can not stop for this now, and must hasten on to the text of the paper.

THE THREE STAGES OF THE DISEASE.

We have to make a diagnosis at three distinct stages of this disease as it occurs in the larynx.

1. The premonitory or pretubercular stage.
2. The stage of infiltration or thickening.
3. The stage of ulceration.

Is there a premonitory stage, and can we recognize it? I certainly believe that more or less definite symptoms precede every local deposit of tubercle in the larynx, but as they are not pathognomonic they can not be depended on. Many catarrhal inflammations have a close relation with tuberculosis on mucous surfaces, but it is often difficult to determine whether they are cause or effect. I have frequently seen a profuse and intractable laryngeal catarrh or laryngorrhea continue for several months in a tubercular patient before there were any definite symptoms observable in the larynx. Local pallors have for years been named in text-books as an early sign of tuberculosis. I can not agree with this statement, as the majority of my cases did not present this condition. In a great number of cases of pulmonary tuberculosis, which I have had an opportunity of observing in private practice and at the Loomis Sanitarium in Liberty, the mucous membrane of the soft palate, larynx and pharynx was extremely pale. This condition remained to my personal knowledge from two to six years without any deposit in the upper air tract. We would naturally think that impaired nutrition, local anemias or catarrhal inflammations of a mucous membrane would make it more susceptible to any infections, but I do not believe that any of these conditions alone or combined would determine a tubercular infection, but that a personal equation must always be considered. Recurring and persisting hyperemias, infiltrations and

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tumefactions are, in the writer's experience, the most usual and characteristic signs of early laryngeal tuberculosis. They appear as patches or may involve the whole interior of the larynx. The interarytenoid space, ventricular bands, posterior third of vocal cords and epiglottis are the usual places for early circumscribed infections. Any of the enumerated symptoms, occurring in the situations described, should cause some anxiety and a careful watching of their progress, and especially so if pulmonary tuberculosis already existed. These symptoms may be present, however, without being tubercular even in a tuberculous patient. Cold, rheumatism and voice strain will produce laryngeal redness and thickening, which may continue at intervals for years.

One of my patients, a lady, had an acute interarytenoid folliculitis every winter, and occasionally during the summer, for ten years to my personal knowledge. It was accompanied by great local thickening of the mucous membrane and some edema over the arytenoid bodies. During several unusual severe attacks small strips of ulceration appeared, but healed after the acute symptoms subsided. For several years I feared a tubercular infection, and other physicians who saw the case expressed the same opinion. As time passed these fears proved unfounded, and I constantly see this lady in perfect health, other than occasionally suffering from the attacks described.

Another case, showing the difficulty which often confronts us, is that of a Mr. G., who consulted me for a hoarseness he had had for three months. He caught cold and became hoarse for the first time in his life, and although the other symptoms of cold subsided the hoarseness continued. I found him a fine specimen of manhood, with a perfect family and personal history. The mucous membrane of the interior of the larynx was a brick red color, slightly paler over the vocal cords and possibly a little thickening of the ventricular bands.

From the history and in the absence of any chest symptoms and negative sputa reports I consider the case one of neglected laryngitis. He remained under my treatment for about three months, with some improvement, and as summer arrived I sent him to the mountains. He returned to the city in September with more hoarseness, considerable cough and slight rise of temperature and pulse and a loss in weight of four pounds. The mucous membrane of the larynx was much redder and more thickened, especially in the center of the right ventricular bands and had the appearance of a tubercular larynx, although no bacilli were found, and the examinations of the chest were negative. A month later he had a profuse tracheal and bronchial catarrh and a few bacilli were found in the sputa and urine. From this time the disease made rapid progress, and six months later the patient died of laryngeal, pulmonary and renal tuberculosis.

If clinical facts and ordinary skilled observations can be depended on, it does seem that this infection primarily occurred in the larynx, and the first symptoms observable were general redness and tumefaction. Small papillomatoid excrescences in the interarytenoid space are considered by some as pathognomonic of tuberculosis. This belief is erroneous, as I have frequently seen a similar condition in syphilis and chronic laryngitis. A greyish appearance in the posterior commissure is also very puzzling at times. It may result from a thin tenacious mucus covering the surface, or a smooth fibrous-looking membrane resulting from voice strain or a superficial tuberculous deposit. The latter has a decided edematous appearance, the papillæ in the arytenoid space stand up as small pyramids covered with a mantle of grey. Small ulcerations soon develop between the papillæ, but as time progresses and the periods of activity and quiescence occur, larger ulcers form. In some cases efforts at repair produce excessive granulation tissue, which at times become so large as to be designated as tubercular tumors. The nature of these masses are difficult to determine when seen for the first time, but, if tubercular, there is always a history of pulmonary and laryngeal diseases, extending over some years.

STAGE OF EDEMA AND ULCERATION.

An edematous or semi-solid appearance of the mucous membrane is usually a precursor of tubercular ulceration, especially when it occurs over the arytenoid cartilages, ary-epiglottic folds and epiglottis, and at times the swelling is so great as to seriously interfere with respiration and deglutition. Small points of ulceration soon follow and after coalescing give the so-called characteristic worm-eaten appearance. Superficial inspection, in my belief, is most likely to cause the described conditions. The single, large, deep tubercular ulcer is rather infrequent and occurs on the ventricular bands and in the arytenoid space, and results from a deep lymphatic infection. Syphilitic ulcers may occupy the same locations as tubercular ulcers, and at times it is difficult to distinguish them by their macroscopic appearance. As a rule the syphilitic ulcer is large, although it may be small and multiple in the secondary stage. It spreads rapidly and appears more quickly after the first laryngeal symptoms. That is to say, there may be a history of hoarseness for a few days only and on examination a large ulcer is found.

In tuberculous ulceration there is always a long history of hoarseness or pain with other laryngeal symptoms running a chronic course. Pain is an important diagnostic symptom and I do not believe much tubercular ulceration can occur without pain on swallowing. On the contrary, a very large syphilitic ulcer may be present without pain. The characteristic appearance of a tubercular ulcer will be described later on, as the opportunities for observing it are better in the pharynx.

PHARYNGEAL TUBERCULOSIS.

The pharynx, in my experience, is the next frequent location for tubercular invasion. Time will not permit me to discuss the so-called latent tuberculosis of the tonsil, and I will confine my remarks to observations of parts giving the usual clinical symptoms. The pharyngeal infections are usually secondary to pulmonary and laryngeal tuberculosis.

I have seen a number of such cases pass upward along the lateral pharyngeal folds from the larynx and rapidly invade the pillars of the fauces and soft palate, and in many instances the lymphoid tissue at the base of the tongue.

I have several times had the opportunity of watching these cases from the beginning to their termination and the process of invasion is very interesting. The mucous membrane has first a pearly grey tense appearance, but within forty-eight hours is covered with minute yellow spots, such as seen in Figure 1. At first these spots had a thin covering of epithelium, but within twelve hours this broke down and bright yellow, curdy-looking secretion dotted the surface. This was easily brushed away, leaving extremely small openings plugged with yellow secretions. As soon as this secretion appeared the mucous membrane lost its tense edematous appearance. Within a week the small ulcerations coalesce, leaving large irregular ulcerating surfaces. A case

of primary pharyngeal tuberculosis[1] was of great interest and the local conditions are well demonstrated in Figure 2. This infection followed an operation for the removal of adenoids in a girl of 19 years of age, and proved rapidly fatal. Within a year another case has come to my attention, which had many remarkable features, and seemed to have primarily started in the pharynx. Later, however, it was discovered that the kidneys were the seat of a tuberculous process. This, of course, raised the question of the throat being secondary to the renal infection.

This patient had a slight sore throat in August, 1901, which made its appearance as an unhealthy greyish-looking membrane, covering the left tonsil, and soon the right tonsil was also involved. A diagnosis of diphtheria and later syphilis was made. After six weeks the temperature began to rise, and the ulceration extended up on the left side to the soft palate. Tubercle bacilli were now present in great abundance. Several of the best known physicians in New York reported that their examination of his lungs revealed no disease. His death resulted from uremic coma, and emphasizes the



Fig. 1.—Secondary pharyngeal tuberculosis.

importance of a careful urinary examination in all tubercular cases.

TRACHEAL TUBERCULOSIS.

This is more often present than is generally supposed, and I have many times found a tracheal ulcer which had not been suspected. The difficulties surrounding a thorough examination of the trachea are very great and sometimes can not be overcome. Tubercular ulcers are usually found on the anterior wall of the trachea just below the vocal cords.

The symptoms produced are a constant burning or a tickling sensation, referred to this region, accompanied by a violent explosive cough. It is not unusual for ulcerations to attack the rings of the trachea, and in these instances small pieces of cartilage may be expelled by coughing. If the local manifestations can not be seen in the trachea the symptoms just described would make us reasonably sure of the diagnosis.

TUBERCULOSIS OF THE TONGUE.

It has been customary to state that lingual tuberculosis is rare, and this is true of primary infections, but does not apply to secondary cases. During the past six years I have seen fifteen cases of tuberculosis of the tongue, fourteen of which were secondary and one I believe primary. Much scepticism exists as to the possibility of a primary infection in any part of the upper air tract. I want, however, to go on record as a believer in the possibility of this occurrence.

A secondary lingual infection is usually a late manifestation of a laryngeal and pulmonary disease. It makes its first appearance as a small isolated greyish



Fig. 2.—Primary pharyngeal tuberculosis.

nodule in the situation of some previously recognized abrasion. This nodule soon breaks down into a painful ulcer, which appears flat and irregular in shape, or as a deep fissure. In either case there is no surrounding infiltration and the margins of the ulcer adhere closely to the underlying surface, and if separated the tubercular process will be seen to burrow beneath the mucous



Fig. 3.—Secondary tubercular fissures of the tongue.

membrane and in some instances to the extent of a fourth of an inch. This condition is well shown in Figure 3, and is a marked contrast to the lingual fissure in Figure 4. The latter is a representation of a syphilitic fissure in a patient who innocently contracted the primary sore on the lip. You will notice the entire absence of any burrowing character to these fissures.

The base of a tubercular ulcer can be carefully studied on the tongue, and we find it consists of a pearly grey glistening membrane, which is adherent closely to the

1. Reported in the New York Medical Journal, Sept. 19, 1896.

underlying tissues, and differs so entirely from other ulcerations that I believe it is characteristic of tuberculosis on mucous surfaces. The tubercular fissures cause a great deal of pain, which is more or less intermittent, depending on the activity or quiescence of the disease. Figure 5 represents what the writer believes to be an instance of primary invasion on the tongue.

Mr. D., age 30, had no family history of tuberculosis and descended from an exceptionally strong and sturdy family, and his personal history was also good. Four years previous to my seeing him he was under the care of a dentist, for about ten days, having his left upper molar prepared for filling. Two marginal points of the tooth were exposed and were very sharp during this time, and Mr. D. was in the habit of touching the points with the tip of his tongue. The latter soon became sore, and an examination showed a red elevation with a fissure on its surface. This gradually increased in size, and some two weeks later the surrounding mucous membrane became puffy and the fissure gradually enlarged and presented a small, painful ulcerated surface. Medical advice was sought, and various applications were recommended and employed for a year or more. During this time the ulcer spread and embraced the entire tip of the tongue, chiefly on the right side. His general health remained good and he continued at his usual business.



Fig. 4.—Secondary syphilitic fissures of the tongue.

The tongue, however, became so painful that he consulted a surgeon, who removed a piece of tissue embracing the ulcerated surface. Microscopic examination revealed the presence of tubercle bacilli. The day following the operation Mr. D. noticed a small white spot on the mucous membrane near the former ulcer. The cut surface of the lingual wound granulated, but the margins did not adhere. Two months after the operation the small white spot already referred to became an ulcer, and gradually spread until in eight months it extended over the entire surface of the original operation. Four months later his voice became husky, owing to infiltrations in both arytenoid cartilages and the interarytenoid space, and he could speak only in a whisper. It was two years after the tongue affection before any pulmonary disease was discovered, but at no time was this extensive.

NASAL TUBERCULOSIS.

A tubercular ulceration on the anterior part of the triangular cartilage of the septum is by no means rare, but I have only observed two cases in other parts of the nasal chambers. The infection is very slow in progress and produces few, if any, symptoms which would point to the presence of an ulceration. A perforation is often the first evidence we have of its presence.

MEDICINAL TREATMENT.

The pessimistic views of some writers seem hardly justified in the light of our present results. Personally I believe that a great deal can be done for these cases if we are willing to give the necessary thought and attention to each individual patient, and not treat them all as a class to receive one line of treatment. I will not repeat the remedies and methods recommended by other observers, but confine my remarks to personal experiences. For clearness we may divide the treatment into medicinal, surgical and climatic.



Fig. 5.—Primary tuberculosis of the tongue.

In the early stages, when only redness of the larynx exists, soothing sprays and warm inhalations, followed by mild astringents, should be employed. When congestion is combined with thickening a spray of adrenalin should be added to the treatment, and in marked cases of thickening submucous injection of lactic acid or creosote may be used. These injections should be given only during the quiescent stage and not while there is any temperature, indicating pulmonary or laryngeal activity. In ulcerative conditions I strongly urge that no irritative applications be used during any active process, but rely entirely on soothing and cleansing sprays and applications of iodoform and fluid benzoin. As a warm inhalation the following:

℞. Iodoform ..... grs. iv
Menthol ..... grs. iv
Chloral hyd. ..... grs. iv
Fluid benzoin ..... ʒi

The benzoin preparations are of special value for applications in the larynx, as they cling to the mucous membrane for hours and keep the medication in con-

tact. During an interval of quiescence the ulcerations may be treated more actively with 25 per cent. solution of lactic acid, or the No. 2 creosote solution recommended by me. This latter solution certainly relieves pain more successfully than lactic acid, but regarding their relative effect on tubercular tissue there is little choice. The granulation tissue which appears on ulcerating surfaces during the process of repair has to be protected and stimulated in the most careful manner. I know of nothing more useful in this purpose than nitrate of silver in weak solutions.

Pain is an important consideration and varies from a slight degree on swallowing to a continuous and intense suffering. Warm inhalation of menthol and iodoform are sufficient for the slight cases, but cocain, orthoform and creosote are necessary for those of greater severity. When the general soreness and aching of the larynx is not relieved by the remedies mentioned, application of cold should be used. This may be done by menthol, camphor and chloral hydrate in equal proportions, externally applied, or by the ice coil, bag or pack. In some cases we have to resort to internal medication to assist us in the relief of pain. The elixir of paraldehyde may be sufficient, but usually morphin or codein in some form is necessary.

SURGICAL MEASURES.

Any surgical treatment must be restricted to selected cases and for experienced operators. In my practice and also in that of my fellow workers I have seen considerable harm result from the indiscriminate use of the curette. A recent case greatly impressed this on me.

A Japanese with a tubercular infection involving the arytenoids and epiglottis consulted me, and, after learning the nature of his trouble, expressed a determination to return to his native country. The obstruction to respiration was so great that something had to be done immediately to relieve the dyspnea, and I used the curette, removing a quantity of thickened tissue. Within thirty-six hours the lateral pharyngeal mucous membrane puffed up and presented the characteristic swollen or grey edematous appearance of a tubercular invasion. Twenty-four hours later this spread to the left palate and lymphoid tissue at the base of the tongue.

If time permitted I could quote many similar instances. I now employ the curette only in the following conditions: To relieve dyspnea and dysphagia in advanced cases; to remove tumefied tissue and for scraping ulcers during a quiescent period. In the latter cases my plan differs slightly from that usually recommended. After cleansing and cocainizing the surface I use a dull curette to remove all the necrotic tissue, taking care not to cause any bleeding. After this has been done and the pearly grey floor of the ulcer thoroughly exposed, I apply such remedies as the necessity of the case indicates.

CLIMATIC TREATMENT.

I would rather take my chance with a good climate without special medical treatment than the best of treatment in a poor climate. Just what is the best climate is not easily decided. Residence near the sea or any large body of inland water or in large cities is a bad place for tubercular throats. In the early stages before ulceration or during the quiescent stage of ulceration a dry and cold atmosphere is beneficial. If the process in the larynx is in a stage of activity a moderate temperature is important. High winds, especially east and north, and damp foggy days are bad for all ulcerations, especially the active cases. As a rule all tubercular throats are better in a moderately warm, dry climate, free from dust and winds. I have seen a number of throat infections entirely arrested by climatic measures alone, but, of course, the permanency of any arrest must remain an open question. In my opinion the future of all arrested cases, either laryngeal or pulmonary, depends on an early diagnosis and the patient's financial ability and willingness to keep himself under climatic and hygienic surroundings suitable for his highest state of existence.

7 East Fifty-fifth Street.

DISCUSSION.

Dr. Emil Mayer, New York City—The importance of the early recognition of tuberculosis is a subject that is as near to us as any one subject that I know of. It comes to us in so many different ways. In a case that came under my observation the young man had a bad tubercular history, his father, mother, one brother and sister having died of tuberculosis, and the young man came to me feeling that he was going to have tuberculosis.

There was nothing to be seen in the pharynx, and yet he had attacks of laryngeal spasm. For my benefit he succeeded in having an attack in my office, and it was an alarming one. He had a slight deposit of lymph in the nose, which was examined carefully, but no tubercle bacilli were found. He was examined by one of our best medical men, but no evidence of any pulmonary trouble was found, and the diagnosis of no tuberculosis was made. With the exception of a short cough, these were the only symptoms he had. He was advised to go abroad for the benefit of his health. In three weeks time he went abroad, and an examination of his nose then showed tubercle bacilli. We have all of us seen interarytenoid thickening, which usually speaks for tuberculosis that will supervene in a comparatively short time. Shortly before coming here I saw a young man who appeared before me two years ago with an interarytenoid thickening which is still present, but I believe tuberculosis will eventually appear in those cases. One thing I would like to speak of is the use of cocain for the relief of pain. I believe, with the preparation of orthoform in powder, we can almost invariably stop the pain without cocain, and I am more impressed by that in that I have seen, within a fortnight, a woman in the last stages of tuberculosis who was advised to use cocain and got rest from its use. She gets only temporary relief, but she has developed now the cocain habit. I make that as a suggestion, and I think Dr. Chappell will agree with me that if we have other methods just as efficient and can avoid these drugs that will make the patients still more unhappy, it is an important consideration.

Dr. Clement Theisen, Albany, N. Y.—I do not know whether the Doctor spoke of the rare form of hypertrophic tuberculosis sometimes seen. I will briefly report a case that I saw about a year ago. A gentleman walked into my office one day, and the first thing that impressed me was his curious husky voice. I think the aphonia of laryngeal tuberculosis is different from the aphonia of anything else. He seemed to be otherwise in perfect health. Examination of the lungs was negative. On laryngoscopic examination I found absolutely nothing to indicate laryngeal tuberculosis. There was only a diffuse thickening over the cords and ventricular bands. I made a very careful examination of the larynx, and several examinations of the sputum were made, but nothing was found. I told him, however, that I was strongly inclined to think that he had laryngeal tuberculosis and that I thought his only chance was to go west. He started west, but for some reason returned to New York and was seen by a number of well-known laryngologists, who made different diagnoses. The case was reported by one gentleman as a case of diffuse pachydermia laryngis. Six or seven examinations of the sputum were made, which were negative, and nothing, I believe, was found in the lungs. In the Adirondacks he was seen by Dr. Trudeau, tubercle bacilli were found in the sputum, and he died about six weeks after going to

the woods. I believe it was a case of primary hypertrophic tuberculosis.

I used to curette my cases of tuberculosis when not too far advanced, but I have given that up, for I believe it is of service only in the earliest cases, when the tuberculous process first starts. When we remember that the tuberculosis begins in the deep tissues first and is, as a rule, secondary to pulmonary involvement, we can see that curettage is of doubtful value, for we can never be sure that we have removed all the tuberculous tissue. I agree with Dr. Mayer in regard to orthoform. I believe it will relieve the pain. I use it in the form of Frazer's tablets. I think the effect is much more lasting than from cocain, and there is no danger of acquiring a dangerous habit, although this danger need not be considered in the advanced cases.

Dr. F. J. Quinlan, New York City—The title of the paper is "The Early Appearance, Diagnosis and Treatment of Tuberculosis of the Upper Air Tract." It seems to me the Doctor has given us especially the treatment of the more advanced stages, when there is tumefaction and breaking down of tissue. I know nothing more perplexing than the early appearance of pharyngeal or buccal tuberculosis. If one were to be guided by the appearance without the subjective symptoms, I think he would narrow himself down to a small and limited field of symptoms. We should not be satisfied with the local appearance alone. When we have only a small degree of infiltration about the superficial structures, with hardly any evidence but a suggestive cough and slight huskiness as well as a little pain from time to time in deglutition, we are not justified in making a diagnosis without entertaining the range of subjective symptoms as well. I have never seen a case in which I felt satisfied as to early diagnosis, and I think we are handicapped without the consideration of these other subjective symptoms. I have known case after case in which there were no bacilli reported in the sputum and yet there was a tuberculosis. I think the pulse, temperature and respiration must always be a valuable adjunct to our means of diagnosis, as well as the repeated examination of the sputum. I am very much pleased that Dr. Chappell has given so much thought to this subject, but I hoped that he would emphasize more suggestive points as to the earlier appearances.

Dr. George C. Stout, Philadelphia—There were three features in the paper which especially appealed to me: First, the more favorable prognosis we may now give these cases, as compared with that of a few years ago, and this is more often true of course in the early stages. The second point is as to the relative importance of climate and local treatment; and the third is as to the use or disuse of instruments in ulcerative tubercular laryngitis.

In regard to prognosis, I would like to record a case seen three years ago. A woman, apparently about 30 years of age, presented herself at my office, having suffered with a severe cough for some months past, with emaciation, rise of temperature and the general symptoms of tuberculosis. The laryngeal appearance showed marked swelling of the left arytenoid region, there was a small interarytenoid ulceration, and tubercle bacilli were found in abundance in the sputum. A careful examination of the chest eliminated lung symptoms. So, also, as far as possible, tuberculosis in any of the other organs was eliminated. She grew steadily worse for a while, and at one time the dyspnea was so bad that it was thought tracheotomy would be necessary, but after a few months of local treatment (asepsis and lactic acid principally) the whole condition cleared up, the tubercle bacilli disappeared from the sputum, and the woman is to-day apparently perfectly well, and she has no signs of tuberculosis in any organ. Would not even the few cases—such as the above—which we all meet warrant us in giving a favorable prognosis in a certain percentage of these early cases of tubercular laryngitis?

As to climate, if in the homes we will enforce the same rules that are enforced in the Adirondacks and the other resorts, it seems to me we can get much the same results. I think probably most of us in the large cities have had patients under observation whom we could not send away, but who, by persisting in keeping in the open air and taking exercise, have often recovered. I have in mind at least two such cases which have practically recovered. As to the Adirondacks, while they are an admirable place of rustication for any of us, my experience with cases of tubercular laryngitis has been unfortunate in that locality, for only one case of the five or six which I have sent there has shown improvement.

As to operative interference, experience would seem to argue against curetting or otherwise roughly handling the inflamed larynges. The less said about the curette the better. I have never had any favorable results in my work from operative interference in any case.

Dr. W. S. Anderson, Detroit—There is only one point which I wish to make in regard to the treatment, and that is the use of intratracheal injections. While not a new method, I think it is not appreciated by the profession generally. The intratracheal injection of one or two drams will give relief in many cases when no other method will, and it does not interfere in any way with the use of other means. I use a syringe with a curved canula, which is introduced between the vocal cords. I use olive oil as a vehicle and dissolve in it 5 per cent. of camphor-menthol and 2 per cent. of guaiacol; 2 per cent. of iodoform may be used in olive oil. The relief in most instances is very marked, and it does not cause spasm or irritation except in a very few cases. If more generally used, I am sure the profession would get gratifying results from this method.

Dr. T. W. Corwin, Newark, N. J.—I have used, for about two years, tracheal injections of about the same character mentioned by the last speaker and in a great many cases they have given satisfactory results.

Dr. Charles H. Baker, Bay City, Mich.—Dr. Chappell referred to laryngeal cases being worse near large bodies of water. I would like to ask whether his observation is that laryngeal tuberculosis occurs more frequently in those sections than in other parts of the country. I practice near the Great Lakes, and I see few cases of laryngeal tuberculosis compared with general tuberculosis. As to local treatment, the Doctor did not mention one thing that I have found to give great relief. When tumefaction occurs before ulceration and when there is great distress, ichthyol in emulsion or oily solution or a watery solution—it makes little difference in what form it is applied—gives relief and seems to have an immediate ameliorating effect on the tubercular condition, causing often marked improvement without the use of any other local treatment. Of course, the usual constitutional treatment is given in addition.

Dr. Sargent F. Snow, Syracuse, N. Y.—In the treatment of these tuberculous conditions I have always found the lactic acid applications to be very satisfactory. But as my experience has gone on I find myself relying less and less on local treatment. In the past six or eight years it has been my fortune to have a number of cases that I have sent to the Adirondacks and Catskills. Sometimes the ulceration was so extensive that the voice was completely lost, and I could see no chance for good results, but if I sent such a patient to the mountains and kept him there winter and summer, the local problem was solved. I have had a case under observation for nine years in which there was an ulceration so extensive that it seemed impossible to have the voice restored. She is now teaching singing, in connection with her school work. This patient has been in the Adirondacks all the time, except, perhaps, two weeks at home in the summer. She has taught school continuously, and she has now two very good vocal cords.

It seems to me that the real question is as to whether there are tuberculous conditions in the other air passages; are they patients whose general condition is satisfactory? If the general tuberculosis is well in the second stage or further, we can do but little good. If they are in the primary or the early part of the second stage, a practically continuous residence in the Adirondacks solves the problem. Local treatment is to be commended for those who are compelled to remain at home.

Dr. B. A. Randall, Philadelphia—The question of early diagnosis is important. In otologic work one is loath to strip

and examine a patient, and yet the appearance of the ears and upper air passages often directs our attention to tuberculosis. The altered rhythm of respiration may make the case so plain that it will not be necessary to strip the patient. It seems to me that this is too important an indication to be ignored, for before there is moist crackling or other changes in the pulmonary sounds at the apices, this prolonging of the expiratory sound may be readily determined.

DR. WALTER F. CHAPPELL, New York City—I only advocate cocain in advanced cases, when orthoform and other remedies have failed. Orthoform is very good in some cases, but it fails at times. Dr. Baker asked about the frequency of tuberculosis of the larynx in the regions near large bodies of fresh water. I do not know that laryngeal tuberculosis is more frequent near large lakes, but the cases do badly there and at the seashore.

A CASE OF SARCOMA OF THE MAXILLARY SINUS, EXCISION OF THE UPPER JAW, WITH REMARKS.*

JOSEPH S. GIBB, M.D.
Professor of Laryngology and Rhinology, Philadelphia Polyclinic.
PHILADELPHIA.

In the preparation of a paper on malignant diseases of the nose and accessory sinuses read at the last annual meeting of the New York State Medical Association, occasion was given to search the literature of the subject. Among the many points of interest I was impressed with the unusual lack of literature on the subject of sarcoma of the accessory sinuses. So far as I was able to ascertain there are but four cases of sarcoma reported. Of these three cases were of the maxillary sinus and one of the frontal and ethmoid cells. This, of course, does not represent the frequency of sarcoma in this locality. We are all more or less familiar with these cases, either from personal experience or report.

It shows, however, a lack of appreciation of the importance of the subject, for our knowledge of rare and peculiar cases is increased by the publication of similar cases in which the individual methods of observation and treatment are outlined. With these thoughts in mind, and for the reason that the subject is of deep interest to me, I have considered the following case not unworthy of report:

NARRATION OF THE CASE.

F. O., male, aged 63, previous health good, family history unimportant. Early in October, 1901, he noticed a swelling below the left eye and suffered somewhat from irritation of the lids. For the relief of this condition he came to the eye department of the Episcopal Hospital. Soon after his first visit he became conscious of an irritating discharge from the left nostril and breathing from this side became obstructed. He was then referred to the nose and throat department where I saw him for the first time about October 15.

Examination.—There was tumefaction over the left cheek bone and puffiness of the left lower lid. An irritating discharge from the left naris excoriated the upper lip immediately below the entrance to the naris and he experienced much difficulty in breathing through this nostril. Examination revealed a mass occupying the left nasal cavity. This mass was reddish in color and rather soft; it bled upon the slightest touch. The growth filled the naris so that all the anatomic points were obscured.

Suspecting the nature of the growth a piece was snared off for microscopic examination. Free bleeding followed this slight operation. Suspicion pointed to the antrum as the source of the growth because of the accompanying swelling of the cheek and eye. Transillumination of the sinus gave distinct evidence of the presence of a body within the antrum.

Operation.—The nature of his case was pointed out to the patient and he was advised to have an excision of the upper jaw. He readily consented and was accordingly admitted to the hospital for this purpose. Some delay in the time of operation ensued because of the illness of the surgeon to whom the case belonged, so that a week or more elapsed. In this brief period the growth increased with amazing rapidity and the general symptoms became alarming. The growth absorbed the anterior wall of the antrum, appearing on the cheek, the skin over which became tense and red and palpitation elicited distinct fluctuation, and gave every evidence of the presence of a purulent collection. The growth also absorbed the hard palate and fluctuation was distinct in the roof of the mouth. He became septic and delirious, requiring restraint, and it was feared extension had taken place to the cerebral cavity. However, December 7, though his condition was not favorable for operation, he was prepared for the same and Dr. Hutchinson removed a portion of the superior maxilla and a large quantity of a semi-solid, sarcomatous-looking mass, pus and broken-down tissue from the antrum. The wound was thoroughly cleansed and every suspicious-looking mass curetted away. The wound was then packed with iodoform gauze.

Recurrence and Reoperation.—He reacted well from the operation, and by the 16th the wound seemed clean and healthy.

December 24 (17 days from the date of the operation) a small nodule was noticed on the posterior wall of the antrum. This continued to grow rapidly and by the middle of February filled the entire cavity and projected into the mouth. Ligation of the external carotid artery of the left side and complete excision of the superior maxilla, including the floor of the orbit and excision of all enlarged glands, were now advised. In consultation with Dr. Davis we agreed that this offered the most favorable chance for the patient and that should recurrence take place the carotid of the right side could be ligated. Accordingly on the first of March Dr. Davis first tied the external carotid artery and removed a few enlarged lymphatic glands in the neck. He then made a complete excision of the superior maxilla. The patient reacted well from the operation and has since continued to do well, showing no evidences of recurrence at the present time.*

The piece of growth snared from the nose was submitted to two competent pathologists and pronounced giant-celled sarcoma. Later a piece of growth in the antrum was examined by another pathologist who designated it a mixed round and spindle-cell sarcoma.

The interest in this case centers (1) in the location of the sarcoma, (2) the rapidity of its growth, (3) the means of diagnosis, and (4) the treatment.

LOCATION.

That the maxillary sinus is an unusual site for the development of malignant growths is attested by the few cases which have been reported. That it is not so infrequent as the statistics would lead us to believe I am convinced from my own experience and that of professional friends with whom I have discussed the subject. Several cases have come to my notice, though not directly under my control, where it seemed probable the starting point was the maxillary sinus. There can be no doubt in the case reported that the maxillary sinus was the original site.

THE RAPIDITY OF GROWTH.

Sarcoma of the nares is slow of progress as compared with other malignant diseases affecting this region. From a careful analysis of 111 cases it was found the average duration extended over a period two and a half to three years and that the growth was rather slow in extending.

There is very little data on which to base conclusions in the similar condition affecting primarily the maxil-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

* The patient died in the early summer. He was suddenly seized with acute maniacal delirium and died before he could be removed to the hospital. No autopsy was obtained. It is probable the symptoms were due to an extension of the sarcomatous process to the meninges.

lary sinus. Levy's case extended over a period of three years. In Lamphear's case no mention is made of the duration of the growth and there was no recurrence in eight years after a radical operation. Such rapidity of growth as was seen in the case herein reported must be quite unusual. Observe that in six weeks from the time of the first manifestations of the disease the entire antrum and a large portion of the left nasal chamber is filled with the new growth. Degeneration and liquefaction of the growth had taken place and the osseous tissues were involved through pressure and absorption. Again, after the first operation, which was not a complete excision of the superior maxilla, recurrence was noticed in seventeen days, and in four weeks' time the entire cavity was filled and the growth projected into the mouth. Rapidity of growth is not entirely unique in sarcoma in this locality, for several cases are reported in Bosworth's statistics of nasal sarcoma in which the progress of the disease covers a period of a few months. It is, however, not the usual course.

THE MEANS OF DIAGNOSIS.

The presence of nasal discharge with a growth in the nasal chambers and concurrent swelling of the same side pointed to disease of the sinus and justified the removal of the nasal tumor for microscopic examination. Transillumination rendered invaluable aid in showing the antrum occupied by some foreign body. The natural inference was that this foreign body was of the same nature which the microscope showed the nasal growth to be, and the latter was a mere extension of the former.

METHODS OF TREATMENT.

The history of this case demonstrates, if further proof is necessary, the utter futility of any operation in malignant diseases of the nose and accessory cavities which does not include the entire removal of the growth. It were better not to interfere by surgical measures than do an incomplete operation. Nasal sarcoma is stimulated to increased activity by intranasal operations because such are necessarily incomplete—one can never be sure how much is involved out of the line of vision. Observe in the case reported the very rapid recurrence after an incomplete excision of the superior maxilla. It seemed at the time of this operation that all malignant tissue was removed, but in the light of subsequent events it would have been much better to have removed the entire upper jaw—which, at the same time, would have removed possibly infected osseous tissue and afforded increased amount of space for thorough inspection of the parts.

Ligation of the carotid, by starving the tissues, plays an important part in the treatment of sarcoma in the nose and accessory cavities. In the case reported it has doubtless contributed to the prevention of recurrence and it facilitated the operation by minimizing the hemorrhage. In this connection the work of Dr. Dawbarn of New York City should be mentioned. He advocates the ligation of both external carotids in the treatment of malignant growth in the nose and accessory cavities. As I have not had access to Dr. Dawbarn's article I am not familiar with his technic. In a conversation with him I gathered that his operation consisted in ligation and removal of both external carotids and their branches and that no attempt is made to remove the growth; the removal of the blood supply being thought sufficient to effect shriveling and render it inert.

It is, of course, too early to claim a cure in the case reported, but it seemed to me of sufficient importance to warrant the publication at this time.

1907 Chestnut Street.

DISCUSSION.

DR. PETER J. GIBBONS, Syracuse, N. Y.—Just now we might resort to the use of the *x*-ray in such a case, which is used, although at the present time it is more or less experimental.

DR. G. V. WOOLEN, Indianapolis—We have had an experience in Indianapolis to which it might be interesting to call attention. A case came to Dr. Sterne with an immense sarcoma affecting the axilla, neck and the groins. There was great asphyxia. At that time the Doctor was investigating the use of the *x*-rays, especially in connection with the treatment of malignant growths. He selected the upper growths in this case, the neck and axilla, for treatment and left the groins. He succeeded in breaking down the growths entirely, whereas those of the groins continued to increase. He lost his patient, he claims, through the liberation of large quantities of toxic material, which caused death from toxemia. His conclusion, in a premature way, as he stated when he brought it before our society, was that it would probably be undesirable to use the *x*-rays in internal work.

THE PROPHYLAXIS OF SINUS DISEASES.*

D. BRYSON DELAVAN, M.D.
PROFESSOR OF LARYNGOLOGY, NEW YORK POLYCLINIC, ETC.
NEW YORK CITY.

There can be no question that of late years diseases of the sinuses adjacent to the nose have been distressingly common. Case after case appeals to us for aid, all of the different sets of cavities show liability to involvement, and the processes of inflammation and suppuration are represented in a wide range of their typical manifestations. If the ultimate consequences of sinus disease were trivial and its natural course one which led to speedy recovery we might perhaps be pardoned for regarding it optimistically and for leaving its care to the healing forces of Nature. Unfortunately, however, there is no class of disorders which calls more urgently for relief, nor which if neglected creates more widespread and disastrous ruin. The extensive and irreparable destruction of important parts, suffering of unparalleled severity, long-continued invalidism and nervous depression—these and many other evils may easily result from the diseases in question.

In recalling these well-known facts it must be remembered that much brilliant work has been done for the cure of many of the most severe and difficult cases, and that patients who formerly dragged out existences of extreme and hopeless suffering, are to-day enabled to secure permanent relief. The operative treatment of chronic sinus disease is one of the chief triumphs of modern surgery, and as such is deserving of highest praise.

But while the cure of disease is an unspeakable benefit to mankind, its effective prevention is a far greater one. It is well, therefore, that we should give careful attention to the subject of this discussion, in the hope that through a better understanding of the causes of sinus disease some suggestions may arise through the aid of which a certain number of cases may be altogether eliminated, and others, destined by reason of neglect to fall into serious trouble, may be quickly rescued. The writer believes that a large amount of sinus disease could be done away with if the knowledge of the general physician were sufficient to recognize its predisposing causes, or, where it has already developed, to appreciate its early acute symptoms and to apply a few simple principles of cure.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

All who have observed the course of acute sinus inflammation know that in many cases severe symptoms may be successfully met and a speedy cure effected by the prompt recognition of the trouble and its immediate effective treatment.

It may not be so generally understood that in many instances certain causes exist which directly predispose to sinus disease; causes in the presence of which exciting influences of comparatively little importance in a normal nose may assume dangerous proportions and become the occasion of serious results. It has seemed desirable, therefore, to present a few suggestions bearing on this subject.

In order to prevent these troubles it is necessary to know the various causes which may bring them about. These may be both predisposing and exciting.

PREDISPOSING CAUSES.

Anything which seriously hinders free drainage from the upper half of the nasal cavity may act as a predisposing cause of sinus disease. Malformations of this region are by no means always associated with diseases of the accessory sinuses, as we occasionally find the latter seriously affected in particularly well-formed and patent nasal cavities. On the other hand, malformations of the nasal cavities predispose to congestive troubles in general, and those in turn render the accessory sinuses more liable to accident. When acute inflammation of the sinuses has been actually established, there is no question that the above-mentioned conditions may contribute in an important degree to the severity and continuance of the attack; thus, an acute inflammation of the sinuses, which in a normal nose would have run a short course and terminated in spontaneous recovery, may easily become so aggravated by the lack of free drainage and by the increase of the inflammatory symptoms, due to pressure as well as to retained secretion, that the case may resist all efforts at cure, and in spite of the most skilful treatment become chronic. Where, in addition to deflection of the septum and deformity of the middle turbinates, the transverse diameter of the nasal cavities is especially narrow, invasion of the sinuses is particularly apt to be followed by serious results. Several abnormalities of the septum may be mentioned as contributing to the production of sinus disease. One of the most important of these is fracture of the septum with displacement, the narrowing occurring somewhere in the neighborhood of the middle turbinated body. Deflection of the septum without evidence of previous injury, by which one nasal passage becomes distinctly narrower than normal, may also be mentioned.

Catarrhal thickening of the tissues of the upper and middle part of the septum may be another cause, as may also be hypertrophy or unusual size of the so-called tubercle of the septum, that area of erectile tissue situated about the middle of the septum and opposite the middle turbinated body.

Again, the conformation and condition of the middle turbinated body itself are very important factors in the production of these diseases; thus, in case the middle turbinate is of abnormal shape, whether longer than usual in its perpendicular diameter or curved on itself, or again, where it is distended to the immense size sometimes found on the concave side of an extensively deflected septum, it will readily be seen that the normal drainage of the parts may be interfered with and obstruction easily created.

Congestive and hypertrophic conditions of the soft parts of the middle turbinates which interfere with drainage are another predisposing cause.

As to the general causes which may predispose to these diseases, it may be said that anything which promotes acute or chronic irritation of the nasal cavities or anything which tends to create catarrhal disorders would act as a predisposing cause of sinus inflammation.

EXCITING CAUSES.

The exciting causes of sinus disease are varied and cover a pretty wide field. Thus, inflammation of them may occur in several acute affections, among others: pneumonia, diphtheria, measles, scarlet fever, typhoid fever, smallpox and cerebrospinal meningitis. It is not an uncommon complication in croupous pneumonia. The frequency with which it has been observed during attacks of influenza is a matter now commonly known and recognized. The inflammation may extend directly to the sinus from the nose or nasopharynx or indirectly in the course of a general systemic infection. Sinus disease has also been attributed to an attack of facial erysipelas. It is questionable, however, whether erysipelas may not in many cases be due to pre-existing sinus disease, numerous instances of recurrent facial erysipelas having been observed in which the erysipelatous attacks have been done away with by the treatment and cure of necrosing ethmoiditis and similar diseased conditions of the accessory sinuses. Suppuration of the sinuses may also be associated with certain chronic diseases of the nose, such as specific ulceration, tuberculous disease and the various types of new growths, both benign and malignant. While nasal polyps may be a cause of the sinus disease through their influence in occluding the channels of exit of these cavities, it is generally conceded that they are far more apt to be the result of irritation due to a sinus discharge, and it is not likely that they can be eradicated until the latter has been cured.

It has long been known that certain cases of suppuration of the antrum of Highmore have been due to dental irritation. Inflammation may also be due to injury from fracture of the walls of the sinus. It has not infrequently been caused by operations on the nasal cavities in which the adjacent parts have been treated with violence, or instruments not properly aseptic have infected the parts. It has occurred from the removal of nasal polyps, through plugging the nasal cavities for epistaxis or for other reasons, and, in general, after any operations performed in the neighborhood of the middle turbinated body.

Attention has also been called to the fact that the extraction of teeth and division of the fifth cranial nerve have caused inflammation of the antrum. The peculiarly close relation between the channels of exit of the different sinuses renders infection of one from another a frequent accident, as has been well shown by Bryan and other authors.

Doubtless another prolific cause of irritation is the inhalation of dust blown up from the badly-cared-for streets of large cities and filled with countless possibilities of infection. It would seem, also, that the popular use of the racing automobile should contribute a large addition to the list of cases, as here the conditions contributing to their production are particularly numerous and favorable.

Again, in many cases of sinus disease the careful bacteriological study of the secretions has demonstrated the presence of various different micro-organisms; among these are the *Diplococcus pneumoniæ*, the *Pneumobacillus of Friedlander*, the *Bacterium coli communis*, and others. More commonly, however, varieties of the streptococcus and staphylococcus are found.

PROPHYLAXIS.

Of all the possible causes of these diseases, however, probably none is more common than local inflammation resulting from influenza. Just here the services of the physician may be invaluable. If he will recognize the importance of the severe coryza which accompanies this and allied disorders, do his utmost from the moment of its inception to prevent it, or at least to shorten its course, we can safely promise that the number of cases applying to the specialist for the relief of chronic sinus disease will be reduced to a small fraction of what is now the case. Care properly exercised towards the much despised "cold in the head" would save a vast amount of serious after-trouble.

A study of the predisposing causes of sinus disease at once suggests several important practical points; thus, any condition which occludes the natural outlets of the sinuses directly tends to the production of disease. It is very important, therefore, in fractures of the nose and in malformations of the septum and of the turbinates that this important consideration be kept in mind. The correction of a disfigurement and the opening of the nasal cavities for the free passage of air are not by any means the only considerations which should be entertained in the study of these cases. Even where external deformity may not be great and where the lower part of the nasal chambers is sufficiently unobstructed to admit of free respiration, the condition of the upper half of the cavity may be such as to demand earnest attention and perhaps careful operative treatment. This idea also applies to occlusion of the nasal cavities through swellings and hypertrophies of the soft tissues, many of which have a very direct influence in obstructing the sinus outlet. The practice recommended by some foreign authors of increasing the transverse diameter of a narrow nasal cavity by crushing the middle turbinated body against the outer wall of the nose is most unscientific, in that it directly favors occlusion of the sinus outlets.

ACTIVE TREATMENT.

There are probably few conditions in which more favorable results can be gained by prompt and efficient action early in the course of the disease than in acute sinus inflammation. The first symptoms of the invasion of the accessory cavities are not always easy to recognize. But while exceptional cases may often occur, as a rule the peculiar pain over the brow which accompanies frontal sinus involvement, the aching and neuralgia in the neighborhood of the cheek bone which attends the invasion of the antrum of Highmore, the peculiarly deep-seated, unusual sensations accompanying inflammation of the ethmoidal sinuses, are generally fairly evident. In any case, it is needless to say that violent inflammation of the nasal membranes themselves is likely to extend by contiguity to the linings of the adjacent sinuses, so that we may take for granted that in certain severe attacks of inflammatory intranasal disease the sinuses must almost of necessity be involved; or, if they have not yet become involved, that there is imminent danger of an extension of the difficulty to them. The pernicious practice of allowing a "cold in the head" to run its course is probably responsible for large numbers of chronic cases of sinus disease. In any case, however, an acute influenza—whatever may be its nature—should be watched as a matter of importance and should be treated from the very outset as a disease likely to produce grave results. Even if a given attack of acute influenza should not result in setting up long-continued sinus disease, the fact that one such inflammation predisposes the patient to others, which in turn, render him liable to sinus involvement, should urge us to use every possible measure for checking the more simple attacks.

The principles of treatment applicable in these cases are based on the most ordinary and well-understood rules of common sense and experience in the management of inflammatory conditions in general, and means are not lacking by which speedy and oftentimes brilliant results may be obtained. The administration of laxatives for the purpose of reducing the circulatory disturbance in the head, the internal exhibition of certain drugs, such as belladonna, for the purpose of contracting the blood vessels of the affected region, are both time-honored means for affording relief. Perhaps the most important recommendation of all is that the patient should be kept in an even temperature and that the surface of the body should be so stimulated as to favor the flow of blood in that direction; by this we mean that he should be put to bed and kept warm and comfortable during the height of the attack. Locally, the old-time methods have been supplemented by a number of new suggestions of extreme value. Here two principles of treatment are to be recognized; first, the fact that the disease is being kept up through the retention of irritating, if not absolutely poisonous, secretions, and, secondly, that on account of the swelling of the parts the natural avenues of escape are blocked and the already excessive amount of secretion is prevented perhaps absolutely from emptying itself. In this state of affairs success is attained by simply applying the grand axiomatic, surgical principle of free drainage and thorough cleansing of the parts. On this the treatment of these cases absolutely rests.

Just what remedies are the most reliable in the acute cases each careful observer must determine for himself. The writer has found much value in the following rules:

1. All local treatment applied in these cases must be absolutely unirritating.

2. The nasal cavities should first be carefully sprayed with a mild cleansing solution, following which the swollen tissues should be contracted by applications of a mild solution of cocain, not stronger than 4 per cent., and the approaches to the sinus outlets opened as widely as possible by the action of this drug.

The secretions should be removed as far as is possible from the regions before occluded by means of the cleansing spray; a spray of adrenalin should be applied for the purpose of increasing the power and adding to the duration of the effect of the cocain, and, finally, the parts should be protected by a light spray of liquid albolene. If these applications are made with sufficient gentleness and care the result will be immediate relief to the patient's distress with much ultimate benefit to the inflamed cells. Applied early in the history of the case, an attack which promised to be severe has been broken up by a single treatment. Several treatments, however, are generally necessary, many may be required, and sometimes it is only after a long course of patient effort that success is attained. Where the treatment must be continued the danger of the repeated use of cocain must be recognized and adrenalin substituted. Indeed, in many cases it is better to depend on the latter drug alone. During the height of the attack the recurrence of the nasal swelling may necessitate the repetition of the treatment several times a day.

The prevention of invasion of the sinuses in the acute infectious diseases already mentioned, is a matter not

always within the limits of our present knowledge. Thus, in diphtheria, measles and scarlet fever, attended as they are with violent local congestion of the nasal cavities, it is difficult to think of any safe means of treatment. In typhoid fever, smallpox and pneumonia, however, careful systematic cleansing of the nasal passages is most valuable for many reasons and is clearly indicated, not only for the prevention of otitis, but also for that of analogous inflammations of the accessory sinuses.

SUMMARY.

To briefly summarize the matter, in the prophylaxis of sinus disease much good may be accomplished:

1. By recognizing the conditions under which inflammation of the sinuses is likely to occur and, if possible, removing them.

2. Where removal of the predisposing conditions is not practicable, by guarding the patient against the various exciting causes which may determine an acute attack.

3. When acute inflammation is already threatened, by applying immediate treatment for its relief.

1 East Thirty-third Street.

ACUTE SINUSITIS.*

J. A. STUCKY, M.D.
LEXINGTON, KY.

On account of the irregularity in shape and uncertainty of size, location and communication of the accessory cavities of the nose, the diagnosis of the exact cavity or sinus involved in the acute stage of inflammation is frequently impossible. In the subacute or suppurative stage the diagnosis is not often difficult. Time will not be taken to refer in detail to these irregularities. The recent original research and publications made by Cryer of Philadelphia, B. Douglas of New York and Turner of London, have added greatly to our knowledge of the minute anatomy, and to them we are indebted for knowledge that enables us to deal radically and successfully with these pathologic conditions.

Attention is briefly called to the meati of the nasal cavities because the accessory sinuses communicate through them to the nasal chamber. These sinuses, or air chambers, both on anatomic and clinical grounds, are divided into two groups—anterior and posterior (Turner). The first group consists of the maxillary and frontal sinuses, and the anterior ethmoidal cells, all of which communicate with the middle meatus below the line of origin of the middle turbinate bone; the second, or posterior group, consisting of the posterior ethmoidal cells and sphenoidal sinus, open into the superior meatus, that is, above the level of the middle turbinate. These sinuses, or air chambers, are lined by a thin vascular mucoperiosteal layer covered by ciliated epithelium, studded with mucous glands, which is continuous through the ostium of each with the lining membrane of the nasal cavity.

The point made by B. Douglas regarding the sinuses of the small wings of the sphenoid should be especially borne in mind. He says: "These communicate, when they exist, on one side with the posterior ethmoid cell and on the other side with the recessus sphenoidalis. Above lies the brain, the optic nerve and the optic chiasm; below the nasal mucous membrane and the anterior part of the great sinus, and anteriorly the posterior ethmoid cell; externally, the optic nerve runs over the convex outer wall and when the sinus is large it may have here an important relation with the carotid artery and occasionally with the vidian nerve and wall of the orbit, so that an encysted empyema of this sinus may cause optic nerve paralysis, press on the carotid, paralyze the vidian or cause orbital pressure." A. Onodi has found in some cases there is direct communication between the maxillary sinus and the ethmoid or sphenoid cells, or both. The irregularities of the ethmoid and sphenoid are perhaps more marked than the others, but the irregularities are by no means limited to these, as all know who have operated on the frontal and maxillary sinuses.

ETIOLOGY.

As to the etiology of inflammation of the sinuses, obstruction of the natural outlet may be mentioned as the chief causative factor. Vascular dilatation associated with swelling or thickening of the mucous membrane, the formation of small masses of granulations, or even the presence of inspissated mucous may be the cause of the obstruction, and such closure leading to acute or chronic congestion, or even to inflammation and suppuration. Whether the retention of gases or the rarefaction of the air in the closed sinuses produces the congestion and pain as advocated by Vansant is yet an open question. Bacteriology throws little light on the source of the infection in sinusitis. The influenza bacillus is conceded by many to be the most prominent factor in the infection because of sinus inflammation being so frequently a sequel of la grippe. F. Furet has found not only the influenza bacillus, but also the pneumococcus, *Streptococcus albus,* and a large, long bacillus occurring in pairs and staining by Gram's method.

SYMPTOMS.

This trouble is usually ushered in with the general malaise attributed to grip, the severe "bone ache" being generally well marked. One of my patients has so accurately described the symptoms, and they harmonize so well with those of many others, that I give them almost verbatim: "Violent pain in brow and eyes, somewhat less in my cheek bones and back of head, all the front half of my head seemed alive with hot, throbbing pain. Every separate tooth was outlined with an individual ache. The muscles of my head and neck were stiff, the tissues over my eyes and forehead felt swollen and were tender to the touch. Light was painful and sharp noises were hard to endure, though I was partially deaf. I seemed to feel the noises in my body. One of the most distressing conditions was the stopping of all drainage in the nasal passages, and pain and discomfort were intensified by my efforts to clear these passages. The pain, sense of weight and fulness in my head was most acute in the morning. There was for some days the most intense and horrible tendency to mental depression (melancholia), that had to be continually fought against. An annoying and continuous nausea accompanied the pain in the head. The sense of taste and smell were so impaired that eating was a burden, though otherwise the appetite was good. Aside from the nausea there was really no distress outside of my head and neck. All these symptoms were intensified by any jarring of body, such as is caused by going down steps. Bending the head forward caused most acute suffering."

DIAGNOSIS.

The diagnosis of the exact sinus involved in the acute or inflamatory stage is impossible for reasons already

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

stated. Anterior rhinoscopic examination shows the mucous membrane red, swollen and of glazed appearance—frequently little or no secretion is noticed unless it be found inspissated in the middle meatus. The turbinals, both inferior and middle, are swollen. Posteriorly the same condition of dryness exists with less swelling of the turbinals.

Transillumination in the average case is practically of no value unless there be suppuration; then its diagnostic value is by no means reliable. Notwithstanding the violent pain in the head and the general discomfort of the patient, the pulse is usually slow and the temperature little above normal—frequently the morning temperature being from one-half to one and a half degrees subnormal. The skin is dry and parched. The symptoms simulate those of mild cerebral compression, and the severity of the subjective symptoms is out of all proportion to the temperature and pulse.

TREATMENT.

The indications for treatment are entirely antiphlogistic, the chief indications being, first, to relieve suffering and discomfort; second, to prevent suppuration.

The patient is to be put to bed, room to be kept quiet and all bright light excluded as long as eyes are sensitive. Arouse the secretions with full dose of calomel (5 to 10 grs.) combined with small quantity of ipecac, this to be followed in six or eight hours by saline cathartic—sodium salicylate and sodium bromid, 10 gr. of each, pilocarpin gr. 1/10 to 1/20 in four ounces of water every two or four hours till pain is relieved and free diaphoresis established. The activity of the skin is to be maintained by frequent bathing, great care being used not to chill the patient when giving the bath. Dry heat applied to frontal and occipital regions by use of hot-water bags. Locally, the nasal douche, used both anteriorly and posteriorly, of hot normal saline solution, or Seiler's solution in one-half strength, twice daily; this not only keeps the passages clean, but is very soothing and grateful to the sufferer.

If the nasal passages are occluded or uncomfortably "stuffy" a small quantity of the following sprayed into the nostrils every two or four hours is most effective and rapid in its action: Sodium chlorid 5 gr., resorcin 5 gr., adrenalin sol. (1 to 1000) 1 dr., aqua 7 dr.

This strength of adrenalin is all that is necessary, practically no reaction following its use. Cocain and opiates are mentioned only to be condemned, because of their unpleasant reaction and having a tendency to thwart the objects aimed at in the treatment. Only in exceptional cases have I found their use advantageous.

Special care should be given the systemic conditions, the secretory and excretory functions maintained in an active state. On account of the great susceptibility to recurrent attacks, convalescence should be guarded and the patient kept indoors until thoroughly restored.

Simple sinusitis, whether involving the ethmoid, frontal, maxillary or sphenoid, usually subsides spontaneously under appropriate antiphlogistic treatment. When suppuration occurs the imprisoned pus must be evacuated and thorough drainage maintained or serious results may follow.

Removal of the anterior end of the middle turbinate when it is so swollen as to occlude the natural outlet of the sinus is indicated in either inflamatory or suppuration trouble. In many cases this is the only surgical treatment needed.

DISCUSSION.

ON PAPERS BY DRS. DELAVAN AND STUCKY.

DR. C. M. COBB, Lynn, Mass.—There are certain diseases that we are not likely to escape some time in our life. Almost everyone has one or more of the acute infectious diseases. A very large proportion of the cases afflicted with the acute infectious diseases have some sinus disease. Then we have this complication that requires vigorous treatment, and not the treatment with douches, especially in the sinus complication that follows an actue infectious disease—that is, if you expect to escape trouble with the ears. The insufflation of calomel has done much good in my cases following the acute infectious diseases. There are sources of infection of the sinuses that we can escape, as in the cases due to dirt that you get into the nose either with water or by facing dust in the streets or halls, etc., which is intensely infectious. The pain in acute sinus disease is not a reliable indication as to which sinus is involved. As I will attempt to show to-morrow, in those cases I have transilluminated, the pain was not a sure indication as to which sinus was involved. One word in regard to the rarefication of the air in the sinus. It is claimed that after the closure of the natural opening the air is absorbed. We must remember that the composition of the air is practically 22 parts oxygen and 78 parts nitrogen. The oxygen is readily absorbed, but the nitrogen remains unabsorbed for months, especially in cavities, as in the pleural cavity or the sinuses. So practically 25 per cent. of the air may be absorbed, but that does not suffice to enable the cavity to soon be entirely filled with serum.

DR. EMIL MAYER, New York—In the first instance, to be purely technical, we should avoid the word sinusitis, as it is not correct. Secondly, regarding the treatment of these afflictions. We are accustomed to read that the antrum of Highmore is washed out through the natural openings. It is time that this statement be shown to be incorrect. By means of this section of a skull which Dr. Cryer kindly permits me to use, you will see that in order to enter the antrum of Highmore in a normal nose a probe must be bent like a shepherd's crook, and hence, if we do enter the cavity and inject fluid, it would have to flow up hill in order to be cleansed. In a small number of cases, if the opening is abnormally situated, cleansing in this manner is possible, otherwise not.

DR. D. A. KUYK, Richmond, Va.—Concerning the treatment of the mucous lining of the nasal passages and the adjoining sinuses, we should resort more than is now customary to internal therapeutics. In an experience of twelve years as a general practitioner before adopting my specialty, I met a great many acute inflammations of the nasal passages and the sinuses, especially the frontal sinuses. Now, if we administer pilocarpin, we do undoubtedly get an intense serous exudation, but at the expense of the tissues by reason of the increased arterial blood supply or active congestion, due to the vasomotor paralysis produced by the drug, causing swelling of the tissues rather than a shrinkage. The use of the calomel purge is of the greatest benefit.

If we want to produce diaphoresis, let us do so by giving a combination of liquor ammonia acetatis, spirits of niter and acetate of potash. From this we get thorough relaxation and diaphoresis without any prostration. After, say, six hours we can begin to give small doses of atropin sulphate, say, 1/500 grain every 15 minutes for six or eight doses, then once every 2 hours.

Atropin seems to have a selective action on the mucous lining of the nasal chambers and the accessory sinus. Under this treatment the supra-orbital and infra-orbital and nasal pressure pain quickly subside, the serous discharge diminishes, the head feels clear, and the prolonged acute inflammation of the nostrils and sinuses is averted.

DR. B. A. RANDALL, Philadelphia—I agree with what has been said in reference to the value of atropin in treatment. I have suffered frequently with a sharp inflammation of the antrum of Highmore, with an outpouring of a straw-colored fluid, and in such cases I have found myself promptly and greatly relieved by the employment of atropin. I always employ it in the acute cases. As to Dr. Stucky's paper, I would

like to speak warmly in favor of transillumination in a very considerable number of cases. It is not infallible. Instead of being a method given us by our European brethren, however, it was demonstrated fully by a Philadelphia man years before the publication of it by Heryng. Dr. Addinell Hewson demonstrated it in 1885 in the general assembly room of the Pennsylvania State Medical Society. It seems to me the transillumination method is one of considerable value and I have very keen recollection of one case of sarcoma of the antrum of Highmore, in which the transillumination showed some clouding months before the opening of the antrum when probing, even then failed to demonstrate the presence of a sarcoma as later demonstrated. If we use the method in complete darkness with an electric light pushed to the verge of destruction, as is needful to secure sufficient intensity of illumination, and seek to illumine the pupils, we will often find it of very great value in diagnosis, for it often gives positive or negative information that may be relied on.

I have been struck by some statements as to the inaccessibility of the sphenoid by the probe in the ordinary examination. I have passed my probe into the sphenoid sinus in more than half the cases in which I have attempted to do so, and in some cases of extreme trouble this is of very great importance. In a case in which I was called to a child apparently near death from meningitis, I examined the eye-ground, the ear and the nose. In the nose I found one chamber free and the other with a little pus in it, which I removed. Then I passed my probe into the free sphenoid and found nothing there. In the other sphenoid I found pus, and I passed my little alligator forceps into the sphenoid, opened them and withdrew them with rotary traction, thus breaking away the front wall and giving free drainage. I got a demonstration of the presence of pus in the sphenoid in that case and permitted it to drain away, although too late to prevent the fatal result of the meningitis.

DR. GEORGE F. KEIPER, Lafayette, Ind.—I have tried to relieve the pain in various ways and have succeeded sometimes by the use of quinin. I believe in giving quinin and calomel together until the patient has taken three or four grains of calomel and the bowels have moved thoroughly. For the application of heat I know nothing better than a little Japanese pocket heating stove. It is better than the hot water bottle, because the hot water bottle needs to be more or less continuously changed to keep it at an even temperature. The Japanese heating stove may be wrapped, and in this way you secure more even heat continuously. But no one remedy will suffice in all cases, for every patient is a law unto himself. Many remedies may have to be tried before we secure a desirable result.

DR. SARGENT F. SNOW, Syracuse, N. Y.—In this subject of sinus trouble, that has been so well elucidated, I think we have a field that gives nose and throat men an opportunity to do the most beneficial work, work that will bring them the most credit, or about as much as any we can do. This is true not only in acute but also in chronic cases. In 1889 I prepared a paper on cephalagra and tic douloureux, which was presented before the American Rhinological and Otological Society. In that paper I cited cases, showing the source of tic douloureux to be frequently in the accessory sinuses, not always a pustular collection, but often caused by pressure by polypoid masses accumulating in the cavities. I have had a series of these cases since that paper was written that has impressed me more and more with the importance of that factor in causing those painful neuralgias. We have also the most severe forms of headache coming from these sinus accumulations. In my personal observation I have seen two cases so extreme that when the patient had the seizures there would occur a condition of spasm, with loss of consciousness. They were cured by clearing out the sinuses. I had one case of tic douloureux that resisted everything until I drained the sphenoidal sinus. This patient was under observation for two years without effecting a cure until I obtained relief for her in that way. In cases showing asthmatic symptoms, we can almost always determine a sinus trouble. I feel great confidence in undertaking those cases, because if we drain the sinuses properly we are almost sure to get definite results, although not always absolute cures. I want to take issue with Dr. Mayer in reference to one statement he makes, as to the possibility of syringing the antrum and cleaning it out. While I do not advocate this as a cure for chronic cases, still I have found it effective in subacute and acute cases. I have now two chronic cases with pus in the antral cavity that will not submit to operation, where I syringe out the antrum whenever the accumulation becomes too great. I agree with Dr. Mayer that it is impossible to syringe out some cases, but I do know I often find cases in which I can reach and syringe the antrum thoroughly.

DR. H. M. CRYER, Philadelphia—This is a subject which is very interesting to me, because I have often said that a probe or sound can not be passed through the nose into the antrum through the ostium maxillare of a normal subject. I have sections here from which slides were made and the pictures were shown on the screen at our meeting held at Columbus in 1899. This section is an anterior-posterior one, made by cutting down through the center of the orbit, the maxillary sinus and the molar teeth. We find two outlets to the antrum passing into the nasal chamber. The anterior one is the normal ostium maxillare. The posterior one is abnormal, sometimes called an accessory opening. These abnormal openings are often caused by the enlargement of the bulla ethmoidalis, which, in many cases, as it was in the specimen here shown, causes the closure of the hiatus semilunaris posterior to the normal outlet of the maxillary sinus, thus preventing the fluids from the maxillary sinus, the frontal sinus and the anterior ethmoidal cells from passing into the middle meatus of the nose; they all become engorged and the fluids will eventually pass in the direction of the least resistance. If the alveolar process had been thin, as it is in some cases, the fluid might have passed through it into the mouth, but in this case it is strong, and as the abnormal opening is posterior to the bulla ethmoidalis, the fluids pass into the posterior part of the middle meatus. Dr. Snow would have no trouble in syringing the antrum of this character, because the nozzle of the syringe could be passed through the abnormal opening. I have found the abnormal or accessory opening as large as the tip of my little finger, and those are the cases in which our friends wash out the antrum through a tube introduced through the nose. In the normal skull, as can be shown by perhaps twenty specimens here on the table, it would be impossible to pass a sound through the nose into the maxillary sinus.

DR. NORVAL H. PIERCE, Chicago—It is possible, I believe, in a certain number of cases to wash out the maxillary antrum through a natural opening—that is, without piercing the walls of the antrum. As has been said, the gentlemen who believe that they can syringe out the antrum through a pre-existing opening have struck cases in which there are no accessory openings. I would not be one who would impress you with some extraordinary skill, some wonderful tactile sense, but I have washed out the antrum through the natural openings. These openings have, in all probability, been accessory openings. But that does not make a difference in point of fact. There is very strong reason for believing that in diseased antra these accessory openings are larger and more numerous than in healthy skulls. Hartman, Zuckerkandl and a great many other men believe that this is true, that it is a part of a rarefying osteitis in which these accessory openings occur. Therefore, I believe we are justified in all cases of antral disease, whether they be acute or chronic, in first seeking for the natural opening into the maxillary antrum in the middle meatus before resorting to an external operation.

DR. ROBERT C. MYLES, New York City—Nearly all the literature is confined to the chronic cases. There is no doubt that what Dr. Delavan has said is true, that the condition of the nose is often the cause of the sinusitis. If that is true, we should remove the cause if possible. By overheating the houses, as we do in our modern civilization, we cause and intensify the conditions of acute sinusitis. We have also the progressive dentist as a cause of many cases, by filling the teeth that formerly were extracted. In my experience a hot

room with steam, the patient being kept in the dark and quiet, has aided the case in progressing favorably. In regard to the value of transillumination, the amount of evidence it conveys to one depends largely on how he may use it. One should take into consideration the darkness of the room and the intensity of the light. There should be a standard lamp. It is not infallible, but it helps us often to find out what is there. I do not believe that it is pus that causes much of the opacity, but that it is the thickened blood-filled tissues.

DR. G. MCAULIFFE, New York—Two points have appealed to me in acute sinusitis, and they are the persistent application of cold instead of heat and also the benefit derived from a good nose bleed. Nature induces a depletion later by the exudation of serum and pus. In regard to the choice between heat and cold, we know that cold is infinitely better where the bacterial potentiality outweighs the tissue degeneration. Where the tissue degeneration outweighs the invasion of bacteria, heat is better. I find the application of the ice bag diminishes the risk of further implication. I believe the advantages from anterior turbinectomy result not so much from the enlargement of the middle meatus as from the depletion of the hypermia in the middle meatus.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I have had some experience in acute sinusitis, and I would like to endorse Dr. Stucky's remarks as to the value of syringing with warm saline solution in these cases. It certainly gives very great relief and washes out much of the mucus. In reference to the treatment of acute empyema of the frontal sinus, difficult as it is to pass a probe or canula up into it, I have several times relieved a patient who came to my office suffering greatly, by the passage of a probe up into the sinus. The relief was not due to the cocain which preceded the use of the probe, for there was no relief until the probe was passed into the frontal sinus.

DR. EDWARD PYNCHON, Chicago—Considerable has been said about the use of fluids in the washing out of the sinuses, and nothing has been said about the use of air, which will clean the nasal passages as well as water. The railroad companies use compressed air to clean the upholstering in the coaches, and I have put the same principle in practice in the treatment of the nose. With the hand nebulizer, when provided with a suitable tip, I think I have succeeded in driving medicated nebulæ into the sinuses just as well as I could a fluid. For acute sinusitis, the use of politzerization, with the external ears closed, so the air is forced to enter the sinuses, will often relieve the headache and sense of fulness. Of course intranasal deformities are most often responsible for sinus disease, and we might say that conditions of the nose that impair the ventilation of the attic are the causes thereof. When there is no impairment of the drainage and ventilation of the attic, there will be no sinus disease. One attack of sinus disease undoubtedly predisposes to a recurrence thereof. We should correct, as far as possible, the deformities of the nose which are instrumental in impairing the drainage and ventilation of the attic.

DR. L. C. CLINE, Indianapolis—I would like to endorse what the Doctor has said. I believe you can reach these cavities by nebulizing and stop the growth of these microbic agencies. Still, I do not believe we can wash out the cavities well with solutions. We can do something to stop the inflammation. I was struck especially, during the reading of the papers, by the fact that gentlemen will come to the meeting of this Association once a year from the Atlantic to the Pacific and from the Gulf to the Lakes and read papers on the prevention of disease, but did you ever hear of lawyers coming together and discussing how to prevent lawsuits? When a man gets hurt on the train or street car, some lawyer is immediately after him to try to induce him to bring suit. On the other hand, we are here to try to prevent disease.

DR. ALLEN DEVILBISS, Toledo, Ohio—In a case of acute sinusitis I would no more think of trying to wash it out than I would to wash out the gonococci in a case of urethritis. If you want to carry the infection back and produce a case of posterior urethritis, use a syringe. So it is in the cases of acute sinusitis; you will carry the germs farther on by trying to wash them out. If you have pent-up secretion, secure complete drainage and, as a rule, it will take care of itself.

DR. PETER J. GIBBONS, Syracuse, N. Y.—The principal cause of acute synovitis is a congested mucous membrane, whether it is from hay fever or any other disease. I wish to call special attention to the fact that the principal cause is exactly the opposite to what we get relief from. If you use suprarenal extract you get a contraction of the vasomotor system. The principal cause mentioned here is influenza. To talk of influenza and the various colds as being local diseases I believe is wrong. Influenza is a constitutional disease; it is no more a local disease than is syphilis a local disease in chancre. Influenza is caused by electrolytic dissociation of inorganic salts in the body into ions. Take sodium chlorid in the body, and any electrolytic dissociation that may affect it will give sodium positive and chlorin negative. Its effect is local on the mucous membrane or on the dilatation of the vasomotor system of that part. Chlorin mixes with hydrogen in the ethmoid sinuses without combining until the patient is exposed to light. The actinic rays cause them to unite and form hydrochloric acid. The ethmoid cells have something to do with chlorin, iodin, hydrogen and other ions and hydrochloric acid. We will find the causes of hay fever, hives, and kindred diseases in the ethmoid sinuses. They are the safety valves of the human body. The germ of influenza, then, is the same as the trout in the spring brook; the trout comes to the spring brook, not the brook to the trout. I believe inside of five years the medical profession will make a marked advance in the study of the physiologic function of the sinuses. There is a physiologic function of the various sinuses. And do not forget the tonsil. The tonsil eliminates the substances that the sinuses throw down. For the next few years keep track of the functions of the sinuses, and you will find it will be the greatest subject before the medical profession. I think Dr. Cryer agrees with me, the more the sense of smell is developed the larger the sinuses are, and the smaller the sinuses the less the sense of smell.

DR. J. A. STUCKY, Lexington, Ky.—In regard to what Dr. Mayer says, I thought over the term sinusitis a good deal before using it, but I did not know what other term to use. I am sorry Dr. Mayer did not name it. I said nothing, you will notice, about washing out the sinuses. In the last clause I said that if suppuration results it becomes a surgical case and as such it must be handled. Dr. Randall I think misunderstood me. I have always used transillumination, but I believe it is unreliable. I am glad Dr. Myles called our attention to some matters in this connection that I neglected to mention.

THE *X*-RAY IN CANCER AND SKIN DISEASES.*

CHAS. W. ALLEN, M.D.

Professor of Dermatology, New York Post-Graduate Medical School; Consulting Dermatologist to the Randall's Island Hospitals; Consulting Genito-Urinary Surgeon to the City Hospital, Etc.

NEW YORK CITY.

Of all the recent advances in the treatment of skin diseases, none has attracted more widespread interest than that of phototherapy. The treatment by light, while not strictly a novelty, has received such an impetus since Finsen first brought out his treatment of smallpox by red light, that actinotherapy, as well as the more recent radiotherapy, can almost be considered a method introducing a new era in the therapy of many affections. While the reports from the application of the Finsen method abroad appear most encouraging, comparatively little of a positive nature is to be reported from this side of the Atlantic. Radiotherapy, on the other hand, although of much more recent development,

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has advanced with such rapid strides that already sufficient reports are available to justify certain definite conclusions. I can not attempt here to collect statistics from the scattered literature, but must content myself with a brief report of my personal experience during the past year.

At the present time I can make a report on 35 cases of cancer of various kinds in which radiotherapy has been employed. Of these 9 were carcinoma of the breast, 6 recurrent and 3 primary. Of these one has died, 3 have ceased treatment, 2 of their own volition and one by my advice, and 5 are still under treatment and all showing improvement. One cancer of the chest wall, with extensive involvement of the skin, extending on both sides of the line of incision, has been discharged apparently or symptomatically cured. The opposite breast is, however, suspected of being involved, and treatment may be resumed for this reason. Of the other, internal or deep-seated cancers, there has been one death in a recurrent cancer of the neck following operation for cancer of tongue; one case of cancer of the rectum, which had improved decidedly up to a certain point, has been forced for some time to interrupt treatment; a cancer of the pelvic organs following removal of the uterus is still under treatment. Three cases of sarcoma, or more properly speaking, 2 of supposed sarcoma, one of the jaw and one of the chest, and a small round celled sarcoma of the finger now involving the meninges of the cord and probably other internal organs, are still under treatment, no positive report of progress being warrantable. In the small cell sarcoma the very worst prognosis has been made and the rays are administered for the patient's mental comfort rather than from any expectation of lasting benefit.

Beside these cases, there are now under treatment 6 patients, one with a rodent ulcer of the lower third of the left arm of twenty years' duration, involving nearly the entire circumference, being nearly three and one-half inches in length and penetrating to the bones and tendons; an epithelioma of the lip in a woman; a recurrent cancer of the lip in a man, and a multiple epithelioma of the face, forehead and neck. This last patient has had the disease for about twenty years, and has lost his left eye by operation on account of the disease, which several years ago invaded the periorbital structures.

Fifteen cases in all have been discharged as cured. These include 6 lesions involving chiefly the nose and lip, 2 the nose and eyelid, one the cheek and eyelid, one the region of the cheek just beneath the eye, 2 the chin, one the forehead, one the chest wall, one the face and eyelid and one of the cheek. Of the cases remaining under treatment, 2 can be regarded as nearly well, and a third has apparently recovered, so far as the skin lesions are concerned, while the eyes, which are both affected by the cancerous process, are making decided progress, though the sight of one eye has been, in all probability, permanently destroyed.

This case is worthy of a moment's consideration, the subject being a boy of 15 years of age, afflicted with the rare dermatological condition of xeroderma pigmentosum, which first began to show itself three years ago. It is of interest to note that this affection, which probably depends in a measure on the effect of exposure to sunlight for its development, should be beneficially influenced by light in another form.

Of the skin diseases proper subjected to the Roentgen ray there have been seven cases of lupus erythematosus, all of which have shown decided improvement, but only one of which is considered cured. There have been four cases of lupus vulgaris; three can be regarded as cured and one is still under treatment very much improved. Eczema of various kinds is represented by ten cases, in which the ray appeared to assist, at times, other coincidentally employed methods. Five cases of inveterate psoriasis have been subjected to the rays with pronounced benefit in at least one of them. Eight cases of sycosis of inveterate form have all shown decided improvement, four having been symptomatically cured. In hypertrophic and rosaceous acne, 2 at least out of 5 cases have shown a marked effect beyond what could be expected from treatment coincidentally employed. Beside these there have been one case of leprosy, the patient claiming that improvement has taken place, and 3 cases of favus, in one of which at least the ray has appeared to be of decided benefit.

Taking, then, this series of cases as a basis for a personal estimate of the value of the *x*-ray as a therapeutic agent, my belief is that while it shows nothing especially brilliant, there are sufficient positive factors to enable us to state that in a class of obstinate and, in many instances practically incurable maladies, so far as other known methods are concerned, we possess in the *x*-ray an adjunct to treatment which bids fair to prove of incalculable benefit.

Care must be exercised in its employment, for it is an element of power which may be exerted for evil as well as for good. Severe cancer, I believe, must be treated with careful oversight, and not left to electricians and non-medical workers in *x*-ray laboratories, with occasional observation on the part of the physician. Symptoms may arise with great suddenness which require modification or entire withdrawal of the rays for a season with substitution of careful medical treatment.

30 East Thirty-third Street.

DISCUSSION.

Dr. C. E. Skinner, New Haven, Conn.—The paper deals with a field of therapy that is entirely new and with diseases that hitherto have been beyond help, such as cancer and other forms of malignant growth, which it had been found by ordinary means impossible to keep in check, and which, in spite of all efforts hitherto, have gone on in their course of destruction. The first question that is usually asked about a new treatment is about the permanency of the results. I would not regard the question of permanence as of so much importance as the actual fact of improvement itself. For instance, if we can succeed in stopping the course of a cancer so that it is cured for the time, it is a great gain, even if in the course of six months or a year the treatment has to be repeated. Even temporary improvement is a great advance, and patients would be willing to return at intervals for treatment that will arrest the disease, even if it does not definitely cure it. I have personally treated, during the last eight months, forty-five cases, most of which have been helped. Seven or eight were breast cases, all of them primary, and none broken down. In only two did I succeed in materially reducing the size of the lumps in the breast; all the others improved so slightly that I can not speak positively, except on one point: in all of the cases, the progress of the disease was checked.

Now, as regards the effect of the rays on metastasis, my opinion is that the metastasis would have occurred more frequently had the *x*-rays not been used. I believe that we are going to find a use for surgery, in the future, in connection with the *x*-rays, to an extent which can not now be anticipated. For instance, in a case of cancer of the breast, with involvement of the axillary glands, and some evidence of extension to the bronchial structures, I think that it would be the proper thing to remove the great mass of the disease by surgical operation, and then apply the *x*-rays until all evidence of the

disease disappears. I have seen several cases of lupus which did not improve, but I have also seen cases get much better.

With regard to the possible unfavorable influence of the *x*-rays, I have seen several cases give evidence of autointoxication while under treatment. One in particular, which had been doing very well, suddenly developed uremia and died in three or four days. It had given no signs of it before. The question, from the standpoint of scientific interest, of whether or not a toxin is developed or liberated and absorbed into the circulation during the treatment by *x*-rays is one of importance and deserving of consideration, especially in those cases where the growth is deeply seated. From a practical standpoint, however, I do not consider that it matters much, as almost any patient afflicted with inoperable cancer will accept nearly all risks from autoinfection or anything else, if, by so doing, he may secure a chance to get rid of the malignant process.

DR. A. W. BAER, Chicago—Dr. Allen spoke of metastasis possibly being excited by the rays. I hardly think there is much in that theory. The rays have been used for some length of time and perhaps a little stronger than necessary, but I have not seen anything that would warrant this opinion. Some patients take less kindly to the treatment than others, but I have never seen it cause metastasis. When cancer forms in the breast opposite from that which has been treated by the *x*-rays, it is because the germs were there also, before the treatment had been instituted. As regards autointoxication and death from uremia, it is possible that the *x*-rays had caused an increased discharge of toxic material into the circulation, which might set up uremic poisoning. In the case cited by the preceding speaker, I think the case would have died in a short time, anyhow. We can hardly blame the treatment for the unfavorable result. The question of sarcoma is a very interesting one. I was very much surprised to learn that any surgeon would recommend operation in osteosarcoma. I have yet to see a sarcoma of the bone which did not return in a very short time after operation. I think the surgeon referred to had carcinoma and sarcoma somewhat mixed. Surgeons do not, as a rule, care to operate on sarcoma of the bone. They will be very glad to be rid of this class of cases and turn them over to the *x*-ray operator. From what we have learned of the *x*-ray, I feel warranted in saying that where there is an inoperable case of carcinoma, or of sarcoma, after the surgeon has removed what he can of the diseased tissue, and has done all that he can, the patient should then be subjected to the *x*-rays. In a case which I supposed to be one of tuberculous ulcer I applied this treatment with striking result. I only made six applications, each lasting 15 or 20 minutes; the first application dried up the secretions and it commenced to heal rapidly, and a few more applications entirely healed it. In this case I used a mask and held the patient's face within 2 or 3 inches of the tube. The proper duration and distance depend on the patient and the kind of apparatus used: whether a static machine or a coil, as well as on the character of the tube. I have never yet seen a static machine that heated the platinum, but I have seen a coil apparatus heat the platinum in a quarter of a minute. Experience with each form is required in order to overcome difficulties and to obtain the most satisfactory results.

DR. HENRY VARNEY, Detroit—I have worked with both the static and coil. I have found—as has just been stated—that the coil will heat the platinum point very rapidly, because of its high amperage, compared with the static. On this account, one can not make a very long exposure with the coil, even with the mildest ray. That variety of machine is expensive to operate and dangerous to the patient. I do the greater part of my work with a static machine, and find it most satisfactory.

With a highly interrupted small static exciter, exposures may be given every day, bringing about a gradual stimulation which is less liable to destroy new tissue. I do not say that it will not cause a burn, because in the treatment of sarcoma and carcinoma, I have found it necessary to burn into the true skin before the condition was influenced, but with it the extent of the burn can be gauged from an erythema days before a dermatitis or destruction of the true skin occurs. With regard to cases of uremia or, more likely, ray-toxemia, from overloading of the eliminative system; as would be caused from an extensive burn, a great amount of interest is excited. Within the past month patients have complained of rheumatism weeks after exposures have been given, where large areas were exposed, and it was the first time they had had an attack. I think there is need of further investigation in this direction, and I suggest that Drs. Allen and Skinner and other operators study the excretions of patients before, during and after treatment, and see if more light can not be thrown on this condition resembling rheumatism.

Referring to the penetrating power of the static apparatus as compared with the coil, I believe that with a hard tube great penetration may be had. Six months ago it was thought that we could get any penetration or stimulation. I had a case of epithelioma that involved the whole breast, axilla and two inches on the back, measuring seven and three-quarter inches in length by eight and three-quarters in width. In exposing the ulcer anteriorly, the back healed almost as rapidly as the anterior surface, by the rays passing through the patient's body, showing clearly the penetrating power of the static apparatus. I have many cases of osteosarcoma and carcinoma that have been operated on, the rays being given to prevent a recurrence. My experience warrants the statement that every case of malignant nature that has been operated on should subsequently be treated with the rays, in order to prevent recurrence, because of the influence of the rays in restoring normal cell action.

DR. CHARLES W. ALLEN, New York—I am very glad to hear the remarks concerning sarcoma and surgical operation. This is a tender point with me, because a reputable surgeon must know that most sarcomata ordinarily do not do well after surgical operation, and the interest of the profession is now excited by the favorable reports of the effects of the *x*-rays on this class of cases. In view of these reports, I think such patients should have the benefit of this treatment.

As regards the occurrence of toxic symptoms, I have observed joint and muscular pains of rheumatic character during treatment. This suggested to my mind the possibility of a poison being given off into the general system from the growth, and being thrown off so suddenly that the eliminating organs had not been able to take care of it. The source is the mass of broken down organic elements resulting from destruction of the growth. This is what I meant by saying that the *x*-rays are capable of doing harm, and that their application should not be left in the hands of inexperienced and non-medical men. Dr. Varney has said that you will have a warning before a serious burn occurs, by the appearance of an erythema. A burning sensation is at times the earliest warning. When the erythema appears the warning is usually too late, because burning has already taken place.

As to the kind of machine to employ, my preference is for the static for therapeutic effects. It has been claimed by some that the whole effect of radiation is due to electric action on the tissues. This may possibly be true; we can not say positively yet to what the action is due. When the rays pass through the body, some of the effects may be due to electricity. Different methods may be combined with the *x*-ray treatment, internal remedies may be given at the same time and caustic pastes may be at times employed to hasten the process. A preliminary course of treatment before cutting might be of advantage, as well as the post-operative. I am treating a tumor in the breast of a young woman, and holding the question of operation in reserve while watching the effect on the growth. It would be of advantage, it would seem, to have the progress of the disease checked previous to operation. After all operations, however, I would use the *x*-rays for a considerable time, perhaps a number of months subsequently, in order to prevent the return of the disease. I have had no experience as to the value of *x*-rays in the treatment of cancer of the stomach, or, at least, none that will warrant any deductions as to the value of this treatment, though I have treated cancer of intestinal, rectal and pelvic organ origin with evidence of decided effect.

RADIOTHERAPEUTIC OBSERVATIONS.*

JOSEPH ZEISLER, M.D.
PROFESSOR OF DERMATOLOGY, NORTHWESTERN UNIVERSITY.
CHICAGO.

The employment of the mysterious *x*-rays for the treatment of various skin diseases has ceased to be the monopoly of a few privileged promoters and is gradually becoming almost indispensable in the work of the up-to-date dermatologist. Much has been learned in this new field of practical medicine. More remains to be accomplished before the new agent can be handled with scientific accuracy. At the present moment there is still a deplorable diversity of opinion concerning some vital points in the theory and practice of radiotherapy. The controversy as to the real active principle emanating from the Crookes' tube is apparently still unsettled. Freund and Kienboeck may be mentioned as important representatives of the two opposing factions. The former, after persistently attributing the bulk of the *x*-ray effects to peculiar electric discharges or waves from the tube, seems of late to somewhat recede from his position. Kienboeck, who regards the Roentgen rays as the efficient element, has a host of followers, among whom I am willing to be counted. It seems to me that comparisons with the well-known effects of the Finsen light therapy, and even with those of continued exposure to ordinary strong sunlight, make it more than plausible that the clinical manifestations following *x*-ray exposure can be explained without giving to the electric shocks coming from the tube more than a coincidental rôle. With all deference to certain experts in electricity I can therefore take little stock in their attempts to establish those clinical results on the basis of electrolytic action.

TECHNIC.

The whole question here alluded to has more than merely theoretic value. Inseparably coupled with it is the selection of the proper tube for our work, whether a hard or a soft one. Whoever is after the display of electric action will take a hard tube. He can get an abundance of electric waves out of it with a scarcity of rays. Accordingly, the desired irritative or resolvent effects on the skin will be slow in making their appearance. On the other hand, the soft tube emits hardly a spark when in contact with our hand, but gives a light rich in Roentgen rays. Its clinical effects are prompt and energetic. These are established facts and admit of no discussion. Furthermore, it is generally admitted that the rays of a hard tube have a penetrating action and may easily cause far-reaching destruction, while the rays of the soft tube are absorbed by the upper layers of the skin.

Much of the success in *x*-ray work depends on the proper apparatus. The static machines are hardly fit for dermatologic purposes. A good induction coil only is to be considered. In my own equipment, which has given perfect satisfaction, the direct street current is utilized, allowing a maximum of 150 volts. It is conducted into a wall plate containing volt meter and ampere meter, rheostat and speed regulator, allowing up to 2,400 interruptions to the minute. From the wall plate the current is directed through a motor and into a rotary mercury-petroleum interruptor, and from there to the coil, which is capable of a 12-inch spark. The latter is so constructed that of the three parallel spirals constituting the primary spool, one only, two or all three may be energized through a special system of switches. In this way all gradations from the softest, barely noticeable light to a rich green one can be generated. Without resorting to the rheostat the voltage varies accordingly from about 65 to 85, while the amperage recorded shows in inverse proportion from 4 to 1½. I purposely mention these figures as very different from other authors; for instance, Schiff and Freund, who advocate a current of 12 volts with an amperage of 1½ to 2. The fact of the matter is that while proper registrations of the intensity of the current are of interest, reference to them is of value only when the identical apparatus is used by another. The essential element in determining the energy with which we work is the character of the light irrespective of either voltage or amperage. There are some special photometric devices designed to ascertain the strength of the light, but they are little used and of minor value for practical work. To the beginner the frequent use of the fluoroscope will be of inestimable service, and Kienboeck's directions in this regard, and his sketches illustrating the shadow of the hand from tubes of varying degrees of vacuity were much appreciated by me. Gradually one learns to judge the condition of the tube by mere inspection and by the aid of the ear. The intensity of the light is, however, only one of the factors constituting the desired dosage. The distance of the tube from the radiated surface and the time of exposure are of equal if not more importance. The often-heard advice to use only the "softest light" must therefore be taken *cum grano salis*. If I place my tube with its strongest possible light at a proper distance, say 40 centimeters, I can use it safely for what might be called a mild exposure.

As to the tube itself, I would strongly recommend the use of self-regulating tubes after the pattern of the Müller tube. While much more expensive than the ordinary cheaper ones they have a great endurance and I have repeatedly used them for more than one hundred strong exposures without exhausting them. Two principal methods of employing the rays may be mentioned. The one first advocated by Schiff and Freund, and followed by Pusey, is to use a soft light in short sittings in frequent, even daily, intervals until a reaction sets in. This is surely a safe method though rather slow in many cases, and as for out-of-town patients, who come for an occasional treatment only, quite impracticable. The other plan, according to Kienboeck, is to give what he calls a normal exposure, i. e., the use of a powerful light for a period of about twenty minutes in a single sitting, after which an interval is allowed and the reaction is waited for. One such normal exposure will often be sufficient to produce the dehiscence of hair from the radiated area. This method requires a good deal of experience. I have followed it repeatedly and have never had any serious consequences. I have more often, however, taken the middle ground and have used ten-minute exposures at intervals of a day or two to the number of from five to eight, when usually a decided reaction would take place. The proper method to be followed will depend to a large measure on the nature of the case and other circumstances, as I may mention later on. Whoever is making extensive use of the Roentgen rays is bound to have, sooner or later, some unpleasant experience with the much-dreaded *x*-ray burns. This is due to the well-known observation that the effect of the radiations is cumulative and that the reaction, even after powerful exposures, requires eight to ten days to become at all noticeable and will then

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gradually reach its climax within the following week or two. Unfamiliarity with this important fact may lead the beginner to persist in continued strong exposures up to a point when damage can not be undone. The three or four cases in which I produced a powerful reaction, consisting in acute dermatitis with oozing, crusting, etc., yielded readily to simple treatment within a week and caused little anxiety to either patients or myself, and left no permanent injury. I have never caused any sort of ulceration or sloughing. This may be explained from the fact that the light from the soft tube, which I have employed exclusively, has a rather superficial effect and does not penetrate into deeper tissues. Yet I feel that in the future even temporary dermatitis will easily be avoided by me, and my remarks may serve to keep others from similar accidents, for the ideal way of using *x*-rays in the majority of cases is surely to produce our results with the least irritation. In this connection a word about individual idiosyncrasy may not be amiss. Kienboeck believes that there is no such thing. Still the time required to produce a reaction surely varies in different patients, and particularly is there a notable difference in the resistance in various tissues. Pathologic cell aggregations, for instance lupus nodules, will be influenced much more readily than normal skin.

The protection of such parts as are not to be exposed to the rays is an important point in the technic. I have used for this purpose thick sheet lead, which is easily molded and cut into any desired shape, and had them lined with flannel. I would particularly warn against the careless exposure of the lips, which are most susceptible to irritation by the rays. In treating the face I always cover the eyes and the hair of the head.

During the six months, from March 1 to September 1, I have subjected 81 patients to radiographic treatment as follows: Lupus vulgaris, 1; lupus erythematosus, 1; scrofuloderma (tuberculosis of the shoulder joint), 1; hypertrichosis, 11; sycosis, 4; acne (all forms), 34; epithelioma, 9; psoriasis, 3; lichen planus hypertrophicus, 2; dermatitis staphylogenes, 1; eczema, 4; keratosis palmaris, 3; clavus, 1; pruritus, 1; hyperidrosis nasi, 2; non-dermatologic affections, 3.

I shall in the following very briefly and summarily report my observations in these cases:

LUPUS VULGARIS.

To the many cases of successful treatment of this affection by *x*-rays recorded in literature I am able to add one more, a typical instance of this disease.

Case 1.—My patient, about 50 years old, has been affected by lupus of the face since his early childhood, and has ever since been under treatment of a more or less radical character. I have myself had him under my care for the past eight years with little more than temporary benefit, having employed the well-recognized former modes of treatment, as cauterizations, curetting, dissection of the nodules, galvano-cautery and the like. The affection consisted in multiple, dry, deep-seated gelatinous nodules, isolated or forming small patches and practically covering the whole of the right cheek, extending over the bridge of the nose and encircling the lower eyelid, which as a result of surgical interference, undertaken in early childhood and consisting in an unsuccessful transplantation of skin has ever since been entirely everted. From the beginning of March to the end of July I made use of *x*-ray exposures in this case, starting at first on a small patch the size of a dollar. Seven ten-minute sittings during a period of about ten days caused a distinct superficial irritation, which developed promptly into a shallow eroded surface showing small depressions in the place of the former nodules. With nosophen dressings the patch healed up within about a week, giving a smooth, slightly reddened scar. In this manner the principal locations of the trouble were gone over successively. During the latter part of the treatment the whole area, as far as possible, was subjected *in toto* to mild ray exposures, and the interesting observation could be made that an irritation would appear only where lupus tissue was still present, while the previously treated areas exhibited no sign of further irritation.

While I am not prepared to pass final judgment about the outcome in this case, I am able to say that the result of the treatment so far was in every way highly satisfactory and far superior to any other method known to me, except, perhaps, that of Finsen. The perfect painlessness of the treatment and the smoothness of the scars are particularly noteworthy.

LUPUS ERYTHEMATOSUS.

A patient who is still under my care had a very characteristic and inveterate case of this affection.

Case 2.—A women, 56 years old, who had a lupus covering almost the whole of the face, with isolated patches behind the ears, was treated by me with *x*-rays during the two months, July and August. Three treatments a week for ten minutes with a strong light, at a distance of about 15 cm., were given to one side of the face only, while the other was treated with resorcin lotion. After four weeks the improvement on the radiated side was very marked, the color of the patches becoming very pale, and the desquamation being markedly diminished. A period of rest was allowed for this side, while the other half of the face was then likewise exposed with similarly good results.

SCROFULODERMA.

Case 3.—A young man, 23 years old, came to me April 15 with two large ulcers on the left upper arm, showing all the familiar characteristics of scrofuloderma. They distinctly connected with a tuberculous focus in or about the shoulder joint, and copious masses of thin, yellowish pus were discharged with each dressing from those ulcers. The patient was emaciated and had temperatures from 101 to 102. Radiations were given 3 to 4 times a week with a powerful light, at a distance of about 10 cm., over the whole region of the shoulder and including the ulcerated surfaces. After only six exposures the discharge of pus became very scanty, and disappeared almost entirely within the next three weeks. At the end of five weeks' treatment the ulcers were healed up, with the exception of a small area the size of about a pea, when the patient desired to be temporarily dismissed in order to go to his distant home. I have quite recently seen him again, and found him in every way much improved; the pain in the shoulder joint almost entirely gone, the mobility much improved, the weight of the patient increased by twenty-three pounds, absolutely no temperature, and the former ulcerations entirely healed up. There was, however, a small new abscess formation on the posterior part of the shoulder, on account of which the radiations were resumed.

HYPERTRICHOSIS.

I have often heard the remark from colleagues engaged in this line of work that they consider the treatment of hypertrichosis by Roentgen rays as a very delicate and uncertain affair. One of them, in answer to my direct question, once mentioned that he had given over seventy exposures to a woman thus afflicted. My own experience in the eleven cases thus treated have made me rather optimistic concerning what can be accomplished here. I have invariably made use of what has been before referred to as normal exposures, and have found that three to five such exposures, given at intervals of a week or two, will produce complete epilation. As several of my patients were living out of town and could come for a treatment only at long intervals, this method was the only one to be selected. The reaction consisted, as a rule, in marked pigmentation and temporary erythema which yielded gradually.

My patients have all been instructed that the epilation following one series of treatments is not to be considered as permanent, but that radiations should be resumed at intervals of, at first, two months, and later on longer periods without waiting for a return of the hair.

Whoever has had much experience in the electrolytic destruction of superfluous hairs will be bound to consider this new method a veritable boon to both operator and patient. One lady, with a very extensive growth all over the chin and somewhat on the cheeks, and who had formerly received many electrolytic sittings at my hands, remarked to me, after her third *x*-ray treatment, when all the hair from the radiated surface had fallen out, that she would never under any circumstances again submit to the electric needle.

As regards the final effect on the skin, I have been unable in my cases to verify Ehrmann's observation of an atrophy of the skin following this treatment.

SYCOSIS.

Of the four cases of sycosis which I have treated, two were very severe and inveterate. In one case it had affected the whole chin for a period of two years; in the other the lip had been the seat of the trouble for more than four years. The cases were both of the coccogenic variety and showed multiple follicular miliary abscesses. The treatment required was seven exposures for the one and eight for the other. The exposures were given at a close distance for ten minutes daily. The result of the treatment surpassed my most sanguine expectations. After two or three radiations pustules ceased to form. The reaction produced was very moderate. Defluvium commenced about two weeks after the beginning of the treatment and with it all inflammatory phenomena disappeared completely. The skin looked entirely normal, except slightly pigmented and reddened. These cases have since remained under my continued observation. About two months after epilation had become complete new hair began to show and has since grown out all over the affected areas. In spite of this there is so far no sign of relapse. Absolutely no other treatment had been given in these cases.

ACNE.

The thirty-four cases mentioned above comprise several varieties and all degrees of severity of acne. Five of them were instances of acne rosacea; one belonged to the type of acne necrotisans; four cases were indurated and pustular acne of the back and shoulders. The bulk of them were, of course, of the ordinary type of acne of the face, many of them of the very severest and most rebellious nature. It would entirely surpass the intention of this communication to go into details of all these cases. I would only remark in general that their management differed considerably from that employed in the previously named affections, in that the exposures were rather mild in character, the distance of the tube, according to its light, being from 20 to 40 cm.

My plan in these cases is usually to start in with three treatments a week for from two to three weeks. After this exposures are given twice weekly only for a time, and later on about once a week. A beneficial action can usually be noticed during the second week, when few new pustules are noted and the comedones seem to shrink and dry up. The accompanying seborrhea oleosa of the face is very promptly influenced. Some of the severest cases which I have ever treated were cured in from four to six weeks and have so far remained well.

If I think of the many years of hard and persistent work which I have formerly given these cases in the way of local treatment, consisting in the opening of abscesses, the removal of comedones, curetting, caustic applications and the like, with but fair results, and compare with that my present management of these cases and its almost uniformly excellent therapeutic effects, I can only regret that Roentgen's wonderful discovery was not made twenty-five years ago.

I am not prepared to draw final conclusions from my observations as to the etiologic nature of acne, but my long-held belief, that constitutional causes are foremost in its production, has now become considerably modified.

EPITHELIOMA.

From all appearances the use of *x*-rays for the eradication of epithelioma means a remarkable progress in this department of surgery. My own observations in nine cases of this kind are certainly such as to make me rather enthusiastic in this respect. My cases were all of the superficial variety. As to location, three were situated on the side of the nose, one on the lower lip, one on the lower eyelid, one near the tip of the tongue, one on the glans penis, one on the back of the hand and one on the forehead. Three of them were relapsing forms and had been previously treated by me by curetting and cauterization. In these latter cases the diagnosis had been established previously by microscopic examination. In the others this additional help to the diagnosis was considered undesirable, as a removal of tissue would be contrary to the conservative plan of radiotherapy. The treatments were given with a strong light, the distance of the tube being from 5 to 10 cm.; the sittings being ten minutes, repeated at daily intervals for a time, and then only every two to three days. The case of epithelioma of the lower lip was demonstrated before my class at the Northwestern University before the beginning of the treatment, and afterwards when cured. It required ten treatments during a period of four weeks. The one on the tongue yielded to twelve exposures given during three weeks. In only one case was there produced a reaction amounting to severe dermatitis. In most of them the exposures were interrupted at the first sign of a slight irritation and further results waited for. In all of them, I am happy to record, at least for the time being, a recovery.

A comparison of this method with all others known, both by surgical means and by caustics, must necessarily establish a vast superiority of radiotherapy, not only as regards its absolute painlessness, but also as regards the condition of the scars. Whether the results attained in my own cases and in the many reported by Pusey and others will prove permanent, remains to be seen; but to my mind the elective and deep-reaching action of the rays seems more radical than any surgical interference possibly could be.

PSORIASIS.

The three cases of this affection were selected with regard to special location of the disease. They were cases in which a few regions only were invaded by particularly stubborn manifestations; in one of them the knees only, in another the arm, showed a large infiltrated scaly patch; in a third the lower limbs were exposed to the rays. Exposures were made with a mild light at a distance of from 15 to 20 cm., in order to take in the whole affected area. Results were noticeable after from eight to ten exposures, and were on the whole satisfactory. In one of them the benefit has lasted for more than four months. We know from other observations recorded in literature that beneficial results by *x*-rays in

psoriasis are, however, not to be considered as permanent.

LICHEN PLANUS.

Similar results were obtained in two cases of lichen planus hypertrophicus located over the tibial region. One such patch, which had obstinately resisted various plans of treatment, even as energetic as thorough curetting, disappeared in an almost marvelous way after four strong exposures, given at intervals of five days each, and left the skin in a perfectly normal condition.

ECZEMA AND PRURITUS.

I have made use of *x*-rays only for isolated, chronic infiltrated patches of eczema, and my results seem to me very encouraging. One case of pruritus genitalis was much benefited by three mild exposures.

KERATOSIS PALMARIS.

I am sure that most dermatologists will agree with me concerning the great difficulty of successfully treating this condition. My own experience, at least, has always been very disappointing. The three cases of this affection which I submitted to radiotherapy were inveterate forms and covered in one instance the palmar surface of both hands, including the fingers, and in the other two circumscribed patches of the size of a dollar on each palm. The effect of the rays in these cases was, to say the least, surprising. One case seemed perfectly restored after five strong exposures.

CLAVUS.

CASE 4.—About the middle of July I was visited by a young gentleman, 23 years old, who complained that for the past two years his life had been made perfectly miserable by the presence of numerous soft corns on the soles of his feet. The affection was symmetrical and consisted in upward of sixty soft corns distributed over the plantar surfaces of all the toes and the adjacent regions of the sole. While a single corn may be a trivial affection, a trouble like this one surely deserves the earnest attention of the dermatologist. I learned from my patient that all sorts of treatments, including excision, keratolytic ointments, special pads, etc., had been tried in vain, and I therefore resorted at once, as an experiment, to the use of *x*-ray exposures. I gave twelve daily exposures with a strong light, at a distance of 10 cm., for ten minutes each. No visible reaction resulted, but the treatments had to be discontinued as I left for my vacation. Three weeks later, when I returned, my patient exhibited his feet to me, and to my great delight he was absolutely and perfectly free from all his corns and has remained so to this day.

HYPERIDROSIS NASI.

Two cases of this kind were subjected to radiotherapy, with the expectation that the rays would assist in limiting the excessive oiliness in analogy to their action in acne. Ten mild radiations were given in one of these cases at intervals of from three to four days, and the result as regards the size of the follicles and the secretion was satisfactory.

DERMATITIS STAPHYLOGENES.

CASE 5.—This was a remarkable case of an inflammatory affection, covering the back of the right hand, consisting of an eruption of multiple pustules, weeping and the other signs of an acute dermatitis. This condition seemed to me to be secondary to previous energetic treatment by the home physician, Dr. Sauerhering, Wausau, Wis., consisting in electrocautery for a trouble, the nature of which I could only guess, but in regard to which I had microscopic findings by Professor Zeit of Northwestern University, who declared that there was nothing malignant present, at any rate no tuberculosis. As the condition had rebelliously resisted continued treatment in various ways before, I decided to employ *x*-ray exposures. These were given with a strong light at a distance of about 10 cm. for ten successive days, when there was a decided erythema surrounding the affected patch. The pustules, however, had ceased making their appearance after the first few treatments, and the oozing had become considerably lessened. The patient was very anxious to leave for his home, but reported to me two weeks later that his hand was perfectly cured.

Of non-dermatologic affections I have used the rays in two cases of acute epididymitis, but was unable to say whether they helped the progress of the cases very much. In a case of hip-joint disease, in which I was asked to administer the rays, the effect in alleviating pain was very noticeable.

CONCLUSION.

Were I to attempt an explanation of the beneficial action of the *x*-rays in all these cases I would surely side with those who deny any particular effect on microorganisms, but who, basing their opinion on microscopic evidence, as does Scholtz, attribute to the rays a special affinity for pathologic cell formations, which, under the influence of the rays, undergo metabolic changes and even entire disintegration.

In conclusion, I can only say that my experience with radiotherapy so far has made me an ardent advocate of it, and I believe that until it is replaced by something still more marvelous it will constitute one of the most effective weapons in our fight against a large class of dermatologic affections.

THE PROGNOSTIC VALUE OF TUBERCLE BACILLI IN SPUTUM.

LAWRASON BROWN, M.D.
RESIDENT PHYSICIAN, ADIRONDACK COTTAGE SANITARIUM.
SARANAC LAKE, N. Y.

The sputum of each patient at the Adirondack Cottage Sanitarium is carefully examined every six weeks. In this paper the results of these observations carried out at the sanitarium during the last two years have been made use of to determine the possible prognostic value of quantitative and qualitative changes in the tubercle bacilli occurring in the sputum of phthisis. Before giving the results of the observations it might be well to recall briefly a few facts which, though thoroughly familiar, are of sufficient importance to review at this time.

Pulmonary tuberculosis has no characteristic form of sputum. It may vary in quantity from almost nothing to even 1,000 c.c. in twenty-four hours. The absence of sputum is no better sign of the absence of pulmonary tuberculosis than is the absence of cough. An abundant, mucoid, more or less frothy sputum, which often contains no tubercle bacilli, at times marks the onset of miliary tuberculosis on a chronic or less acute form of the disease. In fibroid tuberculosis of the lungs there may be little or no expectoration and no tubercle bacilli may be found for long periods.

The character of the sputum macroscopically is no absolute criterion of the presence or absence of the tubercle bacilli. Tubercle bacilli may occur in watery mucoid sputum, as well as in the usual mucopurulent variety. Tubercle bacilli may occur by millions in one part of a specimen and be absent from another. The bearing of this fact on the number of the bacilli in a specimen is readily seen.

The staining properties of the tubercle bacillus depend on its resistance to decolorization. As some hold that many of the tubercle bacilli in a preparation are not stained when it is ready for examination, the great value of sufficiently overstaining is easily seen. Carbol fuch-

sin is the best stain. If the quick method of employing heat is used a small flame is best. The fluid should be brought just to boiling, or better, until bubbles are seen to collect about the thicker parts of the smear. This heat should be kept up one to five minutes, or until crystals of fuchsin form on the surface of the fluid. The preparation should never be allowed to become dry on account of the difficulty in decolorizing. If the "cold method" is employed, the preparation should be left completely immersed in the carbol fuchsin for twenty-four hours.

Nitric acid (25 per cent.) and alcohol are the only safe agents to be used in decolorization, which can, if necessary, be controlled by the low power of the microscope. In the routine examinations after admission to the sanitarium Gabbett's method is used.

Recently some German observers have called attention to a number of bacilli which resist decolorization by acids and more or less resemble the tubercle bacilli in appearance. These have been described under the names of timothy-hay bacillus, grass bacillus, the butter bacillus, etc. Like the smegma bacillus and the bacilli of syphilis and leprosy, they all stain in carbol fuchsin and resist decolorization by acids to some extent. Ophüls of San Francisco and others in the last few weeks have published a list of several cases of pulmonary gangrene in which the sputum contained an acid-resisting bacillus.

With Gabbett's solution (1 gm. methylene blue in 100 c.c. 25 per cent. H2 SO4) some of these bacilli may escape decolorization and consequently nitric acid and alcohol should be used in any specimen for diagnosis.

"The tubercle bacilli," writes Fischel,[1] "is not an end form, but one form of the cycle of a rod-shaped bacterium." It usually occurs as a rod-shaped organism 1.5-3.5 microns long and about 0.2 microns in breadth. It has been seen 11 microns long. The shorter the bacillus the more apt it is to be straight. It is usually bent, sometimes curved, crescentic, or even like a spirillum or spirochete. It occurs at times in chains, and branching forms have been recorded by a number of observers.

The beaded forms have caused much discussion. Koch, in his early papers, held the clear refracting spaces to be spores, and many have followed his lead. They occur 1 to 8 in a bacillus, and are separated in stained specimens by round- or rod-shaped granules deeply stained in a lightly-stained capsule. The clear spaces are now held to be vacuoles, due to plasmolysis. Every observer has noted "nucleated" tubercle bacilli, i. e., bacilli containing more deeply stained rounded masses. These resist decolorization more strongly than the remainder of the bacillus, and at times resemble short chains of cocci. This is the explanation of the affirmation made by some that tubercle bacilli may become cocci. That these, too, are not spores is upheld by the fact that they have not been shown to resist drying and disinfection to any greater degree than the bacillus, nor have they ever been shown to germinate.

The club- or knob-shaped swellings at the end of the tubercle bacillus in some specimens are asserted by Coppen Jones[2] and others to be spores. This observer would place the tubercle bacillus very near the actinomyces, which reproduces itself in this manner. But it is much more likely that this form, with the two preceding, are all types of degeneration.

The arrangement of the tubercle bacilli in any specimen can not be told from what is found in a single slide. They occur often in clumps, often diffusely scattered throughout the specimens. At times they occur in groups of two, three or four, with their long axes more or less parallel. Occasionally they are found to be intracellular, in leucocytes or alveolar cells. Very occasionally they occur in enormous masses, such as are found in smears from cultures.

In tabulating I have used Dr. Trudeau's classification, which is substantially as follows:

Incipient stage: Slight local, with little or no constitutional involvement.

Advanced stage: The localized disease—process extensive or in an advanced stage; or slight local pulmonic invasion, with rather marked constitutional involvement or with complications.

Far advanced stage: Marked signs of pulmonic disintegration, with marked constitutional symptoms.

Improved condition: Physical signs showing process less active, or general health improved with symptoms relieved or abated.

Arrested: No activity in process in lungs, with absence of fever and other constitutional symptoms.

Apparently cured: Abnormal physical signs absent, or if present only slight and indicative of healed lesion. Absence for some months of pyrexia and of sputum or of sputum containing tubercle bacilli.

In tabulating the number of tubercle bacilli I have, with a few modifications, used Gaffky's scheme,[3] which is extensively employed at the foreign sanatoria.

1. Only 1-4 bacilli in whole preparation.
2. Only 1 bacillus on average in many fields.
3. Only 1 bacillus on average in each field.
4. 2-3 bacilli on average in each field.
5. 4-6 bacilli on average in each field.
6. 7-12 bacilli on average in each field.
7. Fairly numerous on average in each field.
8. Numerous on average in many fields.
9. Very numerous on average in many fields.
10. Enormous masses on average in many fields.

The modifications I have adopted consist in replacing "fairly numerous" by "13-25"; "numerous" by "about 50"; "very numerous" by "about 100 or more." In using this table Gaffky recommends that a Zeiss homogeneous oil immersion 1-12 and a No. 2 ocular at a definite tube length be employed.

TABLE 1.—Statistics of various stages treated with the frequency with which tubercle bacilli were discovered in the sputum.

Condition on Admission.	T. B. Found.		Condition on Discharge.				
			Apparently Cured.	Discharge Arrested.	Improved.	Unimprov'd.	Failed.
Incipient, 76; or 30 per cent.	On admission	10	5	4	1	.	.
	On discharge	3	. .	3	.	.	.
	Both on admission and discharge	5	. .	5	.	.	.
	During term	2	2	.	.	.	.
	Not found or no sputum	56	43	7	6	.	.
Advanced, 164; or 63 per cent.	On admission	46	9	29	8	.	.
	On discharge	7	.	5	2	.	.
	Both on admission and discharge	72	. .	40	25	2	5
	During term	6	1	5	.	.	.
	Not found or no sputum	33	11	15	6	.	1
Far advanced, 19; or 7 per cent.	On admission	7	. .	1	6	.	.
	On discharge	. .	. .	. .	.	.	.
	Both on admission and discharge	11	. .	1	7	.	3
	During term	. .	. .	. .	.	.	.
	Not found or no sputum	1	. .	. .	.	1	.
Total		259	71	115	61	3	9
Per cent.			27	44	24	1	4

Of the 169 cases with tubercle bacilli 71, or 42 per cent., had lost their bacilli on discharge. Of these 71 cases 52, or 73 per cent., were advanced, 7, or 10 per cent., far advanced, and 12, or 17 per cent., incipient. Of these incipient cases 9, or 75 per cent., were apparently

cured; of the advanced 10, or 19 per cent., were apparently cured. From these figures may be seen:

1. That the earlier the diagnosis the better were the chances for recovery.

2. That when the diagnosis was made before tubercle bacilli were found in the suptum, i. e., before ulceration had begun, the chances for recovery were at least twice as good and, on the whole, seemed many times better.

3. That when tubercle bacilli were once found, while a goodly number were arrested (many of which will no doubt be "cures" later), only a comparative few were "cured" during their treatment in the sanitarium, which on an average was four or five months.

These observations seem to draw us inevitably to the conclusion that we must leave no stone unturned to make in pulmonary tuberculosis an early diagnosis and to subject the patient to treatment immediately.

TABLE 2.—The frequency of the occurrence of tubercle bacilli in the sputum.

			Apparently cured Per cent.	Arrested. Per cent.	Improved. Per cent.	Failed. Per cent.
In all	259	Of these	27	44	24	5
Of all	With tubercle bacilli, 169; or 65 per cent	"	10	55	29	6
	Without tubercle bacilli, 90; or 35 per cent.	"	60	25	14	1
Incipient, 76; or 30 per c.	With tubercle bacilli, 20; or 26 per cent	"	35	60	5	5
	Without tubercle bacilli, 56; or 74 per cent.	"	77	13	10	0
Advanced, 164; or 63 per cent.	With tubercle bacilli, 131; or 80 per cent	"	8	60	27	5
	Without tubercle bacilli, 33; or 20 per cent.	"	33	45	19	3
Far advanced, 19; or 7 per cent.	With tubercle bacilli, 18; or 94 per cent	"	0	11	72	17
	Without tubercle bacilli, 1; or 6 per cent	"	0	0	0	100

TABLE 3.—The occurrence of morphologic variations and of distribution of tubercle bacilli in 150 cases. The number of Gaffky's scheme in table indicates that on the average it is the most common enumeration.

	No. of Cases.	No. Gaffky.	Long.	Beaded.	Thin.	Medium.	Short.	Thick.	Knobs.	Irregular.	Nodes.	Clumps.	Clumps; Close.	Clumps; Loose.	Chains.	Parallel Pairs.
C	13	IV	10	11	1	5	3	3	.	.	1	9	2	. .	1	1
Per cent	9	. .	76	85	7	38	23	23	.	.	7	69	22	. .	7	7
Arrested	85	VI	82	71	27	26	46	37	6	8	20	66	34	13	8	12
Per cent	57	. .	96	84	32	31	34	44	7	9	24	78	57	22	9	34
Improved	41	VII	40	33	10	13	22	21	3	4	11	33	15	9	5	6
Per cent	27	. . .	99	80	25	32	54	51	7	10	27	80	45	27	12	15
Failed	11	VIII	11	9	2	0	6	5	1	2	4	9	5	4	0	1
Per cent	7	. . .	100	80	17	.	55	45	10	17	36	82	55	44	.	10
Total	150															

In 150 cases careful observations were made on the number, appearance and distribution of the tubercle bacilli in the sputum. Of the 150 cases 13, or 9 per cent., were apparently cured; 85, or 57 per cent., arrested; 41, or 27 per cent., improved, and 11, or 7 per cent., failed.

The number of tubercle bacilli seemed to vary on the whole directly with the severity of the case. Thus, the number "Gaffky" was IV in the cases apparently cured, VI in the arrested, VII in the improved and VIII in the cases that failed. The number "Gaffky" of any case was not based on one or two preparations from one specimen of sputum, but on two preparations from a number of specimens of sputum. During the past year we have discharged four patients, each of whom had tubercle bacilli in his sputum in enormous and innumerable numbers on one or more examinations. One of these was discharged apparently cured, two arrested and one improved. The masses of tubercle bacilli probably came from a disease process of a similar nature in each, i. e., the sloughing of a necrotic mass. Three of the cases had large cavities, one was an incipient case, showing a very slight lesion. In the latter the bacilli disappeared, while in the other cases, though they diminished somewhat, they were at times present in considerable numbers. My observations lead me to hold that as a patient improves there is frequently a steady decrease in the number of tubercle bacilli. The continuous occurrence of large numbers of tubercle bacilli indicates, as Brieger[4] says, the probable existence of a cavity. The occurrence of many and very few tubercle bacilli at intervals suggests a cavity that is occasionally blocked.

The absence of tubercle bacilli in the sputum is the condition *sine qua non* of healed tuberculosis, for, as Dettweiler[5] says, of what value would be the long-held maxim that the tubercle bacillus is the cause of tuberculosis, and where the tubercle bacillus is there is tuberculosis; of what value, otherwise, he says, would this be? The continued presence of bacilli in the sputum does not necessarily mean that the disease is in active progress. Dr. Fowler[6] reported a case in 1895 where bacilli had been found on every examination for fourteen years. During that period the patient was actively at work, and was, at the time of the report, better than he was in 1882. Dr. Trudeau has had a somewhat similar experience, tubercle bacilli being found for ten years, the greater part of which the patient spent in active work.

When we recall that only a fraction of the number of bacilli in any preparation appear stained when it is examined; that old foci may give off very few and young foci no bacilli at all, however actively they are forming; that the occlusion of a bronchus may shut off the focus entirely for a time; when we consider these things we see how little can be inferred from the number of bacilli present in any single preparation.

As regards the appearance of the bacilli, my notes would indicate that "beading" occurred equally in all classes of cases. The length seemed to vary somewhat with results of treatment. There were fewest long and short bacilli and most medium-sized in the cases apparently cured. The number of long and short bacilli was greater in the arrested and improved cases and most in the cases that failed, but the difference was not marked. The variation in thickness was not pronounced sufficiently to enable any conclusion to be drawn from it, and may be explained by differences in staining. The cases that failed contained the largest number of irregular bacilli as well as the largest number of the deeply-staining bodies previously mentioned.

The distribution of the bacilli has been carefully noted by many observers. The occurrence in clumps and the parallel arrangement of many, or even two bacilli, is said to evidence a favorable state of development and lively growth. Groups of short bacilli are held by some to betoken a bad prognosis.

The clumping of beaded forms, Brieger[4] believes, shows destruction of lung tissue. Clumping occurred in 69 per cent. of the cases apparently cured, in 78 per cent. of those arrested, in 80 per cent. of those improved and in 82 per cent. of the cases that failed, showing that there is a slightly greater tendency to clumping in the less favorable cases. It is difficult to say much in regard to the individual clumps, and from

my notes it would seem that clumps composed of bacilli lying close one to another form about the same percentage of clumps in all cases. Clumps of loosely distributed bacilli occurred more frequently in the cases that failed. Bacilli occurred diffusely scattered in practically all specimens.

Chains of three or more bacilli and pairs of bacilli with their long axes parallel gave no data for prognosis.

It is interesting to compare these results with some obtained in the laboratory. Theobald Smith[7] describes the bovine tubercle bacillus, which some hold to be of low virulence for man, as short and straight. In another place he describes a tubercle bacillus of low virulence obtained from an abdominal abscess as occurring in clumps of ten or more and quite slender, with the chromatin substance more or less transversely segmented.

A tubercle bacillus which has been grown for ten years by Dr. Trudeau showed in old growth a predominance of long, beaded forms with knobs and irregularities. Some were short. In the younger growths short and medium forms occurred which were less beaded. This tubercle bacillus is of very low virulence and injected subcutaneously into a guinea-pig kills only after eigtheen months.

A virulent tubercle bacillus obtained by Dr. Baldwin from an acute case a short time before the observation was made, showed in old cultures chiefly long and beaded forms with a few short and medium-sized bacilli. From new cultures many short forms were obtained, but some were long and showed slightly swollen extremities.

From this it is seen that virulent and attenuated forms of tubercle bacilli possess practically the same morphology and that short bacilli represent usually a younger growth.

In conclusion it may be said:

1. That the examination of one specimen of sputum is of value if tubercle bacilli are found in proving the case one of tuberculosis of the respiratory tract.

2. That if no tubercle bacilli are found one examination is of little value. At least four or five specimens should be examined after the patient is directed how to collect the sputum.

3. That from one specimen little or nothing can be said in regard to prognosis.

4. That if the number of bacilli steadily decrease in a series of examinations at intervals sufficiently long, the patient may be improving, but the constitutional symptoms and local signs give much more accurate information.

5. That if on repeated examinations large quantities of tubercle bacilli are found, the disease has in all probability advanced to cavitation.

6. That the morphology of the tubercle bacilli affords little or no ground for prognosis, but the short bacilli are suggestive of a more active process.

7. That the arrangement of the bacilli in clumps is more apt to be found in the severer cases, but may occur in all.

REFERENCES.

1. F. Fischel: Untersuchungen über die Morphologie u, Biologie des Tuberkulose-Erregers, 1893.
2. Coppen Jones: Centralbl. f. Bakt. u. Parasit., 1895, Nos. 1, 2 and 3.
3. Gaffky: Mitt. a. d. Kais. Ges. Ant., 11. p. 126.
4. L. Brieger: Berl. Klin. Woch., 1900, p. 272.
5. Dettweiler u. Meissen: Berl. Klin. Woch., 1883, p. 97.
6. K. Fowler: Diseases of the Lungs. (Fowler and Godlee, 1898, p. 369.)
7. T. H. Smith: Jour. Boston Soc. Med. Sciences, 1900, p. 144.

Clinical Report.

INCISED WOUND OF WRIST,

RESULTING IN PARTIAL DIVISION OF MEDIAN NERVE AND COMPLETE DIVISION OF NEARLY ALL OF FLEXOR TENDONS OF RIGHT HAND.

W. P. VERITY, M.D., and R. L. LARSEN, Ph.D. M.D.
CHICAGO.

The following case is of great interest, from many points of view, especially on account of the circumstances surrounding the etiology, course, treatment and results obtained. The case is one which, in many instances, has often called for repeated and drastic efforts in restoring the pathologic conditions to the normal. The short space of time involved, in which a doubtful result has turned out to be a surprisingly perfect one, is worthy of note.

A boy, Albert P., aged 10 years, resident of this city, came to Dr. Verity's office, June 22, 1901, and showed his injured member. He was accompanied by his mother, who was very anxious to know what could be done to relieve the boy of the inevitable and permanent deformity, which would certainly result if no medical or surgical influence were soon brought to bear.

The parent stated that seven or eight weeks previous to this first visit the boy, while playing in a vacant lot, where there was an abundance of rubbish, stumbled and fell, and in trying to catch himself put out his right arm, his hand striking on some loose pieces of glass lying on the ground, one large piece of glass cutting through the palm of his right hand, at about the bases of the metacarpal bones of the second and third fingers.

The superficial wound in the hand healed, but it left behind it the damage, which forms the center of interest in this paper. No distressing symptom was ever present, as pain, only the discomfort occasioned by the inability to flex the fingers. The wound was considered of a trivial nature and no physician was called.

On examination the following conditions were present: Index and middle fingers could not be flexed, but remained perfectly extended, and ring finger likewise also was affected, only to a less degree. Thumb and little finger retained normal motility. Normal flexion and extension at wrist joint, supination and pronation. No loss of sensation in any of the digits or palm of the hand, a singular fact to note. The laceration in the palm was about ¾ to ⅞ of an inch in length.

Palpation in the region of lower third of forearm and wrist-joint revealed two or three distinctly nodular bodies, which at some points felt sharp, leading to the belief that there were some pieces of glass or other foreign matter present and imbedded in the soft parts. To make certain of these conditions a fluoroscopic and an ordinary *x*-ray picture were taken. The results were negative. These nodules were therefore considered to be the bulbous ends of the severed tendons.

An exploratory operation was advised and consented to. The boy entered St. Joseph's Hospital June 28. Chloroform was the anesthetic used. Median incision, extending from a point at about junction of lower and middle thirds of forearm to a line passing transversely through web of thumb, was made, skin and superficial fascia dissected back, and the following picture presented to view: all the tendons of the flexor sublimis digitorum were completely divided, the cut ends being separated for the distance of nearly three inches. All the tendons of the flexor profundus digitorum, tendons to the index, middle, and ring fingers, were completely severed, with separation in distances ranging from two to four finger-breadths. The central ends of the deep flexor tendons were held down by fibrous bands, each of about an inch and a half in length. These ends, together with central ends of the superficial group, showed nodular swellings, which were irregular in outline, and which, before the operation, puzzled us as to their exact nature. The flexor tendons to the thumb were intact. The only tendon of the long group to the little finger left entire was that of the flexor profundus digitorum.

The conditions were so favorable regarding the patient's disposition that we decided to convert the exploratory operation into a radical one, inasmuch as we had proceeded so far.

Among all this mess of cords was found the median nerve, very nearly severed, the laceration extending transversely through the nerve toward its posterior aspect, leaving but a strip of the nerve-sheath and probably a few fibers. There was a gap of about an inch, with no sign of bulbous swelling, yet covered over by a layer of fibrous elements. The sheath of the nerve was slit and sutured after careful approximation of cut edges. The laceration of the nerve was at a point near where the trunk divides into its separate individual branches, that is, central to such division. This nerve caused some confusion for a time, and even my colleagues, E. J. Senn, C. Wagner and J. Printy, who were present, guessed as to its identity. It was of remarkably large size, like one of the tendons, and for a long time was taken as one. To remove all doubt, the first incision was continued up the arm for a distance of two inches.



Fig. 1.—Appearance of field of operation before surgical repair commenced. The large arteries are not shown, for they were drawn to one side. (*a*) Deep flexor tendons (central ends). (*b*) Bands of connective tissue at ends of tendons. (*c*) Long flexor of thumb. (*d*) Lacerated portion of median nerve. (*e*) Superficial flexor tendons (central ends). (*f*) Loose connective tissue over pronator quadratus. (*g*) Retracted distal ends of superficial and deep flexor tendons (pulled up). (*h*) Line showing position of receipt of injury. (*i*) Actual position of retracted distal ends of flexor tendons (under skin).

The position and relations then observed established its anatomic identity. The next step was the suturing of the severed tendons in such a way that practical use could be had of the fingers affected. It was indeed very remarkable that there should be so much contracture of the parts involved in the lesion, so soon after the injury.

The modus operandi in suturing together the muscular elements was instituted as follows: The distal end of the deep flexor tendon to the index finger was pulled up out of its position and sutured into the long flexor tendon of the thumb (a slit being made in the tendon of the latter) at a point opposite the upper end of the groove below the thenar eminence, as far as the tendon could be drawn, the hand and all of the fingers being flexed as much as possible.

The distal ends of the deep flexor tendons of the middle and ring fingers were drawn up and sutured into the deep flexor tendon of the little finger (a slit being made in the tendon of the latter). The proximal ends of the deep flexor tendons were left in position, in which they were held by fibrous bands.

Now, the proximal ends of the group of tendons of the flexor sublimus digitorum were drawn down and sutured to the distal ends of the corresponding tendons, a few stitches including the upper margin of the ulnar portion of the divided palmar fascia. This latter fastening stood out very prominently, like a bridge, although the hand was flexed to its limit.

It was intended at first to splice the muscle above, in order to afford better and clearer approximation of the severed tendons, but it was held impracticable under the circumstances, the limit of physiologic stretching being at a minimum.

Both my colleagues and myself thought of other methods of tendon suture, such as Czerny, split tendon, Anderson's method, kangaroo tendon and bridgework of stout catgut sutures, but because of the great degree of separation of the tendon ends, it was considered best to abandon these methods.

After all these structures were secured and placed in position the contiguous edges of the palmar fascia were firmly



Fig. 2.—Appearance of field of operation after surgical repair was instituted. The large arteries are not shown, for they were drawn to one side. (*a*) Central ends of deep flexor tendons. (*b*) Flexor longus pollicis. (*c*) Median nerve repaired. (*d*) Distal end of deep flexos tendon to index finger. (*e*) Superficial flexor tendons. (*f*) Deep flexor tendon to little finger. (*g*) Distal ends of deep flexor tendons to ring and little fingers respectively. (*h*) Palmar fascia to which superficial tendons were sutured.

brought together and sutured. Then the separated edges of the superficial fascia and skin were approximated and stout anchoring catgut sutures inserted at regular intervals, more of them being employed in the region of the angle formed by the flexion of the hand on the forearm, and then a continuous horse-hair suture of the skin from end to end of the incision.

Little hemorrhage was encountered. Over the wrist-joint, at about the lower ends of the ulna and radius, buttonholes were made in reflected skin and gauze drains inserted. Antiseptic dressings were applied with the forearm fixed at right angles to the arm and against the body. A plaster-of-paris splint was applied from the axilla nearly down to the tips of the fingers. The fingers were snugly flexed on a small roller bandage.

The accompanying illustrations will show the picture of the open field of operation before and after suturing of the tendons and repair of the median nerve. (Figs. 1 and 2.)

Thirteen days after the operation dressings were removed for inspection; there was no swelling or discoloration. The wound had healed by primary intention. Sensation and nutrition in the fingers and hand were normal. At no time after the operation did the boy have any abnormal temperature, or cardiac disturbance. Fifteen days after the operation the boy was taken home and further examination made at convenient intervals.

After the first five weeks had passed we instituted massage, passive and active motion. After the second week, and thereafter, active motion of the fingers affected, elicited steady, slow and gradual improvement of flexion.

September 3 photographs were taken of the parts involved in this case. Three positions are represented, showing (Fig. 3) the relations of the fingers to one another, giving a view of the scar, indicating the line of incision employed in the operation, and the bulging at the wrist due to the tension of the flexor tendons. Figure 4 shows the relations of the hand, wrist, forearm and arm, as secured by means of the plaster-of-paris splint. Figure 5 shows the extremity elevated and the anterior surface exposed.



Figure 3.

For a few weeks at this period there was a good deal of stiffness around the wrist-joint and hand, but this gradually diminished under vigorous treatment with massage, baths and electricity. After the third month the boy was given daily exercise in the way of carrying weights, such as a bucket of water, which he faithfully performed.

At about the middle of October the hand could be fully extended and the fingers nearly so. He had the ability to double up his fist. There was, of course, a well-marked and long cicatrix along the middle of the anterior surface of the forearm and wrist, but by massage we restored the cutaneous portion to as near a perfect condition as could be gained.

Dec. 20, 1901, nearly full extension of fingers was observed. There was complete flexion of fingers. He can not flex the thumb or little finger without causing flexion of the index, middle and ring fingers, thus demonstrating the results of suturing of tendons, as instituted at the time of operation.

The boy has suffered no pain at any time, the only reminiscence of any severe condition to the member at present is the long cicatrix and vicarious movements of the fingers. Now he uses (at the time of this writing) both hands alike in his manual work, no difficulty being shown even when attempting



Figure 4.

to write, or play on the piano. Each finger can be voluntarily put into action, no stiffness being perceptible.



Figure 5.

Thus is shown the necessity of early tendon suture, with slow and careful inspection and operative progression.

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AN EPIDEMIC OF TYPHOID-LIKE DISEASE.

The application of bacteriologic methods to the routine clinical study of typhoid fever led to the demonstration of cases of typhoid-like diseases, or paratyphoid, associated with bacilli that differ from the typical typhoid bacillus in essential biologic characteristics yet clearly belong in the same general group. These bacilli are called paratyphoid or paracolon bacilli. The number of isolated cases of paratyphoid has increased rapidly. Wherever modern bacteriologic methods have been used in the examination of typhoid fever, cases of paratyphoid have been disclosed sooner or later. Judging from current reports in medical journals and before medical societies paratyphoid would seem to be coextensive with typhoid fever. Wherever the latter occurs in endemic form occasional cases of the former may be confidently regarded as demonstrable sooner or later if examinations for that purpose are instituted.

It is most interesting, however, to learn that recently epidemic paratyphoid has been recognized in which all of the cases have been shown to be caused by paratyphoid organisms. The reports of such an epidemic come from Germany.[1] The disease developed in a regiment of soldiers, but all the facts are not at hand as yet concerning the mode of infection and spread of the disease. The cases—some 38 in all—received prompt and careful study. In not a single one of them did the examinations disclose typical typhoid bacilli in the feces, urine or roseolæ; on the other hand, a typhoid-like organism was recovered from some of these sources in nearly all of the cases. This bacillus is much like the typhoid bacillus in shape and size, but it differs in many cultural characteristics, and it is far more pathogenic for animals. The bacillus was agglutinated by the serum of patients in high dilutions, but not at all by the serum of normal persons. A peculiar, at first sight somewhat confusing feature, was the agglutination even in high dilutions by the serum of the patients of the true typhoid bacillus. The agglutinins for the true typhoid bacillus disappeared much earlier than those for the typhoid-like organism. The latter agglutinins also grew in strength as the disease progressed and persisted in the blood far into convalescence. Animal experiments brought out the very interesting fact that immunization with the typhoid-like bacillus gave rise to agglutinins for both these bacilli; here again the agglutination of the typhoid-like organism was the stronger. For the reason that a duplex agglutinative property was produced by the injection of the typhoid-like bacillus the authors feel that there was no absolute necessity for assuming the existence in these cases of a mixed infection. It would have been of great interest to have the results of systematic blood cultures in an endemic like this. Apparently the authors were satisfied with the demonstration of the peculiar organisms in the roseolæ of a certain number of cases. It is not at all unlikely from what we now know in regard to typhoid bacillemia that in this series a bacillemia also existed, and the demonstration of the bacilli in the blood of a number of cases would have strengthened materially the etiologic relationship of the organism.

This being the first epidemic of typhoid-like disease recognized as such the practitioner naturally will be interested in the clinical features. In the main the clinical picture was that of typhoid fever, but certain peculiarities were noted. In many cases the beginning of the disease was rather abrupt and the termination equally sudden. The fever was not very high as a rule and of rather short duration. On the whole the symptoms were not severe. There were no fatal cases.

The authors suggest the propriety of designating the diseases caused by bacilli related to but not identical with the typhoid bacillus as "typhoid" diseases. This usage of the word "typhoid" is, of course, not at all objectionable from the purely German standpoint, but it is sure eventually to cause confusion among English-speaking physicians. We would urge on our German confrères the advisability of abandoning at once the use of the word "typhoid" in the sense suggested and to substitute the word paratyphoid (in German "paratyphus"). This would not cause any confusion in the minds of English readers of German articles and books. Finally, it is proper to say that this study of a paratyphoid endemic will serve to emphasize the importance of the paratyphoid infections and it also indicates that with time as observations multiply it is probable that certain clinical peculiarities of paratyphoid will be established.

1. Hünermann: Zeitschr. f. Hyg. u. Infektionskr., 1902, xl, 522-528. Conradi, Drigalski, and Jürgens: Ibid., xlii, 141-174.

THE SIGNIFICANCE OF LEUCOCYTOSIS IN SURGICAL DIAGNOSIS.

Surgeons have lately been devoting considerable attention to the diagnostic value of the white blood count, specially in acute abdominal conditions, and with very contradictory results, as shown by their conclusions. Some have expressed the belief that leucocytosis as an aid to the surgeon in diagnosis is far from having positive value; that the facts are too much at variance and too contradictory to be relied on; and that, as at present developed in the hands of the average surgeon if constantly acted on, do great harm. Others believe that there is considerable diagnostic value in the leucocyte count in doubtful cases and always have an estimation made in such cases.

Kühn[1] of Rostock University, in a paper on the diagnostic value of leucocytosis, gives tabulated results of his estimations in a series of operative cases, and concludes that the leucocyte count is a diagnostic aid of great importance, with special value in acute suppurative processes. Positive results were obtained only in cases in which pus was in the process of developing; with localization and abscess formation the leucocytosis usually gradually disappears. Only high counts have special value, the lower counts giving very little information. In chronic suppurative processes leucocytosis may be entirely absent.

These opinions are, we believe, in accord with the expressions of those who have had most experience in the study of the blood in acute abdominal conditions. Many criticisms have come from those who have not had personal experience in the study of the blood and whose criticisms for this reason have been in some degree unjust and possibly have had a harmful tendency. It should be recognized with the leucocyte count as with other clinical methods that it is but one of many aids in reaching a diagnosis, and when carefully made and correctly interpreted it may be of considerable value. We can not determine the exact condition of the kidneys or bladder by examination of the urine; neither is it usually possible to determine the exact condition of intrathoracic organs by physical examination of the chest, but by using these methods we often obtain most valuable information. The condition of the pulse and temperature gives another example of this kind. We presume there are few surgeons at the present time who neglect to take the temperature of their patients at frequent intervals in acute cases, yet every surgeon recognizes that in many acute intra-abdominal inflammatory conditions there may be only a moderate elevation of temperature, and in brain abscess there is frequently a subnormal temperature, yet all surgeons recognize that, as a rule, elevation of temperature is an important sign of inflammation. While the clinical thermometer is not a positively reliable guide to the patient's condition, no one would justify neglect of its use.

In the same way the leucocyte count alone, while not giving positive indication to operate or not to operate, is of too much value in determining the condition of the patient to be neglected. The criticisms of those unfamiliar with such modern clinical methods are less likely to do serious harm than some champions of clinical laboratory methods seem inclined to believe, for comparatively few older practitioners have been trained in such methods or are likely to take them up, while the younger generation who have such training appreciate the value of new methods as well as their limitations and will scarcely be likely to be influenced by opinions which conflict with their own experience and that of competent authorities. Those who depreciate the value of modern scientific methods not only tend to hinder progress, but also put themselves in a bad light in the eyes of those who have studied modern methods and appreciate them.

1. Münch. Med. Wochenschr., 1902, vol. xlix, p. 2033.

THE DECREASING BIRTH-RATE SCARE.

The alleged decrease in the birth rate of the American-born population in this country is the subject of a recent article in one of our contemporaries.[1] It seems to suggest that we shall soon be following the same course toward natural extinction that had been alarming France. The subject has excited considerable popular attention, and a previous utterance on the subject from the chief magistrate of our country has been brought into prominence. This is a subject which has been mentioned, not once but frequently, in past numbers of The Journal. It is not the United States alone, but many other civilized countries that give evidence of declining birth rates.

The facts, however, as to our own country are too deficient to enable us to lay down a rule, or to say that the condition is one that need excite natural alarm. The registration district in this country is comparatively small and includes only a few of our older states where, from emigration and other circumstances, the birth rate might naturally be expected to be on the decline. In most of the country the returns of births are absolutely unreliable, and any jeremiads on the subject will lack grounds to make them actual indications of the true condition of things. Even in the New England states, where the decline is alleged to have been greatest, there has, in the last decade, been a slight increase. The fact is that a falling birth rate is a natural index of moderate prosperity and thrift. It is only when it falls beyond a certain point that it becomes actually threatening. It is a biologic fact that high living and over-nutrition diminish reproductiveness, and we notice this in the human species as well as in the lower animals, but in man reproductiveness is still further affected by economic and social conditions. The decrease is relative, not actual, for even in France the birth rate exceeds the death rate.

We still have in this country a very extensive proletariat and as population becomes more dense and the conditions of life harder it will increase. The probabilities are that within the next hundred years the increase of the birth rate among the poor will be more alarming than its decrease among the well-to-do. It is none the less advisable to check the evil, however, so far as we see it exists. It would be a good thing if the best American stock would keep up its numbers. We trust it will, and we do not believe that there is any reliable evidence that it is not now doing so. The descendants of the Puritans have spread themselves over the whole territory of the United States and have leavened the rest of the population. Like the Norman blood in England, the Puritan stock will never die out, though the aristocracy, so to speak, may constantly require accessions from below.

1. N. Y. Med. Record, Jan. 31.

CHAUVINISM IN MEDICINE.

A bill before the Michigan legislature proposes to make Canadian physicians who wish to register and who do not possess American qualifications take one year of study in the Michigan medical schools. Canada has a similar practice; in some of the provinces no one not possessing Canadian or British qualifications can register without taking a course in one of the provincial schools. We have already commented on this fact in connection with Dr. Osler's lecture on Chauvinism in medicine, as a brilliant illustration of what he was warning against, in the very community in which he spoke. We can not say that we entirely like this sort of retaliatory reciprocity, and should regret to see Michigan adopt the Canadian policy. Let the Canadian applicant for practice go through a thorough examination, let him bring evidence of character and standing, but, if these are satisfactory, it is entirely superfluous to make him go through a local school for the sake of fees or to discourage his incoming. We need not be narrow because others are.

THE DIPLOMA VS. EXAMINATION.

Under the general system of medical examinations as a prerequisite to the granting of license to practice medicine it is inevitable that the few states that still require only a diploma will be the dumping-ground for incompetents and quacks. A diploma means only that its holder has satisfied the faculty of his college, that he has passed its requirements, and this does not by any means always imply that he is fitted to take charge of the lives and health of the public. Moreover, there are diplomas and diplomas, and there is no absolute surety of their value except in a very discriminating and limited list of recognized institutions. The acceptance of a mere diploma is, in fact, a surrender of the right of the state to fully protect its citizens. It is for these reasons that we regret to see that in the amended law now before the Colorado legislature this feature is retained and examination only required for non-graduates or those from unrecognized institutions. We can not say what were all the circumstances that induced its retention, but it is regrettable that it was thought advisable. The quality of the medical profession in Colorado will not be improved by lax requirements of professional qualifications. There are now hardly more than half a dozen states and territories that admit to practice on diplomas. It will be unfortunate for Colorado if it is to remain among them.

PHYSICIANS' AND LAWYERS' INCOMES IN BERLIN.

Medical practice in Berlin apparently does not pay so well as the profession of law, according to the *Berliner Lokal-Anzeiger* of January 29. In it an interesting comparison of the income of physicians and lawyers is made, greatly to the disadvantage of the former. In the district there were last year 3,639 physicians as against 3,458 in the preceding and 3,376 in 1900. In 144, 3.95 per cent., there was absolutely no income whatever. In 977, or 26.85 per cent., there was a total income of $225 to $750; 640, or 17.56 per cent., had from $750 to $1,250; 1,033, or 17.8 per cent., had from $1,250 to $2,625; 649, or 17.8 per cent., had from $2,625 to $12,500, and 49, or 1.4 per cent., had from $12,500 to $55,000 income. It would seem, therefore, that nearly one-half of the Berlin physicians, or more particularly, about 44 per cent., had an income of $1,200 or less. According to the figures for legal practice furnished by authorities, which, on the other hand, only included the net income, 10 per cent. of the lawyers received under $750; 12 per cent. had from $750 to $1,250; 50 per cent. from $1,250 to $2,500; 12 per cent. from $2,500 to $3,750; 8 per cent. from $3,750 to $5,000, and 8 per cent. over $5,000. There are, therefore, just twice as many physicians as lawyers with an income of $3,000 or less, and yet the medical profession increases in numbers. There must be something in scientific medicine that is attractive to the ingenuous youthful mind, altogether aside from mercenary considerations.

FOOLISH LEGISLATION.

There seems to be a tendency on the part of some state legislators to propose very unjust and ridiculous laws, some of which have a medical bearing. Among them are the anti-kissing laws which have been introduced in several state legislatures within the last two or three years, and such acts as the Wemple bill, now before the New York legislature. The latter is, we think, only a repetition of what was proposed one or two years ago to prevent any operation on a female except in the presence of a near friend. The author of this bill, as the *New York Tribune* says, possesses a singular lack of familiarity with the requisites of success in difficult surgery. Still another that perhaps might be placed in this class is the so-called "health day" proposition in the Utah legislature, which, it is said, is proposed to be also introduced in Illinois. This provides that on a certain day of the year general house cleaning and disinfection shall be practiced, and that it shall be a misdemeanor to fail to clean up. This would turn everybody out of doors for the time being. We might reproduce the Jewish feast of the tabernacles and go into camps. Speaking seriously, however desirable a general house cleaning might be, such a law as this would be almost impossible to enforce and would cause serious inconvenience, and in most communities, we think, would soon pass into "innocuous desuetude." It would require inspection to enforce the law, and this could be better done with a wider range of action; a good sanitary inspection with power to enforce orders, which is perfectly practicable, would be all that is required and far better than the naming of a special day for universal house cleaning and general tearing up of things. We can, therefore, class this among the fake legislations, or at least among the ill-judged propositions that we trust will not be made laws. However good the idea the difficulties would defeat its usefulness.

THE CALIFORNIA PLAGUE SITUATION.

The plague situation in California appears to be clearing up. The new governor is not following in the footsteps of his predecessor, but, as was to be expected from his antecedents, is in favor of active measures, rather than the ostrich policy of denial, to secure to the state a clean bill of health. As one evidence of

this he has withdrawn his predecessor's nominees for the State Board of Health, and it is to be hoped that he will so thoroughly reorganize that body that it may command the confidence of the people. The commercial organizations of San Francisco have also spoken, demanding coöperation of the health boards of the city and state with the Marine Hospital authorities in the stamping out of the infection, and pledge their support to the work. Until very recently, however, the mayor of San Francisco had not publicly changed his attitude of denial of the existence of plague in that city, although he had privately admitted it. He has, however, by force of circumstances, had to learn the lesson that in this, as in other matters, "honesty is the best policy," and we need not anticipate any active opposition from that quarter when the national and state authorities have fairly taken the matter in hand. The risk of a serious outbreak of plague among the San Francisco Chinese, which has been an impending possibility for the last three years, will now be appreciably lessened with a state health board working in harmony with the federal health authorities. The whole history of the California plague is a moral lesson of the impolicy of allowing an unprincipled commercialism to override scientific facts in sanitation. The plague of misrepresentation which has been infecting San Francisco was worse than the bubonic plague, and some of the San Francisco press have hardly yet sufficiently recovered from its effects.

THE ETIOLOGY OF CANCER.

Notwithstanding all the work done in cancer etiology, one of the best European authorities, Professor Lubarsch of Posen, in Germany, a man who is thoroughly familiar with the whole subject and who has evidently spared no pains to get at all the recent publications, gives it as his conclusive opinion that we are as yet not in a position to say anything definite of the cause of malignant disease. He says[1] that while it is clear that all forms of malignant neoplasms resemble each other so much as to make it sure that if one is due to parasite the others are also, we have as yet no sure evidence that a parasite is the actual causative agent. On the other hand, Professor Lubarsch considers that there are groups of true neoplasms histologically different from carcinomata which yet share with them the destructive properties of giving metastases and causing cachexia, with regard to which, however, a parasitic cause is out of the question. Even in the epithelial group of the carcinomata there are many special classes of tumors whose peculiarities would be very difficult to explain on this score. He adds that even if the etiologic rôle of parasites in the causation of a malignant disease is to be accepted, there are other causes that must be considered to have at least equal value. Chronic irritation seems, for instance, especially for many epithelial carcinomata, to be an almost indispensable predisposing condition. Without the preparation of soil, developed by frequently repeated irritation, the epitheliomata fail to make their appearance. The presence of embryonal or postembryonal cellular material included in certain parts of the tissue, with a special tendency to take on an excessive formative disposition, seems to be another predisposing cause without which many neoplasms would not develop. In any theory of cancer etiology, then, these conditions and their effects will have to be taken into account quite as well as any supposed influence of parasites. As a matter of fact, it is not definitely settled yet whether cancer may not be originally a lack of vitality in the connective tissue rather than a surplus of vitality in the parenchymatous tissues. The normal state of the cellular tissues consists of an equilibrium of cellular forces so established that the constituents of the supporting tissues and the more specialized cells of the various organs have just enough resistive vitality to keep from interfering with the growth of one another, or, on the other hand, of permitting overgrowth on the part of their neighbors. Weigert and Roux have insisted that neoplastic formation is usually due, not to an acquired *nisus formativus*—a special new tendency to overgrowth—but to the disappearance of the resistive factors which have hitherto controlled the normal *nisus formativus* always present. A certain amount of neoformative power must always exist in order to keep any organ up to the standard necessary for function, and it is the failure of the connective tissue properly to limit this force that constitutes, under some circumstances, at least, the essence of malignancy. Once cells have acquired the habit of overgrowth, like microbes, they are prone to take on special virulence, and hence the occurrence of metastases and the development of cachexia because of the oversecretion of toxic cellular products.

1. Pathologische Anatomie und Krebsforschung. Bergmann, Wiesbaden, 1902.

Medical News.

CALIFORNIA.

Personal.—Dr. Leonard Stocking has been elected medical superintendent of the Agnew State Hospital; Dr. George D. Marvin has been promoted to be first assistant physician, and Dr. Edwin A. Kelley, Berkeley, has been appointed to take charge of the male department of the institution.——Dr. Titian J. Coffey, Los Angeles, is taking a course of special study in the East, and will visit Europe.

New Hospitals.—Sonoma County is to have a new county hospital at Santa Rosa, to cost $40,000.——The new Emergency Hospital on Crocker street, Los Angeles, was formally opened January 26.——A free polyclinic was opened at San Francisco, January 22, under the patronage of the Emanuel Sisterhood.——Plans are being matured for a $100,000 Methodist Hospital at Los Angeles.——Sequoia Hospital has been incorporated by five physicians of Eureka, with a capitalization of $50,000.

Proposed Medical Laws.—A bill has been introduced in the Senate for the regulation of the practice of medicine and surgery in the State of California and for the appointment of a board of medical examiners in the matter of said regulation. It is provided that the board shall consist of nine members, to be appointed by the governor, as follows: Three members from the State Medical Society, three members from the State Homeopathic Medical Society, and three members from the State Eclectic Medical Society. A bill of similar import was introduced in the House by Representative G. S. Walker, and Representative McMartin of San Francisco is fathering a measure which provides that each school of medicine may issue licenses to practice to its own graduates. Against the passage of the latter bill the Santa Clara County Medical Society has entered an energetic protest, for the following reasons:

That in matters of education it is retrogressive, inasmuch as the present medical law requires a fair knowledge of the fundamental principles of medicine, surgery and obstetrics, while the proposed law seeks to eliminate this requirement by abolishing examinations

which now exclude from practice the unlearned and incompetent graduates of mercenary and notoriously disreputable medical colleges.

That under the existing statutes of California any body of men can incorporate a medical college and lawfully confer degrees and issue diplomas. Should assembly bill No. 129 become a law it will encourage the establishment of new diploma mills under the guise of medical colleges, whose output would receive certificates from a state board to practice medicine on presentation of such diplomas, and overrun the state, becoming a curse to the communities in which they may locate and a source of degradation to the medical profession.

That the bill encourages the incorporation of unscrupulous persons into various "legally chartered medical societies," which by their numerical strength as opposed to bona fide state medical societies can compel the governor to appoint members of the State Board of Medical Examiners of their own selection and for their own private interests, thus taking the election of members of the state board out of the province of the three state medical societies.

That the bill discriminates against graduates of colleges and universities of other states by compelling them to submit to an examination by the State Board of Medical Examiners and payment of a fee of $25, while graduates of medical colleges of California are made exempt from such examination of qualification and are admitted to practice on the payment of a fee of only $10.

DISTRICT OF COLUMBIA.

Personal.—Surgeon-General Presley M. Rixey gave an address in Jefferson Medical College, Philadelphia, February 3, under the auspices of the H. A. Hare Medical Society, on the opportunities of medical men in the Navy. A reception and banquet in his honor followed.

Health of the District.—During the week ended February 7 122 deaths occurred, 73 were white and 49 colored individuals. One hundred and seven births were reported, of which 69 were white and 38 colored. During the week there were under treatment 130 cases of typhoid fever, 11 of scarlet fever and 5 of diphtheria and 8 of smallpox.

Typhoid Fever Statistics.—The records of the health office from July 1 to Dec. 31, 1902, show that 1,290 cases of typhoid fever were reported, with 156 deaths. In 25 cases no personal history was obtainable; 154 cases are believed to have been contracted outside of the district; 93 by direct exposure to other cases, and 21 through infected milk; while in 997 cases the only cause associated was the drinking water. The Potomac water was supposed to have been used in 729 patients, and in 103 cases Potomac and other waters were used. Well water was said to have been used exclusively by 99 patients, spring by 28, spring and well water by 31 and melted ice by 7.

ILLINOIS.

Scarlatina at Lake Forest.—Lake Forest is to be a closed town as regards church and other public gathering places, for three weeks, on account of the prevalence of scarlet fever.

The Governor's Message.—In his message to the legislature, Governor Yates recommends the formation of a State Board of Medical Examiners, and an increase in the appropriation for the State Board of Health.

The Sale of Cocain.—The January grand jury of Cook County in its report noted the alarming growth in the sale of cocain and recommended that every step possible under the law be taken to confine its sale within legitimate bounds.

No More Fees at County Hospital.—The warden of Cook County Hospital has decided that the only fee heretofore permitted to be collected at the hospital, namely, that for filling out proofs of death for life insurance companies, shall be abolished.

Honor Dr. Catlin.—The Winnebago County Medical Society honored one of its oldest members, Dr. Edward P. Catlin, Rockford, at a banquet given in his honor, February 10. Dr. William H. Fitch presided and extended the greetings of the society to its honored guest.

State Care of Consumptives.—In his message the governor recommended the construction of a state sanatorium for consumptives for the following reasons cited in its report by the State Board of Health:

1. Tuberculosis, an infectious disease, is the cause of one-seventh of all deaths, and that its widespread prevalence, especially among the poor who are unable to procure proper treatment, has been, and continues to be, a decided menace to the public health. 2. It is estimated that over 8,500 persons die annually in Illinois from tuberculosis. 3. Tuberculosis is a preventable disease; and while there is no infectious disease which causes such disaster in the human family, there is none which is more easily prevented. 4. Tuberculosis is a curable disease, especially in its earlier stages. 5. Patients suffering from tuberculosis, especially those of the poorer classes, can not be properly cared for at their homes; general hospitals are ill adapted for the treatment of consumptives, and, since tuberculosis has been recognized as a communicable disease, the doors of nearly all hospitals, public and private, have been closed to consumptives. 6. An improperly cared for consumptive daily jeopardizes the health of the community in which he lives. 7. The state, for both humanitarian and economical reasons, should care for the consumptive, and should prevent him from endangering the lives of those about him. 8. The successful treatment of tuberculosis requires the segregation, in properly constructed hospitals, of those patients who can not receive the needful care at home; the value of sanatorium treatment as a center of education, a means of prevention, and as a method of cure, has been successfully demonstrated at home and abroad. 9. The importance of a special climate, altitude or atmosphere in the treatment of consumptives has been exaggerated; the treatment and cure of pulmonary tuberculosis is as feasible in the State of Illinois as in any state of the Union, and cures effected in the ordinary home climate, in which the patient must remain, are more lasting and more assured than cures obtained in other climates apparently more favorable.

Chicago.

Deaths of the Week.—The total 638 deaths from all causes reported during the week increases the mortality rate 6.5 per cent. over that of the previous week and 12.3 per cent. over that of the corresponding week of 1902. The rate for the week was at the annual rate per 1,000 of 17.56, an unusually high rate for Chicago. Pneumonia, Bright's disease, heart diseases and the chronic maladies generally contribute to the excess of deaths, and the privations and sufferings caused by the coal shortage are especially reflected in the excessive death rates among the young and the aged.

Children's Hospital Society.—Despite the storm the meeting of this society on Sunday was well attended. Drs. Billings, Abt, Henrotin, Engelmann, Christopher and others explained the objects of the organization. Dr. Fernand Henrotin was appointed chairman of the advisory committee, and Dr. Isaac A. Abt chairman of the medical and visiting committee. Instead of building a separate hospital it was decided to create an endowment fund to enlarge and improve the hospital facilities already existing for the care of sick children and to coordinate the various philanthropic interests involved.

MARYLAND.

Baltimore.

Vital Statistics.—Measles is on the decrease, only 141 new cases being reported last week. 215 deaths were reported, a rate per 1,000 of 20.60. Pneumonia led in the causes of death with 43. There were 20 deaths from consumption, 7 from grip, and 3 from measles.

Personal.—Dr. Alexand. H. Saxton has been elected physician to St. Mary's Industrial School, to succeed the late Dr. R. H. Goldsmith.——Dr. Simon Flexner will resign his chair in the University of Pennsylvania to assume charge of the new Rockefeller Research Laboratory about to be erected in New York.

The Ginger Blindness Case.—The "Jamaica Ginger Case," which was tried in the Superior Court, resulted in a disagreement of the jury after a trial of 14 days. The jury stood 9 for Dr. Brehm, the blind plaintiff, and 3 for the drug firm. Four other cases are pending, 3 for blindness and 1 for death, alleged to have resulted from drinking essence of Jamaica ginger containing wood alcohol.

New Physiologic Laboratory.—Owing to the unusual size of the first-year class at the Johns Hopkins Medical School, which numbers this year 100 students, a new laboratory on the first floor of the physiologic building has been completed for the course in physiological chemistry, under Dr. Walter C. Jones, associate professor of physiological chemistry and toxicology. It accommodates 32 students and is provided with the most approved apparatus and conveniences.

The Alumni Awake.—There is a great awakening at the University of Maryland and, with the formation of a general alumni association, a strenuous effort will be made at reorganization and endowment. A fund is being collected among the alumni of the medical school, to be known as the "Centennial Endowment Fund," and, as the medical school will celebrate its centennial in 1907, an appeal is being made to all the medical alumni throughout the country in behalf of this special fund. The secretary-treasurer is General Lawrason Riggs, Baltimore.

Carnegie Institute Grants.—The authorities of the Carnegie Institute have just awarded 5 grants to Johns Hopkins

University for research work. One is to Dr. John J. Abel, professor of physiological chemistry, of $1,000 for the purchase of apparatus necessary in his work. A great deal of the apparatus used by Dr. Abel has to be made specially for his purpose, and the cost is often very high. The other grants were to the departments of electricity, physics, analytical chemistry, and physical chemistry. These appropriations are among the first that have been made.

MINNESOTA.

Consolidation Proposed.—On account of the light registration in the homeopathic department of the state university it has been suggested that the department be consolidated with the regular school, with a chair of homeopathic medicine.

Smallpox.—There were 324 new cases of smallpox reported to the State Board of Health during the week ending February 2. The majority of these cases are old ones, however, that were not reported when they occurred, and were discovered on a recent visit of inspection to Douglas and Otter Tail counties. Douglas County reports 149 cases, 100 of which are in Millerville, and 20 in Leaf Valley. Rice County reports 80 cases, 64 of them in Webster and 16 in Wheatland. Otter Tail County reports 33, Hennepin 7, and Ramsey 3.

Personal.—Dr. Alexander J. Stone, St. Paul, has succeeded Dr. Albert A. Ames, formerly of Minneapolis, as surgeon-general of Minnesota, with rank of brigadier-general.——Dr. Rudolph Schiffman, St. Paul, president of the assembly, has been granted a five months' leave of absence and has started for the Orient.——Drs. Malcolm McKinnon, Forston, and Charles W. More, Eveleth, have been appointed members of the State Board of Health.——Drs. Eric O. Giere, Madison, and Carl J. Rignell, Minneapolis, have been appointed members of the State Board of Medical Examiners.

MISSOURI.

Hospital Opened.—The A. R. Levering Hospital, Hannibal, was formally opened with imposing ceremonies, February 5.

To Honor Old Practitioners.—The St. Louis Medical Society is about to give a banquet in honor of Drs. Simon Pollock, who has practiced 68 years; William Johnston, who has practiced 65 years, and William M. McPheeters, who has practiced 63 years.

Bill for Three Boards.—Dr. Quig of Cooper County has introduced a bill in the house providing for the appointment by the governor of three separate medical boards, one for each of the three "schools." Each board is to consist of five members and is to examine applicants for the respective schools and issue licenses to those found qualified.

World's Fair Medical Report.—Medical Director Leonidas H. Laidley of the World's Fair has made a report on the state of health of the persons residing on the World's Fair grounds and employed there. One death occurred from a fall at the electricity building. During December 93 cases were treated at the Emergency Hospital on the grounds. Of these 53 were surgical and 43 medical. One birth is reported. The number of residents on the grounds is estimated at 395.

Personal.—Dr. Albert L. Brown, police surgeon of Kansas City, has resigned and has been succeeded by Dr. A. E. Eubanks.——Dr. Abra C. Pettijohn, Brookfield, has been confirmed as member of the State Board of Charities and Corrections.——The appointments of Drs. John T. Thatcher, Oregon; Winn F. Morrow, Kansas City; Benjamin G. Dysart, Paris; A. W. McAlester, Columbia; Dempsey T. Powell, Thayer; J. Alfred Adcock, Warrensburg; and Mont M. Hamlin, St. Louis, as members of the State Board of Health, have been confirmed by the Senate.

NEW YORK.

Protest Against Hospital Admitting Fever Patients.—Twenty-five physicians of Niagara Falls have signed a petition to the trustees of the Louise Memorial Hospital protesting against its use for scarlet fever quarantine purposes, stating that its usefulness as a maternity hospital and for surgical operations would be for a long time destroyed by allowing fever patients there.

Warning Renewed.—In the issue of February 7, the readers of THE JOURNAL were warned against one F. Whiting who had been endeavoring to collect money on account of THE JOURNAL and of the American Medical Association. We are now informed that this fraud has been operating in Binghamton, and warn all physicians against paying any money to him, as he is unauthorized. THE JOURNAL will appreciate any information regarding this person's whereabouts.

Pure Water for Niagara Falls.—Niagara Falls, which is now drinking Niagara river water polluted by the sewage of Buffalo, and where there are usually 400 to 500 cases of typhoid fever in a year, will hereafter be supplied by the Western New York Water Company, which has absorbed the Niagara Falls Waterworks Company. Eventually the Western New York Water Company will abandon its water supply from Niagara river and will pump water from Lake Erie, three miles above Buffalo and over 7,700 feet from shore.

Typhoid at Ithaca and Cornell.—In a letter written by President Schurman of Cornell University, he complains of the sensational newspaper reports regarding the prevalence of typhoid at Cornell University. There are, however, 55 students ill with the disease, most of the cases being mild, while two or three are critical. In a census taken among physicians it was found that an additional number of ten students are ill with the disease outside of the infirmary. There is also one serious case in the city hospital. The cause of the typhoid is the contamination of water supply for the city of Ithaca. Fortunately Falls Creek, which supplies Cornell University, is not contaminated. It is supposed that the present epidemic can be traced to Italian and Hungarian laborers who were working, up to the beginning of winter, on the construction of a new dam which the waterworks company is erecting.

How Not to Deal with Smallpox.—Rochester should serve as an example to all cities whose councils use the *manana* policy of dealing with epidemics, especially that of smallpox. In Buffalo the health commissioner has again and again urged the absolute necessity of the maintenance of a modern quarantine hospital, the plans have at last been prepared and the city will soon have a modern hospital where all contagious cases may be taken and be humanely treated. When Rochester suddenly found herself face to face with an epidemic of smallpox, the city was unprepared to deal with it. The committee of councilmen is now compelled to hear evidence which in no way does credit to the authorities in charge of the Hope Hospital. It was necessary to use election booths and tents, and according to evidence submitted some beds were covered with snow, the bed sheets and bed clothing were filthy, the food was insufficient, the nursing poor and many patients were sent home infested with vermin.

New York City.

Proposed Tuberculosis Camp.—The agitation for better facilities for the great army of consumptive poor in this city has led to the proposition that a lot of suitable tents be erected, thus saving time and money. The plan has the approval of the commissioner of health, and several sites have already been offered.

Wholesale Insurance Frauds.—Insurance circles have been much aroused over the discovery of a plot by which life insurance companies have been systematically swindled for ten years or more. The scheme centers around that portion of the city known as "Little Italy." At present, it is known that about a dozen life insurance companies have been swindled, and that at least 111 fraudulent policies have been issued. Some idea of the extent of the swindle may be inferred from the statement that there is proof that one member of the gang has realized $200,000. The system was worked on a percentage basis, and involved physicians, notaries public, undertakers and others. Drs. Francesco Mucci and Albrecht Loewit, are under heavy bail charged with being parties to the frauds.

Drug and Other Adulterations.—The pharmacists of the city are incensed over the recent publication of the fact that the board of health found that phenacetin was frequently adulterated with acetanilid and other cheaper substances. They call in question the accuracy of the analyses made by the chemist of the health department, and demand a re-examination by a disinterested person. At the last meeting of the Society of Medical Jurisprudence, Dr. H. W. Wiley, chief of the Chemical Division of the Department of Agriculture, talked on some of the dangers that lurk in the things used in daily life. He said that it was not at all uncommon to find a large amount of arsenic in the dyes used for stockings, even in the case of black stockings. The same poison was often found in dress goods and wall paper. The substitution of wood alcohol for genuine ethyl alcohol in bay rum, essence of Jamaica ginger, and other substances, often gave rise to serious consequences. The speaker directed special attention to the great evil arising from the sale of patent medicines under misleading names or with incorrect formulæ. In this way it was no unusual thing for consumers to become addicted to the use of alcohol or of cocain without knowing the nature of the so-called tonics they had been taking.

It was recommended that a system of national and state inspection be established.

Buffalo.

Medical Examiner vs. Coroner System.—Medical Examiner Danser's first annual report to the Erie County Board of Supervisors will show a saving to the county of $7,000 in investigating sudden deaths, as compared to the old coroner's system.

Closed in Memory of Mynter.—The Medical Department of the University of Buffalo was closed February 11, as a mark of respect to the memory of Dr. Herman Mynter, deceased, who occupied the chair of clinical surgery in that institution at the time of his death.

To Lift Hospital Debt.—Mr. Frank Goodyear has contributed $50,000 and Mr. William H. Hamlin $49,900 as a fund to lift the debt of the Buffalo General Hospital. It is expected that $100,000 more will be raised by subscriptions to clear the indebtedness and to make some urgently needed additions to the buildings.

Violators of Anti-Spitting Ordinance Punished.—Because spitting offenders have been usually released by the police justices, their cases will hereafter be considered by the judges of the municipal court. Two convictions for spitting in street cars were obtained in municipal court. One offender was fined $5, the other $2 and costs. The anti-spitting ordinance is to be enforced more rigorously, and 14 patrolmen have been detailed on this duty.

PENNSYLVANIA.

Free Bed Endowed.—By the will of Miss Carrie S. Kinsey of Bristol $5,000 is left to the Methodist Hospital, Philadelphia, to endow a free bed in memory of her father, the late William Kinsey.

To Prevent Tuberculosis.—The Pennsylvania Society for the Prevention of Tuberculosis is urging the passage of a bill by the legislature appropriating $500,000 for the prevention of tuberculosis and the care of incipient cases in the state.

Bill Against Irregular Practice.—A bill introduced into the legislature would so amend the law of 1893 as to punish a person for "entering on or continuing in the profession or occupation of treating disease or injury by the use of medicine or any other means or agency" either for or without valuable consideration, unless the person be licensed under the specified act. The penalty is any sum between $200 and $500, and imprisonment for 30 days to six months. It is said that the bill is designed to check osteopathy and Eddyism.

Fix Blame for Smallpox.—At the "Health Convention" held at Johnstown, February 12, many members of boards of health and county officials were present from various parts of the state. Dr. Benjamin Lee, secretary of the State Board of Health, in replying to the question: "Whose fault is it that smallpox has flourished in Pennsylvania?" placed the responsibility on the discontinuation of infant vaccination; on a class of ill-informed obstructionists calling themselves antivaccinationists; on school directors who have failed to enforce the compulsory vaccination law; on communities which have failed to organize boards of health; and on medical colleges who have been derelict in instructing their students how to recognize the disease. Enforced vaccination was advised by the convention. The governor is urged to use his influence toward securing an appropriation of $50,000 by the legislature to aid in suppressing epidemics.

Philadelphia.

First Aid Lectures to Railroad Men.—Through the president of its board of trustees, Hon. William Potter, Jefferson Medical College has offered a course of free lectures on "First Aid to the Injured," to employes of steam railroads running into Philadelphia. The officials of the roads, in responding, thanked the college officials and favored the plan. It is probable that the proposed course will be arranged.

Many Bequests to Charities.—The estate of Robert J. Wright, recently adjudicated, bequeathes $583 to each of 33 charities. Some of the beneficiaries are as follows: Children's Hospital, Philadelphia; Pennsylvania Training School for Feeble-Minded Children; Philadelphia Home for Infants; St. Christopher's Hospital for Children; Philadelphia Home for Incurables, and Presbyterian Hospital, Children's Ward.

Phipps Institute at Work.—The temporary Henry Phipps Institute for the Cure and Prevention of Tuberculosis has begun active work. Numerous patients are being treated daily at the sanitarium; visits are made to the homes of patients by the staff, and milk and eggs are being provided for the very poor patients. The staff includes, besides Dr. Lawrence F. Flick, the director, Drs. Joseph P. Walsh, Willoughby Irwin and Charles J. Hatfield.

To Aid Library.—Earnest efforts are being made among physicians and others to raise $50,000 to be added to the recent gift of a like sum by Andrew Carnegie for the betterment of the library of the College of Physicians. The library building, which is now greatly crowded, will be enlarged or rebuilt on a new site. The collection of books is the third, possibly the second largest of its kind in the world, and the anatomic and pathologic collection the greatest in the country.

Typhoid, Smallpox and Pertussis.—For the week ended February 14, 287 new cases of typhoid fever were reported, with 23 deaths. Since the beginning of the year 1919 cases have occurred, with 152 deaths. The disease is not of a virulent type. During the week mentioned, 30 new cases of smallpox occurred, with 5 deaths. There were many cases of whooping cough with 15 deaths. The bureau of health has decided that in future all cases of smallpox must be sent to the Municipal Hospital.

Explosion Wrecks Hospital.—On the night of February 12, a boiler in the basement of the Medico-Chirurgical Hospital exploded, doing so much damage to the building that it may have to be torn down. Fortunately there was no loss of life or serious personal injury. A panic was prevented by the cool, prompt action of the hospital officials. As the building did not take fire, no insurance can be recovered. The hospital will consequently be crippled financially. The board of trustees have made a public appeal for aid in a series of resolutions, closing as follows:

Resolved, That we earnestly appeal to our fellow citizens to aid us in our present predicament. We have no funds to meet the expense of repairs, and yet they must be done at once. We can not close our hospital. Every room and bed is full, and the work must go on.

GENERAL.

The Hawaiian Board of Health, January 21, elected Dr. C. B. Cooper president, vice Dr. H. C. Sloggett, resigned.

A famine in Dalmatia and an epidemic of typhoid fever are causing great loss of life. There is very little medical assistance to be had.

More Hospital Cars.—The Erie Railroad has a hospital car and will place similar ones on each division, ready for speedy dispatch to accidents.

American Money for India.—It is reported that Henry Phipps, director of the Carnegie Steel Company, has given $100,000 to establish an agricultural laboratory and a Pasteur institute in India.

German Faker Convicted.—Herr Nardenkoetter, who has been a notorious advertising faker in Berlin for years, was fined $900 and to be imprisoned three years. He forfeited bail and escaped to England. He had contrived to defy the medical societies and public prosecutors until recently.

Carbolic Injections in Tetanus.—Several cases of tetanus are reported in the newspapers with the treatment by carbolic acid injections. The papers treat it as a new discovery. It has been used for several years. The strengths reported are 4 and 10 per cent. In one case 10 drops were injected every three hours. It will be remembered that this remedy is also of value in diphtheria.

A Model Surgical Clinic at Marseilles.—Pantaloni's new model clinic at Marseilles, erected by private enterprise, is described by Baudouin in the *Gaz. Med. de Paris* with many illustrations. Hot, sterilized water is freely supplied on all the five floors. The elevator is large enough for a bed to be wheeled into it. The bath tubs are in the center of the bath rooms, instead of at the side. Among the innovations is a room specially designed for physicians from outside to meet and prepare to witness or aid in operations.

Collection of Appliances for Medical Instruction.—The exposition on these lines held in Berlin last year proved so popular that the authorities are organizing a permanent collection as a museum, and also for loaning on demand. It is expected that the articles will be found useful in the preventive lectures, both in regard to venereal diseases and tuberculosis, and also in popular courses on hygiene, etc. There are to be twelve different exhibits: 1 and 2, specimens of anatomy and pathologic anatomy; 3, microscopic specimens; 4, casts depicting various diseases; 5, photographs and atlases; 6 to 8, lantern, stereoscope and kinematograph slides; 9, appliances for technic of microscopy; 10 to 12, apparatus for demonstrations.

Less Plague in Mexico.—The bubonic plague is subsiding in Mexico. There has been a hysterical tendency—as is com-

mon in such cases—of spreading unfounded reports of the disease existing at other points. One of these rumors was concerning Hermosillo, and the authorities of that libeled place traced it down, says the *Los Angeles Times*, to one of their citizens who had reported to friends that a certain young man had the plague. He was arrested and told the judge that it was a joke. The judge thought the joke was not carried far enough, and sent the joker to the chain gang for sixty days. All authorities of towns and of railroads have been notified by the government to hold all persons who spread rumors.

The dengue epidemic in Honolulu is causing much suffering and is particularly prevalent among school children. At last reports schools had not closed, although classes were interfered with by the large numbers of those absent. The last epidemic of dengue in the islands was in the seventies. The great attack was in 1852, when a ship from Panama loaded with gold seekers bound for San Francisco stopped at the port of Lahaina in distress. There was much sickness on board, as well as scarcity of food and water, and dengue was brought ashore and caused much sickness. The present visitation began about the middle of January. The infection is thought to have been brought on transports from Manila or else by Porto Ricans, on whose island the disease is endemic.

New Biochemical Journal.—A new publication has appeared in Berlin issued by Carl Oppenheimer, under the direction of Ehrlich, Fischer, Kossel, Liebreich, Muller, Proskauer, Salkowski and Zuntz, with Heinrich Stern, New York, editor for the United States and Canada. The object of the publication will be:

A. To report such experiments and observations of physical and employed chemistry as are of importance to the physician.

B. Reports on the physiology of plants.

C. Physiologic chemistry in the narrower sense (constituents of the body and their derivates).

D. Chemistry of the tissues and organs under normal and pathologic conditions.

E. Chemistry of digestion, secretions and excretions, metabolism and blood.

F. Ferments and fermentations, toxins of a non-bacterial nature.

G. Chemistry of the pathogenic micro-organisms (toxins, antitoxins), phenomena of immunity.

H. Toxicology and pharmacology.

I. Hygienic chemistry, disinfection, examination of water.

This interesting field, in which so much advance is being made, needs an organ of its own. The American editor writes us that he is anxious to receive abstracts of papers on work done by American physicians in these branches.

That Decreasing Birth Rate.—Great interest is taken in the alleged decrease in the birth rate. The newspapers of the country are giving much space to articles, interviews, editorials and columns of statistics. The clerks in the Census Bureau are reported to be busy compiling statistics for inquirers. Some of these statistics are quoted as follows: The average size of families in the United States has steadily decreased in the past 50 years, as follows: 1850, 5.6; 1860, 5.3; 1870, 5.1; 1880, 5; 1890, 4.9; 1900, 4.7. It has increased since 1890 only in North Dakota, South Dakota and Oklahoma from 4.7 to 4.9, from 4.7 to 4.9, and from 4.1 to 4.6 respectively. In Connecticut and Rhode Island it remained stationary, and in all other states it decreased. From 1880 to 1890 there was an increase in all the states in the western division and in the south Atlantic states. The birth rate for the entire United States in 1890 per thousand of population was 26.9. The birth rate per thousand of population in 1900 was 27.2. In the northeastern division of states the birth rate per thousand of population was as follows, the first figure being that for 1890 and the second for 1900:

Connecticut, 22.3 and 24; Maine, 17.6 and 21.1; Massachusetts, 21.5 and 24; New Hampshire, 18 and 21.3; New York, 23.3 and 24.2; Rhode Island, 22.3 and 24.3; Vermont, 18.3 and 21.3.

In the central and northern divisions the average birth rate for 1900 was 25.9 and for 1890 it was 26.8.

In the southern division the average birth rate was, in 1900, 31.5, and in 1890 it was 30.1.

In the western division the average birth rate, per 1,000, was 22.8 in 1900 and in 1890 it was 22.9.

By the birth places of mothers of United States children these are the percentages showing the birth per 1,000 of population as based on the census of 1900:

Ireland, 32.7 per 1,000; Germany, 32.6; England and Wales, 25.4; Canada, 37.0; Scandinavia, 46.7; Scotland, 30.1; Italy, 60.9; France, 18.4; Hungary, 65.5; Bohemia, 57; Russia, 64.6, and all other countries, 56.9.

These figures are not verified by us. The Census Bureau admits that its birth statistics are very unsatisfactory. Most of the comparisons are made between the birth rate and death rate, and the percentages are given in those conditions.

Amending the Statutes Relating to Patents.—Senator Platt of New York has introduced a bill in the Senate, No. 7062, entitled, "Amending the Statutes Relating to Patents," relieving medical and dental practitioners from unjust burdens imposed by patentees holding patents covering methods and devices for treating human diseases, ailments and disabilities, which provides that Section 4886 of the Revised Statutes be amended. The original reads as follows:

Any person who has invented or discovered any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, on payment of the fees required by law and other due proceedings had, obtain a patent therefor.

The following it is proposed to add:

But no patent shall be granted on any art of treating human disease, or ailment, or disability, or on any device adapted to be used in the treatment of human disease or disability, or attached to the human body and used as a substitute for any lost part thereof, or on any art of making such device, unless such device is adapted to be put on the market and sold.

The bill further would amend Section 4921, which reads as follows:

That the several courts vested with jurisdiction of cases arising under the patent laws shall have power to grant injunctions according to the course and principles of courts of equity to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and on a decree being rendered in any such case for an infringement the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, and the court shall assess the same or cause the same to be assessed under its direction. And the court shall have the same power to increase such damages, in its discretion, as is given to increase the damages found by verdicts in action in the nature of actions of trespass on the case.

But in any suit or action brought for the infringement of any patent there shall be no recovery of profits or damages for any infringement committed more than six years before the filing of the bill of complaints, or the issuing of the writ in such suit or action, and this provision shall apply to existing causes of action.

The amendment would add the following:

Nor shall any suit or action be maintained for the infringement of any patent for an art of treating human diseases, or ailment, or disability, or for any patent for any device adapted to be used in the treatment of human disability, ailment or disease, or attached to the human body and used as a substitute for a lost part thereof, or an art of making such device, unless it appear that such device can be made and put on the market.

The bill is to "take effect immediately on its passage, but the paragraph added to Section 4886 shall not be held to apply to any application for patent filed prior to the passage hereof nor to patents granted on applications filed prior to said date; nor shall the amendment to Section 4921 affect the rights of action that may have occurred prior to the passage hereof."

CANADA.

Smallpox at Galt, Ontario, Under Control.—The epidemic of smallpox which has lately been causing some alarm in Galt, Ontario, is now said to be practically at an end. In all there have been 81 cases, affecting 21 families, with 5 deaths. The number now in the isolation hospital is 16. Dr. Macdougall King of Toronto has had charge of the isolation hospital.

Prevention of Tuberculosis in Montreal.—Definite steps have now been taken by the Montreal League for the Prevention of Tuberculosis. The executive committee met last week and received the report of the special committee on organization. Dr. A. J. Richer was appointed permanent secretary. Dr. Labergeg, M.H.O., has promised to recommend to the city council that the city give assistance. The Victorian Order of Nurses will co-operate. The Provincial Board of Health, through Dr. Lachapelle has offered to look after the distribution of literature among the poorer classes.

Toronto's New Medical Building.—A deputation from the medical faculty of Toronto University waited on Premier Ross one afternoon of last week and asked for an additional loan of $50,000 to complete the new medical building. The previous arrangement with the government was for a loan of $125,000, but it has been found that that amount will be inadequate. The new building is nearly completed, and when finished, it is said, it will be the finest type of modern college building on this continent. Toronto has now the largest roll of any medical college in Canada, even leading McGill; the number this season is 420. The main building is entirely planned on the unit system, the standard size of the classrooms being twenty-three by thirty feet.

Ontario Health Report.—The regular quarterly meeting of the Ontario Board of Health was held last week. Smallpox, vaccination, scarlet fever and the septic tank method of sewage disposal were the chief subjects under discussion. Secretary Bryce stated that during 1902 there had been in Ontario 2,500 cases of smallpox, resulting in 10 deaths. Of scarlet fever there had been 3,119 cases, with 266 deaths. In January, 1903, smallpox had existed in 42 centers and there had been 196 cases and 10 deaths, compared with 650 cases and 1 death in January, 1902. The most serious outbreak had occurred at Galt. Of the 5 cases which died at Galt, not one of them had ever been vaccinated. Out of a total population of 8,000, 5,000 were vaccinated in January. Toronto, Windsor and Walkerville were the only municipalities in Ontario in which general vaccination was practiced, although there had been a law on the statute books for forty years calling for compulsory vaccination of infants born every year. Later on the board approved a draft bill to be submitted to the coming session of the legislature making more effective the vaccination law. Scarlet fever had been more virulent than for years. In Toronto alone during the last six months of 1902, there had been 701 cases, with 88 deaths. The death rate had been 9 per cent. in the cities generally, and 12.5 per cent. in Toronto, while in January, 1903, there had been 106 cases and 21 deaths, a much higher percentage. The board also discussed the experimental sewage purification work done by the laboratory of the board last year at the town of Berlin, and reported favorably on the septic tank system.

FOREIGN.

The cancer research fund in England has been swelled by $50,000 from the Coats family.

Campaign Against Charlatans in Germany.—The last issue of the *Allg. Med. Ct.-Ztg.* mentions four suits against charlatans, resulting in the imposition of a fine of $250 each on two, and the condemnation to six months' and eighteen months' imprisonment of two prayer healers.

The Second International Congress of the Medical Press will meet at Madrid, April 20 to 22, immediately before the opening of the International Medical Congress. The members are entitled to the same rebates and privileges as the members of the latter. The general secretary is Dr. Larra Corezo, 17 Leganitor, Madrid.

St. Bartholomew's Hospital, London, is asking for $1,500,000 to build additional buildings on the adjoining land it has purchased. It is located in a shop and warehouse district, and could sell its valuable site for enough to buy and build where land is cheaper. This hospital has never publicly asked financial aid before, and has been proud of the fact.

Prophylaxis of Venereal Diseases.—Munich and Bavaria are organizing a society for the prevention of the spread of venereal diseases. The meetings are held, like those at Berlin, in the city hall, at 11 a. m., on Sundays. The *Muenchener Med. Woch.* issues an appeal to physicians to help make the society a success, "to show that the profession, as always, takes the lead in matters involving the suppression of disease."

Preventive Congress in Germany.—The German Society for the Combating of Venereal Diseases will hold its first congress March 9 and 10 at Frankfort. a. M. Some of the addresses will be on the themes: "Legal Responsibility for Menace to Health by Persons with Venereal Disease"; "Venereal Diseases in Their Legal Relations"; "How Can the Physician by His Advice Prevent the Spread of Venereal Diseases?" etc.

The Unna Prize.—The prize of $75 offered by Unna for the best work on the coccus found in eczema with discharge, was not awarded in 1902. The sum is therefore doubled, and further competition invited. The coccus is the *Diclimacterious albus flavens* (*Typus Traubel*), and it must be studied in comparison with the pyogenic staphylococci. Articles must be sealed and received by Leopold Voss, Hohe Bleichen 34, Hamburg, before December, 1903.

Serum Cure for Scarlet Fever.—Prof. Dr. Adolf Baginsky, Berlin, is reported by cable as having announced remarkable results from the use of antistreptococcus serum. Baginsky modestly disclaims any credit for the discovery of the serum, the honor of which he accords to Herr Aronson. The only credit he takes to himself is the discovery that scarlet fever, like erysipelas, is caused by the streptococcus. During the past 12 years 701 patients have been placed under the serum treatment, and the mortality from the disease has been reduced to 8 per cent.

Trachoma in Germany.—The medical inspectors of the schools of Prussia did not find a single school in which less than 5 per cent. of the children were affected with granular lids. In the villages the proportion averaged 20 to 48 per cent. and at one place more than half the children were affected. Rachlmann states that more than half a million persons suffer from trachoma in three provinces alone. The government appropriates every year $87,500 to fight it, but still more energetic measures are demanded by the Berlin medical press.

LONDON LETTER.

Recent Researches in Malaria in India.

An important contribution to our knowledge of malaria has been published in Calcutta by S. P. James, army surgeon, who is on special duty with the Royal Society's commissions on malaria. It forms one of the new series of "Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India." In some of the work he was associated with Dr. J. W. W. Stephens and Dr. S. R. Christophers. In his classification of Indian anopheles Dr. James recognized 16 species, among which *Anopheles fluviatilis* and *Anopheles culicifacies* are the most common conveyers of malaria. *Anopheles rossii* is almost certainly the commonest species in India and three species of the human malaria parasite can be made experimentally to develop in it, but Dr. James never yet found it infected in nature. Of the remaining species most are either rare or are seldom found in human habitations or have not been found infected with malaria in the natural state. It has been suggested that the naturally uninfected anopheles may bite only cattle and horses. It has been discovered that the embryos of *Filaria sanguinis hominis* can develop in *Anopheles nigerrimus* and *Anopheles rossii*. In consequence of the difficulty which is usually found in the identification of the different species of Indian anopheles, Dr. James recommends a classification in three primary subdivisions determined by the palp markings—namely, (1) palpi unbanded; (2) palpi with four white bands; and (3) palpi with three white bands. Dr. Christophers has made the important observation that anopheles not only select their breeding places but that each species has a particular kind of breeding ground that it prefers to any other. There is evidence that the mosquitoes which infest human habitations will readily fly to a breeding place a quarter of a mile away, but that they will hardly ever fly over three-quarters of a mile. Koch and, independently, Dr. Stephens and Dr. Christophers discovered that a large percentage of native children in Africa constantly have malaria parasites in their blood, although they may present none of the more evident clinical symptoms of malaria fever. Dr. James has confirmed and extended these observations for certain parts of India, in some of which there is an infection of from 60 to 75 per cent. of the children under 10 years of age, with no infection of adults. This percentage of infected children, he says, affords a true test of the endemicity of malaria and the figure representing it may be termed the "malarial endemicity index," or, shortly, the endemic index. These children are the chief source from which anopheles mosquitoes become infected. As in Africa so in certain highly-malarious districts of India, there is a diminished infection of the children with advancing age, and the adults are relatively immune, but in less malarious districts in India the immunity of the adult native is not so marked and the diminished infection of the children at advancing age-periods is not shown. It has been said that these infected children present no clinical symptoms of malaria, but Dr. James finds that in the evening many of them have to lie down, their temperatures rise, and careful examination shows that their general health is seriously affected. One in whom quartan parasites were found was only nine months old.

The Plague.

India: During the weeks ending December 27, January 3 and 10 the deaths from plague amounted to 15,827, 15,686, and 16,197 respectively. During the first week of January, 1902, the mortality was only 10,386. Thus there is an enormous increase this year when the disease is more widespread than at the commencement of any previous year. In the Punjab there has been a marked decrease from 2,238 deaths for the week ending January 10 to 1,236 for the week ending January 3. In the Bombay Presidency the deaths for the three weeks mentioned were 7,025, 7,295 and 8,440 respectively. In the city of Poona the increase is serious. On January 15 118 fresh cases and 98 deaths were reported. Hundreds of people have left the city for segregation camps. *South Africa:* Plague continues to prevail in Durban. On January 26 42 cases were re-

ported, of which 27 were fatal. On that date 3 Europeans, 7 natives and 3 Indians were under treatment.

Vital Statistics for 1902. Lowest Death Rate on Record.

According to the returns furnished by the local registrars to the Registrar-General 942,819 births and 537,080 deaths were registered in England and Wales during the year 1902. The natural increase of population by excess of births over deaths was, therefore, 405,793, the average annual increase in the preceding 5 years having been 363,053. The birth rate was 28.6 per 1,000 of the population, which is 0.1 per 1,000 higher than the rate in 1901, but lower than that in any other year on record, and compared with the average in the preceding ten years shows a decrease of 1.0 per 1,000. The death rate was 16.3 per 1,000, which is the lowest rate on record, the only previously-recorded rates below 17 per 1,000 having been 16.5 in 1894 and 16.9 in 1901, and as against the last decennial average it shows a decrease of 1.6 per 1,000.

The "Sleeping Sickness." Departure of Commissioners for Uganda.

Lieut.-Col. Bruce and Dr. Nabarro, the new commissioners who are being dispatched by the government and the Royal Society to study sleeping sickness in Uganda, will leave England on the 12th inst. The duration of their stay in Uganda will probably be not less than from 6 to 12 months. Colonel Bruce is the discoverer of the parasite in the tsetse-fly disease and also of Malta fever. He was in Ladysmith during the siege.

Marriages.

Henry W. Curtin, M.D., to Miss Lottie Carten, both of St. Louis, February 4.

D. L. Rose, M.D., Sherman, Mich., to Miss Gail Hooper of Battle Creek, Mich., January 31.

George H. Brett, M.D., Williamston, Mich., to Miss Frieda Paulina of Chicago, January 12.

Henry M. Nedry, M.D., Dachester, Wis., to Miss Minnie Rosin of Colby, Wis., at Minneapolis, January 21.

Oscar Chrysler, M.D., National Home, Milwaukee, Wis., to Miss Birdseye Knox, at Meadowmere, Wis., February 18.

Deaths.

Herman Mynter, M.D.

By the death of Dr. Herman Mynter, which occurred at his home in Buffalo, N. Y., February 9, at the age of 58, America has lost a great surgeon and surgery one of its most earnest and honest exponents. He was born in Kereack, Denmark, and was graduated in medicine from the University of Copenhagen, in 1875. After serving four years in the Danish navy he came to Buffalo, which he afterward made his home. He was a surgeon of international repute, an acknowledged authority on appendicitis, and his contributions to surgical literature were always thoughtful, well considered and valuable.

He was a professor of surgery in Niagara University, and after the amalgamation of this school with the Medical Department of the University of Buffalo became professor of clinical surgery in the latter school. He was surgeon to the German Deaconess and the German Hospital, a member of the Buffalo Academy of Medicine, Buffalo Physicians' Club, Erie County Medical Society, Medical Society of the State of New York and the American Medical Association. Dr. Mynter's name came into great popular prominence through his connection with the case of President McKinley. He was the first to answer the summons after the President was shot, and was intimately connected with the case until the fatal termination.

Last summer he paid a visit of several months to his fatherland, where he was accorded the high honors to which his ability entitled him. He was taken ill with myocarditis, and was confined to his bed for ten days before his death, which occurred February 9, at 10:30 p. m. He was attended in his last illness by Drs. Charles Cary, Henry R. Hopkins and Charles G. Stockton. The cause of death is stated to have been myocardial fatty degeneration. The loss of Dr. Mynter will be keenly felt by the laity, and especially by his colleagues, by whom he was greatly respected because of his superior skill as a surgeon and his many scholarly and gentlemanly qualities.

John Homans, M.D. Harvard University Medical School, Boston, 1862, a pioneer in abdominal surgery and the third surgeon of his family by lineal descent; who served both in the Navy and Army in the Civil War, being medical director of the army of the Shenandoah at its close, died at his home in Boston, February 7, after an illness of two weeks, aged 66. He was a member of the Massachusetts Medical Society, the Boston Society Medical Improvement, surgeon to the Boston Dispensary, the Children's Hospital, the Carney Hospital and the Massachusetts General Hospital, and was lecturer on surgery at Harvard Medical School.

John Ridgely, M.D. University of Maryland, Baltimore, 1841, a veteran of the Mexican and Civil wars, a member of the party which explored the Yukon River in the early 40s, for the last 12 years keeper of the National Cemetery at Fort Harrison, near Richmond, Va., died at his home in that place, February 4, aged 83.

Benjamin F. Eads, M.D. University of Pennsylvania, Philadelphia, 1856, a member of the American Medical Association and chief surgeon of the Texas and Pacific Railway, died suddenly at his home in Marshall, Texas, February 1. He had been in feeble health for some time.

Thomas N. De Bowes, M.D. New York University, 1858, surgeon of a Connecticut regiment in the Civil War, and for fifteen years autopsy physician for New York City, died from infirmities incident to old age, after an illness of two months, February 7, aged 70.

Arista O. Lucas, M.D. Western Reserve University, Cleveland, Ohio, 1891, a member of the American Medical Association, died at his home in New Washington, Ohio, February 3, from tubercular peritonitis, after an illness of nearly four months, aged 37.

Thomas Jefferson Grove, M.D. Medical School of the Valley of Virginia, Winchester, 1849, a surgeon in the Confederate service during the Civil War, died at his home in Petersburg, W. Va., February 1, from paralysis, aged 74.

Fairfax Schley, M.D. University of Maryland, Baltimore, 1846, who retired from practice to engage in the drug business nine years later, died at his home in Frederick, Md., February 1, from heart disease after a brief illness, aged 79.

Henry W. Allan, M.D. Bellevue Hospital Medical College, New York, 1882 died from the effects of a self-administered dose of hydrocyanic acid, at a drug store near his residence in East New York, February 5, aged 48.

Archibald E. Covert, M.D. New York University, 1892, a member of the staff of the J. Hood Wright Hospital, New York City, died in that institution, February 2, from Bright's disease, after a short illness, aged 32.

William W. Hinish, M.D. Miami Medical College, Cincinnati, 1875, was found dead in his office in Chicago, February 10, from the effects of morphin, taken, it is alleged, with suicidal intent, aged 60.

Charles L. Floor, M.D. Western Reserve University, Cleveland, 1882, died at his home in Youngstown, Ohio, January 30, nine days after an operation for abscess of the lower bowel, aged 44.

Erasmus M. Chapin, M.D. Columbian University, Washington, D. C., 1841, died at his home in Washington, D. C., February 8, from shock following a fall the day before, aged 82.

Charles Collins Bradley, M.D. Willoughby (Ohio) University Medical Department, 1845, died at his home in Rock Rapids, Iowa, February 4, after 20 years of invalidism, aged 82.

Emmett E. Dixon, M.D. Atlanta (Ga.) Medical College, 1867, died at his home in Gainesville, Ga., February 1, after an illness of several weeks, from Bright's disease, aged 55.

Charles A. Mahneke, M.D. University of Berlin, Germany, 1866, died at Appleton, Wis., January 28, after an illness of three weeks, from sepsis following an operation, aged 55.

Franklin A. Gardner, M.D. New York Homeopathic Medical College and Hospital, 1882, died at his residence in Washington, D. C., February 13, from typhoid fever, aged 45.

George H. Gilbert, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1874, of Cleveland, died suddenly at a drug store in that city, February 9, from heart disease.

Jacob Burger, M.D. Eclectic Medical Institute, Cincinnati, 1856, died at his home in Franklin Square, Ohio, from paralysis, January 31, after an illness of two days, aged 75.

John P. Agnew, M.D. University of Pennsylvania, Philadelphia, 1864, who retired from practice in 1883, died at his home in Philadelphia, February 5, aged 69.

Lucian H. Shepherd, M.D. College of Medicine, Syracuse (N. Y.) University, 1895, died at his home in Oswego, N. Y., January 25, from typhoid fever, aged 37.

Morrill Wyman, M.D. Harvard University Medical School, Boston, 1837, died at his home in Cambridge, Mass., January 30, after an illness of five days, aged 90.

Lucien W. Curtis, M.D. New York University, 1848, of Southbridge, Mass., died in Worcester, January 30, from shock a day after an accident.

John R. Burton, M.D. College of Physicians and Surgeons, New York City, 1848, died at his home in Valdosta, Ga., February 7, aged 78.

Samuel Gray, M.D. University of Maryland, Baltimore, 1858, died from paralysis at his home in Laurel, Md., January 30, aged 72.

Marbury Brewer, M.D. University of Maryland, Baltimore, 1850, died at his home in Baltimore, January 24, from heart disease, aged 72.

Burdett A. Terrett, M.D. Tulane University, New Orleans, 1900, died at his home in Natchitoches, La., January 23, after a short illness.

John Ash, M.D. Philadelphia College of Medicine and Surgery, 1851, died at his home in Brighton, Ill., January 31, aged 84.

William S. Dempsey, M.D. Medical College of Ohio, Cincinnati, 1874, died at his home in Richmond, Ind., February 7, aged 64.

David M. Browder, M.D. Eclectic Medical Institute, Cincinnati, 1885, died at his home in Sweetwater, Tenn., February 5.

Book Notices.

THE NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D., Brooklyn, N. Y. 8vo. Cloth. Pp. 250. Ten Illustrations. Price, $2.00 net. St. Louis, Mo.: The Laryngoscope Co.

This is a valuable addition to the early history of medicine. It is written interestingly, and the data is so given as to allow the reader to draw his own conclusions, beside giving the author's own views regarding them. Beginning as it does with the earliest known inscriptions and manuscripts, it continues through the various evolutionary stages of the science of medicine down to the present time. While the author professedly deals specially with the history of medicine as related to the nose and throat, there are, nevertheless, numerous references which make the book interesting to the general practitioner. It would be hard to believe that the science of medicine should have sprung spasmodically to the high degree of excellence in which we find it, as described by Hippocrates, without having passed through a long, evolutionary process. The author's references to the early Egyptian physicians, together with our general knowledge of the influence exerted by the Egyptians over the Greeks in other lines, lead us to believe that the evolution was not lacking after all. Doubtless in the destruction of the great Alexandrian library which the author describes in detail many early and valuable treatises on medicine were destroyed.

However, the fame of Hippocrates is not to be belittled. "Never since in the history of the world have there existed in the space of one man's life so many men whose fame still shines in mortal records and whose words still influence the thoughts of men. . . . None can say that the great name of Hippocrates stands less illustrious on the roll of medical science than does that of Socrates in philosophy, of Phidias in sculpture, of Demosthenes in oratory, of Thucydides in history, or of Aristotle in science." Considering his work, "all his writings . . . testify to the persistence with which he studied the symptomatology rather than the pharmacology of disease." As to his love of truth, a quotation from Plutarch says that "he confessed publicly that he had mistaken the nature of the sutures of the skull, and has left an acknowledgment under his own hand; for he thought it very unworthy of a man of his profession not to discover where he was in the wrong, seeing that others might suffer and err by his authority."

In the description of Galen and his time, we are reminded of our great indebtedness to this tireless worker for our knowledge of anatomy. While "it would have been manifestly impossible for any one man to have himself originated the discovery of one-tenth part of the new anatomical facts as met with in Galen for the first time," nevertheless he is the real author of many of them.

In this book we read how fanaticism, superstition and mysticism are in continual conflict with the scientific advancement of medicine, and proper tribute is paid to the men whose lives were spent in the promotion and advancement of medicine as a profession. The various discoveries, the correction of errors, the invention of various instruments and devices to aid the diagnosis and treatment of disease, all are aptly described. Through it all we see how the truth regarding the practice of medicine gradually emerges through the enshadowing clouds until it reaches its present stage of progress toward perfection.

Those who have not given the subject special attention will be interested to learn that the work of laryngologists began before the times of Hippocrates, and that the three to six weeks' courses devoted to this subject by many of the post-graduate schools are hardly sufficient to make full-fledged specialists. Hippocrates describes an excellent treatment for fracture of the nose by raising the bones and inserting hollow wooden tubes in the nostrils to keep them in position. He also had an idea of intubation of the larynx for croup, though it is probable that he never practiced it, but his method of removing polypi, which was mentioned by Voltolini in his text-book, 1890, is one of the most striking illustrations of the absence of anything new under the sun. Indeed, Hippocrates described various methods of performing this operation, some of which are practiced at the present time.

Alcmæon, 520 B. C., by his dissections, discovered the eustachian tube. Celsus had definite views about the treatment of diphtheria and ozena, most of which have, however, been long since abandoned. Areteaus, who lived shortly before the birth of Galen, A. D. 131, wrote a very interesting chapter on diseases of the uvula, but felt helpless in the presence of diphtheria and criticised the operation of laryngotomy, which had been recommended to alleviate the dyspnea caused by the disease, though Asclepiades approved of the operation.

Galen wrote a book on the formation of the voice, and incidentally discussed the therapeutics of diphtheria.

Tracheotomy was familiar to the Egyptian practitioners of the Tenth Century. Albucasis, one of the early Egyptian surgeons, describes a cure for postnasal tumor. Fabricus, about the year A. D. 1590, recommended cauterizing ulcers in the nares through an iron canula, and Dionis, A. D., 1707, gives several illustrations of the instruments that he employed for this purpose. Fabricus Hildanus, 1646, employed a powder blower in the treatment of diseases of the throat, and when this method did not suffice, advised removal of a part of the uvula with scissors, ligature or caustic. He also gives illustrations of several instruments for applying the ligature and of forceps for the removal of nasal polypi.

So on, down through the ages, we find numerous references to nasal and laryngeal surgery and medicine; some crude, indeed, but others quite as good as some of the methods that are adopted to-day.

LIFE AND CORRESPONDENCE OF HENRY INGERSOLL BOWDITCH, by V. Y. Bowditch, A.B., M.D. In Two Volumes. Vols. I and II. Cloth. Pp. 337 and 397 Respectively. Price, $5.00 net. Boston and New York: Houghton, Mifflin & Co. 1902.

There is always a stimulus in reading the life of a great man, especially if, as in this instance, the true inner life—the man himself, his ambitions, his fear, his successes, his failures—is depicted. While Dr. H. I. Bowditch, in his time, was one of the leading physicians of Boston (he always eschewed surgery), he was better known in his early professional life as a leader among the abolitionists. He took up the anti-slavery cause at the very beginning, when it was unpopular, even in Boston, to do so, and no one was more aggressive in the cause than he. It is not to be wondered at, then, that the greater part of the book is devoted to this phase in his career, much as we might have wished it were otherwise and that more of the volumes had been given up to the medical side of his life.

The major part is in the form of private letters and extracts from his journal and diary and from unpublished manuscripts, public utterances and publications. While so much of the work is taken up with matters not of special interest to medical men as such, there is enough of that which pertains to the man as a physician to make it of medical interest also. Dr. Bowditch was lucky in being able to follow up a good grounding in medical education in this country, at Harvard, by two years of post-graduate work in Europe, most of the time in Paris. His life there is autobiographical in character, being in the form of descriptive letters and matter taken from his diary. While in Paris he was a favorite pupil of Louis, and had as fellow students Oliver Wendell Holmes, James Jackson, Jr., and Mason Warren. While in Paris he met and fell in love with an English girl, who later became his wife. This was a cause of much anxiety on the part of his father, and the conflict between duty to and respect for his father's wishes and love for the girl was a severe one and lasted for a long time, but finally ended happily for all concerned. Dr. Bowditch was greatly interested in the American Medical Association, believed in the broadening effect of its annual meetings, "and frequently spoke of the influence for good which the friendship thus formed had on his life." As a member of the Association he preached liberality in regard to the code. He was elected President of the Association in 1876, and presided at the Chicago meeting the year following. He was an early and ardent advocate of medical education of women, and did as much as anyone to put down the prejudice against their admission into the medical ranks. He was one of those who succeeded in having created the Massachusetts State Board of Health—the first of its kind, we believe—and was its first chairman. He was also a member of the first National Board of Health, created in 1879. In many other ways his works prove him to have been a public-spirited physician, unselfishly and courageously working for all that, in his opinion, would benefit his profession and the public.

A son has presented to us in a simple manner the life and work of a noble father, a man who was loved for the good he did, as well as for the nobleness of his character.

The volumes contain several excellent photographs and other illustrations.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D., Lond., F.R.C.P., F.R.S. Edin., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. IV. Diseases of the Respiratory and of the Circulatory Systems. Cloth. Pp. 493. Price, $2.00 net. New York: The Macmillan Co. 1902.

This fourth volume of Allchin's manual contains the diseases of the respiratory and circulatory systems. The authors' names, which are a guarantee in their way of the merit of the articles, are Drs. J. Mitchell Bruce on diseases of the heart and blood vessels, Dr. Francis de Havilland Hall on diseases of the pleura, Dr. Leonard Hill on physiology of respiration and circulation, Dr. Hector MacKenzie on diseases of the lower respiratory tract, Dr. Lewis Smith on disorders of the upper respiratory tract, and the editor on disorders of the diaphragm and dropsy. While the book in its treatment of the subjects is often brief, yet the articles are of a quality that can not be criticised, and the illustrations, skiagraphs, etc., are well selected and instructive. The volume seems to us to keep up the reputation of the work as a whole to its full extent.

THE ISLE OF CONTENT, and Other Waifs of Thought. By George F. Butler. M.D. Cloth. Pp. 142. Price, $2.50. Concord, Mass.: The Erudite Press. 1902.

Dr. Butler is well known as a writer of one of the best text-books on materia medica and as a medical writer of more than usual merit, as well as the editor of a semi-popular magazine which has deservedly met with commendation from the profession and others. In this volume he has collected a number of little essays and bits of poetical prose, with one or two more lengthy contributions in verse which have appeared during the past few years. They are brought out in excellent style on a fine quality of paper with broad margins. The only criticism we want to make is that there is too much blank space in the book that we wish might have been filled with a like quality of matter.

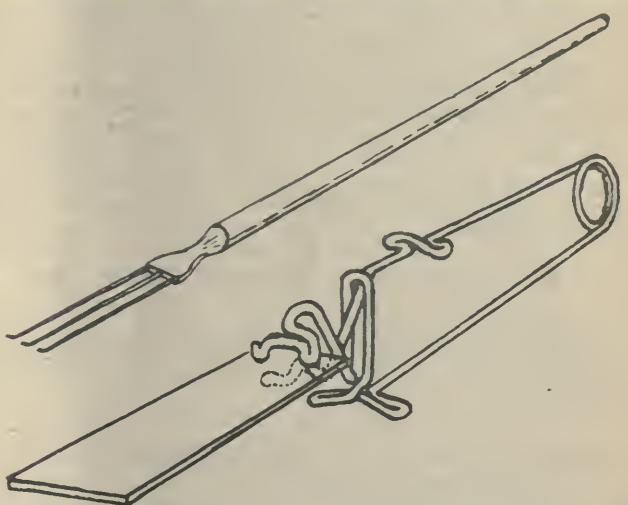
New Instrument.

SECTION LIFTER AND SLIDE FORCEPS FOR THE PATHOLOGIC LABORATORY.

CHESTER J. STEDMAN, M.D.
ASSISTANT PATHOLOGIST, BALTIMORE MEDICAL COLLEGE.
BALTIMORE.

For the laboratory man who has five or six hundred histologic or pathologic sections to stain every day, the old method of changing the sections from dish to dish with a single needle is a rather tedious process; especially so in the case of those solutions in which the sections may remain for only a few moments. With such solutions the stainer must either take time to run his sections through in lots of half a dozen or run the risk of exposing some of them to overaction of the solution by putting some fifty or sixty in the dish at one time, and depending on his ability to capture them all with his single needle before some of them are spoiled by the solution.

After considerable experience in staining up sections for large classes, it seems to me that the work can be greatly facilitated by using a lifter with several points instead of one. With this idea in mind I have devised a little instrument, which consists, practically, of three needles mounted in one handle. With an instrument of this kind sections can be handled much more rapidly and accurately than by the old single needle



method. Fifty sections can be run through a solution at one time quite as safely and quickly as ten could be handled with a single needle. These statements are founded on practical experience, and I trust that other laboratory men may find this little instrument a useful addition to their staining outfit.

The other instrument is a slide holder, or forceps, intended for holding microscope slides during the staining process. The chief drawback connected with all other slide holders which I have seen lies in the fact that, at some point or other, the wire from which the holder is made comes in contact with the edge of the slide, and thereby acts as a conductor which the staining fluid readily follows over the edge, to drop down on whatever may lie below. Such slide holders not only waste staining fluid, but are very objectionable from the standpoint of cleanliness. More than that, most of the holders are structurally deficient in that they do not hold the slide perfectly level.

In view of the foregoing facts I have worked out a slide holder which I believe to be a decided improvement over anything of the kind heretofore in use. It is cheap, consisting of a single piece of bent wire; it holds the slide perfectly level when resting on the table; and, best of all, the wire in no situation lies in contact with the edge of the slide, to act as a conductor for the staining fluid. The slide is held firmly between four points of wire, two above and two below, and with ordinary care in handling the cohesive properties of the staining fluid will effectually prevent its passage over the edge of the slide.

Miscellany.

All That Is Necessary.—The American Association for the Advancement of Science says the following lines are all that is necessary for the physician to learn in order to prescribe in the metric system: 1,000 milligrams make 1 gram. 1,000 grams or cubic centimeters make 1 kilo or liter. 65 milligrams make 1 grain. 15½ grains make 1 gram. 31 grams make 1 ounce, troy.—*Med. Review.*

The American Pharmaceutical Association, at its fiftieth annual meeting in Philadelphia in September, passed a resolution that hereafter the metric system of weights and measures should be used in all papers read before the association and that pharmaceutic journals should be requested to use the same system wherever practicable in their publications. Another resolution passed stated that it is desirable that the pharmacist discourage the refilling of prescriptions unless ordered to do so by the prescriber. After a discussion in the scientific section relative to the advisability of retaining methyl salicylate, artificial, in the pharmacopeia, it was decided that it should be retained, but that it should not be named synthetic oil of wintergreen. It was also decided that oil of wintergreen obtained from *Gaultheria procumbens* should be known as "oil of wintergreen" and that oil of *Betula lenta* under its proper title should be introduced into the pharmacopeia. We quote the following from the address of the retiring president, Henry M. Whelpley (the complete report appears in the *Pharmaceutical Era* of September 18): "I hope that an increasing number of American Pharmaceutical Association members will attend the coming annual meetings of the American Medical Association. We are not likely to overestimate the importance of conjoint work in the two callings which go to make up the healing art and the art of preparing healing appliances. The more we mingle with each other the better we will understand the feelings that actuate those who are striving for the common good of medicine and pharmacy.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE NEXT PHARMACOPEIA.

ALBANY, TEXAS, Feb. 9, 1903.

To the Editor:—Will you kindly inform me when the new edition of the U. S. Pharmacopeia will be issued? If you can do so through your columns please give me the name of the publisher.

H. L. WILDER.

ANS.—The revision of 1890 appeared in 1893, published by the committee on revision, through P. Blakiston's Son & Co., Philadelphia, at $2.50. The revision of 1900 is looked for before the end of the present year.

MISSISSIPPI RIVER EXCURSION TO NEW ORLEANS.

PHILADELPHIA, Feb. 6, 1903.

To the Editor:—I wish to ask if it is likely that any arrangements will be made to go down the Mississippi river by steamer. This is a trip that I have for many years desired to take, and now seems the opportunity to take it while going to New Orleans to attend the Association meeting in May. My idea would be to go down the Mississippi river by steamer, either from St. Louis or Memphis; but I would wish to return to Philadelphia by all rail. I will be pleased to avail myself of the information that you will gather for the profession, so far as it will go to meet my plans; further than that I will make independent inquiries.

C. F. TAYLOR

NOTE.—This suggestion is worth the consideration of those interested.

MEDICAL PRACTICE QUERIES.

OTTOSEN, IOWA, Feb. 10, 1903.

To the Editor:—Please inform me as to the requirements to practice medicine in South Dakota and Colorado; also the names of the secretaries of each of the above state boards, with addresses.

W. M. SHIPLEY.

ANS.—In South Dakota an approved diploma, and evidence of good habits and moral character are required. The secretary of the board of examiners is Dr. T. W. Moffitt, Deadwood. In Colorado an approved diploma or an examination is required. The secretary of the board is Dr. S. D. Van Meter, Denver. A new law stricter in its requirements is before the legislature, and has passed the lower house.

GRAND LEDGE, MICH., Feb. 10, 1902.

To the Editor:—Can you inform me as to the necessary qualifications for a physician to practice in Oklahoma, as to board of registration, etc.? E. M. PAINE.

ANS.—An approved diploma is required. Address Dr. T. E. Cowdrick, Enid, Okla., president of the board of health.

State Boards of Registration.

The District of Columbia Board of Medical Supervisors held an examination at Washington, D. C., January 8, 1903. Dr. Wm. C. Woodward, secretary, reports as follows: Number of subjects examined in, 17; total number of written questions, 80; percentage required to pass, 75; partly oral and partly written examination; total examined, 11; passed, 10; failed, 1.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
350	R.	College of P. and S., New York	1902	83.18
351	R.	National Univ., Washington, D. C.	1900	
352	R.	National Univ., Washington, D. C.	1900	*83.00
		Woman's Med. Coll. of Pennsylvania	1901	86.90
355	R.	Keokuk Medical College	1892	75.43
353	R.	Columbian University	1901	85.50
356	R.	Columbian University	1902	86.93
358	R.	Columbian University	1899	79.34
359	R.	Columbian University	1902	80.28
361	R.	Columbian University	1902	84.56
360	R.	Johns Hopkins University	1897	88.40

FAILED.

341	R.	National Univ., Washington, D. C.	1902	69.68

WITHDREW.

357	R.	Medical College of Virginia	1881	.....

* Third examination.

Ohio.—The State Board of Medical Registration and Examination of Ohio, by Dr. Frank Winders, secretary, reports the examination held at Columbus, Dec. 9, 10 and 11, 1902, as follows: Number of subjects examined in, 9; questions, 90; percentage required, 75; written examination; examined, 32; passed, 28; failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
137	R.	University of Pennsylvania	1902	90
142	R.	University of Illinois	1901	96
154	R.	University of Illinois	1901	88
138	R.	University of Michigan	1901	93
141	R.	University of Michigan	1902	93
148	R.	University of Michigan	1901	91
151	R.	University of Michigan	1896	91
163	R.	University of Michigan	1887	†77
168	R.	University of Michigan	1872	*76
169	R.	University of Michigan	1890	82
139	R.	Rush Medical College, Chicago	1902	90
140	R.	Rush Medical College, Chicago	1902	81
149	R.	Rush Medical College, Chicago	1902	89
150	R.	Rush Medical College, Chicago	1902	90
143	R.	Edinburgh University (Scotland)	1887	94
144	R.	National Medical University, Chicago	1901	81
146	R.	Medical College of Ohio, Cincinnati	1902	84
147	R.	Medical College of Ohio, Cincinnati	1899	91
166	R.	Medical Coll. of Indiana, Indianapolis	1892	92
153	R.	Harvard Medical School, Boston	1901	89
158	R.	Harvard Medical School, Boston	1902	87
155	R.	Illinois Medical College, Chicago	1902	84
156	R.	Cleveland Coll. of Phys. and Surgs.	1902	75
157	R.	Cleveland Coll. of Phys. and Surgs.	1898	83
159	R.	Ohio Medical University, Columbus	1902	*75
161	R.	Trinity Medical College, Toronto	1901	* 88
162	R.	Detroit Medical College	1896	88
164	R.	Baltimore Medical College	1902	*75

FAILED.

145	R.	Royal University of Science, Claudiopolis, Hungary	1894	66
152	R.	Barnes Medical College, St. Louis	1902	*71
160	R.	Ft. Wayne Medical College, Indiana	1902	*64
167	R.	Western Reserve University, Cleveland	1886	*50

* Second examination.
† Third examination.

Medical Organization.

Progress in Nebraska.

Dr. A. D. Wilkinson, secretary of the Nebraska State Medical Society, writes that already thirty-two counties have reorganized and adopted the Constitution and By-laws for

County Societies, and ten or fifteen more counties are expected to be in line within the next few weeks. On February 10 the Omaha Medical Society reorganized as the Douglas County Medical Society and adopted the official constitution and by-laws.

Fillmore County (Neb.) Medical Society.

On January 28, at Geneva, this society was reorganized on the lines suggested by the American Medical Association, with the following officers: Dr. B. B. Mozee, Geneva, president; Drs. John W. Archard, Grafton, vice-president, and Dr. C. F. Morsman, Strang, secretary and treasurer.

Belmont County (Ohio) Medical Society.

At the January 7 meeting, held in Bellaire, Dr. James C. M. Floyd, Steubenville, state councilor, presented the subject of reorganization, after which the society, after making slight amendments to meet local needs, unanimously adopted the constitution and by-laws suggested for county societies by the American Medical Association. The following officers were elected: President, Dr. James G. Wilson, Colerain; vice-president, Dr. Arlington W. Diven, Martin's Ferry; treasurer, Dr. Alfred C. Beetham, Bellaire; secretary, Dr. James S. McClellan, Bellaire; censors, Drs. James O. Howells, Bridgeport, Joseph W. Cooper, Bellaire, and J. C. Archer; delegate to the Ohio State Medical Society, Dr. J. Park West, Bellaire, and alternate, Dr. Brady O'N. Williams, Martin's Ferry.

Societies.

Huntington (W. Va.) Medical Society.—This society met, January 8, and elected Dr. Thomas J. Prichard, president; Dr. Archibald Crary, vice-president; Dr. Isaac R. La Sage, treasurer, and Dr. Thomas W. Moore, secretary.

Chicago Medical Society (Evanston Branch).—This branch society was organized, January 15, by Dr. William A. Evans, president of the county society. Dr. William L. Ballenger was elected president, and Dr. Ernest L. McEwen, secretary.

Vermilion County (Ill.) Medical Society.—At the regular meeting in Danville, February 9, the certificate of the Illinois State Medical Society, accepting the Vermilion County Society as a regularly-affiliated branch, was received and ordered framed.

Gloucester County (N. J.) Medical Society.—At the annual meeting, January 15, Dr. E. Mortimer Duffield, Glassboro, was elected president; Dr. William Brewer, Woodbury, vice-president, and Dr. George E. Reading, Woodbury, secretary and treasurer.

Duval County (Fla.) Medical Society.—At the annual meeting in Jacksonville, January 17, Dr. Sheldon A. Morris was elected president; Dr. John H. Douglas, vice-president; Dr Jay H. Durkee, secretary and treasurer, and Dr. Columbus Drew, corresponding secretary.

Harrisburg (Pa.) Academy of Medicine.—At the annual meeting, January 30, the following officers were elected: President, Dr. John B. McAlister; vice-presidents, Drs. William J. Middleton, Steelton, and Martin L. Walford; secretary, Dr. Thomas S. Blair, and treasurer, Dr. E. Harold James.

Manila (P. I.) Medical Society.—At the annual meeting, January 6, the following officers were elected: Dr. J. M. Donelan, president, and Dr. W. E. Musgrave, secretary-treasurer. The councilors of the society are as follows: Drs. Paul C. Freer, John R. McDill, John Maye, H. W. Yemans and Frank S. Bourns.

Harlan County (Neb.) Medical Society.—An auxiliary of the state and national medical societies was organized at Orleans, January 21. Dr. William H. Banwell, Orleans, was elected president; Dr. Samuel M. Baker, Alma, vice-president; Dr. Campbell, secretary, and Dr. Dickson R. Waggoner, Stamford, treasurer.

Medical Society of the Missouri Valley.—The spring meeting of this association will be held in Council Bluffs, Iowa, March 19 and 20. The membership of this society includes Iowa, Nebraska, Missouri, Kansas, North and South Dakota physicians. Dr. Charles Wood Fassett, St. Joseph, Mo., is the secretary.

Atlantic County (N. J.) Medical Society.—At the annual meeting held in February, the following officers were elected: President, Dr. Theodore Senseman of Atlantic City; vice-president, Dr. Edmund A. Madden, Absecon; secretary and treasurer, Dr. Edward Guion, Atlantic City, and reporter, Dr. A. Burton Shimer, Atlantic City.

Chautauqua County (N. Y.) Medical Association.—The second annual meeting was held in Jamestown, January 20. Dr. Orrin C. Shaw, Cassadaga, was elected president; Drs. Era M. Scofield, Jamestown, first vice-president; Dr. Vacil D. Bozovsky, second vice-president, and Dr. Henry A. Eastman, Jamestown, secretary and treasurer.

Dawson County (Neb.) Medical Society.—A meeting of the physicians of the county was held at Gothenburg, January 23, at which a medical society was organized with the following officers: President, Dr. Edwin O. Boardman; vice-president, Dr. Barton B. Baker, Lexington, and secretary and treasurer, Dr. P. Emmet Plumb, Gothenburg.

Greene County (Ark.) Medical Society.—At the annual meeting, February 2, held at Paragould, Dr. James W. Johnson, Paragould, was elected president; Dr. E. L. Kennedy, Marmaduke, vice-president, and Dr. Adolphus G. Clyne, Bethel, was re-elected secretary and treasurer. The new constitution and by-laws of the Arkansas Medical Society were adopted.

Chatham County (Ga.) Medical Society.—At the annual meeting held in Savannah, January 7, the following officers were elected: Dr. Marion X. Corbin, president; Drs. J. Lawton Hiers, and George R. White, vice-presidents; Dr. J. Walter Williams, treasurer; Dr. Ralph M. Thomson, recording secretary; Dr. Gustaf H. Johnson, corresponding secretary, and Dr. Elton S. Osborne, librarian, all of Savannah.

Harrison County (W. Va.) Medical Society.—At the regular meeting, held at Clarksburg, February 4, the constitution and by-laws recommended by the American Medical Association and the West Virginia Medical Association for county societies was adopted. The following officers were elected: President, Dr. Thomas M. Hood; vice-president, Dr. S. L. Mason; secretary, Dr. Chester R. Ogden, and treasurer, Dr. Robert A. Haynes, all of Clarksburg.

Douglas County (Omaha) Medical Society.—At the annual meeting in Omaha, January 13, Dr. Harry M. McClanahan, Omaha, member of the House of Delegates of the American Medical Association, presented the general plan of reorganization suggested by that body, and a general discussion of the subject followed. Dr. William H. Christie, Omaha, was elected president; Dr. H. P. Hamilton, Omaha, first vice-president; Dr. F. W. Faulk, South Omaha, second vice-president; Dr. Joseph M. Aikin, Omaha, secretary, and Dr. Millard Langfeld, Omaha, treasurer.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Jan. 2, 1903.

The President, Dr. John M. Fisher, in the Chair.

Fibromyoma of the Round Ligament.

DR. MELVIN M. FRANKLIN reported a case of fibromyoma of the round ligament in a patient aged 29. The tumor, which was about the size of a walnut, was situated in the inguinal canal, just without the internal abdominal ring. Pressure on the growth caused considerable pain and nausea. The tenderness was markedly increased during menstruation. The periods had always been normal and she suffered with dysmenorrhea.

DISCUSSION.

DR. JOHN C. DACOSTA did not remember having ever had such a case. He had two cases of pure fibroma of the broad ligament.

DR. W. KRUSEN said that such a rare tumor is interesting from a diagnostic standpoint because it may be mistaken for lipoma, ovarian or intestinal hernia or enlarged lymph glands. Another interesting point is that during pregnancy these tumors often increase in size and also during menstruation. This probably indicates their relation to the uterus. The most frequent situation is on the right side.

DR. E. E. MONTGOMERY said that tumors of the round ligament are very rare. We can readily realize that in the round ligament, which contains both muscular structure and blood vessels, there is ample material for the development of this class of tumors, whether we assign their origin to the muscular structure of the round ligament itself or to the muscular wall of the blood vessels. Their infrequency in the round ligament

is readily explained by the fact that the structure is rarely subject to injury.

DR. JOHN M. FISHER said that Dr. Clark, a few years ago, reported a case of coincident sarcoma of the uterus with fibromyoma of the round ligament, demonstrating the importance of making a microscopic examination.

Preliminary Report of an Operation for Abdominal Pregnancy of Twenty-One Months' Standing.

DR. C. P. NOBLE reported the clinical history of this patient, who was a multipara, 30 years of age. She missed her menstrual period in March, 1901. Two weeks later she was taken with a sharp, agonizing pain in the right iliac region, diagnosed by her physician as appendicitis, and was in bed for three weeks. Two months subsequent to the date of expected labor she consulted a gynecologic dispensary where a diagnosis of "tumor" was made, and medicine given "to dissolve it." She remained under this treatment for three months. She was finally sent to the Kensington Hospital for women, Philadelphia, with a diagnosis of fibroid. Dr. Noble made a presumptive diagnosis of abdominal pregnancy and verified the diagnosis by an abdominal section. The fetus occupied the left side of the abdomen, extending into the pelvis; the uterus was pushed to the right and elevated. The round ligament and tube ran over the face of the "tumor." The sac was so thick that it was impossible to outline the fetal parts. The ovarian and uterine vessels on the involved side were ligated, the fetus and sac elevated out of the pelvis and the lower end of the mass turned upward. By getting at the mesentery vessels from below and behind it was possible to control the bleeding without difficulty. The uterus was not removed. The patient made a satisfactory recovery.

DR. E. E. MONTGOMERY spoke as follows: The case presented by Dr. Noble is one of very great interest from a diagnostic standpoint. Everyone who has had an opportunity of observing a large number of patients appreciate the frequency of cases which will come under his observation, where it is difficult to determine whether he has to deal with a pregnancy, fibroid tumor or other abdominal growths. I remember a case which came under my observation years ago at Jefferson Hospital of a woman who had gone fifteen months from the time she conceived without delivery. Two months subsequent to her conception she had what she supposed to be an abortion. There was a discharge of clots of blood and she suffered great pain. A bloody discharge continued for some weeks subsequently. A few months later she recognized fetal life, and again became reconciled to the fact that she was pregnant. At the completion of what should have been the normal period of gestation, however, labor did not occur. At the time the patient came under our observation she presented a tumor which filled the abdomen to nearly the size of a woman at full term of pregnancy. Examination revealed fluctuation while percussion over the tumor gave resonance. On examination per vaginam the uterus could be recognized situated in front and somewhat to the left of the mass. While a portion of the tumor felt solid, one was unable to palpate and recognize distinctly its parts. The history of the case and the conditions present led me to form the diagnosis of ectopic gestation, in which the fetus had undergone maceration and decomposition, and the resonance in the sac was the result of the gas thus formed. On opening the abdomen we found a condition similar to that which I had expected. The uterus was in front of the mass, the tumor occupied the abdomen above and the wall of this tumor was made up of a membranous sac to which the placenta was attached at the upper part. The placenta was without vitality, was easily pulled off with the portion of the sac to which it was attached and without hemorrhage. The entire lining membrane of the sac was covered with macerated material. With the removal of the fetus, the sac was thoroughly cleansed, stitched to the abdominal walls and packed with iodoform gauze. The intestines were closely adherent to it and formed a part of the sac wall, so it was impossible to attempt its removal. The convalescence was slow; patient finally recovered.

The second case which comes to my mind is that of a wife of a physician in the upper part of the state. On examination a tumor was recognized to one side of the uterus, which filled up the pelvis. The history and the examination of the case led me to unhesitatingly pronounce it a fibroid tumor. It had been in existence for two years. The patient was unwilling to submit to operation, became pregnant, and gave birth to a child without interference to the sac, and, so far as I know, she still carries it.

Another patient treated at the Jefferson Hospital is of diagnostic interest. She had a mass which had been pronounced pregnancy by several physicians. One physician, an eminent gynecologist in the city, pronounced this a pregnancy and saw the patient several times during the supposed gestation. The woman, however, did not attain to the size she supposed to be proper, and the time passed beyond which labor should occur. She was brought to the hospital and even then the growth was considered a delayed pregnancy. There was found situated in the vagina a mass the size of a fetal head, so divided as to lead to the belief that the fontanelles could be felt between the masses. On examination over the abdomen a mass could be pushed away and felt to rebound against the hand. This was supposed to be the body of the fetus. In examining this patient, however, I felt satisfied from the surfaces intervening between the vaginal mass and the finger that it could not be within the uterus. If it was a fetus it was evidently situated anterior to that organ. I hardly believed that we would likely find an ectopic gestation in that situation. The sensation of free movement of the upper part was due to the fact that the tumor was connected with the fundus of the uterus by a rather thick, yet flexible, pedicle, which permitted the fundus to be pushed away and to return against the hand. The latter was favored by a considerable amount of ascites. As soon as the abdomen was opened a considerable quantity of fluid was discharged and the mass projected into the wound. A number of fibroid tumors occupied the body of the uterus.

I think these cases indicate the difficulty in diagnosis which will sometimes lead the patient to go for some length of time under the observation of careful men and they be mistaken for other conditions.

DR. W. KRUSEN said: Dr. Noble's interesting case recalls a postmortem which I had in 1893 while a resident at Jefferson Hospital. I had the opportunity, through the courtesy of Dr. Hearn, of making a postmortem in the case of a patient in the northern part of this city. The abdomen had been gradually increasing in size for ten months and no menstruation had been present for that time. The patient had been seen before in consultation by the late Professor Parvin and the condition was such that operation was thought inadvisable. The patient died, and on postmortem there was found within the abdominal cavity a full-sized fetus, larger than the size of a baby a month old. A hematoma occupied the position of the uterus. The head of the fetus was directly under the spleen. The case illustrates the tolerance of the peritoneum to the development of the fetus. This was a case in which undoubtedly rupture had occurred. The hemorrhage had not been such as to produce death and the fetus had gone on to full development, weighing over ten pounds. The specimen is now in the museum of the Jefferson Hospital.

The very interesting and perplexing question to the surgeon is the treatment of the live placenta in cases of ectopic gestation. I have had an opportunity in two cases of having to contend with this difficulty.

DR. C. P. NOBLE in closing the discussion, said: The point raised by Dr. Krusen is of course the crucial one, how to deal with the hemorrhage. These cases are so rare that there are very few of us who have the opportunity to acquire views from practice. This is the first full term pregnancy of this kind that I have ever seen. I have operated on nearly a hundred cases of ectopic pregnancy, but this is the first one advanced beyond the fourth month.

I think it is best to enucleate the whole sac provided one can do preliminary ligation. If the placenta is attached to the intestines we know that we can not do preliminary ligation. On the other hand, if the placenta is in the pelvis we know perfectly well how to deal with the ovarian and uterine arteries

or with the anterior branch of the internal iliac. I should prefer to enucleate the sac under those circumstances. In a case having its blood supply from the mesenteric vessels my own action would be to pack the sac with gauze and leave it.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Cinnamon.

The oil of cinnamon in aqueous solution, according to the *Med. World*, is a splendid local antiseptic and disinfectant. It is recommended as a substitute for corrosive sublimate, as an application to prevent suppuration in recent wounds where stitches have been taken. The points in favor of its use are that it is cleanly, non-toxic and a cheap dressing. It is also used as a douche after parturition when a douche is indicated. Three or four drops of the oil may be added to two quarts of warm water and used as long as there is odor to the lochia.

Shoemaker recommends cinnamon in finely-powdered form, given in doses of one to one and a half drams, as an efficient remedy in acute dysentery. It has some hemostatic properties and is employed in the form of an infusion in milk or the oil may be given on sugar. In the palliative treatment of carcinoma of the stomach it is recommended that 10 or 12 ounces of the bark be placed in three quarts of water and boiled down to one quart, decanted without filtering. One pint of the mixture should be drunk every 24 hours.

In gonorrhea it may be used as follows:

℞.	Olei cinnamomi	m. i-iii	06-20
	Liq. petrolati	ʒi 30	

M. Sig.: Cleanse the urethra with dilute hydrogen dioxid and inject the cinnamon solution. One drop of the oil of cinnamon to the ounce should be used the first day, gradually increasing to three drops.

As an antiseptic dressing in the form of an ointment the following have been recommended by M. Championniére:

℞.	Retinol	ʒix	35
	Ceri (sterilized)	ʒiii	12
	Cinnamol	m. viiss	50

M. Sig.: Apply locally.

Retinol is a product of the destructive distillation of resin and is frequently employed as a solvent for different preparations as iodol, camphor, cocain, codein, creosote, etc. Cinnamol, according to Shoemaker, is a freshly-distilled essence of cinnamon.

℞.	Cinnamol	m. viiss	50
	Ceri steril.	ʒiii 12	
	Beta-naphthol	gr. viii	50
	Retinol	ʒix 35	

M. Fiat unguentum. Sig.: Apply locally; or:

℞.	Ess. geranii	m. xv	1
	Ess. cinnamomi	m. viii	50
	Retinol	ʒiss 45	

M. Sig.: To be applied locally; or:

℞.	Ess. thymi	m. xii	75
	Ess. geranii	m. xii	75
	Retinol	ʒiss 45	

M. Sig.: Apply locally.

Acute Coryza.

Sternberg, in an abstract in the *Month. Encyc. of Pract. Med.*, calls attention to a simple treatment which is a revival of an old method. It consists in eliminating liquids from the diet for twenty-four hours in order to dry up the secretions and relieve the congestion in the head, nose, conjunctiva and the irritating discharge from the nose. If the treatment is continued for two days the coryza will usually be brought to an end, and it will not usually be followed by a cough. The treatment is regarded as a prophylactic against otitis media or the extension of inflammation into the adjacent nasal cavities.

The treatment must be begun early in order to make it a success. The presence of fever is no contraindication to the treatment, but it should not be carried out when chronic nephritis is present.

Dandruff.

The following outline of treatment is recommended by *N. Y. Med. Jour.* in the treatment of dandruff:

℞.	Olei bergamot	gtt. ii	12
	Ung. hydrarg. oxidi rubri	ʒiv 15	
	Adipis benzoinati	ʒiss 45	

M. Fiat unguentum. Sig.: Apply locally; or:

℞.	Sodii boratis	ʒii	8
	Glycerini	ʒiii	12
	Aquæ q. s. ad	ʒv	150

M. Fiat lotio. Sig.: Apply locally.

Where there is some constitutional disturbance the following mixture may be employed:

℞.	Vini ferri	ʒiss	45
	Liq. potassii arsenitis	ʒi	4
	Syr. simplicis	ʒiii	12
	Aquæ q. s. ad	ʒiv	120

M. Fiat mistura. Sig.: One teaspoonful to be taken after each meal.

Typhoid Fever.

W. R. Perry, in an article in the *Amer. Pract. and News*, states that he has obtained unusually good results from the use of the following antiseptic combination:

℞.	Tinct. iodi	ʒiss	6
	Acidi carbol.	ʒss	2
	Spts. chloroformi	ʒii	8

M. Sig.: Two to four drops every three or four hours.

Dysphagia in Acute Anginas.

Le Prog. Med. recommends the following to relieve the pain in swallowing in the acute anginas:

℞.	Pulv. talci		
	Pulv. acid borici, āā	gr. xlv	3
	Orthoformi	gr. xv	1
	Cocainæ hyd.	gr. 3/4	05
	Pulv. menthol	gr. 1/3	02

M. Fiat pulvis. Sig.: A small amount to be insufflated into the throat through a glass tube just before eating.

[The foregoing combination is of service in any condition where disease of the throat or larynx is accompanied by pain on swallowing food. But it should be prescribed and used strictly under the care of the physician on account of the orthoform and cocain it contains.]

Croup.

L. Lozansky, in *Merck's Archives*, recommends the use of creosotal in croup, measles, and whooping cough. He usually begins with large doses and continues with reduced doses after apyrexia sets in, in order to prevent relapse. The following formula is employed by him:

℞.	Infusi ipecac.	ʒiss-ʒiii	45-90
	Sol. ammon. anis.	m. xv-xxiv	1-1 65
	Creosotal	m. xlv-lxx	3-5
	Syr. senegæ	ʒiv	15

M. Sig.: One teaspoonful every half hour for four doses, then every hour, and finally every three hours. When the temperature ranges high the following combination is recommended:

℞.	Sodii salicylatis	gr. xv-xxx	1-2
	Creosotal	m. xlv-lxx	3-5
	Emuls. amygd.	ʒiii	90
	Syr. ipecac.	ʒiv	15

M. Sig.: One teaspoonful every half hour for four doses, then every hour, gradually increasing the interval.

Clinical Use of the Iodids.

Wild, in an abstract in the *Internat. Med. Mag.*, states that both clinically and experimentally the sodium salt has proved less toxic than the potassium. He states that the two chief objections to the potassium salt are the liability to cause iodism and the marked depression it produces.

The sodium salt should be substituted when symptoms of iodism make their appearance, otherwise the potassium should

be stopped. He regards the depressing effect of the potassium to be overdrawn as ordinary food contains a considerable amount of the potash, especially the vegetable diet. To counterbalance the amount of potassium, the vegetable portion of the patient's diet can be cut down, and milk, eggs, fish and meat added.

Urethritis.

The following combinations are recommended by Brunton in the treatment of gonorrheal urethritis:

℞.	Calaminæ prep.	℥ii	8
	Zinci oxidi	℥ii	8
	Liq. plumbi subacetatis	℥i	4
	Glycerini	℥i	4
	Aq. calcis q. s. ad	℥i	30

M. Fiat mistura. Sig.: To be used locally as an injection.

[It will be noted that the amount of zinc and lead preparations is large.]

Or:

℞.	Zinci sulph.	gr. i	06
	Zinci acctatis	gr. i	06
	Tinct. catechu	m. x	65
	Ext. opii fluidi	℥ss	2
	Aq. destil. q. s. ad	℥i	30

M. Sig.: As an injection; or:

℞.	Zinci sulphocarbol.	gr. iv	25
	Aq. destil. q. s. ad	℥i	30

M. Sig.: To be used as an injection.

Nocturnal Incontinence of Urine.

The following, according to an abstract in the *N. Y. Med. Jour.*, is recommended in the treatment of nocturnal enuresis:

℞.	Syr. belladonnæ	℥i	30
	Antipyrini	℥iiss	14
	Syr. tolutani	℥iss	45

M. Sig.: One teaspoonful morning and evening. Increase the dose to two teaspoonfuls if the incontinence persists.

The foregoing, according to the author, is Trousseau's formula, to which is added antipyrin. The following, containing camphor and ammonium valerianate, is also recommended:

℞.	Ext. belladonnæ	gr. 1/6	01
	Camph. bromidi	gr. iss	09
	Ammon. valerianatis	gr. 3/4	05

M. Ft. pil. No. i. Sig.: One such to be taken at bedtime; or:

℞.	Ext. rhois arom.	gr. xxxviiss	2 50
	Ammon. valer.	gr. x	65
	Syr. menthæ	℥v	150

M. Sig.: Two teaspoonfuls morning and evening; or:

℞.	Tinct. rhois rad.	℥ii	8
	Calcii glycerophos.	gr. xxiiss	1 50
	Ferri glycerophos.	gr. xxiiss	1 50
	Syr. pruni virg.	℥x	300

M. Sig.: One dessertspoonful on rising and at bedtime.

F. T. Hopkins, in the same periodical, states that the treatment in debilitated children is a general tonic one, consisting of strychnia, arsenic, cod-liver oil, good food, cold sponging and static electricity. The employment of atropin gr. 1/100 (.0006) to gr. 1/75 (.0008), or belladonna gr. 1/4 (.015) to gr. 1/2 (.03) of the extract is advised by him.

He also recommends the passing of sounds. Any disturbance of the digestive tract should be corrected, and where constipation exists, forcible dilatation of the sphincter ani is recommended. Proper exercise should be prescribed, and the patient should be aroused at eleven o'clock at night to urinate. Any constitutional disturbance such as syphilis, tuberculosis and diabetes should be properly treated.

Brunton states, in the treatment of incontinence of urine, that we must consider the action of two different organs, the sphincter at the neck of the bladder and the fundus of the bladder, the one tends to hold the urine in the bladder and the other tends to expel the urine, so that if the sphincter is insufficiently stimulated it will remain more or less lax, and consequently will permit the urine to run out. Stimulating this sphincter, then, will stop the incontinence. Belladonna, according to him, lessens the irritability of the fundus without affecting the sphincter, so the expulsive tendency is lessened and the incontinence is frequently cured. The preparation must be pushed to its limit, as noted by the dilated pupil and the dryness of the mouth. Cantharides is also recommended by him, as it tends to stimulate both the fundus and the sphincter of the bladder.

Medicolegal.

What Physician Making Examination May Testify To.—There was some objection urged to the evidence of a physician in the personal injury case of Meeks vs. the Ohio River Railway Company because he testified as to what the party suing and her attending physician told him. He was not being strictly examined as an expert, but was being interrogated with regard to a personal examination made by himself as to the condition of the party suing. Of course, says the Supreme Court of Appeals of West Virginia, it was improper for him to state to the jury what the party suing or her attending physician told him as to her condition. But he had the right, being a physician, to testify as to his personal examination, made in the manner in which physicians usually diagnose a case; and this is not only by actual examination of the organs and limbs of the patient, but inquiry as to the symptoms, pains and otherwise. Therefore, the jury was properly instructed to disregard as independent evidence the statement made by the party suing and her attending physician to the witness, but there was no error in permitting the opinion of the witness, together with his sources of knowledge, to go to the jury, to be considered by them.

Competent Evidence of Physician's Account.—The case, taken to the Supreme Judicial Court of Massachusetts, of Mayberry vs. Holbrook was brought by a physician to recover for 126 professional calls. At the trial, with his books before him, he testified on his examination in chief that he had made that number of calls. On cross-examination he testified that he did not keep the run of these calls in his memory, and that without looking at the books he could not tell about their number. It did not appear that the books were put in evidence. The party sued denied that any calls were made, and asked a ruling that, on all the evidence, the physician could not recover. The judge refused so to rule. On the point involved, he instructed the jury: "I am reminded by counsel that he does not desire to admit that the services were rendered as charged, and it is said that the plaintiff [the physician] having testified that he could not now state from memory, independent of his books, that he did render services as charged in the bill, but he states that he did render them as charged in the bill; he also states that in making that he relies on his books. He does not state that the books refresh his recollection, so that he can now have a distinct recollection of all those items, but that is not necessary. If the books enable him to say, on his oath, that the fact was as the books have it, that would be sufficient . . . if, from the plaintiff's method of keeping the books, he is able to say from the entries, as he inspects them, that the facts are as there entered, that is competent evidence, and it is only for you to say what its weight is." The Supreme Judicial Court holds that the instructions were correct and applicable, and overrules the exceptions of the party sued, the physician having had judgment.

Care Required — In Operation and After — Leaving Sponge—Limitations.—In the case of Gillette vs. Tucker, as it is entitled in the Supreme Court of Ohio, an action brought by the latter party, the "Syllabus by the Court" is: A surgeon and physician, employed to treat a case professionally, is under an obligation, which the law implies from the employment, to exercise the average degree of skill, care and diligence exercised by members of the same profession, practicing in the same or a similar locality, in the light of the present state of medical and surgical science; and that he will indemnify the patient against any injurious consequences which may result from his want of ordinary skill, care and attention in the execution of his employment. It is the duty of the physician and surgeon to exercise due and

ordinary skill, care and attention, not only in and about an operation which he decides to be necessary, but also, in the absence of a mutual understanding or notice to the contrary, to render such continued further care and treatment as the necessity of the case requires; and he is liable for injuries and damages which proximately result from the want of such ordinary skill, care and attention. Where the physician and surgeon so engaged operates on the patient for what (as in this case) he pronounces to be appendicitis, and neglects or carelessly forgets to remove from the abdominal cavity a sponge which he had placed therein, and closes the incision, with the sponge remaining therein, and this condition continues during his entire professional relation to the case and is present when he abandons or otherwise retires therefrom, the statute of limitations does not commence to run against a right to sue and recover on account of such want of skill, care and attention until the case has been so abandoned, or the professional relation otherwise terminated. It is stated, in the opinion, among other things, that the mere closing of the incision in question over the sponge was not the party's cause of action, if no injurious consequences followed. But if evil consequences followed, and she was injured, her cause of action accrued when her injuries occurred; and if these injuries blended and extended during the entire period the surgeon was in charge of the case, her right of action became complete when the surgeon gave up the case without performing his duty. It would be inconsistent to say that the party might sue for her injuries while the surgeon was still in charge of the case, and advising and assuring her that proper patience would witness a complete recovery. The facts in the case showed a continuous obligation so long as the relation or employment continued, and each day's failure to remove the sponge was a fresh breach of the contract implied by the law. The removal of the sponge was a part of the operation, and in this respect the surgeon left the operation uncompleted. A judgment of the Circuit Court, granting the party suing a new trial, after a verdict had been directed against her, on the ground that her cause of action was barred by the one-year statute of limitations of Ohio for actions for malpractice, is affirmed, or, more strictly speaking, left to stand, the Supreme Court being equally divided. In the dissenting opinion it is maintained that the injury was permanent and complete so far as the surgeon's agency and liability were involved when he closed the wound and did not remove the sponge. If any injury whatever ensued from delay in discovering and removing the sponge, it was merely incidental and consequential to the principal act of leaving the sponge in the abdomen when the operation was completed. Stated in slightly different language, but the same effect, the charge was that the surgeon permitted the sponge to remain in the abdomen when he closed the incision, and he permitted it to remain afterward as long as he attended her. In this way of stating the case, it is clear that the wrong inflicted was complete on the day of the operation, and the cause of action then accrued, unless the surgeon was to be held liable in another cause of action for not knowing or not discovering that the sponge was there. But this could not be, for whatever injury the party suing suffered was the result of, or consequential to, the wrong inflicted in the beginning, and hence a recovery for that would be a bar to a recovery for the other.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 7.

1 *Theory and Practice of Spinal Cocainization. G. K. Dickinson.
2 *Essential and Paroxysmal Tachycardia. J. J. Morrissey.
3 *Hemorrhagic Appendicitis as the First Manifestation of Purpura Hemorrhagica. Nathan Jacobson.
4 Subcutaneous Abscesses Due to the Gonococcus, in a Child Two Years of Age. Milton A. Gershel.
5 *Imbalance and Insufficiency of the Eye Muscles. R. C. Matheny.
6 *The Maternal Impression Superstition. Edwin T. Kelly.
7 Paraffin Injection in a Case of So-called Saddle-Nose. Francis Alter.
8 The Army Cartridge-Belt. Louis L. Seaman.

1. **Spinal Cocainization.**—This procedure, which has gone into disfavor to some extent, owing to the conservative views of Bier and others, is discussed by Dickinson, who points out the anatomy of the parts involved, the details of the resistance of the tissues and technic of operation. Of course, great importance must be laid on the purity of the cocain, the asepsis and technic. He considers that the method of lumbar puncture is an art, and experience is necessary. The surgeon attempting it for the first time will possibly have to make several trials before success, and then perhaps fail in the end. Generally a needle will enter jumping through the ligamentum subflavum with a sense usually appreciated by the finger, entering at a point a little less than one-quarter of an inch below and one-half inch to the right of the spinous process selected. If it passes a little too far to the right, the fibrous tissue only of the transverse process will be punctured and a sense of continuous interference felt, and perhaps no fluid flow. Once in the canal, fluid generally comes, but at times must be started by a cough or straining effort. In later operations about twice the amount is allowed to escape as is thrown in. It will take years of careful work to ascertain absolutely the possibility of harm. Cardio-respiratory phenomena are the dangers to be apprehended, and if it can be shown in time that the risk is sufficiently minimized, it will prove the true value of the method. Possibilities of the blocking of the centers of the medulla are certain, if large doses are given, but half a grain seems hardly sufficient to induce alarming symptoms in the adult. The danger of infection is an idle objection to the careful surgeon. To sterilize a solution without destroying it, the plan suggested and carried out by Van Horne of New York is to make a 2 per cent. solution in sterile water, and put 25 minims into small glass capsules. This is exposed to a temperature of 176 for four hours for four successive days, which renders the solution safe surgically and does not influence the drug effect. Idiosyncrasy is a point that must give us most concern, but it exists not only to this, but to other methods of anesthesia. Dickinson says that cocain analgesia is to be preferred to ether in all cases in which the patient will not have to be over-much mentally disturbed by the time and surroundings. No meals are lost and no metabolic changes are induced.

2. **Tachycardia.**—Morrissey defines tachycardia not as simply heart hurry, but as a species of rapid heart, depending on causes within the heart itself, or produced by other causes more or less removed from the cardiac region. There are certain peculiarities which distinguish true tachycardia from evanescent heart hurry: 1. The attack is sudden and reaches its height almost immediately. 2. The patient may or may not be entirely unconscious of the great degree of palpitation. 3. There is generally a definite period covered by the attack. 4. The reversion to the normal condition is as sudden as the onset. He does not regard temperature elevation as of any special significance. From a clinical point of view he would classify tachycardia as short and long. The first is accompanied by vertigo, epigastric distress and at times a sensation of cardiac expansion. There is no discoverable cause, and the symptoms are mainly subjective. A long attack may cover a period of years to the great distress of the patient, and it may result in death. He reports two cases which he considers typical: one produced by myocardial degeneration and another by profound shock to the nervous system. He discusses the subject of reflexes of this class at considerable length and considers that there are probably many causes from which tachycardia originates. Its pathology is not yet clear. The treatment is the treatment of the condition from which it arises or with which it is associated. He has treated cases and found relief in the use of convallaria where digitalis failed, and others where convallaria failed; so he is skeptical of its action. In the third case, which may be described as coming within the lower range of tachycardia, there was marked arterial tension with decided neurasthenic leanings. He gave bromid potassium for its sedative effect and the iodid for its action in dilating

the peripheral arterioles, reducing the tension and rendering the work of the heart less arduous. In conclusion he speaks of bradycardia and its significance, and remarks that every heart is a law unto itself and the producing of snap diagnoses in cardiac disease is to be condemned.

3. **Hemorrhagic Appendicitis.**—Jacobson reports a case with appendicular symptoms in which operation relieved the intestinal hemorrhages in the appendix, which was enlarged and decidedly inflammatory in appearance. After the operation there was more trouble. Blood expectoration continued, there were petechiæ and a hacking cough. The patient recovered under the administration of suprarenal extract. He considers the case clearly one of purpura hemorrhagica in which the first evidence was hemorrhage into the appendix. There were petechiæ of the limbs and abdomen appearing within four or five days after operation. If no subsequent symptoms had appeared the case might have been put down as one of appendicitis. In conclusion he notices the literature of similar cases.

5. **Heterophoria.**—This subject is generally discussed by Matheny, who notices the view that serious conditions, epilepsy, etc., may be entirely due to imbalance and insufficiency of the eye muscles.

6. **Maternal Impressions.**—Shelly protests against the medical endorsement in text-books of the possibility of maternal impressions. He considers it a medical anachronism which is a stigma on the profession.

American Medicine, Philadelphia.

February 7.

9 *A Further Note on the Perinephric Fat. W. W. Keen.
10 *The Surgical Treatment of Puerperal Infection. Matthew D. Mann.
11 *Relation of the Innervation of an Organ to the Influence of Suprarenal Extract upon It. S. J. Meltzer and Clara Meltzer.
12 *Methods of Closing the Abdominal Incision. W. D. Haggard.
13 *Feeding of Infants and Children. Frederick J. Mann.
14 *Subsequent Report of a Case of Excision of the Sympathetic for Chronic Glaucoma. Howard F. Hansell.
15 *Hypodermoclysis in Pneumonia, with Report of a Case. Maurice Kahn.
16 *Electrolysis in Eustachian Salpingitis with Stricture: Report of 75 Cases. Ellwood Matlack.
17 Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine. (To be continued.) John S. Fulton.

9. **Perinephric Fat.**—In a note by Dr. Keen he states that his attention has been called by Dr. Wyllis Andrews to a notice of this anatomical feature by Walkow and Deletzin in a monograph on wandering kidney published in 1899. There seem also to be two references of importance showing earlier descriptions, one by Zuckerkandl in 1883 and one by Gerota in 1895.

10. **Puerperal Infection.**—Mann reviews the various operations suggested for this condition: 1. Curettage, with which he would be cautious. He is dubious as to its value in septic endometritis. The rule should be to do it only when clearly indicated; do it thoroughly, but not roughly or too forcible, and then do not repeat. If one fallopian tube is purulent, it is advisable to have it removed by abdominal incision. One of the most dangerous conditions which he thinks we can meet is the infection of a fibroid tumor or ovarian cyst. The presence of any kind of new growth in a puerperal woman should induce the greatest watchfulness and care. Septic infection in the presence of uterine fibroid, following labor, especially in abortion, should be taken as an indication for prompt hysterectomy. In cases of infected ovarian cyst, it should be removed, as probably also the uterus, though the latter should be governed by the conditions. Mann has not seen cases of ovarian abscess as described by Henrotin, but thinks his paper should be carefully studied by those who meet with such. In case of parametric abscess he is not entirely determined as to how to treat the case. He thinks it is better not to open the abdomen when there is evidence of acute post-operative suppuration. If necessary for diagnosis, open through the vagina; explore and drain, without opening up the healthy peritoneum if it can be avoided, or wait until the abscess gets large enough to show a fluctuating spot in the vagina and then open and drain. If an abscess in the broad ligament should be found on opening the abdomen, it is best to try and open it, with one hand in the abdomen as a guide, either into the vagina or at the groin, and not open it into the abdomen. Exploratory abdominal incision should be the rule, as Hirst says, only when it is the desire to determine if a pelvic mass, presumably suppurative, is situated within or without the peritoneal cavity, and whether it should be evacuated through the abdominal cavity or extraperitoneally. In septic peritonitis, when purulent accumulations, either encysted or free, can be determined, or are strongly suspected, the abdomen may be opened and washed out and drained. A free incision and full flushing with hot saline solution should follow. The diagnosis is often difficult. He mentions with approval Pryor's method of vaginal drainage early in septic infection, and as regards hysterectomy, remarks that it is the most important question of all. He thinks that he who operates often, operates too much in these cases. The removal of infected and thrombosed veins as suggested and carried out in puerperal pyemia is also noticed, but these cases are generally chronic and give time for study. He would open an ovarian abscess through the vagina rather than the abdomen. Ordinarily such abscesses and pus tubes rarely require operation within a month following labor.

11. **Suprarenal Extract.**—The authors have experimented on rabbits and found that suprarenal extract, which in the normal animal causes by subcutaneous injection no effect on the pupil and nearly no constricting effect on the blood vessels, has a distinct and lasting effect when the sympathetic nerve is cut. In other words, a substance which exerts no effect on a normal organ can exert a considerable effect of long duration if it is deprived of nervous control. This appears to them a principle of fundamental importance, which has an important bearing on therapeutics.

12. **Abdominal Incision.**—The different methods of closing abdominal incisions are noticed by Haggard, who recommends Davison's application of Haughey's method, by accurately closing each layer separately by reliable aseptic suture that can be easily drawn when it has accomplished its purpose. Davison has modified Haughey's method by putting a small reverse bowknot at the ends of the sutures, which acts like a shot on either end, and is easily untied when the suture is to be removed by simultaneous traction on both ends. The conclusions of his article are as follows:

1. The most reliable statistics prior to 1894 show that hernia occurs in from 6 to 29 per cent. of abdominal sections.
2. Suppurating abdominal wounds result in from 31 to 68 per cent. of hernia (according to the method of suturing).
3. The frequency of hernia is increased with the thickness of the parietal wall.
4. The longer the incision, the greater is the likelihood of hernia.
5. Drainage openings predispose to its production.
6. The site of the incision does not materially add to the occurrence, if suturing is uniform.
7. Abdominal supporters have absolutely nothing to do with the prophylaxis of this condition.
8. Subsequent pregnancy does not influence its occurrence.
9. The best preventive of postoperative hernia is the aseptic healing of the wound.
10. Through-and-through suture is satisfactory in thin subjects with short incisions, and is recommended when rapid closure is imperative.
11. The best method of suture is one which insures accurate coaptation of the fascia.
12. The method of closure in three layers by continuous silkwormgut in peritoneum fascia and subcutaneously seems to be freer from objections than any other. Its extended trial is desirable.
13. The patient should be confined to bed from 2½ to 3 weeks to insure thorough organization and consolidation.
14. After a wound is completely healed no other influence acts deleteriously upon the permanence and resistance of the cicatrix.
15. It is believed that less than 2 per cent. of abdominal incisions should become infected, and not over 3 per cent. of hernias should result.

13. **Infant Feeding.**—Mann advocates breast feeding wherever possible and deprecates the use of the commercial foods, of which we can not ensure the purity. The percentage method, while more difficult for the physician as requiring each case to be studied, is the best. He notices especially Freeman's method of milk modification, published in *American Medicine* of May 3, 1902, and abstracted in The Journal, xxxviii, ¶3, p. 1330. A child at birth has considerable iron stored up in its system, especially in the liver, which it draws on, as milk contains comparatively little iron, and if weaning is too long delayed the child may become anemic. From the seventh to the tenth month the ferments which digest farinaceous foods are present

in sufficient quantities to call for that class of foods. As soon as the teeth are developed enough to chew it, a dry crust of stale bread, at first once and later twice a day, is advised. This not only meets a want but helps to develop the jaws. The present custom of having all food chopped fine, he holds, is a mistake. Meat and its preparations should be allowed but little in infancy. Sufficient fats and carbohydrates are needed by the child to supply the demand for heat, energy, nervous and muscular work. Fats and carbohydrates decrease proteid metabolism and allow a normal growth and development of the child.

14. **Glaucoma.**—The later report of a case here given by Hansell shows that section of the sympathetics was negative in its results. The patient has had at least two attacks of glaucoma during the last eight months prior to writing of this paper, and since then, as stated in a note, has had a third attack. He thinks operation is justifiable in an exceedingly small number of cases. Those selected are simple, non-inflammatory and hemorrhagic glaucoma, and only after every other available remedy has been ineffectual, and the patient with a full understanding of the case asks for its performance. He thinks sympathectomy is inferior to enucleation in sightless, painful, glaucomatous eyes, for the danger in the former is greater and the result less sure.

15. **Hypodermoclysis in Pneumonia.**—Kahn recommends hypodermoclysis in pneumonia without previous phlebotomy and reports a case. He thinks it better to use veratrum viride, thus reducing the force of the heart and avoiding the anemic condition which exists after a large withdrawal of blood.

16. **Electrolysis in Eustachian Salpingitis.**—The following are the general conclusions of Matlack's article:

The 75 cases described represent applications of electrolysis extending into the thousands, which should be sufficient to allow a fairly accurate estimate of its value.

Excluding purely labyrinthine conditions, it has been of service in almost all other forms of deafness, and especially in cases of moderate degree, in which the most pronounced changes were in the tube.

The best results can not be obtained from its unaided use, so this should be supplemented by any other measures that have formerly been found of service. It is especially important to have free access to the tube, and to this end septum irregularities should always be corrected and hypertrophies of the turbinals cauterized. I use a routine way in all cases—solutions of iodin, menthol and camphor, conveyed to the parts by nebulizers—to improve the circulation in the nasopharyngeal mucous membrane. After electrolysis has restored the normal caliber of the tube, a further use of vapors to the middle ear after the method of Dench will be found of great value.

Patients who have been persuaded to continue in this line of treatment for a sufficient length of time are unanimous in their approval, and I am convinced that it marks a distinct advance in aural therapy.

Medical News, New York.

February 7.

18 Report of the Committee on Conference of the Medical Society of the State of New York.
19 *What Advice Should Be Given to a Woman Suffering from Fibroid Tumor of the Uterus? J. Riddle Goffe.
20 *Eye-strain. A. C. Bardes.
21 A Fatal Cases of Polyarthritis Complicated by Choreiform Symptoms and Vegetative Endocarditis. Augustus A. Eshner.
22 *Prostatic Calculi: With Report of a Case. John F. Erdmann.
23 *The Facts in a Case of Hematuria. Charles H. Chetwood.
24 *Trap-drummer's Neurosis: A Hitherto Undescribed Occupation Disease. Charles J. Aldrich.
25 *Experiments with a New Quinin Derivative. F. Pirkner.

19. **Fibroid Tumors.**—The proper treatment for fibroid tumors in a general way is removal by operation, whether they be large or small, in married women or single, only excepting women in very advanced life and those in whom the tumor is complicated by pregnancy. In the last case, Goffe holds that the course pursued must largely depend on the circumstances and conditions of the individual patient. As a rule most cases go to full term and normal delivery. With an expert, cesarean section is safer than myomectomy during gestation in the rare instances where such extreme measures are required.

20. **Eyestrain.**—Bardes considers eyestrain as one of the common causes of many inconvenient symptoms, headache, nervousness, etc., especially in large cities where the tall buildings and deficient sunlight are the rule. The only way is to give the eyes rest, but this is often inconvenient. Of course, the proper glasses should be fitted.

22. **Prostatic Calculi.**—After reporting a case Erdmann remarks in regard to these concretions, that they are usually of large size, rough, and generally found in extremely young or in middle and advanced life, and are seldom accompanied with marked urinary and bladder symptoms. They are due to calcareous degeneration of some previous inflammatory condition affecting the prostatic acini. They may give rise to absorption of surrounding tissue, cystic cavities or abscesses. They often lie dormant for a considerable time. Treatment is distinctly operative, and consists in making any of the accepted incisions for attacking the prostate. Care should be taken to see that none are left in the bladder to form a nucleus for further growth.

23. **Hematuria.**—Chetwood describes a case noteworthy from the fact of its four years' duration without general impairment of health, negative results of laboratory urinary analysis, the satisfactory cystoscopic picture, absence of morbid appearance presented in the gross showing of the kidney at the operation, the microscopic evidence of kidney lesion and the prompt cessation of hematuria following operation.

24. **Trap-Drummer's Neurosis.**—Aldrich's patient was a trap-drummer in an orchestra, who played a number of instruments with hand and foot. The work was hard and the result in this case was a neurosis consisting in a sense of great exhaustion in the muscles, especially the tibialis anticus and peronei of the right leg, with a sensation of pain and heat in the knee-cap, and a sense of constriction in the whole leg, with exhaustion experienced in the anterior muscular groups. After some hours of hard work the whole leg feels heavy, numb and lifeless. The patient was recommended to use the left leg, with apparently some relief.

25. **Saloquinin.**—Cases are reported by Pirkner of the use of salequinin in malaria and other conditions, a drug which he thinks can well take the place of quinin and is less irritating. In one case where there was a gastritis it seemed to exert a beneficial influence on the gastric innervation, vomiting being stopped when the use of the powder was resumed. The analgesic action of the drug was apparent in two cases, and several others reported showed the remarkable influence it has on diuresis.

Boston Medical and Surgical Journal.

February 5.

26 *On Paratyphoid Fever and Its Complications. Joseph H. Pratt.
27 Typhoid Fever at the Boston City Hospital in 1902. George G. Sears.
28 Typhoid Fever at the Massachusetts General Hospital. Herman F. Vickery.
29 *The Clinical Diagnosis of Typhoid Perforation. John C. Munro.
30 *Diet in Typhoid Fever. Frederick Shattuck.
31 *Typhoid Fever in Private Practice. J. T. G. Nichols.
32 *Upon the Presence of Typhoid Bacillus in the Urine and Sputum. Mark W. Richardson.

26. **Paratyphoid Fever.**—Pratt reports three cases of paratyphoid fever complicated with orchitis, cholelithiasis and phlebitis, and discusses the condition. In the first two he remarks the organism was the *Bacillus paratyphosus* of Buxton; in the latter a variety were present. He speaks of the importance of testing the blood with both groups of paratyphoids, which was strikingly shown in these cases. The condition is described, the symptoms, complications, etc., and the paper ends with a tabulation of recorded cases. He suggests the possibility that many cases of apparent recurrence of typhoid may be possibly paratyphoid cases for which the first infection left no immunity.

29. **Clinical Diagnosis of Typhoid Perforation.**—There were 15 operations in Munro's 26 cases, with one recovery. The diagnostic difficulties are noted. The symptoms early in the course of the fever varied a good deal, and Munro says that a combination of one or two symptoms suggesting peritoneal lesions might or might not exist early in the disease and might or might not persist. The gauge of each individual patient must be learned. The appearance of additional signs can be criticised for not forseeing such an accident, but there after the initial ones warrants early operation. A patient complaining of tenderness and distension suddenly developing spasm and vomiting, or chill with spasm, or any similar com-

bination, is probably developing a surgical lesion. Fulminating symptoms were noted in several of these cases, indicating wholesale infection of the abdomen or perforation. No one can be criticised for not foreseeing such an accident, but there were a number of cases where it was evident that a number of hours' warning had not been rightly interpreted. The need of sufficient nursing force at night is emphasized. Some cases with distension would be relieved by local applications or enemata; the pain would lessen after the first symptoms, and this false sign be given too great a weight. Permission for operation was sometimes obtained too late. As to the symptom of spasm he could not always estimate its significance. To get this sign rightly interpreted is the keynote of early attacks of perforation. In a large proportion of cases the leucocyte count has proven of very little value when most needed. The hemorrhagic cases were the most perplexing; the two conditions of perforation and hemorrhage may co-exist. In the one case of recovery the abdomen was opened six hours after perforation. In two cases that recovered without operation, he thinks the perforation healed spontaneously. The paper ends with brief descriptions of the cases, 26 altogether.

30. **The Diet in Typhoid.**—Shattuck gives the results of experience with some 563 cases, nearly equally divided between milk-fed and more generously-fed patients. He thinks the evidence is sufficient to warrant a further trial of the liberal dietary, as mortality and relapse seem to be less under it rather than greater, and hemorrhage and relapse no more frequent. In the 563 cases the mortality was 8.80 per cent.

31. **Typhoid Fever in Private Practice.**—Nichols insists on the importance of hygienic surroundings and good nursing, a sunny room with an open fireplace, without too much furniture or carpets, and well ventilated. He describes the method of ventilating by the window board, which can be moved as by a hinge from either end, thus giving the entering air the desired direction. If an air-tight stove has to be used it can be incased in sheet iron with suitable openings, cold air being brought from the window board by a tin tube to the space between the casing and the stove, the flow being controlled by a damper. The bed should be a single one, preferably of iron, with wire spring, a soft hair mattress covered with rubber cloth and a double layer of blankets over this. Sheets should be changed and the blankets aired daily, the mattress changed and aired often. If there is room there should be two beds, so that the patient may have a daily change with the least disturbance. If cold bathing is required, there is no difficulty in using cold sponging, spraying or sprinkling, and a fairly effective tub can be made on the bed with a few sandbags and a rubber sheet. Cleanliness and disinfection should be enjoined and the physician should see that they are thoroughly carried out. When these things have been attended to, drugs are of secondary importance and should only be used as conditions arise, the physician bearing in mind the Hippocratic maxim, "Do no harm."

32. **Typhoid Bacillus in the Urine and Sputum.**—Richardson sums up our present knowledge of the bacillus in the urine as follows:

1. Typhoid bacilli are present in the urines of about 21 per cent. of individuals afflicted with typhoid fever.
2. The bacilli, when present, are generally in pure culture, and their number is frequently enormous—many millions in each cubic centimeter of urine.
3. The invasion of the urine by the bacilli takes place in the later stages of the disease. Unless measures are taken to remove the organisms they persist frequently for weeks, occasionally for months, and rarely for years, and thus constitute (*a*) a danger to the patient himself (cystitis and possibly orchitis and epididymitis), and (*b*), what is much more important, a grave source of danger to the public health.
4. The necessity for the rigid disinfection and supervision of typhoid urines is apparent.
5. In urotropin we have a drug which will, in the vast majority of cases, remove the typhoid organisms from the urine, not only in the cases of simple bacilluria, but also in those in which a cystitis has resulted. Very rarely an obstinate cystitis may require the use of vesical irrigations. Very infrequently a case will be seen in which the use of urotropin is followed by hematuria. In such cases the drug should be omitted and irrigation of the bladder substituted.
6. This subject in its relation to the public health is of the utmost importance. In my opinion it should be a fixed rule, and one rigorously enforced, that no typhoid convalescent be discharged as well until his urine has been proved permanently free from bacilli. In large hospitals, with their well-equipped laboratories, such supervision can be carried out with ease. Cases in private practice should be the care of the local boards of health. In this way only can we prevent a considerable percentage of our typhoid convalescents from becoming unsuspected foci for the further distribution of the disease.

He has been able to isolate the organism in the sputum in a case of typhoid fever complicated with pneumonia, and other investigators have shown that it can be present in the sputum, especially if there is a co-existing bronchitis or pneumonia. The subject needs further study, but enough is known to show that in the sputum we have still another excretion which must be carefully disinfected.

Philadelphia Medical Journal.

February 7.

33 *Tropical Diseases: Tropical Dysentery. (Continued.) Charles F. Kieffer.
34 *The Elevation of the Stomach in Gastroptosis by the Surgical Plication of the Gastrohepatic and Gastrophrenic Ligaments; an Original Operation. Henry D. Beyea.
35 *A Study of 55 Fatal Cases of Pertussis. Marion McH. Hull.
36 *What Is Irritable Bladder, and What Is the Best Method of Treating It? Louis Broter.
37 *The Significance of the Temperature in the Diagnosis of Extra-uterine Pregnancy During the Period of Collapse from Hemorrhage. Charles P. Noble.
38 An Improved Syringe for Intratracheal Medication. P. S. Donnellan.

33. **Tropical Diseases.**—Kieffer's third lecture treats of chronic dysentery, which he considers in the main to be of the amebic form. He gives illustrative cases and points out the evil possibilities if the disease is not checked. In most cases the chronic condition may be prevented by proper treatment, but unsuccessful attempts or only partial success is liable to cause serious consequences, sometimes even death from anemia, emaciation, etc. Another termination of these tropical cases is a sprue or psilosis, of which he will speak later. When bacillary dysentery becomes chronic, the clinical type is simply one of amelioration of symptoms of the acute stage. It is much more serious and more rapidly progressive than a parallel case of chronic amebic dysentery. The bowel movements number from five to fifteen daily. There is moderate griping, considerable tenderness over the colon; dyspeptic symptoms are pronounced, with flatulence, and a dry, glazed, eroded, beefy-looking tongue, which is constantly smarting and embarrassing eating. The development of sprue as a terminal state is not common. The pathologic conditions are similar to those of acute dysentery. There is ulceration, thickening in both forms, but the diphtheritic forms distinctly prevail with the bacillary type. The *Ameba coli* is constantly present in the amebic form, but in the bacillary form the Shiga bacillus appears in the chronic stage, especially when there is marked ulceration. As regards treatment, the general remedies are intestinal antiseptics such as bismuth, salol, either alone or in combination with bismuth and sulphur, which has been used by Stengel with success. Large doses of bismuth must be given. The local treatment is the main stay. They should not be used in acute recurrences of chronic cases; these should be combated as in the acute stage. It may be necessary to anesthetize the bowel with a 4 per cent. solution of cocain or a cocain and iodoform suppository. He would apply very gentle injections, of which the one of greatest value is silver nitrate, in the strength of 20 to 30 grains to the pint, using three to four pints under all precautions to avoid aggravating the bowel. When the injection is voided it must be in the recumbent position. No abdominal massage should be allowed. If tolerance is established he believes that either very hot or very cold injections are useful in establishing reaction. Creolin he ranks probably next to silver nitrate. Copper sulphate, zinc sulphate, chlorin water, hydrogen peroxid, etc., have been employed or recommended. An exclusive milk diet has been advocated, and if conscientiously carried out is of great value. It is our main stay in the treatment of sprue, but it is severe on the patient. We should endeavor to use nourishment which can be taken up in the small bowel and leave no bulky mass to be carried into the colon to decompose. Changes of climate are often of great value. We must bear in mind the possibility of complication of scorbutus, malaria, intestinal paralysis, etc. The prophylaxis consists in destroying the dysentery stools; never emptying them where they can get into water courses.

Great care should be exercised in the preparation of vegetables, especially when they are consumed raw. Constipation should receive great care, and the condition of the bowels generally. A flannel abdominal binder or "cholera belt" is of established value and should be worn, particularly at night. He would also advise patients to thoroughly wash their hands before each meal.

34. **Gastroptosis.**—Beyea's operation is described in detail. The principle is in placing three rows of interrupted silk sutures from above downward and from right to left through the gastrophrenic and gastrohepatic ligaments, a broad transverse fold or plication is formed in the shortening of these ligamentary supports, and the stomach is raised to normal position. The normal ligaments are shortened and the stomach is elevated to position without disturbing its physiologic mobility or functions. He reports a case and criticises the operations devised by Duret, Rovsing, Davis and others. He claims his own method is surgically and physiologically ideal.

> The completeness of the relief and, to my mind, the extraordinary restoration to excellent health of these 7 patients who had suffered for years; the simplicity of the operation (which restores the stomach to normal position by shortening of its natural ligaments without removal of tissue or the formation of abnormal adhesions), and the fact that it is practically free from danger (we would estimate the danger as being no greater than one-fourth of 1 per cent.), must strongly recommend this operation at least in every case of gastroptosis in which the suffering is great.

The patients thus far operated on, he admits, represent but one class, those with gastroptosis and without relaxation of the abdominal walls or diastasis of the recti muscles. Experience alone can teach what influence the operation will have when the relaxation of the abdominal walls is active in the production of gastroptosis. From the analogy of Alexander's operation he thinks it would appear that plication of the ligamentary supports of the stomach would ever and alone be sufficient, but if the contrary is found to be true, Webster's method of resection of the recti might be adopted.

35. **Pertussis.**—Hull gives his experience in an orphanage at Atlanta with which he is connected, and calls attention to the severity of the disease and warns against popular and medical opinion in regard to the evil. We should take greater care to prevent and eradicate this very dangerous disorder.

36. **Irritable Bladder.**—According to Broter's experience, every case of irritable bladder is due to some pathologic lesion on the inner surface of the wall, usually at or near the neck. This may be the result of pressure from displaced abdominal organs or tumor or bacterial infection, trauma, use of the catheter, adjacent diseases, gonorrhea, etc., and pathologically very much resemble chronic cystitis. The first symptom is the desire for frequent urination, with insufficient quantity, heaviness or painful feeling in the hypogastrium. The difference from cystitis is that in one we have a general inflammation of the vesical mucosa, while in the other we have only a localized inflammatory condition. He mentions in regard to prophylaxis, care as to the use of instruments introduced into the organ, thorough treatment of every case of urethritis and great care in the administration of toxic drugs which may cause irritation. All irritating substances such as alcohol, beer, acids and spices should be avoided. Only a mild diet of soups, milk, etc., should be used. He employs a warm saturated solution of boric acid followed by a 1 per cent. solution of silver nitrate, allowing this to remain in the bladder for three or four minutes, drawing it off, and introducing about three ounces of a 2 per cent. to a 10 per cent. solution of ichthyol in water, and allowing this to remain in the bladder for at least half an hour. A silver injection may cause considerable pain, but this can be remedied by anesthetizing the bladder previously with a 1 per cent. solution of cocain. The treatment should be repeated every other day for three or four weeks. Permanent cure usually results.

37. **Extra-Uterine Pregnancy.**—Noble reports a case in which the patient was seen during the period of collapse from hemorrhage and there was a febrile temperature. It showed that the rise of temperature the second hour after onset of symptoms of ectopic pregnancy does not exclude the diagnosis of collapse from hemorrhage.

New York Medical Journal.

February 7.

39 *An Astigmatism Cured by Operation. George J. Bull.
40 *Immigration a Factor in the Spread of Tuberculosis in New York City. Henry L. Shively.
41 *Tuberculous Laryngitis. J. Clarence Sharp.
42 *The Modern Aspect of Common "Colds." John Zahorsky.
43 *Some Unusual Cases of Appendicitis from Private Practice. Howard Lilienthal.
44 The Treatment of Buboes that Threaten to Suppurate. Elbert S. Sherman, J. A. Nydegger, Chas. D. Luckett, Joseph N. Weller and Wm. A. Groat.

39. **Astigmatism.**—Bull reports a case of inverse astigmia of 1.75 D., due in large part to the corneal curvature being greatest in the horizontal meridian, in which he relieved the condition by tenotomy of the left external rectus, being careful not to cut the capsule much below the upper and the lower borders of the tendon. He remarks that the operation has been very satisfactory. He thinks, however, that such measures for the correction of astigmatism should be undertaken in only very exceptional cases. The importance of the case depends not on the cure, but on the light which it throws on other questions. It shows that the tension of the external muscles may have a considerable bearing on intraocular tension and he suggests that the cause of the inverse astigmia so common in glaucoma may possibly be found in the position and relative tension of these ocular muscles, and proposes to go into this subject and examine carefully to determine whether glaucoma can be relieved by tenotomy.

40. **Immigration and Tuberculosis.**—Shively points out the undesirable character of many immigrants as regards disease, especially those that smuggle themselves through from Canada to this country. He remarks that the Jews who are said to be specially immune to tuberculosis are not showing their immunity among the immigrants in New York. The immigrant Jew generally follows an unhealthy sedentary occupation and this also favors the spread of consumption. Other nationalities, of course, are undesirable in the same way. He thinks the privilege of American citizenship is too cheap and thinks we should quarantine against tuberculosis.

41. **Tuberculous Laryngitis.**—Sharp describes two forms of tuberculous laryngitis: 1. Where ulceration is confined to the true cords, ventricular bands and interarytenoid commissure, without surrounding infiltration. These cases, with little digestive disturbance and the toleration of creasote, have a fair chance of recovery. 2. Cases of ulceration of the arytenoids, aryepiglottic fold, true cords, and ventricular bands with infiltration, or infiltration without ulceration, these are hopeless. He mentions the difficulty in diagnosing tuberculous from syphilitic ulceration. Another condition which may give trouble in the diagnosis is characterized by cough, difficulty in breathing, husky voice, thickening of the arytenoid commissure, presenting a stellate appearance frequently mistaken for ulceration. This is common in washerwomen and others who expose themselves to quick changes in temperature, but is amenable to treatment and outdoor life for a cure. He does not believe there is such a thing as primary tuberculosis of the larynx in any case. It is always a secondary process.

42. **Common Colds.**—Zahorsky thinks colds are contagious and that we should fortify the system against these, attend to general nutrition, prescribe healthy outdoor exercise and outdoor life and good ventilation of sleeping rooms. He doubts much the influence of remedies on colds. Until we know just what the infecting agent is, we can very rarely abort a cold. We can only treat the patient symptomatically and make him more comfortable.

43. **Appendicitis.**—Six cases are reported by Lilienthal, one associated with typhoid, another with hemorrhagic symptoms, another complicated with septic nephritis and a fourth where the appendix lay between the layers of the mesocolon and a high degree of aseptic absorption has taken place. Another with syphilitic complications, etc.

Cincinnati Lancet-Clinic.

February 7.

45 *Medical Education. Horace J. Whitacre.
46 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

45. **Medical Education.**—Whitacre discusses the various points in medical education which have been brought out as to the private school, university school, semi-university school; preliminary educational requirements, organization, didactic lectures, recitations, laboratory teaching, clinical teaching, curriculum, the elective system, etc. He thinks the true university basis is correct and that the subjects of anatomy, physiology, chemistry, pathology, bacteriology, etc., should be taught in the university by salaried teachers. He questioned a number of physicians as regards their opinion of the courses followed by them, and their choice as to the election of a specialty before or after graduation. In 81 per cent. the course was thought insufficient, and 17 per cent. felt that much useless detail might be eliminated. The majority of those who selected a specialty before graduation found after graduation that they had made a mistake. He gives an estimate of the financial expense of running a medical college, including salaries, which shows that it can not depend alone on the fees of its students for its support.

St. Louis Medical Review.

January 31.

47 *Animal Experiments with the Formalin Treatment for Septicemia. C. A. Snodgrass and Oscar H. Elbrecht.

47. **Formalin in Septicemia.**—From a series of experiments undertaken by Snodgrass and Elbrecht on rabbits, the results were apparently negative, and they are, therefore, non-committal as regards the recommendation or condemnation of the formalin treatment of septicemia.

Northwestern Lancet, Minneapolis.

February 1.

48 *Some Considerations of Colles Fracture. A. M. Pond.
49 *The Preparation of the Patient for an Operation and the Relative Value of the Blood Examination. A. E. Benjamin.
50 Report of a Case of Operation for Obstruction of the Bowel in a Very Young Infant. F. J. Campbell.

48. **Colles' Fracture.**—Pond mentions the usual method of reduction, but we occasionally meet cases which can not be thus managed. A man about 32 years of age fell from the second story of a building and had a fracture of the right radius. Attempts to reduce it in the usual way with or without anesthesia, failed, and it occurred to him that if the fracture was caused by extreme extension, it might possibly be reduced by extreme flexion, and consequently the elbow was flexed and rested securely on the table, the hand was grasped and forcible flexion made. At the same time pressure was exerted on the prominence. Reduction was easily accomplished, and can be explained thus: The metacarpal bones were used as a lever; these resting on the semilunar converted it into a fulcrum, and lifted the head of the impacted radius until reduction was possible. He has never before seen this method described, but has always employed it since that time, with uniformly good results. He has used with very gratifying results the method of dressing described by Dr. Moore of Rochester, N. Y., using a roller bandage about one-half inch in diameter as a splint on the palmar surface of the fracture and held in place by a strap of strong adhesive plaster, the whole supported by a sling. In children, however, it is his practice to make a splint composed of several thicknesses of canton flannel immersed in a paste plaster of paris, thus making a special splint for each individual fracture. These harden and become firm enough to prevent luxation of the fragment, and also hard enough to protect the arm from injuries by blows or falls.

49. **Blood Examination Before Operation.**—Benjamin offers the following conclusions of his paper:

1. The necessary preparation of a patient for an operation is too often neglected. 2. The time for the preparation is frequently too short. 3. The general state of the patient before operating is as important as the pathology of the local disease present. 4. Many post-operative complications arise that could be avoided by proper preliminary treatment. 5. The leucocyte count and hemoglobin estimate should be employed as an aid to diagnosis and as a basis of treatment in surgical cases before operation. 6. By the blood examination we may be able to confirm our diagnosis made from clinical symptoms, or we are able to make a diagnosis of concealed pus when not determined otherwise. 7. We may save our patient's life by delaying the operation until the per cent. of hemoglobin reaches a safe standard, or the white count reaches nearer the normal line. 8. We may be justified in operating at once in a case where the white count is rapidly rising or the hemoglobin is gradually falling.

California State Journal of Medicine, San Francisco.

January.

51 A Case of Progressive Muscular Atrophy of Spinal Origin. Henry Harris.
52 Medical Legislation in California. William C. Tait.
53 *State Hospital Care and Treatment of the Acute and Convalescing Insane. Alden M. Gardner.
54 *Is Another Chapter in Public Phthisiophobia About to be Written? F. M. Pottenger.
55 *Oophorectomy: Its Effect on the Mind and Nervous System. Walter Lindley.
56 The Prophylaxis of Venereal Disease. John C. Spencer.
57 Pott's Disease. Emma S. Merritt.

53. **Care of the Insane.**—Gardner discusses the state care of the insane and condemns especially the political influence and pull in the administration of state institutions.

54. **Tuberculosis.**—Pottenger protests against the proposed legislation excluding consumptives from California, showing that it will be useless and inhuman. The resolutions adopted by the Los Angeles Medical Society against such measures are appended.

55. **Oophorectomy.**—From his experience Lindley finds little benefit from oöphorectomy in nervous disorders, etc. The three cases reported all relapsed, though there was temporary benefit. He gives the opinions of others and sums up by saying in selected cases of insanity and epilepsy where there is real disease of the ovaries, producing an artificial menopause is advisable and justifiable, and that with any woman who has diseased ovaries the fear of producing nervous and mental diseases should not in any way interfere with the decision to promptly operate, but the preferable operation is to remove the uterus and leave the ovaries.

St. Paul Medical Journal.

February.

58 The Care of the Tuberculous. H. M. Bracken.
59 Sanitary Legislation as Applied to Tuberculosis. H. Longstreet Taylor.
60 The Prophylaxis of Tuberculosis. T. S. Roberts.
61 The Sanatorium: Its Importance in the Crusade Against Tuberculosis. J. H. Elliott.
62 Sanatoria and Hospitals for Consumptives and Their Position in the Fight Against the Disease as a Public Menace. Arnold C. Klebs.
63 Pulmonary Tuberculosis. Harrison E. Stroud.

Wisconsin Medical Journal, Milwaukee.

January.

64 *Acute Intestinal Obstruction Following Operation for Acute Appendicitis. John B. Deaver.
65 *The Clinical Significance of Ascites. Arthur R. Edwards.
66 *Insanity Following Surgical Operations. Richard Dewey.
67 *Arthritis Deformans in Children. I. A. Abt.
68 The Recognition and Care of Catarrhal Diseases of the Accessory Sinuses. Henry B. Hitz.

64. **Intestinal Obstruction After Appendicitis Operation.**—Deaver finds that delay in operating in acute appendicitis may cause intestinal obstruction and that immediate operation offers the only hope for life in many cases. He notices the symptoms and methods of treatment and reports a number of cases.

65. **Ascites.**—Edwards recapitulates his paper in the following:

1. In general the sum total of physical signs of ascites is unequivocal. 2. The individual signs are not infrequently ambiguous. Tympany, e. g., may be elicited by heavy percussion from contiguous intestines or may be present over the entire abdomen on account of physical laws as yet not finally determined. 3. Ascites may be free, encapsulated, or both conditions may be coincident. 4. Ascites may be mechanical, vascular, due to stasis. 5. It may be due to increased permeability of the blood vessels, i. e., hydremia or cachexia. 6. A third cause is inflammation. 7. A high specific gravity and a high percentage of albumin usually indicates exudation, although there is no close nor invariable correspondence between them, and no absolute physical line can be drawn between the fluid of exudation and the fluid of transudation. 8. The microscopic examination may determine the character of the fluid and again the variety of the inflammation. 9. Operation may be the only method of final diagnosis. 10. Hyaloserositis must be considered. 11. Ascites may cover small ovarian or other pelvic growths.

66. **Insanity Following Surgical Operations.**—Dewey's paper, as far as it gives results, does not indicate a very great danger of insanity after surgical operation. He calls attention to the neuropathic or psychopathic conditions, hemorrhagic diathesis, etc., as matters to be guarded against, as well as the mental condition of the patient. Toxemia, malnutrition, previous attacks of neurasthenia or insanity, alcohol or drug habits and anesthesia, all have a bearing on the possibility of insanity after operation.

67. **Arthritis Deformans.**—Abt discusses the condition in children and reports a case.

The Laryngoscope, St. Louis.
January.

69 Remarks on Thrombosis of the Sigmoid Sinus with Three New Cases. E. Gruening.
70 *On the Value of Electrolysis in the Eustachian Tube. Norval H. Pierce.
71 A Piece of Bougie in the Eustachian Tube. J. Oscroft Tansley.
72 A Case of Sarcoma of the Temporal Bone. Charles J. Kipp.
73 Two Cases of Persistent Fistula After the Mastoid Operation, with Remarks. J. Herbert Claiborne.
74 *Chronic Sphenoiditis in Its Relation to Disease of the Middle Ear. Francis P. Emerson.
75 Tonsillitis Localized in a Supernumerary Tonsil. Fayette C. Ewing.

70. **Eustachian Electrolysis.**—Pierce concludes that in otosclerotic disease electrolysis is useless. In the great majority of catarrhal cases it has no advantages over other methods of treatment. In a limited number where there is probably a soft exudate near the isthmus, it may be regarded as of some value.

74. **Chronic Sphenoiditis.**—Emerson reports the results of an analysis of 268 cases where caries of the sphenoid was found 25 times. Twenty-one cases were associated with chronic catarrhal and 4 with chronic suppurative ears. Seven presented catarrh on one side and chronic suppuration on the other. In 2 there was only a record of cerumen. Various nervous symptoms, headache, etc., were noted, and in a large proportion ethmoid tumors occurred. While but little difficulty was experienced in probing the sinus, still there was a considerable number with narrow ostia, where a flexible silver probe one-half the size and with the head fused on the end, added greatly to the detection of small rough areas and in some was the only practical instrument. It seemed to have a special beneficial effect in these old chronic cases. There was a practical gain in hearing in many of the cases that was unexpected.

Ophthalmic Record, Chicago.
January.

76 Muscle Study in the Light of Neuricity, Tonicity and Contractility. G. C. Savage.
77 *A Case of Idiosyncrasy to Homatropin and Atropin. William L. Phillips.
78 The Ophthalmometer in Determining Errors of Refraction. Lewis H. Taylor.
79 Report of a Case of Dermoid Tumor of the Corneo-scleral Margin. Adolph O. Pfingst.
80 *The Therapeutic Value of Large Doses of the Salicylates in Uveitis. H. McI. Morton.
81 A Simple and Convenient Method for the Mounting of Macroscopic Specimens. H. McI. Morton.
82 A Case of Unilateral Hemianopsia, in Which the Wernicke Hemianopsia Papillary Reaction Was Present. Charles J. Kipp.
83 *Improvement of Vision in Amblyopia from Non-Use. Harry Friedenwald.
84 Report of a Case of Pseudo-torticollis, with Abnormal Associated Movements of Head and Eyes. Eugene R. Lewis.
85 Toxic Amblyopia from Oil of Wintergreen. Wm. L. Baum.
86 *One Hundred and Fifty Magnet Operations. William A. Fisher.

77. **Atropin Idiosyncrasy.**—Phillips reports a case where homatropin and atropin produced myosis instead of the usual effects. The same homatropin used on another patient produced a mydriatic effect.

80. **Uveitis.**—An accident first showed to Morton eleven years ago the beneficial action of large doses of salicylates in plastic iritis. Since that time he has used these drugs in practically all cases of inflammation of the uveal tract with very satisfactory results. The usual dosage of from 10 to 20 grains is attended with no noticeable benefit, but the administration of 30 to 60 grains of the salicylate of soda and repeated will often prove efficient in hastening resolution and acts most favorably as an analgesic. In severe cases he gives 40 grains every two or three hours until relief is obtained or continuance is inadvisable. If any unfavorable results appear it may be discontinued for an interval and again repeated. He finds it best administered in cold water on an empty stomach.

83. **Amblyopia.**—After noticing some cases in the literature, Friedenwald reports the case of a man 78 years of age who had cataract with marked impairment of vision in the right eye, and in the left chronic glaucoma, with the usual visual disturbance. An operation was done for removing the cataract and recovery was rapid and smooth. It was a disappointment, however, to find that, notwithstanding clear media, the patient still saw very badly. Some months later when again seen the vision of the left eye had become further reduced, but the right eye had markedly improved. After operation the vision was so poor that glasses were not ordered, the impression being that the sight was impaired beyond recovery. Nine months passed before decided improvement was noticed and glasses were then given and the sight improved gradually so that in two months more it had reached 10.40 and in 2½ years equaled 16.40. He thinks no other hypothesis than the production of amblyopia from non-use will satisfactorily explain the later gradual recovery of vision.

86. **Magnet Operations.**—Fisher describes the method of the use of different magnets, more especially the Haab giant magnet. He favors removal through the anterior chamber on account of the risk of the episcleral opening. If the metal fragment is very large, the chance of injury to the lens is not of much importance, for a large piece usually destroys the eye. With small ones it is often possible to draw it around the lens through the zonula into the anterior chamber without wounding the lens.

The Canada Lancet, Toronto.
February.

87 A Case of Acute Primary Thyroiditis. E. R. Secord.
88 *Contusion of the Abdomen. Geo. S. Rennie.
89 Four Cases of Herniæ. Thomas J. F. Murphy.
90 *Tonsillar Hypertrophy: Its Operative Treatment, and the Comparative Value of the Different Methods. Perry G. Goldsmith.
91 Some Notes on Examinations for Life Assurance. John L. Davison.

88. **Contusions of the Abdomen.**—Three cases of this condition are first reported by Rennie, one of which terminated fatally. He then reviews the symptoms and the indications for operation. He thinks the condition is often overlooked and the symptoms are frequently deceptive and the seriousness of the case not appreciated until it is too late. An exploratory operation is not only safe but it is the only means of arriving at a correct diagnosis where there is no possible suspicion of injury to the internal viscera. Therefore, he advises early operation in all cases.

90. **Tonsillar Hypertrophy.**—The indications for removal of the tonsils in Goldsmith's review are: 1. Deafness associated with overgrowth, enlarged tonsils in debilitated children or adults, frequent attacks of tonsillar or peritonsillar inflammation, tonsils filled with caseous material, causing impaired nutrition, foul breath, as well as keeping up a chronic pharyngitis, enlargement sufficient to impede speech, respiration or deglutition and small submerged tonsils, whose structure is often one suppurating mass and associated with subtonsillar disease. The various methods are noticed and he advises against the use of the guillotine in people above 17 years of age and also in submerged tonsils, except when projecting during an acute attack of inflammation. It is best to remove the whole tonsil, and this is not always easy with this instrument. The cold snare is thorough and safe. It should not be too fine. The tonsil should be crushed rather than cut on account of possible hemorrhage. The Dundas Grant tonsil punch is especially useful in the small hard tonsils of adults and the long flat tonsils where it is almost impossible to get sufficient of their substance into the guillotine. He has had no experience with the hot snare and sees no advantage with it on account of hemorrhage, which is a serious matter. Even in the milder dressings he advises that great care be taken for some time after operation as hemorrhage may be delayed for one or two weeks. Avoidance of all exertion, and any tendency to clear or separate the crust should be guarded against and the eschar which forms should be allowed to come away itself. In cases of hemophilia operation should be refused. He reports cases illustrating his remarks.

Illinois Medical Journal, Springfield.
February.

92 *The Hartley-Krause Flap in Hemorrhage from the Middle Meningeal Artery, with Reports of Two Cases. Samuel C. Plummer, Jr.
93 Tetanus: A Case; Recovery. F. E. Wallace.
94 *Dacryocystitis. E. E. Clark.
95 Ophthalmia Neonatorum. I. L. Firebaugh.
96 *Nephritic Eye Lesions. Willis O. Nance.

97 *Congenital Phimosis—A Protest Against Indiscriminate Operative Interference. C. C. Hunt.
98 Some Essential Points Regarding Chronic Constipation. J. W. Hensley.
99 *Spinal Cord Conditions in Severe Anemias. Archibald Church.

92.—This article appeared elsewhere. See THE JOURNAL, xxxix, title 95, p. 1137.

94. **Dacrocystitis.**—Clark remarks on the paucity of the literature of this subject and suggests that lack of a plan of treatment may be the cause. The method he has employed has been the use of chlorid of zinc. He reports two cases. In the first, other measures failing, he injected into the sac three drops of a 20 per cent. solution. There was violent reaction, but the treatment restored absolutely every function of the drainage system permanently. He would hesitate to advise so strong a solution as this, feeling that one would be safer in not going over 10 per cent. Froelich, who recommended the method, used a 5 per cent. strength. His results make him enthusiastic as to this method of handling dacryocystitis.

96.—This article appeared elsewhere. See THE JOURNAL, xxxix, ¶44, p. 1619.

97. **Congenital Phimosis.**—Hunt protests against the too frequent practice of operation for this condition, holding that it cures itself in a great majority of cases. He is convinced that the so-called reflex influences attributed to it have been greatly exaggerated.

99.—This article appeared elsewhere. See THE JOURNAL, xxxix, ¶15, p. 335.

Mississippi Medical Record, Vicksburg.
February.

100 Creosote. Cornelius Skinner.
101 *A Preliminary Report on Tetra-ethyl-Ammonium-Hydrate and Solution of Chlorid of Platinum. Joseph W. Irwin.

101. **Tetra-Ethyl-Ammonium-Hydrate.**—Irwin's attention was called to this drug by notice of it in the journals and having several cases that needed a uric acid solvent, he prescribed it. These included several cases of chronic rheumatism and three of arthritis deformans, in which the results were most satisfactory. He gave it in the usual recognized dose, 5 to 15 minims of a 10 per cent. solution in mixture three times a day. He also notes a case of what he considers gastric cancer treated with chlorid of platinum, one drop of a 1 per cent. solution, increased gradually up to 5 drops, with great benefit. In a second case which he has also treated in the same way it has relieved pains and the cachexia is disappearing.

Bulletin of the Johns Hopkins Hospital, Baltimore.
February.

102 Note on the Collection of Human Embryos in the Anatomical Laboratory of Johns Hopkins University. Franklin P. Mall.
103 Note on the Framework of the Thyroid Gland. Joseph M. Flint.

Clinical Review, Chicago.
February.

104 Congenital Dislocation of the Hip-joint and Clubfoot. Adolf Lorenz.
105 Glimpses at European Gynecology and Obstetrics. Henry F. Lewis.
106 A Report of Three Cases of Infantile Cataract. J. Elliott Colburn.
107 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Woman's Medical Journal, Toledo, Ohio.
January.

108 Floor of the Pelvis and Muscular Bands Broken in Parturition and Effect on Floor. Rebecca M. Evans.
109 Puerperal Infection with Laparotomy; Report of Case. Eliza H. Root.
110 The Prevention of Lacerations of the Perineum. Mary A. Whery.
111 A Case of Inanition Fever in a Newborn Child. Margaret T. Shutt.

Journal of Medicine and Science, Portland, Me.
January.

112 Some Causes of the Nineteenth Century's Advancement. F. Moulton.
113 Foot and Mouth Disease. F. W. Huntington.
114 Coroner or Medical Examiner, Which? F. W. Searle.

New Orleans Medical and Surgical Journal.
February.

115 A Note on the Treatment of the Chancre. Isadore Dyer.
116 Chronic Osteo-myelitis of Left Humerus and Lower One-third of Left Femur, Occurring as a Sequence of Typhoid Fever; Osteotomy; Preliminary Observations. B. A. Terrett.
117 Jacksonian Epilepsy, Occurring Two Weeks After a Severe Blow on the Head: Six Months Later Craniotomy Performed—Preliminary Observation. B. A. Terrett.
118 Depressed Fracture of Right Parietal Bone Near Coronal Suture Line and of Two Years' Standing, Decided Mental Symptoms Developed as a Result of the Traumatism; Circular Craniotomy; Preliminary Observation. B. A. Terrett.

Canadian Journal of Medicine and Surgery, Toronto.
February.

119 Christian Science and Mortal Mind. Jas. H. Richardson.
120 One of the Troubles of Civilized Man. Helen MacMurchy.
121 Advice that Killed—Physicians' Fireside Talk. Ernest A. Hall.

Medical Times and Register, Philadelphia.
January.

122 The Curative Effect of the Vapors of Formalin in Whooping Cough. Jezdik Cenex.

Medical Standard, Chicago.
February.

123 The Commoner Diseases of the Eye—Cataract and Other Affections of the Crystalline Lens. Casey A. Wood and Thomas A. Woodruff.
124 A Pediatric Clinic. Frank X. Walls.
125 Radiotherapy in Tuberculosis. Gordon G. Burdick.
126 Practical Dietetics. A. L. Benedict.
127 A Unique Case of Hernia. V. Pleth.
128 Pain and Its Indications. E. C. Hill.

Pediatrics, New York.
January.

129 A Case of Acute Osteomyelitis, with Remarks on the Surgical Treatment of This Affection. Charles G. Cumston.
130 Concerning Antipyresis in Children. E. W. Saunders.

Southern Practitioner, Nashville, Tenn.
February.

131 Address, Middle Tennessee Medical Association. L. S. Sheddan.
132 Coughs and Their Treatment. Alex. Desoto and C. W. Crimpton.

Detroit Medical Journal.
January.

133 Surgical Clinic at Harper Hospital (Abdominal Hysterectomy, Etc.). H. O. Walker.
134 Uremia: A Résumé of Theories and Research. Homer E. Safford.
135 Recurring Tonsillitis. Jno. A. Donovan.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Nouvelle Iconographie de la Salpetriere, Paris.

1 (XV, 3.) 3 cas de néoplasies cérébrales. G. Ballet.—10 photogravures.
2 Cas de monstruosité rare de la face et de l'encéphale. P. Haushalter.
3 *Le syndrome psychasthénique de l'akathisie. F. Raymond.
4 *La vie biologique d'un xiphopage. N. Vaschide and C. Vurpas.
5 Cas d'eunuchisme familiale. P. Sainton.
6 Les pierres de vessie (urinary calculi) en Hollande. T. Bolk.
7 (No. 4.) 3 cas de démence précoce et catatonie. J. Segias.
8 La psychiatrie dans le théatre Japonais. R. Geyer.
9 (No. 5.) Les déviations de la colonne vertebrale dans la maladie de Parkinson. J. A. Sicard and L. Alquier.
10 Le syndrome du torticolis spasmodique. Destarac.
11 *Etude sur les lesions radiculaires et ganglionnaires dans le tabes. A. Thomas and G. Hauser. (Commenced in No. 4.)
12 Contribution à l'étude physiologique de quelques bromures (bromids). C. Féré.
13 Existe-t-il une variété péronière de l'amyotrophie Charcot-Marie? P. Sainton.
14 Painting by Romain, 1533, "La maladie." C. E. Mariani.

3. **Morbid Impossibility to Remain Seated.**—Haskowic first described this condition last November and applied the term "Akathisia" to it. The subject can seat himself and remain seated a few minutes, but then the contortions begin, and unless he gets up he suffers actual torture. When he rises to his feet the symptoms vanish. Haskowic was inclined to seek for some organic foundation, but Raymond has recently observed a case with the same syndrome, and the circumstances and general aspect of the case classed it at once as a professional phobia.

4. **Biologic Life of a Xiphopagus.**—The Chinese united twins, or xiphopagus, now being exhibited in Europe, were subjected to a physical examination by all the known laboratory tests. The results show a most interesting harmony between the individual life of each twin and the fundamental biologic life in common.

11. **Organic Lesions in Tabes.**—This article is based on the clinical and postmortem examination of 11 subjects, observed in Déjérine's service. The results demonstrate that the essential lesion in tabes is a dystrophy affecting the entire peripheral sensory neuron, although most pronounced in the central prolongation of the nerve cell. It generally affects also certain portions of the motor protoneuron and of the sympathetic system. The histologic alterations are characterized by modifications of the nerve fibers comparable in certain respects to those noted in the course of toxic neuritis. They differ completely from those of Wallerian degeneration. The cell body of the sensory protoneuron generally seems intact, but at times it presents evidence of atrophy. Even in the absence of actual definite lesions, it is legitimate to suppose that its trophic function is to some extent compromised under the circumstances.

Presse Medicale, Paris.

15 (II, 104.) L'ictère hémaphéique. A. Gilbert and M. Herscher.
16 Les ferments du lait (milk). P. Nobécourt and P. Merklen.
17 (No. 105.) *Les tendances nouvelles de la thérapeutique. C. Bouchard.
18 Radiographies d'artères athéromateuses. A. Loret.
19 L'éosinophilie du vésicatoire (blister). V. Audibert.
20 (I, 1.) *Pathogénie du tabes dorsale. J. Nageotte.
21 *Indications et résultats de la cure gingivo-dentaire dans la pelade (alopecia areata). F. Trémolières.
22 *Exagération des réflexes dans la carcinose. Nouveau signe de diagnostic des tumeurs malignes. D. de Buck and O. van der Linden (Ghent).
23 (No. 2.) Surmenage (overwork) professionelle et dilatation hypertrophique du coeur avec athérome. P. Merklen.
24 Néphrorrhaphie. Nouveau procédé opératoire. Canac-Marquis (San Francisco).
25 Des médications thyroidiennes. Posologie, accidents et contre-indications. Briquet.
26 (No. 3.) Des hernies inguinales graisseuses (of fat). H. Caubet.
27 La détermination du coefficient nutritif cellulaire. J. Mitulesco.
28 (No. 4.) *Les étapes (phases) du processus inflammatoire. Introduction générale à l'étude des maladies bryocytiques. F. J. Bosc.
29 Cancer primitif du poumon (lung). F. Ramond and L. Boidin.
30 *Recherche du bacille tuberculeux dans le sang (blood) par homogénisation du caillot (clot). F. Bezançon, V. Griffon and Philibert.
31 Décoctions de céréales. Laits (milks) végétaux. A. Martinet.
32 (No. 5.) Principes de chirurgie. J. L. Faure.
33 L'autorépresentation chez les hysteriques. G. Comar.
34 La suralimentation des tuberculeux. A. Martinet.
35 (No. 6.) *Le rôle des microbes anaérobies dans l'infection urinaire. J. Albarran and J. Cottet.
36 Foie (liver) infectieux aigu (acute), simulant l'abcès hépatique. Remlinger.

17. **New Tendencies in Therapeutics.**—In this address at the Egyptian Congress Bouchard expatiated on the absurdity of dosing with 6 gm. of sodium salicylate, for instance, to cure a single joint lesion. If the diseased part weighs 50 to 100 gm. in a man of 120 pounds, for instance, then only 5 to 10 mg. finds its way to this diseased part and cures it, while the remaining 599 cg. is not only useless and superfluous but directly injurious. He has been proclaiming this principle for some months and now brings details of cases showing that the proportionate fraction of the general dose, injected locally, will heal a local rheumatic arthritis. He has also been successful in the same way with pleurisies and even in rheumatic pericarditis. In the latter affection a local injection of 10 cg. reduced the temperature from 39 to 37.6 C. and the friction sounds vanished after a second injection in one case. Benedikt has reported the cure of severe peri-, endo- and myocarditis in the course of acute articular rheumatism, by local injections of phenic acid, but Bouchard has not been so successful in endocarditis. He has cured by local salicylic medication painful muscular contracture of the adductors of the thigh, injecting it into the insertions of the tendons. Also sciatica and the neuritis of zona. In inflammation of a serosa he does not inject the medicine into a closed cavity but into the diseased tissues or the vicinity. He has also attempted this method in the treatment of the fulminating pains of tabes, but without results, although successful with local medication in syphilis as an adjuvant to general treatment. He has witnessed the subsidence of gummata and neuritis after local injections of 1 to 6 c.c. of potassium iodid or .2 mg. of bi-iodid of mercury. He reiterates that wise therapeutics tends more and more to supplement or supplant general with local measures either for their antiseptic action or for their stimulating influence on the antitoxic reaction.

20. **Pathogeny of Tabes.**—Nageotte believes that he has established that tabes is the result of a transverse interstitial radicular neuritis, an inflammatory lesion variable in its virulence and capricious in its localization. It is preceded by a syphilitic meningitis, and clinicians should recognize and treat this before the development of the process affecting the noble elements. Thanks to Widal, we have now a certain means of detecting this meningitis while it is still uncomplicated, before any symptoms have developed. No one should hesitate to perform lumbar puncture in syphilitics at the slightest suspicious symptoms, he remarks, perhaps even as a routine measure at a certain stage of the syphilitic infection without waiting for symptoms to develop.

21. **Gingivo-Dental Treatment of Alopecia.**—The trophoneurotic theory of alopecia suggests treatment of the jaws and teeth as important factors in its cure. Trémolières reviews recent experience in this line. In all but 2 out of 21 cases attention to the mouth was followed by the regrowth of the hair. The failures may be possibly attributed to the development at the time of the wisdom teeth.

22. **Exaggeration of Reflexes Sign of Carcinosis.**—De Buck published last year an account of a case of carcinoma of the breast in which the degeneration of the spinal cord was as marked as in case of compression from a metastasis. This led him to study the nervous system in case of carcinosis and he found that in almost every case of carcinoma or sarcoma, wherever its location, the tendon reflexes were more or less exaggerated. The cutaneous reflexes were variable, exaggerated in some. Babinski's sign was never noted. The exaggeration of the tendon reflexes was observed before the cancerous dyscrasia was very pronounced, the tumor very large, or the lymphatics involved. It is not found with the same intensity, regularity nor constancy in the incipient stages of any other toxemia, according to his experience.

28. **The Bryocytic Diseases.**—Bosc proposes the name bryocytobe for the living parasite which induces proliferation of cells, or the more euphonious term, bryocyte. The organism reacts differently to various parasitic invasions, the defense being along different lines. In acute microbian diseases, for example, the cellular proliferation affects the leucocytes more particularly; in other diseases the fixed cells are affected. From the study of the various morbid groups and especially of the blastomycetic reactions, he has become convinced of the existence of a type of disease hitherto ignored. This new type has structural and histogenetic characteristics in common with true cancerous neoplasia, while at the same time it is infectious and virulent. It includes variola in which the pustules are characterized by a proliferation of the epithelium with invading tendencies, degenerative and irregularly progressing. The pustule is evidently the means of defense employed by the organism. The polynucleosis observed is directed principally against the remains of the degenerated cells of the pustule. The peculiarities of this group of diseases are best studied in the variola of sheep, sheep-pox, which seems to be the intermediate type between variola, vaccine and aphthous fever on one hand and syphilis and cancer on the other. He describes in detail the various points which have led him to this conception of the cancerous tumor as an indefinitely progressive inoculation pustule. The chancre in syphilis is also of this type, accompanied by evidences of participation of the lymphatics in the defense, as occurs also in sheep-pox. The long duration of the eruption and the recurrence of symptoms from time to time show that it partakes of the character of indefinite progression, which is a marked attribute of cancer. In syphilis, as in the other diseases of this group, mononucleosis at first chiefly prevails. The polynucleosis occurring later is evidently due to secondary infection or to the disintegration of the lesions. The essential lesion is an epithelial proliferation; the pustulous lesions in the organs are similarly epithelial, while the connective tissue involvement in the lesion is precisely like that observed in sheep-pox. All these diseases are links in the

chain of lesions which are defensive processes on the part of the organism seeking to immure the parasite in its nest. The various phases of the inflammatory process show it to be the most exalted and specialized type of defensive inflammatory reaction, with cancer as its ultimatum. He has succeeded in producing an anti-sheep-pox serum which has proved powerful and effectual, and these results encourage the hope that the same method of treatment may yet prove successful for all the diseases in this group. In regard to the causal germ, he is inclined to accept the cell inclusions observed in vaccine, variola and cancer and suggests the term bryocytes as mentioned above, from the Greek word to make proliferate. This group should, therefore, be classed as the bryocytic diseases.

30. **Homogenization of Clot in Search for Bacilli.**—The method described is like Jousset's, mentioned below. Five c.c. of blood are mixed with 5 c.c. of distilled water and 5 drops of caustic soda until the coagulum is dissolved. Twenty c.c. of water are then added and the whole boiled for ten minutes. It is then poured into two tubes and centrifugalized, when tubercle bacilli are easily distinguished in the sediment under the microscope.

35. **Anaerobic Microbes in Urinary Infection.**—Albarran remarks that bacteriologic inspection of urinary infection is not complete without search for anaërobic bacilli. He found 9 different varieties in a number of patients examined. In one case of pyonephrosis the anaërobics were alone; in 3 associated with aërobics, and in 2 the latter were alone. In 3 cases of tuberculous renal infection he found anaërobics in one. In cases of infection of the bladder and cystitis he found sometimes aërobics exclusively and sometimes anaërobics or both combined. A very virulent anaërobic was found in one out of 4 cases of suppurative prostatitis. In 25 cases of periurethral infection from infiltration of urine or urinary abscess, anaërobics were absent in only 2; in 16 they were associated with aërobics, and in 7 the anaërobics were alone. The importance of the anaërobics in the generation of secondary infections by way of the blood is demonstrated by one case observed in which there was infiltration of urine and a secondary phlebitis with abscess at the knee. The colon bacillus and an anaërobic were found associated in the perineal focus, but the latter was found alone in the metastatic abscess.

Revue de Chirurgie, Paris.

37 (January.) *Pathogénie de l'hydronéphrose intermittente. Bassinets (pelvis) et uretères néonatorum. P. Bazy.
38 Occlusions aigues de l'intestin grêle (small), et de leur différenciation avec les appendicites. L. Cahier.
39 Cyste hydatique costal. H. Geraud and R. Mignot.
40 Traitement chirurgicale des salpingites. Etude historicale et clinique. Acquaviva and Roux de Brignolles.
41 *Du myelome multiple des os (of the bones) avec albumosurie. Etude des tumeurs primitives multiples du squelette. P. Vignard and L. Gallavardin.

37. **Intermittent Hydronephrosis.**—Bazy describes 2 cases cured by ureter-pyelo-neostomy. In these, and in 2 somewhat similar cases the obstruction to the flow of urine proved to be one or more folds in the ureter as it entered the pelvis, the folds held in place by external adhesions, or else there was actual constriction of the ureter at this point. Removal of the adhesions or excision of the stricture resulted in a complete cure. In 2 of these cases there were no evidences of infection. In order to study the possible origin of the adhesions in these aseptic cases he examined the ureters and kidneys in a large number of newborn infants which might include some who would have had hydronephrosis if they had lived to grow up. More than 100 were examined and injected, and he gives cuts of 63 such ureters still attached to the pelvis. Only a few were regular. The others exhibited numerous strictures, folds and other irregularities. Only 15 presented a normally regular aspect their entire length. All the others exhibited folds, constriction or torsion, and generally multiple. Some of the ureters and some of the pelves were large; others very small. Some must have allowed the absolutely free passage of urine; others would have favored retention on the slightest provocation. Reviewing the data observed and his clinical experience Bazy thinks that they explain why surgical intervention limited to resecting a portion of the renal parenchyma, or something of the kind, in the hope to abolish the cavities or culs-de-sac, is usually useless and is based on an incomplete knowledge of the pathologic physiology of hydronephrosis. It is due, especially the intermittent form, to some congenital predisposition of the pelvis and accessorily of the ureter. The maximum of these conditions is the combination of a large pelvis, horizontal, shaped like an elbow or bagpipe, with strictures, folds or torsion of the upper end of the ureter. Hydronephrosis may be the consequence of a movable kidney, but generally the ptosis and movability are consecutive to the hydronephrosis. The torsion, folds or constriction may be rendered permanent by adhesions or by a sclerosis of the walls connected with some irritative process, from attenuated infection or aseptic irritation.

41. **Multiple Myeloma of the Bones.**—Reviewing a case personally observed and four collected in the literature, these writers claim a special place for primary multiple tumors of the bones. They develop at several points in the bony frame apparently simultaneously, although it is not always possible to distinguish between the primary tumor and the metastatic nodules. The tumors develop principally in the bones with red marrow, sternum, ribs, vertebræ and skull. They are never accompanied by visceral generalization, and they remain restricted to the skeleton. Some of this group of tumors exhibit the aspect of lymphadenoma, others of endothelioma, while still others have the special structure of myeloma, as in the case personally observed. The latter class is further distinguished by the large numbers of the tumors, their possible clinical latency, the rapid cachexia, fever and terminal coma, and the finding of Bence Jones' albumose in the urine. His patient was a man of 56, with no alcoholic, malarial nor syphilitic antecedents. The affection commenced with a sudden pain in the ribs, coughing and expectoration and entailed rapid cachexia and death in less than six weeks. All the ribs and the sternum were affected with the tumors, some as large as a walnut.

Semaine Medicale, Paris.

42 (XXIII, 1.) *Le diagnostic de siège (location) des calculs billaires. H. Ehret.
43 *La salpingoscopie ou cystoscopie du nasopharynx. A. Valentin.
44 (No. 2.) *Des variations pathologiques du pouvoir hémolytique du liquide céphalo-rachidien. L. Bard.
45 (No. 3.) Pathology of Pyramidal Tract. P. Marie and G. Guillain.—Le faisceau pyramidal direct et le faisceau en croissant.
46 *Inoscopy or Fibrinoscopy. A. Jousset.—Nouvelle méthode pour isoler le bacille de Koch des humeurs de l'organisme.

42. **Site of Gallstones.**—Ehret thinks that important information may be derived in regard to the location of gallstones by observing the character of the febrile attacks, the icterus, the pain and the composition of the blood, in cases with little, if any, icterus in the intervals and with the color of the stools showing the influence of bile. The fever, for instance, is abrupt, rises high and disappears in a few hours when the stone is in the lower biliary passages. On the other hand, when the stone is in the gall bladder the fever is apt to be less intense, or it may be prolonged for several days. Numerous attacks of icterus, rapidly succeeding each other, indicate stones in the bile duct. This is indicated further by the character of the pains, which are not violent. The patients may feel no pain or merely a dull ache in the region of the liver. Violent pains accompanying the attacks point to the gall bladder. When the number of leucocytes is increased and remains high even during the intervals, the purulent focus indicated by this hyperleucocytosis must be in the gall bladder. The evidence of bile in the color of the stools is incompatible with the assumption of an ascending suppurative angiocholitis originating in the bile duct. On the contrary, if the number of leucocytes is normal in the intervals, while it increases notably during attacks, the fact is strongly in favor of a gallstone impacted in the bile duct.

43. **Cystoscopy of the Nasopharynx.**—Valentin calls the little instrument he has invented for the purpose of examining the internal orifices of the eustachian tubes, the salpingoscope. It is inserted through the lower nasal meatus and the views obtained far surpass those attainable by any other method. He

gives cuts showing the behavior of the orifice of the tube, which varies in pathologic conditions. The findings may prove an additional means of diagnosing certain affections of this region.

44. **Hemolysis in Cerebrospinal Fluid.**—Bard has examined the hemolytic power of the cerebrospinal fluid, supplementary to cytologic findings, and proclaims that important information may be derived from it. Very little of the fluid is required; the procedure is rapid and simple and the results can be determined with the naked eye. Five to 10 drops of the cerebrospinal fluid are placed in each one of a row of centrifugalizer tubes and distilled water added to each in turn. The first tube has no water; to the second 2 drops of water are added; to the third 4 drops; to the fourth 6 drops, and so on. In normal conditions hemolysis is first observed with 12 drops of water to 10 drops of cerebrospinal fluid. If it occurs with less water or is very marked with 12 drops, the fluid is pathologic. The hemolytic power is high in the commencement of an affection, but, as the defensive powers of the organism come into play, it falls and is frequently below normal as recovery approaches. The findings parallel those of cytology in certain affections but differ widely from them in others. The method has proved especially useful for the differentiation of obscure causes of hemiplegia, and also to separate purely functional troubles of the central nervous system from those which depend on an infectious or toxic origin.

46. **Inoscopy.**—Jousset has coined this term from the Greek word for fibrin to describe his method of distinguishing the Koch bacillus by artificial digestion of the fibrinous matters in the sputum, blood or effusion to be examined. He has found the most effective fluid for the purpose to be a mixture of 1 to 2 gm. of pepsin in glycerin and hydrochloric acid, each 10 c.c., and 3 gm. of sodium fluorid, with 1000 gm. water. The results were positive in 23 cases of pleurisy examined, working on 10 to 500 gm. of serous fluid. In 12 cases of ascites the bacillus was found in 8, and in 3 of these the clinical signs all pointed to a liver affection, but the autopsy confirmed the tuberculous nature of the disease. Differentiation was also possible by this means in 2 cases supposed to be typhoid fever, and in a number of cases of unsuspected tuberculous affections. The method also reveals gonococci and other pathogenic germs, but is especially useful in respect to the tubercle bacillus.

Centralblatt f. Bakteriologie, Jena.

47 (XXXII, 12.) Zur Etiologie der Anginen. H. Bonhoff.
48 Oxygen-Conveying Granules in Anthrax Bacilli. A. Dietrich. —Sauerstoffübertragenden Körnchen in Milzbrandbacillen.
49 Amöben-Befunde bei der in Ost-Preussen herschenden Ruhr (dysentery). H. Jaegger.
50 Zur Kenntniss der sexuellen Amphitypie bei Dicrocoeliinen. J. Hollack.
51 Ueber Bau und Embryonal-Entwicklung von Zoogonus mirus LSS. R. Goldschmidt.
52 2 neue Distomen. L. Cohn.
53 Eine neue Cysticercus-Form. V. Linstow.
54 Notizen zur Helminthologie Egyptens. A. Looss.
55 Die Morphologie der Blastomyceten im Organismus in Bezug auf die Antikörper des Blut-Serums. F. Sanfelice.
56 Ueber Wirkungen der Hemolysine im Organismus. R. Kraus and C. Sternberg.
57 Le vaccin contre la peste. G. Cruz.
58 Untersuchungen von Nährböden (culture media) zur quantitativen Schätzung von Bakterien in Wasser und Abwässer. S. de M. Gage and E. B. Phelps.
59 Beitrag zum tinctoriellen Verhalten (behavior) des Bact. Pestis. E. Horniker.

Centralblatt f. Gynaekologie, Leipsic.

60 (No. 50.) Zur Kenntniss vom Bau (structure) der Placenta circumvallata. Woodarz.
61 *Die operative Behandlung der puerperalen Pyemie. A. Sippel.
62 Spasmodic Contraction of Os as Obstacle to Birth. Durlacher.—Kramphafte Zusammenziehung des Mutermundes als relatives Geburtshindernis.
63 *Ist die Ventrofixation des Uterus eine berechtigte (justifiable) Operation? H. J. Kreutzmann (San Francisco).
64 Auskochbare Bougie (that can be boiled) zur Krause'schen Methode. A. Hink.
65 Apparat zur Applikation lokaler Kälte im weiblichen Genital-Trakte. Stroynoski.
66 (No. 51.) Fall von totaler Schleimhaut- (mucosa) Atrophie des Uterus. R. Volk.
67 Fall von primärem Tuben-Carcinom. M. Graefe.
68 Fall von Hematocele nach Laparotomie ohne Vorhandensein einer Tubar-Gravidität. A. E. Neumann.
69 Der von Lorthiolr veröffentlichte Fall von Diphallie. (Case published by Lorthiolr.) F. Neugebauer.
70 Milch-Pumpe mit Glas-Ballon. H. Gloeckner.
71 Apparat zur Cervix- und Uterus-Behandlung mit flüssigen (fluid) Medikamenten. Ibid.

61. **Operative Treatment of Puerperal Pyemia.**—Sippel states that he advocated operative treatment long before Trendelenburg, but has had no opportunity to apply it. Two of his four patients recovered spontaneously, and the others for external reasons could not be operated on, and both died. The intervention he proposes is to remove the uterus in case of purulent phlebitis with the clinical picture of acute pyemia, and at the same time resect the veins involved. He does not approve of the extraperitoneal method followed by Trendelenburg in the case he reported of successful ligation of the hypogastric and uterine veins. He remarks, in conclusion, that operative intervention should be reserved for a last resort, as many cases of pyemia terminate in spontaneous recovery.

63. **Ventrofixation of Uterus.**—Kreutzmann gives several reasons why ventrofixation should be discarded, advocating in mobile retroflexio vaginofixation or the Alexander-Adams, and in other cases, mobilization followed by the shortening of the round ligaments.

Centralblatt f. Kinderheilkunde, Sprottau.

72 (VII, 8.) *Die Bedeutung der Lymph-Drusen (glands) im klinischen Bilde der Tuberculose und Scrofulose. L. Furst.
73 (No. 11.) *Ueber direkte Fettanreicherung (fattening) atrophische oder drüsenkranker Kinder (emaciated or scrofulous children). L. Furst.
74 (No. 12.) Fall von Purpura hemorrhagica nach Masern (after measles). L. Falk.

72. **Importance of Lymph Glands in Tuberculosis and Scrofula.**—Furst earnestly advocates extirpation of all accessible swollen glands when they do not promptly subside spontaneously, even when they do not seem to threaten secondary infection. If operation is refused he thinks that iodin and bromin in combination in a natural mineral water, such as the Darkauer Iodbrom water is an almost infallible means of treatment. Enlarged angry glands subside better under this treatment than under iodin salves, cod liver oil, etc. He applies to the neck or trunk compresses dipped in a quart of tepid water in which has been dissolved one dessertspoonful of Darkauer iodin salts. The compress is renewed every three hours. In case of very extensive lesions he orders a general bath with one-half to one kilo of the Darkauer salts to the bath. On suspicion of bronchial or mesenteric adenitis he gives the Darkauer water internally before breakfast, and has never observed any gastric or bowel disorders from its use.

73. **Carbonated Cod Liver Oil.**—Fürst has found that carbonated cod liver oil is assimilated much more rapidly than ordinary oil and the children fatten on it in one-third of the time. It is now produced in a durable form by impregnation under pressure, so that the carbonic acid gas does not escape when the bottle is opened. It keeps better and the taste is improved, while the digestibility and diffusion through the chyle are much enhanced.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

75 (XXIX, 2.) Spontane Lungen-Tuberculose mit grosser Caverne bei einer Wasserschildkröte (turtle), Chelone corticata. F. F. Friedmann.
76 Ueber lösliche (soluble), durch aseptische Autolyse erhaltene Gift-Stoffe (toxic substances) von Ruhr- (dysentery) und Typhus-Bazillen. H. Conradi.
77 *Die syphilitischen Herz- (heart) affectionen. J. W. Runeborg (Helsingfors). (Commenced in No. 1.)
78 *Zur Pathologie und Therapie der Sklerodermie im Kindesalter (childhood). W. Ebstein. (Commenced in No. 1.)
79 Zur Casuistik der Scheidenrisse (laceration of perineum) während der Austreibungsperiode (during expulsion). Baumbach.
80 Necessity of Straightening the Uterus before Applying Credé's Manœuver. Elschner.—Ein häufiger Fehler bei der Anwendung des Credé'schen Handgriffs.
81 Klinische Erfahrungen über den therapeutischen Werth der elektromagnetischen Behandlung. A. v. Sarbo.
82 (No. 3.) *Zur Aetiologie und Symptomatologie des hochgradig beweglichen Herzens (extremely movable heart). Rumpf.
83 Fall von anatomisch nachgewiesener Spontan-Heilung der tuberkulösen Peritonitis. O. Borchgrevink.
84 Ueber Erythromelalgie bei Syringomyelie des Cervikal-Marks (spinal cord). Taubert.—One case.
85 *Proposal for Treatment of Following Head. Steffeck.—Ein neuer Vorschlag zur Behandlung des nachfolgenden Kopfes.
86 Die Blut-Serum-Therapie bei der Dysenterie. Kruse (Bonn). (Commenced in No. 1.)
87 Ueber die Anwendung des Pyramidons bei Typhus abdominalis. L. Byk.
88 Das Adrenalin zur Coupirung von Asthma-Anfällen. E. Aronsohn.

77. **Syphilitic Heart Affections.**—Runeborg cites evidence to prove that the localization of the syphilitic process in the

heart is not a rare occurrence. It may take the form of gummatous affections of the vessels and muscle, of aortitis with dilatation and aneurismatic enlargement of the aorta, or occasionally of a valvular affection of this artery, coronary arteritis with myomalacia and connective tissue indurations (Schwielen) in the heart muscle, or it may appear as a diffuse gummatous myocarditis. The most striking symptoms are recurring pains suggesting angina pectoris, cardial asthma, uneven and irregular contractions of the heart with nonresonant heart sounds and indistinct pulse beat, and occasionally, when the orifice or valves of the aorta are involved, with accessory murmurs. In a few cases in addition to these symptoms there will also be progressive insufficiency of the heart, associated with hypertrophy and dilatation of the organ. When these symptoms develop in young or middle-aged subjects free from extensive sclerosis in the peripheral vessels, and no other cause can be assigned, there is considerable probability that syphilis may be incriminated, especially if there are suspicions of syphilitic infection even years before. Specific treatment may entail the reabsorption of recent gummatous neoformations in the vessels and heart and avert the secondary consequences and thus actually cure the patient. Even in the cases in which secondary alterations have developed, they can be improved and further progress arrested or at least postponed. Large aneurisms of the aorta and advanced gummatous or indurated myocarditis are also liable to be favorably influenced by specific treatment. In Runeborg's experience in a life insurance company, '84 out of 734 deaths were attributable to syphilis. This includes 43 deaths due to a syphilitic affection of the central nervous system, and 33 due to a syphilitic affection of the heart or aorta. In 24 of these 33 death occurred from sudden paralysis of the heart. The mortality from the central nervous system and from the heart in syphilis is, therefore, more closely parallel than is usually supposed. The parallelism becomes still more striking if we omit from the 43 "nervous" deaths the 22 due to progressive paralysis. The large proportion of deaths from heart affections is undoubtedly to be ascribed to the lack of correct diagnosis and consequently of specific treatment. Nervous affections are more likely to be differentiated and treatment instituted accordingly while there is yet time for their progress to be checked.

78. **Scleroderma in Children.**—Ebstein urges the necessity of applying the therapeutic lever in the very beginning of such affections. After the contractions and callosities are once established he knows of no means to induce their retrogression. In abortive treatment he places massage in the front rank. He describes the details of two cases. In one the affection developed suddenly in a healthy child after he had slept one hot afternoon in a damp meadow under a tree. He was hot and restless that night, but the next day seemed well, when isolated red spots appeared on one hand and arm, resembling flea bites. These spots remained unchanged for a year, when they gradually became bluish and hard and cracked. The physician who saw the red spots the day they appeared describes them as slightly raised, round spots like flat pimples, of different sizes, some almost as large as a quarter. They were redder and not so solid as the wheals of ordinary urticaria, but gradually became a paler red.

82. **Movable Heart.**—Rumpf describes a case of extreme mobility of the heart which he has had under observation for a number of years, and which has aroused much discussion. When the subject reclined on his back he experienced no discomfort, but when he lay on his side dyspnea and distress developed. Rumpf mentions parenthetically that the assumption that beer drinking necessarily entails hypertrophy of the heart, is not justified by the facts. He has examined employes of breweries who consumed ten quarts of beer a day, but performed constantly heavy manual work; and there was no hypertrophy of the heart. This was also the case with his patient, who had been in the habit of drinking large amounts of beer, but at the same time doing heavy work. He was robust and stout until he became emaciated from some cause, after which the symptoms of the abnormally movable heart developed. After he had been restored to his former weight the heart no longer slid around to such an extent, and he was completely relieved from his disturbances.

85. **Treatment of Following Head.**—Steffeck advises as a very effective and expeditious means of hastening the delivery of the head to place the woman in the Walcher pendant position and then, without regard to the position of the head or the possibility of the child s breathing, to press slowly and at brief intervals, with both hands downward and backward directly on the head of the child, as soon as the shoulders are spontaneously delivered. He describes 6 complicated cases, which he thinks establish the superiority of this method, and states that in 30 uncomplicated cases delivery was rapidly completed with all the children living.

Deutsche Zeitschrift f. Chirurgie, Berlin.

89 (LXV, No. 1.) *Ultimate Results of Operative Treatment of Tubercular Hip-Joint Disease. W. Manninger.—Ueber die Enderfolge der op. Behandlung bei Coxitis tub.
90 Beitrag zur den retroperitonealen Geschwülsten (tumors). O. Hartmann.
91 Kidney Injuries. Goldstein.—Ueber die in den letzten 20 Jahren auf die chir. Abtheilung des allg. Krankenhaus im Friedrichshain vorgekommenen Verletzungen der Niere.
92 Zur Casuistik seltener Hodenerkrankungen (rare affections of testicles). Derlin.
93 *Ueber Nach-Empfindungen (after-sensations) nach Amputationen. Hilger and van der Briele.
94 Fall von geheilter Peritonitis nach Durchbruch eines Duodenal-Geschwüres (perforation of ulcer). Blecher.
95 (Nos. 2-4.) *Ueber die Beziehungen zwischen Syphilis und Trauma. Stolper.
96 Betrachtungen über den Stand der Kriegs- (war) Chirurgie. Matthiolus.
97 Beiträge zur Circulation in der Schädelhohle (cranial cavity). Ziegler.
98 Zur Indicationen der Trepanation bei Gehirnblutung (cerebral hemorrhage) im Verlauf des Pertussis. Loevy.
99 Ueber die Reparations-Prozessen der Schädelknochen (bones of skull) mit Bezug auf die gewöhnlich angewandten Methoden der Cranioresection. N. Biagi.
100 Ueber benigne Epitheliome wahrscheinlich congenitalen Ursprungs. G. Perthes.
101 Zur Kenntniss der Pancreas-Necrose. E. Peiser.
102 Beitrag zur Kenntniss der congen. Darm- (intestine) Cysten. L. Gfeller.
103 Ueber solitäre Darm- (intestine) Stenosen. Riegling.
104 Ein Sarcom der Esophagus. V. Eicken.
105 Ueber die Torsion eines Fettbruches (fat rupture) und ihre Folgen. M. Wendel.
106 *Ueber eine neue Methode zum plastischen Ersatz von Sehnen (substitute for tendon) Defecten. Hertle.
107 (Nos. 5-6.) Zur Anwendung des Ethers als allgemeines Betaubungsmittel; Ether Tropf-Narcose. C. Hofmann.
108 Das Eucain B. Eine Studie über das Eucain, seine Vorgeschichte und seine Anwendung in der Praxis, nebst eigenen Beobachtungen und Versuchen mit Eucain B. Marcinowski.
109 *Ueber tabische Gelenkerkrankungen (arthropathies). K. Wolde.
110 Fall von musculöse Blasenhalsklappe (valve in cervix of bladder). W. Hirt.
111 Zur Casuistik der isolirten subcutanen Rupturen des Musc. biceps brachii und über einen Fall von Sartorius-Riss (laceration). A. Stieda.
112 Zur Dampf (steam) Sterilisation in der Chirurgie. E. Braatz.
113 Die Behandlung der Oberschenkel- (thigh) und Oberarm-Fracturen Neonatorum und kleiner Kinder (children). J. Dollinger.

89. **Ultimate Results of Operations for Tubercular Coxitis.**—This communication from Kocher's clinic at Berne is based on 44 cases and statistics collected from the literature, presented in tabulated form. In a previous series of 40 cases since 1893, Kocher cured 70 per cent.; in the present series of 44, 67.8 per cent. The general average is 27.1 per cent. cured in suppurating cases, the mortality 48.8 per cent. The mortality in the non-suppurating cases was 16.5 per cent., with 74.2 per cent. cured. Kocher teaches that a tubercular abscess should not be opened unless there is a prospect of removing the primary process in the bone or the causal tubercular process. The abscesses usually communicate with the joint and infection of one means infection of the other. Twenty-eight of his patients have been followed to date. The general health in all is good or very good. All limp more or less, with one exception. None use crutches, but half require a cane or high soles. Half have a good movable joint. All except 2 can walk for two to four hours without fatigue or pain. These 2 exceptions complain of fatigue after a half-hour walk. The working capacity is unimpaired in all, but 3 still have pain in the joint and a fistula persists in 2. The names of his private patients were not recorded and consequently they could not be traced, but the results presumably were superior to those of the above, as the after-care is more scrupulous in such cases.

93. **After-Sensations Following Amputations.**—One of Hilger's patients feels the missing foot like a normal foot, can move the toes and feel the contact between them. Another after amputation of a finger was still conscious of the presence of the finger, and could feel it. After removal of the dressings and visual evidence of the absence of the finger, these after-sensations vanished. From these experiences and those of others, Hilger is convinced that the after-sensations which follow amputation are the result of memory pictures of the missing organ. They have always been noticed in every case that has been under observation after the amputation, and are evidently a psychic phenomenon. In certain cases these memory pictures are prolonged by some irritation in the stump. Several cases are known in which the pain of a tuberculous knee or ingrowing nail was felt long after the limb had been amputated. He concludes that in case of failure to discover any source of irritation in the stump, psychotherapeutic measures might be successfully applied.

95. **Relations Between Syphilis and Trauma.**—Stolper emphasizes the fact that an insignificant wound may be the entering point for the syphilitic virus, and that trifling injuries may have serious results in syphilitics as the manifestations of the disease may develop at the site of a recent or long-healed traumatic lesion. Syphilitics are especially liable to spontaneous fractures and affections of the vessels of the joints. The psychic excitement of a brawl may kill a person with a syphilitic affection of the coronary arteries as surely as a blow on the chest. Stolper reviews the extensive literature on the subject, and his own experience with 20 cases. In 7 a syphilitic cutaneous muscular lesion developed at the point of the traumatism, and in 8 traumatically injured bones were the seat of the lesion.

106. **Plastic Operation for Tendon Defects.**—Hertle sutures the stumps of the tendon to a sound tendon near by, without traction. There is thus an interval between the implanted stumps in the sound tendon corresponding to the extent of the defect. After allowing three weeks for healing he slits the sound tendon to correspond to this space between and including the stumps. This leaves the sound tendon with only half its width at this point. The other half forms the connecting link between the stumps of the second tendon.

109. **Tabic Arthropathy.**—Wolde has had occasion to treat three cases and mentions that the knee was affected in more than half of the cases on record. Conservative treatment with orthopedic apparatus is superior to operation, as the joint rarely heals in a good position. A long stay in bed favors decubitus and other complications of tabes. Trauma is important, as tabetic subjects are frequently able to continue their occupation undisturbed, while an intercurrent traumatism will determine some joint affection which is liable to accelerate the course of the tabes and unfits the subject for earning a livelihood.

Muenchener Med. Wochenschrift, Munich.

114 (L. 2.) Von der Operation des Altersstars (senile cataract). Ein Rückblick. W. Manz.
115 *Pankreatitis mit Blutung (hemorrhage) und Nekrose. H. Hochhaus.
116 Ueber die Immunisierung des Typhus-Bacillus gegen specifische Agglutinine. P. T. Müller.
117 Ueber die Bindung hemolytischer Amboceptoren. J. Morgenroth.
118 *Ueber die Anwendung des Adrenalin als Hemostaticum in Fällen verzweifelter Blutung (desperate hemorrhage). O. Lange.
119 Ein neuer Griff mit Sperrvorrichtung (new handle with locking contrivance) für scheren- und zangenförmige chirurgische Instrumente (scissors and forceps). M. Liese.
120 Zur Vermeidung (avoidance) der Hematom-Bildung nach Kustners suprasymphysarem Kreuzschnitt (sacral incision). R. v. Fellenberg.
121 Ueber das Verhalten der Leucocyten bei Eiterungen (behavior in case of suppurations), besonders beim Leber- (liver) Abszess. F. Perutz.
122 Ophthalmia neonatorum und der Gonokokkus. T. Axenfeld.
123 Roentgen-Instrumentarium "System Dessauer." F. Dessauer.
124 (No. 3.) Bemerkungen zur Trachom-Frage (the trachoma question). A. Peters.
125 *Die Verwendung der Borsäure (boric acid) in der inneren Medicin. G. Merkel.
126 *Fall von ausgedehnter Resektion des Ductus choledochus und hepaticus wegen Carcinoma choledochi, mit nachfolgender Ektomie der Gallenblase (gall-bladder) und Hepatiko-Duodenostomie. H. Kehr.
127 Ueber Myogen, ein neues Eiweiss- (albumin) Präparat. R. O. Neumann.
128 Beiträge zur Kenntniss der Nebenpocken (vaccinolæ) im Verlauf der Vaccination, sowie der postvaccinalen Exantheme. A. Groth.
129 Von der Operation des Altersstars (senile cataract). W. Manz. A Retrospect. (Commenced in No. 2.)
130 Practical Application of Determination of Freezing-Point of Blood and Urine in Renal Affections. O. Rumpel.—Erfahrungen über die prakt. Anwendung der Gefrierpunktsbestimmung, etc. (Commenced in No. 1.)
131 Zur Geschichte der Verdauungs- (history of digestion) Physiologie. Spaet.

115. **Pancreatitis with Hemorrhage and Necrosis.**—The autopsy of the first of the three cases described showed that the inflammation in the pancreas could not have been responsible for the hemorrhage and necrosis, as the latter did not occur at the most inflamed points and sometimes was quite remote from any signs of inflammation. Neither could they be ascribed to the action of trypsin, as they occurred mostly outside of the gland. There was nothing to indicate a direct causal relation between these three processes. All three seemed to be the co-ordinated effect of some still unknown infectious agent. The acute affection proved fatal in twelve days. There was no trace of sugar in the urine at any time. The only sign to locate the disease in the pancreas was the localization of the pain at this region and its persistence. The leucocytes were always normal. The pain is important in differentiating, not only on account of its extreme intensity but for its persistence. The violent attacks of pain may also occur at a time when all the other symptoms and the general condition indicate improvement. This does not happen in ileus or peritonitis. The pain is probably due to the compression of the plexus behind the pancreas by the hemorrhage and inflammation.

118. **Adrenalin in Threatening Hemorrhages.**—With 25 c.c. of adrenalin Lange was able to save the lives of 6 patients who were threatened with death from hemorrhage. The first patient was a hemophilic young man, constantly bleeding from a cut in the thumb. The hemorrhage was checked for twenty-four hours by gelatin internally and by the rectum, but then recurred. The wound was then dressed with gauze impregnated with 50 per cent. adrenalin and the hemorrhage stopped at once. The same result followed the application of the gauze in 2 cases of hemorrhage during the changing of the dressings of an appendicitis incision. The secretion from the wound much decreased after the application of the adrenalin. Two other patients received the adrenalin internally in treatment of recurring hemoptysis or hematemesis. After taking 30 drops of adrenalin twice in two hours, the hemoptysis ceased permanently. The same effect followed in a case of morning hematemesis from a gastric cancer.

125. **Boric Acid in Internal Medicine.**—Merkel recalls that several years ago he administered boric acid internally on account of its assumed diuretic action. One to 2 gm. a day were taken in an aqueous solution by 11 patients, but never longer than for eight days. The polyuria that followed even small doses surpassed twice and three times the normal amount, and the boric acid could be detected in the urine for seventeen days after suspension. Seven of the patients complained of various gastric disturbances while they were taking it, besides colics and diarrhea. Another patient who experienced relief from local insufflation of boric acid in catarrhal affections found that an erythem always developed afterward which persisted for several days.

126. **Hepatico-Duodenostomy.**—Kehr found it necessary to resect nearly the entire length of the common bile duct on account of an annular carcinoma. The gall bladder was removed with it, and the hepatic duct just below the fork was sutured to the duodenum a short distance from the tied-off stump of the common bile duct. The patient was a man of 53 and was dismissed immeasurably improved. He tabulates the differences between carcinoma and stone of the bile duct from a clinical standpoint. Carcinoma is more frequent in men than in women; there is seldom colic, and usually icterus begins very gradually, but becomes intense and regular. The stools are constantly clay colored, although they may vary in case of a polypoid tumor. The duration of the affection does not

exceed six months. Chills and fever are rare; the cachexia is very pronounced toward the last, and the gall bladder is large and palpable in 80 per cent. There is usually ascites. His success in the case reported compels him to extend the scope of surgical intervention to cancers of the bile duct, which he has hitherto considered beyond the reach of surgery. He always recommends an operation in case of chronic icterus, which suggests an obstacle in the bile duct or pancreas, in the hope that the trouble may be merely a chronic pancreatitis. He describes his technic in the case reported, which is the first case of carcinoma of the bile duct operated on to his knowledge, and the first hepatico-duodenostomy. The dressings were soaked with bile during the first few days, but it did not proceed from the hepaticus but from the minute severed biliary passages in the liver where the gall bladder had formerly rested. He did not use a button, and left the tampon in place for two weeks. He did not tampon the anastomosis, but interposed a layer of omentum. Before performing a laparotomy on account of gallstones, he has lately adopted the practice of accustoming his patients to the use of the stomach sound, and in 50 such cases found this measure of marked benefit.

Giornale d. R. Accad. di Medicina, Turin.

132 (LXV, 10-11.) Sul diabete sperimentale e la secrezione pancreatica esterna. U. Lombroso.
133 La resistenza dei globuli rossi (red corpuscles) del sangue negli individui affetti da tumori maligni. M. Donati.
134 Sulla Presenza di calici gustativi (taste buds) nella superficie linguale dell' epiglottide umana con alcune riflessioni sugli stessi organi che si trovano (same organs in) nella mucosa della laringe. F. Kiesow.
135 Il metodo biologico e le sue applicazioni alla diagnosi differenziale delle farine (flours) delle leguminose. E. Bertarelli.
136 L'irritabilità del muscolo cardiaco nell' avvelenamento (intoxication) eso-ed endocardiale. A. Benedicenti.
137 Cancro primitivo del fegato (liver) e cirrosi adenomatosa. G. Sotti.
138 La percezione binoculare nei difetti (defects) congeniti di motilità degli occhi (of the eyes). C. Gaudenzi.
139 *Concretions Found in Renal Cortex. G. Marchetti.—Sopra alcune concrezioni rinvenute nella corteccia del rene.
140 (No. 12.) *Eziologia e patogenesi della rabbia (rabies). F. Levy.
141 Contributo alla cura delle fratture del collo del femore (fractures of neck of femur), della rotula e delle fratture mal consolidate. I. Isnardi.
142 La eliminazione intermittente del bleu di metilene negli epatici (in liver patients). G. Mattirolo.
143 Sulla frequenza ed assenza delle cosidette (frequency and absence of the so-called) intime sarcomatose. A. Marro.
144 Una nuova alterazione dei gangli linfatici. A. Marro.
145 Alterazioni del polso (pulse) nell' ileo-tifo (typhoid fever). G. Marro.

139. Concretions Found in Cortex of Kidneys.—Marchetti states that he found a number of concretions in the cortex of the kidneys of a person who had succumbed to pneumonia, with no signs of tuberculosis. The concretions resembled in every respect—even to the positive response of the nucleus to the tests for elastin—the descriptions of the bodies found enclosed in the giant cells of tubercular lesions.

140. Alleged Discovery of Germ of Rabies.—This communication proceeds from the Institute of Hygiene of the University of Pavia, of which Prof. G. Sormani is director. It announces the discovery in the salivary glands, pancreas and nervous system of animals known to be rabid or artificially infected with rabies, of a specific germ, which could be isolated and cultivated, and reproduced rabies when injected into other animals (guinea-pigs and rabbits). It stains the culture media in its growth by the elaboration of a yellow pigment, most marked on potato. It liquefies gelatin, although sometimes not until after the culture is a month old; coagulates milk and induces acidity in wine, while in broth it may enhance the original alkalinity, developing a characteristic odor. In anaërobic media it generates gas. The most characteristic cultures were obtained on a sterilized red beet, which Levy has found the best culture medium for various germs, including the lepra bacillus. The beet was inoculated with scraps of choroid tissue from the fourth ventricle of a rabbit's brain. It is usually a small sphere, .6 to 1 micron in size, and the name proposed for it is the *Blastomyces* or *Saccharomyces aureus lyssæ*. The parasite locates by preference in the pia mater, and in this anaërobic medium generates carbon oxid. It is evidently to the noxious influence of this gas on the nerve centers that a large proportion of its pathologic effect is due, as the spectrum and chemical tests revealed marked carbon oxid hemoglobinemia in the inoculated animals. This fact suggests that benefit might be derived from inhalation of oxygen in cases of hydrophobia. The photographs accompanying the communication will appear in the next issue of the *Giornale*.

British Medical Journal, London.

January 24.

146 *Modifications and Improvements in Operations on the Billary Passages. A. W. Mayo Robson.
147 *The Operation of Cholecystectomy with a Record of Cases. B. G. A. Moynihan.
148 Gallstone in the Common Bile Duct: Cholecystotomy; Recovery. S. J. Ross.
149 Two Operations Performed upon the Liver Through the Chest Wall. G. P. Newbolt.
150 Case of Liver Abscess in a Child Aged Two and a Half Years. W. J. J. Arnott.
151 *Note on a New Method of Producing Hemolysins. M. Armand Ruffer and Milton Crendiropoulo.
152 *Bottle-Finisher's Cataract. William Robinson.
153 *Perforation of the Esophagus by Tuberculous Glands. Clive Riviere.
154 *An Improved Hyprobromite Process for the Estimation of Urea. H. J. Pechell.

146. Operations on the Biliary Passages.—Robson's paper is a general review of the treatment of morbid conditions of the gall ducts and bladder. He holds that as soon as gallstones give serious trouble their removal by operation is the most rational method of treatment, but his methods and views to some extent have been changed since his earlier work. When gallstones are once formed no medicine can relieve them, though much can be done for the accompanying catarrh; medical treatment should be thoroughly tried before surgical treatment is resorted to. It is often impossible to say what operation will have to be done and the surgeon who attempts to relieve these conditions must be prepared for whatever he may find. Robson goes into detail as to the preparation of the patient, including saline infusions in asthenia and the treatment of the tendency to hemorrhage in cholemic patients. The only special instrument he uses is the gallstone scoop. His ligatures and sutures are formalin catgut prepared by the xylol process and he uses celluloid thread for the outer and serous sutures in stitching the incision in the duct in choledochotomy. His assistants all wear rubber gloves, though he himself does not, as they interfere with his sense of touch. A firm sandbag under the patient at the level of the liver is essential. Formerly he used to make a vertical incision through the linea semilunaris, but he now always makes his incision over the middle of the right rectus in a line parallel with its fibers, which are then separated by the finger, the posterior sheath of the rectus and peritoneum being divided together. Where the gall bladder is distended and there is no jaundice, a small incision of two or three inches only may be required, but often it is necessary to explore the ducts and instead of prolonging the incision downward as formerly, he carries it upward in the interval between the ensiform cartilage and the right costal margin as high as possible, thus exposing the upper surface of the liver very thoroughly. He finds by lifting the lower border of the liver in bulk it is necessary to first draw the organ down from under cover of the ribs, the whole of the gall bladder, cystic and common ducts are brought quite close to the surface and the gall bladder is usually strong enough to endure gentle traction, which holds the parts well exposed. The surgeon then has under his eye the whole length of the ducts with the head of the pancreas and duodenum and can deal with the gall bladder, cystic and hepatic quite easily. When the duct is incised, there is generally a free flow of bile, which is almost always infected, but by rapidly emptying it out and using sterile gauze pads, the flow can be drained off without infecting the parts. After removal of the obvious concretion, he passes the finger behind the duodenum, along the course of the hepatic ducts, to feel if gallstones are there and then the common duct is incised, his gallstone scoop is passed into the primary division of the hepatic duct in the liver and down to the duodenal orifice of the common bile duct, and if thought necessary to ensure the patency of the opening into the duodenum, a long probe is passed into the bowel. Incision into the bile duct being made, it is closed by the ordinary

curved round needle and continuous catgut sutures. A continuous fine green catgut and a spun celluloid thread are employed to close the peritoneal edges of the duct. Where the gall bladder is contracted and the pancreas indurated and swelling from chronic pancreatitis is likely to press on the common duct, he inserts a drainage tube directly into the duct, passing it upward into the hepatic duct and closing the opening around it with purse-string sutures, but where this is not done and the size of the gall bladder permits, he usually fixes a rubber tube into the fundus of the gall bladder in the same way, thus shortening the area of infected bowel and avoiding pressure along the newly-sutured opening of the duct. He now never spends a long time in manipulating the impacted stone, but at once incises the duct, removes the concretion and closes the opening. Although there is seldom any fear of leakage or infection there is usually some tendency to pouring out of fluid in the first few hours. He therefore generally inserts a gauze drain through a split drainage tube, bringing it out by the side of the gall-bladder drain and usually removes it within twenty-four hours. The wound is then closed by a continuous catgut suture, first, peritoneum and deep rectus sheath, then the anterior rectus sheath, and lastly the skin margins are sewed with silkworm gut. He employs forcipressure for the immediate arrest of hemorrhage, but finds it more satisfactory to ligature the bleeding points, as in jaundiced cases the vessels are apt to bleed subsequently. If the liver is torn the bleeding must be carefully arrested before the abdomen is closed. Ordinary cholecystotomy with a distended gall bladder is a very simple operation. He condemns the so-called ideal operation of Langenbuch and the two-stage operation of Bloch. In contracted gall bladder, cholecystectomy may be necessary or advisable. The operation is described. It is easy to remove very contracted organs and use the cystic duct as a pedicle and ligature it. A method of treating the pedicle which he finds useful is to seize it with strong pressure forceps and crush it, thus making a groove in which the ligature lies very snugly. Bleeding vessels are ligated, and as a precaution a strip of iodoform is left in contact with the end of the ligated duct and brought to the surface through a split drainage tube. He has not found Dr. Mayo's operation of shelling out the mucosa of the gall bladder always practicable where there has been much inflammatory disturbance. The operations of duodenocholedochotomy and cholecystenterostomy are described. In case of malignant disease much more extensive operations may have to be done and a careful search should always be made for intravisceral fistulæ, of which he gives examples. If neglected they probably mean extravasation and death. If pyloric stenosis exists, pyloroplasty or gastroenterostomy will have to be performed. If the head of the pancreas is enlarged as a whole, causing a suspicion of malignancy, it is advisable to reserve one's opinion as there is a possibility that cure may occur as in the instance he reports. The after-treatment is a pint of saline fluid with an ounce of brandy given by enemata and 5 minims of liquor strychnia (B. P.) given subcutaneously, repeated if necessary. Beside a teaspoonful of hot water or hot tea from time to time all feeding is by the rectum for the first twenty-four hours, though more water may be given if there is no vomiting. After forty-eight hours, if vomiting does not appear, milk and soda and barley water can be freely given. After the fourth day light custards, puddings and fish and chicken on the fifth and sixth day, after which the diet becomes almost normal. The bowels are not disturbed before the fifth or sixth day, and then only by enemata, unless there is vomiting and distension. In this case a grain of calomel is administered, followed by two ounces of aperient water. He does not believe in the use of morphin under any circumstances. If a sedative is needed 10 grains of aspirin will be found useful. It should be repeated in two hours, if required. If vomiting is troublesome or epigastric distension persists, gastric lavage will be found useful. As a rule recovery is uneventful and the after-treatment for the most part negative. Stitches are removed on the eighth day, the tube coming away at the same time. The wound left, he says, heals by granulation. Only simple dressings are used. The chief point he wishes to make is that we should operate early before serious complications have ensued and that the operation should be thorough, expeditious and careful.

147. **Cholecystectomy.**—The operation of cholecystectomy is described by Moynihan as follows:

> A vertical incision near the outer margin of the right rectus muscle is made and the muscle fibers split. The usual length of this incision is 5 in. If additional room is required it is best obtained by continuing the upper end of the incision along the costal margin upwards and inwards. All adhesions of the gall bladder, ducts and liver having been cleared, the liver is rotated by gentle traction upon the gall bladder until the cystic and common ducts are straightened and brought on a level with the wound. By this maneuver the operation is rendered simpler and quicker. The peritoneal investment of the gall bladder is then cut through along the line of its reflexion on to the liver, and the gall bladder is quickly stripped from the liver and grasped in the hand, so as to exert a gentle traction on the cystic duct. A few bleeding points are occasionally seen on the denuded liver surface, and a ligature or a suture transfixing the bleeding point may be needed. A circular incision is now made through the peritoneum, at the neck of the gall bladder, and a cuff of peritoneum reflected from the neck and from the commencement of the cystic duct. A catgut ligature is tied round the duct, and the gall bladder is cut away. The mucous membrane of the severed end of the cystic duct is gently cleansed and wiped with a 1 in 500 biniodid lotion, and the peritoneal cuff is replaced and sutured. A purse-string suture may be applied over this, the first line of suture being buried when the purse-string suture is tied. No drainage tube is needed as a rule. If, however, owing to great thickening and adhesion at and around the cystic duct there is difficulty in performing all the steps indicated, and if the closure of the cystic duct is imperfect or its peritoneal hood not completely satisfactory, drainage may be provided by a split rubber tube or by a petticoat of rubber tissue packed with sterile gauze. If in any case the precise closure of the duct were impossible, I should leave a long clip on the end of the duct and drain by the side of the clip with a large split rubber tube having a gauze wick. Throughout the operation the most scrupulous attention is paid to the details of cleanliness. The viscera are carefully protected by gauze or sponge packing, and all swabs which are soiled with bile or inflammatory effusions are at once discarded. If the peritoneum be unavoidably soiled it may be wiped over with a swab wet with sterile salt solution. The hands are rinsed always in salt solution. No antiseptic is at any time allowed to touch the peritoneum.

A number of cases are reported. He mentions Mayo's operation, but does not express an opinion on it.

151. **Hemolysins.**—Ruffer and Crendiropoulo found by experiments that if the urine of a healthy man was injected two or three times subcutaneously into a rabbit the serum of this rabbit acquired a marked hemolytic action on human red corpuscles. They detail their experiments and the results. They remark that the specificity of these serums are not absolute, but this is not astonishing when one reflects that one is dealing with a liquid as complex as urine, for among the hemolysogenous substances contained in the urine there must be several common to many kinds of animals.

152. **Bottle-Finisher's Cataract.**—Robinson describes cataract as he finds it among bottle finishers, who, as a rule, have their eyes most exposed to the intense glare of the glass furnace. Only exceptionally do other workmen in the works suffer in this way. The bottle finisher has to pick out just so much melted glass as will be required to make the rim of the bottle. This takes some time, and, of course, exposure. He explains the mechanism of cataract growth being due to the special focusing on the lens of heat rays. The contraction of the pupil by the light protects the periphery of the lens at first from damage.

153. **Tuberculosis.**—Riviere reports three cases of perforation of the esophagus by tuberculous glands and remarks on its comparative rarity. He finds few instances recorded in the literature.

154. **Urea Estimates.**—Following a suggestion derived from Halliburton's Text-book of Physiological Chemistry, Pechell thought the ordinary method of estimate for clinical purposes might be improved by converting the urine to be examined into artificial "diabetic" urine. This was done by the addition of 2 c.c. of 25 per cent. glucose solution, to 5 c.c. of urine, used in Dupre's method, which gives a urine containing about 7 per cent. of sugar. Details of a few observations are given by comparing the readings thus obtained by those recorded by the same urine without the addition of sugar, a practically constant excess of one-eleventh (9 per cent.) was noticed. He can not explain the difference in the evolution of nitrogen of urea in watery solution and in urine, nor the reason why glucose increases the nitrogen output.

New Patents.

Patents of interest to physicians, etc., January 20 and 27:

718896. Electrotherapeutic apparatus. Wm. H. Ames, St. Louis, and E. E. Clement, Washington, D. C.
718594. Massage apparatus. Charles J. Bailey, Newton, Mass.
718746. Invalid bedstead. Silas W. Bennett, McDonald, Pa.
718764. Dropper for medicines. George B. Hutchings, Galveston, Texas.
718766. Massage machine. Thomas D. Ingram, Washington, D. C.
718785. Respirator. James W. McNary, Dayton, Ohio.
718801. Dropping mouthpiece for bottles. Wm. L. Straus, New York.
718958. Massaging apparatus. Fenton B. Turck, Chicago.
719175. Applicator. Henry A. Bierley and J. G. Nehrbas, Indianapolis.
719078. Supporting rest for invalids. Joseph A. Blanchard, Waterbury, Conn.
718979. Hypodermic syringe. Milton Campbell, Philadelphia.
719311. Body brace. Wm. B. Dewees, Salina, Kan.
719206. Obstetric sheet. Sarah Faulkner, New York.
719228. Disinfecting device. Louis E. Jones, Conshohocken, Pa.
719059. Litter. Joseph A. Tabor, Scranton, Miss.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., from Jan. 26 to Feb. 7, 1903:

Fletcher, Jr., Richard M., contract surgeon, U. S. A., is relieved from duty at Fort Niobrara, Neb., and will proceed to his home, Huntsville, Ala., and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Gilchrist, Harry L., first lieut. and asst.-surgeon, U. S. A., will proceed to Fort Screven, Ga., on official business pertaining to the Medical Department of the Army, and on completion of this duty will return to his proper station in this city.

Straub, Paul F., captain and asst.-surgeon, U. S. A., is granted leave of absence for four months, with permission to go beyond sea.

Tweedie, Hedley V., contract surgeon, U. S. A., is relieved from duty in the Department of California, and will proceed to his home, Jackman, Me., and on arrival report by letter to the Surgeon-General of the Army for annulment of contract.

Arthur, William H., major and surgeon, U. S. A., is detailed as a member of the examining board convened for the examination of officers of the Corps of Engineers at the Army Building, New York City, vice Captain James Wilson, asst.-surgeon, hereby relieved.

Brown, Ira C., contract surgeon, U. S. A., now at Buffalo, N. Y., will proceed to Fort Niobrara, Neb., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the Missouri.

Kennedy, James S., contract surgeon, U. S. A., now at Chambersburg, Pa., will proceed to San Francisco, and report in person to the commanding general, Department of California, for assignment to duty.

O'Neill, Joseph A., contract surgeon, U. S. A., is directed to report in person to the commanding general, Department of the Lakes, at Chicago, not later than Feb. 18, 1903, for assignment to duty with the Fourteenth Infantry, and to accompany that regiment to the Philippines, and on arrival at Manila to report in person to the commanding general, Division of the Philippines, for assignment to duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 7, 1903:

P. A. Surgeon H. C. Curl, discharged from treatment and ordered to duty at the Naval Hospital, Mare Island, Cal.

P. A. Surgeon R. W. Plummer, detached from the U. S. S. *Prairie* and ordered to the Navy Yard, New York.

P. A. Surgeon F. M. Furlong, detached from the Navy Yard, New York, and ordered to the U. S. S. *Prairie*.

P. A. Surgeon L. W. Curtis and P. A. Surgeon M. B. Pitts commissioned surgeons from Dec. 2, 1902.

P. A. Surgeon M. R. Spear and P. A. Surgeon W. B. Grove, commissioned passed assistant-surgeons from Nov. 7, 1902.

Drs. L. H. Schwerin, H. T. Nelson, Jr., and C. C. Grieve, appointed acting assistant-surgeons from Jan. 29, 1903.

Medical Director W. G. Farwell, retired, detached from the Marine Recruiting Station, Philadelphia, and ordered to the Navy Yard and Hospital, Portsmouth, N. H.

Medical Director C. H. Cooke, retired, ordered to the Naval Recruiting Station, Philadelphia.

Medical Inspector J. C. Spear, retired, ordered to the Marine Recruiting Station, Philadelphia.

Surgeon Clement Biddle, detached from the Naval Recruiting Station, Philadelphia, and to continue duty at Naval Hospital, Philadelphia.

P. A. Surgeon L. Morris, detached from duty at the Naval Hospital, Philadelphia, and granted sick leave for three months.

Asst.-Surgeon J. C. Thompson, detached from duty with the Marine Detachment, Dry Tortugas, Fla., and to duty on the U. S. R. S. *Columbia*.

Asst.-Surgeon J. P. DeBruler, ordered to the Naval Hospital, Norfolk, Va.

A. A. Surgeon H. L. Brown, to duty at the Naval Proving Grounds, Indian Head, Md.

A. A. Surgeon H. W. Judd, to the Naval Station, Key West, Fla., for duty at Dry Tortugas, Fla.

A. A. Surgeon P. S. Rossiter, to the Naval Recruiting Station, Baltimore.

Asst.-Surgeon J. A. Murphy, detached from the U. S. S. *Don Juan de Austria*, and to duty on the U. S. S. *Monadnock*.

Asst.-Surgeon W. Seaman, detached from the U. S. S. *Monadnock* and to duty on the U. S. S. *Don Juan de Austria*.

Medical Inspector G. E. H. Harmon, to duty at the Naval Station, Port Royal, S. C.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 5, 1903:

Geddings, H. D., assistant surgeon-general, detailed as recorder of board to meet at Washington, D. C., for the physical examination of an applicant for the position of second assistant engineer, R. C. S.

Surgeon H. R. Carter, to report at Washington, D. C., Feb. 6, 1903, for duty as temporary member of Sanitary Board.

P. A. Surgeon Rupert Blue, relieved from duty at Milwaukee, Wis., and directed to proceed to San Francisco, and report to Surgeon A. H. Glennan for duty.

Asst.-Surgeon R. H. von Ezdorf, granted eight days' extension of leave of absence.

Asst.-Surgeon J. W. Kerr, to report at Bureau for instructions.

Asst.-Surgeon B. S. Warren, relieved from duty as recorder of board to meet at Washington, D. C., for the physical examination of an applicant for the position of second assistant engineer, R. C. S.

A. A. Surgeon E. Alexander, granted leave of absence for twenty-seven days from February 1.

A. A. Surgeon H. J. Hamilton, granted leave of absence, on account of sickness, for thirty days from December 27.

A. A. Surgeon B. Y. Harris, granted leave of absence for ten days from February 21.

A. A. Surgeon F. F. Sams, granted leave of absence for fourteen days from February 4.

Pharmacist W. W. Kolb, granted leave of absence for twenty-eight days from February 12.

APPOINTMENTS.

Henry R. Carter, appointed acting assistant-surgeon for duty at Newport News, Va.

Robert H. Gray, appointed acting assistant-surgeon for duty at Shreveport, La.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 7, 1903:

SMALLPOX—UNITED STATES.

California: San Francisco, Jan. 18-25, 8 cases, 1 death.
Illinois: Chicago, Jan. 24-31, 14 cases, 3 deaths.
Indiana: Jan. 24-31, Elwood, 2 cases; Evansville, 4 cases; South Bend, 1 case.
Kentucky: Jan. 24-31, Lexington, 12 cases; Newport, 1 case.
Maine: Biddeford, Jan. 24-31, 26 cases.
Maryland: Baltimore, Jan. 24-31, 2 cases.
Massachusetts: Jan. 24-31, Boston, 7 cases, 1 death; Haverhill, 3 cases, 1 death.
Michigan: Grand Rapids, Jan. 24-31, 9 cases.
Nebraska: Omaha, Jan. 24-31, 1 case.
New Hampshire: Manchester, Jan. 24-31, 3 cases.
New Jersey: Camden, Jan. 24-31, 4 cases; Hudson County, including Jersey City, Jan. 25-Feb. 1, 5 cases; Newark, Jan. 24-31, 2 cases, 1 death.
New York: New York, Jan. 24-31, 3 cases, 1 death.
Ohio: Cincinnati, Jan. 23-30, 12 cases; Cleveland, Jan. 24-31, 10 cases, 3 deaths; Dayton, Jan. 24-31, 1 case.
Pennsylvania: Altoona, Jan. 20-31, 6 cases, 5 deaths, imported from Pittsburg; Erie, Jan. 24-31, 9 cases; Johnstown, Jan. 24-31, 10 cases, 1 death; McKeesport, Jan. 24-31, 3 cases; Philadelphia, Jan. 24-31, 29 cases, 4 deaths; Pittsburg, Jan. 24-31, 16 cases, 6 deaths; Pottsville, Jan. 24-31, 11 cases.
South Carolina: Charleston, Jan. 24-31, 3 cases; Greenville, Jan. 17-24, 1 case.
Tennessee: Memphis, Jan. 24-31, 2 cases.
Utah: Salt Lake City, Jan. 17-24, 16 cases.
Washington: Tacoma, Jan. 18-25, 1 case.
Wisconsin: Milwaukee, Jan. 24-31, 8 cases, 1 death.

SMALLPOX—FOREIGN.

Canada: Hamilton, Jan. 1-31, 1 case; Winnipeg, Jan. 17-24, 1 case.
France: Marseilles, Dec. 1-31, 37 deaths.
Great Britain: Jan. 10-17, Birmingham, 1 case; Bradford, 35 cases; Dublin, 2 cases; Liverpool, 42 cases, 2 deaths; London, 2 cases; Manchester, 16 cases, 1 death; Nottingham, 13 cases.
India: Bombay, Dec. 23-Jan. 6, 18 deaths.
Italy: Palerma, Dec. 27-Jan. 30, 24 cases, 1 death.
Mexico: City of Mexico, Jan. 11-18, 3 cases.
Russia: Moscow, Jan. 3-10, 3 cases, 1 death.
Spain: Malaga, Dec. 1-31, 10 deaths.
Straits Settlements: Singapore, Dec. 13-20, 1 death.

YELLOW FEVER.

Colombia: Panama, Jan. 19-26, 4 cases, 2 deaths.
Ecuador: Guayaquil, Jan. 3-17, 35 deaths.
Mexico: Vera Cruz, Jan. 19-26, 4 cases.

CHOLERA—INSULAR.

Philippines: Dec. 7-13, Manila, 7 cases, 5 deaths; Provinces, 318 cases, 207 deaths.

CHOLERA—FOREIGN.

Malta: Quarantine Island, Jan. 17, 7 cases, from Alexandria.
Egypt: Alexandria, Jan. 5-12, 1 case.
Straits Settlements: Singapore, Dec. 13-20, 5 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Jan. 18, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Dec. 23-Jan. 6, 341 deaths; Karachi, Dec. 21-28, 39 cases, 20 deaths.
Mexico: Mazatlan, to January 5, 60 deaths.

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Original Articles.

THE IMPROVEMENT OF GENERAL ANESTHESIA ON THE BASIS OF SCHLEICH'S PRINCIPLES:

WITH SPECIAL REFERENCE TO ANESTHOL.

WILLY MEYER, M.D.

Professor of Surgery at the New York Post-Graduate Medical School and Hospital; Attending Surgeon to the German and New York Skin and Cancer Hospitals; Consulting Surgeon to the New York Infirmary.

NEW YORK CITY.

In the writer's previous paper[1] on this subject the principal points brought out were the following:

Ether as well as chloroform are poisonous substances. We probably do not go wrong in assuming that one out of every 10,000 patients dies while under the influence of ether and one out of every 2,000 while under that of chloroform. This estimate refers only to cases succumbing on the operating table. Thus there surely is a certain amount of risk involved in every case of general anesthesia, although the exact extent of same can not be determined beforehand in the individual case.

It is this element of uncertainty as to the fate of the patient to be narcotized that has prompted many medical men, since the discovery of cocain, to discard general anesthesia as far as possible and try to get along with local cocain anesthesia. Although in the hands of an expert even major operations can be performed with the help of local (infiltration) or regional anesthesia, it nevertheless remains a fact that general narcosis can not be abolished entirely; there are and always will be many surgical interventions that can be carried out only with the patient under general anesthesia. Can the risk, which the individual patient runs in undergoing general anesthesia, be diminished?

The efforts of medical men and chemists heretofore have been directed toward finding a new, less dangerous narcotic substance as well as toward improving the chemical condition of the known anesthetics by aiming to obtain them in an absolutely chemically pure state.

SCHLEICH'S REASONING.

Schleich conducted his investigations on entirely new lines, namely, by starting from a physical instead of from a chemical basis. His reasoning,[2] based on experimental studies on animals, is briefly as follows: The amount of a narcotic substance that evaporates in a given time—barometric pressure being equal—depends on two factors:

1. The surrounding temperature, that is to say, in connection with general anesthesia: the temperature within the lungs or within the body (T. B.[3]). This is rather constant, about 100.4 F.

2. The boiling point of the narcotic (B. P.[3]), or, as one might also term it, its maximum of evaporation.

Both of these factors greatly influence the absorption into the blood as well as the elimination from it of an anesthetic introduced into the human or animal body. If a person or animal inhales an anesthetic that has its B. P. at 59 F. (15 C.), as, for instance, ethyl chlorid, it is obvious that more of the drug quantitatively is introduced into the lungs, and through these into the blood, than would be of an anesthetic that has its B. P. at 149 F. (65 C.), as has for instance chloroform.

The ability of the organism to eliminate the narcotic is increased in the measure as the B. P. of the narcotic corresponds to the T. B., provided this relation be not disturbed by a momentary firmer chemical combination. This relation can be well studied with the narcotics mostly in use to-day, i. e., ether, chloroform and ethylbromid. As experience has proved, their chemical combination is generally volatile and loose.

If the B. P. of the narcotic corresponds to or approaches the T. B., the lungs alone are capable of properly regulating the elimination of a gaseous poison. By their increased action they can prevent the accumulation and retention of directly fatal doses; exactly as much of the narcotic is exhaled during expiration as was inhaled during inspiration. This explains the fact that a deep narcosis can not be produced at all if the B. P. of the narcotic and the T. B. correspond.

If, however, the B. P. of the narcotic is considerably higher than the T. B., as is the case with chloroform, namely, 149 F., more is retained during inspiration than is eliminated during expiration. Only so much of the amount as was retained by the blood corpuscles and blood serum can be eliminated with each expiration as corresponds to the B. P. of chloroform at the temperature within the lungs, namely, 100.4 F. The superamount can not be eliminated by the lungs, physically. This must be done somewhere else within the system. Other parenchymatous organs must be called into action, i. e., heart, kidneys and liver. This explains why the after-effects on those organs are so much more pronounced after the administration of chloroform than after that of ether. It also accounts for the fact that we find no lesions within the lungs, but rather in the other parenchymatous organs of a person who died under chloroform.

In distinct contrast to these findings we notice the greatest amount of damage in the pulmonary paren-

1. Read Dec. 27, 1897, before the Medical Society of the County of New York, entitled: "The Improvement of General Anesthesia by Adapting the Boiling Point of the Narcotic to the Temperature of the Body (Schleich)."

2. Schmerzlose Operationen, II Aufl., Berlin, 1897.

3. In the following résumé of Schleich's paper temperature of the body will be indicated by T. B., and boiling point by B. P.

chyma of the lungs following the administration of sulphuric ether. Sulphuric ether, having a B. P. at 93.2 F. (34 C.) fills the alveoli of the lungs, and at their temperature of 100.4 F. must expand and thus distend the alveoli and oppose an abnormal intra-alveolar pressure to the elimination of carbonic acid gas from the blood. It is thus that the inhalation of ether disturbs respiration and immediately causes a certain degree of cyanosis. This initial cyanosis is, therefore, the consequence of retention in the blood of carbonic acid gas. Further consequences of this retention are: reflex salivation and secretion of mucus, stretching of the alveolar epithelial cells, and, in direct connection therewith, the frequent occurrence of secondary pneumonic infiltrations. The alveolar cells, when under such abnormal pressure, are not able to overcome the effects of inflammatory material which may have become aspirated. They can do so under ordinary conditions by their normal vital resistance (Nauwerck).

However, the disturbance in the intrapulmonary diffusion of gases gradually becomes regulated. The partial pressure of the carbonic acid accumulating within the blood gradually reaches and partially overcomes the tension of the ether vapors within the alveoli sufficiently to permit its escape from the blood into the same. The cyanosis disappears with the initial carbonic acid asphyxia and the true ether narcosis begins. But the carbonic acid within the alveoli still encounters an abnormal resistance from the ether which is constantly pouring into the lungs. The complete escape of carbonic acid gas in expiration is, therefore, obstructed. The gas gradually accumulates in the lung parenchyma and at a certain tension its intra-alveolar pressure helps to force the ether into the blood. It is this gradual increase of the pressure of the carbonic acid gas within the lungs that enables the blood to retain a certain amount of ether. Although elimination of ether is almost equal to its absorption, it is the slight excess that remains in the blood which suffices to affect the brain and produce unconsciousness. The greatly accelerated rhythm of breathing, which increases the amount of oxygen entering the blood, facilitates the elimination of carbonic acid by the laws of diffusion of gases involved in normal respiration. Incidentally the elimination of ether is also facilitated. For this reason death from ether on the operating table is almost impossible as long as respiration is efficient.

On the other hand, all these processes just described account for the fact that ether narcosis sometimes has such deleterious effects on patients suffering from lung trouble. The primary and only condition for the regular elimination of the ether vapors is an absolutely intact lung—a lung that is able, if necessary, to do more than the usual amount of work.[4]

To sum up: Schleich believes that it is only on account of its high B. P. that chloroform, when administered for narcosis, is absorbed by the blood to a greater extent than is needed for the purpose. It, moreover, leaves the organism only by degrees. In doing so it overtaxes all the parenchymatous organs, thereby injuring their cells. Ether, on the other hand, with its B. P. at 93.2 F. (34 C.), is converted into vapor so rapidly when inhaled into the lungs with their temperature of 100.4 F., that it would not enter the blood at all—loosely bound as it is—if the alveoli did not first become overfilled with carbonic acid gas, producing primary cyanosis and dyspnea. It is with the help of this cyanotic attack that, it seems, the narcotic effect of the sulphuric ether begins.

4. Whether this physical reasoning of Schleich is correct *in all its details*, I do not propose to discuss here.

ANESTHETIC MIXTURE.

Being personally convinced of the correctness of these deductions, supported as they were by the results of his experiments on animals, Schleich started his research for the purpose of finding a narcotic, the B. P. of which would correspond to the T. B. That is to say, he wanted to find a safe and inexpensive narcotic of which the amount eliminated during expiration would almost equal that absorbed during the previous inspiration. If this could be accomplished, such new narcotic substance would not—Schleich felt confident—share the annoying effects of ether and chloroform when administered alone, nor the many dangers involved as regards the patient. Such new anesthetic could be found in a mixture only.

The use of mixtures of ethereal substances for general anesthesia is nothing new in the history of anesthetics. Thus the English have had their A.C.E. mixture of world-wide fame for the last thirty-three years. At Vienna a mixture of one part of chloroform and six parts of ether has been used so extensively as to be known for a long time as "the Vienna mixture." The late Professor Billroth of Vienna used a mixture of one part of ether and alcohol each and three parts of chloroform. These mixtures were liked and praised by many; they were absolutely denounced as ineffective, dangerous, etc., by others. Kocher of Bern stated that he never permitted the use of the latter mixture in his clinic, because he was sure that in administering it to patients a small quantity of chloroform, of ether and of alcohol would be absorbed. He declared himself opposed to mixing narcotics. In an article by an American writer[5] we find the following words: "Against such mixtures the argument has always been urged that a new chemical is not thus made with a single rate of diffusion; and that, while the rate of relative evaporation is doubtless in part modified by the mixture, the patient substantially gets first ether, then chloroform, then alcohol, in order of volatility. The writer agrees with the majority of authors in feeling that a gain in security is not made thereby. 'Straight drinks' are the safest, to speak after the manner of the world."

Correct as this may seem theoretically, in practice mixtures have proved safer than ether or chloroform alone. Our English colleagues have reported 15,000 cases of major anesthesia with the A.C.E. mixture without a single death. It is also stated from Vienna that there have been 8,000 administrations of the Vienna mixture without a death. The reason for the greater safety of the so-called mixtures, according to Schleich's investigations, consists in the fact that they are chemical solutions—not mixtures—having a new B. P. different from that of any of the components. Thus the B. P. of the A.C.E. mixture is about 119 F. (49 C.), certainly a good deal nearer the T. B. than chloroform, with its B. P. at 149 F. (65 C.). Schleich was the first to make this assertion.

SCHLEICH'S EXPERIMENTS WITH MIXTURES.

On the basis of this conviction, Schleich experimented with different ethereal substances with a view to finding a mixture the B. P. of which would correspond to the T. B. After considerable experimenting he at last selected ether, chloroform and petrolic ether (that is, benzine). The latter's action, as Schleich maintains, is indifferent, as far as its narcotizing effect is concerned.

5. R. H. M. Dawbarn: General Considerations on Major Anesthesia, etc., New York Polyclinic, April and June, 1897; Atlanta Medical and Surg. Journal, August, September and October, 1897.

It is used for the purpose of diluting the chloroform, that is to say, for the purpose of diminishing the latter's poisonous effects on the system. In order to be effective it must have its B. P. almost equal to that of chloroform, about 149 F. (60-65 C.). Schleich makes the following postulates:

1. By so mixing various ethereal substances the resulting fluid is a real solution in a chemical sense;[6] a new fluid, a new narcotic, if you so wish, and not a mixture of different ethereal substances which evaporate each, individually.

2. By changing the proportion of the components we can change the B. P. of the solution at will, according to necessity arising in a given case. We can thus individualize, i. e., we can in a given case adapt the B. P. of the narcotic to the T. B. as the thermometer may have shown before operation.

3. These facts hold good and are verified in regard to cold-blooded as well as warm-blooded animals. Frogs and crabs did not react differently from doves, rabbits and cats with reference to an anesthetic, the B. P. of which did not correspond to the T. B.

4. The result is the same, no matter whether the solution be inhaled, given per rectum or injected subcutaneously.

5. In administering the solution to the human subject the results are exactly the same as those observed in animals.

The possibility of changing the B. P. of the new anesthetic mixtures at will induced Schleich to recommend three different mixtures, their proportion to be based on the facts mentioned above: that the higher the B. P. of a narcotic the slower will be the process of elimination from the system. Schleich thus made three standard mixtures of the following composition, prepared by volume, not by weight:

Chloroform	45 cc.=1½ oz.	45 cc.=1½ oz.	30 cc.= 1 oz.
Sulphuric ether.	180 cc.=6 ozs.	150 cc.=5 ozs.	80 cc.=2 2/3 ozs.
Petrolic ether...	15 cc.= ½ oz.	15 cc.= ½ oz.	15 cc.= ½ oz.

THE AUTHOR'S EXPERIENCE WITH PETROLIC ETHER.

The paper comprising the foregoing points, also my clinical observations made with Schleich's original mixtures in 100 cases, and read before the Medical Society of the County of New York on Dec. 27, 1897, never appeared in print. A rather extensive report of the same, however, can be found in the New York Medical Record, Jan. 8, 1898, furnished by one of the reporters of that journal, who had been present at the meeting. The reason for my not publishing the paper I will briefly mention here:

Schleich's mixtures, as just stated, contain chloroform, ether and petrolic ether, the latter being benzine with a B. P. of 60-65 F. (15-18 C.). Petrolic ether being a substance which I had never heard of as possessing anesthetic properties, I asked Dr. S. J. Meltzer of this city, the well-known physiologist, a few weeks before I presented the above-mentioned paper, to oblige me by making some animal experiments in order to ascertain the action of this agent on the animal organism. In a letter received from Dr. Meltzer,[7] under date of April 13, 1898, he stated: "According to my experiments petrolic ether, as used in Schleich's mixtures, if administered pure, has no narcotizing effect at all, but produces in rabbits and guinea-pigs convulsions, soon followed by tetanus and opisthotonus; if the inhalation be continued the animals die with symptoms of tetanus. If petrolic ether is administered in combination with sulphuric ether, the resulting paralysis remains unchanged. The conclusion seems justified that if this mixed narcosis were extended the animals would most probably die of paralysis of the respiratory muscles."

Petrolic ether, as stated by Schleich, was added in order to reduce the effect of the chloroform in the mixtures "for the purpose of dilution." The small amount of petrolic ether in these mixtures—1/16 to 1/8 per cent. of the entire volume—explains, it seems to me, why those who had employed Schleich's anesthetic mixtures did not meet with deplorable accidents in some of their patients.

Shortly before I received Dr. Meltzer's communication, my friend, H. P. Weidig, Ph.D., of Newark, N. J., an expert chemist, found, on analyzing these mixtures, that they contain a permanent nucleus—a chemical combination of chloroform and ether according to their molecular weight. Chloroform has a molecular weight of 119.5; sulphuric ether, 74. Thus, 119.5 grams of chemically pure chloroform and 74 grams of absolute sulphuric ether, or, expressed in volume: 43.25 parts of chloroform and 56.75 parts of ether mixed together, enter into chemical combination, which truly represents a new anesthetic. It contains neither free ether nor free chloroform and has a B. P. of its own at 125.6 F. (52 C.). We called this product "molecular solution" (of chloroform and ether), or abbreviated, "M.S."

I would emphasize that this finding of Dr. Weidig's of a true chemical combination of chloroform and ether according to their molecular weight, constitutes a hitherto unknown chemical fact, as it seems, a fact which I consider to be of great practical importance.[8]

Schleich's mixtures, according to Dr. Weidig's investigations, contain this fixed molecular solution of chloroform and ether (M.S.) plus 36 to 53 per cent. (in volume) of free ether, plus petrolic ether, the latter most probably not in chemical combination. Therefore, our patients when subjected to general anesthesia by means of Schleich's mixtures, in the beginning of the narcosis inhale pure ether plus M.S. plus petrolic ether. As soon as the ether and petrolic ether, which are not in chemical combination, have evaporated—and this will probably soon be the case—the narcosis continues with M.S. In other words, in the administration of Schleich's mixtures the anesthetic was adapted to the temperature of the body at the beginning of the narcosis only; soon after the latter was continued with one of a higher B. P., 125.6 F. (52 C.).

THE ABANDONMENT OF PETROLIC ETHER.

These physiologic and chemical facts, established through our efforts here in New York, convinced me of the inadvisability of continuing the Schleich's mixtures for purposes of general anesthesia, and prompted me to withhold from publication the paper I had read on the subject—a paper which had been written for the sole purpose of bringing before the profession the supposed advantages of Schleich's mixtures. On Dec. 27, 1897, I proclaimed these mixtures, on a basis of my personal clinical experience, before a large audience of medical men as "having come to stay," and now, three months later, in view of these absolutely unexpected revelations, I felt in duty bound to abandon their use!

6. This is not in accordance with the result of the chemical analysis made by Dr. H. P. Weidig, which see later.

7. Conf. author, N. Y. Med. Rec., 1898, p. 607, "Schleich's Mixtures for General Anesthesia."

8. It is not claimed, that ether and chloroform form a new body, such as, for instance, acetone and chloroform do. The term "chemical combination" is, used in the sense that the two components, chloroform and ether, dissolved in each other in molecular proportion, will resist fractioning by distillation to the last, i. e., this molecular solution of chloroform and ether has an evaporating point of its own.

However, I parted from them with sincere regret, for I had been charmed with their effect. During sixteen weeks of continuous use in my surgical work in private and hospital practice the narcoses with these mixtures had been so uniformly good that I was convinced that the improvement in general anesthesia, so much sought after, especially in regard to our daily practice, would have to be looked for principally in the direction of physical improvement of general anesthesia rather than in the chemical improvement of anesthetics. I therefore determined to try to find a mixture that would contain neither petrolic ether nor free ether, and yet have a boiling point corresponding to the temperature of the human body.

It was due to the invaluable and continued assistance of Dr. Weidig that I was enabled to successfully pursue the task I had set for myself. During the time of experimentation (the first part of the year 1898) I administered M.S. for general anesthesia and found it to be an excellent narcotic.[9] I might mention parenthetically that M.S. is still used by a number of surgeons at the German Hospital.[10]

THE ORIGINATION OF ANESTHOL.

As stated before, the B. P. of M.S. is 125.6 F. (52 C.). Now, if Schleich's reasoning were correct it was clear that if M.S. could be modified in such a way as to give it a B. P. at 100-104 F. (38-40 C.), such modified anesthetic—being in absolute conformity with Schleich's principles—would be still safer than M.S. and represent at the same time the logical mixture for general anesthesia. After considerable experimenting it occurred to Dr. Weidig to try the admixture of ethyl chlorid, which has a B. P. at 59 F. (15 C.) and M.S. He found that a mixture of 18 per cent. volume of ethyl chlorid plus 82 per cent. volume of M.S. has B. P. at 100.4 F. (38 C.); 17 per cent. volume of ethyl chlorid plus 83 per cent. volume M.S. has B. P. at 104 F. (40 C.); 16 per cent. volume plus 84 per cent. of ethyl chlorid volume of M.S. has a B. P. at 107.6 F. (42 C.).

Considering it unnecessary to make so fine a distinction I proposed that the first and third mixtures be dropped and the second one only be used, viz., 83 per cent. volume of M.S. plus 17 per cent., volume of ethyl chlorid, which has a B. P. at 104 F. (40 C.), thus employing one and the same mixture for all cases. Just at that time the anesthetic properties of ethyl chlorid as such were published by R. Ludwig[11] and G. Lotheissen.[12] The success and lack of accidents in the employment of pure ethyl chlorid for general anesthesia, as brought out in these articles, gave me sufficient courage to test Dr. Weidig's new mixture in the living without previously experimenting on animals. This new mixture we termed "anesthol."

THE FIRST USE OF ANESTHOL.

I used anesthol for the first time Oct. 15, 1898, in an interval operation for appendicitis. The narcosis and its sequelæ were all that could be desired, equal to the best I had seen from the use of Schleich's mixtures. Since that time I have used anesthol almost exclusively in all my operations requiring general anesthesia, in hospital as well as private practice, that is, for a period of nearly four years. The only exceptions were such operations on the face where I deemed pure chloroform preferable.

DESCRIPTION AND PROPERTIES.

Anesthol is a clear, transparent fluid of very agreeable odor; it has a sp. gr.[13] of 1045 and a B. P. at 104 F. (40 C.). It is a chemical combination of ethyl chlorid and M.S., not a mixture; for, on evaporating 1000 c.c. of anesthol for five hours at a uniform temperature of 104 F. (40 C.) 22 c.c. (2.2 per cent. volume) with a sp. gr. of 1,262, were left. The sp. gr. of chloroform is 1,490. This fact proves that up to the last moment a "solution of components" discharges and does not leave a final residual chloroform, the narcotic with the highest B. P., as is the case in Schleich's mixtures (Weidig).

The analysis with regard to the actual quantity of each of the three drugs contained in anesthol according to volume, as made by Dr. Weidig, showed that anesthol contains 17 per cent. of ethyl chlorid, 35.89 of chloroform and 47.10 per cent. of ether, representing as will be seen, a proportion of about 1:2:3. It certainly is of interest and worthy of note that the proportion of the renowned English A.C.E. mixture is the same. The latter, however, was constructed in an empiric way, while anesthol is based on scientific principles, being the result of an attempt at adapting the B. P. of an anesthetic chemical combination of chloroform and ether, M.S., to the temperature of the human body. After this had been accomplished on a strictly scientific basis the resulting new anesthetic chemical combination of ethyl chlorid, chloroform and ether (anesthol) was analyzed with the above stated result.

Any one can, of course, prepare anesthol; it is not patented. It is put up in 4, 8 and 16 ounce bottles. It can be had at the principal drug stores.[14]

(To be continued.)

9. Conf. N. Y. Med. Rec., April 23, 1899, p. 607.

10. Braun of Leipzig favors a mixed narcosis of ether and chloroform, both administered at the same time, but each individually, by means of a special apparatus, not, as we did, both at the same time in chemical solution on one mask. (Report of Congress of German Surgeons, Berlin, 1901.)

11. "Ueber Narkose mit Aethylchlorid," Beitr. z. Klin. Chir., vol. xix, p. 639, 1897.

12. Arch. f. Klin. Chir., vol. lvii, p. 865, 1898. See also: M. W. Ware, "One Thousand Personally Conducted Cases of Ethyl Chlorid Narcosis," paper read before the Section on Surgery and Anatomy, of the American Medical Association, Saratoga, 1902. THE JOURNAL A. M. A., Nov. 8, 1902, p. 1160.

13. I might state here as an interesting fact that the specific gravity of anesthol is very near that of the human blood, viz., 1,056-1,059, certainly nearer than that of any other anesthetic in use.

14. Personally, I have always procured anesthol of Messrs. Chas. Cooper & Co., 194 Worth St., New York, of which firm Dr. H. P. Weidig is a member. It is prepared under the latter's personal supervision. Its purity and correct composition are guaranteed. In order to insure results that will be of value in drawing conclusions from the observations of others, I would strongly urge that anesthol of this manufacture only be used.

SOME NOTES ON AURAL VERTIGO.*

B. ALEX. RANDALL, A.M., M.D.
PHILADELPHIA.

Aural vertigoes have attracted a great deal of attention, especially of late years, yet they constitute a very little known field of our work, while their serious inconvenience or their actual disablement of the patients render them of great practical importance. Like the matter of subjective noises in the head the causation is so multiform that each case presents a problem of considerable difficulty and demands close and discriminating study in order to locate and improve the condition. Advance in this direction has undoubtedly been made by those who have laid stress on the tympanic origin of many of these cases, except when they have ignored or belittled the other elements of etiology and have assumed, because cure has been occasionally reached by

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

procedures directed to the tympanum, that no labyrinthin cases exist. "Menière's disease" as a distinct entity has certainly suffered much eclipse of late years and our views on the subject have expanded; but the narrowness of view, which would exclude it wholly from consideration as a complex of symptoms due to labyrinthin involvement, is certainly little calculated to advance the general understanding of the subject.

Especially since the grippe epidemic of the last ten years cases of labyrinthin involvement have been not infrequent, and a history such as that of the following case can leave little doubt as to the nature of the lesion. A trained nurse, 25 years of age, awoke one morning after a period of entire health to find herself too dizzy to lift her head from the pillow, falling back helpless at the effort and becoming nauseated by the rotation of everything about her. The left ear was totally deaf, without discharge, pain or other involvement. The condition grew better after some days in bed and at my first examination I found only moderate vertigo and no hearing on the affected side for any tone from the lowest to the highest. Under alterative measures she speedily recovered and was able to resume her duties. Her hearing returned for all notes of the Galton whistle (some 40,000 down to 4,000 double vibrations per second), but below this point she remained absolutely deaf to all tones and was therefore unable to hear any speech in this ear. No evidence of tympanic disease was at any time present and the lesion was probably hemorrhagic and undoubtedly in the upper turns of the cochlea.

Politzer[1] says: "For the differential diagnosis between the labyrinthin form of Menière's symptom-complex and that due to middle-ear affection, the tuning-fork tests are of importance. If the Rinne test is positive in advanced defect of hearing, the duration of perception of the fork-tone through the bone shortened, the loud watch-tick unperceived by bone conduction, while deep tones are well heard by air conduction, no doubt underlies the diagnosis of a labyrinthin affection."

It is in these labyrinthin cases that our testing of hearing by tuning forks and other methods must be complete and precise, and in these, therefore, the limitations and uncertainties of these tests will come most conspicuously to notice. The tuning forks may elicit contradictory and valueless responses from our patients and show the fallibility common to subjective tests; yet the judicious employment of a sufficient variety of tones should bring the matter fairly within the control of the examiner and explain or eliminate many of the contradictions. Those who have employed but a single fork and endeavored thereby to discriminate between tympanic and labyrinthin affections are generally confessedly unable to afford us any clear criteria for their views, which they claim empirically to have verified; but this must not discourage us from the more thorough study of the range of hearing and the relation of sound conduction by air and by bone as a means of learning the truth in these matters and better deciding our lines of treatment.

The severe cases of aural vertigo are certainly rare and the number seen even in extensive practice will always form but a poor basis for any sweeping dicta as to the general subject; and the differences which are encountered by different men will always present illustrations of the two sides of the shield and the importance of the point of view of the observer. It will fairly define my own position if I say that in the past ten years I have been seeking cases suitable for relief by intratympanic operation, and in upward of a hundred cases have met but a single one in which I could feel justified in operation for the relief of pressure on the stapes, and this in a woman of utterly neurasthenic type, who was notably relieved at first by catheter inflation. She has been anything but a brilliant example of the benefits of operative treatment, and would probably have been as much helped by the anchoring of her floating kidney as she claims to have been only after months by the operation on the incus. In the great majority of the cases of vertigo which have come under my observation neurotic and general vasomotor influences have seemed largely at fault for the symptom, except in the considerable group in whom the catarrhal affection of the eustachian tubes and tympanum was so clearly at fault that treatment by the catheter directed to this condition could be fairly expected to give the relief which was obtained.

In the neurotic individual benefit by the catheter may be at first also notable; but the strain of its employment tells unfavorably on their impaired physique, and continuance of the procedure is unwise or detrimental. Its influence must, therefore, be considered similar to that of any impressive measure whether operative or not, and to whatsoever part directed, and is ascribable more to emotional shock than to any physical or physiologic change of relations.

It is as to the third group of generalized vasomotor conditions that I feel that I may offer some suggestions rather constructive than destructive. Some of these cases present a nearly typical Menière attack, with tinnitus, vertigo, deafness and unconsciousness; but some of the worst instances lack one or the other of the most characteristic elements and the impression has a transitory character, which excludes all probability of notable physical change. Even the serous exudation into the labyrinthin structures, which Gruber has urged as the causation of many aural vertigoes, can hardly be assumed for conditions which are so sudden in onset and so immediate in recovery; and the perfect hearing which persists in some of these cases, although the attack is severe enough to fell them as though struck by a hammer, raises the question as to whether the lesion is not wholly central. Its vasomotor causation is rarely in doubt and moderate arteriosclerosis is fairly discernible in most of these cases. The therapeutic test well bears out this view of their etiology, and medicaments directed to improve the vascular condition, the iodids and other absorbents, strychnia, quinia and other vascular tonics, but especially the adrenal extract, have given me a notable gain in many of these cases which had proven stumbling blocks to previous attendants. Combination of the various elements is to be expected in many cases, and our therapeusis and regimen must be judiciously directed to the needs of the individual; but I desire particularly to direct attention to the value of adrenalin for the forstalling of these attacks and building up of that self-confidence which is often so seriously impaired in the subject of such a disorder. It is needless to go into any disquisition on the physiologic effect of this potent addition to our remedies, nor is it needful to point out its usual antagonism to nitroglycerin and the need for tentatively employing these opposed medicaments quite empirically in some instances. Yet it may be generally laid down that in the cases of marked vertigo of transient and otherwise undeterminable causation the adrenal may be expected to steady the circulation of the premonitory phase of the

1. Text-Book, Fourth Ed., p. 601.

trouble and prevent the occurrence or greatly abate the severity of the vertiginous attack. Its cautious employment for this tonic as well as prophylactic effect has been most happy in a number of cases which had yielded to no other line of treatment and in some of which the experimental use of nitroglycerin had greatly increased the disturbances.

I would recommend, therefore, that in all cases of vertigo coming to the otologist he should employ minute methods of study as to the tympanic and labyrinthin condition, but also investigate personally or through the aid of a judicious physician all the general aspects of his patient's case. He should exclude or relieve all involvements of the accessory nasal cavities, investigate the refraction and muscular relations of the eyes, as well as learn whatever teaching may be given him by the eye-grounds and, abating nothing of the local treatment by inflation and massage, which the aural condition may seem to demand and using strychnia and other tonics according to the general needs of the patient, he may yet employ as a direct and almost specific means of treatment this vigorous vascular tonic, which has been given us in the adrenal extract.

DISCUSSION.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I have at the present time a troublesome case of aural vertigo, which illustrates one phase of which the Doctor spoke. This man improved for a number of weeks under the catheter and aural massage in connection with such general treatment as was given him by his family physician. But now the period of improvement seems to have passed, and I am not apparently doing him any good. Given a sudden change of temperature from warm to cold and an attack may come on at any time. He is better under continuous warm weather, and he has gone south for a number of winters. Our New England temperature is so changeable that he has never dared to go away from home without taking his wife or daughter with him, for several years, for fear of being overcome with an attack when alone.

DR. C. H. BAKER, Bay City, Mich.—I think the author of the paper made the statement that a case he mentioned was probably hemorrhagic and that the lower tones were lost so that the patient did not recover the power of hearing speech, and I think he gave that as an indication that the hemorrhage was in the upper convolutions of the labyrinth. I was under the impression that the destruction in the lower portion of the labyrinth causes impairment of the lower tones and that the higher tones are disturbed by the involvement of the upper portion. As to the case mentioned by the last speaker, the effect of sudden lowering of the temperature would be to raise the blood pressure by contracting the arterioles, and there I would think adrenalin would be contraindicated, since it would practically do the same thing, and nitroglycerin, from theory, we would expect to be more beneficial. The most distressing case of this disorder I have seen occurred in a man so youthful that it could hardly be thought of as a case of arteriosclerosis. Before the vertiginous attacks began he had symptoms of tinnitus, without impairment of hearing. He has now apparently lost the hearing. The bone was apparently undergoing hyperplasia and filling up the canals, the pressure destroying the activity of the nerve elements.

DR. RICHARDS—In my case, the patient always had nausea with the attacks.

DR. SARGENT F. SNOW, Syracuse, N. Y.—I wish I could have heard this paper before, for I had a case last summer in which I believe adrenalin would have been of much temporary benefit, which probably is all the Doctor hopes for from its use. The chief thing to think of is the removal of the cause, and eustachian destruction is often the main factor of these vertigoes. In the last year I have had two cases. In one case, a woman, the only abnormal condition I could find was some enlargement of the middle turbinates. She could not stay for prolonged treatment, but could have some operative work done. Removal of the turbinates was followed by a cure, and there has been no return. The other case was a man, about 55 years of age, with such intense vertigo that at times he had to be led about the street. He also had obstructed eustachian tubes. I removed the turbinates without avail. Looking further into the condition of the man, I found the whites of the eyes very yellow and the other general appearances that go with a torpid liver. I could get no results that remained at all constant until his liver was aroused. At first I gave him a good sized blue mass pill twice a week and later every week. The eustachian tubes in this case, as well as the first, were obstructed, but this has now cleared up.

DR. GEORGE M. CASE, Elmira—I think Dr. Snow has well represented the condition of affairs. We have not only to look to the local conditions but also to the constitutional conditions. My experience in the treatment of aural vertigo is that you will often find a toxemia or a lithemic condition. A great many of these cases would be relieved by the combined treatment. If we attempt to cure them by only relieving the stenosis of the nose and eustachian tube, we will often fail. It is noteworthy that in many cases of tinnitus and vertigo the constitutional condition is an important factor. In the great majority of cases in plethoric patients I use pilocarpin. Of course, I suppose adrenalin might take the place of it as a temporary expedient.

DR. C. R. HOLMES, Cincinnati—This is a subject of great importance, because we encounter it so frequently. I have had a few cases of severe vertigo. In fact, I have the records of three cases with epileptoid seizures, which were entirely relieved by opening the eustachian tube. One man, in particular, who was entirely deaf from childhood, began having these attacks. On his way to Cincinnati he had two attacks. While sitting in the car he slipped off the seat. He had attacks similar to those of epilepsy, but without the biting of the tongue. They were relieved by opening the eustachian tubes, but they recurred until the general condition was looked after. I now never undertake the treatment of a case without going into the patient's manner of living, to find the conditions that it may be necessary to correct, such as the method of living, eating, drinking and clothing. I have printed, for the benefit of my patients, slips, which I hand to them that they may not need to ask me a lot of questions, the answers to which they will forget. I give these slips to all my nasopharyngeal and aural patients. I think the general treatment is of vast importance.

DR. J. C. BECK, Chicago—I have in mind one case of aural vertigo in which no trouble was found in the nose or throat. I could clearly obtain the history of specific disease. The patient does not need to reach the usual age of arteriosclerosis to have that condition after syphilis. We find many cases of vertigo are syphilitic in nature, and, therefore, constitutional treatment is certainly called for. Iodid of potassium and the thorough use of mercurial inunctions cured my case.

DR. B. A. RANDALL, Philadelphia—When my paper is read I think the gentlemen will note that the constitutional conditions are fairly gone into, and that I am almost as bad as Haig in attributing to gout and the uric acid diathesis every ill that flesh is heir to. The point made by Dr. Snow is good, that the effect from the adrenal is temporary; but it is often important to get the effect quickly, even though only temporarily, to meet the crisis that is imminent in these cases. We may give the adrenalin chlorid if the aura is very short and no time remains for the slower absorption of the powder, but otherwise the desiccated adrenal or its solution should be used, for with it a more prolonged effect can be secured. If we contract the vessels with adrenalin we may expect some reactive expansion in most cases, and we must meet this with strychnia and other tonics. But the promptness with which the adrenalin can act in the stage of aura or prodrome, which is recognized in not a few of these cases, enables us to permit them to walk abroad like free men and women and that is no small gain. As to nitroglycerin, it is distinctly indicated in some of the very flabby neurasthenic cases, who will improve very much

under its employment and lose the dread of vertigo. But, on the other hand, one of my patients, a gentleman who seems to have been so pleased with the effect of the adrenal that he has been sending me patients ever since, was apparently made worse by the employment of nitroglycerin. He is distinctly neurotic. He is one of the type who can ride in an automobile or trolley without catching a cold, but is stuffed up at once when he rides behind a horse. Of course, these cases are known, but they are relatively rare. Whether these cases are rheumatic or due to some other intoxication, they are subject to easy impression, and the use of adrenal is of special value.

I need hardly answer the point raised as to the structure of the cochlea, which entails the disputed Helmholtz theory and is one of the paradoxes of the auditory apparatus, of which we have so many. In the first turn of the cochlea, where the tube and the expansion of the bony lamina is at its broadest. the basilar membrane of the cochlea is at its smallest. Where all the other parts of the cochlea are smallest, the fibers of the membrane are longest, and here at the apex the lower tones are heard, while the high tones are heard in the lower portions of the cochlea.

TRANSILLUMINATION OF THE NASAL ACCESSORY SINUSES DURING ACUTE CORYZA.*

CAROLUS M. COBB, M.D.
BOSTON.

Transillumination of some of the accessory sinuses has been one of the stock tricks of traveling showmen for many years, and in every village where they exhibited a few of the more daring boys learned to make "fire come out of the eyes," and were a decided nuisance with it until something else took up their attention. That a lighted taper held in the closed mouth would, under proper conditions, illuminate the pupils of the eyes has probably been known for many years, but it was not known that the phenomenon was of any practical importance as a means of diagnosis until Voltolini of Breslau published the results of his experiments in 1888. In 1889 Heryng of Warsaw elaborated these experiments and placed transillumination on a practical working basis. Brown Kelly of Glasgow first called attention to the fact that the rays of light entered the eye and could be perceived by the patient. This was in 1892, and his observation was shortly followed by similar ones by Garel of France and Burger of Germany. Davidsohn called attention to the fact that if the eyes were opened during the experiment a dull red reflex could be seen in the pupil, and in a scientific way we have made useful, as a means of diagnosis, the trick of the traveling showman which was copied by the small boys of making "fire come out of the eyes."

In transillumination of the antrum of Highmore the rays of light pierce the hard palate, and first enter the nasal chambers and from there through the external nasal wall to the antrum, and then through the roof of the antrum, which is the floor of the orbit, and then the coats of the eye, and so become visible as a dull red reflex in the pupil. It is evident that this is the course of the light, for in a vast majority of the cases the floor of the antrum does not extend over the hard palate far enough for the rays of light to enter it directly. The floor of the antrum is generally just above the alveolar process, and therefor light would meet with less resistance in following the route as given above. The course of the light leads to a source of error which we will call attention to later.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

MEANS OF ILLUMINATION.

To obtain satisfactory results it is necessary to have a dark room and an electric lamp of sufficient candle power. The dark room is generally easy to get, but it has been my experience that it is not so easy to obtain electric lamps of the requisite candle power. When I first began to transilluminate the sinuses I was not at all satisfied with the results which I obtained, and during my investigation to find the reason for my unsatisfactory results I took my lamps to the General Electric Company and had the candle power measured. I found that lamps which I had bought as two and four candle power were all less than one, and some of them of less than one-half candle power. I have had the same experience when I have bought lamps of instrument dealers, until I have come to the conclusion that they make no effort to ascertain the candle power of the lamps which they sell. One reason for the lack of illuminating power of the lamps ordinarily sold for this purpose is that they are too small and it is absolutely impossible to get sufficient light from these toy lamps. Lamps of sufficient power can be obtained from reliable manufacturers of electric lamps, but they are quite likely to sell you what you ask for, and if you demand a small lamp you will get as efficient a lamp as can be made in that size, but probably it will not be what you want for the work. Even if it is fairly satisfactory for a time, it will soon lose its efficiency and be worse than useless because the results obtained will be unreliable.

TECHNIC.

The technic of transillumination of the accessory sinuses is very simple, provided that you have lamps of sufficient candle power, and by its use we may get confirmatory evidence in regard to the condition of the antrum and frontal sinus. We can compare the two sides, and, what is of more importance, we can compare the condition of the sinuses, as shown by the light reflex, at different stages of an acute attack. The method which I have used for transillumination of the antrum is to have the patient hold a four or five candle-power electric lamp in the closed mouth, being particular to have the lamp held as nearly horizontal as possible. If the antrum is healthy this will usually give the light crescent under the lower lid and the red reflex in the pupils. I have not had sufficient experience with the method of Escat to form an opinion of its merits. His method, briefly, is to carry an electric lamp protected by a metal funnel, to the outside of the antrum, between the cheek and the external wall of the antrum. It is claimed for it that it gives the same results as the other method, and that it overcomes a source of error, i. e., the obstruction to the passage of the rays of light caused by growth, hypertrophies or deformities in the lower meatus. The frontal sinus is illuminated by pressing a small electric lamp, protected by a hood, against the inner angle of the orbit, just below the superciliary ridge. All of the members of this Section are perfectly familiar with the sources of error in transillumination, and I shall call your attention to only one, which can, with a little care, ordinarily be overcome. The one to which I allude is the effect that blocking of the lower meatus may have in preventing the passage of the rays of light. Obstruction in the middle or superior meatus does not have so much and often not any influence. If the obstruction in the lower meatus is of a permanent nature the question of removal is to be considered, but temporary congestion can be removed by

the application of adrenalin, and I have found it an advantage to use it if the congestion is at all marked.

CLASSIFICATION OF CASES.

What diseases may extend to the nasal accessory sinuses and what proportion of the cases of inflammation of the nasal chambers, from whatever cause, are accompanied by involvement of the accessory sinuses, is a question of the utmost importance. I have to report the results of some work which I have done in transillumination of the accessory sinuses during the course of acute coryza. These results are, of course, subject to all the sources of error that may be encountered in transillumination in general, and the conclusions to be drawn from the findings can be accepted only subject to this element of doubt. I have transilluminated 30 cases of acute coryza, and I shall not weary you with a detailed account of each case, but rather divide them into classes or groups. This division is, to a certain extent, arbitrary, but will serve to study the condition.

Under the first group I have included all of the cases that were seen during the first twenty-four hours of the beginning of the acute coryza. There were six of these and transillumination gave negative results, although two of them later on in the course of the disease gave a shadow in one antrum. Two of them I did not see again, and in two of them the antrum and frontal sinuses remained clear.

The second class includes those cases which were seen during the later stages of the attack, or rather the cases in which the attack persisted longer than the usual cold and gave discomfort enough so that the patients sought relief from special treatment. These cases were originally more severe than the ordinary cold, or had become so by neglect or exposure. There were five of these and in two the antrum and frontal sinuses were clear, one gave a dark shadow in one antrum and one in both, and one had one frontal sinus that was dark.

The third class includes those who had pain either in the face or head. All but one of these cases had that peculiar form of headache that usually begins about 9 or 10 a. m. and continues with more or less severity for 5 or 6 hours and then disappears completely until about the same time the next day. If the pain is unrelieved it may come earlier on succeeding days and last later until it is nearly continuous. It is known under various names, such as hemicrania, brow ague, sun headache, etc. In the four cases which had this pain I found the antrum dark on the same side as the pain. I was surprised to find the frontal sinus invariably clear. I fully realize that four cases do not furnish sufficient data from which to draw conclusions, but I certainly feel that even this number of cases may stimulate others to continue the research. At present we can only say that it is interesting and, while it may be merely a coincidence, it may, on the other hand, lead to some definite knowledge of this class of headaches and in this way be of benefit to our patients. The other case was interesting from the fact that he had had a variety of diagnoses made of his disease. The pain was diffuse over the left side of the head and in the back of the neck, and he was told at first that he had beginning typhoid fever, later that he was suffering from eye strain, and after he had had his eyes examined and glasses gave no relief, that he was suffering from brain fatigue. He then consulted Dr. C. E. Meader of Lynn, Mass., who suspected the true cause of the pain and sent him to me for transillumination. I found the left antrum dark and treatment to improve the nasal drainage gave him relief from his pain, although it was several weeks before the antrum was entirely clear.

The fourth group includes the cases which had otitis media as a complication during the course of the acute coryza. There were fourteen of these and they were of the usual severity. In ten of these cases one or both antra were dark on illumination. In many of the cases the ethmoid cells were also involved, but the frontal sinus was very rarely dark on transillumination. As a matter of fact, in all of the thirty cases the frontal sinus was involved alone in only one case. I do not wish to be understood as claiming that all cases of otitis media have also involvement of the nasal accessory sinuses, but what I have found in these cases is that if the otitis media exists as a complication of acute coryza the nasal sinuses are likely to be involved. It does not seem surprising that the nasal accessory sinuses should be involved if the infection is severe enough to affect the middle ear, because the ear infection can only result from the disease extending a much longer distance than would be the case in involvement of the accessory sinuses. All of the explanations that are given for the extension of the inflammation to the middle-ear cavity apply with equal or still greater force to the extension of the disease to the nasal accessory sinuses. All cases of otitis media which did not originate as a complication of an attack of acute coryza have been excluded, and I have made no attempt to find what proportion of the cases of otitis media originate in this way. I have no theories to advance, but have confined myself to a statement of the facts which I have observed, and while it may be possible that I have had an exceptional series of cases, still I can not help feeling that, under ordinary circumstances, we shall find the nasal accessory sinuses involved in a much larger percentage of these cases than we now believe to be the case.

SUMMARY.

In closing I wish to call your attention to the following summary:

First, that to do satisfactory work it is necessary to have lamps of much greater candle power than those usually sold by instrument dealers.

Secondly, that it is rare to find the acessory sinuses dark on transillumination during the early stages of acute coryza.

Thirdly, that during the later stages of a prolonged attack it is the usual result to find one or more of them dark.

Fourthly, that hemicrania is often closely associated with antrum disease.

Fifthly, that it is almost the rule to find one or more of the nasal accessory sinuses involved when the ears are affected during acute coryza.

DISCUSSION.

Dr. Allen DeVilbiss, Toledo, Ohio—I believe my failures—to a considerable extent—in getting transillumination have been for the very reasons Dr. Cobb has stated. I shall certainly try a stronger light. His ideas of voltage are good.

Dr. B. A. Randall, Philadelphia—I wish to claim the priority in this matter for a Philadelphia man. In the Pennsylvania state medical meeting of 1885 was the first time I saw it, but Dr. Addinell Hewson had demonstrated it before that time. He then showed points that are still too much ignored. Dr. Cobb has spoken of the difficulties of darkening. Hewson made use of a small hood, something like that used in the stereoscopic apparatus or like an inverted fluoroscope, and, placing that between his own face and the patient's face, he could demonstrate everything as well in a bright room as if it were all dark. It is a convenience to remember that

a photographic dark cloth, preferably of velvet, is all that is needed to give the darkness required for this examination. These simplifications are of very great importance, because they will lead us often to make the examination when otherwise it would be passed over. One objection to the large lamps, which otherwise are strongly to be approved, is that they are inconvenient to hood. I use habitually a small lamp and, with the aural speculum, you can get transillumination of the frontal very nicely. You also can transilluminate the anterior ethmoidal cells to a large extent by throwing the light through the bridge of the nose.

The essential point that Dr. Cobb has made is that if we want to get many of our pieces of apparatus right we must go to the commercial men, who are in close competition. All kinds of batteries, with all sorts of claims not borne out in the least, and all sorts of lamps are on the market. We must have better apparatus, that will stand the fire of commercial competition. We can go to the general electric companies, if necessary, rather than to the regular instrument makers, to get pieces of apparatus that are satisfactory. One further clinical point. When I have suffered, myself, with an acute filling of the antrum of Highmore there is, ordinarily, at first no dimming of the transillumination. But on one occasion I remember being a little stuffy and greatly inclined to sniff in order to clear my head, and every time I did so I would feel the tension provoked by the rarefication of air. The sinus that was at first clear, became suddenly dark. We read of cases of polypi of the Highmore. The mucous membrane of the Highmore can puff up with edema to an inch in thickness, which is not polypoid but edematous, and this may disappear in a short time. This is due frequently to error on the part of the patient, through trying to clear the nose by sniffing, thus producing suction, rather than by blowing out the mucus. The normal delivery of the fluid secreted within is really a matter of evaporation and the moist air is carried away. In normal respiration there is sufficient exchange of air in the sinuses. I believe, to all intents and purposes, the ear is an accessory sinus in the same sense and is to be so regarded in all coryza cases. The ordinary tidal respiration produces a certain ventilation that is desirable. I know I have saved patients a good deal of discomfort and possibly more than mere temporary suffering by directing them to avoid this sniffing with its rarefication of air in the nasal chambers, when the mucous membrane was ready to take on changes quickly through vasomotor and other influences.

DR. CHARLES H. BAKER, Bay City, Mich.—This paper is a very timely one and very suggestive. In the matter of lamps there has always been great difficulty. The lamps which have been put on the market, the small lamps particularly, have been nearly always below the candle power at which they are rated. I have secured recently some lamps, smaller than the ones here, which are suitable especially for transillumination between the cheek and the jaw. They are of low voltage and they were very cheap, so that if I did burn them out they could be readily replaced. The Doctor spoke of the transillumination of the cheek and the supramaxillary fossa, but said, I believe, that he had not used it much. I believe it was at Columbus this same subject came up, and it was strongly urged that transillumination be made through the retromaxillary fossa. The following week I found a case, in which transillumination through the mouth showed no difference, apparently, but on transilluminating through the retromaxillary fossa there was considerable difference between the two sides. Following the suggestion made at that meeting, I operated through the canine fossa and I immediately got a purulent discharge, showing that the lamp had done its work satisfactorily and had enabled me to make a correct differential diagnosis. The device which I have used for operating these lamps is as follows: I have the alternating current and the alternating current controller. The usual light current received in the building is passed through a coil of moderately heavy wire, and over this is a coil of very much coarser wire, and I can regulate the current so that the voltage is lowered and the amperage increased. With this you can illuminate any lamp, from the small dental lamps to the ones here exhibited. If you have such a current, you will find that form of controller the most satisfactory. It is certainly better than any form of battery, in that it is permanent and always ready when the current is flowing. It is a great satisfaction to the surgeon to be able to demonstrate whether the sinus is involved in acute coryza, and it is important to know whether you have the sinus involved at all. In the headaches coming on periodically, say at 9 or 10 o'clock, and continuing until 3 or 4 in the afternoon and increasing in severity until perhaps an hour before they disappear, the form of the headache is almost diagnostic in itself. In a number of cases this peculiar headache has lead me to the diagnosis of the condition. The relief of the obstruction of an involved sinus has led to the cure of the headache and also to a cure of the disease.

DR. D. A. KUYK, Richmond, Va.—I would like to ask Dr. Cobb, could not the tuning fork be used as a subjective test, in addition to the transillumination? Suppose we have a heavy, dense bone, instead of a cavity, would the tuning fork reveal a difference, depending on the conduction on the affected side?

DR. C. M. COBB, Lynn, Mass.—I see no reason why the tuning fork should not be used as a method of confirming the diagnosis. I have made no claim in regard to what might be in the sinuses, as to whether they are filled with a fluid or with a swollen mucous membrane. But one point needs emphasis, and that is that all of these cases do not need operation. A much larger proportion of them will get well than in cases of acute otitis media. They recover by a process of resolution in probably nine out of ten cases and the antrum will become clear. They will always be helped by increasing the drainage. It is the rule for them to recover spontaneously.

AN UNUSUAL CASE OF NASAL SYPHILIS IN A CHILD AND A CONSIDERATION OF SYPHILITIC NASAL TUMORS (SYPHILOMATA.)*

CLEMENT F. THEISEN, M.D.

Instructor in Diseases of the Nose and Throat, Albany Medical College; Attending Laryngologist to St. Peter's and Child's Hospitals, Albany, and to the Troy Hospital.

ALBANY, N. Y.

The consideration of syphilitic affections of the nose has always been of such interest that another paper on the same subject needs no apology, even though no new ideas can be advanced. Syphilitic conditions involving the nose at times take on very unusual forms, and very often do not in the slightest degree follow the classical picture described in the text-books. This is particularly true of late tertiary lesions. Tertiary manifestations, such as broken-down gummata, destructive ulcerative processes and caries followed by the well-known deformities, are, of course, very common, and are usually easily recognized. This is not so, however, when the tertiary lesion takes the form of a tumor—a syphiloma—particularly when no history of syphilis can be obtained. This form of the disease will be the only one considered in this paper.

A considerable number of cases of tertiary nasal syphilis have come under the writer's observation, and among them there were three in which the only manifestation of the disease was the presence of tumors in the nose. In two of the cases they were attached to the septum and in one the tumor sprang from the inferior turbinate. By these tumors I do not mean the usual gummata or granulomata, which almost invariably break down if the patient does not promptly receive anti-syphilic treatment, but distinct new growths

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

covered with an intact mucous membrane and not showing any tendency to ulceration. The following case demonstrates very well the fact just mentioned and the difficulties that are sometimes met in making a correct diagnosis.

CASE 1.—About a year ago a boy, aged 7 years, was brought to one of our clinics for nasal treatment. The mother, a French-Canadian, and not a very intelligent woman, gave the following history of the child's illness: During the past eight or nine months he had been breathing very badly, and this difficulty in breathing had increased very much during the past two or three months. He had lost weight and slept very badly, in fact had to almost sit up in bed during the night.

Examination.—On examination of the nose, we found both nostrils completely occluded by tumors springing from the septum, and about the size of small cherries. There were two tumors in each nostril, one of which had a distinct pedicle and looked rather like a papilloma. They were fairly firm to the touch, of slightly irregular shape, grayish in color, but covered with an intact mucous membrane, which showed absolutely no evidence of ulceration. Examination of the pharynx and larynx showed normal conditions, with the exception of slightly enlarged tonsils. He had been treated for a number of weeks in the eye and ear clinic of the hospital for a severe, right, dacryo-cystitis. Externally there was a small fistulous opening on the cheek, about an inch below the lachrymal sac, communicating with it, and discharging pus. The boy was very anemic and had a severe reflex asthma. Examination of the urine and sputum gave negative results. After carefully questioning the mother we discovered that her husband had died of tuberculosis, and that she had lost a sister by the same disease, but we could at this time obtain no history of syphilis. It was positively denied.

Treatment.—The boy was given Fowler's solution, and treated locally for a time, because the mother objected to operative procedures. His condition finally became so pitiable and the asthma increased to such an extent, that we were allowed to operate. Under ether, both nostrils were thoroughly cleaned out. Careful examination with the probe during the operation failed to reveal the presence of caries. He improved very much for a time, but within two months both nostrils were again completely obstructed. The mother then finally admitted that her husband had acquired syphilis, and that she had been infected before the birth of this child. There being now no doubt of the diagnosis, the boy was given potassium iodid and began to improve at once. Within two months he was practically well, the nasal tumors and the asthma having entirely disappeared. We saw him from time to time during the next six months, and both nostrils remained entirely free.

Histologic Examination.—Portions of the removed growths showed that the tissue was made up of round cells, with here and there cells similar to spindle cells. There was also a connective tissue formation, and thickening of the walls of the blood vessels. Tubercle bacilli and tubercles were not present. This examination, with the result of the treatment, made the diagnosis of syphiloma positive.

The case, I think, presents some very unusual features. Here was a boy with congenital syphilis—the only indication of the disease being the presence of the nasal tumors—who had never before received anti-syphilitic treatment, and nevertheless the nasal growths at the time he was examined showed no evidence of breaking down. This one fact, without the histologic examination, is enough to prove that they were neither gummata nor tuberculous granulomata. Another interesting point is the distinct pedicle that one of the tumors had and the presence of the syphilomata in both nostrils. In most of the cases of nasal syphiloma the tumors are confined to one nostril. One of Frank's cases was also an exception to this rule. I would very briefly like to refer to two other cases, observed during the past few years:

CASE 2.—Mr. G. S., aged 36, married and the father of healthy children, consulted the writer in May, 1897, for what he thought was a "cold in the head." His family history was excellent, there having been no cases of either tuberculosis or syphilis. The patient had had a chancre some years before I saw him, but had not had any other symptoms of syphilis.

Examination.—The sputum and lungs were negative. The posterior nares, pharynx and larynx showed normal conditions. A growth the size of a walnut, firm to the touch and showing no evidence of breaking down, was present in the right nostril, and was attached to the septum.

Treatment.—This was removed with a snare, and the seat of attachment thoroughly cauterized. Recurrence after three months. The patient was then put on iodid of potash, and recovered completely, the tumor entirely disappearing and not recurring.

Histologic Examination.—As in the last case there was a connective tissue formation and thickening of the walls of the blood vessels, but a considerable number of tubercle bacilli and giant cells were also present.

An examination of the patient's nose four years afterward showed that both nostrils were in a normal condition. There was no indication in the right nostril of a return of the growth, and examination of his nasopharynx, larynx, pharynx and lungs was also negative.

In this case the histologic findings, with the exception of the endarteritis, would speak rather more for a tuberculoma than for a syphiloma. The absence of any ulceration, however, and the rapid disappearance of the tumor when iodid of potash was administered make the diagnosis of a syphiloma positive, I think. Giant cells as shown by a number of writers (Kuttner, Browics, Manasse) are sometimes present in syphilitic tumors. The presence of tubercle bacilli in this tumor is of considerable interest, because it has been claimed that they are never found in syphilomata. Tubercles with cheesy centers were not found.

CASE 3.—The last case of my own, which I wish briefly to mention, is that of a man, aged 58, who consulted me March 1, 1901, for nasal obstruction. For several months he had not been able to breath at all through the right nostril, and he had suffered a great deal from headache. I had removed polypi from his nose several times, and thought, of course, that he was suffering from a recurrence of the same condition.

Examination.—On examining the nose, however, I discovered a large tumor completely filling the right nostril, and apparently springing from the inferior turbinate. It had an irregular surface, was firm to the touch, and had an intact mucous membrane, with the exception of two or three small superficial erosions, but there was no evidence of any breaking down. The glands on the same side of the neck were somewhat enlarged, and the right cheek in the region of the antrum was very hard and much swollen. I told the patient that I could not make a positive diagnosis without removing a piece of the growth for examination. I really thought, however, from the appearance of the growth and the patient's age, that it was probably a sarcoma, having its origin in the antrum of Highmore. Most of the tumor was removed with the hot loop and examined by Dr. George Blummer of the Bender Laboratory, who reported that it was not malignant, but that it was a granuloma and probably a syphiloma. The histologic findings were the same as in the first case reported. The patient now admitted that he had had a chancre five years before.

Treatment.—He was given iodid of potash, and what was left of the tumor rapidly disappeared, every trace of it subsiding within six weeks. There has been no recurrence since that time.

Syphilitic nasal tumors of this kind are certainly of a distinct and unusual type, and belong in a class by themselves. The term syphiloma, first given to these tumors by Wagner, although objected to by no less an authority than Virchow,[18] is, I think, a good one, because, as will be brought out in the differential diag-

nosis, they are not exactly the same as syphilitic granulomata, and they are certainly not gummata. Kuttner,[15] in his able article on nasal syphiloma, has reported four cases of this kind, of which I will give brief abstracts.

Case 4.—Woman, aged 33; no history of syphilis. In the right nostril grayish-red tumor masses, attached to the middle turbinate. On microscopic examination, walls of the vessels were found thickened. Recurrence after removal. Anti-syphilitic treatment and cure. No recurrence after nine months.

Case 5.—Woman, aged 42; no history of syphilis. Large tumor in right nostril attached to septum. Microscopic examination of removed portion negative. Recurrence after removal. Anti-syphilitic treatment followed by cure. No recurrence after six months. Giant cells were present in large numbers.

Case 6.—Woman, aged 31, who some years before had been infected with syphilis. Small tumor attached to inferior turbinate, right nostril. Microscopic examination showed presence of giant cells and thickening of vessel walls.

Case 7.—Woman, aged 28. Right nostril filled with hard, red tumor masses attached to septum. No history of syphilis. Microscopic examination the same as in the other cases.

Ripault[12] has also reported a case. Manasse[7] has reported five cases of the same nature from Kuhn's clinic, based on careful microscopic examinations. In his cases the tumors also had smooth surfaces and seldom showed any indication of ulceration. According to his conclusions they may occur singly or they may be multiple, and are usually attached to the septum. Their color is grayish red. They may be attached by a pedicle or may have a broad base. They were composed of granulation tissue and round cells, which were separated by very little intercellular substance. In a number he found giant cells, but never real tubercles with cheesy centers nor tubercle bacilli. He considered them connective tissue tumors arising from the submucous connective tissue, and very similar to tuberculomata, from which they differ by the absence of tubercles with cheesy centers and bacilli. Thickening of the arterial walls speaks for lues, but Chiari[17] has found this in nasal tuberculomata. Three cases have been reported from Kuhn's clinic by Frank.[4] The tumors in these cases were at first thought to be sarcomata. They disappeared after iodid of potash was given. In two of the cases the tumors were attached to the septum, in the third case, a child 12 years old, both nostrils were filled with hard tumors. A case has been reported by Krecke[11] in which two granulation tumors, the size of pigeon eggs, were present, one on the posterior wall of the pharynx and one in the nose. Scheinmann[13] describes cases in which he speaks of a syphilitic thickening of the turbinates. This particular type of tumor (syphiloma) is not mentioned at all in many of the well-known monographs and text-books on the nose and throat.

THE DIAGNOSIS.

In considering the differential diagnosis we find that these tumors may be mainly confounded with tuberculosis granulomata, simple granulomata, inflammatory fibromata, lupus nodules, gummata and malignant neoplasms. First it must be remembered that no one of the symptoms that patients with nasal syphiloma complain of, the pain in the head, face and arm, is absolutely characteristic. The same symptoms are present in other affections of the nose, i. e., tuberculosis, caries and malignant tumors (Kuttner). There are several points which macroscopically distinguish these tumors from tuberculomata. They are usually of a peculiar grayish or grayish-red color, firm to the touch and are at times covered with a tenacious, fibrinous exudate. There are sometimes small erosions on the surface of the tumors, but very rarely much ulceration and they do not break down easily. Manasse observed a deep ulceration in one of his cases. In cases of true syphiloma there is very rarely caries present, and it is doubtful whether a number of the cases on record (the first, fourth and fifth reported by Manasse, and Kuttner's fourth case), in which the syphilitic tumors had their seat in close proximity to septal perforations, belong in this class. Septal perforations occurring during the course of syphilitic affections are undoubtedly the result of gummata breaking down and involving the periosteum. The inflammation of the surrounding tissues accompanying this destructive process may be the cause of some of these granulation tumors arising near the perforation. In the writer's three cases no evidence of caries could be found. The tuberculoma almost invariably has its seat on the anterior part of the septum, although there are a few exceptions, as in one of Kuttner's cases, in which the tumor was attached to the middle turbinate, two of Störk's and one of Chiari's. They show a much greater tendency to break down and usually have either superficial or deep ulcerations. Histologically the diagnosis may be almost always positively made. Goerke[8] claims that the finding of tubercle bacilli in these tumors is a positive differential diagnostic sign. That this is not always true is proved by the writer's second case, in which tubercle bacilli were found in an unquestioned syphiloma. The vegetative form of nasal tuberculosis described by Gourdiat,[6] which simulates a malignant neoplasm, must also be considered. These growths also have their seat on the septum and are of slow development. The diagnosis can usually only be made by the histologic examination.

The syphiloma microscopically is made up of round cells and between them some spindle cells. There is also a formation of connective tissue. Walls of the blood vessels are thickened. There are never real tubercles with cheesy centers and very rarely tubercle bacilli, as in the tuberculoma. It must be borne in mind, however, that Chiari has found thickening of the vessel walls in tuberculomata, and that simple granulomata, which also have their seat on the septum, sometimes contain giant cells and thickening of the walls of the vessels. Baumgarten was the first to point out the fact that giant cells are present in gummata, and they were also found by Manasse, Browics,[1] Brodowski[2] and others. Kuttner and Manasse have also found giant cells in typical syphilomata. So that histologically the structure of syphilomata and tuberculomata is very nearly the same, really the only points of difference being the presence of tubercle bacilli and tubercles in tuberculomata. Tubercles with cheesy centers, so far as I could discover, have not been found in a syphiloma, and when found would make the diagnosis of a tuberculous tumor positive. Thickening of the vessel walls, as a rule, speaks for a syphilitic tumor. After all, then, when all is said, the administration of iodid of potash is one of our greatest diagnostic measures.

The diagnosis of a simple granuloma has been sufficiently considered. It differs not only in appearance, but in its histologic structure. That of fibroma and lupus can usually also be made microscopically. The differential diagnosis of a syphiloma from a malignant neoplasm, and particularly from a sarcoma, often presents difficulties which are not always cleared up by the microscopic examination. It is sometimes very difficult, as shown by Finder,[14] to distinguish a granulation tumor from a small, round-celled sarcoma. This has been well brought out in a case reported by Levy,[10]

in which a small tumor was present in the region of the middle turbinate. A portion was removed and examined by two competent pathologists, and both agreed that it was a small, round-celled sarcoma. The growth entirely disappeared when iodid of potash was administered. The tumors in Frank's cases were also at first considered to be sarcomata. The diagnosis of a malignant growth in the nose can, however, as a rule, be easily made by the subsequent history of the case, by the microscopic examination and by exclusion. The diagnosis of gummata has already been partially considered. Macroscopically they differ from syphilomata in that they are much less elevated above the surrounding mucous membrane and break down very readily. They resemble the syphiloma more nearly than any other tumor. Histologically they are made up almost entirely of granulation tissue (Langenbeck[9]).

In conclusion, a statement made by John N. Mackenzie[3] some years ago should always be remembered. In considering late forms of congenital syphilis he said, "that it may lie in a quiescent state in the system for many years after birth, and when it does make its appearance the outbreak usually occurs in the pharynx and in the form of deep destructive ulceration."

So that when a tumor such as I have attempted to describe in this paper (and I realize but poorly and insufficiently), is found in the nose, especially of a young person, and if it resists the ordinary methods of treatment and promptly returns after removal, this unusual form of syphilis should be thought of.

BIBLIOGRAPHY.

1. Browics, T.: Riesenzellen in Syphilomen. Centralbl. f. d. Medicinischen Wissensch., 1877, S. 340.
2. Brodowski: Ueber den Ursprung sog. Riesenzellen und über Tuberkeln im Allgemeinen. Virchow's Archiv, lxiii, S. 128.
3. Mackenzie, John N.: Syphilitic Lesions of the Pharynx and Nasal Pharynx. Reference Handbook of the Medical Sciences, vol. v, 1887, p. 629.
4. Frank: Ueber Syphilitische Tumoren der Nase. Dissert., Strassburg, 1894.
5. Kuhn: Syphilitische Tumoren in der Nase. Deutsche Med. Wochenschr., 1896, No. 5, S. 35.
6. Gourdiat: Quelques observationes de pseudo-neoplasmes tuberculeux des fosses nasales. Province Médicale, Sept. 26, 1896.
7. Manasse, P.: Ueber syphilitische granulations geschwülste der Nasenschleimhaut, sowie über die Enstehung Riesenzellen in denselben. Virchow's Archiv, Bd. 147, S. 23, 1897.
8. Goerke, Max: Zur Pathologie und Diagnostik der Nasen Tuberkulome. Fränkel's Archiv für Laryngol., Bd. 9, S. 50, 1899.
9. Langenbeck, V.: Ueber Gummigeschwülste (Granulome, Syphilome). Arch. f. klin. Chir., 1881, xxvi, 264-286.
10. Levy, R.: Tertiary Syphilis of the Nose. Annals of Otology, Laryn. and Rhinol., August, 1900.
11. Krecke: Eine besondere Form von Syph. Granulations geschwülste im Rachen. Münch. Med. Wochenschr., 1894, S. 932.
12. Ripault: Syphilides nasales végétantes a la période secondaire de la syphilis. Annal. des Maladies de l'oreille, etc., 1895, T. xxi, 244.
13. Scheinmann: Gummata der Nasenschleimhaut. Berliner klin. Wochenschr., 1894, S. 1119.
14. Finder, G.: Einige Bemerkungen über maligne Nasengeschwülste. Archiv f. Laryngol., Bd. v, 1896.
15. Kuttner, A.: Die Syphilitischen Granulome (Syphilome) der Nase. Archiv f. Laryngol. u. Rhinol., Bd. vii, 1898, S. 272.
16. Kuhn: Verhand. der Deutschen Otolog. Gesellsch., 1895.
17. Chiari, O.: Ueber Tuberculose der nasenschleimhaut. Arch. f. Laryngol., 1894, Bd. i.
18. Virchow. Die krankhaften Geschwülste. Berlin, 1864-65, Bd. ii; also über die Natur der constitutionell-syphilitischen Affectionen. Virchow's Archiv, Bd. xv.

172 Washington Avenue.

DISCUSSION.

DR. W. S. ANDERSON, Detroit—This paper has been very interesting to me, because I have had an opportunity to study a number of such cases. A young girl, about 15 years of age, came to my clinic with an obstruction in the right nostril of three or four months' duration. I found a small growth on the cartilaginous portion of the septum, and back of that was another tumor. The nasopharynx was filled with the growth. There was a large infiltration of the lymphatic glands under the jaw. There was no history of syphilis in the family, so at that time the diagnosis, to my mind, was either sarcoma or gumma. There were many points in favor of each diagnosis. There was no pain and only in the nasopharynx did the growth appear to be of a malignant nature. I put the child on inunctions and iodid of potassium, and the growth gradually disappeared, until at the end of three months there was not a vestige left. The patient completely recovered. There are several points I would like to make. First, we can not depend very much on the history. Very often we find syphilis where we can get no history whatever. Second, we should not be in haste to operate until we have excluded syphilis. It would be much better to put these patients on a course of antisyphilitic treatment before operating. Third, mercury is of distinct service, and we should not depend on iodid of potassium alone. There is nothing so satisfactory as mercury by inunction, together with iodid of potassium. In my experience, and I believe it is true in the experience of others, these cases occur very often about the age of puberty, and they seem to be more common in females than in males. Why, I do not know. In some cases I have been able to find diagnostic signs that would indicate that early in life they had had syphilitic manifestations. For instance, in one case there was an iritis, and in another affection of the pharynx and Hutchinson's teeth. In the majority of cases the syphilitic manifestations are so light as to have been passed unnoticed. I have under observation at present a man who has a swelling over the ethmoidal region, pressing the nose out, with a distinct history of syphilis 25 years ago. The diagnosis of syphilis was made by the attending physician, but he said he had him under antisyphilitic treatment without result. It appeared to be either syphilis or sarcoma. It disappeared under antisyphilitic treatment. It seems to me we should not place too much stress either on the lack of a history of syphilis, or on the statement of the family physician that he has given antisyphilitic treatment. If we put these cases on thorough courses of mercury and iodid of potassium we will often secure excellent results. This is just as true in other parts of the body as in the nose. We should give the patient a chance by antisyphilitic treatment before operating.

DR. WILLIAM L. BALLENGER, Chicago—I wish to suggest that perhaps one of the diagnostic points is not so reliable as stated by the essayist and by the last speaker. Is it not true that antisyphilitic treatment will reduce other growths than those due to syphilis? My impression is that it will in some instances. If that is true, it is not of so much importance as a means of differential diagnosis.

QUESTION—What kind of growths?

DR. BALLENGER—Sarcomata, tubercular growths, and I am not sure but carcinomata.

DR. J. C. BECK, Chicago—The paper interested me very much from the pathologic point of view, in regard to finding tubercle bacilli in specific growths. I have in mind a case of ablation of the nose from specific involvement, where what appeared like the tubercles of tuberculosis were excised and examined microscopically, we found the tubercle bacilli. These were absolutely proven to be tubercle bacilli by culture. The case was demostrated by Klebs, who for a short time resided in the United States, and it was proven to be a tubercular growth and beside a distinct syphilitic lesion. The child recovered absolutely under antisyphilitic treatment. Fraenkel, as well as many other authors, has found several times mixed infection of this nature, so that these double infections do occur. The disappearance of the growth, after the positive diagnosis was made, and the non-recurrence of the growth, are interesting. A distinct carcinoma of the larynx was shown by Dr. Head of Chicago, in which the diagnosis was confined by microscopic examination. The administration of large doses of iodid of potassium reduced the tumor to half the size for two months, when the case went on in the usual course of carcinoma. Sarcoma does not involve the glands, as a rule, so that when the glands are involved that condition would not come in for consideration. The involvement of the glands would speak rather for syphilis. Iodid of potassium does reduce infiltration, transudations and exudations, whether they are of specific or malignant nature.

DR. D. A. KUYK, Richmond, Va.—I wish to report a case of inherited syphilitic rhinitis in an infant, 11 months old,

referred because adenoids were suspected. Instead, the mucous lining of inferior turbinates was enormously enlarged, almost protruding from the nares. The cartilaginous portion of the nose was much enlarged, looking blue, due to venous stasis. Emaciation was very marked. Family history was unsatisfactory, but from mother's personal history and infant's appearance inherited syphilis was diagnosed. Inunctions of blue ointment were freely used and flexible collodion applied externally to the swollen cartilaginous extremity. In two months the growth had reduced so that there was some nasal breathing. In another month improvement in every respect was very marked, and I have since learned that the child is practically well, though still continuing at intervals to use the antisyphilitic treatment. The diagnosis in this case, though no history was obtainable, was undoubtedly confirmed by the result of the treatment.

DR. PETER J. GIBBONS, Syracuse, N. Y.—It is true that iodid of potassium will reduce many tumors, as well as syphilitic enlargements. But be sure that the iodid is a preparation that you can rely on. Be sure that it is pure and run up the dose to tolerance. As the essayist said, you often find not only general practitioners but members of our branch giving iodid of potassium in gr. vi-xv-xx and not getting desired results. It is hardly necessary to call attention to this at this time, but you must get the dose up to tolerance, which may be anywhere from gr. ii to gr. c., three, four or five times a day. But be sure that your iodid of potassium is iodid of potassium and not sawdust, pipe clay, or some other substitute. If the case is cured by iodid of potassium, we might safely say that it is syphilis, although we, no doubt, get relief in other tumors.

DR. EDWIN PYNCHON, Chicago—Dr. Baldwin of Chicago assures me that he has given iodid of potassium in doses as high as 800 grains a day, and thus gets much better results, that we ordinarily would fail to get with the usual maximum dose.

DR. CLEMENT THEISEN, Albany, N. Y.—Dr. Anderson spoke of cases in which the ethmoidal cells were involved. I tried to differentiate between the syphilitic granuloma and the conditions present with inflammatory processes. In regard to Dr. Anderson's statement that antisyphilitic treatment should be tried before operative treatment, I agree with him, whether there is a history of it having been tried before or not. But in the cases I mentioned it had not been used before. I have, myself, had much better results from iodid of potassium alone than from the combined use of the iodids and mercury in tertiary lesions. Iodid of potassium certainly does influence other growths, as has been said. But in the one case I mentioned, there has been no return for four years, and in the other case there has been no return now for a year and a half.

PERFORATION OF THE NORMAL INTESTINE BY AN ASCARIS LUMBRICOIDES.*

LOUIS C. AGER, M.D.
BROOKLYN, N. Y.

NARRATION OF A CASE.

History.—The patient was American born, 36 years old, a carpenter. On Sept. 24, 1901, about 9 a. m., he walked into the Norwegian Hospital, Brooklyn, complaining of diffuse abdominal pain; temperature, 99; pulse, 90. He gave a history of diarrhea for a week, which had been checked by cholera mixture. The previous night he had taken a dose of castor oil.

He was kept under observation, and rapidly grew worse. At 11 o'clock his temperature was 102; pulse, 120. The abdominal pain was localized in the right iliac fossa, and a diagnosis of appendicitis was made. An operation was decided on. At 12:15 p. m. his temperature was 104, pulse 136.

Operation.—At 4 p. m. the abdomen was opened and a congested appendix was removed. Although there were indications of intestinal perforation, the alarming condition of the patient prevented any search. The operation was completed hurriedly; pulse 167.

The patient died at 4 a. m. the next day, and an autopsy was made at 10:30 a. m.

Autopsy.—On opening the abdomen a large amount of mucopurulent fluid gushed out. There was an acute exudative peritonitis most marked in the right lower quadrant. The intestines were matted together with an exudate, in some places a quarter of an inch thick. On separating the coils of intestines a living lumbricoid was found. After a short search a small round perforation was found in the small intestine, about ten inches above the caput coli. On opening the intestine no other lumbricoid was discovered, and the mucous membrane seemed, except for the clean-cut perforation, entirely normal.

CASES AND OPINIONS IN THE LITERATURE.

On looking up the history of this subject I find various opinions recorded. Many authors are of the opinion that the ascaris is utterly incapable of puncturing the intestinal wall, while others after reviewing the evidence are convinced that the accident does happen at times. In fact, those who deny the possibility do so on entirely theoretical grounds, while those who admit it do so only after a careful study of facts. In Meigs & Pepper's "Diseases of Children," edition of 1870, p. 875, is the following:

> Among those who advocate the possibility of perforation independent of previous change in the intestinal coats by disease are M.M. Mondiere and Charaday, the former of whom has examined the subject with a great deal of care. . . . Rilliet and Barthez and M. Guersant. . . .
>
> We confess ourselves inclined to believe . . . that worms may in some instances cause a perforation independently of previous disease of the coats of the intestine.

Leuckart, in his "Parasites of Man," p. 138, says:

> The possibility of such perforations has been much questioned. . . . It has been attempted to explain these cases . . . by the supposition that the worms play only a secondary part. . . . I think the denial of these perforations is quite unfounded. . . . In some cases the boring is not confined to the wall of the intestines.

T. S. Cobbold, in his book on "Parasites," London, 1873, takes the same view and cites eleven cases, some evidently due to slow erosion, others apparently direct perforations.

In the "American Text-book of Pathology," p. 341, is the statement in regard to ascaris, "It may perforate the alimentary canal." Dr. Stengel, in his "Text-book on Pathology," expresses the opinion that previous intestinal ulceration is an important factor in these cases.

Dr. Flint, in his "Practice of Medicine," edition of 1886, p. 560, says: "It is not probable that the worms ever perforate the intestines as was formerly supposed."

C. Davaine, in his article on "Lumbricoides" in the "Dictionnairre Encyclopedique des Sciences Medical," analyzes 47 cases and expresses the opinion that such puncture can not take place.

AUTHOR'S THEORY OF THE CASE REPORTED.

My own theory, after a careful study of this specimen in a fresh state, is that the worm became blocked in a transverse position in the intestinal canal with one end caught by a fold or irregularity of the mucous membrane, and that partly by its own movements and partly by peristalsis it was slowly forced through the intestinal wall. This process may have been going on during the whole week that the patient was having intestinal disturbances, the peritonitis coming on suddenly as soon as the worm passed completely into the abdominal cavity, permitting the escape of the intestinal contents.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and Frank B. Wynn.

Appended will be found a table of seven previously reported cases and related bibliography.

CASES REPORTED.

Apostolides: London Lancet, 1898, vol. i, p. 1254.
T. J. Crofford: Tr. Miss. Med. Assn., 1882, p. 98.
Sangalli: Compte Rendue Geneva, 1878, p. 247.
Marion: Deu. Arch. f. klin. Med., v., 29, p. 601.
V. Balesiu: Arch. f. path. Anat., Ber, 1880, p. 158
Drasche: Mediz. Presse Wiener, 1882, p. 1382.
W. Bergmann: Prag. Med. Woch., 1890, p. 617.

OTHER REFERENCES.

T. S. Cobbold: "Parasites," etc., Lon., 1873.
Oehne Lipsiae: De Ascarid. effectu mechan, 1852.
Indret: Contribution a l'etude de l'ascar. lombric. Paris, 1880.
Sirot: De quelques accidents determ. per ascar lombric. Lyons, 1882.
Schroeder: Perforation des Darmes durch Ascar. lumbric. Halle, 1887.

DISCUSSION.

DR. HENRY B. WARD, Lincoln, Neb.—I know of a number of cases in which the worm was found to have penetrated a diseased bowel, but I believe only one case has been reported in which a positively normal gut has been penetrated by this parasite. I can hardly understand how the worm can become blocked in the intestine and gather sufficient force to push itself through the normal wall. The ascaris has a firm body, and can not coil itself closely, as the body breaks when bent. Usually the head of the male worm is more pointed than that of the female, and the worm in this specimen is evidently a male.

DR. W. A. EVANS, Chicago—This worm has been found frequently in the lower animals, imbedded in the wall of the intestine below the mucous membrane, but rarely ever penetrating the muscular coat. This is seen especially in hogs.

DR. HENRY B. WARD, Lincoln, Neb.—I have known the wall of the intestine to be penetrated by certain other worms, as the ankylostoma or uncinaria and trichocephalus, but it is exceedingly rare for the ascaris to penetrate the mucous membrane.

DR. LOUIS C. AGER, Brooklyn—There are cases reported in which large numbers of these worms have gotten into a mass and, by erosion, produced ulceration. There are also cases of umbilical abscess reported, in which the worm has been discharged from the umbilicus, probably due to a patency of the fetal duct leading to the umbilicus. No histologic examination of the gut was made in this case, but the macroscopic appearance gave no indication of chronic ulceration. Moreover, it would be a strange coincidence if a single small ulcer had existed in the gut and that this worm should have found that spot. I think this worm must have worked its way through the bowel by a slow process of erosion of the tissues. There have been cases reported in which lumbricoides have been found in the kidney, inguinal glands, and other places adjacent to the intestinal tract, and they have even been discharged from the eye duct and from the auditory canal. I do not believe that this worm braced itself transversely, but more obliquely, in pushing its way through the bowel. The lumbricoid can coil itself to a limited extent. I have seen one case in which 50 or 60 worms were in one mass, all being coiled on themselves and on each other. One case has been reported in which 5,000 worms were discharged in the course of 18 months.

Typhoid Fever at Lille, France.—Professor Lemoine, in discussing the marked and permanent increase in the number of cases of typhoid fever at Lille, remarks that the majority occur among the well-to-do, and in the fall. Most of the patients had spent the summer elsewhere, and had thus lost their relative immunity to the local water, while the early fall rains pollute the water more or less. The extensive work on the streets has brought to the surface long buried generations of microbes which are whirled about in the dust and fill the hospitals during the dusty season. The only time when the hospitals are comparatively empty is during wet, foggy weather when the microbes are held down by the moisture under foot. But this is the time when the typhoid germ is most active, as it reaches the system in the drinking water. His article appeared editorially in the *Nord. Med.*, Dec. 15, 1902.

THE CLINICAL APPLICATION OF SOME THYROID GLAND EXPERIMENTS.*

L. BREISACHER, M.D.
Consulting Gastroenterologist, Harper Hospital; Formerly Professor of Comparative Physiology, University of Pennsylvania; Member of American Physiological Society.
DETROIT.

In 1890, at a time when little or nothing was known of the chemical constitution of the thyroid gland and when we were unaware that it possessed any particular therapeutic action, the writer offered the first experimental proof that the thyroid gland was in some manner concerned in the general metabolism of the organism.[1] While even to-day we are not in possession of any positive proof of the true physiologic rôle of the thyroid gland, its action as a therapeutic agent, and further the clinical and experimental results following total extirpation along with the action of diet in various thyroid diseases and after total extirpation of this gland, indicates that it is in some manner invested with a metabolic function, but which we are not as yet able to particularly define. It would lead us too far were I to attempt to give a résumé of the various phases through which the subject of the function of the thyroid gland has passed. For the reason, however, that both Victor Horsley[2] and F. Blum[3] have misconstrued my position in reference to the metabolic significance of the thyroid gland to the organism, I should like, in a few words, to explain the circumstance which prompted me to study the influence of diet on thyroidless animals.

In 1888, when I first took up this subject, Professor Munk, in whose laboratory I was pursuing my work, believed that the thyroid gland could not be looked on as being of absolute vital significance to the organism, for the reason that some animals remain perfectly normal after total extirpation of this gland, and as late as 1897 Professor Munk[4] again emphasized this statement. He believed that the symptoms following the total extirpation of the thyroid gland were in a large measure the result of irritation of the vagosympathetic nerves and their branches.

The writer instituted a series of experiments in which he applied both chemical and electrical irritation to the various cervical nerves without, however, producing in any case symptoms resembling those noticed in thyroidless animals. To definitely decide this question the writer devised the following method of experimentation: First, the left vagosympathetic and the superior laryngeal nerves were extirpated, the superior incision being made at the superior ganglion and the lower incision half an inch below the lower border of the thyroid gland. The animals were carefully observed during a period of three weeks following the operation; they remained perfectly normal. Following this period the right thyroid gland was totally extirpated and the animals again carefully watched for a period of three weeks, during which time they remained in an absolutely normal condition. Finally the thyroid lobe on the side on which the vagosympathetic had previously been removed was extirpated, and it was shown that the dogs succumbed in precisely the same manner as did the dogs in whom this method had not been resorted to, thus proving that nerve irritation is not absolutely necessary to the production of death after total extirpation of the thyroid gland. Professor Munk, and also E. Fuhr,[5] had noticed that the first thyroid symptoms, fibrillar, clonic and tonic muscu-

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Winfield S. Hall.

lar contractions with cardiac and respiratory distress, following total thyroid gland extirpation often were developed after the feeding of meat. They ascribed this circumstance to the mechanical irritation which the meat produced during its passage into the stomach.

The negative results of the experiments which I have just detailed in reference to nerve irritation, etc., in connection with several observations I had made in feeding boiled meat, led me to institute the experiments on the influence of the feeding of milk and eggs and raw and boiled meat on thyroidless animals.

These experiments consisted in keeping dogs on a diet of milk or milk and eggs for a number of days and then performing a total extirpation of the thyroid gland, or a partial extirpation and then finally a total extirpation and thereon noting the influence of a milk, egg, boiled and raw meat and beef-broth diet. It was shown that 30 per cent. of all animals fed on a milk or boiled meat diet, but particularly a milk diet, remained entirely healthy, but died when put on a raw-meat or beef-broth diet. All of my animals that were fed on raw meat from the beginning of the experiment succumbed to the operation.

These experiments then furnished the first evidence of the metabolic significance of the thyroid gland to the organism, and further, that a milk diet acts more favorably than a raw-meat diet in dogs in whom a total thyroid gland extirpation has been performed.

Following the publications of these results, De Quervain,[6] Rosenblatt,[7] Glinatz,[8] Glunzinki,[8] Lanz[9] and Blum[3] repeated my experiments and corroborated the conclusions I had reached, viz., that a milk diet acts more favorably than a meat diet after total extirpation of the thyroid gland.

Clinically the results of these experiments have been found to be of considerable importance. Thus, Nothnagel, in his chapter on myxedema, recommends the withdrawal of meat and the substitution of a milk and vegetable diet in the treatment of this disease. Rumpf, v. Ziemssen and Blum likewise recommend the same course of dietary in the treatment of thyroidal diseases. Professor Ewald, in his work on the thyroid gland, also states that the clinical application of the milk-feeding experiments is of great value in the treatment of various thyroidal conditions. He remarks:[10] The best results are achieved in the treatment of myxedema and cachexia strumipriva where a milk and vegetable diet is persisted in. Both Strich and Lanz independently came to the same conclusion.

Lastly, Moebius[11] recommends the same course of dietary in the treatment of Basedow's disease. I have been prompted to give a short sketch of these experiments and their clinical application for the reason that while most clinicians on the other side of the water lay considerable stress on diet in the treatment of thyroidal disease, American clinicians have paid little or no attention to the subject.

BIBLIOGRAPHY.

1. Untersuchungen über die Glandula thyreoidea. Archiv f. Anat. u. Physiol., 1890.
2. Die Funktion der Schilddruese. Virchow Festschrift.
3. Neue experimentell gefundene Wege zur Erkenntniss u. Behandlung von Krankheiten die durch Auto-intoxicationen bedingt sind. Paris, 1901.
4. Zur Lehre der Schilddruese. Virchow's Archiv, Bd. 150, 1897.
5. Archiv f. Experimentelle Pathologie u. Pharmakologie. 1886.
6. Virchow's Archiv. 1893.
7. Archiv d. scien. biolog., 1894.
8. Ref. Maly's Jahresbericht, 1893.
9. Basel, 1895.
10. Nothnagel: Specielle Pathologie, p. 184.
11. Nothnagel: Specielle Pathologie, p. 72.

The great secret of success in life is to be ready when your opportunity comes.—Lord Beaconsfield.

THE CHEST-PANTOGRAPH.

ITS PHYSIOLOGIC SIGNIFICANCE AND ITS CLINICAL APPLICATION.*

WINFIELD S. HALL, Ph.D., M.D.
Professor of Physiology, Northwestern University Medical School.
CHICAGO.

Not long ago a prominent clinician of Chicago requested the writer to contrive an apparatus by which chest contours could be accurately measured and recorded. Such an instrument was said to be needed by those who specialize in diseases of the thorax or who have any occasion to record thoracic conditions for statistical or other purposes.

The writer's first attempt to solve the problem given him by the clinician was a rather expensive experiment, with an instrument which consisted of about twelve curved lever arms, which came down to the thoracic walls, touching its circumference at any desired plane. The short arm of these levers was provided with a needle which pricked in a paper a line of holes which represented the chest contour. This was found to be a faulty apparatus in several important points, and it was discarded.

One day the writer saw an artist making charts for lecture room use, by enlarging figures from a book, the

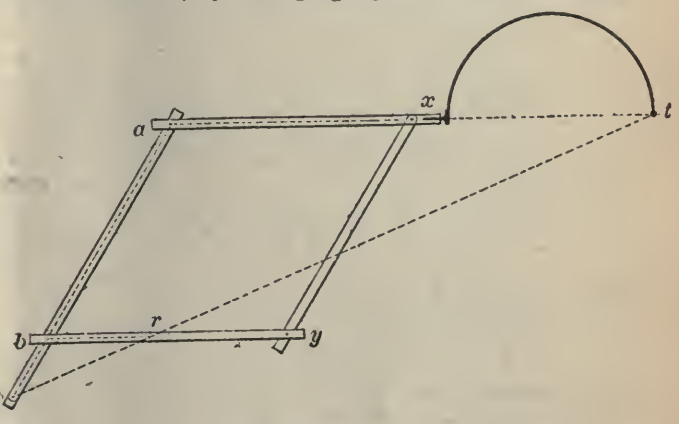


Figure 1.

outline of the figure being traced with a pantograph. The idea of reversing the process and making a reduced outline of the chest was adopted, and the first apparatus made was a success.

Figure 1 shows the instrument, which is constructed of brass or wood, with brass or steel semicircle. The joints, *a, b, x* and *y,* move easily in the plane of the instrument. The semicircle, 40 inches in diameter, rotates at *x* around the diameter *tx*. The point *f* is fixed to a table. With *f* a fixed point, all movements of *t,* the tracing point, are accompanied by corresponding movements of *r,* the recording point. The triangles *frb* and *fta* are similar triangles in all positions of the instrument. If these two triangles are similar, their corresponding sides must be proportional, therefore, *fb:fa::fr:ft;* but *fb:fa::1:5,* therefore, the distance *fr* is always one-fifth the distance *ft*. In other words, the recording point, *r,* which is represented in the instrument by a pencil which records its movements on ruled paper, is always one-fifth as far from the fixed point, *f,* as is the tracing point, *t*. This recording point, *r,* moves in the same direction as the tracing point, *t,* the only difference being that it moves only one-fifth of

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Frank B. Wynn.

the distance through which *t* moves. This results in the formation on the paper of a contour tracing of the thorax, absolutely accurate in every curve and diameter, except that it is reduced to exactly one-fifth the actual dimensions.

The object of the semicircular arm is, of course, to permit the tracing point, *t*, to be carried around the thorax. The seat on which the subject sits may be adjustable in height, or the table on which the instrument is fastened may be adjustable in height; in fact, it has been found that there is advantage in having both an adjustable table and an adjustable seat. If one wishes to take contours at various levels of the body between the shoulders and the pelvis, there should be a back rest to keep the subject's body from swaying backward and forward or from side to side. This back rest can take the form of a simple rod about one foot in length, inserted into the edge of the table. This rod should extend out horizontally and at right angles with the edge of the table, and should be located opposite the point in the table where the pantograph socket is fastened to the top of the table.

With all these conditions satisfied (and they are not difficult conditions), let the subject to be examined sit beside the table, with table and seat so adjusted as to bring the plane of the thorax to be examined into the plane of the instrument, that is, on a level with the top of the table. Place a sheet of the record paper on the table parallel with the sides of the table and held in place with thumb tacks. Let the subject inflate the lungs, place the tracing point, *t*, on the distal side of the thorax at a point marked on the skin; sweep the tracing point around the posterior aspect of the thorax to a point on the proximal side; rotate the semicircle so that its convex side will be anterior; sweep the point, *t*, around to the starting point. You have now traced a contour at the end of inspiration. Let the subject exhale to the position of repose, or, if desired, to the position of forced expiration. Then retrace in the opposite direction, and the result will be such as shown in Figure 2. This tracing has the advantage of showing the general type of the thorax, and the relative diameters in any direction. It shows the amount of expansion, and, furthermore, it shows whether or not this expansion is symmetrical.

The accompanying figure shows two such contours from healthy, well-developed men. Two millimeters in the figure equal one centimeter of actual measurement. The inner contour is that of forced expiration, while the outer one is that of forced inspiration. In contour A the increase of lateral diameter by forced inspiration is 2 cm., while the increase of dorsoventral is 3 cm. In the same contour the cross sectional area of the thorax in the plane of the ninth rib is represented by 25.52 of the larger squares containing 25 square cm.; total area equals 637.5 square cm., while the cross sectional area of the chest in forced expiration is 517.5 square cm. Forced inspiration shows an increase of 120 square cm., or about 23 per cent. over cross sectional area of forced expiration. Furthermore, both contours show a prominence in the right side (left of the figure) possibly due to stronger musculature on that side.

The instrument accomplishes the purpose for which it was intended, and seems to be well adapted for use in all cases where chest contours are desired for either clinical or statistical purposes.

Any abnormalities in contour, even slight though they may be, are instantly made apparent in the outline, when an inspection would not reveal them and measurements of diameters would do so only after a laborious comparison of results with tables of average and typical measurements.

The general character of the chest, whether flat or deep or normal, is also made apparent to both observer and subject, and the record is an important part of the data which indicate a line of exercise to develop those dimensions which are below grade or to diminish dimensions which may be abnormally large. One's thought turns in this latter instance to cases of "pigeon-breast" in boys, cases which, even in mild degrees, are made strikingly apparent in the contour, and cases in which the influence of proper exercise in early youth may be wholly corrective or decidedly ameliorative.

The insurance examiner, the physical examiner of the Y. M. C. A. or of the college gymnasium, the physical examiner for the army and navy, as well as the specialist in chest diseases, will at once see the utility of having these records of chest contours.

In closing, the writer wishes to call attention to some of the advantages of this instrument over other instruments which are intended to accomplish a similar purpose:

1. The chest pantograph is so simple in construction that it does not easily get out of adjustment and can not readily be injured in use.

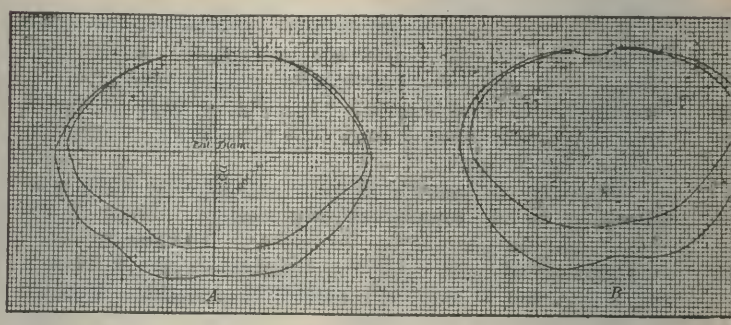


Figure 2.

2. It is inexpensive.

3. It is compact; when not in use it can be folded back along the back of an office table or lifted from the table socket and hung on the wall.

4. The record is accurate, and is reduced in size to dimensions readily adapted to filing away with clinical records.

5. The record being a graphic one appeals at once to the eye and reveals all divergencies of the contour from the normal without the necessity of reference to tables of averages.

An Unheeded Peril in Preserved Meats.—Giovanni Grixoni has found that the fluidification of the gelatin contained in cans of meat, and in bottles of concentrated broth is a very certain sign of damage, even when other signs are lacking. This fluidification is due to the action of living bacteria and trypsinic ferments secreted by them. Peptonized preserved meats have toxic powers, for, whether inoculated into, or eaten by rats and mice, they cause their death. The toxins produced in fluidified preserved meats have a powerful antibacterial action, prevent the development of putrefaction, and are soluble in water. They are destroyed by a temperature of 100 C. Serum diagnosis in infections of alimentary origin is an excellent method for the recognition of the etiological agent. The prolonged presence of microbes in the can profoundly modifies their biological properties, prevents their development, and finally causes their death. Cans containing living germs, even if these are saprophytic, should be excluded from the dietary. —*La Rif. Med.*

NERVE NOSTRUMS AND THEIR DANGERS.*

WILLIAM P. SPRATLING, M.D.

Medical Superintendent of the Craig Colony for Epileptics, Secretary of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.

SONYEA, N. Y.

Nerve nostrums and their dangers constitute a subject far too comprehensive for full discussion in the brief time at our disposal, and we will omit the presentations of facts that aim to show what a race of nostrum makers and nostrum takers the American people are coming to be, and take up other matters connected with the subject that should engage our undivided attention, and which are as follows:

1. Why do people take nerve nostrums; or, indeed, nostrums of any kind?

2. Wherein does the use of nerve nostrums tend to impair the public health?

3. What measures, if any, can we take to lessen or destroy the nostrum-taking habit?

Longfellow plainly expressed a lack of faith in, if not contempt for, nostrums when he wrote

> Purge with your nostrums and drugs infernal
> The spouts and gargoyles of these towers; not me;

and reference to the meaning of the word "nostrum" shows at once the secret of the power they possess over the public mind.

"Nostrum," says a high authority, means "a medicine the composition of which is kept secret"; "a quack medicine"; and the key to the whole situation lies in the word "secret." The element of mysticism always holds our interest. It is that alone which gives the juggler's trick its charm. Remove our ignorance as to the manner in which the trick is done, and simultaneously you destroy our interest in the method of its performance.

Venders of nostrums, with a fine show of commercial shrewdness out of all proportion to any sense of common virtue, understand this frailty, this very common lack of logic on the part of the public mind, and trade freely on our credulity purely for commercial gain. They approach us from every side, in every place, and under all possible guises, with the most marvelous and glowing propositions designed to catch the public eye; then feed the little flame so adroitly kindled by dosing us with things about which we know nothing, and which we are pleased to swallow, in testimony of our simple faith.

The quack's secret is his own and forms his most valuable stock in trade, and often enough it is his only asset. Remove the seal of secrecy from his nostrums and his business of ruthlessly despoiling the public health and depleting the individual purse for the sole purpose of enhancing his own financial gains, will disappear like the mist before the rising sun.

Taking up the second proposition, viz.: Wherein does the use of nostrums tend to impair the public health? We may answer that the empirical use of any drug for the cure of a given disease is less logical and less scientific than if that drug produced specific action necessary for the relief of specific morbid conditions. This makes empiricism the basis on which nostrums are supposed to act; and this in itself might not be so bad in some cases if the disease for which the individual is being treated had first been correctly diagnosed.

But that is far from being the case. The mail bag with the quack takes the place of the instruments of precision and personal judgment of skilled physicians, so that the quack is doubly handicapped in his attempts to treat disease; first, by not knowing the nature of the disease he is treating, and secondly, by having to rely entirely on the less scientific principles of empiricism as compared with more rational forms of therapy.

Nostrums, however, do sometimes seem to effect a cure by suppressing the activity of symptoms in diseases like epilepsy. But, after all, it is only suppression, and not cure. In the Craig Colony report for 1898 we spoke of the matter as follows:

> And so it is that the manufacturers of patent nostrums and the great army of quacks who thrive throughout the land, find in the epileptic their readiest victim. They beguile him with vivid representations of wonderful cures and then deliberately set about to rob him of his honest means, and what is worse, of what little vigor of constitution he may possess. He is deceived with a drug that suppresses his attacks for a little time, but which does not cure, and which must be taken in such large doses that in time it destroys his mind and ruins his physical health. We are not giving hearsay evidence, but facts, and to make sure of such facts we tried one of the "surest cures" at the colony with the result that two patients were made temporarily insane.
>
> A young man of excellent family and personal attainments was admitted to the colony whose malady for the past year had been rapidly growing worse, and who had in his possession at the time of his admission 26 separate and distinct quack and patent remedies, all of which he had been using to some extent. He was at once relieved of them, with the result that he at once began to improve.

Two years later, after having collected much additional evidence of the infinite amount of harm nerve nostrums do in cases of epilepsy, we again referred to the matter in our annual report, citing the following case:

> C. B. M., a young boy, died at the colony September 24, from the direct effects of much drugging with "R.'s Nervine." He came to the colony first in January, 1897, remaining here a year and going away very much improved.
>
> While here he attended school, made very satisfactory progress and bid fair to be able in a few years to return to his home and take up some vocation. After returning to his home, he grew rapidly worse. He was then made to take "R.'s Nervine" in large quantities. He rapidly became stupid and apathetic, his circulation sluggish, his skin harsh and dry and his body covered with sores. Still his parents could not see that "R.'s Nervine" was the cause of the boy's deplorable condition and continued to give him the poisonous drug. He soon became so bad that he was returned to the colony, but the drugging with the nostrum had gone too far; he did not respond to proper treatment and died very shortly after his readmission. His mental condition, when he came back, resembled that of most pronounced primary dementia.

Numerous other instances similar to this, but in which the nostrum treatment was stopped before it had gone so far, have come under our observation; and we know that nostrums for other nervous diseases produce effects equally as disastrous; and the giving of powerful drugs to patients, concerning whose drug idiosyncrasies he is ignorant, is but another of the quack's dishonorable methods.

We come now to the third proposition, by far the most important of all, and that is: What means, if any, can we take to lessen or destroy the nostrum-taking habit? A well-known clergyman in the city of Rochester lately said, in a public speech, that "the widespread practice of such arrogant quackery as that which universally pertains to-day is a blot on every honorable physician's escutcheon"; and I fear the indictment stands on solid ground.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

As guardians of the public health, it is plain that the suppression of quackery is a duty we have not yet fulfilled. To make any impression for good on the unsavory practice will be a long and tedious uphill task, but this ought not to deter us for a moment, and it would seem that now, since the prospects seem so fair for cementing into a closer fraternal union the physicians of the entire country, is a good time to start the work on its way.

There are three things I have to propose that would be effective in lessening or destroying the nostrum evil. Two of them, while less effective than the third, are easier of application; while the third, which would be wholly effective in itself, could only be given force through national legislation.

The first is, an arrangement by which a continuous series of articles could be written for publication in the leading medical journals of the country, and which would specifically and unmistakably set forth the dangers of advertised nostrums; the same articles being afterwards published in the daily papers and in the literary magazines, in the form of standing advertisements if need be. Having the authoritative backing of the best medical journals, such matter would be bound to command attention and respect on the part of the public.

The second plan is to inaugurate in every city a course of lectures to show the evils of indiscriminate medication through patent nostrums, making the object lessons plain and forceful and placing the lecture course on a popular basis.

To carry out these plans would cost something, but there is no question that the money could be raised, either through private contributions, or by an assessment against the members of the medical profession.

The third plan, and the only one bound to be entirely effective if once established, is to have a national law regulating the manufacture and sale of nostrums and the practice of quackery, the feasibility and utility of which has been demonstrated in many countries abroad.

In Austria the sale of any nostrum or arcanum is strictly prohibited, and proprietary medicines may be sold only if their ingredients and the manner of compounding them have been made known. Such medicines, however, can not even then be purchased without physicians' prescriptions, unless they have been designated by sanitary authorities as harmless.

In the same country the law even undertakes to regulate the price to be charged for such preparations, for it provides that whenever the reasonableness of the price of a proprietary medicine is questioned, it shall be rated on the basis of the official tariff approved by the Austrian pharmacopoeors. It is evident that patent medicine men do not become millionaires in Austria.

In Belgium the law holds a pharmacist responsible for every drug sold by him, which provision applies to proprietary articles as well as to all others, and requires that in the sale of proprietary articles the composition of the same in detail shall appear in connection with its label.

The French government, the most advanced of any of the nations in this respect, in order to carefully guard the health of its citizens and to prevent the evils arising from the manufacture and sale of deleterious drugs and compounds, has from time to time passed strict laws and regulations covering the practice of pharmacy and the preparation and sale of chemicals for industrial and commercial purposes. The sale of medicinal compounds or remedies, the ingredients of which are only known to the proprietors, is absolutely prohibited in France. The law requires the inventors or owners of such remedies to communicate the formula of their preparations to the minister of commerce, with the list of diseases to which they are applicable, and a statement of the actual trial to which the medicines have been submitted. The National Academy of Medicine then examines the composition of the remedies to ascertain if their administration might be dangerous in certain cases; if the remedies are good in themselves; if they have produced or will still produce beneficial effects on humanity; the proper price is paid by the government to the inventor of a remedy recognized to be useful. This recompense is based on the merit of the discovery, on the advantages which have been obtained or which are to be obtained in curing human ills and on the personal advantages which the inventor has already derived from the remedy or may hope to derive from its adoption. An agreement is then drawn up between the minister and the inventor, ratified by a higher authority, and the secret published without delay.

In Germany the use of patent nostrums is greatly discouraged by the German government, and every notice or advertisement of this class of preparations must distinctly embrace an accurate analysis of the ingredients or component parts used in such preparations.

In Russia no proprietary medicines are allowed to be manufactured or sold, this country going further than any other by absolutely prohibiting the manufacture and sale of nostrums of all sorts.

With the English-speaking races it is radically different. In the Dominion of Canada the utmost latitude is allowed in the sale of such things, for they are sold in all grocery stores, the proprietors of which sometimes undersell the regular wholesale trade.

The same state of affairs exists in British Honduras, grocery stores here dealing in many of the ordinary drugs that are only sold by licensed apothecaries in this country.

In Brazil the law respecting the sale of chemicals, medicines, poisons and other proprietary articles is very strict, and if enforced can not help being of great benefit to the public and a protection to the physician, pharmacist and the druggist.

The Chinese government, on the other hand, has no laws regulating the sale of drugs. Chinese merchants, however ignorant of pharmacy, are permitted to sell drugs so long as they pay what is known as the "liken tax"; and to show the lax manner in which medicines are used in China, the United States Consul translates a prescription for "weak and diseased lungs," consisting of a "decoction made from gentian, apricot kernels and seven other medicines," without in any way indicating the name or nature of the last seven.

When the medical profession of this country decides to enlist the aid of Congress in formulating laws regulating the manufacture and sale of nostrums, it would seem that they might do well to try and avoid, on the one hand, the Scylla of overcaution, such as pertains in Russia, and, on the other, the Charybdis of utterly false therapeutic license run riot, such as pertains in China, and adopt a midway standard at once just to all, sensible and practicable, like that now in force in the French Republic, and which had its origin under the reign of the Emperor Napoleon in 1859. To aid in the enactment of such legislation would seem to be a

most natural thing for the Association to do, for its Code of Ethics reads as follows:

It is derogatory to professional character for a physician to prescribe or dispense a *secret nostrum* whether it be the composition or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice.

And, in conclusion, it seems pertinent to ask why the present is not as good a time as any for the American Medical Association to discuss plans for taking the matter to Congress in Washington.

HYPNOTICS, ANALGESICS AND RESULTANT DRUG ADDICTIONS.*

SMITH ELY JELLIFFE, M.D.
Clinical Assistant in Neurology, Columbia University; Visiting Neurologist, City Hospital.
NEW YORK.

Insomnia and pain are the banes of existence of the patient with any nervous affection, and from his standpoint are in themselves the maladies from which he is suffering. He prays his physician for relief from one or both, knowing, alas too well, that the market is full of drugs that will bring him relief. It does not often occur to him that the physician has any more complicated mental process to go through than merely to choose the right drug to bring healthful sleep and to banish pain. Insomnia and pain may each be the cause of the other, or they may be the outward symptoms of an exceedingly complex condition of derangement.

CLASSIFICATION OF INSOMNIA.

In trying to study the causes of sleeplessness I have found it helpful to remember the classification of insomnia that Sir James Sawyer lays down in his "Contributions to Practical Medicine." He says:

Cases of insomnia seem to divide themselves naturally into two groups, namely, of cases of what may be called *symptomatic insomnia*, and of cases of what may be called *intrinsic insomnia*. Symptomatic insomnia attends a vast variety of morbid states, and is secondary to them, or is part of them. Intrinsic insomnia, or insomnia per se, is a kind of wakefulness that seems to depend on the inability of the brain to adapt itself to the conditions of sleep.

Symptomatic insomnia, or the sleeplessness that is one of the symptoms of a disease attended by severe pain is not so difficult to treat, provided the pain, or the elevation of the temperature, or the coughing be the only cause. We may control it either by using hypnotics or sorporifics, or by giving drugs that will reduce the fever or diminish pain, or stop the cough; or we may combine the treatments, and use sorporifics in conjunction with the remedies that will remove the causes of pain or fever.

The family physician who uses sulphonal or trional for the purpose of inducing sleep in severe illness, employs one of the most valuable aids to recovery, for sleep as a natural remedy in disease is as necessary as any therapeutic remedy. But, at the same time, these drugs, if used continually, will of themselves cause the worst kind of insomnia, that in which natural sleep is absolutely impossible without the aid of a drug.

Intrinsic insomnia, to refer again to the classification of Sir James Sawyer, is due to various causes, which he divides into three groups, viz., the *psychic*, the *toxic* and the *senile*.

Psychic Insomnia.—It is taught that the brain in natural sleep is relatively anemic. When the brain is in full working activity the cerebral arteries are well filled with blood from which the brain cells are rapidly receiving nourishment and ridding themselves of waste. During sleep the blood flows more gently and in smaller streams through the brain; and the brain cells are not expending energy, but are storing it up. Anything, therefore, which tends to keep up the activity of the brain cells and keeps the blood circulating freely through the brain tends emphatically to keep the brain cells from repose and the patient finds himself sleepless. The psychic causes of such brain activity may be the habit of thinking over business or work after going to bed, worry, anxiety, excessive mental work that will not let the brain cells cease working for several hours after the real work stops, sudden grief or shock, or form of preying sorrow, remorse or loss of hope.

Toxic Insomnia.—The toxic causes of brain activity are due to some poison, that maintains the arterial supply of the cortex of the brain at such a height and so long that wakefulness is inevitable. These poisons may be in the form of drugs that have become a habit; alcohol, or the milder stimulants of tobacco, tea or coffee, or, on the other hand, the poisons may be certain accumulated waste products of the patient's own metabolism.

Senile Insomnia.—Senile causes of sleeplessness are due to the age of the arteries. As the smaller cerebral arteries lose their elasticity their walls grow weak, and they are physically unable to regulate the flow of blood to the brain which ought to be diminished at night to cause the sleep of youth.

On this brief classification of the causes of insomnia I would establish an outline of the kinds of treatment that are recommended by men of wide experience, with a discussion of the question of how far hynotics may be used to relieve insomnia and analgesics employed to alleviate pain without danger of resultant drug addiction.

THE DECLINE OF STOICISM.

In the first place, I would say that the demand for relief from minor pains and slight insomnia has increased with the supply of remedies. Although my experience is limited to some ten or twelve years of practice, and I can not with authority compare the older days with the present, yet I think I may safely say that people, as a rule, do not bear pain as bravely as they did before the days of anesthetics, analgesics and hypnotics. Such scenes of fortitude as Ailie's operation in Dr. John Brown's story of "Rab and His Friends," are, we are thankful to say, unnecessary now; but at the same time the day is past when women bore the pain of cancer, or the knowledge that they were dying of a tumor, to their graves without opening their lips to anyone save their physician. The brave serenity of spirit showed by Sydney Lanier, who was carried to his class room to give his lectures, and who never permitted his illness to be mentioned, and the gay stoicism of Robert Louis Stevenson, whose only reference to his hemorrhages were as to his friend "Bloody Jack, who was with him that morning," are examples of that heroism in suffering which I believe has become much more rare with the introduction of the many pain-relieving remedies.

Any sufferer may to-day, at the cost of ten cents, purchase temporary relief from a headache that is due to overwork, or an artificial night's sleep where sleep should have come naturally. To suffer is no longer deemed

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brave, it is deemed ignorant; but the little knowledge that will bring relief is too often a dangerous thing.

The result of this easy and sure means of obtaining relief has led patients, and sometimes physicians, to be too easily satisfied with relieving pain and giving artificial sleep instead of ferreting out the cause of the trouble and removing it, as they were obliged to do in the old days if they would stop pain.

I do not purpose to speak of drug habits acquired by patients who treat themselves, except to say that every analgesic and every hypnotic is dangerous if used indiscriminately; and that all patients should be emphatically warned that there is nothing that they can take regularly and persistently to relieve pain or sleeplessness without doing themselves permanent injury. Paradoxical as it may seem, the least harmful drugs are often the most deadly. Fewer men and women ruin their nerves by the abuse of chloral than they do by the use of bromids. I have had many patients the victims of the bromo-seltzer habit, who took high moral grounds against the use of morphin and chloral. I have entered a business man's office and seen it stocked with a winter's supply of bromo-seltzer, with which he proposes, as was his wont, to ward off his regular afternoon headache; and I have had as hard a fight to bring him, by means of travel, exercise and diet, to a normal state of health as in breaking a morphin fiend of his habit.

It would greatly lessen the dangers of drug habits if family practitioners would encourage patients to endure a certain amount of the pain and sleeplessness of general diseases, never saying, "I will leave you something perfectly harmless that will make you sleep"; or, "I will give you something very new and very powerful that will stop that pain in ten minutes." The drugs for relief should, as far as possible, be combined in prescription with the drugs that treat the disease, or left without name or emphasis to be taken at the right time. In almost every case the abuse of phenacetin, antipyrin, acetanilid, the salicylates and allied products has begun by a physician calling especial attention to the efficacy and harmlessness of these drugs first prescribed to ease the pain and sleeplessness of some acute disease, such as tonsillitis or grippe.

THE USE OF FAKE SYNTHETIC FORMULÆ.

In this connection I can not refrain from calling attention to a large number of combinations of well-known drugs of this class that are given fake chemical formulæ, and which, while substantially mixtures of such remedies as antipyrin, acetanilid, phenacetin and allied synthetics, yet nevertheless are claimed to be new and important synthetic discoveries. It is to be regretted, moreover, that there are to be found physicians who will describe at great length and in much detail the wonderful cures which have resulted from the use of some of these impossible synthetics. All honor should be paid and support given to the enterprising chemist who has devised a really good new product. The profit that he may make from it is legitimately his, but physicians, as a class, I believe, are too prone to accept unchallenged the statements of some manufacturers who put out misfit combinations.

It is not expected that we as physicians should bear always in mind the chemical lore of our laboratory days, but a more careful scrutiny of the great flood of newer synthetics is advisable if not imperative. Moreover, when it is to be borne in mind that many of these so-called newer synthetics are sold for from fifty cents to one dollar an ounce, when their constituent parts may be purchased for from ten to twenty cents per pound, the robbery is made possible only under the guise of a trade name, and if the education of the physician is not sufficient to protect the public, then legislation is imperative.

HOW TO TREAT INSOMNIA.

As a rule the few doses of such drugs that are necessary to bring relief in acute diseases, whether to ease pain or to bring sleep, lead to no habit. As soon as the body has recovered its tone, and so soon as the cause of the pain is removed and the pain itself has disappeared, the body does not crave a repetition of the drugs. Even opium, in any of its forms, can be borne well and leaves no bad effect when intelligently prescribed. The sole danger in such cases, I believe, lies in the fact that the patient knows what has given him relief, and will, inevitably, tamper with the fascinating drugs when he has some minor ailment in the future. He then almost invariably runs a twofold danger: by continually giving himself relief from a pain that ought to be investigated he ignores the cause of his pain until his disease is pronounced, and in the meantime has by repeated use of the drug habituated his nervous system to overstimulation.

These cases in which pain and insomnia were at first merely secondary phenomena form a large percentage of the patients who afterwards come to us to be treated for the toxic form of insomnia *per se*.

In the severer grades of psychic insomnia it is often necessary to secure a few nights of artificial sleep at any cost; for the sleep of itself will in a few days induce sleep and the doses may be tapered off, or the need for them will stop naturally. In the cases of insomnia following sudden shock, great mental excitement, the anxiety attendant on strain of business, or the nervous state of worry in women that is accompanied by a hysterical breakdown, it is wise to give hynotics and to induce sleep until the body is thoroughly refreshed. In such cases many physicians prefer, I think, with good reason, opium or chloral, or their combination, although of late years the use of trional and sulphonal with some of the modifications of chloral, chloralamid, etc., have given excellent results.

Sir Lauder Brunton has suggested with much wisdom that a combination of hypnotics is more successful than any one of them singly. He recommended the now well-known mixture of small quantities of morphin, chloral and the bromids, and this is a favorite combination of a great many of us.

POPULAR KNOWLEDGE OF OPIUM UNDESIRABLE.

Whenever opium enters into the prescription for the relief of insomnia or pain, too much caution can not be urged. This is an oft-repeated tale, and yet from the crop of habitués of this drug that I see yearly, it seems not altogether to have been learned. At the same time, it is my own firm conviction that there is too much popular knowledge of the effects of opium, and personally I should condemn in the strongest possible manner the practice of the Woman's Christian Temperance Union of imposing on the public the 10 to 25 per cent. of information regarding alcohol and opium which they make obligatory in the publication of school books. The giving to the young and immature a knowledge of the seductive activities of any agent is, in my humble opinion, a practice worthy of the severest criticism.

THE NEWER OPIUM DERIVATIVES.

But this leads away from the last topic of my paper, the new opium derivatives. These, heroin, dionin and

peronin, as is well known, are derivatives of morphin; modifications by chemical substitution of groups of atoms. They are distinctly not morphin, and their activities have definite and distinct individualities. The pharmacologist who would alone register blood pressure, respiratory activity and heart beat, may maintain that these drugs have an identical action; but he does so on very meager and insufficient data. The psychologic manifestations of the activities of these drugs are distinct and in the genesis of drug habits, the brain and its activities is the all-important factor, heart beat and blood pressure are secondary.

Of the opium habit I need say nothing; physicians are acquainted with its general features, but in this day and generation what may happen on account of this widening out of our therapeutic possibilities?

I believe that just as phenacetin, antipyrin and acetanilid, trional and the newer chloral combinations have so richly supplied the profession with weapons to attack pain and insomnia and have thereby lessened the danger of the opium habit, so the introduction of the new morphin derivatives will afford a like refuge for those patients for whom opium seems imperative. They will lessen the great amount of the morphin habit even if at times they may induce a habit of their own. That they do is no question, but I have dealt with this subject elsewhere.

To my mind the question of drug habits, so far as the physician is concerned, in large part resolves itself into a number of simple restrictions that we shall place on ourselves. These may be expressed as follows:

CONCLUSIONS.

1. Prescribe the drug which will do the work required to produce sleep or relieve pain, but let it be so graduated with reference to dosage and choice of remedy that it will be the least harmful if used steadily.

2. Keep our mouths tightly shut as to what we are using. Do not say, "Take 1 gr. phenacetin, 10 grs. of salol, ½ gr. of codein." Give it to the patient if necessary, but do not under any circumstances permit him to know what it is. That is a medical question, and if the information is imparted its circle of pernicious activity radiates further than we can imagine.

3. Wage incessant warfare on the many pirates who provide all sorts of reliefs to the public, going directly to them through the lay press and the magazines.

4. In conclusion, let it be remembered that the introduction of newer drugs, rightly set forth by honest chemists and worthy clinicians makes most desirable accessions to our armamentarium; but that false pretense and economic robbery of an unsuspecting public deserve united condemnation and opposition.

DISCUSSION

ON THE PAPERS OF DRS. SPRATLING AND JELLIFFE.

DR. FRANK WOODBURY, Philadelphia—The author referred to the laws of China, but not to those of Japan, which present a marked contrast. The Japanese government apparently modeled its regulations of the sale of nostrums on the plan of Austria. It requires the registration of actual formulæ, and if any are found which do not correspond to the formula their sale is forbidden under penalty. Furthermore, if any compound or preparation is considered by the health board as injurious or dangerous, its sale is absolutely prohibited. Finally, those that are shown to be useful have their price regulated, so that the sick shall not be charged extortionate prices. These laws are not only in marked contrast to the absence of regulation in China, but they are also far in advance of our own.

DR. H. C. WOOD, JR., Philadelphia—Most of the members of the American Medical Association have decided views on the subject of self-medication and on the dispensing of medicine by the physician who thus invades the province of the pharmacist. I think that this practice is attended by great danger to both professions, and to the patients as well.

With regard to the suggestion of Dr. Spratling about instructing the laity, I think that it would be better to remove the beams from our own eyes before attempting to remove the mote from our brother's eye. For instance, many of the preparations now in use among physicians are nothing more than secret preparations. Only this afternoon, in coming into the room, I picked up a circular containing the advertisement of a preparation made by Rigaud and Chapoteaut, which is not only advertised to the profession, but is also advertised to the public in the daily papers for self-medication. The remedy for this evil is difficult to find. Dr. Spratling has suggested popular lectures as a means of instructing the public; perhaps some papers read before medical societies might afford a good introduction to the general discussion of the subject.

The final recommendation is not possible in the United States. The sentiment of the people would be against it as being antagonistic to American ideas. Much, however, can be done by the proper exercise of legislative control. The greater part of the protection to nostrums is due to the copyright laws. Probably the protection by copyright is more than is needed. If the profession would try to overcome the copyright protection of nostrums, it would accomplish a great deal toward breaking up this kind of self-medication by the laity.

DR. W. J. ROBINSON, New York City—The papers are both valuable and timely. The suggestion that physicians should contribute articles to be published in the daily papers is a good one; but to pay for their publication would cost too much. If the articles were well written, no doubt the papers would be glad to get them as matters of interest to their readers.

I am surprised to hear Dr. Spratling's remarks on the careful regulation of the sale of patent medicines in France. I have been in France myself, and that is not the opinion that I would have formed from my own observation. There is hardly an old wall in Paris that is not covered with advertisements of proprietary articles, and the little kiosks, or public urinals, are covered with directions for self-treatment for venereal disease and lost sexual power, the remedies to be bought at all pharmacists. Possibly the laws are on the books but are not enforced. Patent medicines are everywhere in evidence in Paris, even the illuminated kiosks at night are covered with announcements of new nostrums.

With regard to the remark about patients bearing pain much less than formerly, I believe this to be true. We can not go into the lying-in chamber without taking with us a bottle of chloroform or ether, and we use them for slight surgical operations, often, indeed, against our better judgment.

A remark has been made about physicians of the present day giving simple substances, instead of the complex preparations that were formerly in use. This is in the direction of more accurate and scientific prescribing. This has been recognized by the Pharmacopeia, and the physician now has at his command many articles in the form of active principles and simple substances that it was impossible to get formerly, except in combination. This is a fact known to every chemist; but the average physician is slow to understand it.

About the evils of self-drugging, everyone present can recall instances. I recall a patient who took, every day, sixty grains of phenacetin, and who claims that when he goes without it he suffers with headache. It is impossible to say whether the headache is really caused by the want of the phenacetin or whether a phenacetin habit has become established. Another patient who had a syphilitic headache when a young man, and was cured of it by the biniodid of mercury, for years afterward was in the habit of recommending this drug to his friends when they complained of having headache.

DR. W. L. DICKERSON, St. Louis—I have observed that, just at the close of the sessions for the last four or five years, there has been brought up for discussion this most interesting subject when there are very few to discuss it and very little time to do it in. It seems to me that, in trying to regulate

this matter of the use of proprietary preparations, we must begin with the profession itself. The pharmacists of my neighborhood can always tell when an agent for a drug manufacturing house is going around visiting physicians, because on the next day there will be several prescriptions calling for these special articles to be put up. Physicians know absolutely nothing of the composition of many of these preparations, and yet they take the statements of the agents, or the advertisements, as their authority. Certainly if a man makes a really valuable discovery or contribution to medical science, he should receive the advantages derived from the sale, but in that event he should patent the drug, and then we would know what it is that we use, for the composition must be made known of articles that are patented.

With regard to the habit of self-medication with narcotics, I think that there is a danger of such habits being formed if the physician places prescriptions of this kind in the hands of his patients indiscriminately. I am in the habit, when prescribing for a patient suffering with pain, to give a tablet of morphin from my hypodermic case and give a prescription for whatever else may be required. In this way, the patient gets the prescription without the opiate and there is less danger of forming the habit by refilling the prescription.

DR. W. P. SPRATLING, Sonyea, N. Y.—The tone of one of the speakers would seem to indicate that general legislation could not regulate the manufacture and sale of proprietary medicines in the United States. Such may be the case, but I thing that the profession can secure some legislation if an effort is made. We can get laws to control the adulteration of food supplies, and I think the necessity for the protection of the public against injurious medicines is just as great in some instances as that of securing better food. The statements I made concerning the regulation of drugs in foreign countries was taken from consular reports made to the Department of State in 1898.

DR. S. E. JELLIFFE, New York—The proposition seems to me to be a very simple one, and one that could probably be settled in five minutes if we, as a profession, were all ideal ourselves; but we are not all ideal by any means. For instance, I have known this to occur: In New York City a very enterprising manufacturer devised a scheme to increase the sale of his particular produce. He issued pads, with printed prescriptions; each one had a coupon attached; for every one of these coupons representing orders sent to the drug store, the physician would receive 25 cents. If there are physicians of such character among us as to stoop to participate in a scheme like this, what can we say to the public or to the manufacturer of proprietaries?

COMMITTEE APPOINTED TO MAKE RECOMMENDATIONS.

DR. A. W. BAER, Chicago, moved that a committee of three members of the section be appointed on the subject of these papers, to report at the meeting of the section in 1903, making such recommendations as they think fit. The resolution was unanimously adopted and the chair appointed to serve on the committee, Drs. Baer, Robinson, and Wood.

A FURTHER STUDY OF THE INFLUENZA BACILLUS.*

F. ELDREDGE WYNEKOOP, M.D.
Professor of Biology, University of Illinois; First Assistant Bacteriologist, Chicago Board of Health.
CHICAGO.

Of recent years such thorough study has been given by so many competent observers to systemic conditions produced by the *Bacillus influenza* in the human organism, that we may say we are fairly familiar with and able to recognize all the important points in the general symptomatology of influenza. There are special conditions, however, concerning which we are not so well informed, and to direct attention to what may be called "some of the atypical manifestations of the influenza bacillus" is the purpose of this paper. The pathologic states of the mucous membrane which may be produced by the growth and development of this micro-organism on them are of sufficient gravity to warrant careful consideration. During the past five years a great many hundred cultures which were made from inflamed throat, nasal mucous membrane, eyes, etc., have been examined and it has been found that many of these local disorders were dependent on the action of the influenza bacillus, and not on the pyogenic bacteria. In a report published in the Bulletin of the Chicago Department of Health, January, 1899, I referred to some of the pronounced local disturbances which had been observed to be due to the Canon-Pfeiffer bacillus. The numerous observations made since that time confirm the statements then made. Attention was called to laryngeal, pharyngeal, nasal and ocular conditions—all severe types which were caused by the influenza bacillus.

In cases which were clinically laryngitis pure cultures of this organism were frequently obtained. The patients in the majority of instances presented symptoms which did not vary from those of acute catarrhal laryngitis. A feeling of rawness, tickling sensation, hoarseness and disposition to cough were the usual manifestations. Occasionally the symptoms were decidedly croupy in character, marked hoarseness, difficult respiration and a harsh, ringing cough were present. The mucous membranes were bright red, and in severe cases much swollen. The bacilli were found in the expectorated sputa and also in cultures made from these secretions.

In other cases which presented the usual clinical aspects of pharyngitis and tonsillitis the Pfeiffer bacillus appeared to be the exciting cause. Many times I have made bacterial examinations of exudations from mucous membranes which were congested, red and swollen and found no other organism. In many instances coming under observation the throat symptoms were so marked that a physician would feel justified in pronouncing the cases diphtheria, yet the Klebs-Loeffler bacillus was not found, although repeated examinations were made. Redness, swelling of the tonsils and well-developed membrane—manifestations certainly suggestive of diphtheria—have frequently been demonstrated to depend on the influenza bacillus. Indeed, cultures have been sent to the city laboratory many times for diagnosis which were taken from cases in which the probable clinical diagnosis was given as diphtheria by the attending physician, but instead of the diphtheria bacillus being found the influenza bacillus has been obtained in conditions almost pure. The power of this organism to excite such grave local disturbances is deserving of thoughtful inquiry and greater consideration than has heretofore been given to it. The proper treatment demands it. Diphtheria antitoxin administered to a patient suffering with a diphtheritic inflammation dependent on the Canon-Pfeiffer bacillus would fail to produce the desired results.

It would seem that when the influenza organism enters the system its field of action is not limited to some particular part of the body as that of many other pathogenic bacteria, but that it attacks and spends its force on any and every organ which offers least resistance. A throat may become the seat of severe manifestations and exhibit clinical symptoms—as already noted—differing not greatly from diphtheria, or in milder cases, from tonsillitis. The stomach and intestines do not escape this minute fungus, its activity in the one case producing gastritis, and in the other a condition simulating typhoid fever. It may advance along the eustachian tubes and

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. Arthur R. Reynolds, George Cook and Heman Spalding.

enter the middle ear and excite otitis media. It may find its way into the pleural cavity and develop pleurisy, a pleural effusion or possibly an empyema. It may enter the nasal cavity and cause an acute nasal catarrh, or a "cold in the head," with all the attending unpleasant features.

In the bulletin above referred to attention was called, in a paragraph which I quote below, to certain eye disorders which were produced by the Pfeiffer bacillus.

It has occasionally been observed by physicians that when influenza is present in a household the eyes of some members of the family suddenly become inflamed, accompanied by severe pain, swelling and redness of the conjunctiva, with a profuse discharge of pus. In that the disorder differed materially from ordinary acute conjunctivitis it was suspected that the *Bacillus influenza* might have something to do with the diseased condition. Cultures were made from the discharges, and the suspicion was verified by finding great numbers of the influenza organism.

Since these conditions were noted many cases of a similar nature have been studied, and like results obtained. The attention of the patient is usually attracted to his eyes because of a feeling which causes him to believe some foreign body has lodged on the conjunctiva. An examination at this time reveals a slight redness of both ocular and palpebral membranes. Very rapid development follows so that within a few hours the disease is well established. Abruptness of onset, rapidity of development and shortness of duration are the characteristic features of all the cases, whether mild or otherwise. At their height the severer cases presented symptoms strongly suggestive of blennorrhea, or conjunctival diphtheria. Pain, redness and swelling of the conjunctiva, discharge of pus and sometimes membranes were present, but, under antiseptic treatment, all these distressing manifestations disappeared as quickly as they came, thus marking the illness as different from gonorrheal or diphtheritic conjunctivitis.

Many cases coming under observation are worthy of mention; three, however, will suffice to illustrate the manner of action of the influenza bacilli when attacking this organ:

CASE 1.—Mr. O., aged 26, consulted me during the last week of March, 1902, with reference to his eyes. A few hours previous he became conscious that one of his eyes had somewhat suddenly become painful, and that almost immediately the other organ had presented a similar state. Believing that some foreign substance was the cause of his discomfort, he had by various methods attempted to remove it, with the result that he aggravated his condition. An examination revealed the ocular and palpebral conjunctiva much ingested and very red—the congestion being most pronounced at the fornix and on the lids. A watery discharge, which was slightly cloudy, collected at the inner canthus, from which cultures were made on blood serum. After twelve hours' incubation a number of colonies had developed, which were found to be made up of influenza bacilli. Sublimate solution, strength 1/5000, was ordered to be used every three hours. Within twenty-four hours after treatment was begun there was decided improvement, and at the end of a week the disorder had subsided entirely.

This case is a type of the mild form of infection with the influenza organism. The lids were not swollen or edematous, and the discharge at no time became thick or purulent, but remained a watery character. The milder cases are met with much more frequently than the severe types described below, and because of the color of the conjunctiva are referred to as "pink eye." Whether the Pfeiffer bacillus is the active etiologic factor in all cases of so-called "pink eye" I can not say, but that it holds a prominent place in the etiology of the majority of such infections I am inclined to believe.

CASE 2.—Mr. G., aged 47, while returning from his office, 5:30 p. m., March 7, 1902, became conscious that his right eye had rather suddenly begun to pain him. The sensation, as he thought, was due to particles of dust beneath the lids. Within an hour considerable swelling and redness of the conjunctiva and a watery discharge appeared. By 9 a. m. next morning—at which time I saw the patient—the pain was of a severe character, the swelling and edema so marked that the lids could be separated but little, and the discharge was of a thick mucopurulent nature. During the morning the left eye became involved, but did not present the severe symptoms that were present in the right. This less severe course I attribute to early treatment. The lids of this eye did not become swollen, the conjunctiva, however, both ocular and palpebral, were red and extremely sensitive, the discharge was watery in character, very little pus being present. Sublimate solution was used every two hours for twenty-four hours, with prompt and decided improvement. This same treatment was continued at less frequent intervals until the diseased state had disappeared, which was about five days in the case of the left eye, and eight days in the case of the right eye. Cultures made at the time of the first examination demonstrated the presence of the influenza bacillus.

A case of special interest has been observed by Dr. F. A. Phillips, Chicago, a report of which he kindly furnished me and which is herewith submitted:

CASE 3.—M. M., a little girl, aged 4, about 11 o'clock on the morning of Feb. 22, 1899, complained to her mother concerning her eyes. At this time a slight discharge was apparent, and the child seemed somewhat indisposed. During the next twenty-four hours the symptoms developed with great rapidity, so that, when the little patient was seen by myself at 6:30 p. m. on the same day, the eyes presented a serious inflammatory involvement. The lids were edematous and overlying; the integument was glazed and red, and the cilia matted with thick tenacious discharge. Only with difficulty could the child open the eyes, and then not to any extent. The swelling continued, and by 8 o'clock the upper lids became too heavy to be raised by the levators. By forcible separation and eversion false membranes covering both superior and inferior palpebral conjunctiva were exposed. The removal left small bleeding points. Beneath the superior ocular conjunctiva of both eyes a sub-conjunctival ecchymosis had appeared. There was no involvement of the cornea or iris. Mild constitutional symptoms were present—general languor, slight depression and low fever—which conditions were not observed in the other cases seen during the year.

Before instituting treatment cultures were made from the false membranes and surfaces beneath. These were examined by Dr. Wynekoop of the city laboratory, who reported the negative finding for all pathogenic bacteria except the bacillus of influenza, which seemed to be present in a pure culture. On the 24th inst., and again on the 25th, the treatment was discontinued for three hours and cultures made, which proved to be growths of the influenza organism.

The treatment was antiseptic in nature, and soon after its institution the conditions improved. The membranes reformed within five or six hours after their removal, but quickly disappeared on the use of sublimate solution. Recovery progressed steadily and by the end of the seventh day the edema had all subsided, the ecchymosis had faded, and only a slight hyperemia and thickening of the conjunctiva remained, which entirely disappeared soon after. Throughout its entire course the case was one presenting an unusual symptomatology. All the clinical manifestations—the sudden, severe beginning, the rapid development, and the comparatively rapid disappearance of the acute violent symptoms under treatment, without complication or sequelæ—were at variance with any other eye affections. These facts, together with the bacteriologic findings, led to a diagnosis of influenza.

The case reported by Dr. Phillips is one of the severe types and presents several interesting features which were not present in the other cases described, yet in general it followed the same course.

It deserves mention, as a matter of no small interest, that the clinical course of this local disease coincides in all the essential points with systemic or general infection, and that the duration and departure of the clinical conditions are in harmony with all the vital phenomena manifested by the influenza organism. Thus, the life cycle of the bacillus is short, a culture thrives but a few days, the resistance to harmful agencies is feeble, and under the most favorable surroundings the organism soon dies. Herein, perhaps, we find an explanation for the rapid recovery of the disordered eye when treated antiseptically. In view of what has been observed it appears that we have to do with a pathologic condition which differs materially from other acute inflammations of the eye. And in view of its abrupt and somewhat violent onset, its rapidity of development, its shortness of duration, and in view of the repeated findings of the bacillus of influenza, it would seem that we are justified in making a diagnosis of influenza ophthalmia.

In the *New York Medical Journal* of Feb. 1, 1902, appears a translation of an extract of a paper published by Dr. F. Rymowitch in the August, 1901, number of *Roussky Archiev Pathologyi, Klinitcheskoy Meditsinyi Bacteriologyi.* It appears that this observer has recently made a comparative study of the *B. influenza* and the bacillus of Koch-Weeks, and concludes they are one and the same organism. He finds that they are identical in morphologic, biologic and pathogenic characters. Both produced intoxication without a general infection. The most conscientious study did not reveal to him any differences between the bacteria, and he therefore believes that the bacillus of acute contagious conjunctivitis and that of influenza are the same. When attacking the mucous membranes of the respiratory tract the influenza bacillus produces influenza, and when affecting the mucus of the eyes produces acute contagious conjunctivitis, which disorder, according to Rymowitch, is the same as that produced by the Koch-Weeks bacillus. Not having had an opportunity to make a comparative study of these two organisms, I am not in a position to confirm or refute the observations made by Dr. Rymowitch. The subject is an interesting one, and because of its importance deserves further consideration, which I hope to give it in the near future.

THE FLY AS A CARRIER OF TYPHOID.

AN INQUIRY INTO THE PART PLAYED BY THE COMMON HOUSE FLY IN THE RECENT EPIDEMIC OF TYPHOID FEVER IN CHICAGO.

ALICE HAMILTON, M.D.

From the Laboratory of the Memorial Institute for Infectious Diseases.

CHICAGO.

During July, August and September of 1902 there was an unusually severe epidemic of typhoid fever in Chicago, which raised the death rate to 402 from this disease alone, as against 212 during the same three months of the previous year.

CHICAGO'S WATER SUPPLY.

The water supply of Chicago comes from the lake and is collected at five pumping stations: the Hyde Park station, which is two miles from the shore; the Fourteenth Street, four miles from shore; the Carter Harrison, two and a half miles; the Chicago Avenue, two miles, and the Lake View, two miles out. The Carter Harrison station is considered the best, the Fourteenth Street is almost as good. Specimens of water from each station are examined daily in the laboratory of the Chicago Board of Health and a bulletin as to the condition of the water at each is published in the daily papers. The state of the water varies greatly from day to day, and the practical value of these daily bulletins becomes somewhat problematical when one considers that twenty-four hours must always elapse between the collecting of the water and the published report, so that people who read on Tuesday morning that the water at a certain station is bad and take precautions accordingly are a full day late, for they were drinking the bad water on Monday. On the whole, such a statement as is made at the end of the week by the health department, "the water at this station averaged 60 per cent. good for the week," is really misleading, since nobody can ever know until too late which days made up the 40 per cent. bad. As a usual thing the water is worst when the rainfall is greatest, the sewage being carried farther out into the lake and contaminating the water at the intakes, except when there is the fortunate coincidence of light easterly winds, which, without stirring up the bottom, keep the sewage in toward the shore.

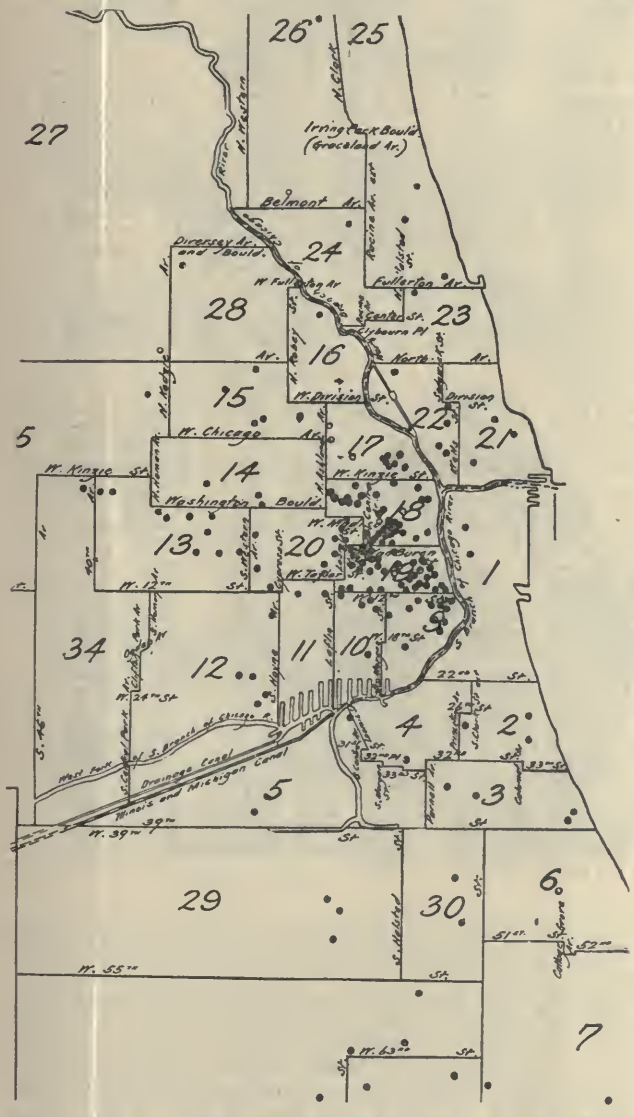
In discussing the causes of this greatly increased mortality from typhoid fever, Dr. A. R. Reynolds,[1] commissioner of health, speaks as follows:

"At the time" (the early summer) "there was nothing in the condition of the water to cause alarm. Notwithstanding the heavy rainfall of the previous months, the supply from all sources averaged 72 per cent. good (by 'good' in the laboratory characterization is meant a water free from pathogenic organisms, the colon group). But in the early part of August the typhoid deaths suddenly jumped up from a previous weekly average of 8.8 to 28 in the first week of August, to 44 in the second, and to 53 and 51 in the third and fourth weeks, with a total of 194 for the month, as against a total of 44 for July. As already stated, the water supply in July and previously was not of such a character as to account sufficiently for the increase of typhoid; but a study of the meteorologic conditions of the period beginning in October, 1901, reveals what are believed to be strong contributory causes. October, November and December, 1901, and January and February, 1902, were the dryest five consecutive months on record in 53 years. During the period only 6 inches of rain fell, instead of the average 11.84 inches. In November only 0.85 of an inch instead of the average 2.68, and in January only 0.64 instead of the average 2.07. There was no sewer-flushing rainfall during the entire period, and the city sewer flushing, always inadequate, was wholly suspended in January on account of the lack of funds. The sewers were congested with filth, of which typhoid stools formed a component part, and the surface of the earth, in city and country alike, was covered with the five months' accumulations. The water supply was, however, uniformly good, since there was little sewage movement. From March to July inclusive was the wettest season on record—a total precipitation of 23.73 inches instead of the usual 7.87 inches. The sewers were repeatedly flushed out, and the accumulated surface filth was washed away into streams, ponds and the lake. Under ordinary circumstances the water supply would have been repeatedly and grossly polluted. Fortunately, the wind movement during this wet period was unusually light and its prevailing direction was from the east—thus keeping the sewage-laden shore waters away from the tunnel intakes. In August a succession of high variable winds set in, the strongest being from the west. The lake bottom was vigorously stirred up by high wave action, the sewage was drifted to the intakes, and the water supply from all sources became so contaminated that it averaged only 38 per cent. good for the month.

1. Chicago Medical Recorder, 1902, vol. xxiii, p. 219.

CAUSES OF TYPHOID INFECTION ASIDE FROM POLLUTED WATER.

This pollution of the water supply was undoubtedly the greatest causative factor in the epidemic of the past summer, but there are one or two subsidiary factors which are not brought out in the report of the board of health, and which yet may serve to explain the peculiar localization of this epidemic. The accompanying Map 1[2] shows that a comparatively small area on the West Side was the region most severely affected. Within the limits of the Nineteenth Ward, which contains only one thirty-sixth of the total population of the city, there were between one-sixth and one-seventh of all the deaths



Map 1.—Showing the central part of Chicago and the approximate locations of typhoid fever deaths in August, 1902. (For map showing the entire city with the source of water supply and the sanitary drainage subdivisions, see THE JOURNAL, Dec. 20, 1902, p. 1563.)

from this disease. This part of the city is inhabited largely by working people. It contains one of the largest Italian quarters, most of the Greek colony, a small Bohemian colony, the northern end of the Jewish quarter and the western part is chiefly American-Irish. So far as the general intelligence of the inhabitants is concerned, their knowledge of the laws of hygiene, their general housing conditions, cleanliness, overcrowding, etc., this part of the city does not differ from the other semi-foreign quarters, yet it suffered much more than any in this epidemic. Evidently there must have been some local conditions which favored the spread of the infection. The drinking water alone could not be responsible, for this part of the city is supplied from the Chicago-avenue and Fourteenth-street tunnels, the same water supply as that for the whole region between 47th and Lake streets, Canal street and Western avenue. Nor could the milk be chargeable, for though in this neighborhood the milk is often badly diluted, yet it averaged quite as good as that supplied to a prosperous residence district to the west, as shown by analyses made of the milk of both districts by the University of Illinois in 1898.

FAULTY SEWAGE CONDITIONS.

To those who studied the distribution of the cases of typhoid fever it soon became evident that the number was greatest in those streets where removal of sewage is most imperfect. This is an old part of the city, the sewers in many of the streets were laid before the great fire, at a time when the neighborhood was more sparsely settled and when usually not more than one family occupied each house. Adequate at that time, they are far from adequate now, and it takes only a moderate increase in the rainfall to make the sewage back up into vaults and closets, while clogging is of common occurrence in dry weather. The yards and closets are often below the level of the street and are therefore easily overflowed. Last spring during the flooding rains it was no uncommon thing to see one of these yards, from six to fourteen feet below the level of the street, covered with several inches of foul water which in the neighborhood of the privy was distinctly sewage-contaminated. In this way the earth of the yards and that under the basement tenements became soaked with diluted excreta.

This condition of things is made possible by the primitive arrangements for the disposal of dejecta which prevail in this part of the city. Two of the residents of Hull House, which is situated almost in the center of the typhoid district, made a careful house-to-house investigation, noted the conditions as to drainage in each house and also the number of cases of typhoid fever which had appeared in each during the three months in question. The results are shown in the accompanying Maps 2 and 3. It may be remarked in passing that there was no other way of ascertaining these facts except by such a house-to-house canvass. There are no records in Chicago of sewer connections which antedate the great fire. The records were destroyed at that time and have never been replaced.

It will be seen from the maps that the methods of disposal of excrement in this neighborhood have been divided into five classes. The first class includes such equipment as complies with the law: plumbing with adequate water-flushing, traps and a periodically cleaned catch basin; in other words, modern sanitary plumbing. This form of plumbing was made obligatory for all buildings by an ordinance passed in 1896. The second class includes imperfect plumbing or legal plumbing so much out of repair that the excrement is not completely carried away. In several instances very bad leaks were found, the fluid overflowing on to the floor, and in two instances trickling through the ceiling and dripping into the tenement below.

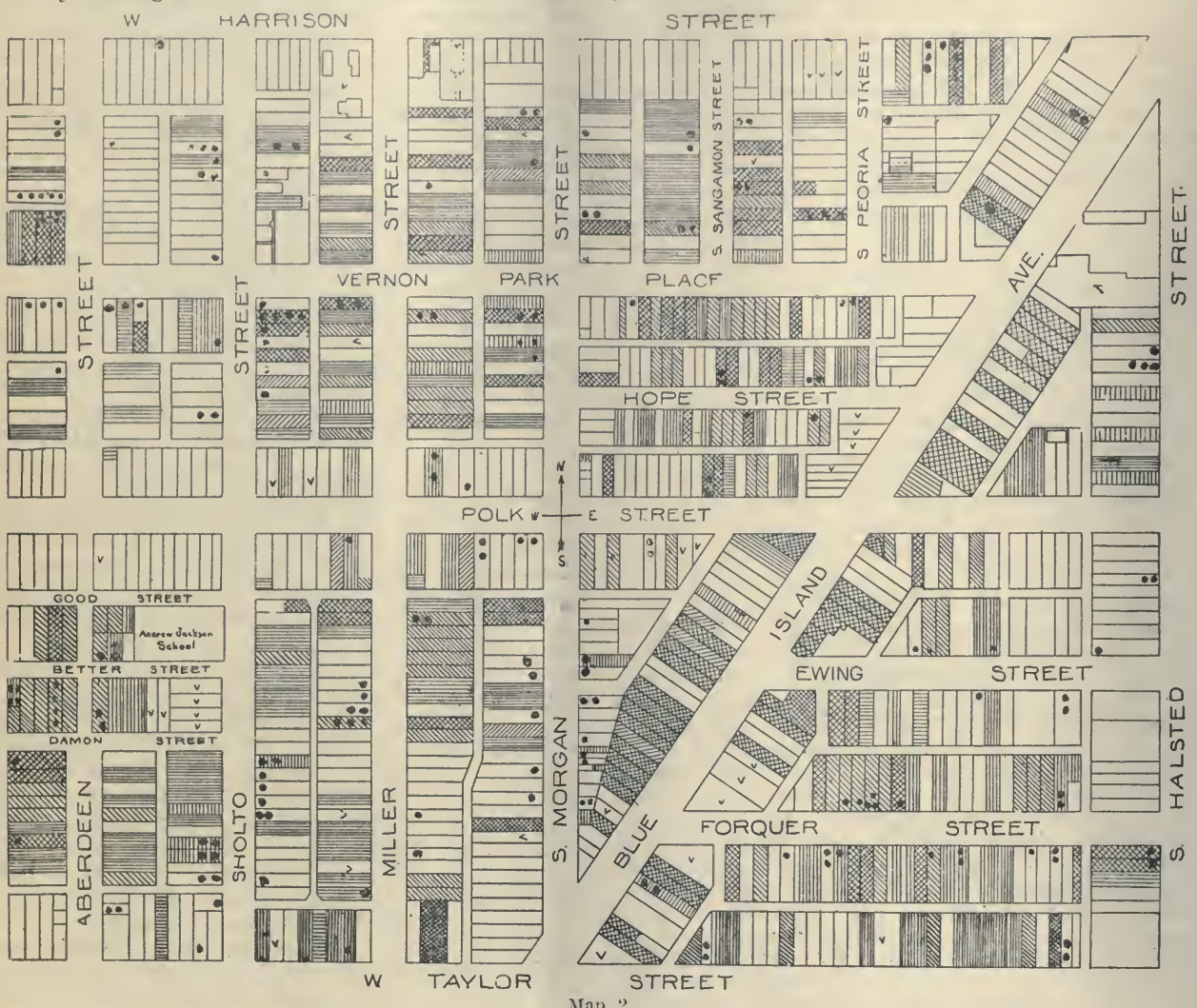
The third class includes out-of-doors water closets, whose water supply is the rain water from the roof and the wash water from the kitchen sink. This is a fairly safe arrangement when the catch basin is kept clean and the sewer does not back up. The law requires catch

2. Prepared by the board of health and kindly given me by Dr. Reilly, Assistant Commissioner of Health.

basins to be of easy access and frequently cleaned, but many of them are buried deep in the earth and uncovered only when the accumulation of filth has become unbearable.

The fourth class includes the privy vaults with sewer connections but without water supply. These are cleaned either by flushing with a hose connected with the hydrant or by a scavenger. If cleaned often enough by flushing the sewer connection can be kept open; otherwise the night soil must be removed by a scavenger. It can be seen that there is room for great variation in this class. When the landlord lives on the premises he is apt to flush his privy at least twice a year, sometimes even once a month, but in the houses of absentee landlords the place may be flushed only once in three years or more. In some places it is impossible to ascertain whether or not there is any sewer connection, as no cleaning has been done in the memory of the oldest tenant.

The fifth class includes the old-fashioned country privy; no sewer connection, simply a hole in the ground.



Map 2.

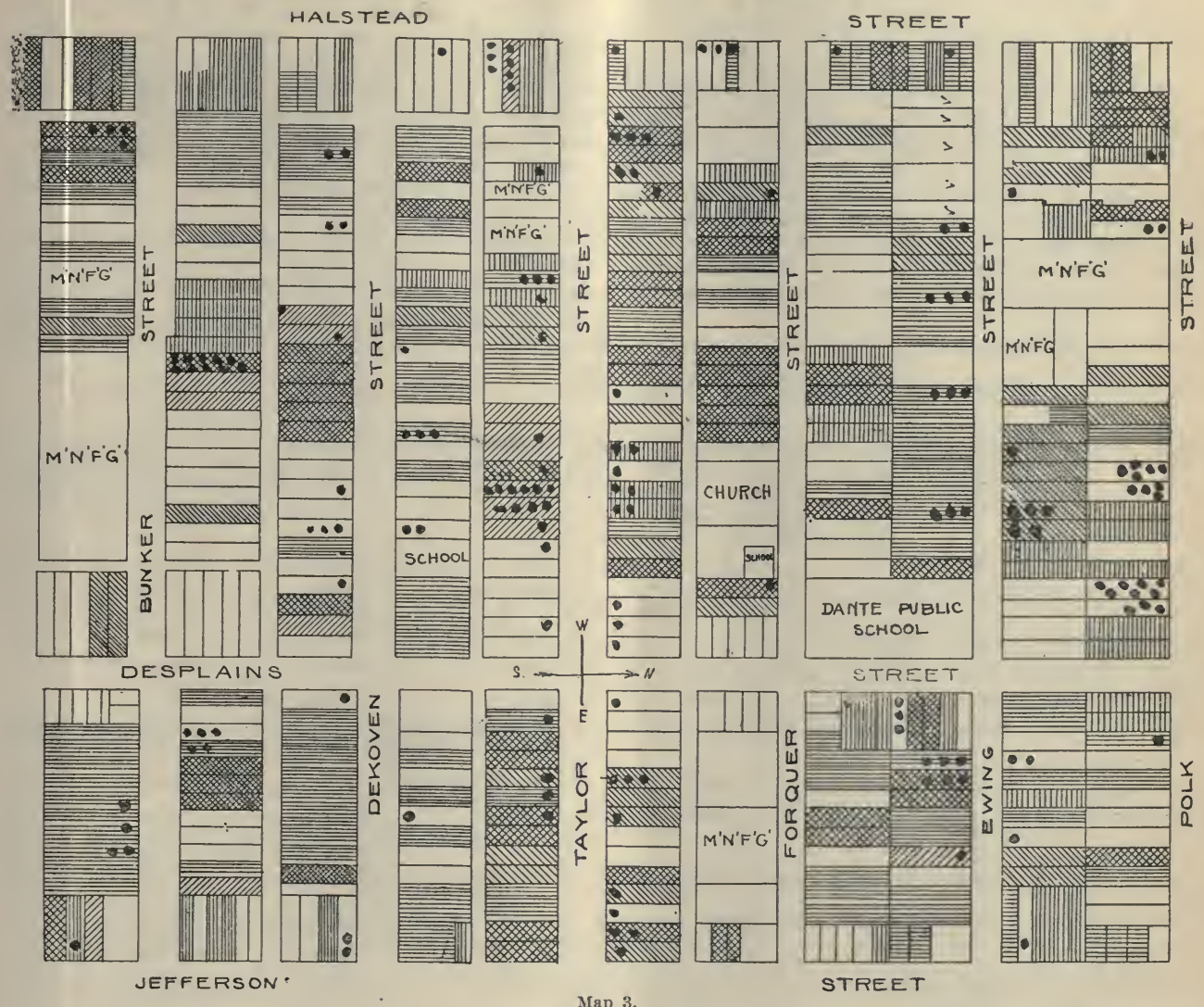
Explanation of Maps 2 and 3.

It is often full and indescribably filthy, in spite of all efforts on the part of the tenants to keep it at least outwardly clean.

As can be seen from the maps, the cases of typhoid fever were not more numerous, on the whole, in houses where the disposal of fecal matter is most defective. Houses with good plumbing which are close to those with badly-drained cesspools are just as apt to have cases of typhoid as are the badly-drained ones, e. g., Morgan street on the east side. All that can be said is that in those areas which have many such places there was more typhoid than in those in which conditions are better. (Compare Bunker with Taylor street, for instance, Polk street east of Halsted with Polk street west of Halsted, Harrison with Sholto.) It must be remembered that the character of the plumbing is due largely to the newness of the building and to the conscience of the landlord, and is not a measure of the standard of living of the tenants.

The statistics which the Hull House residents were able to gather as to the number of cases of typhoid fever are as accurate as such statistics ever can be. No cases

were entered on the maps which had not had a physician's diagnosis, and inasmuch as the physicians of the neighborhood testified that there was an unusually large number of cases of "walking typhoid," many of which very likely never saw a physician, it is probable that the number of cases, as given in the maps, is below rather



Map 3.

than above the actual number. It was also impossible to show on the maps the actual condition of the various closets. Cesspools filled to overflowing and leaking are necessarily represented by the same shading as moderately full and periodically cleaned cesspools, to avoid overcomplicating the maps. A few extracts from the note-books of the Hull House residents will give an idea of some of the conditions found:

DeKoven street (Jewish). Vault, connected with the sewer, but full. Basement full of sewage-contaminated water from backing up of sewer.

Law avenue (Greek). Seventy-six persons using 3 small closets under the house; very filthy; apparently no sewer connection.

Bunker street (Bohemian and Polish). Unconnected vaults; very foul; 10 cases of typhoid fever, with 4 deaths in this tenement.

Law avenue (colored). Connected with the sewer, but out of order; full to the floor. Boards at back are broken away so that cesspool is quite exposed.

Ewing street (Italian). Cesspool, said to have sewer connection, but full and running over, so that stream of sewage runs down the yard.

Taylor street (Italian). Old-fashioned privy; no sewer connection. One of five privies in a yard between a 4-story front tenement and a 3-story rear tenement. While we were inspecting it, a woman came down with a vessel filled with discharge from a typhoid patient, which she emptied into the vault. No disinfectant was used.

Aberdeen street (Irish). One large vault, used by 16 families; very foul-smelling; unconnected with the sewer. This was cleaned by a scavenger during August, and the filth left standing in an open barrow in the alley between two houses for a week. It was so offensive that the tenants in these two houses were obliged to keep their windows on that side closed. Complaints to the health department and garbage inspector were fruitless, and finally the personal influence of a physician prevailed over the landlord and he removed it, but not until it had stood there during a week of warm weather when, naturally, the place swarmed with flies. There were five cases of typhoid fever in each of the two houses next to the alley.

INFECTION BY THE HOUSE FLY.

Now if there is any causative relation between the condition described above and the distribution of the cases of typhoid fever the agency of flies at once suggests itself as a possible factor. It is true that germ-laden dust blown by the wind may also be a mode of conveyance of the infection. The typhoid bacillus has been shown by Firth and Horrocks to retain its vitality in dry soil for twenty-five days, by Uffelmann for over sixty. However, it was only after the middle of August

that this agency could have come into play to any great extent, for up to that time there had been constant rains and there was practically no dust.

The importance of the common house fly in the spread of typhoid infection was emphasized by Majors Reed, Vaughan and Shakespeare in their report on the "Origin and Spread of Typhoid Fever in the U. S. Military Camps During the Spanish War in 1898." They state that in many of the camps:

> Flies were undoubtedly the most active agents in the spread of typhoid fever. Flies alternately visited and fed on the infected fecal matter and the food in the mess tents. More than once it happened when lime had been scattered over the fecal matter in the pits, flies with their feet covered with lime were seen walking over the food. Typhoid fever was much less frequent among members of messes who had their mess tents screened than it was among those who took no such precaution. Typhoid fever gradually died out in the fall of 1898 in the camps at Knoxville and Meade with the disappearance of the fly, and this occurred at a time of the year when in civil practice typhoid fever is generally on the increase. . . . The first pits at Knoxville contained, before the first twenty-four hours had passed after the arrival of the troops, fecal matter infected with the typhoid bacillus. Flies swarmed everywhere. Instead of abating, the disease increased. The soldiers were using the same water used exclusively by the inhabitants of West Knoxville, and among the latter there was not at that time a case of typhoid fever. Certainly the disease was not disseminated through the drinking water.

Dr. H. A. Veeder,[3] writing on the same subject in the fall of 1898, said that in his opinion flies were more important agents in the spread of typhoid infection in the military camps during the late war than were drinking water or milk.

There have been several mysteriously spreading epidemics, in farming regions, for instance, where the houses are far apart and where the spread of the disease can not be accounted for by infected water or milk; also puzzling instances of individuals, who have taken all usual precautions during an epidemic, and yet fall prey to the disease. These cases may best be explained by assuming that the food became infected by flies which had previously fed on typhoid discharges.

In a recent number of the *British Medical Journal*[4] there is a report by two British army surgeons, Majors Firth and Horrocks, of an investigation into the "Influence of Soil, Fabrics and Flies in the Dissemination of Enteric Fever." I quote simply the last part of the paper, that which deals with flies.

These investigators had adult and larval flies placed in a specially-constructed cage in which were also placed Petri dishes containing a mixture of syrup, a fresh typhoid stool and a fresh culture of typhoid bacilli, and sometimes the whole was lightly covered with earth. After feeding on this the flies would settle on other Petri dishes which contained sterile culture medium. The typhoid colonies were recovered in every instance.

TABLE OF CULTURES BELONGING TO COLON-TYPHOID

	Morphology.	Gelatin Plate After Forty-eight Hours.	Agar Plate (Hiss) After Twenty-four Hours.	Potato.	Gel. Stab.	Agar Streak.
Typhoid control No. 15.	Short, slender rods, rounded ends, spore-less, very actively motile; decolorizing by Gram.	Deep colonies are small, yellowish, granular, round. Surface colorless, delicately veined, edge lobulated. Center turning yellowish.	Deep colonies are greenish, bristly or thready, small. Surface colorless, granular, greenish center.	Moist, slightly slimy, colorless, growth, scanty.	Delicate, granular, growth along stab, thin, greenish on surface, not spreading much. No liquefaction.	Whitish, shining streak, even round'd borders, spreading very little. White precipitate in water at bottom of tube.
A 1 from vault	Same	Same	Same	Same	Same	Same
A 2 from yard.	Same	Same	Same	Same	Same	Same
A 3-a from yard	Same	Same	Same	Same	Same	Same
P 1-a from yard	Same	Same	Same	Same	Same	Same
P 2 from sick room.	Same	Same	Same	Same	Same	Same
A 3-b from yard	Same	Same	Same	Moderately abundant growth, slightly yellowish. Potato brown in two days.	Same	Thin, grayish, spreading more than 15.
P 3-a f'm vault	Same	Same	Same	Same. Potato brown in 24 hours.	Same	Same
A 3-c from yard	Same	Same	Same	Like 15	Same	Same
P 3-b f'm vault	Not so actively motile as 15.	Same	Same	Dry, granular, brown growth, all over surface.	Same	Same
A 4 from yard.	Like 15.	Same	Same	Like 15	Same	Same
P 1-b from yard	Same	Same	Deep colonies brown, granular, large, smooth-bordered. Surface, large, granular, brown.	Same	Same	Like 15
P 3-c f'm vault	Not so actively motile as 15.	Same	Same	Abundant, slimy, colorless growth.	Same	Rather more abundant than 15.

EXAMINATION OF FLIES.

Interesting as these results are, they do not really prove the point in question, the agency of flies in the dissemination of typhoid infection. They show, to be sure, that flies can take up typhoid bacilli from fresh cultures and then replant them a few minutes after on sterile culture medium, but it remained to be proven that flies having fed on mixed discharges, which have lain for some time in privy vaults, can subsequently crawl over various surfaces and yet finally deposit the living typhoid bacilli on foodstuffs at a considerable distance from the original place of infection. In order to do this, it would be necessary to catch the flies on the spot and make the bacteriologic examination without having subjected them to any artificial conditions.

3. Medical Record, 1898.

4. Brit. Med. Jour., Sept. 27, 1902.

Two places were selected in the neighborhood of Hull House as specially favorable for such an examination. The first was an unconnected privy on Polk street into which the discharges from two cases of typhoid fever were being thrown without any attempt at disinfection. The vault was either very shallow or very full, for the dejecta lay within three feet of the opening and had caught on the projecting scantling within a foot of the opening. The flies[5] caught within the vault, on the fence of the yard and inside the sick-room of one of the patients, which was also used as a kitchen, were dropped into test tubes containing culture medium and allowed to remain there for periods varying from fifteen minutes to twelve hours. Eight tubes were thus inoculated, three of which contained plain bouillon in which the flies were drowned, three the slightly acid gelatin-agar of Hiss and two the potato-water gelatin of Holz. In two of the bouillon tubes, the one from the sick-room and the one agar. From three of these tubes the typhoid bacillus was recovered; that is, from one bouillon tube inoculated with flies from the privy and from one bouillon and one agar tube inoculated with flies from the walls of the house and from the fence. From another bouillon tube with flies from the fence a bacillus was isolated belonging to the intermediate group above referred to, and another also of this group was isolated from one of the bouillon tubes which contained the typhoid bacillus.

At the time the collection was made there were no fresh typhoid discharges being emptied into this vault, so that the presence of living typhoid bacilli on the legs of the flies apparently proves either that the bacilli already in the vaults were living and multiplying, or that the discharges of the recovered cases still contained typhoid bacilli. In the Polk-street house the flies caught in the sick-room are especially interesting. This room was also used as the kitchen and at the time the collec-

GROUP, OBTAINED FROM TUBES CONTAMINATED BY FLIES.

Litmus Milk.	Litmus Whey.	Lactose Bouillon.	Glucose Bouillon.	Saccharose Bouillon.	Glucose Agar.	Indol in Peptone Bouillon. 7 days at 37° C.	Agglutination.
Faintly acid at the end of twenty-four hours. No coagulation after eight weeks.	Faintly acid after twenty-four hours and after four weeks. Hardly at all cloudy.	Uniformly cloudy. No pellicle, no acid, no gas.	Acid, no gas.	No acid, no gas.	Uniformly cloudy. No gas.	—	1-200+ 1-400—
Same	Same	Same	Same	Same	Same	—	1-200+ 1-400—
Same	Faintly acid in twenty-four hours. Neutral in twelve to sixteen days, then alkaline.	Same	Same	Same	Same	—	1-150+ 1-250—
Same	Like 15	Same	Same	Same	Same	—	1-100+ 1-250—
Same	Same	Same	Same	Same	Same	—	1-200+ 1-400—
Same	Same	Same	Same	Same	Same	—	1-100+ 1-250—
Alkaline in twenty-four hours. Dark blue in two weeks. Persistant, growing translucent.	Alkaline in twenty-four hours. Persistent. Slightly cloudy.	Same	No acid.	Same	Same	—	1-25—
Same	Same	Same	Same	Same	Same	—	1-25—
Faintly acid in twenty-four hours. No coagulation. Alkaline on fifth day, persistent. Bleaches finally.	Faintly acid in twenty-four hours. Alkaline on ninth day. Cloudy.	No acid	Acid, gas.	Same	Gas, not abundant.	—	1-25—
No acid. Alkaline on third day. Persistent. Bleaches finally.	Faintly acid in twenty-four hours. Alkaline on fourth day. Cloudy.	No acid	Acid, gas.	Same	Same	—	1-70+ 1-150—
Acid in twenty-four hours. Coagulating on third day. Alkaline on fifth day. Persistent.	Acid in twenty-four hours. Alkaline by ninth day. Cloudy. Persistent.	Faintly acid in twenty-four hours. Alkaline by third day, persistent.	Acid, gas.	Same	Same	Slight + reaction.	1-25—
Acid in twenty-four hours. Coagulating on third day.	Acid in twenty-four hours. Cloudy.	Acid gas.	Same	Acid, gas.	Abundant gas.	+	1-25—
Acid in twenty-four hours. Coagulating on third day.	Same	Acid gas.	Same	Acid, gas.	Abundant gas.	+	1-25—

from the yard, a bacillus was isolated which corresponds culturally with the typhoid bacillus, and which agglutinates in dilutions of 100 to 200 with the serum of immunized animals. In one of the tubes inoculated by flies from the vault a bacillus was isolated closely related to but not identical with the typhoid bacillus, belonging apparently to the group intermediate between the typhoid and colon groups.

The second place chosen was a yard on Aberdeen street containing one large, full and filthy vault, not connected with the sewer. This is used by sixteen families. Flies from the three privies built over this cesspool were used to inoculate two tubes of bouillon and one each of agar-gelatin and of potato-gelatin; other flies from the fence of the yard and from the walls of the two houses bounding the yard, at varying distances from the vault, were dropped into two tubes each of bouillon, gelatin and

5. In all cases the common house fly, *Musca domestica*.

tion was made the table was covered with food on which could be seen flies both living and dead.

The conditions found at these two places are repeated over and over again in this neighborhood, and when one considers that, in addition to the privies and defective plumbing, there are the sewer-infected back yards, that food is kept more or less exposed, not only in the houses, but in the groceries and fruit stands, that the houses are not furnished with screens, it can easily be seen what an important part the house fly may play in the spread of typhoid infection in such a neighborhood. It can also be seen that this is one factor which does not come into play to such an extent in more well-to-do parts of the city, where screens and good plumbing are the rule, or in newer parts of the city where the excrement is properly disposed of. There are, as was stated above, no available statistics as to the number of privies still in use in Chicago, but Dr. Reilly, assistant commissioner

of health, is of the opinion that more than half of them are within the Nineteenth Ward. It seems, therefore, not unwarranted to assume that the concentration of the typhoid fever in this particular quarter of the city during the late epidemic was due to the spread of the bacilli by flies from the undrained or imperfectly drained cesspools, the leaking closets and the infected earth of the yards.

BACTERIOLOGIC EXAMINATION OF THE FLY TUBES.

As already stated, the flies caught at the different places were dropped into six tubes of bouillon, six of potato-water gelatin and six of His' agar-gelatin. They were allowed to walk over the solid, slanted media, sometimes for fifteen to thirty minutes only, sometimes from one hour to twelve hours; others were drowned in the bouillon tubes. The flies were then removed with sterile forceps and the tubes set aside for twenty-four hours, the gelatin tubes at room temperature, the others in the incubator. All of the gelatin tubes liquefied in forty-eight hours to such an extent that they were useless. The agar tubes, with the exception of two in which the flies had remained not more than half an hour, were covered with a thick slimy growth, loopfuls of which were transferred to bouillon and the plating was done from the latter. The two in which the growth was not so abundant showed two or three black specks of excrement in each, and the colonies growing at these points were carefully examined, but yielded only sarcines.

The plating media used were the potato-water gelatin, the agar-gelatin of Hiss, and Lösener's .05 per cent. carbol-gelatin. Plates were made from the twelve tubes on all these media, and five of them were found so greatly contaminated as to be worthless. Sarcines, yellow, white and orange, liquefying protei, subtilis, megatherium, Zopfii, mesentericus and mycoides were all identified by their colonies, and the attempt to isolate the colon group from among them failed. Better success was obtained from the remaining five bouillon and two agar tubes. Two of them (A 1 and P 1) were so little contaminated with liquefying varieties that the original Holz plates remained usable until they dried. This medium was somewhat disappointing in the other cases, for the liquefying varieties often grew with apparently undiminished vigor, causing complete liquefaction by the time the typhoid colonies should begin to be characteristic. The carbol-gelatin was still less satisfactory, for the addition of .05 per cent. carbolic acid did not prevent the growth of the liquefying forms, but only retarded them; but it also retarded the growth of the typhoid colonies which often at the end of three days showed merely as clear droplets, not distinguishable from colon, or from a slowly liquefying motile bacillus. Moreover, the typhoid surface colonies never took the characteristic grape-leaf appearance, but were always round with smooth edges. On the whole, the agar-gelatin of Hiss gave the most satisfactory results. The tiny, greenish, bristly or thready colonies which developed in eighteen hours were easily distinguishable from the larger, brown, smooth-bordered colon colonies. The differences became more marked in forty-eight hours, for the typhoid colonies increased hardly at all in size, while the colon colonies grew much larger. The acidity of the medium retarded the growth of other forms.

Hiss[6] has recommended the transplantation of typhoid-like colonies to a semi-solid "tube medium" (containing glucose), in which, he claims, the typhoid bacillus is the only one causing a diffuse cloudiness without formation of gas, and in this way a rapid positive diagnosis can be made. In my experience this served very well to distinguish the typhoid bacillus from the colon and from various glucose-fermenting intermediate forms, but not from a non-sugar-fermenting bacillus which produces an early and persistent alkalinity in milk and which I have supposed to be identical with the *Bacillus fœcalis alkaligenes* of Petruschky. This bacillus caused a diffuse cloudiness in the tube medium, and inasmuch as it resembled the typhoid bacillus morphologically and in its growth on gelatin, agar and bouillon, it could be distinguished from the latter only by its rather more abundant brownish growth on potato and its failure to ferment any of the sugars or to cause even a transient acidity in milk or litmus whey.

Colonies of the colon bacillus were found on every plate, as was to be expected, and two organisms were isolated simply for purposes of comparison. Several intermediate forms were also isolated from the Hiss plates under the supposition that they were typical typhoid colonies, until the formation of gas in glucose media proved their nearer relation to the colon group.

The following is a diagram of the twelve organisms which were isolated from the fly tubes, and of a typhoid bacillus obtained in the laboratory of Rush Medical College from the blood of a typhoid patient and used as control. Those marked A were from the tubes inoculated at Aberdeen street; those marked P, from Polk street. The organisms A 3-c and P 3-b seem to belong to the group intermediate between the typhoid and colon bacilli, resembling the typhoid morphologically, in their growth on potato, gelatin and agar, and in their failure to ferment lactose or coagulate milk; resembling colon in the fermentation of glucose with formation of gas as well as acid, although not as abundantly as does colon. To this group belong the *B. enteritidis* of Gärtner, and the organisms isolated by Widal, Gwyn, Cushing, Schottmueller, Longcope, Hewlett, Johnston, Kurth, and recently Sion and Negel. There are minor variations in the growth of these organisms on culture media as they approach now the typhoid type, now the colon, but in the main the class is well defined.

P 3-b, with its dry, granular, brown growth on potato, early and persistent alkalinity in milk and litmus whey and its slight fermentation of glucose, corresponds closely with the bacillus isolated by Sion and Negel from the blood of five patients and from the well-water in a house epidemic of typhoid-like character. A 3-b and P 3-a ferment no sugars and produce an early and increasing alkalinity in milk and Petruschky's whey, and a relatively abundant growth on potato, characteristics which correspond to those of the *B. fœcalis alkaligenes* of Petruschky.

P 3-c and P 1-b are typical members of the colon group, except that P 3-c does not grow characteristically on potato. A 4 should, perhaps, be relegated to the intermediate group, but differs from all those reported, except one of Schottmueller's, in coagulating milk and forming a small amount of indol. It might be regarded as a feebly-growing organism of the colon group were it not for the failure to ferment lactose—the transient faint acidity is soon followed by a persistent alkalinity—and the production of a persistent alkalinity in milk and litmus whey.

The serum of an immunized rabbit was used to test the agglutinability of these organisms. The control agglutinated in a dilution of 1-200, not in a dilution of 1-400. All of the typhoid bacilli isolated from the fly tubes failed to agglutinate in dilutions of 1-400, two

6. Jour. Med. Research, 1902, vol. viii, No. 1, p. 148.

would agglutinate only in 1-100 dilution, and one in 1-150. P 3-b agglutinated in a dilution of 1-70, which is really greater than the dilutions used in the ordinary clinical application of the agglutination test, yet this organism proved by its growth in sugar media and milk to belong to the intermediate group. This agglutinability with typhoid immune serum on the part of an organism of the intermediate group has been observed several times (Durham, Klinger). Durham for this reason questions the value of the agglutination test as compared with cultural tests, for he has even found colon bacilli which agglutinated with this serum, as has also Klinger.

As all parts of the fly came in contact with the culture medium it is impossible to say that any one part was especially responsible for the conveyance of the bacilli. Firth and Horrocks were able to recover the bacillus from the head, wings, legs and body of the flies which had crawled over the typhoid cultures. The failure to isolate it from the excrement of the flies also agrees with the findings of Firth and Horrocks.

CONCLUSIONS.

1. The epidemic of typhoid fever in Chicago during July, August, September and October of 1902 was most severe in the Nineteenth Ward, which, with one-thirty-sixth of the city's population, had over one-seventh of all the deaths from this disease.

2. The concentration of the epidemic in this locality can not be explained by contamination of the drinking water, or of food, or on the ground of ignorance and poverty of the inhabitants, for the Nineteenth Ward does not differ in these respects from several other parts of the city.

3. An investigation of the sanitary conditions of this region shows that many of the street sewers are too small, and that only 48 per cent. of the houses have sanitary plumbing. Of the remaining 52 per cent. 7 per cent. have defective plumbing, 22 per cent. water closets with intermittent water supply, 11 per cent. have privies connected with the sewer but without water supply, and 12 per cent. have privies with no sewer connection.

4. The streets in which the sanitary arrangements are worst had the largest number of cases of typhoid fever during this epidemic, irrespective of the poverty of the inhabitants.

5. Flies caught in two undrained privies, on the fences of two yards, on the walls of two houses, and in the room of a typhoid patient were used to inoculate 18 tubes, and from 5 of these tubes the typhoid bacillus was isolated.

6. When the discharges from typhoid patients are left exposed in privies or yards, flies may be an important agent in the dissemination of the typhoid infection.

Results of Nephrectomy.—V. Carlier describes in *Echo Méd. du Nord*, vi., 49, the ultimate results in twelve cases treated by nephrectomy. The reflex irritation from the diseased kidney ceases with the extirpation of the organ, and it frequently happens that a patient afterward will tolerate drugs, mercury for instance, which caused serious disturbances before. The best results from the nephrectomy were attained in cases of renal tuberculosis derived from the blood. One of the patients contracted scarlet fever during convalescence, but the course of the intercurrent disease was normal, with no trace of albuminuria until the third week. In debating the question of intervention he is inclined to distrust patients whose urine contains an abnormal proportion of chlorids, either too little or an excess. A patient in the latter category died three months after a successful nephrectomy, from generalization of the tuberculous process.

PNEUMONIA: THE NEW "CAPTAIN OF THE MEN OF DEATH."

ITS INCREASING PREVALENCE AND THE NECESSITY OF METHODS FOR ITS RESTRICTION.*

ARTHUR R. REYNOLDS, M.D.
Commissioner of Health.
CHICAGO.

Figures are hard reading and harder hearing; but I must ask you to listen to a few in order that you may comprehend the magnitude of the pneumonia problem as I view it.

In the latest (1901) edition of his scholarly and most instructive "Principles and Practice of Medicine" Prof. William Osler, treating of pneumonia in the section of specific infectious diseases, says:

> The most widespread and fatal of all acute infectious diseases, pneumonia, is now the "Captain of the Men of Death," to use the phrase applied by John Bunyan to consumption.

He then adds:

> In the United States during the census year 1890 there died of it 76,496, a death rate per 100,000 of population of 186.94 [?]. In Chicago during the past ten years it has gradually replaced consumption as the principal cause of death, which A. R. Reynolds *attributes to the predisposing influence of Influenza.* In the last decade the death rate from pneumonia in Chicago was 18.03 per 10,000 of population, against 12.36 per 10,000 in the previous decade. There has been a marked increase in the disease in Baltimore, and Folsom has brought forward evidence to show that there has been a progressive increase in the death rate from pneumonia in the state of Massachusetts. The admission of pneumonia cases to hospitals during the past few years has, in some places, almost doubled.

These passages are cited for two purposes: First, that I may put their reader on his guard against the assumption that the great increase in pneumonia during the last ten or a dozen years is attributed by me solely "to the *predisposing influence of influenza.*" Second, that I may emphasize more fully than Professor Osler has done the extent of this increase, both in point of time and of proportion.

As to the first, it will probably be sufficient to call attention to the title of the paper on which the assumption was based. This paper appeared in the March, 1901, Bulletin of the Chicago Health Department, and was entitled "Influenza as a Factor of Recent Mortality"—not the only, but one factor. That influenza has been such a factor and a very important one since December, 1889, is now admitted by etiologists generally. That the increase of pneumonia mortality is due solely to its predisposing influence is disproved by the following figures of deaths from all causes, those from consumption and those from pneumonia during the last thirty years:

In 1880 the death rate from all causes was 14.59 per thousand of the total population of the country; in 1900 it was 13.67—a decrease of 6.3 per cent. in the general mortality rate during the twenty years.

The consumption death rate in 1880 was 18.21 per 10,000 of population and 12.46 per cent. of the total mortality; in 1900 these figures were 14.44 and 10.56 respectively—decreases of 20.7 per cent. in proportion to population and of 15.2 per cent. in proportion to total mortality.

* Read by invitation at the Sixth General Conference of Health Officials in Michigan, under the Auspices of the Michigan State Board of Health, Jan. 15, 1903, at Ann Arbor, Mich.

EDITORIAL NOTE.—See Editorial, "The Deadly Pneumococcus," in THE JOURNAL A. M. A., April 14, 1900, probably the first printed notice of the increasing importance of pneumonia as a factor in the mortality of recent years.

On the other hand, while the pneumonia death rate had decreased 3.26 per cent. in proportion to population it had increased 5.57 per cent. of total mortality between 1880 and 1890, and 11.0 per cent. in proportion to population and 12.21 per cent. of total mortality between 1890 and 1900. The increase began long before there was any influenza in the country.

These computations are made from the data in the summary of vital statistics in the Twelfth Federal Census—that for the census year 1900—and are for the whole United States. Similar computations for Chicago, and covering two additional decades, show more strikingly the great decrease in the general death rate and in the consumption rate, and the much greater increase in the pneumonia rate.

Based on the U. S. census figures of population for each year the following are the death rates per thousand population: In 1860, 20.73; in 1870, 23.88; in 1880, 20.79; in 1890, 19.87; in 1900, 14.68—a decrease of 29.1 per cent., or nearly one-third in the 1900 death rate from the 1860 rate.

The deaths from consumption per 10,000 of population were, in 1860, 25.28; in 1870, 17.68; in 1880, 16.95; in 1890, 17.93, and in 1900 they were 15.30—an aggregate decrease of 39.5 per cent. in the forty years.

From pneumonia the deaths per 10,000 of population in 1860 were 4.40; in 1870, 10.24; in 1880, 12.58; in 1890, 18.84; in 1900, 19.78—an aggregate increase of 349.6 per cent. of pneumonia as compared with an aggregate decrease of 39.5 per cent. of consumption.

Note that the increase of pneumonia between 1880 and 1890—when there had been no influenza in the country, except sporadic cases, for seventeen years, or since the epidemic of 1873—was 49.7 per cent., or from 12.58 in 1880 to 18.84 in 1890; while the increase between 1890 and 1900—the influenza decade—was less than 5 per cent. (4.9) or from 18.84 in 1890 to 19.78 in 1900. It is obvious that influenza, while it undoubtedly has been a potent factor in increasing the mortality rate from other diseases—such as those of the heart, kidneys and respiratory system—is not the sole, nor even the principal, cause of any recent increase of pneumonia.

Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago, one-third more than consumption and 44 per cent. more than all the other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough—the total of which deaths was 4,489, as compared with a total of 6,560 deaths from pneumonia.

WHAT MAY BE DONE TO CHECK THIS INCREASING PREPONDERANCE OF PNEUMONIA MORTALITY?

As chairman of the Section on Hygiene and Sanitary Science at the Fifty-third Annual Meeting (1902) of the American Medical Association, I made a special effort to secure attention to this problem, and among those who contributed papers on the subject were Dr. Edward F. Wells[1] of Chicago, who wrote on the fatality and increasing prevalence of pneumonia, with suggestions for individual and communal prophylaxis, and Dr. James J. Walsh[2] of New York City, on its incidence, mortality and prophylaxis. The paper read in the same section by Dr. Smith Ely Jelliffe of New York City, on "Influenza and the Nervous System," belongs with these papers—the advice therein given as to the prevention of this disease apply equally well to pneumonia. Dr. N. S. Davis,[3] Jr., of Chicago, also read a paper during the year, before the Illinois State Medical Society, on the treatment of pneumonia, in which was embodied some sound advice on prophylaxis.

From these papers I quote the following: Dr. Wells advises that for individual prophylaxis in a case of pneumonia the nasal, pharyngeal and oral cavities should be kept as free as possible from accumulations of mucus, and when it has been demonstrated that such secretions contain the pneumococcus such efforts should be especially well directed and maintained. In addition, care should be taken not to become chilled when overtired. The individual should, so far as practicable, keep out of the range of extruded pneumococcus-laden secretions of infected individuals. The sputum and other secretions of respiratory surfaces of pneumonic patients, or of other infected individuals, should be destroyed before they have been allowed to become dry. Such persons should cough and sneeze into a moistened cloth. He adds:

> There may be some comparatively simple means by which pneumonia may be prevented, but the fundamental information on which prophylactic rules may be formulated is not yet at hand; therefore, it should be the province and duty of public health officers to seek assiduously for such knowledge, and I would suggest that, as a preliminary step in this direction, pneumonia be placed on the list of notifiable diseases and that the environment of pneumonia patients be carefully noted and the results analyzed.

Dr. Walsh, after pointing out the contagious character of the disease, dwells on dust as a contagion carrier and urges the prophylaxis of clean streets, points out the danger of infection in crowded assemblies, and of defective house drainage and gas leakage as contributing causes. Specifically, as to preventive measures, he says:

> It would seem important, then, first of all to insure precaution against the spread of the disease by teaching the general public that there is always an element of contagion danger in a pneumonia case, and that certain protective and prophylactic measures are at least eminently advisable in order to avoid all danger. The secretions of pneumonia patients should be thoroughly sterilized by heat, or should be subjected to strong chemical antiseptics. The expectoration of pneumonia reeks with bacilli. It is often received into napkins or handkerchiefs, and must not be allowed to dry and find its way into the air, but must be carefully disposed of by those in attendance on the patient. Practically the same precautions as are now invariably [?] instituted with regard to tuberculosis should be suggested for pneumonia.
>
> Such directions will doubtless seem exaggeration of caution, not only to the general public, but to most medical men. Let us remember that the profession generally would have been quite as opposed to the suggestion of these precautions with regard to pulmonary tuberculosis twenty-five years ago. Now every one realizes that the old position in the matter was a serious mistake and founded on an erroneous opinion tenaciously held. The same thing may prove to be true of pneumonia.

Under the head of prophylaxis Dr. Davis says that:

> Never have physicians known so much of the nature of pneumonia or used remedial agents more intelligently than now. It is not their fault that the mortality of this disease is increasing. But is the medical profession altogether free from blame for its prevalence? Prophylactic measures have not been enforced as they should have been. It is well known that the cause of pneumonia is a micro-organism in the sputa of those suffering from the disease, and that the malady

1. THE JOURNAL A. M. A., Nov. 15, 1902, p. 1231.
2. Ibid., p. 1235.
3. Ibid., July 5, 1902, p. 1.

is engendered by inhaling it. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis. It is not, however, a sufficient precaution to exercise this care during a patient's brief sickness, because the diplococcus of pneumonia is known sometimes to live and multiply for months and even years in the mouth, pharynx and nose of those who have had the disease. Therefore, during convalescence, and for at least two or three weeks thereafter, expectoration, if it occurs, should be into a sputa cup containing an antiseptic and water. Moreover, the patient's mouth should be rinsed several times daily with an antiseptic mouth wash. During the illness the greatest pains should be taken to prevent soiling bed clothing, carpets or furniture with the sputa. After the illness the patient's room should be thoroughly cleansed and ventilated. The enforcement of such measures will help to lessen the spread of this disease and will greatly lessen the frequency of its recurrence in those who have had it.

The facts that house epidemics are not infrequent and that the disease prevails, as other contagious and highly infectious ones do, in the winter season, when people are most crowded together and live much of the time in badly-ventilated apartments, suggests another prophylactic measure, which the public should be taught to apply, namely, thorough ventilation of houses, offices, factories, theaters, churches, cars and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter.

Laymen should be taught not to be afraid of a patient who has pneumonia, influenza or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly ventilated apartments during the season when these diseases prevail.

Although experiments with pneumonia serum have shown that a temporary immunity can be created in certain lower animals, it can not be in man. These experimental successes, however, lead us to hope for more certain means of preventing pneumonia than we now possess.

To these suggestions I would add that every precaution employed in a case of diphtheria should be enforced in a pneumonia case. The two diseases are much more similar from the prophylactic standpoint than are tuberculosis and pneumonia. The former are both acute; therefore, preventive measures are not necessary for so long a period as to become burdensome and perfunctory.

The organism which causes pneumonia may live in the tissues and air passages of human beings for a considerable time without producing the disease. Every person here present has doubtless had the germ in his tissues scores of times, and at this very moment it is in the bronchial tubes of many of us. But before pneumonia can develop in such persons some change must take place, either in the organism or in the individual. At present those of us who are acting as hosts to the germ of pneumonia do not get the disease because there is something in us that, for the time being, renders us immune. That something is to be found in every human body in normal health and vigor. The moment the vitality becomes lowered sufficiently from any of the many causes to which we are liable to become subject—and no one can measure the exact time or place—then the pneumonia organism begins to multiply, to feed on our substances and to give off a poison, and the result is pneumonia.

It may come to pass that a simple, direct method of preventing pneumonia will be discovered, but until that is done our efforts must be directed toward keeping our bodies in condition to resist and challenge the invasion of pneumonia. Whatever measures are taken to this end will apply with similar force to all other infectious diseases.

The element first in importance in keeping the health up to standard is pure air. Without air no one of us can live an hour, while we may live days without water and weeks without food. An important element in the increasing prevalence of pneumonia is, doubtless, the fact that more persons are spending their lives indoors than formerly—in shops, factories and offices. Sufficient air is only obtained by living as much as possible, both day and night, in the open air.

The air in dwellings, offices, factories and shops must be kept as pure within as without. If architects and builders can not secure proper air within buildings then we must to a greater extent in the future do away with buildings altogether.

Next in importance to pure air in dwellings is the necessity for sunlight. No room is fit to sleep in all night that has not been flooded with sunlight all day long. Human beings need the sun and the beneficial effect it has on the air they breathe quite as much as the vegetable kingdom needs it. The fashion of shades and shutters on windows will be abandoned as the beneficial effects of sunlight are understood.

Less need be said of the necessity for pure water and its constant use, both within the body and on its surface, for the world is now becoming awake to this fact.

With reference to food, no general rules can be laid down for all; but it is safe to say that the average adult person in the United States, who lives chiefly indoors, eats very much more than he requires to nourish his body; the extra amount is a burden on digestive power, clogs excretory organs and accounts for most of the malaise, headache and premature breaking down.

While pneumonia may be induced by the bad air, bad heating and bad lighting of dwellings, a more fruitful source of the disease is probably found in places of public assembly, such as schools, theaters, churches, street cars, etc. Greater attention must be paid in the future to the cleansing not only of the floors of such places, but of the air. What the American people seem to need is not more and better food, but more and better air. Overwork, overindulgence, excesses, all lower the vitality and render one a fit subject for pneumonia.

As to Dr. Davis' language concerning a pneumonia preventive serum, it may be remarked that it is barely ten years since the diphtheria antitoxin for both the prevention and the treatment of diphtheria was produced; that the anti-cholera and bubonic plague inoculations are of still more recent date; and that the scarlet-fever and whooping-cough sera are not yet two years old. Let us partake of the optimism of the apostle of bloodless surgery, Dr. Adolph Lorenz, who, in speaking of the probability of a successful serum treatment of cancer, recently said in his doctorate address[4] at the Northwestern University:

> If cancer is of parasitic origin, as one must hope, and as many of the most respected surgeons believe, then it may be possible that a curing antitoxin will be found. The prophecy of the great Joseph Lister, spoken as he gave his fellow beings antisepsis, will be appropriate for the second time: "Surgery will be quite different from what it has been heretofore."
>
> If this boon should come to mankind, then general surgery also will give way to a very little sharp but harmless instrument—the hypodermatic syringe.
>
> May the twentieth century give to the world, burdened with pain and death, this savior of mankind. The nation which gives birth to this genius will become the first nation of the world through this one deed.

It is not too much to hope that there is some one here present who may shortly give to the world the still more important boon of an antitoxin for pneumonia.

4. THE JOURNAL A. M. A., Jan. 10, 1903, p. 98.

Meantime, it remains for each of us—physician and sanitarian, curer and preventer alike—each in his appointed place, to do what in him lies to restrict the ravages of this, the most murderous modern scourge of civilized peoples. Let the physician instruct his pneumonia families as to the methods of saving other members of the household from falling victims. Let the sanitarian and the health officer push the propaganda of healthful living, the conservation and development of such inherited powers of vital resistance as the individual may possess—that vital resistance which is, after all, the best prophylactic against, not consumption only, nor pneumonia only, but against all the preventable diseases.

The work is not spectacular nor dramatic. It will have no such picturesque phrase as the "Great White Plague" with which to conjure and arouse sentiment and enthusiasm. There will be no imperial monarch to make it a fashionable fad by becoming the president of an anti-pneumonia league, nor will there be any royal palace set aside as a sanatorium for the treatment of pneumonia.

But in the end the persistent public educational work that shall restrict pneumonia will in like measure restrict all other diseases and so add to the span of human life.

ADDENDUM.

Note.—Since this paper was read before the conference the figures and computations have been revised to conform with the data of Table 1, Census Reports, Volume iv., Part 2, Twelfth Census of the United States. The original figures were taken from the Tenth and Eleventh Census Reports for 1880 and 1890 respectively, and the computations were made on those figures. Sundry discrepancies, noted in reading the paper, led to a comparison of the figures in the three several census reports, by which it was revealed that not only the figures of population but those of total deaths differ in the different reports.

For example: The population of the country in 1880 is given as 50,189,209 in the tenth census, and in 1890 as 63,069,756 in the eleventh census. In Table 1 of the twelfth census—above referred to—these figures are changed to 50,155,783 and 62,947,714 respectively. The total deaths are given as 756,893 for 1880 in the tenth census and as 732,017 in Table 1 of the twelfth census. Similar figures for 1890 are changed from 875,521 in the eleventh census to 841,419 in the twelfth census, Table 1.

The annual death rates per thousand of population, the ratio between these and the death rates from consumption and from pneumonia and the percentages of increase and decrease are, of course, affected by these changes. Not, however, unfavorably to the thesis of the paper—to-wit, that while the general death rate and the death rate from consumption have materially decreased during the last thirty years, the death rate from pneumonia had enormously increased during the same period.

Since the twelfth census is the latest and, presumably, the least inaccurate as to its statistical data, it has been thought well to revise the figures and computations in accordance therewith—the more so as the deduction of 24,876 deaths from the original 1880 figures and of 34,102 from the 1890 figures inspire the hope that in some future census the arbitrary addition of upward of 1,900 deaths to the actual number reported and recorded in the city of Chicago during the census year 1900, may also be deducted and the true death rate of the city for that period—15.08 per 1,000, instead of the erroneous census rate, 16.2—may be given.

Hope.—If we mingle with our hopes even a small modicum of judgment as to inevitable cause and effect, and if we also put forth an earnest effort to work for their realization, we can never be too hopeful. With this condition hope becomes a virtue to be cultivated, as well as a pleasure to be enjoyed. It is a wholesome tonic, a delicious draught. It not only cheers and consoles and encourages us by the way, but it gives strength to win the victory, or, if need be, to endure the defeat.—*Co-operation.*

Good for the State Board.—A new and most commendable step has been taken by the Ohio State Board of Medical Registration and Examination. Up to the present time the board, although having full discretion to revoke a physician's license to practice for such cause as immoral conduct, criminal offense or the abuse of intoxicants, has not exercised such discretion in criminal cases in which a conviction had not been obtained in court. In a recent instance in Columbus the board, very wisely it seems to us, after a full hearing voted to revoke the licenses of two physicians charged with attempting to produce a criminal abortion, and with being responsible for the subsequent death of the patient. [See THE JOURNAL, October 25, p. 1062, and November 22, p. 1329.] In these cases conviction in court is usually all but impossible, and very commonly the culprits escape with an acquittal or with no trial at all. Such seemed to be the probable termination of the case against the two men in Columbus, when the state board decided to take up the matter. Much genuine testimony was of course admitted that would have been ruled out of a court by those technicalities that so often are a shield for the guilty. In this case the young woman thought she was pregnant and charged a medical student with being the cause of her difficulty. The student enlisted the assistance of two physicians, who attempted to produce an abortion. As a matter of fact, as proved by the autopsy, the girl was not pregnant, but in their efforts the abortionists tore a hole through the uterine fundus, and then in trying to wash out the uterine cavity they injected a quart of water into the peritoneum. Death promptly resulted from general peritonitis. The testimony as to these facts appealed to the board as being conclusive, and the two physicians were stripped of their right to practice medicine. Every physician should applaud this action of the board and should at once extend to the board promise of every possible support in the admirable position that it has taken in this matter. No action more likely to deter men from performing criminal abortion could be suggested. Once it is known that the board intends to revoke the licenses of abortionists without waiting for the courts to find them guilty, the recreant physician who contemplates this crime will hesitate. From the clutches of the law he might escape on the slim technical rules of evidence, but this will not avail to preserve his certificate. Once his license has been revoked his only recourse will be to go into court as plaintiff against the board and prove himself innocent. This will be a much more difficult task than that of escaping the penalty of the law. Every physician should let the board know that its position is approved and will be sustained.—*Cleveland Med. Jour.*

Ignoring the New Until the Quacks Force it on Our Attention.—An eminently sound and conscientious practitioner tried in vain for 20 years or more to arouse the profession to a sense of the value of massage and mechanical therapeutics in the treatment of certain diseases. At last he gave up in despair. It was not just then fashionable. Editors would not accept his articles, and the lazy-minded, the exploiters of the popular opinion, beguiled themselves with the old-fashioned sneer at the "hobbies of hobby riders" and the world went on in its blind way. Then came the osteopaths and the biceps-worshipers of the cheap magazines, and what the profession would not listen to from its own members was, willy nilly, forced on the attention by the quack. It is true that other regulars and scientists prior to the quack knew all and far more than he of the value of massage, but, like so much other knowledge, it was not realized in daily practice by the leaders and by the masses of the profession. It required the compulsion of ignorant popular enthusiasm to make us actually treat our patients by these methods and to put into use the partial veritable truth turned into an untruth by the extremism and indiscrimination of the charlatan. But why need we carry out, generation after generation, this stupid belittling and ignoring of the new truth? There are many such illustrations as the one we have cited, of our strange indifference to methods of treatment, 10, 20 or 30 years after demonstration has been made of their efficacy and value. Let us keep our minds open and flexible!—*Amer. Med.*

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PROTEID METABOLISM.

At the present time physiologic chemists are looking for the greatest advance in knowledge of intracellular metabolism to come from the many recent observations on the intracellular ferments. As has already been noted in these columns, the fundamental observations on proteid splitting enzymes in the tissue cells were made by Salkowski and his pupils, who showed that tissues of all kinds are able to digest themselves when kept at incubator temperature for a time, in the absence of bacteria. This process of autolysis is due to the presence, within the cells, of an enzyme which is very similar to the trypsin of pancreatic juice, although not identical, as is shown by careful study of the products of the digestion.

A most important advance seems to have been made recently by Martin Jacoby,[1] who has obtained evidence that the ferments that accomplish autolysis are to a certain extent specific, that is, extracts of one organ will not digest the tissues of a different organ. The importance of this observation lies in its agreement with the more modern ideas of proteid metabolism, which hereby receive much support. There seems to be good evidence that fats and carbohydrates are taken into cells in a diffusible form, and are then built into the less labile constituents of the cell, undergoing again splitting before they are either used or transported to other cells. For example, sugar is synthesized into glycogen, and then broken into sugar molecules; fat is synthesized in the cell from the alcohol and fatty acid that compose it, but is again split into these components before it can be further used or carried away. But the proteids present a much more complex problem, since they are of many kinds, seemingly different in each cell or tissue, and since their splitting products are many and far more complex than those from fats and carbohydrates. Jacoby considers that since the proteolytic enzymes of the cells will split only the proteids of the same kinds of cells, it is strongly suggestive that likewise when their action is reversed they will build up only the specific substances of the cells from the heterogeneous materials brought to them from the blood.

This theory needed evidence that the body cells can build up non-proteid products of proteid digestion into tissue proteids, and a paper furnishing this evidence has appeared almost synchronously with Jacoby's article. It is a pretty well-known fact that the soluble albumoses and peptones are not absorbed as such from the intestinal tract, and the teaching has been that they are in some mysterious manner transformed during their passage through the intestinal wall, since they are not found in the blood coming from the intestines, at least not in any amount comparable to the quantity absorbed. It was generally supposed that the diffusible digested proteids were converted into the proteids of the serum, to be used later in the cells in some unknown way. Not long ago Cohnheim showed that the intestinal epithelium contains and secretes an active enzyme, *erepsin,* that has the property of splitting albumoses and peptones into the simpler, non-proteid bodies, although quite unable to attack undigested proteids. This made it seem very probable that the albumoses and peptones do not appear in the blood coming from the intestines because they are further split by the erepsin. In other words, the formation of albumoses (or better, proteoses) and peptones is not the chief purpose of proteid digestion, but these bodies appear merely as intermediary products. If this is true then the cells of the body must be able to form these ultimate splitting products into the proper tissue proteids.

O. Löwi[2] took up this question and found the hypothesis correct, according to the results of his experiments. He permitted pancreas to digest itself until no reaction for proteid could be obtained, and then substituted it for proteid in the diet of a dog that was in nitrogenous equilibrium. It was found that it took the place of the proteid completely, for nitrogenous equilibrium was maintained, and therefore the simpler nitrogenous bodies must have been synthesized by the body cells to repair the continuous loss of cell proteid.

While these experiments are few in number and awaiting confirmation, they agree so completely with theoretical expectations that they are of the highest significance. Surely the demonstration of synthesis of the proteid molecule from simpler bodies, most of which are well known both as to properties and structure, lets much light into one of the deepest biologic mysteries.

1. Beiträge zur Chem. Physiol. u. Pathol., 1903, iii, 446.

2. Centralblatt für Physiol., 1902, xv, 590.

THE SIGNIFICANCE OF ALBUMINURIA.

At the last meeting (Jan. 19, 1903) of the New York State Medical Association, New York County Branch, there was an interesting discussion of the significance of albumin in the urine, which was opened by the medical director of one of the large life insurance companies. As life insurance examiners have more extensive opportunities and especially opportunity for more prolonged observation in this subject than practitioners generally and as their judgment in the matter is responsible to the financial department of the company, their conclusions and suggestions can scarcely fail to be of practical value. Dr. Edward Lambert considers that for length of life the habits of the individual, his customs, especially with regard to highly spiced food, al-

cohol and tobacco, and the intensity of his application to business, with the time given to sleep, are factors of much more significance than the presence of a small amount of albumin. Very few young men pass a whole year without the occasional appearance of albumin in the urine, the result of overexercise, or of extremes of heat and cold. If this passes away in a short time it has no special prognostic significance, even though it may be accompanied by a few casts. But if it continues to be present the irritative conditions to which it is due may eventually cause, if it has not already, true kidney degeneration.

The amount of danger in any case is not proportionate to the amount of albumin in the urine. Dr. Lambert recalled a case in which so slight a trace of albumin was present that it could be detected with assurance only in a favorable light after careful filtration of the urine. It was decided that so slight an albuminuria could only be physiologic. Accordingly a policy was issued which matured by death within two years, though the business partner of this same applicant, who was at the same time absolutely refused because of the presence of a notable quantity of albumin, survived for more than twenty years. In one case albumin could be detected only in the afternoon urine. It was never seen in the morning urine, so that the family practitioner insisted on the absence of any significance. The patient died of chronic nephritis, however, within five years.

Osler,[1] in a recent article, referred to a number of patients who, in his experience, had lived for many years after their rejection by insurance companies because of albuminuria. Such selected cases represent actually, however, only a very small proportion of the whole number of the rejected. The presence of albumin always means that something is wrong. With care patients may live for many years, despite its presence, but no better stimulant to the adoption of a more healthful mode of life could be given them than refusal by an insurance company. Many a man owes prolonged life to this circumstance, and family practitioners should realize this influence for good and take advantage of it, rather than lessen its force by protestation against it, as is so frequently the case.

Dr. S. O. Vanderpoel, in discussing Dr. Lambert's paper, said that undoubtedly many applicants refused fifteen to twenty years ago by insurance companies because of the presence of albumin in the urine are still alive. A careful collation of the statistics of such cases, however, shows that from four to five times as many of these rejected applicants are dead as ought to be according to the normal expectation of life among men of their years. Albuminuric individuals very seldom live out more than one-half of their expectation of life, and if any serious illness intervenes it is almost sure to carry them off. Hence the necessity for the elimination of these cases from among the ordinary risks assumed.

1. "On the Advantages of a Trace of Albumin and a Few Tube Casts in the Urine of Certain Men Above Fifty Years of Age." N. Y. Med. Jour., Nov. 23, 1901.

The full significance, then, of albuminuria, even when accompanied by urinary casts, is not known as yet. We are almost entirely in the dark as to the meaning of nucleo-albumin, which would seem at times to be serious, since it has been found associated with eclampsia. It is to be hoped that careful investigations of such cases and observation of the conditions for many years will eventually give us the exact knowledge we now lack. There is no doubt of the importance of the subject, the field is most promising and the opportunity for good work of enduring character is open practically to every painstaking practitioner.

THE TREATMENT OF DUPUYTREN'S CONTRACTION.

The treatment of few, if any, of what may be termed minor surgical affections has been attended with such difficulties as that of Dupuytren's contraction. The clinical picture of this obstinate condition is sufficiently well known to all engaged in surgical dispensary practice. Gradually and without pain the fingers of one of the hands is drawn downward toward the palm, the contracture progressing gradually until several fingers, possibly the entire hand, is almost entirely useless. The ring finger of the right hand is generally first affected, and as the disease advances the little finger and middle finger are also affected. The thumb and index finger are seldom involved. All the structures of the flexor surface of the hand, muscles, tendon and skin have been considered possible factors in the production of this condition, but Dupuytren, after long observation and careful study of the tissues, was the first to show definitely that the seat of the disease is in the palmar aponeurosis, and this has been thoroughly established by repeated subsequent observers. Examination of tissues removed shows that the process is one of chronic hyperplastic inflammation with scar tissue contraction. As the process progresses not only the aponeurosis, but frequently also the skin, the ligaments and joints themselves are involved. The course of the disease is extremely chronic, from three to ten years being required before the contracture is complete.

The difficulties of treatment have been all the greater because so little is known as to its etiology. Injuries of the palmar fascia, particularly by those who use the tools of some trade continuously, rheumatic affections, general sclerosis and nervous origin have all been suggested as possible causes; however, constitutional treatment has proved of little avail in these cases. Malgaigne and some of the earlier surgeons, believing that the contracture was primary in the muscles, resorted to division of the tendons, thus producing a state of affairs worse than before. Sir Astley Cooper advised the more rational procedure of dissecting out the contracted tissue with temporary or permanent cure in some cases. Others have simply divided the contracted aponeurosis and skin and straightened the fingers forcibly, but this has been usually followed by recurrence. Electrolysis

and various forms of apparatus for extension have also been tried.

The latest suggestion as to treatment comes from the clinic of Von Bergmann of Berlin.[1] Lexer, one of Von Bergmann's assistants, has treated eight cases by removal of the entire aponeurosis and overlying skin and covering in the defect with a flap with a pedicle from the chest wall or by a flap taken from the thigh. The results in his cases, after two and a half years' observation, were very satisfactory except in two cases, in which there was keloid formation requiring a second operation. Many of the earlier methods of treatment have given fairly satisfactory results, and might perhaps be advised before resorting to such radical measures, but for recurrent and obstinate cases this procedure seems to be a reasonable and justifiable one.

IMAGINARY BRIGHT'S DISEASE PRODUCED BY QUACK ADVERTISEMENTS.

The following clipping is taken from a recent daily paper:

SUICIDE DUE TO CAUSELESS FEAR.

Andrew J. Teggin, an artist, whose pictures have been exhibited at the Academy of Design, took chloroform to-day and died soon afterward at the New York Hospital. Teggin's death was the end of five years' dread of Bright's disease. Though eminent specialists had assured him he had no symptoms of the disease, he persisted in believing that he was doomed to die from it, and this so worked on his mind that he killed himself rather than wait for the end he felt sure would come.

No statement of the case of the man's morbid psychology is mentioned, but the following passage published prominently in another portion of the same paper is highly suggestive:

TEST YOUR KIDNEYS.

Let some morning urine stand for twenty-four hours in a glass, or bottle. If then it is milky or cloudy or contains a reddish brick-dust sediment, or if particles or germs float about in it, your kidneys are diseased.

Could anything be more fiendishly deceptive? The fact that the "remedy" that this advertisement proclaims has been on the market for many years, and that, to our knowledge, this particular trap has been laid for some years, indicates that there must have been many victims. Imagine the horror that must fill the mind of the poor fellow who views a cloud of phosphates or bacteria, which can hardly fail to be present in the urine left in a "glass or bottle," as he appreciates that he is in the clutches of the dread Bright's disease; for does he not know that this is as surely fatal as is cancer or consumption. And if, because of winter's cold, no bacterial development occurs, and the urine remains clear, does he escape? Not if the advertiser knows it! For in that event there is provided the alternative of "a reddish brick-dust sediment" of uric acid coming down in the acid urine.

What must be the sum total of the secret worry, the growing fear, the startling terror at every mention of the death of some one from Bright's disease, among the many who have been deluded by this simple advice to "test your kidneys." If we did not know the mental attitude of the charlatan, far more heartless than that of gambler, swindler or other criminal who defrauds by means that do not rest on the victim's very hope of life and health, we could not believe that he appreciated the results of his insidiously worded lures. But he does fully; every mail brings him letters full of the terror of the fatally ill, the hope of the dying, the last clutch at the straw, and all these are cheerfully turned to profit. Weir Mitchell, in "The Autobiography of a Quack," has accomplished the remarkable feat of depicting a character without one spark of humanity, without a quality that might give one hope of some hidden redeeming grace—and such a character must be necessary for the hero of such a tale.

1. Janssen: Arch. f. klin. Chirurgie, 1902, vol. lxvii.

DEATH OF DR. W. E. B. DAVIS.

As we go to press the sad news reaches us by telegram of the death from accident of Dr. W. E. B. Davis of Alabama. There could be hardly any death that would more shock the profession generally than his, cut off in his early prime with an enviable record behind him and every promise of greater usefulness and distinction in the future. There are few, if any, who had more than he the faculty of winning friendship and holding it; his personality was a most strikingly gracious one and of the very best type of southern gentleman. The official positions of honor, trust and responsibility to which he was called indicate the appreciation given to his abilities and personal qualities, both by his associates in his particular specialty and by his professional brethren generally. It is customary to say nothing but good of the dead, but in this case there are no mental reservations, nothing else could be said.

THE ITHACA TYPHOID EPIDEMIC.

With all our progress in hygiene and sanitation we have occasional examples of how things ought not to be in this particular line. According to the press reports such an instance is very strikingly given in the condition of Ithaca, N. Y., at the present time.[1] The case is the more notable in that the town is the seat of one of our largest universities where lack of information as to up-to-date sanitation can hardly be presumed to exist. The university, of course, does not have the town sanitation under its charge, but the town authorities can reasonably be assumed to have had ample chances of enlightenment on such matters. Where they seem to have been blameworthy is in not sufficiently guarding the sources of their water supply, which has apparently been proven to be the cause of the present outbreak of typhoid in the town. The alleged fact that the university itself is a large stockholder in the water company supplying the polluted water is also a serious indictment against its authorities; it is unfortunate—to say the least—if it has been even a passive agency in the spread of the disease. It is charged by the newspapers, moreover, that their negligence was not altogether passive; that the executive authorities of the institution were requested by the senior class that meas-

1. The Journal, under New York News, Feb. 7, 14, 21 and 28.

ures should be taken to supply uninfected water and the request was refused. If these allegations are true the aspect of the case is more serious. We hope there is some mistake as to the facts. While the charges do not necessarily imply moral obliquity or intentional and deliberate recklessness as to human life, the alleged neglect and oversight is of the class of blunders that are, as Napoleon said, sometimes worse than crimes. It will be a lesson to authorities and trustees of institutions who fail to appreciate their responsibilities.

SUBSTITUTION AND ADULTERATION.

The recent utterances of the New York health commissioner showing the adulteration in the pharmaceutical retail drug trade, and still later remarks of the chemist of the Agricultural department to the New York Society of Medical Jurisprudence, alike indicate the existence of an evil that especially affects the medical practitioner.[1] If we can not depend on the dispenser for pure articles in our prescriptions the administration of medicine is a farce, and we had better go back to the old saddle bag or the more modern buggy case. If reputable drug stores, such as are many of the 300 from which the samples were obtained by the New York health commissioner, can not be relied on, the situation would seem to be discouraging. We can not lay everything to the retailers, however; they are themselves often victims and the matter needs further investigation. The foundation of a government drug laboratory, which would keep track of the standard preparations and check adulteration, would be a boon not only to the medical profession, but to its patrons. Of course, the manufacturers of the adulterated proprietary drugs make the most of it, but to a certain extent the high prices placed on their preparations which would otherwise be more readily available give them a certain responsibility for the evil. We hope the investigation will not be dropped until the evil practice is ended.

DICHOTOMY, OR THE DIVISION OF FEES.

It seems that the evil of commissions and division of fees is not confined to this country. They have it abroad, in Belgium, for example, where it has recently been brought before the Council of the College of Physicians, though they give it a name which seems a little pedantic. They call it dichotomy, perhaps with the idea of making it less likely to attract public attention. Here we are not so careful as we might be in this regard. Whatever scandal we have is made public from its beginning—to some extent to our disadvantage. The official decree promulgated by the Council is that a physician may not charge a commission of a surgeon to whom he sends a case and no surgeon may allow such a fee. The attending physician may only charge for his own work and his assistance that he has given in the surgical operation. Of course, this decree is favorably commented on by such foreign journals as have noticed it. They point out that a patient feeling himself the victim of a double charge will have less confidence, not only in his medical attendant, but in others in the transaction, and not only his attendant, but the whole medical body will suffer in prestige. It would seem that this particular point might be made a little more prominent in our medico-ethical codes. It is interesting, however, to know that trouble with this problem is common on the other side of the Atlantic. There is a sort of sinful satisfaction in knowing that our countrymen are not the only sinners.

1. See THE JOURNAL, Feb. 21, 1903, p. 525.

Medical News.

MARYLAND.

State Care of Insane.—In the recent annual report of the lunacy commissioner of Maryland state care of the insane is urged. "Already 5 or 6 counties send all their insane to the state institutions and many other counties care only for a few demented cases. The time is ripe for a radical change from county to state care. . . . Spring Grove and Springfield hospitals are models of their kind, the former adapted to the care of the more acute cases, the latter for chronic cases. It is to be regretted that Bayview, the city asylum, is not dispensed with. It is manifestly improper to attempt to care for the city paupers and the city insane under the same management. Either the city should maintain a separate asylum for its insane, apart from the almshouse, or what would be far better, acquiesce in the plan of state care. If the two state hospitals, Spring Grove and Springfield, were enlarged, the insane of the state could be cared for in a far better manner and really at lower cost than under the present system." Discussing the increase of alcoholism and the use of drugs as promoting insanity, the report continues: "Recent enactments by the legislature make it possible for such persons to be committed for a period, under the jurisdiction of our courts, and it would work great good if this provision of the law was oftener availed of. It is perfectly feasible to have at Springfield a colony of inebriates, committed for a definite period, who could be recommitted on the first offense after leaving the colony. An incalculable amount of good might be accomplished by this system."

Baltimore.

Personal.—Dr. William Howell, dean of the Johns Hopkins Medical School, was the guest of honor, February 21, at the annual banquet of the New England Alumni of the Johns Hopkins University, held at Boston.——Dr. 1. H. Elderice broke his knee-cap in attempting to board a street car February 19.

Abortionist Convicted.—Dr. William B. Hawkins, who forfeited bail and was arrested in Philadelphia, was convicted in the criminal court February 19, of manslaughter, in causing the death of a young woman here in November, 1901, by criminal operation. The penalty ranges from nominal fine or imprisonment to ten years in the penitentiary. It was the second trial, the jury disagreeing at the first trial, last October. Motion for new trial was made.

Health Report.—There was a still further decrease in the number of cases of measles reported last week, the number being 86. With this decrease the death-rate between the whites and blacks assumed its normal proportion, about 1 to 2. Whether this is a mere coincidence is unknown. There were 34 deaths from pneumonia, 6 from measles and 11 from la grippe. One case of smallpox was reported in a sailor who is supposed to have contracted it down the bay.

Hobbies Help College.—The late Dr. William H. Crim had two hobbies, the Fifth Maryland Regiment, of which he was for many years surgeon, and his extensive and valuable collection of antiques. Many of these antiques are of interest on account of their association with royal personages or with distinguished citizens, as Washington, Lafayette, etc. His widow has just died and in her will she has made large reversionary bequests to the University of Maryland School of Medicine, for the establishment of a professorship and scholarships for poor young men studying medicine. The struggles which her husband made to acquire his professional education led her to think that she could not make a more worthy disposal of his property or more suitably perpetuate his memory, than by providing for similar cases. The amount which will be available is at present uncertain, as it depends on the result of the sale of the collection, which represents Dr. Crim's entire fortune, as he left no real estate nor life insurance. It will probably be taken to New York, where it will bring a

large price, possibly $100,000 to $200,000. The will provides a trust by which four persons, relatives of Dr. and Mrs. Crim, are to receive the benefit of the estate during life, and on their death the whole estate, except $25,000 which is specifically bequeathed, is to pass to the University. One of the specific bequests is $5,000 to Dr. John G. Jay, Dr. Crim's physician.

NEW YORK.

Donation to Hospital.—Mrs. Charles D. Vail has given $6,000 to the City Hospital, Geneva, to finish and furnish the wings now being erected.

Demand Registration of Nurses.—Several hundred physicians and citizens of Buffalo and Rochester have signed a petition favoring the bill demanding registration of trained nurses to be introduced at Albany this week. The bill is designed to shut out incompetent nurses and provides for extended training before registration.

To Render Immediate Aid.—The New York Central Railroad has perfected a hospital and medical system. Contracts have been made with hospitals and physicians in all cities and towns of any prominence along the line of the road. The new system has been adopted so that immediate medical service may be rendered in case of train wrecks or other accidents to employes or passengers.

The Ithaca Epidemic.—The State Commissioner of Health, Dr. Daniel Lewis, New York, visited Ithaca, February 24, to investigate the typhoid fever situation. He found that contaminated water was the specific cause of the epidemic, and expressed his belief that the epidemic was on the wane, as less than one hundred serious cases then existed in the city. He believed, also, that the highest mortality rate had been reached and that the mortality of the epidemic throughout had been relatively low.

Coroner's Office Recommendations.—A committee of the New York County Medical Association, consisting of Drs. Stephen Smith, E. Eliot Harris and Harry R. Purdy, presented to the association a report containing the following recommendations:

1. The duties of investigating sudden deaths should be transferred from the coroner to the health department. 2. The present legal duties of the coroner should be turned over to the district attorney's office. 3. The judicial duties of the inquest should go to the magistrate's court. 4. Duties, other than those pertaining to the inquiry into the cause of death and the inquest, should go to the city chamberlain.

The report was referred to the committee on legislation, with instructions to endeavor to secure the legislation necessary for carrying into effect the recommendations contained in this report.

Buffalo.

Personal.—Dr. Devillo W. Harrington and Dr. Charles McCarthy are spending a vacation in Mexico.——Dr. Charles Van Bergen, Buffalo, will spend the summer abroad.——Dr. Earl P. Lothrop has gone to Florida.——Dr. Edward J. Meyer is taking a southern trip.

January Mortality.—The monthly report of the department of health for January shows an annual death rate of 14.3 per 1,000. Among the principal causes of death are pulmonary consumption, 42; typhoid fever, 16; debility, 32; cancers, 21; apoplexy, 26; meningitis, 13; valvular heart disease, 20; pneumonia, 53; nephritis, 19, and violence, 17. The total deaths for January were 441, as compared with 381 in January, 1902.

Marine-Hospital Commission.—The commission appointed by the government to select a site for the proposed marine-hospital in Buffalo has arrived. It is composed of Surgeon Louis A. Williams, U. S. Marine-Hospital Service, and Mr. F. B. Wheaton, of the supervising architect's office. They are under orders from the Secretary of the Treasury and are to report to him at the conclusion of their investigations.——Congress appropriated $125,000 for a marine hospital at Buffalo and the act provided that not more than $25,000 should be spent on a site.

University Day.—University Day exercises were celebrated by the medical department of the University of Buffalo, February 23. The public exercises took place at the Star Theater, where Prof. Herbert L. Willett of the University of Chicago delivered the address. In the afternoon a reception was given to the senior and junior students and the faculty at the home of the dean of the medical department, Dr. Matthew D. Mann. In the evening a reception was tendered at the college building by the alumni association.

New York City.

Personal.—Dr. St. Clair McKelway, Brooklyn, a life member of the State Board of Regents, has resigned on account of failing health and numerous other demands on his time.

German Hospital Report.—The annual report of this hospital shows that in the year 1902, 3,247 patients were admitted, of whom 2,632 were non-paying. The average daily number of patients was 176.

Druggists Arrested.—According to the chemist of the health department, 40 out of 215 druggists were found to be selling Jamaica ginger and aromatic spirits of ammonia adulterated with wood alcohol. Some of these druggists have been arrested in consequence.

Grip and Pneumonia Prevalent.—According to the records of the health department there has been a rapid increase in the number of cases of influenza, though the disease is of a mild type. In the past three weeks the deaths from pneumonia were 155, 210 and 190 respectively.

Hospitals Under Financial Stress.—The serious financial situation that confronts the New York hospitals has led George MacCulloch Miller, president of the Saturday and Sunday Association, to make an urgent appeal for generous gifts in behalf of the 40 institutions in the association.

Disregard of Diphtheria Antitoxin.— Dr. J. H. Raymond of the health department complains of the unnecessarily high death rate from diphtheria in the Borough of Brooklyn, i. e., 18 per cent., and maintains that if diphtheria antitoxin were more promptly and generally employed, this death rate would not be over 7 per cent.

The Aronson Serum Tried.—The first trial in this city of the new serum for scarlet fever has been made by Dr. Louis Fischer. The serum used was that discovered by Dr. Hans Aronson of Berlin, and with which experiments have been made by Dr. Adolf Baginsky since last summer. Dr. Fischer reports that although his case of scarlet fever was severe a prompt amelioration of all the signs and symptoms followed the use of the serum.

Substitution Enjoined.—At a special term of the Supreme Court a final decree was entered in the case of Fairchild Brothers and Foster vs. John H. Everhardt et al., whereby the defendants are enjoined from dispensing any essence of pepsin or preparation not manufactured by the plaintiff, in imitation of, or in substitution for, Fairchild's essence of pepsin, whenever Fairchild's product is asked for. Damage to the amount of $250 and costs of $42.72 were assessed on the defendants.

PENNSYLVANIA.

Sewer Suit.—Martin G. Peifer and wife have sued the city of Lancaster for $10,000 damages, alleging that owing to the flooding of a cellar by a sewer several cases of typhoid fever were caused in the family.

Smallpox Closes School.—The students of the Edinboro State Normal School, several hundred in number, have all left the institution and gone to their several homes because of the presence of smallpox in the town.

Hospital Room Endowed.—The Columbia Hospital, Columbia, has received from the widow and children of the late H. H. Houston of Philadelphia, a gift of $5,000 for endowing a room to be called the "Houston Memorial Room."

Wholesale Vaccination.—The H. C. Frick Coke Company has issued an order that all of its employes and their families be vaccinated. It is said that fifty physicians have been engaged for the work and that $10,000 worth of vaccine virus has been purchased for the vaccination of the 300,000 individuals affected by this order.

To Abolish Secret Remedies.—A bill has been introduced into the legislature providing that proprietary and patent medicines shall bear on the label a copy of the formula, including the several ingredients and the quantities of each. The bill provides, also, that none but a regular graduate of pharmacy properly registered under the laws of the state may prepare such medicine. Violation of the act renders one liable to a fine of $1,000 and imprisonment for one year, or both, one half the fine to go to the informer.

Urge Stringent Regulations.—Dr. Hugh Hamilton, Harrisburg, on behalf of the Dauphin County Medical Society, has presented a memorial to the committee on judiciary general of the house of representatives, urging the passage of the "act to establish a medical council," which has been referred to in THE JOURNAL. They say, in part:

There is need for a general law requiring every one who claims to heal or treat the critically ill, the trusting sick or gullible ailing

public, to be examined by the medical council. Without such a law it would be a manifest wrong to permit the collection of money for incompetent work, whether the "tort" or fraud was intentional or not.

Sanatoria for Poor Consumptives.—A bill has been introduced into the legislature providing an appropriation of $500,000 for the erection of two sanatoria for poor consumptives. The institutions are to be similar, one to be located in the Pocono Mountains, the other probably at Mont Alto. The institutions are to be so constructed as ultimately to accommodate at least 2,500 patients each. The state forestry reservations are to provide the sites. The governor is authorized to appoint a commission of five to be known as "The Pennsylvania State Tuberculosis Commission," and this commission is to select the sites, construct the buildings, and administer the institutions.

Philadelphia.

Alleged Physician Arrested.—F. D. Clark, who claims to be a physician, is held by the police awaiting the result of an illness said to be due to an illegal operation performed by him five days before on a young girl who was brought to the Jewish Hospital suffering from peritonitis.

University Day.—On the occasion of "University Day" celebration, February 21, by the University of Pennsylvania, Dr. S. Weir Mitchell delivered an address on "George Washington in His Letters." Brigadier-General Leonard Wood, M.D., U. S. Army, was one of five to receive the honorary degree of doctor of laws.

Medical Appointments in National Guard.—Among new appointments made by the governor are those of Dr. Robert G. LeConte as surgeon-general to succeed Dr. John V. Shoemaker; Dr. George M. Coates, surgeon of the Second Regiment, with the rank of major, and Dr. Ross H. Skillern, assistant surgeon, with the rank of first lieutenant and assigned to the same regiment.

Typhoid, Smallpox and Deaths.—The epidemic of typhoid fever is gradually abating. Smallpox continues to prevail to an extent to cause uneasiness among the health officials. During the week ended February 21, 25 new cases of smallpox were reported and 6 deaths from the disease. During the same week there were 582 deaths from all causes. The extreme cold weather is considered partially accountable for the increased death rate.

A Deserved Honor.—Dr. Simon Flexner, professor of pathology at the University of Pennsylvania, has been chosen as chief of staff of the Rockefeller Institute for Medical Research, to be located in New York. Dr. Flexner gained especial distinction by his work on "The Etiology of Dysentery" and "Snake Venoms." He was a member of the commission sent to the Philippines by the Johns Hopkins University to study diseases peculiar to those islands.

Contract for Hospital Awarded.—The contract for building the new Municipal Hospital has recently been awarded at $143,210. It is to be built on the new site in the Thirty-third Ward, and is to be completed in 190 working days. The structure is to be a colonial building, 200 feet in length by 150 feet in depth. For smallpox patients there will be two large wards, each 150 by 35 feet; several smaller wards will be constructed for patients with other contagious diseases. An ordinance is pending to sell the present Municipal Hospital and grounds.

GENERAL.

Manila Cholera Report.—Manila is free from cholera, and Santiago Cholera Hospital has been abandoned. If any cholera sufferers are found in Manila in the future they will be cared for at San Lazaro Hospital. Santiago Cholera Hospital was opened March 27, 1902, and up to Jan. 1, 1903, cared for 1,268 cases of cholera. The average mortality was 65.28 per cent. The Americans cared for numbered 146, the mortality among them being 32.87 per cent. Dr. Lindley, who has been in charge, has done very faithful and efficient work.

Whiting Still at Large.—Despite the notices which have already appeared in THE JOURNAL warning the medical public against F. Whiting, who represents himself as an accredited agent of the American Medical Association, and of THE JOURNAL, he is still at large and pursuing his fraudulent way through the East. During the last week we have received advices that this individual has been operating in Greene, N. Y., and Bath, Pa. The police authorities of Reading are on his track, and any information sent to the Chief of Police, Reading, Pa., or to THE JOURNAL will be appreciated.

CANADA.

Proposed Infirmary for Victoria, B. C.—A meeting was held recently in Victoria by those interested in establishing an infirmary in that city, in connection with the isolation hospital.

Typhoid Outbreak Among Nurses.—Five nurses of the Royal Victoria Hospital, Montreal, are convalescing from typhoid fever. Five years ago there was a similar epidemic. The authorities have found nothing at fault in the sanitary arrangements of the hospital.

McGill Graduates in British Columbia.—At the annual meeting of the British Columbia graduates of McGill University, held February 14, Dr. D. H. Harrison, the oldest graduate in that province (1864), was elected to the presidency. It was decided to continue the $50 prize to the best B. C. matriculant each year to McGill, and $25 to the second best. Dr. McGregor, Vancouver, founder of the society, was re-elected secretary; Dr. Tunstall, Vancouver, treasurer, and Dr. G. H. Manchester, New Westminster, one of the vice-presidents.

A Hygienic Institute for the Western University, London.—A deputation, headed by Dr. Robert Ferguson and Dr. H. A. McCallum of London, Ontario, recently waited on the Ontario Cabinet at Toronto, presenting a request that an institute of hygiene be established in London in connection with the Western University. The government has replied that they can not at present accede to their application. The object of the university is to have the government build and maintain an institute equipped with laboratories for the purpose of providing scientific facilities for the prevention and treatment of infectious and epidemic diseases. The petitioners assert that something is due the western section of the province in view of the assistance granted Toronto and Queen's universities; they will prosecute their application at a future date.

Montreal General Hospital Report.—During 1902, 2,878 indoor patients were treated in the wards of the Montreal General Hospital, 55 more than for the previous year. In the outdoor departments there were 31,993 consultations. Of the total number of indoor patients, 166 remained over from the previous year; 2,894 were admitted during the twelve months, and 184 remained in the hospital at the end of the year. There were discharged from the hospital 2,652, and there died in the hospital 226. Of this number 88 died within three days of their admission. The death rate was 7.85, or 4.8 if the 88 were deducted. The total income amounted to $87,439, and the expenditure was $99,967, an excess of expenditure over income of $12,528. The average cost of patients per day was $1.49. At the annual meeting Dr. F. G. Finley was re-elected secretary for 1903.

Montreal Death Rate in 1902.—A striking feature in the death rate in Montreal during 1902 was the decrease of 700 over 1901. This has been, in most part, put down to the fact of the unusual cool summer of last year affecting the infant mortality to a very great degree, but also in part to the general improvement in the health of the city. By months the deaths were as follows: January, 481; February, 426; March, 534; April, 583; May, 547; June, 466; July, 735; August, 587; September, 440; October, 412; November, 484; December, 576. The total number of deaths was 6,271, as compared with 6,915 for 1901. Ten died from smallpox; 76 from measles; 64 from scarlet fever; 57 from diphtheria; 19 from croup; 28 from whooping cough; 26 from influenza; 86 from typhoid fever; 347 from diarrhea; 105 from cholera infantum; 664 from consumption, and 544 from pneumonia. Of 100 cities of America from which statistics could be secured, Hamilton, Ont., had the lowest death rate and Three Rivers, Que., the highest.

FOREIGN.

Tuberculosis Exposition at Odessa.—Russia has been holding an extensive exposition on all matters relating to tuberculosis.

Million to Hospitals.—The lay press reports the Savings Bank of Milan, Italy, as having given $1,000,000 to the hospitals of Lombardy to enable them to introduce the latest discoveries of science.

Dismissal of Suit for Damages Against Medical Journal.—Professor Lewin of Berlin, the author of an article on Antimorphin, denouncing it as containing morphin, and the two editors of the *Deutsche Med. Wochenschrift*, in which it appeared, were sued for damages by the manufacturer. The

suit was dismissed by the court and the costs assigned to the plaintiff.

Efforts by the Profession to Obtain Public Health Legislation.—According to the *Klin.-Therap. Woch.*, the medical chambers of Austrian Tyrol threaten that their members will go on a strike (*in den strike zu treten drohen*) if the members of the legislature do not abandon their obstruction of the measure in regard to matters affecting the public health. The measure was first brought up in 1900.

Parasite to Exterminate Mosquito.—It is announced by cable from Berlin that Dr. Dempwolff, who succeeded Professor Koch as the head of the German anti-malaria expedition to New Guinea, announces that he has discovered an aquatic insect which destroys the anopheles mosquito, and that he proposes to cultivate the creature artificially in the hope of exterminating the mosquito, thereby exterminating malaria.

Does Gypsum Dust Cure Tuberculosis?—The medical faculty of Berlin have been informed that there is no case of tuberculosis among the members of the Berlin Plaster-of-Paris Workers' Union, in spite of the fact that many were tuberculous when they entered the trade. Similar observations from other sources concerning workers in this material make a foundation for an investigation, and there is, therefore, issued an appeal for evidence and investigation.

Bier Called to Bonn.—Dr. A. Bier, professor of surgery at Greifswald, has accepted a call to Bonn as successor to the late Professor Schede. Bier is only 41, and yet his name has long been quoted as the discoverer of spinal cocainization, and the therapeutic application of passive congestion, or *Stauungshyperemie*. It is a curious fact that he is not at all enthusiastic in regard to spinal cocainization, but expressly warns against its dangers. It owes its vogue entirely to others.

Polar Expedition by a French Physician.—Dr. Jean Charcot is organizing a polar expedition for scientific research, aided by the Académie des Sciences of Paris and the ministry of public instruction, with private subscriptions. He will be accompanied by de Gerlache, the leader of the recent Belgian Antartic expedition; J. Bonnier, director of a marine laboratory, and several other experts. The Prince of Monaco is interested in the expedition, for which a special ship is being built.

Midwifery and Religious Scruples.—A midwife at Berlin recently refused to assist in an operation required to save the life of the mother but entailing the death of the fetus. Her religion forbade it, she said, and a second midwife had to be procured. Proceedings instituted against her for refusal to obey the physicians' orders resulted in the imposition of a fine and the warning that she must not attempt to serve as a midwife if her religion interfered with her professional duties in such cases.

Secret Medicines in Japan.—Very stringent laws have been enacted in Japan in regard to secret proprietary medicines. The importation of those containing a poison from which accidents might result is absolutely prohibited, as is, also, the sale of those that have deteriorated. The retailer must be informed in regard to the ingredients, proportions and doses, and must specify them in applying to the authorities for permission to sell the medicines. (See the discussion of the papers of Drs. Spratling and Jelliffe in this issue.)

Damages Awarded for Transmission of Syphilis.—The French courts, for the first time, have taken up the matter of venereal transmission of syphilis, and in a suit recently decided at Paris awarded $2,400 to the victim, a girl of 16. It was established that the young man in question knew that he had syphilis and also was aware of its contagious character, when he commenced the liaison with the girl. It continued for four months before she displayed evidences of infection. The decree states that "the communication of a contagious disease is a misdemeanor (*faute*), even when it does not occur intentionally, and results merely from the imprudence or negligence of the subject."

Blue Electric Light as an Anesthetic.—THE JOURNAL has previously referred to Minin's discovery of the therapeutic and anesthetic value of blue electric light. He has recently found that the anesthesia is sufficient for even important operations, and performed two herniotomies with it practically alone. One was a Bassini on a colonel. Cocain was injected previous to, and the blue light applied during, the operation. In the second case the cocain was omitted, and the ligation of the sac elicited some pain, but not severe. The operation lasted twenty minutes in each, and both healed by first intention. All the minor operations at a certain hospital at St. Petersburg are done under blue light as the exclusive anesthetic. Minin has just been appointed chief of the Nicolaj Military Hospital.

New Campaign Measure Against Fake Ads.—A pharmacist at Herborn, near Wiesbaden, named Stoll, has made an arrangement with the proprietors of the local daily to have space reserved for him after every fake ad. In this space he describes the substances lauded in the flaming ad. above, and states where they can be obtained and the ordinary price. For instance, a display ad. portraying the virtues of "*homeriana*," at so much a bottle, is followed by his statement that homeriana, or bird's knot grass, is a common weed found along the country roads and can be had at all drug stores for a few pennies. The ad. of the "Volta Cross" was followed by his announcement: "Volta Cross, worth 10 cents (according to proclamation of the Berlin chief of police), sold for 75 cents. The manufacturer has been compelled to leave Berlin and has removed to Munich." Stoll's announcement in the Volta Cross matter forced the town authorities to interfere and regulate its advertisement. One of his ads.: "Common weed, found at the Shooting Park and along the roads, etc.," he inserted twenty-seven times. The manufacturers have now abandoned advertising at Herborn.

Report of Committee on Hypnotism.—The Prussian authorities recently requested of the central medical chamber an opinion of hypnotism. The report was recently mentioned in brief in THE JOURNAL. Professor Mendel, as chairman of the committee, states in the report: "Careful distinction must be made between the cure of an affection and the alleviation of its symptoms by hypnotism. No physician claims that it is possible to cure with it an organic affection susceptible of demonstration with our modern diagnostic measures. But hypnotic or waking suggestion is undoubtedly capable of banishing, usually temporarily but sometimes even permamently, the most widely diverse symptoms of the affection—but without curing it. Success is dependent in this case, as in all cases of suggestion, on the greater or less skill of the suggestor, his personality, on external circumstances and on the degree of receptivity of suggestion by the patient. A number of cases are known in which mental disturbances developed in predisposed individuals under hypnotization. Some of these cases occurred with charlatans, but in others the hypnosis had been conducted by physicians."

Correspondence.

Adenoids as a Route of Tubercular Invasion.

LOS ANGELES, CAL., Feb. 16, 1903.

To the Editor:—In Dr. Freudenthal's article on "Adenoids" in THE JOURNAL, Feb. 7, he says: "If, for some reason or other, the path of the tubercle bacillus downward is closed up, by adenoids or other causes, it makes its way to the cranial cavity, where a tuberculous meningitis, so frequent among children, is set up." Such a statement, coming from a man of Freudenthal's prominence, is likely to lead many into wrong conceptions regarding the method of infection in tuberculosis.

Dr. Freudenthal is challenged to explain the anatomic route and steps of infection from the adenoid to the meninges or to any portion of the body, or to the lungs. A great many writers are advancing the theory that nearly all our tuberculous infections, even of the lungs, are through the tonsils or adenoid tissue. In this country Lartigau is the most prominent claimant for this mode of infection. Notwithstanding the prominence of all these writers, they are challenged to show us definitely and unmistakably, or at least anatomically, how these infections take place. We must ask them, how does the bacillus reach the meninges from an adenoid or from a tonsil? Or, to make the problem easier, how does the bacillus reach the lungs from the adenoid tissue or from the tonsils? If these writers admit that the bacilli enter the blood vessels of the diseased adenoid, we could understand then that it was possible for an infection to take place and in such a manner. Or if they contend that it is the lymphatics that pick up bacilli and convey them to their final destination, we are confronted with the fact that these bacilli are, after all, poured into the great veins in the deep angles of the neck unless arrested in the cervical ganglia.

In any or either event, by whatever anatomic route they may follow, the bacilli are emptied into the right side of the heart, traverse the pulmonary circulation, to be sent—we know not where. One can not feel that adenoids and tonsils play much of a rôle in tuberculous infections of any kind except of cervical ganglia.

Writers have accounted for cerebromeningitis and tuberculous meningitis by entrance of the respective organisms into the cranium through the cribriform plate of the ethmoid. It is true that the dura sends processes along the olfactory nerves and that the lymph radicals of these processes empty into the dural vessels. But really is not this reaching out and dragging anatomy in by the hair of the head when we have the greater possibility of these organisms gaining entrance through the great surface-area of the respiratory mucous membrane?

If we examine into the anatomic distribution of the lymphatics of the nasal, pharyngeal, laryngeal and bronchial mucous membrances, we shall note that a bacterium or other foreign body, to reach the circulation through these, would have to run the gauntlet of a numerous outpost of glands established by Nature in this locality for the very purpose of arresting foreign matter. We know that foreign matter, such as coal dust, does reach these glands for the pigment in them is demonstrable, and still there is, comparatively speaking, very little coal dust that reaches the circulation or the glands themselves, through the lymphatics of the upper respiratory tract. It is but reasonable to believe that micro-organisms arrested in lymphatic glands have less chance of reaching the circulation than if they grew in one of our great organs. Lymphatic glands are especially adapted for the destruction of bacteria and probably do so to a very large extent in all diseases except syphilis and the carcinomata. If bacteria, tubercle bacilli especially, enter our bodies through the tonsils and adenoids, as so many writers would have us believe, I would point out and controvert their position by calling attention to the infrequency of infection of the deep cervical glands through which these organisms would have to travel; and to the further observation made elsewhere, that if bacilli do enter the circulation in this manner, it is, nevertheless, the bronchial glands that show the constant arrest of the organisms. Notwithstanding Lartigau's recent report of finding tubercle bacilli in a large percentage of tonsils and adenoid tissue, it is only fair to presume that there certainly could be little difference in the functions of the cervical and bronchial glands and there is no more valid reason to suspect that bacilli will pass the cervical ganglia without harm than that they will pass the bronchial glands without arrest. It is very likely, then, that the resistance of the deep cervical glands is very effective in barring the entrance of bacteria to the circulation.

Usually the first arrest of bacilli is in the bronchial glands. "Pizzini inoculated lymph glands from forty people who had died of accident or acute disease into guinea-pigs. From the results of the inoculation experiments, he concluded that 42 per cent. of healthy people have tubercle bacilli in their glands, mostly in the bronchial. Statistics of the Paris morgue show that a considerable proportion of all who die of accident or suicide have evidences of some tuberculous disease in connection with the respiratory system" (Lartigau). This observation would lead one to believe that the bronchial glands are combating the constant invasion of small numbers of bacilli more or less successfully; and to have reached the bronchial glands, it is the most reasonable thing to suppose that bacilli have been inspired to the air vesicle itself, penetrated its wall and reached some of the underlying vessels, most often the lymphatic.

Why one should fix his attention on the tonsil or adenoid tissue to explain the infection of tuberculosis is utterly puzzling, when the experiences of the necropsy room show us the lungs of miners, firemen, or those living in dusty environments, pigmented throughout with fine coal deposits. These deposits usually follow the paths of distribution of the lymphatics, and often can be easily traced with the naked eye. In such cases we may find the bronchial glands gritty from this coal dust which had been arrested by these efficient protectors of our bodies.

If coal dust and other dust reaches the lymphatics of the lungs through the air vesicles, as it certainly does, why need we consider the adenoid, or the tonsil, as the principal path of invasion? If coal dust, then why not tubercle bacilli?

Respectfully yours,

J. O. COBB,
Surgeon, United States Marine-Hospital Service.

The First Hepaticotomy—Credit to America.

FREMONT, OHIO, Jan. 30, 1903.

To the Editor:—Some reviews of the history of surgery on the bile ducts, the German literature especially, give Kocher credit for having made the first hepaticotomy. Professor Courvoisier of Basel, Switzerland, in his work on "Pathology and Surgery of the Bile Ducts," published in 1890, also mentions the fact that Kocher made his first hepaticotomy, 8, xi, 1889. Since history principally consists in recording and comparing facts in their relation to human actions I think I may be justified in referring you to a case which I published in THE JOURNAL of the American Medical Association, March 31, 1888, under the title "Operation for Gallstones; Congenital Absence of Gallbladder." It is probably due to the fact that I did not coin a new Greek name for this operation that it has been overlooked, as in all other details it could be called a hepaticotomy. I wrote to Professor Courvoisier about 10 years ago and sent him a copy of the article, in response he said that he did not have access to that number of THE JOURNAL before, but that in his future publications he would give due recognition to the above fact. This has not been done so far, not in Kocher's and Quervain's "Encyklopædie der gersammten Chirurgie," where Courvoisier writes on hepaticotomy, nor in the latest number of the *Archiv f. Klinishe Chirurgie*, vol. 69, where Erich Berger reports on hepaticus drainage in Professor Hans Kehr's klinick.

M. STAMM.

State Boards of Registration.

New Arkansas Law.—The new medical practice act passed by the Arkansas legislature and signed by the governor goes into effect 90 days from date of its passage, or early in April of this year. It provides for three boards, homeopathic, eclectic and regular, appointed by the governor from lists furnished by the respective state medical societies. These are to hold four regular stated examinations each year, on the second Tuesdays in January, April, July and October, at such place as the majority may agree on, after consulting the convenience of the boards and the applicants for examination. Any one hereafter desiring to practice medicine in Arkansas must go before a board, making his application to the secretary, with a $10 fee, and submit to examination, which may be written or oral, at the discretion of the board. It must be of a practical character, including anatomy, physiology, chemistry, materia medica, theory and practice of medicine, surgery and obstetrics. If the applicant possesses the necessary qualifications, in the opinion of the board, a certificate will be granted. Certificates must be recorded in the office of the county clerk where the holder is practicing. Temporary permits are allowed on the payment of a $10 fee, but can not continue in force beyond the next meeting of the board, and may in no case be granted within six months after refusal of certificate. No fee is to be charged an applicant who has previously paid the charge for a temporary permit. The penalty for irregular practice is a fine of not less than $25 nor more than $500, or by imprisonment in the county jail of not less than ten days or more than ninety days, or both. Each day of such practice shall constitute a separate offense. Any person is regarded as practicing medicine in any of its departments within the meaning of the act who shall append M.D. or M.B. to his name, or repeatedly prescribe or direct for use to any person or persons any drug, medicine or other agency for the treatment, cure or relief of any bodily injury, deformity or disease, provided that nothing in the act shall be so construed as to prevent the gratuitous administering of domestic remedies or shall apply to midwives. Nothing is specified as regards diplomas, which seem not to be required.

Kansas.—Dr. H. W. Roby, secretary of the Kansas State Board of Medical Registration and Examination, reports the examination held at Topeka, Feb. 10 and 11, 1903, as follows: Number of subjects examined in, 9; total number of questions, 90; percentage required to pass, 70; the examination is written, except in case of those physically unable to write, as paralytics or invalids; total number examined, 22; passed, 20; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Rush Medical College, Chicago	1900	79
3	R.	Rush Medical College, Chicago	1888	71
13	R.	Rush Medical College, Chicago	1902	82
16	R.	Rush Medical College, Chicago	1893	81
2	R.	University Med. Coll., Kansas City, Mo.	1897	71
11	R.	University of Pennsylvania	1898	79
4	H.	Cleveland Homeopathic Medical College	1877	70
5	R.	Kansas City Medical College	1887	70
7	R.	Kansas City Medical College	1898	82
6	E.	Eclectic Medical Institute, Cincinnati	1856	70
8	R.	Am. Med. Missionary Coll., Chicago	1900	78
9	H.	Chicago Homeopathic Medical College	1901	87
10	H.	Hahnemann Med. Coll., Kansas City	1902	83
12	R.	Ohio Medical College	1902	75
14	R.	Bellevue Hospital Medical College	1890	83
15	R.	College of Phys. and Surgs., Baltimore	1902	79
17	R.	Louisville Medical College	1895	75

FAILED.

22	R.	Kansas City Medical College	1901	61

NOTE.—Three other applicants passed and one failed, who had been previously examined as non-graduates and now took further examination in view of the law requiring all candidates to be graduates.

Indiana.—Dr. W. F. Curryer, Indianapolis, secretary of the Indiana Board of Medical Registration and Examination, reports the examination held at Indianapolis in January, 1903, as follows: Number of subjects examined in, 18; total questions, 130; percentage required, 75; written examination; examined, 54; passed, 46; failed, 8.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Kentucky School of Medicine	1902	90.7
2	R.	Kentucky School of Medicine	1902	92.5
3	R.	Kentucky School of Medicine	1902	84.2
6	R.	Kentucky School of Medicine	1902	84.0
27	R.	Kentucky School of Medicine	1902	92.8
28	R.	Kentucky School of Medicine	1902	82.3
29	R.	Kentucky School of Medicine	1902	87.3
38	R.	Kentucky School of Medicine	1901	73.8
44	R.	Kentucky School of Medicine	1901	68.3
45	R.	Kentucky School of Medicine	1902	75.9
46	R.	Kentucky School of Medicine	1902	75.6
49	R.	Kentucky School of Medicine	1902	91.6
7	R.	Rush Medical College	1898	91.3
9	R.	Rush Medical College	1901	91.9
22	R.	Rush Medical College	1895	82.9
26	R.	Rush Medical College	1902	94.4
31	R.	Rush Medical College	1902	92.7
32	R.	Rush Medical College	1902	93.6
33	R.	Rush Medical College	1902	90.8
34	R.	Rush Medical College	1902	92.6
8	R.	Harvey Medical College	1902	93.9
10	R.	Marion Sims-Beaumont	1902	88.1
12	R.	Marion Sims-Beaumont	1902	83.6
11	R.	University of Pennsylvania	1902	92.5
13	R.	Starling Medical College	1901	79.2
14	R.	Miami Medical College	1902	83.0
15	R.	University of Michigan	1902	88.1
30	R.	University of Michigan	1902	90.7
21	R.	University of Michigan	1902	90.2
36	R.	University of Toronto	1894	94.8
37	R.	University of Lausanne, Switzerland	1899	92.1
40	R.	University of Budapest	1900	87.3
41	R.	University of Illinois	1902	92.2
16	R.	College of Phys. and Surgs., Chicago	1900	88.1
42	R.	College of Phys. and Surgs., Chicago	1900	92.6
17	R.	Western Reserve Medical College	1902	93.6
18	R.	Medical College of Ohio	1888	85.9
55	R.	Medical College of Ohio	1877	64.4
19	H.	Hahnemann Med. Coll., Chicago	1902	84.2
24	H.	Hahnemann Med. Coll., Chicago	1901	91.6
48	H.	Hahnemann College of Philadelphia	1902	93.6
23	R.	Northwestern Univ. Med. School	1892	90.2
25	R.	Trinity College, Toronto	1902	89.7
35	R.	Jefferson Medical College	1902	93.5
43	R.	Jefferson Medical College	1901	91.8
39	R.	Kentucky University Medical Dept.	1901	94.6
47	R.	Harvard University	1902	94.5
50	R.	Illinois Medical College	1902	90.8
52	R.	Illinois Medical College	1902	91.9
53	R.	Chicago Medical College	1887	85.0
54	R.	Hamlin University	1901	84.1

FAILED.

4	R.	Ohio Medical University	1897	75.2
5	R.	Louisville Medical College	1901	77.9
51	R.	College of Phys. and Surgs., Keokuk	1885	*

* Incomplete.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PRIORITY IN COLLES' FRACTURE REDUCTION METHOD.

CHICAGO, Feb. 23, 1903.

To the Editor:—On page 542 of your February 21 issue I notice an item from the *Northwestern Lancet*, Minneapolis, by A. M. Pond, on "Some Considerations of Colles' Fracture." The method of reduction which he describes is not original, as it has been delineated at some length by Joseph Griffiths in the *British Medical Journal* of Dec. 7, 1901. I am in perfect accord with the treatment and results obtained as I have used the same method for some time, my attention being first directed to it by the article above named.

ARTHUR ATWELL SMALL.

ANS.—Pond said he had never seen the method described.

ARTIFICIAL MUD BATHS WANTED.

CONFLUENCE, PA., Feb. 16, 1903.

To the Editor:—Please inform me where I can get fango for mineral mud treatment as mentioned in THE JOURNAL, p. 447, February 14; also where I can get additional literature on the treatment.

R. J. HEMMINGER.

ANS.—Fango is the name used in Italy for the mud-bath treatment. The material is said to be a sort of finely divided volcanic earth. We presume that it has no very special properties over those possessed by the medical mud baths in this country. We know of no way by which it could be obtained in this country. There is no special literature known to us on the "fango" treatment in our language, and not very much on mud baths, except what is given in general works on balneology, etc.

MEDICAL PRACTICE QUERIES.

BLOOMFIELD, IOWA, Feb. 23, 1903.

To the Editor:—Please inform me as to the requirements to practice medicine in Kansas, also the name of the secretary of the state board, with address. C. L. KEMBEL.

ANS.—A diploma and examination are, we believe, now required. Dr. H. W. Roby, Topeka, Kan.

BALTIMORE, Feb. 15, 1903.

To the Editor:—Will you kindly inform me if the Maryland State Board will register any one who has successfully passed the Pennsylvania Board, without requiring an examination in Maryland? If they do, how much registration fee.

Yours most respectfully, A. H. BRAECKLEIN.

923 Barre Street.

ANS.—The board of examiners are authorized to do so if they consider the requirements equal to their own. Write them.

Marriages.

D. L. ROSE, M.D., Sherman, Mich., to Miss Gale Hooper of Battle Creek, Mich., January 31.

CYRUS W. STRICKLER, M.D., to Miss Annie Virginia Williams, both of Atlanta, Ga., February 25.

G. H. RATHBUN, M.D., Roubaix, S.D., to Miss Mollie McArthur, at Lead, S.D., February 9.

WILLIAM W. MELOY, M.D., Chicago, to Miss Charlotte A. Logan of Brooklyn, N. Y., February 25.

Deaths.

William Elias Brownlee Davis, M.D.

A telegram received by THE JOURNAL just before going to press announces that Dr. W. E. B. Davis was killed Tuesday night, February 24, by being thrown under a moving train by a frightened horse. Thus suddenly has ended a life of more than ordinary usefulness, and the shock will be felt not only in the south, where he was so well known and loved, but all over the country. The loss to the profession is great; he was, first and always, a polished gentleman; in his chosen field of gynecology and surgery he was a leader of men, and in his intercourse with his professional fellows he was the personification of ethical courtesy.

He was born in Trussville, Ala., Nov. 25, 1863, and was, therefore, 39 years of age. He was the third in a line of

physicians. After being graduated from the University of Alabama, he took up the study of medicine in 1881 under the preceptorship of his brother, Dr. J. D. S. Davis of Birmingham. After attending three courses of lectures, the last of which was taken at Bellevue Hospital Medical College, he was graduated from that institution in 1884. He then practiced in Birmingham with his brother for three years, after which he studied in the hospitals of London, Berlin and Vienna for two years. On his return to America he practiced for a short time in Rome, Ga., and then returned to Birmingham, where he since resided and practiced with his brother, Dr. J. D. S. Davis, devoting his attention chiefly to operative gynecology.

He was an honored member of many medical societies—the American Medical Association, vice-president in 1891, secretary of the Section on Surgery in 1890, and chairman of the Section on Obstetrics and Diseases of Women in 1899; Medical Association of the State of Alabama; Jefferson County Medical Society; Birmingham Medical Society; Southern Surgical and Gynecological Association, secretary, 1888 to 1900, and president, 1901-1902; American Association of Obstetricians and Gynecologists, vice-president in 1895, member of executive council, 1897-1900, and president, 1901; honorary president of the Section on Gynecology and Abdominal Surgery of the first



WILLIAM ELIAS BROWNLEE DAVIS, M.D.

Pan-American Medical Congress, Washington, D. C., 1893; honorary member of the British Gynecological Society; one of the founders of the Alabama Surgical and Gynecological Association, and its secretary in 1887-1888; Tri-State Medical Society of Alabama, Georgia and Tennessee, and its president in 1892; honorary member of the Medical Society of the State of New York.

He was surgeon to the Birmingham Hospital of United Charities in 1891-1892, and through his efforts a department of diseases of women was established. In 1894 he was elected professor of gynecology, obstetrics and abdominal surgery in the Birmingham Medical College.

Dr. Davis and his brother were editors of the first medical journal to be published in Alabama, the *Alabama Medical and Surgical Journal*, in 1886 and 1887; from 1890 to 1893 he was editor of the gynecological department of the *Alabama Medical and Surgical Age*, and he was associate editor of the *American Gynecological Journal*. His contributions to medical literature were numerous and valuable. Most of his later work was in the line of abdominal surgery, surgery of the bile-ducts.

He was buried from the South Side Baptist Church, Birmingham, February 27, at 11 a. m.

John Frank Valentine, M.D. College of Physicians and Surgeons, New York, 1879, for 12 years surgeon of the Thirty-second Regiment, N. G., S. N. Y., coroner's physician, chief surgeon of the Long Island Railroad, member of the Queens-Nassau Medical Society, and past president of the New York State Association of Railway Surgeons, died from typhoid fever at his home in Richmond Hill, Long Island, February 5, after an illness of several weeks, aged 46. The medical staff of St. John's Hospital, of which Dr. Valentine was president, at a special meeting, February 6, passed resolutions of respect and regret.

Caleb W. Hornor, M.D. Jefferson Medical College, Philadelphia, 1849, who did a large and distinguished work during the Civil War, being in charge of various important hospitals and chief medical officer of the Freedmen's Bureau, in the course of which he organized and administered over 80 hospitals and dispensaries throughout the south, died at his home near Bryn Mawr, Pa., February 8, from pneumonia, after an illness of two weeks, aged 74. He was a member of the American Medical Association.

Earle Eugene Woolworth, M.D. New York University, 1897, died February 5 at the Brooklyn Hospital from injuries received in a runaway accident, January 21, aged 30. He resided in Brooklyn and was a member of the New York State Medical Association, the Kings County Medical Society and the Alumni Association of the City Hospital.

Vincent P. Kennedy, M.D. Rush Medical College, 1856, a pioneer resident of Meeker County, Minn., surgeon of the Fifth Minnesota Volunteer Infantry in the Civil War, a member of the state legislature for two terms, died from uremia at his home in Litchfield, Minn., February 13, aged 79. He retired from active practice in 1888.

Harry Herbert Hurst, M.D. University of Pennsylvania, Philadelphia, 1897, member of the Pittsburg Pathological Society and former president of the Wilkinsburg Medical Club, died at his home in Wilkinsburg, Pa., from typhoid fever, January 31, after an illness of five weeks, aged 28.

Benjamin T. Shimwell, M.D. Jefferson Medical College, Philadelphia, 1875, formerly professor of surgery at the Medico-Chirurgical College, and a member of the American Medical Association, died at the Medico-Chirurgical Hospital, Philadelphia, from consumption, February 5, aged 51.

Gustavus Bruhl, M.D. University of Munich, Bavaria, 1848, a member of the American Medical Association, and an ardent student of ethnology and history, died from apoplexy at his home in Cincinnati, February 16, aged 76.

Henry Hulme Warburton, M.D. London Hospital School of Medicine, the pioneer physician of the Pacific Coast, where he had practiced since 1847, died at his home in Santa Clara, Cal., from pneumonia, February 9, after an illness of four days, aged 83.

James H. O'Toole, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1880, a member of the Massachusetts Medical Society, died from angina pectoris at his home in Charlestown, Mass., January 27, after a short illness.

Frank O'Neil, M.D. University of Southern California, Los Angeles, Cal., a member of the medical staff of the Southern Pacific Railway, died at a construction camp 80 miles west of Nevada City, January 19, from pneumonia.

David Munro, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ontario, 1867, died suddenly from heart disease at his home in Perth, Ont., February 7, aged 61.

Nelson B. Sisson, M.D. University of Louisville, Ky., 1846, died at his home in Porter, Ohio, January 28, aged 82. During the Civil War he served as assistant surgeon of the Ninety-second Ohio Volunteer Infantry.

Edward von Donhoff, M.D. Heidelberg, Germany, formerly professor of surgery in Louisville Medical College, died in Bellevue Hospital, New York, from the excessive use of drugs and dissipation, February 7.

Charles C. Warden, M.D. Ohio Medical College, Cincinnati, 1843, the first physician to locate in Ottumwa, Iowa, who retired from practice in 1856, died at his home in Ottumwa, February 14, aged 86.

Flavien Dupont, M.D. Laval University, Quebec, 1880, formerly of Montreal, but for the last three years a resident of Boston, died at Notre Dame Hospital, Montreal, from Bright's disease, aged 40.

John Morris, M.D. Starling Medical College, Columbus, Ohio, died at his home in Chicago, from heart disease, after a long illness, aged 67. He had not practiced since the close of the Civil War.

Henry Tomboeken, M.D. Rush Medical College, Chicago, 1866, who retired from practice in Chicago in 1898, died at

Terre Haute, Ind., from cancer of the stomach, February 7, aged 65.

Walter Pardee, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1860, died at the home of his son in New York City, February 11, after an invalidism of twenty years, aged 80.

Gertrude H. Woodworth, M.D. Hahnemann Medical College, Chicago, 1897, died at her home in Chicago, February 10, from the effects of chloroform taken with suicidal intent, aged 55.

Doctor N. Porter, M.D. Kentucky School of Medicine, Louisville, 1851, who retired from active practice ten years ago, died suddenly at his home in Eminence, Ky., January 29, aged 87.

John C. Whaley, M.D., state senator, and for many years a practitioner of Osceola, Mo., died at his home in that city, February 3, from pneumonia, after a short illness, aged 64.

Alonzo D. Root, M.D. Cleveland Medical College, 1871, died at his home in Crete, Neb., from chronic Bright's disease, after an illness of several years, February 8, aged 66.

George A. Harris, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1873, died suddenly from heart disease at his home in Bridgeton, N. J., February 9, aged 58.

John E. Wood, M.D. Starling Medical College, Columbus, Ohio, 1894, died at his home in Marysville, January 27, from consumption, after an illness of four years, aged 29.

George H. Douglas, M.D. Tulane University, New Orleans, 1886, quarantine surgeon at, and formerly mayor of, Morgan City, La., died recently at Pensacola, Fla., aged 42.

Henry M. Ptolemy, M.D. Detroit College of Medicine, 1889, died at his home in Brighton, Mich., February 16, from Bright's disease, after a lingering illness, aged 47.

Charles B. Leavitt, M.D. University of Pennsylvania, Philadelphia, 1882, died at his home in Trenton, N. J., from pneumonia, February 8, after an illness of two weeks.

Henry Newland, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died at his home in Los Angeles, Cal., January 7, after an illness of two years, aged 75.

Ralph L. Seckler, M.D. University Medical College of Kansas City, Mo., 1900, of Basehor, Leavenworth County, Kan., died recently in San Francisco, from paralysis.

Charles Wetherill Gambes, M.D. Jefferson Medical College, Philadelphia, 1864, died suddenly from heart disease at his home in Oaks, Pa., January 31, aged 62.

Frank C. Hoegel, M.D. Western Pennsylvania Medical College, Pittsburg, Pa., 1897, died from typhoid fever at his home in Allegheny, Pa., February 2, aged 27.

John M. McFarland, M.D. Tulane University, New Orleans, 1870, died at his home in Rivera, Cal., February 13, aged 55.

David F. Van Aken, M.D. Albany Medical College, 1860, died at his home in Malden, N. Y., January 30, aged 69.

Association News.

THE NEW ORLEANS NUMBER.

Announcement of the Special Number of THE JOURNAL *for April 11.*

The issue of THE JOURNAL of April 11 will be the special New Orleans Number and will be an announcement of the coming fifty-fourth annual meeting of the American Medical Association, to be held at New Orleans May 5 to 8, 1903. It will contain an illustrated article on Louisiana and New Orleans, their history and points of interest, and will give all the facts possible about the arrangements for the meeting, including a list of hotels, with rates, railroad rates, fare from important centers, announcement of special trains, side trips, excursions, opportunities for sight seeing, entertainments, schedules of meetings, places of meeting, etc. It will also contain the preliminary program of each of the sections.

In this number all special trains should be announced. We therefore ask every committee or official to send us at an early date detailed information of such trains as may be arranged. The Mississippi River excursion to New Orleans, mentioned on page 532 last week, and the ocean trip from Boston and New York, suggested in this issue, are attractive features that should be fully announced in the April 11 issue. We desire to receive information also of any other features not mentioned above, which will be of interest to some or all of the several thousands who are expected at New Orleans.

RATES TO NEW ORLEANS.

One Fare in Southwestern Association Territory—One and One-Third in Transcontinental.

The following letters explain themselves. The Southwestern Passenger Bureau includes railroads operating in Texas, Oklahoma and Indian Territories and the southern half of Missouri.

Southwestern Passenger Bureau.

ST. LOUIS, Jan. 27, 1903.

S. P. B. CIRCULAR LETTER, No. 5827. PROPOSITION ACCOUNT ANNUAL MEETING, AMERICAN MEDICAL ASSOCIATION, NEW ORLEANS, MAY 5-8, 1903, ADOPTED.

To Interested Lines:—Referring to S. P. B. Consultation Letter No. 843 submitting the following to apply from points in Texas, account annual meeting, American Medical Association, New Orleans, La., May 5-8, 1903:

RATE.—One regular, first-class fare for the round trip.

DATES OF SALE.—May 3 and 4, 1903.

LIMITS.—Tickets to bear continuous passage transit limit in each direction, with final limit of May 16, 1903.

EXTENSION.—If tickets are presented in person by original purchasers and fee of 50 cents paid to Special Agent on or before May 12, 1903, extension of final limit may be secured to and including May 30, 1903.

Special Agency will be conducted in the name of Mr. Joseph Richardson at Room 204, No. 204 Camp Street, New Orleans, and will be open between the hours of 8 a. m. and 8 p. m., tickets to be withdrawn only on the date on which they are to be used, and to be available for passage leaving New Orleans only on such date. The extension of limit to in no case exceed midnight of May 30, 1903.

The Special Agent will use paster bearing fac-simile signature of Joseph Richardson.

No objection having been recorded, the proposition is hereby declared adopted.

Respectfully, (Signed) C. M. PRATT, Chairman.

Transcontinental Passenger Association.

CHICAGO, Feb. 5, 1903.

MEETING OF AMERICAN MEDICAL ASSOCIATION, NEW ORLEANS, MAY 5-8, 1903.

Edmond Souchon, M.D., Chairman Committee on Transportation, New Orleans.

Dear Sir:—In reply to your favor of 2d instant I beg to say that the attendance from the states from which our lines sell, namely, California, Nevada, Washington and Oregon, will doubtless be so small as not to justify the making of any special reduced rate from those states.

Delegates may, however, avail themselves of the regular nine months' rate, which is in effect daily from Pacific Coast points to New Orleans, and which approximates two cents per mile in each direction, or about one fare and a third for the round trip.

Should it happen that your delegates apply at a station on Pacific Coast from which the nine months' rate is not in effect, which may be the case at very small, unimportant stations, the agent will cheerfully ascertain and advise them the nearest point to his station from which such rate does apply.

It is hoped that the foregoing will be satisfactory to you.

Respectfully, (Signed) J. CHARLTON, Chairman.

To New Orleans from Boston by Sea.

PLYMOUTH, MASS., Feb. 18, 1903.

To the Editor:—Will you kindly tell me: 1. What is the rate of fare from Boston to New Orleans to the annual meeting? 2. How do I get the reduced rate? 3. Is there any reduced rate by boat from Boston or New York to New Orleans? 4. Are there any reduced hotel rates? 5. Can I take my wife at same rate as myself? Yours truly, H. H. BURNS.

Answer.—Concerning all your questions read what is said on this page under the head of "New Orleans Number." 1. We are informed that the regular one-way rate is about $39, divided as follows: Boston to New York about $5, New York to

Washington $6.50, Washington to New Orleans, $27.50. The rate from Washington to the New Orleans meeting will be one fare for the round trip. East of Washington we are not informed as to the rates granted. As soon as we are, they will be announced in THE JOURNAL. If the same rate is given in the east as the southeast, it would make the round trip from Boston to New Orleans about $39. 2. Ask your ticket agent or the agent of the Boston and Albany R.R. in Boston. Consult THE JOURNAL, January 3, p. 46, and January 31, p. 325. 3. None to our knowledge. There should be. Some of the New York and Boston physicians may work this up. 4. None have been announced. 5. Yes.

Medical Organization.

Official Representative On Organization.

At the annual meeting of the Board of Trustees of the American Medical Association, held in Chicago, February 20-21, Dr. J. N. McCormack was asked by the board to devote his whole time to the work of organization as the representative in this work of the American Medical Association. Dr. McCormack has accepted the position and will immediately enter on his duties. It is expected that he will spend much of his time in the field and will be at the command of such state societies as may think his services can be made useful to them. It is suggested that officers of the various state societies and such committees as have this work of organization in charge, especially the councilors of the reorganized state societies, will put themselves in communication with him, with a view of co-operation in the work. Such co-operation will consist in both correspondence and personal visits on the part of Dr. McCormack, as may be desired. All correspondence in the future in regard to organization should be directed to Dr. J. N. McCormack, Bowling Green, Ky.

Effect of Organization.

A correspondent from Little Rock, Ark., sends us a copy of the new medical practice act just passed and signed by the governor, and says, "Although only in the incipiency of organization, we were able only by this means to get the bill through our legislature. Heretofore lack of organization made it easy for any organized effort to oppose and defeat us."

Defiance County (Ohio) Medical Society.

At a very full regular meeting in Defiance, February 11, this society adopted the constitution proposed by the committee of the American Medical Association.

Franklin County (Tenn.) Medical Society.

This society was organized at Winchester, February 19, with Dr. Flavel B. Sloan, Cowen, president; Dr. Thomas B. Anderton, Winchester, vice-president, and Dr. Garner S. Warren, Decherd, secretary.

Hamilton County (Iowa) Medical Society.

This society was organized February 7. Dr. Frank E. Whitley was elected president; Dr. Alanson M. Pond, vice-president; Dr. Carl W. Rummel, secretary, and Dr. Belle Conrad, treasurer, all of Webster City.

Lenawee County (Mich.) Medical Society.

On January 13, at Adrian, this society was reorganized with the assistance of Dr. Albert E. Bulson, councilor for the district. The constitution and by-laws suggested by the American Medical Association for county societies were adopted, and Dr. Clifford Kirkpatrick re-elected president and Dr. David L. Treat, secretary and treasurer, both of Adrian.

Licking County (Ohio) Medical Society.

The Licking County physicians met at Newark, February 12, and organized this society, electing Dr. Anderson T. Speer, Newark, president; Dr. Charles A. Foster, Newark, vice-president; Dr. George W. Garrison, Utica, treasurer; Dr. H. Burner Anderson, Newark, secretary, and Drs. B. H. Barnes, William H. Knauss and Cary F. Legge, all of Newark, censors. A committee on constitution and by-laws was also appointed.

Madison County (Ky.) Medical Society.

The physicians of Madison County met at Richmond, February 5, to consider the question of organization. After an address by Dr. Isaac A. Shirley, Winchester, councilor of the Tenth District, a permanent organization was effected, with Dr. James M. Poyntz, Richmond, president, and Dr. Murison Dunn, Richmond, secretary. The constitution and by-laws prepared by the American Medical Association were adopted.

Menominee County (Mich.) Medical Society.

Dr. Theodore A. Felch, Ishpeming, councilor for the Twelfth District, met with the physicians of the county at Menominee, January 14, explained the plan of reorganization suggested by the American Medical Association, and perfected the organization of the county society. Dr. Benjamin T. Phillips, Menominee, was elected president; Edward Sawbridge, Stephenson, vice-president; Dr. Peter J. Noer, Menominee, secretary and treasurer, and Drs. Walter R. Hicks, Eugene J. Grignon, and John F. Hicks, all of Menominee, directors.

Societies.

Pasadena (Cal.) Medical Society.—At the annual meeting, January 13, Dr. Charles D. Lockwood was elected president; Dr. Fitch E. Mattison, vice-president, and Dr. John E. Janes, secretary and treasurer.

Polk County (Neb.) Medical Society.—The physicians of Polk County recently met at Osceola and organized a county society, with Dr. Carrie L. Heald as president and Dr. L. Matt Shaw, secretary-treasurer, both of Osceola.

Merrick County (Neb.) Medical Society.—The physicians of the county met in Central City, January 13, and organized a county society auxiliary to the Nebraska State Medical Society. Dr. E. A. Benton, Central City, was elected president.

Marquette County (Mich.) Medical Society.—This society, at its annual meeting in Marquette, January 13, elected Dr. John H. Andrus, Ishpeming, president; Dr. Harry J. Hornbogen, Marquette, treasurer, and Dr. George D. Beach, Champion, secretary.

Van Buren County (Mich.) Medical Society.—The first annual meeting was held at Hartford, January 13. Dr. George D. Carnes, South Haven, was elected president; Dr. James Murphy, Bangor, vice-president, and Dr. Norris A. Williams, Bangor, secretary and treasurer.

Kaufman County (Texas) Medical Society.—At the annual meeting held in Kaufman, January 13, Dr. William H. Monday, Terrell, was elected president; Dr. Burrel J. Hubbard, Kaufman, vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer.

Jackson County (Iowa) Medical Society.—At the annual meeting, held in Maquoketa, January 29, Dr. William C. Post, Welton, was elected president; Dr. George M. Johnson, Maquoketa, vice-president; Dr. J. O. Ristine, Iron Hills, secretary, and Dr. Willis A. Scott, Maquoketa, treasurer.

Rolla District (Mo.) Medical Society.—At the semi-annual meeting held in Rolla, Dec. 11, 1902, Dr. James P. Dunigan, Sullivan, was elected president; Dr. Stuart L. Baysinger, Rolla, vice-president; Dr. Samuel B. Rowe, Rolla, secretary, and Dr. Samuel H. Headlee, St. James, treasurer.

Hawaiian Territorial Medical Society.—At a recent meeting held in Honolulu the following officers were elected: Dr. H. C. Sloggett, president; Dr. W. L. Moore, vice-president, and Dr. Jonathan T. McDonald, secretary and treasurer, all of Honolulu. The annual meeting will be held at Honolulu, November 7.

Center County (Pa.) Medical Society.—At the annual meeting, February 10, the following officers were elected: President, Dr. Charles E. McGirk, Phillipsburg; vice-presidents, Drs. Edwin S. Dorworth, Bellefonte, and W. U. Irwin, Fleming; secretary, Dr. J. Y. Dale, Lemont; treasurer, Dr. Geo. F. Harris, Bellefonte.

Riverside County (Cal.) Medical Society.—At the quarterly meeting held in Riverside, January 13, Dr. Oscar J. Kendall was elected president; Dr. Charles W. Girdlestone, vice-president, and Dr. William W. Roblee, secretary and treasurer, all of Riverside. The society voted to affiliate with the Medical Society of the State of California.

Oklahoma Territorial Medical Association.—At the annual meeting held in Enid, January 15, the following officers

were elected: Dr. John A. Hatchett, El Reno, president; Drs. Orlando D. Taft, Garber, and Roger L. Hall, Medford, vice-presidents, and Dr. Mahlon A. Kelso, Enid, was, for the third time, re-elected secretary and treasurer.

Warren County (Ky.) Medical Society.—At the annual election held in Bowling Green, January 10, Dr. Thomas W. Stone, Bowling Green, was elected president; Dr. Eldon N. Hall, Woodburn, vice-president; Dr. Fred D. Cartwright, Bowling Green, secretary and treasurer, and Dr. J. N. McCormack, Bowling Green, delegate to the Kentucky State Medical Society.

Washington County (R. I.) Medical Society.—At the annual meeting in Westerly, January 8, the following officers were elected: Dr. C. Grant Savage, Westerly, president; Drs. Milton A. Duckworth, Carolina, and Edward J. Knerr, Hope Valley, vice-presidents; Dr. J. Howard Morgan, Westerly, secretary and treasurer, and Dr. Elisha P. Clarke, Hope Valley, Auditor.

Tri-County (Cal.) Medical Society.—This society, which includes the physicians of San Benito, Monterey and Santa Cruz counties, met in Watsonville, January 6, and elected the following officers: President, Dr. Frank H. Patterson, San Juan; vice-presidents, Drs. Spencer C. Rodgers, Watsonville, Henry C. Whiting, Santa Cruz, R. W. O'Bannon, Hollister, and Dorus Brumwell, King City, and Dr. Saxton T. Pope, Watsonville, secretary.

Green County (Ohio) Medical Society.—This society met, February 5, at Xenia. Drs. Horace Bonner, Dayton, Brooks F. Beebe, Cincinnati, and Dr. C. L. Bonifield, Cincinnati, presented convincing arguments why this society should affiliate with the state society and adopt the by-laws as suggested by their committee. The discussion of the question of new by-laws occupied so much time that their further discussion and adoption was laid over until the next meeting, March 5.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held Feb. 16, 1903.

The President, Dr. A. B. Isham, in the Chair.

The evening was devoted to the consideration of "Medical Organization."

The Subject Stated.

Dr. Brooks F. Beebe, chairman of council, Ohio State Medical Association, said in substance: Not a physician's name in the hall of fame; no just recognition of his worth by the public at large; intelligent, law-abiding, unselfish, as he is, conscientious in his work; progressive in his methods and his science; altruistic to a degree not equaled by others; still, medical men, with rare exceptions, do not occupy that place in the world of affairs that they should. Neither do they exert that influence of which they are capable, nor meet with the pecuniary reward that should be theirs. Where lies the fault? Chiefly in themselves. Only 30,000 out of a possible 120,000 physicians in the United States belong to medical societies. Three times as many out as in. Are we three times as bad as we should be? Why is it that physicians are so apathetic, indifferent, ignorant of the practical value of membership in medical societies, which fact is undoubtedly responsible for their unfortunate condition? While recognizing that knowledge is power, we sit down comparatively comfortable and contented, refusing to exert ourselves in the way that demands and secures recognition of our rights, of our worth and of our power. How may we change this order of things? Changed it must be, and already it is becoming different in some sections of the United States. A new era in medicine is unquestionably ours; and a new history is being written for us. Evolution is becoming revolution in medical affairs, at least in our own state and a few others, and it is to be hoped and expected that the work of progress that has recently been started will sweep the country from ocean to ocean and from the lakes to the very gulf.

While we are looking for the millenium, it can not be denied that the ideal in medicine is far from the real—nor, again, that the real may not be made to approach a little more closely the ideal. We may say that a physician's work or life may be viewed from three aspects: first, the scientific or purely professional; second, the social or companionable mingling together; and third, the business side, which looks after the material gain that is so necessary and utilitarian. When these three qualifications are properly combined, we have what may be considered an ideal medical character. The question, therefore, is, how may we obtain, even approximately, this desirable state? At the last meeting of our Ohio State Medical Association a new constitution and by-laws were unanimously adopted, and if Cincinnati and Hamilton County are to be represented, the Academy of Medicine of Cincinnati must become "a component society" of the state association, representing and including all the eligible physicians of the county.

Among other things that were done at this meeting, was the election of what is called a council, really a committee, composed of ten members of the association, selected from different parts of the state, whose duty it is to go about organizing and reorganizing medical societies in the different counties and looking after the interests of the profession in every possible manner. Greatness has been thrust on me, great work at least, in that I am one of the unfortunates selected to help perform this important duty. While I find it somewhat arduous, it is also very pleasant, and I find myself taking a very great interest because of the many good results being observed. My district is composed of nine counties in southwestern Ohio and I am taking much pleasure in assisting to form and increase the interest in these medical societies.

As the most of you know, an invitation from me as state councilor has been extended to you of Cincinnati to go to these outside county medical societies and render your quota of assistance. Of two hundred of these invitations sent among you, I have received favorable replies from about one hundred. This list will be sent to the secretaries of the various county societies of Ohio and to the nearby counties of Indiana and Kentucky; from it selections will be made by the secretaries and invitations will be sent to you to read papers or make addresses before these societies. Thus you will be able to assist in "organizing component societies and increasing the zeal of their members," as are the directions from the state association to its council. It has long since become a maxim that in union there is strength; that individual effort avails but little in any great movement. But how are we to accomplish this union of strength, this union for greatest influence, this union for greatest good to the medical profession and the people in general? A movement has already been begun and is spreading from county to county and from state to state. The great American Medical Association has already formulated a plan that is being adopted by the several state societies; and it is the furthering of this idea, together with the consideration of a revision of our own academy constitution that is the special subject for this evening. No one in medicine is too good, or too great, or too busy; too old or too young, or too little or too big, or too lazy to be allowed to escape duty in the future. On your program will be seen that a few only of the many features of organization are to be considered this evening. Any one of them could easily take an entire evening, but our object is to have some of the essentials lightly touched on, for a few minutes each, hoping that the opinions of the speakers may assist in awakening interest in society work and in obtaining promises from all present to lend a helping hand in organization.

Medical Organization.

Dr. Charles A. L. Reed called attention to the condition of medical organization in the United States at the time of his election to the presidency of the American Medical Association in 1900. Aside from the national body there were then local, county, district and state societies, the district societies in many instances embracing areas that varied in extent from several counties to several states. The membership in one of these bodies was frequently made up to an important degree of the members of some other organization within the same territorial limits. This circumstance was of no importance so long as the respective local bodies devoted themselves to social and scientific proceedings, but it became a matter of very great importance when it came to the question of pro rata representation for legislative purposes in both the various state societies and in the American Medical Association. Thus it not infrequently happened that the profession, in certain parts

of the country, duplicated its representation in the various delegate bodies, while it utterly failed to secure concert of action in important matters pending before various state legislatures, or for that matter before Congress.

This state of affairs had become peculiarly embarrassing to the American Medical Association. This body, organized on the delegate plan in 1847, as an unincorporated and purely voluntary organization, at first, and for several years received the delegates from practically every possible source, including the public services, medical societies, medical colleges, hospitals and lunatic asylums. This wide-open policy was soon found to be impracticable, and there was a gradual restriction of the right to send delegates, until, finally, no professional bodies except affiliated medical societies were granted the right of representation. There was but very little restriction, furthermore, in granting affiliation to medical societies. Many of the district societies, especially multi-state societies, had been very properly cut out, the only condition imposed on the remaining societies being that prescribed by the resolution of 1855. This resolution provided that no medical body should be recognized as an affiliated body that had not previously adopted the Code of Ethics of the American Medical Association. It subsequently appeared without further recorded action as Article IX of the old constitution, and was at the time of its adoption aimed at the Ohio State Medical Association.

Dr. Reed then discussed the code question very fully, mentioned the action taken in 1855, when a resolution was adopted, requiring all affiliated societies to adopt the code, and the rescinding of this action at St. Paul in 1901 by omitting this requirement in the new constitution and by-laws, etc.

The Importance of County Medical Societies.

DR. HORACE BONNER urged that, of medical societies, the most important is the county society. "Leaving out of account its importance as a unit in the scheme of organization, still it is the most important medical society in the land. It is accessible to the whole profession, even to the humblest member. All can share its advantages and it is, for the large majority, the only society. It is their post-graduate school and the only one they have, for comparatively few can attend the state societies or the American Medical Association." In county societies men "read and discuss papers, exchange experiences, comment on the lessons these teach, receive and give encouragement and have a short but enjoyable relaxation from the cares and worry of everyday life."

"These societies are good, indifferent or poor, just as the members make them, none is so good that it might not be made much better, none so poor that it is not very much better than no society. Their great weakness is their selfishness. They exist for their own members alone. They do not help their weak neighbors in adjoining counties and they have little or no public influence." The conditions in the state and the conditions in the national organization demand that medical men get together. "Individual effort is vain." "The whole plan is successful or falls to the ground just as we succeed in making the county society efficient." In it discussion is initiated. From it go the instructed delegates to the state association, and from the state association, likewise, the representatives are chosen to the American Medical Association.

The consummation of the desired organization will be complete and will be ideal only when the county societies "include 'every reputable and legally qualified physician in each county who does not practice or claim to practice sectarian medicine.'" "The county society is supreme." Membership in it establishes standing as a physician. "I don't care what the code of the American Medical Association may say, the code of the profession is going to be that 'a physician must be, in all things, a gentleman according to the standards of society and, therefore, one who is honest in his dealings with his patients and with his fellows.'"

"I am glad the word 'regular' does not occur in the constitution or by-laws of either the state or county. Hereafter we shall be 'physicians.'"

Medical Ethics.

DR. P. S. CONNOR stated that medical men may be classified under three heads: Those who need no code of ethics, those who will obey no code of ethics, and those who can be influenced toward the right by the code of ethics. The latter class constitutes no small number. The only objection to doing away with the code of ethics is that it opens the door to those who will confine themselves to one dogma or one line of medicine. There is not the slightest difficulty in the code being carried out as far as we are concerned. If there were no sectarian doctrines preached and no effort made to get business through the influence that we attach to sectarianism of one sort or another, we would need no code of ethics.

Medical Legislation.

DR. N. P. DANDRIDGE stated that there are three distinct sets of organizations which are becoming more and more powerful by means of association: namely, medical societies; second, medical colleges, which have existed longer than state societies and only recently have come into anything like a combined body; and third, the boards of state examiners. While these three bodies should, as far as possible, work together, yet in many lines they are antagonistic, and in order to do their work properly they must be antagonistic. Yet he thought that the tendency of state boards was to become yearly more and more arbitrary in their decisions, and that many facts of importance to the medical colleges and to the profession at large were kept secret for a longer time than was consistent with progress or good judgment. He also thought that the requirements of a candidate for a medical profession or a legal career or any other profession should be under the supervision of one board, as it is now in the state of New York. On the whole, he thought that attempts at medical legislation, at least as far as Ohio was concerned, had resulted in unmixed good, and no one, he thought, not even those connected with medical colleges, who were the greatest sufferers, would be willing to return to the days of chaos previous to medical registration and later of state board examination. As far as the personnel of the Ohio State Board was concerned, he thought that the selection had been most happy; certainly the members of the board who were not of the regular profession, so-called, had contributed in no small measure to the enactment and carrying out of many of the most important measures inaugurated by the board.

Social Needs of the Physician.

DR. E. W. MITCHELL thought that the physician should labor less hours and so have more time to mingle with his fellows and thus get out of the morbid rut into which his profession is apt to throw him. To do this the fees of the physician need to be radically increased, as he is now working in the large majority of cases for far less than he ought to receive. One of the chief inducements for Dr. Mitchell to attend the local medical society, he said—only less in importance than the professional aspect—was the social time that he was able to enjoy with his brother physicians. This was also true in attendance at the larger meetings held at a distance.

The Doctor in Politics.

DR. LOUIS SCHWAB stated that medical men organized in the past for mutual improvement alone—to exchange experiences with one another. The medical society in the past has been the admiration of the public because there has never been in it a breath of either religion or politics. But the physician is a citizen and even he can raise his voice for what he feels will be for the good of the people. He will always be granted a hearing and with a respectfulness that is given only to one of honest intention. Of late years many a medical man has devoted time to public affairs. When he is "chosen to public office he feels that he is not only responsible to the people, but that he is answerable to his craft for all his acts." Medical men can be found in Congress, in state offices, occasionally in the governor's chair and in prominent positions of many kinds without in the least detracting from or interfering with their reputation as physicians. Public service will demonstrate to many a physician the contracted life he was living and make him a more able man to practice his profession. "If the doctor in politics will practice the same self-denial that he does in his profession, public faith in him will be

as strong and tender as that which he is made to feel at every bedside which he visits."

Commercialism in Medicine.

DR. THAD. A. REAMY was very much inclined to defend the young physician who attended cases for a lower fee than his older competitor, though he saw no reason why a young physician should not charge the same as an older one for the same service, provided that the young physician had, by virtue of his previous training and experience, obtained a good and recognized standing in his profession. Dr. Reamy was emphatic in his condemnation of division of fees.

Fees, Bills, Collections and Dead Beats.

DR. MAGNUS A. TATE spoke from an experience of twenty-four years with fees and collections, twelve years in the practice of medicine and twelve as a boy and young man, collecting for his father. Many a physician who has means outside his practice fails altogether to grasp the problem of collections or to sympathize with the importance of this point to the physician as a class. "As a boy I became impressed with the following: Gratitude existed only in those who paid their bills and the one who penned the following had some experience:

> The danger o'er, the patient is delighted,
> God is forgotten and the doctor is slighted.

From his experience Dr. Tate has found the following points of value: "Charge reasonable fees, smaller to the poor, but never overcharge the rich." The physician needs the influence of the well-to-do. He must be fair and honest with them, and they will return it with interest. "Surgical operations and obstetric fees are entirely governed by the character of the case and the ability of the patient to pay." The sum charged by the general practitioner in obstetric cases is ludicrous. It is the most poorly paid of all work in the practice of medicine. Dr. Tate can see no remedy for this evil at the present. He usually makes a charge for telephone advice. If he finds a crank who objects to paying for simple advice where no medicine is given, he adds medicine. Charges should be increased for night calls, contagious cases, Sunday calls and first visits. The contract doctors are governed by but one object, which is "self." Watch them through life and see if this diagnosis is not correct. They are making medical paupers out of thousands and doing irreparable harm. It is no wonder that insurance companies have inaugurated their liberal method of dealing with physicians on what they term business methods. Dr. Tate gave some examples of this abuse.

Members of the profession are seriously at fault in not telling the truth as to their revenue. "It is a sad commentary on the practice of medicine and truth to hear of the marvelous sum that Dr. So-and-So is making a year, and you know otherwise." This practice does two things: "1. It makes many a young man or woman enter the profession who is in no way fitted to enter, and 2, it keeps the impression alive that physicians are rich and do not need any money and consequently leads to great difficulty in the collection of our accounts."

Concerning collections, Dr. Tate urged that the medical profession shows a serious lack of business principle. Many a physician tells his patient that there is no hurry about payment. Many a physician has not the courage to ask what is his just dues. When a bill has waited six months, perhaps the patient is dead, perhaps he has removed and you can not find him, or perhaps he has gone to another physician because he owes you, which gives the impression that he was dissatisfied with you, perhaps he has forgotten just what you did for him and refuses to pay it in whole or in part. Dr. Tate's practice has been to send out bills the first of the month following services rendered, for the following reasons: 1. If there is any misunderstanding, memory is fresh and can straighten out the difficulty. 2. The patient's address is probably known. 3. The patient has not lost all the gratitude born in him while he was sick.

Dr. Tate urges the prosecution of dead beats, but he wishes to insist that there is a distinct line to be drawn between the dead beat and the poor man or woman who can not pay. "Charity is the sweetest morsel that one can taste; its flavor is delicious when it is given to the unfortunate and needy."

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Menstrual Pains in Virgins.

Dr. Touvenaint, in *Klin. Ther. Woch.*, recommends that hot applications be applied to the abdomen to relieve the pains and produce rest. If the pains are very violent an enema containing fifteen minims of tincture of opium or fifteen to forty-five grains (1.-3.) of chloral hydrate should be administered. The following combination may be used as a substitute for one of the foregoing:

℞.	Tinct. opii	gtt. x	65
	Pulv. camphoræ	gr. iii	20
	Yolk of 1 egg.		
	Aq. destil.	ʒiv	120
M.	Sig.: As an enema; or:		
℞.	Ext. cannabis ind.		
	Ext. belladonnæ, āā	gr. i	06
	Ol. theobrom. q. s.		

M. Fiat suppos. No. i. Sig.: Two or three daily.

Bronchitis Complicating Diseases of the Heart, Lungs and Kidneys.

The treatment of this form of bronchitis, according to I. N. Danforth, in Textbook of Applied Ther., should begin with the treatment of the condition that precedes and causes it. Elderly individuals, however, are improved by the administration of potassium iodid. The following formula is recommended by the author:

℞.	Pot. iodidi	ʒiiss	10
	Syr. picis liq.	ʒiv	15
	Syr. pulveris doveri	ʒi	30
	Syr. tolutani, q. s. ad	ʒiv	120

M. Sig.: One teaspoonful four times a day.

Stimulating expectorants are rarely needed in this form of bronchitis, but the author recommends small doses of aromatic balsams combined with a mild anodyne if the cough is troublesome, as follows:

℞.	Terebinthinæ canad.		
	Pulv. ipecac. et opii, āā	ʒi	4
	Pulv. acaciæ q. s.		

M. Ft. capsulæ No. xx. Sig.: One every three or four hours; or:

℞.	Copaibæ		
	Camph. monobrom., āā	ʒi	4
	Pulv. acaciæ q. s.		

M. Fiant cap. No. xx. Sig.: One three or four times a day; or:

℞.	Olei santali	ʒii	8
	Tinct. opii camph.	ʒi	30
	Sacchari albi		
	Acaciæ, āā, q. s.		
	Aq. anisi q. s. ad	ʒiv	120

M. Fiat emulsio. Sig.: One teaspoonful three or four times a day.

Technic of Hypodermoclysis.

Jos. Byrne, in *Merck's Archives*, recommends, in the administration of normal saline solution, that after preparing the patient, the fountain syringe be filled with the solution at a temperature of 102 F. to 105 F., to which a coarse but finely-pointed needle be attached and the syringe suspended six or eight feet above the patient. The physician, after thoroughly sterilizing his hands, should hold the needle and allow the flow to start before introducing it, in order to remove the air and cold fluid from the tube. With the other hand a fold of the skin in the axilla or over the abdomen should be grasped between the thumb and the finger and elevated similarly to the methods employed in giving an ordinary hypodermic injection. The needle should be pushed into the subcutaneous tissue, getting well beneath the skin, but not penetrating the muscular tissue beneath. The needle then can be freely moved about under the skin when the clamp may be loosened and the solution allowed to flow. Six to eight ounces will be all that

can be injected at one point; the needle may be removed and an injection made at another point. This may be repeated until the requisite amount is injected, which may range from one to three pints. If pain occurs during the operation gentle massage may be given to facilitate absorption. The addition of small quantities of glycerin or carbolic acid is said to relieve pain, yet the author does not advise their use. With thorough aseptic procedures no dangers should arise from this procedure.

Administration of Creosote Carbonate.

In order to overcome the difficulty encountered by some patients in taking creosote, J. J. Stoll of Chicago recommends that it be prescribed in the form of an emulsion, as follows:

℞.	Creosoti carb.	℥ii	8
	Ext. malti	℥iv	15
	Glycerini q. s. ad	℥iii	90

M. Fiat emulsio. Sig.: One teaspoonful after each meal.

Acute Pelvic Inflammation.

E. C. Hill, in *Med. Standard*, recommends in the treatment of acute pelvic inflammations, from whatever cause, that the patient be placed in a comfortable posture; sometimes elevating the foot of the bed gives great relief. The administration of morphin or opium in sufficient doses, which may be given per rectum; absorbent cotton saturated with equal parts of tincture of belladonna and glycerin applied hot and covered with a rubber cloth. Ten or fifteen grains of quinin should be given on the first days of the disease.

A small amount of cold water may be given frequently to relieve the thirst. If the lower bowel is loaded, employ a rectal injection composed of the following:

℞.	Magnes. sulph.	℥iii	90
	Glycerin		
	Aquæ, āā	℥ii	60

M. Sig.: As an enema, to be repeated as necessary.

Sodium phosphato, dram one-half (2.00) then should be given and repeated every three or four hours.

When the acute symptoms have subsided and there is no evidence of pus or serum, small blisters should be applied repeatedly to the iliac regions (one on each side) or paint the roof of the pelvis with tincture of iodin, or keep up counter irritation with the following solution:

℞.	Olei tiglii	℥i	4
	Etheris sulphurici	℥ii	8
	Tinct. iodi	℥iii	12

M. Sig.: Paint over the lower abdomen and repeat when the eruption disappears. Nourishing food, quinin, ferri iodid, potassium iodid, ferric chlorid and other tonics may be prescribed. Avoid exercise which excites pain. Promote absorption and lessen adhesions by pelvic massage.

Menthol for Local Application.

The following combination, containing menthol, is recommended by Kuehl in *West. Druggist*, for local application as a liniment:

℞.	Menthol	gr. xv	1
	Spts. chloroformi	℥i	4
	Spts. camphoræ	℥iiss	10
	Spts. saponis	℥i	30
	Olei gaultheriæ	℥ss	2

M. Sig.: Apply locally.

Putting Drops Into the Eye.

Sharp, according to an abstract in the *Ind. Med., Jour.*, gives the following suggestions and directions for dropping solutions into the eye: Never apply the drops directly to the cornea, nor should the dropper be brought down in front of the eye as the patient will close the eye reflexly. The dropper should be brought from below upward and to the outer canthus. Have the patient turn the eye upward and at the same time gently evert the lower lid, and while it is in that position place one or two drops on the conjunctiva of the everted lid. Not more than two drops should be put in at one time as the sac is not capable of handling more. The patient should then be directed to look down, at the same time holding the lower lid until the upper one comes in contact with it. In this way none of the solution will drop down on the cheek. Care should be taken that the dropper does not touch the eye anywhere as it may infect the eye or in turn become infected by the eye and will infect the medicine when replaced. It is well to boil the dropper before using it.

Chordee.

The following outline of treatment is recommended by Bjorkman in *Merck's Archives* in the treatment of chordee. Cold applications should be applied to the perineum or to the penis itself or hot sitz baths or leeches applied to the perineum. Keep the patient in bed on a light diet and keep the bowels well open. If abscess formation takes place a free external incision should be made in order to prevent urethral fistula.

The following internal treatment is recommended by the author:

℞.	Lupulini	gr. xv	1
	Camphoræ	gr. iiss	15

M. Ft. pil. No. x. Sig.: One pill every hour until the effects are produced; or:

℞.	Camph. monobrom.	gr. xviii	1 20
	Ext. hyoscyami		
	Opii depurati, āā	gr. ix	60
	Ext. lupulini q. s.		

M. Ft. pil. No. xv. Sig.: One pill four times a day; or:

℞.	Ext. opii	gr. i	06
	Ext. hyoscyami	gr. ii	12
	Lupulini	gr. ix	60
	Ol. theobrom.		

M. Ft. suppos. No. vi. Sig.: One to be inserted into the rectum two or three times a day; or:

℞.	Chloralis hyd.		
	Potass. brom., āā	℥iss	6
	Syr. aurantii	℥vi	24
	Aq. destil. q. s. ad	℥iii	90

M. Sig.: Two tablespoonfuls at bedtime for the nervousness and insomnia.

As an ointment to be applied locally the following is recommended:

℞.	Ext. hyoscyami	gr. xv	1
	Lanolini	℥ii	8
	Vaselini	gr. xxx	2

M. Fiat unguentum. Sig.: To be applied locally.

Medicolegal.

Demonstration of Extent of Incapacity from Injuries.—In the personal injury case of Clark vs. the Brooklyn Heights Railroad Company, the party suing was permitted, for the purpose of showing the extent of his injuries, to attempt, in the presence of the jury, to drink a glass of water and to write his name. The Second Appellate Division of Supreme Court of New York holds that there was no error in permitting these demonstrations of the alleged inability, but that such evidence was admissible within the fair discretion of the trial court. It says that the injured person could certainly be allowed to testify that since the injury he had not been able to write without experiencing a tremor of the hand, or to drink a glass of water without similar inconvenience. No good reason is perceived why he may not be allowed to illustrate the extent of this incapacity as well as to state it in words. Deception, of course, is possible in such an illustration, but it is equally possible in the oral statement. In either case, the jury are to judge of the credibility of the witness.

Physician May Testify as to Competency of Nurse.—The First Appellate Division of the Supreme Court of New York holds, in Ward vs. St. Vincent's Hospital of the City of New York, that a physician who has had daily opportunity of observing the work done by a nurse—who has seen how she has done it—is qualified to say whether, in his opinion, she was a skilful and competent nurse. It says that the necessity for opinion evidence arises whenever it is impossible to state to the jury all of the facts which are essential to enable it to form an accurate judgment. Whether or not one be a skilful and competent nurse necessarily depends on many facts, all of which, from the very nature of things, it is impossible to lay before a jury, and for that reason a physi-

cian who has the personal charge of a patient, and who daily sees the manner in which a nurse performs her work over that patient, is competent to express an opinion. Furthermore, while it holds that it was for the jury to say whether, on the facts presented, one of the sisters of charity in charge of a charitable institution acted within the scope of her authority in making an alleged contract to furnish the services of a skilled and experienced nurse to the party suing while she was undergoing a surgical operation and recovering therefrom in such institution, the court holds that it was error to refuse an instruction that if the jury found, as a fact, that the party received no more than the personal assurance of the sister, then there was no contract on behalf of the institution.

What Constitutes Total and Permanent Disability.—In the case of Monahan vs. the Supreme Lodge of the Order of Columbian Knights one of the questions was the construction to be put on a by-law, which provided that whenever a member in good standing became "totally and permanently disabled, by reason of accident or disease, from following any occupation whatever," he might be paid a certain sum of money out of the funds of the order. The Supreme Court of Minnesota holds that, in order to recover under this section, it is not necessary that a member shall be disabled to the extent that he has not sufficient physical power to follow some easy occupation, and to perform some slight service, although under great disadvantage and while suffering great bodily pain. It says that, on the subject of proper construction, it will not undertake to improve on the apt language of the trial judge that "the words 'following any occupation' mean something more than the doing of one or more acts pertaining thereto. They involve the idea of continuity, and involve, also, the doing of all those things which are an essential part of the work or business in which a party is engaged." The language must have a practical and rational construction. It is difficult to conceive of a case where a man would be so completely disabled as to prevent his engaging in any kind of occupation. The party suing was shown to be substantially unable "to follow any occupation, because he was not able to do all of the essential acts necessary to be done in the prosecution of an occupation."

Marriage May Be Annulled for Venereal Disease.—In the case of Svenson vs. Svenson the Second Appellate Division of the Supreme Court of New York approaches as an entirely new question in that state the one of whether a marriage may be annulled for the fraudulent concealment by one of the contracting parties of the existence at the time of the marriage of a chronic and contagious venereal disease. It pronounces an unquestionably sound proposition, the general one that ill health, although concealed, or even although the condition has been misrepresented, will not of itself justify annulment. In the absence of binding and explicit authority, however, it says that it would be unwilling to assert a doctrine which would require a court of equity to hold that a man who finds a woman whom he has innocently married afflicted with venereal disease, and who, therefore, refuses to consummate the contract, may not procure a decree annuling the marriage because of the fraud involved in the existence of the condition and its concealment. Such a condition would seem to be amply sufficient to justify a finding that the afflicted party was physically incapable at the time of meeting the obligations of the relation. The reasoning which refuses relief in the case of ordinary ill health has no application to a disease which involves disgrace in the contraction, contagion in marital association, probably injury to offspring, and which, from its secret and shameful nature, denies to the innocent and unsuspecting the protection of foreknowledge. But in all cases of this character it is of the first importance that the application for judicial relief should be of absolute good faith and free from the suspicion of collusion.

Opinion of Attending Physician Evidence as to Injury.—The Supreme Court of Minnesota holds, in the personal injury case of Skelton vs. the St. Paul City Railway Company, that it is proper to allow a physician to give the result of information derived by him in the treatment of a patient, when being examined as an expert. In this case a physician, who was attending the party suing during her illness, was permitted to state, in describing her symptoms, that she had suffered from headaches. The record showed that such knowledge was derived from information received from the party during the course of professional treatment, which was obviously necessary to enable the medical attendant to prescribe for his patient. The same physician also testified as to the probable continuance of her malady, and expressed his opinion on the question whether her injured limb would ever regain its normal condition. This was after he had given a somewhat extended clinical history of her treatment, and was based on the information he had derived during the course of his professional attendance. The Supreme Court holds that this was proper. The opinions of a professional expert in such matters, it says, are not required to be based on hypothetical questions embodying a description of the physical condition of a person, but may be formed on knowledge of the injuries derived at the bedside, or from evidence in court. Quite like this is the decision of the Supreme Court of South Carolina in the personal injury case of Oliver vs. the Columbia, Newberry & Laurens Railroad Company. It says that the medical expert makes his diagnosis of an ailment from the symptoms discovered by his skill and from other symptoms gathered from the statements as to her present condition made to him by the patient while under examination. From these symptoms, thus discovered, he determines what "is the matter" with his patient, and the jury may have this conclusion expressed to them as the opinion of an expert witness. Besides this, the court holds that, in a personal injury case, testimony of the amount paid for medical attention is admissible for the purpose of throwing light on the extent of the injuries, just as testimony as to the length of time the patient was confined to her bed would be.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

February 14.

1 *Differential Diagnosis of Certain Diseases of the Liver. Charles G. Stockton.
2 *The Significance of the Presence of Streptococci in Market Milk. Raymond C. Reed and Archibald R. Ward.
3 *Tuberculosis of the Bronchial Glands; Tuberculin; Chest Pain. G. W. McCaskey.
4 *The Nervous Cardiac Symptoms Due to High Altitudes. F. Savary Pearce.
5 *Report of 250 Additional Cases in which Nitrous Oxid Was Used Alone or as Preliminary to Ether or Chloroform Anesthesia. David H. Galloway.
6 *Care of the Eyes of School Children. Linn Emerson.
7 Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine. (Continued.) John S. Fulton.

1. **Liver Diseases.**—Stockton states that in this paper he does not attempt to treat the differential diagnosis thoroughly, but to point out certain distinctive characteristics in the familiar diseases of the liver, commencing with ordinary hepatic cirrhosis and so-called syphilitic cirrhosis. He finds this sometimes difficult, but remarks that in the syphilitic form the liver is large, frequently bosselated and of irregular contour and is sometimes accompanied by a friction rub. A history of syphilis and the therapeutic test are important points in the diagnosis. An apparent cure will occur in a large proportion of cases with syphilis. Sometimes the disease is too far advanced for such results and in others there may be a relapse. The diagnostic points between cholelithiasis and cancer of the liver are also discussed. He remarks that when cancer affects the liver it is usually secondary, and some information may be gained by locating the primary growth. There is a lack of history of characteristic hepatic colic unless cholelithiasis also exists. The presence of jaundice, with enlargement of the gall bladder, suggests cancer, while the history of gallstone and the gall bladder not palpable, indicates stone in the common duct. This is practically Courvoisier's law. Other points are also noted. Abscess of the liver may be confused with cholecystitis and angiocholitis. The history of the

case should be of assistance, and frequently when we suspect abscess puncture may be resorted to. He has seen no bad effects from puncture, though it may be difficult to find a small abscess. Lastly he considers sclerosis of the liver following chronic biliary obstruction and the so-called Hanot's cirrhosis of the liver, which he holds is a disease *sui generis*, usually seen in the young, without alcoholism, often acute in the beginning, though the disease is usually protracted. In the onset there is pain, often severe in the region of the liver, and probably a temporary elevation of temperature. The patient is found to be moderately jaundiced. The liver is very large, as is also the spleen, and pigmentation of the skin may be present over and beyond that occasioned by jaundice. The pain may be intermittent and the patient may often be for months exempt from all symptoms. Eventually, though perhaps not for five or ten years, jaundice appears, temperature rises and the patient dies from icterus gravis.

2. **Streptococci in Milk.**—The importance of streptococci in milk is insisted on by Reed and Ward, who find that infectious mammitis in the cow may have no specific symptoms. They remark, in conclusion, that the classification of streptococci is still in an unsettled state. The common prevalence of mammitis in the cow constitutes an important source of streptococci in market milk. The insidious onset of the disease is responsible for this being often innocently sold, and the common method of milk handling in stables deserves mention. The milk, after drawing, is generally poured in a common receptacle with other milk, and if the existence of udder inflammation is shown by curd-like masses on the sides of the strainer, ignorance or greed may prevent the proper rejection of the infected milk. The presence of streptococci must be regarded as a matter of danger. To understand the conditions under which these streptococci harbored in the healthy udder may become virulent will require a further study of the pathology of mammitis.

3. **Tuberculosis.**—McCaskey's article is largely on the diagnostic and therapeutic use of tuberculin. He believes in both. He also points out the diagnostic value of superficial chest pain, and gives schematic illustrations showing the reflex routes by which it may occur.

4. **Altitude in Heart Disease.**—Pearce discusses the effects of increase of altitude on the nervous cardiac symptoms. Ordinarily up to 5,000 feet or more no disturbance is caused in the normal heart. As we go up higher, however, there is a decided disturbance. In functional nervous disease he would advise against stimulating climates and altitudes over 2,000 feet as well as enervating climates at the lower levels. The matter of dryness of climate has something to do with the effect, and may be considered favorable.

5. **Nitrous Oxid Anesthesia.**—Galloway gives the results of 250 different cases where nitrous oxid was used either alone or as a preliminary to ether anesthesia. He considers that while there is no ideal anesthetic this comes as near to it as any. It does not terrify the patient as do ether or chloroform, produces no distressing symptoms and is so rapid that there is little time for the patient to become frightened. Less anesthetic is used, and, therefore, recovery takes place quicker, and the after-effects are correspondingly less.

6. **The Eyes of School Children.**—After noting the possible troubles from neglect of the condition of the eyes in school children, Emerson suggests examination to ascertain the following facts in each individual pupil:

1. Does the child fail to read a majority of the letters on the XX (20) line of the Snellen test types with either eye?
2. Do the eyes and head habitually grow weary and painful after study?
3. Are the lids or eyes habitually inflamed?
4. Is the child cross-eyed, or do the eyes diverge?

On an affirmative answer to any of these questions a letter of warning should be sent to the parents.

Boston Medical and Surgical Journal.

February 12.

8 *Irrigation in Acute Urethritis. Arthur L. Chute.
9 *A Report of a Case of Multiple Neuritis of Questionable Origin. Arthur W. Marsh. With Remarks by George C. Smith.
10 *Sub-dural Cervical Carcinoma, Secondary to Carcinoma of the Breast. E. W. Taylor and G. A. Waterman.
11 A Case of Pneumonia, with Relapse. A. Lawrence Mason.
12 *A Form of Pressure Anemia of the Uvula Which May be Mistaken for Membrane. W. P. Coues.
13 *Antisepsis of the Clinical Thermometer. William H. Devine.

8. **Irrigation in Acute Urethritis.**—Chute advocates the use of irrigation in this condition, holding that while it is at times and in occasional instances disappointing, it gives in acute urethritis the best individual and general results. It also offers the patient the greatest immediate comfort and safety, and as prompt if not more prompt recovery takes place than when other means are employed. Recovery is also more certain and the probability of latent complications diminished.

9. **Multiple Neuritis.**—Marsh details a case in a woman aged 52 and considers the cause to have been tubercular. The paper ends with some remarks by Dr. George C. Smith, who also analyzes the symptoms, finding the balance of argument in favor of the tubercular origin.

10. **Subdural Cervical Carcinoma.**—Taylor and Waterman report a case with microscopic examination of the tumor. The special points of importance to which they call attention are the growth of long standing in the immediate neighborhood, with slight involvement of the cord, limitation of the new growth essentially to the subdural space, extensive motor and sensory paralysis from involvement of the nerve-roots alone, and absence of pain attributable to invasion of sensory roots.

12. **Pressure Anemia of the Uvula.**—Coues calls attention to a condition which he has observed several times, consisting in a white spot seen on separating the tonsils from the uvula, which, on careful examination, is seen to be exactly at the point of impaction of tonsil and uvula; is not raised above the surface and does not bleed when touched. He thinks it occurs in streptococcus infection of the throat, when a non-diphtheritic membrane is perfectly possible.

13. **Antisepsis of the Clinical Thermometer.**—This subject is, according to Devine, too much neglected in text-books. The importance of cleaning the instrument is perhaps considered sufficiently evident. He thinks the best method to keep it free from germs is to keep it in an antiseptic solution when not in use and that no one should ever use a thermometer to take the temperature in the mouth or rectum without being absolutely certain of its being perfectly sterile. The best methods for eliminating transmission of disease, he thinks, are: 1. Separate instrument for each patient. 2. The hospital method of keeping the thermometer immersed in antiseptic solution, when not in use, and 3, keeping in the thermometer case a solution of bichlorid and alcohol (1-5000 to 1-2000).

Medical Record, New York.

February 14.

14 *A Résumé of Some Recent Researches Relating to Cytolysis and Immunity. T. Mitchell Prudden.
15 *The Problem of Epilepsy: Some Suggestions for Its Solution. L. Pierce Clark and Thomas P. Prout.
16 *The Radical Cure of Inguinal Hernia with Local Anesthesia. J. A. Bodine.

14. **Immunity.**—Prudden's paper is a review of theories and facts relating to cytolysis and immunity that does not lend itself to abstracting. He holds there is abundant ground for the belief that the protective agents invoked in natural and artificial immunization are simply those made use of by the body in its normal metabolism, exaggerated and diverted to different ends, in the face of emergencies, but involving no new physiologic capacities.

15. **Epilepsy.**—Clark and Prout consider epilepsy as due to a toxemia involving particularly the cervical cortex, and they summarize that "epilepsy is a disease resulting in diffuse and profound cortical degeneration; a highly complex sensory motor phenomenon, primarily sensory with a motor expression. The lesions are swollen nucleus, destruction of the nuclear membrane and intranuclear network, easy abstraction of the nucleolus by the knife, diffuse chromatolysis and other protoplasmic changes in the cell tending to its ultimate disappearance as a biologic unit and its replacement by a gliosis. The lesions are induced by a toxic or autotoxic agent operating on an organic anomaly of the cerebral cortex which forms the predisposition."

16 —See abstract in THE JOURNAL, xxxix, p. 1204.

Medical News, New York.

February 14.

17 *A Study of a Bacillus Resembling the Bacillus of Shiga, from a Case of Fatal Diarrhea in a Child; with Remarks on the Recognition of Dysentery, Typhoid and Allied Bacilli. Philip Hanson Hiss, Jr., and F. F. Russell.
18 *Post-Diphtheritic Ocular Paralysis. P. N. K. Schwenk.
19 *Post-Diphtheritic Paralysis Affecting the General Nervous System. Luther C. Peter.
20 *Post-Diphtheritic Paralysis Affecting the Ear and Throat. Carle L. Felt.
21 *Laboratory Aids in the Diagnosis of Typhoid Fever. E. E. Smith.
22 *The Influence of Sodium Chlorid upon Gastric Secretion. Lyman B. Stookey.

17. **Bacillus Y.**—Hiss and Russell have isolated an organism from the feces of a case of fatal diarrhea in an infant which has a close resemblance to the bacillus of Shiga, but presents certain differences. It agglutinates in high dilutions with the serum from dysentery patients and animals immunized with Shiga bacilli. Formerly it could not have been differentiated by valid culture tests from the bacillus of Shiga, and, the mannite test being unknown, might easily have been confounded with Shiga's micro-organism unless its agglutinating reactions had been carefully studied in such a serum as that from typhoid immune animals, or from the normal beef, in neither of which the true Shiga bacillus, according to their tests, agglutinates in appreciable dilutions. It is also closely related to the *Bacillus typhosus*, both in agglutinating reactions and in the usually-observed cultural characters, but can be separated from it by the absence of motility and by its reactions in the maltose and dextrin media employed. It apparently differs from all hitherto described dysentery-like or pseudo-dysentery bacilli in its agglutination in high dilutions of dysentery serum, an agglutination in some instances more marked than that shown by the true Shiga bacillus. Its etiologic significance is not fully determined, but its close physiologic connection with the dysentery bacillus on one side and typhoid on the other, make it not improbable that further research will show it to be associated etiologically with certain diarrheic or dysenteric attacks. They recognize three groups of organisms, one represented by the true Shiga bacillus fermenting dextrose and some other monosaccharids, one by the organism Y, fermenting dextrose (monosaccharids) and the alcohol mannite, and finally a group represented by the more active fermenters—Flexner's Manila cultures and the culture "Baltimore"—organisms which split dextrose, mannite, maltose, dextrin and saccharose with the production of acid, as indicated by the reddening and coagulation of the serum-water sugar media. Their study, they hold, shows the inadvisability of relying on superficial characters or agglutination tests alone in the identification of an organism, or on the serum tests in the determination of the special character of a disease. They suggest that organisms differing from the true Shiga bacillus have been isolated and confounded with this organism.

18. **Post-Diphtheritic Ocular Paralysis.**—This condition is described by Schwenk, who holds that the generally active pupils, the frequency of paresis rather than paralysis and the bilateral character of the lesions can not be accounted for on any other theory than the peripheral one in these affections.

19. **Post-Diphtheritic Paralysis Affecting the General Nervous System.**—Peter considers this condition a toxemia which may affect the nerves generally or confine itself more or less to special nerves. Cardiac failure in diphtheria, he thinks, is possibly due to functional disorders of the vagi, and perhaps organic changes in the nerve structure. He believes in the use of antitoxin as one of the best measures, with rest, which is absolutely imperative, both during and after the attack. Massage and galvanism may help, and iron and strychnia be of some value.

20. **Post-Diphtheritic Paralysis of the Ear and Throat.**—Felt describes the symptoms of these conditions, which are generally curable. The use of antitoxin as now generally conceded, prevents and does not cause diphtheritic paralysis. The ideal way is to use it early, with rest in bed and a simple diet; these, with attention to the excretions, compose the fundamental principles of treatment. Strychnin should be administered throughout the course of the disease, while electricity, tonics, baths and massage are valuable adjuvants.

21. **Value of Laboratory Methods in Typhoid.**—Smith does not consider that the laboratory affords aid that is certain for all time and in all cases, but it does aid the clinician in the diagnosis of characteristic morbid products, identification of organisms and of the agglutinins. The diazo test he does not consider as valuable as some have claimed, but it is well worth observing. There are some inconveniences in isolating the organism from the blood or rose spots, but this method is worthy of more general attention than it receives. A positive Widal reaction is of great value; the embarrassment is in the negative one. In conclusion he calls attention to the value of the laboratory in establishing the diagnosis of other conditions where typhoid is suspected, such as the malarial parasites in the blood, the blood characteristics of pneumonia, the organism of tuberculosis and the condition of the blood cells in certain forms of intoxication.

22. **Sodium Chlorid.**—From experiments carried out on himself, Stookey concludes:

1. Excessive quantities of NaCl apparently exert an inhibitory influence on HCl secretion and thereby may impede gastric digestion. (This is in harmony with Miller's observations.)
2. The ingested NaCl is apparently not directly converted into HCl in the stomach to the extent—if at all—which one might theoretically expect, assuming the theories of Koeppe and Brasch to be tenable.

Philadelphia Medical Journal.

February 14.

23 *Immunization from Tuberculosis. Simon Flexner.
24 *Tropical Diseases. Charles F. Kieffer.
25 A Physician's Holiday in Vichy. James Tyson.
26 *Remarks on the Treatment of Pneumonia. Frederick P. Henry.
27 *The Roentgen Treatment of Malignant Disease. Charles L. Leonard.
28 Acute Urethritis. D. A. Sinclair.
29 *A Contribution to the Therapeutics of Children. N. G. Price.

23. **Immunization from Tuberculosis.**—The results obtained by Behring, Pearson and Gilliland in the prevention of bovine tuberculosis are first noticed by Flexner, who calls attention to the early work of Trudeau in this country as a pioneer in this particular therapeutic progress. He says it is a matter of congratulation and national pride that the first steps to the later important studies on tuberculosis just mentioned should have been supplied by American investigators, Theobald Smith and Trudeau.

24. **Tropical Diseases.**—Among the diseases described in this fourth lecture by Kieffer is epidemic gangrenous rectitis, which consists in a rapidly-spreading dysenteric process ending in perforation and gangrene and largely fatal, the causes of which are obscure. Hill diarrhea, an acute morning diarrhea with white stools and marked flatulency, is seen only in the acclimated colonists when they remove from the tropical districts to the hills. Lastly he speaks of sprue, which is a disease of the entire tropical world, and, as a rule, but a terminal condition of many devitalizing and depressing factors. Its cardinal symptoms are: 1, sore mouth; 2, flatulency, and 3, diarrhea. Its course is slow and chronic. It may shade off from chronic dysentery, and it is hard to say sometimes where dysentery ends and sprue begins. The treatment consists in an absolute milk diet, increasing the quantity until the patient will take and assimilate a gallon of milk a day. From this point on the milk diet must be continued for four to six weeks and the soft diet very gradually resumed until in the course of months a mixed diet may be again assimilated.

26. **Pneumonia.**—The great majority of cases of pneumonia in the young and robust will recover under any treatment that is not depressing, and no uniform plan can be formulated. After 50 or 60 years it becomes a more serious condition. The principal indications for treatment in pneumonia are: 1. Pain which, when it interferes with the pulmonary function, is injurious and demands relief. In most cases the external application of leeches will suffice; occasionally a small dose of morphin may be needed, but only in the early stages of the disease. If the temperature remains persistently at a high level, measures must be taken to reduce it. Henry finds sponging with tepid or cold water, or ice bags useful. Of drugs he has most confidence in quinin injected beneath the skin. Delirium and sleep-

lessness call for active interference. Alcoholic stimulants are imperatively demanded, he says, especially in cases where the patient has been accustomed to them. Of drugs, the bromids, especially the ammonium salt, paraldehyd, etc., are those which give the greatest benefit in insomnia. In cough and expectoration he finds good effects from oxysulphuret of antimony. It is of decided service in the early stages of pneumonia in doses of 1/32 of a grain every two hours dissolved in water or in equal parts of syrup of acacia and orange flower water. It is not irritating to the gastrointestinal tract nor does it seem to be depressing. The drugs he notices are digitalis, which is too much used as a routine practice, and is injurious when the arterial tension is increased, ammonia, which may be employed in connection with digitalis, and strychnin, which is of decided value. Oxygen inhalations may be palliative, but he has been rather disappointed in their use. Nitroglycerin is successful in relieving venous congestion, but the most valuable of all recent contributions is the use of quinin subcutaneously as suggested by Petzold. The dose for adults is 0.5 of quinin hydrochlorate in 17 parts of water. Henry has used it and found it decidedly valuable, generally prescribing the more soluble hydrochlorosulphate. Lastly, he speaks of hypodermoclysis, which he has found useful in several desperate cases of lobar pneumonia. Venesection may be occasionally useful. He has seen but few cases, however, in which it was indicated.

27. **X-Rays.**—Leonard finds that the alterative and destructive action produces retrograde changes. In large subcutaneous growths of low vitality, such a rapid destruction may take place as to flood the system with toxins and cause a fatal autointoxication and septicemia. The bad effects noted by some observers, such as a stimulation of the growth of the tumor, were probably due to this cause or to a real stimulation by too small a dosage. When the proper dosage shall be determined for the various manifestations this agent will probably prove one of the most potent ones. Until then operative treatment will have to precede it and the *x*-ray treatment deal with the residua that has escaped the knife. As a preliminary method it has no place at present, except where operation is contraindicated or more cosmetic results may be desired, and life is not threatened by delay, or when the disease is already inoperable. It must be employed with as great care as any other agent possessing such marked alterative properties.

29. **Heroin.**—Price has found heroin of special value in the diseases of children such as whooping cough, bronchitis, false croup, epilepsy, urinary incontinence, diarrhea, chorea and asthma. He gives cases to illustrate the antispasmodic, sedative and analgesic effects of the drug in children.

New York Medical Journal.

February 14.

30 Rudolf Virchow—An Appreciation. Charles A. L. Reed.
31 *Residual Urine. Henry E. Hale.
32 *The Etiological Significance of Heberden's Nodes. Edward M. Merrins.
33 *On the Local Effects of Aurantia and Its Treatment. W. Moser.
34 The Influence of the Mind Upon the Body. John B. Huber.

31. **Residual Urine.**—Hale suggests that in many cases the cause of residual urine may be enlargement of the middle lobe of the prostate behind the internal orifice of the urethra, and that the patient can be relieved if told to void urine twice daily in the knee-elbow posture. He has a patient nearly 82 years old who for the last thirteen months has found this practice of great service. After the bladder wall has lost its tonicity, this will be of no avail; it is only in the earlier phases that it is valuable.

32. **Heberden's Nodes.**—Merrins concludes that Heberden's nodes are simply evidences of structural degeneration depending on etiologic factors of wear and tear, rheumatic disease, mechanical, chemical, or toxic irritants in the system, and lowered vitality and disturbed innervation. Their common occurrence in women is due, he suggests, to the larger use of the smaller joints of the fingers in their daily work. These are likely to occur in any condition where these factors mentioned are present and are most prevalent in those chronic diseases where morbid bony changes form the principal feature of the disease, as in gout, and the osteoarthritic variety of rheumatoid disease. Their presence may help in the diagnosis, but they should never be regarded as conclusive evidence of any particular disease, nor are they of sufficient pathologic importance to constitute a separate form of rheumatoid disease when they appear as an isolated phenomenon.

33. **Aurantia.**—Aurantia is a coal tar dye used in the arts and in color photography. The unpleasant results occurring from handling it were formation of vesicles, swelling, intolerable itching, etc., very similar to those from ivy poisoning. He recommends the formula which he used in the latter condition, consisting of creolin, 2 drams; the fluid extract of grindeliæ, ½ ounce, water 5 ounces, applied on saturated cloths.

Cincinnati Lancet-Clinic.

February 14.

35 *Goiter and Its Treatment. P. M. Sater.
36 Tuberculosis-Sanitation. H. H. Spiers.
37 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

35. **Goiter and Its Treatment.**—The treatment recommended by Sater consists in first washing out the alimentary tract with calomel, with sodium bicarbonate and podophyllin; follow this with a hot salt water bath twice a week (in some cases only as a moral treatment); then begin by treatment with potassium iodid in small doses, usually about 2½ gr. freely diluted, after meals only. The next prescription contains 5 grains to each dose, while the third contains 7½, and for the fourth prescription, unless contraindicated, about 10 grains to each dose, continuing the latter for a few weeks until diminution in size of the gland appears; then is added one ounce of buchu, juniper and acetate of potassium, which later is increased to two ounces, thus making one-half the amount of the medicine buchu, juniper and acetate of potassium. This is continued until the cure is effected, which may be in from 30 to 90 days. An eruption like that of measles may occur, but will only necessitate reduction in the size of the dose. He insists on the importance of diuretics in the treatment, and says that he has had very satisfactory results from this method. This, of course, does not apply to the cystic form, of which he has had but one case.

Virginia Medical Semi-Monthly, Richmond.

January 23.

38 *Provision for the Criminal Insane. William F. Drewry.
39 Aid of the Microscope in Diagnosis of Diseases of the Skin. C. S. Venable.
40 *Remarks upon Some Indications for Wearing Glasses. John P. Davidson.
41 Some Practical Points About Diseases of the Eye and Ear. Albert A. Cannaday.
42 Some Cases of Recurrent Intestinal Obstruction Deceptive in Symptomatology and Unique in Causative Agency. William L. Robinson.

38. **The Criminal Insane.**—Drewry's article is a plea for special provisions for the criminal insane in Virginia either by a particular asylum, which is not advisable at the present time with the small number, or by the establishment in the prisons of a special department for their care.

40. **Use of Glasses.**—Davidson advises the use of glasses and thinks that the correction of nervous symptoms is an even more important indication for their use than the improvement of vision. The glass which accomplishes this is by no means the one that gives the best distant vision when first worn.

The Journal of Nervous and Mental Disease, New York.

February.

43 A Case of Colloid Disease of the Blood Vessels of the Spinal Cord. F. X. Dercum.
44 *Arteriosclerosis of the Spinal Cord. William Hirsch.
45 *The Microscopic Findings in Four Gasserian Ganglia Removed for Trigeminal Neuralgia. Sidney I. Schwab.

44. **Arteriosclerosis of the Spinal Cord.**—This condition is, Hirsch remarks, rarely diagnosed. He thinks we must attribute it to a special predisposition. It is not by any means confined to the aged; arteriosclerosis has been observed in infants only a few months old. He has seen sclerosis of the peripheral arteries and heart in a number of young men between 20 and 25. A sharply-defined clinical picture can not be given, as might be supposed. The characteristic feature, however, is the fact that the cells of the anterior half of the cord are much more apt to become affected than those of the posterior part, and he explains this by the peculiarities of the blood supply.

Motor and trophic symptoms are much more frequent than the sensory ones. The diagnosis may be difficult; the clinical symptoms may closely resemble those of tabes or paresis. The Argyl-Robertson pupil, however, is lacking. He reports cases which had a close resemblance to both tabes and paresis. He thinks that the cases which he reports indicate that there is a special form of arteriosclerosis located in the spinal cord.

45. **Neuralgia.**—Schwab reports a microscopic examination of four gasserian ganglia removed for neuralgic troubles, and gives his conclusions as follows:

1. In six ganglia removed for trigeminal neuralgia, anatomic changes were found of sufficient importance to bring them in relation with the symptoms of this disease. 2. These changes in the cells do not point to them as the primary cause of neuralgia, but they may be taken to represent the effects of abnormal cell activity, the origin of which we are not able to point out. 3. The gasserian ganglion is the anatomical seat of the chief symptom of trigeminal neuralgia, that is, the attacks of neuralgic pain.

Annals of Otology, Rhinology and Laryngology, St. Louis.

November, 1902.

46 Fibropapilloma of the Larynx, with Unusual Movements. Hanau W. Loeb.
47 Notes on the Development of the Pharynx After Birth. Thomas Dwight.
48 *The Pathology and Diagnosis of Otitis Media Insidiosa, i. e., Sclerosis; with Remarks on the Treatment. Henry J. Hartz.
49 *Notes on the Radical Mastoid Operation. Chevalier Jackson.
50 Simple Ulceration of the Vocal Cords, with Report of Cases. Wendell C. Phillips.
51 Treatment of Principal Defects of Speech. James M. Brown.
52 Removal of Metallic Foreign Bodies in the Esophagus by the Aid of X-Rays. S. E. Allen.
53 A Case of Exophthalmos Following Mastoiditis. Secord H. Large.
54 Report of a Case of Ethmoidal Frontal Sinus and Antral Empyema, with Operation on Antrum and Middle Turbinated Body, Followed by Death. George B. Rice.
55 *Mucin and Malignancy; Facts and Theories. Wm. Stuart-Low.
56 The Etiology and Diagnosis of Ethmoidal and Sphenoidal Suppurations. H. Lambert Lack.
57 The Aims and Limitations of Intranasal Surgical Procedures in the Treatment of Chronic Non-Suppurative Middle-Ear Disease. P. McBride.
58 The Aims and Limitations of Intranasal Surgical Procedures in the Treatment of Chronic Non-Suppurative Middle-Ear Disease. Urban Pritchard.
59 Remarks on Cholesteatoma of the Middle-Ear. Dundas Grant.
60 On the Relation between the Formation of the Auricle of the Anthropoid Monkeys, and Certain Congenital Malformations of the Human Auricle. F. Rohrer.
61 The Provision in London for the Education of the Deaf. Atwood Thorne.
62 The Treatment of Deafness of Middle-Ear Origin. Chalmers Watson.
63 Remarks on the Anatomy of the Temporal Bone, with Lantern Illustrations. R. C. Elsworth.
63½ Apparatus for Intratympanic Hot-Air Treatment of Certain Forms of Catarrh of Middle-Ear. Adolph Bronner.

48. **Otitis Media Insidiosa.**—Hartz's article may be summarized as follows: Sclerosis is fundamentally a hyperplasia of the bony capsule of the labyrinth, or really a transformation of cartilage into bone, accompanied by hyperostosis. It is initiated by constitutional diathesis, such as rheumatism, gout, syphilis and scrofula, and is favored by local disease in the pharynx and throat, etc. Its locality is usually in the labyrinth capsule near the stapes articulation with the oval window, including fixation of the ossicles. It may involve also the semi-circular canals and cochlea, producing symptoms of nervous deafness. The functional test, the subjective symptoms and family history allow an early diagnosis. The symptoms are hyperemia of promontory, heredity, Schwabach test showing prolonged bone conduction, Rinne negative in a varying degree, defective perception of one-half to one and one-half octaves of the low tones. Probably 10 per cent. of the middle-ear diseases are true sclerosis, designated as capsulitis labyrinthi, oto-sclerosis, spongification, dry middle-ear catarrh, and otitis media insidiosa. Hygienic and medicinal treatment are effective in the early stages of the disease. The more advanced stages may be improved by judicious treatment, with amelioration of the tinnitus.

49. **Mastoid Operation.**—Jackson advocates radical operation when, without mastoid symptoms, suppuration has continued three of four months after ossiculectomy followed by wick treatment. The only objection is that the hearing is occasionally affected and the discharge is not invariably cured. Failures are chiefly due to neglect to remove all diseased tissue, neglect of the after-treatment and the combination of a closed retro-auricular wound with a small meatal aperture. An adequate meatal aperture can only be secured in the Stacke, Körner, Pansa and similar operations by extending the flap incisions far out into the concha. Either method will leave a gaping meatus amounting to deformity. Any attempt to get along without this will result in troublesome after-treatment and occasional failure.

55. **Mucin and Malignancy.**—Stuart-Low holds that mucin has a bactericidal property which has been overlooked and that its free secretion is a protection against malignant disease. He finds that hypomyxia is a common antecedent of malignancy. It is hereditary. He reports cases of cancer treated with mucin with more of less benefit.

Archives of Ophthalmology, New Rochelle, N. Y.

January.

64 On Recurrent Formation of Vesicles on the Cornea and Keratalgias After Injuries of the Surface of the Cornea. W. Stood.
65 *On Sclerosis of the Choroid, with Secondary Degeneration of the Retina. George Levinsohn.
66 On a Mycotic Affection of the Cornea. B. Wicherkiewicz.
67 Review of Sixty-nine Cases of Rupture of the Choroid, Compiled from the Records of the New York Ophthalmic and Aural Institute. F. E. D'Oench.
68 A Case of Localized Tuberculosis at the Head of the Optic Nerve; Microscopic Examination. Arnold Knapp.
69 *A Method for the Prevention of Symblepharon After Burns of the Conjunctiva. E. F. Snydacker.

65. **Sclerosis of the Choroid.**—Levinsohn reports a case with changes of retinitis pigmentosa, pallor of disc, narrowing of the vessels and the irregular deposition of pigment in the retina, indicating atrophy of the retina, together with marked atrophy of the choroid extending nearly to the periphery and otherwise leaving only the macular region free. Near the disc the choroidal atrophy appears in the form of large white areas beneath the retinal vessels. Further, it is recognized by the lighter tint of the fundus and the clearness with which the choroidal vessels are seen, but the changes in the vessels are the characteristic symptoms and the primary lesion.

69. **Symblepharon.**—Snydacker describes the method of treatment employed by him for symblepharon, which consisted in sandwiching the lower lid between two lead splints cut to fit and sutured together through the lid and having them drawn down by a bandage passing under the chin. This completely separates the wounded areas and keeps them stretched apart under constant tension while healing is taking place.

International Journal of Surgery, New York.

February.

70 *Measuring, Fitting and Putting on the Corset for Movable Kidney or Glenard's Disease. A. Ernest Gallant.
71 Nose and Throat Work for the General Practitioner. George L. Richards.
72 *What Is the Significance of Cervical Lacerations? Chauncey D. Palmer.
73 The Surgical Assistant—Operations on the Head. Walter M. Brickner.
74 *Bunions and Their Treatment. Robert T. Morris.
75 The Technics of Amputations. Robert H. Cowan.

70. **Glenard's Disease.**—From a careful consideration of others' work and his now wide experience, Gallant concludes that the symptom-complex, called movable kidney, Glenard's disease, etc., can not be accounted for on the ground of simple kidney mobility or prolapse. The nephroptosis is nearly always associated with ptosis of other abdominal and pelvic viscera, subnormal nutrition and nervous instability, and the treatment to be successful must be directed toward the replacement and support of the prolapsed organ, the correction of functional derangement, and the improvement of general nutrition. Nephropexy alone will fail and is indicated only when operating on a true "surgical kidney." The remedy he suggests is a corset, measured, fitted and put on while the woman is lying in the dorsal position with pelvis raised, and worn continuously, when not lying down, to elevate and support the viscera and immobilize the wandering kidney. It affords maximum pressure over the suprapubic area, minimum compression above the waist-line, and ample space for heart, lungs and intestines; gives a refreshing sense of comfort as soon as put on; Dietl's crises cease, and as time goes by gastrointestinal action improves; anemia is dissipated and a well-marked increase in body weight ensues. Such a corset has been found of great use to women with pendulous abdomens or adiposis, to replace the abdominal binder after childbed and celiotomy, and for

young girls when first they adopt skirts suspended from the waist. The wearing of such a corset is prophylactic against the production of Glenard's disease.

72. **Cervical Lacerations.**—The importance of cervical lacerations is insisted on by Palmer, who remarks as to their tendency to favor malignant growths and suggests the importance of their early recognition and correction.

74. **Bunions.**—A very simple operation will relieve most cases of bunions according to Morris:

A longitudinal incision, not more than half or three-quarters of an inch in length, along the line of the inner surface of the extensor tendons, exposes the site of the hyperostosis, and a sharp chisel separates the button of the bone readily from the head of the metatarsal bone. The open bursa can then be trimmed out with a pair of scissors without difficulty, and when the wound is sutured and the skin pressed against the surface of bone from which the button was removed, it becomes quickly adherent and the bunion is at an end. This treatment will suffice to give comfort in most cases and no further operative work is necessary, but if the patient wishes to have the phalanges of the great toe placed in normal line with the metatarsal bone it is necessary to divide the external ligament of the metatarso-phalangeal articulation. This can be done subcutaneously, but in doing so we can not avoid cutting a pretty large branch of the dorsalis pedis artery, as a rule.

Hemorrhage from this cut artery we can usually disregard if a small, round, gauze pad is strapped firmly down on the dorsum of the foot at this point beneath a light splint. We must inform the patient, however, that sometimes it becomes necessary to enlarge the incision and ligate the artery. I have not been obliged to do this as yet, but have had to exercise a certain amount of skill in making proper application of pressure.

After the simple operation of removing the button of bone, and the thick bursa, very little further treatment is required, and the patient may be allowed to walk in from ten to twelve days.

Where it has been thought desirable to correct the hallux valgus by division of the external lateral ligament, we must apply a splint to be worn inside the shoe to hold the phalanges in place for several months. A very good one is made by hammering a piece of sheet copper into the shape of the sole of the foot, and turning up a flange which corresponds to the external surface of the great toe. A special stocking is then made with a separate compartment for the great toe, so that the flange from the splint can be interposed between the great toe and the next one.

New York State Journal of Medicine, New York.

February.

76 *What Advice Should Be Given to a Woman Suffering from Fibroid Tumor of the Uterus? J. Riddle Goffe.
77 *Urethral Stricture—Remarks Introductory to a Discussion on Its Modern Treatment. J. W. S. Gouley.
78 *External Perineal Urethrotomy. Parker Syms.
79 *Internal Urethrotomy. Lucius W. Hotchkiss.
80 The Surgical Diseases of the Kidney from the Standpoint of the Country Physician. George A. Leitner.
81 *Facts, Fancies and Fallacies in the Treatment of Consumption. M. J. Brooks.

76.—This article has appeared elsewhere. See THE JOURNAL, Feb. 21, p. 539, abstract 19.

77. **Urethral Stricture.**—Gouley's article reviews the whole subject of stricture and points out the treatment suitable for each variety.

78. **External Perineal Urethrotomy.**—Syms describes the operation and considers it a safe one and the operation of choice in urethral rupture, in intractable stricture, impassable stricture with urinary retention or false passages or urinary extravasation, and in those with an abscess or fistula. He thinks it might be the treatment of choice in cases of deep-seated strictures, even though they might be amenable to gradual dilatation, since the latter method never results in permanent cure, but must be repeated or continued at longer or shorter intervals. In emergency cases of sudden complete retention due to prostatic obstruction, where unwise instrumentation has been attempted, resulting in laceration of the urethra, etc., perineal urethrotomy is the safest and best procedure.

79. **Internal Urethrotomy.**—The objections to urethrotomy are reviewed by Hotchkiss, who holds that a well-planned and well-executed urethrotomy is often followed by permanent results as regards reconstruction, and that many cases that are ordinarily treated by external urethrotomy may be well and safely treated by the method of dilating internal urethrotomy combined with perineal cystotomy for drainage.

81. **Tuberculosis.**—The favorable conditions for the treatment of consumption are not to be found, according to Brooks, in climate, altitude, etc., or in the wards of general hospitals. What is wanted is a space of open country with a number of properly-equipped and supervised sanatoria in the neighborhood of our larger cities, and seaside institutions for tuberculous children.

Medical Bulletin of the Washington University, St. Louis.

January.

82 *On the Value to the Surgeon of Some Modern Methods of Renal Diagnosis. J. P. Bryson.
83 *Prognosis in Neurasthenia. J. M. Bradley.
84 *The Removal of the Malleus and Incus Under Local Anesthesia in Chronic Suppurative Troubles of the Middle Ear. Selden Spencer.

82. **Renal Diagnosis in Surgery.**—While blood cryoscopy has some inconveniences, urinocryoscopy, in connection with the separation of the urines, Bryson says, is of distinct value and especially in connection with hematocryoscopy. The phloridzin test is a very delicate and valuable one for the investigation of the functional capacity of the kidney. It is not difficult and should precede operation on the kidney whenever possible. Until further observations, the freezing and phloridzin tests should be made separately. The polyuria often caused by phloridzin may interfere with the freezing-point of urine from the healthy kidney. These tests should be regarded as aids only to diagnosis and as in no way taking the place of well-established methods.

83. **Prognosis in Neurasthenia.**—Bradley finds that neurasthenias due to external toxins are usually rapidly relieved by removal of the cause. Cases from overwork recover by rest provided the damage done is not too great. Those cases following childbirth or lactation without sepsis are favorable; with sepsis not so much so. Cases following infectious diseases and septic states are not so satisfactory; recovery is slower and likely to be interrupted and relapses are more likely. Natural sexual excesses do not ordinarily cause cases of neurasthenia of bad prognosis, unless they occur in persons approaching the age limit who have all their life been excessive. Neurasthenia from unnatural practices depends entirely on the mental attitude of the patient. If they can control themselves and change their habits, prognosis is good, otherwise bad. Neurasthenia from worry is rebellious to treatment, and is usually of long standing before coming to the physician. Improvement is slow, interrupted and subject to relapses. Neurasthenia from disordered metabolism has a wide range of possibilities. The prognosis regarding permanent cure is not so good. He calls attention to the effect of coffee in depressing the reflexes and finds that in cases of neurasthenia, other conditions being equal, if the reflexes are decreased, recovery is more rapid and permanent than when they are increased. This may possibly be due to coffee as a cause and its stoppage helping the case.

84. **Ossiculectomy.**—Spencer performs ossiculectomy under local anesthesia, first using adrenalin to render the parts bloodless and then applying a local anesthetic on cotton.

Memphis Medical Monthly.

February.

85 *The Nature and Treatment of Dyspepsia in Consumptives. Paul Paquin.
86 *The Treatment of Acute and Chronic Dysentery. M. Goltman.
87 Kidney Complications in Estivo-autumnal Fever. Ira B. Bartle.
88 A Case of Smallpox, with Sequelæ. W. T. Braun.

85. **Dyspepsia in Consumptives.**—The apparently pretubercular dyspepsia is described by Paquin. He does not think that it absolutely precedes tuberculosis, and insists on the importance of strength rather than gain in weight as a favorable symptom in the prognosis. He thinks we should look on persistent indigestion with the greatest solicitude, and watch the victims closely, so as to place them, if possible, in the condition to defeat the greatest plague of man—consumption.

86. **Dysentery.**—Goltman has treated dysentery, as he thinks, of the amebic variety, by local treatment and divulsion of the rectum. His conclusions are:

1. The treatment of dysentery, acute or chronic, by topical application is most rational. 2. Topical applications are useless unless large volumes of fluid are used to distend the bowel. 3. Topical applications, as usually made, are very painful in all cases, particularly in those that are acute. 4. Topical applications, to be thorough and far-reaching, are unbearable to the patient, on account of the extreme pain they cause. 5. Anal divulsion is a prime factor in facilitating the work of flushing the colon. Resistance to the escape of fluid is removed, and it markedly relieves the tenesmus. 6. Anal divulsion, cauterization of ulcers through the proctoscope, passage of a tube high up into the sigmoid through this instrument and thorough distension and flushing of the gut, are absolutely impossible without the aid of anesthesia. 7. Anesthesia rather relieved than produced shock in my cases. These patients

seem to take as kindly to chloroform as women in childbirth. 8. In my judgment, one is more likely to overdistend and perforate the gut without anesthesia than with it.

Kansas City Medical Index-Lancet.

February.

89 The Nestors of the Profession. W. J. Moore.
90 *Carcinoma Uteri. H. C. Crowell.
91 The Life Insurance Examiner. O. L. Peak.

90.—See abstract in THE JOURNAL of January 10, p. 117.

Denver Medical Times.

February.

92 Monoplegia—Disturbances of Sensibility in Cortical Paralysis. Sol G. Kahn.
93 Résumé of X-Ray Therapeutics. G. H. Stover.
94 Morphinism. John Inglis.
95 Arteriosclerosis. E. C. Hill.

Louisville Monthly Journal of Medicine and Surgery.

February.

96 The Pathology, Diagnosis and Treatment of the Earlier Manifestations of Tuberculosis Involving the Hip-Joint. F. C. Wilson.
97 Suppurative Diseases of the Accessory Nasal Sinuses and Their Treatment. J. Morrison Ray.
98 The Treatment of Tuberculosis—A Word for Climate. Arch Dixon, Jr.
99 Treatment of Typhoid Fever. E. Kelley.
100 Pneumonia. C. G. Stephenson.
101 The Cure of Boils. A. K. Bond.

Medical Examiner and Practitioner, New York.

January.

102 The Longevity and Mortality of Jews. Frederick L. Hoffman.
103 Race in Relation to Mortality, Longevity and Life Insurance. John M. French.
104 What Shall We Teach the Public in Regard to Tuberculosis? George W. Webster.

Buffalo Medical Journal.

January.

105 Salient Points in the Treatment of Catarrhal Deafness. Sargent F. Snow.
106 Unusual Causes of Lead Poisoning, with Report of a Case. John Zimmer.
107 To What Extent May the Female Genitals be Saved from Mutilation? J. Henry Dowd.
108 Immediate Repair of the Soft Parts Following Labor. Charles E. Congdon.
109 The Utilization of the Sac in the Radical Operation for Femoral Hernia. A. L. Hall.
110 Does the Public Telephone Transmit Disease? William G. Bissell.

February.

111 Progress, Liberty, Unity. Henry R. Hopkins.
112 Henry de Mondeville, the Man and His Writings. (To be Concluded.) Charles G. Cumston.
113 Uterine Fibroids or Myomata. J. F. Myers.
114 Remarks on Electricity in Medicine and Surgery. Joseph C. Clark.
115 Report of a Case of Labor with Double Uterus and Vagina. Henry T. Williams.

Medical Mirror, St. Louis.

January.

116 Filth Diseases. George M. Sternberg.
117 The Cure of Hernia. Henry O. Marcy.
118 Preparation of Operating Room in a Private House. Nicholas Senn.
119 Abdominal Section Following So-called "Vaginal Puncture," with Report of Cases. John Y. Brown.
120 American Surgery in the British Colonies. G. Frank Lydston.
121 About Our Bills. Robert T. Morris.

Texas Medical Journal, Austin.

February.

122 Report of a Case of Disarticulation of the Hip for Sarcoma of the Femur, with Remarks upon the Diagnosis and Prognosis in Sarcoma of the Femur. A. E. Halstead.
123 Report of a Case of Double Glioma Treated with X-Ray. H. L. Hilgartner.
124 Address, Kaufman County Medical Society. W. H. Monday.
125 Ligation of the Dorsal Vein of the Penis as a Cure for Atonic Impotence. J. S. Wooten.

Medical Herald, St. Joseph, Mo.

February.

126 The Diagnostic Utility of Blood Examinations. F. Gillmor.
127 Problems in Microscopy. Herbert Lee.
128 Dysmenorrhea. W. O. Henry.
129 Vesicular Mole. Mary Strong.

American Medical Compend, Toledo, Ohio.

February.

130 The X-Ray Treatment in Cancer and Intractable Skin Diseases —A Study and Review. John A. Wright.
131 Two Cases of Obstruction of the Bowels Caused by Meckel's Diverticulum. Hal C. Wyman.
132 Lateral Curvature of the Spine. Daniel Laferte.
133 Specialists. J. A. Kimmell.
134 Climatology. W. W. Hill.
135 Historical Sketch of Smallpox. J. T. Woods.
136 The Technic of Vaccination. G. A. Stanton.
137 On Trauma and Lesions of the Pelvic Structures. T. H. Manley.

Atlanta Journal-Record of Medicine.

February.

138 Parotitis Following Typhoid Fever. E. Bates Block.
139 Typhoid Fever; Its Antiseptic Treatment in 25 Consecutive Cases. James Billingslea.

Alabama Medical Journal, Birmingham.

January.

140 Tuberculosis in the Negro. Seale Harris.
141 Suggestions for the Treatment of Hip Disease in Children. William T. Berry.
142 The X-Rays as a Therapeutic Agent. A. V. L. Brokaw.

February.

143 Varieties of Calyces. Byron Robinson.
144 The Treatment of Opium Poisoning. W. S. Britt.
145 Stone in the Kidneys: With Report of Two Cases. Mack Rogers.
146 Acute Enterocolitis. W. S. Rountree.
147 Report of Cancer Treated by X-Rays. J. D. Gibson.
148 Tetanus, with Report of Case. Frank B. Reagor.
149 So-called Membranous Croup. C. H. Peete.

Carolina Medical Journal, Charlotte, N. C.

January.

150 What Shall be Done in Non-Penetrating Wounds of the Abdomen, with Probable Visceral Lesions? R. L. Payne.
151 Some Phases of Albuminuria. William S. Gordon.
152 Etiology and Treatment of Acne Vulgaris. F. H. Beadles.
153 The Organization of the Medical Profession. George W. Pressly.

New England Medical Monthly, Danbury, Conn.

February.

154 Remarks on Oviducal Gestation. Byron Robinson.
155 Coughs and Their Treatment. Alex DeSoto.
156 Ill-Defined Symptoms of Uricacidemia Treated by Thialion. J. H. Tyndale.
157 Collaboration of Reports of Various Observers on the Etiology of Yellow Fever, Shown in Mosquitoes. J. McFadden Gaston.
158 Immunity. (Continued.) C. P. Robbins.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 31.

1 *The Etiology of Acute Rheumatism and Allied Conditions. R. M. Beatson and E. W. Ainley Walker.
2 *Diseases in Advanced Life. George H. Keyworth.
3 *Preliminary Note on the Parasites of Smallpox and Chickenpox. R. S. Thomson and John Brownlee.
4 *An Improved Method of Testing for Lead in Urine. F. H. Jacob and S. R. Trotman.
5 The Influence of Some Modern Drugs on Metabolism in Gout. William Bain.
6 On a Case Illustrating the Value of Physiologic Rest. W. M. Willis.
7 Case of Puerperal Hyperpyrexia of Malarial Origin. Thomas W. Clay.
8 Researches on Hibbertia Solubilis. John Reid.
9 *Human and Bovine Tuberculosis. Nathan Raw.
10 Soil Pollution and Disease in Camps. R. Caldwell.
11 The Supply of Pure Water to Troops in the Field. James Ferguson Lees.

February 7.

12 *Astereognosis in Tabes Dorsalis. George E. Rennie.
13 *Suture of the Brachial Plexus in Birth Paralysis of the Upper Extremity. Robert Kennedy.
14 Spinal Hydatid Cysts Causing Severe "Compression Myelitis." P. Tytler and R. T. Williamson.
15 Case of Hydatid of the Pleura. W. B. Ransom and W. M. Willis.
16 *The Effects of Vaccinating During a Menstrual Period. E. Rumley Dawson.
17 Preliminary Account of the Investigations of the Liverpool Expedition to Senegambia (1902). J. Everett Dutton and J. H. Todd.
18 A Note on the Treatment of Puerperal Insanity. Ernest W. White.
19 *On the Bilberry (Vaccinium myrtillus). Max M. Bernstein.
20 Fatal Case of Pemphigus Acutus Malignus. W. J. Cale.

1. **Rheumatism.**—Beatson and Walker have studied the bacteriology of rheumatism and come to the conclusion that a particular micro-organism is constantly associated with acute rheumatic lesions; that this organism can be cultivated on artificial media, and that on inoculation into animals it gives rise to the characteristic lesions of the disease and can again be isolated from them. Culturally this organism resembles the streptococcus, but it appears different from the streptococcus in its reaction with the Marmorek test. The bacterial specificity of rheumatism, they conclude, is, therefore, satisfactorily established. Its toxic specificity is yet to be investigated and is at present under examination.

2. **Old Age.**—Keyworth points out the disadvantages of old age in disease. He holds that attention to diet is necessary; old people who are healthy and live well are generally spare

and eat but little. A man must reduce his intake after fifty years. Cold weather is especially severe on elderly people, and he calls attention to the danger of high tension pulse in renal disease and the necessity in such cases to keep the bowels free, avoid meat and malt liquors. The reactions and sympathies between different organs which aid in the diagnosis are much less marked in advanced age than before, and pneumonia and empyema may be latent as regards symptoms. Any general ill-defined illness in an old person should suggest pneumonia. Cancer rarely appears first in old age, and when present is often slow in its progress and may disappear. The power of repair of tissues and recovery from injuries is often good. Diuretics as well as laxatives are valuable, as the skin is less active. Quinin is valuable and he recommends wine and exercise, especially walking.

3. **Smallpox and Chicken-pox.**—The following are the tentative conclusions reached by Thomson and Brownlee in their research for the past five years on the parasites of varicella and smallpox: There are present in the blood of persons with hemorrhagic smallpox small spherical bodies highly refractive, simulating in appearance small fat globules. They do not stain, however, with osmic acid, nor with the usual basic or acid stains. In hemorrhagic cases they were found in considerable numbers from the third or fourth day until death. Similar bodies in lesser numbers were found in cases of confluent smallpox from the third or fourth day until the end of the first week or later and abundantly in the prodromal stages of both smallpox and chicken-pox. These were unlike any ordinary histologic or pathologic constituents of the blood and much larger than hemoconia (size 1/5 microns). 2. In skin sections containing hemorrhages similar bodies are found among the extravasated blood corpuscles, but these stain very faintly with both basic and acid stains. 3. In the lymph spaces and in some of the smaller blood vessels of the skin there are often groups of small spherical bodies, considerably larger than staphylococci and staining with considerable difficulty. Their staining capacity, however, varies considerably. 4. In the lymph spaces of the skin, especially those immediately adjacent to the basement membrane of the epithelium, there are found considerable numbers of small spherical bodies, more closely grouped in certain situations. They are larger than streptococci and stain with comparative ease with most basic dyes. These commonly assume a peculiar purplish tint, different from the green of the cocci and nuclei. 5. In skin sections, if taken where the eruption is moderately advanced, bodies such as are described are present and can be recognized in large numbers in the epithelial layers. They are difficult to recognize among the disintegrating nuclei. 6. In smears from the vesicles similar bodies are found and are often present in small numbers in the blood from patients suffering from hemorrhagic smallpox. 7. In smears taken from the pocks in later stages of eruption, within certain of the cells small clear bodies may be found staining very faintly with the ordinary reagents. In smears of gradually increasing age, these bodies are seen to increase in size until they occupy the larger part of the cell, and at a still later decade they are found apparently in a free state. They stain very faintly and show no appearance of a nucleus. 8. The absence of pyogenic micro-organisms, both from smears and skin sections, is very striking in the hemorrhagic cases and during the early stage of rash. 9. Towards the end of the vesicular and in the pustular stage pyogenic organisms are frequently found in sections, smears and cultures. 10. Appearances similar to those described in smears, vesicles and pustules of the skin in variola occur also in varicella. In severe hemorrhagic and confluent cases, pyogenic organisms are very commonly found in the blood, but these have been regarded as due to accidental contamination and in hemorrhagic cases probably from the lungs, in confluent cases by absorption from the skin and, possibly, the lungs also.

4. **Urinary Test for Lead.**—Jacob and Trotman describe an electrolytic test which they consider one of the most delicate. It consists in evaporating about 250 c.c. of urine in a porcelain dish with a few c.c. of lead-free sulphuric acid placed over the flame and about 5 grams of potassium persulphate are added, little by little, with occasional stirring, as the temperature of the liquid is gradually raised. In about half an hour the contents of the dish will have become almost colorless, owing to the oxidation of the organic matter. When the liquid is concentrated to about 50 c.c. it is introduced into a platinum dish and an electric current passed through it for about eight hours. Before beginning, the poles are tested by introducing the terminals into a salt solution containing a few drops of phenolphthalein. After allowing the current to run for a sufficient time, the liquid is poured away and the dish well washed with distilled water. Hydrochloric or nitric acid is then added and, after digesting in a water bath or heating over a Bunsen flame, a stream of sulphuretted hydrogen is passed through the liquid. The quantity of lead present can be accurately determined by matching the color with the standard solution of lead nitrite. Great care should be used in obtaining lead-free sulphuric acid, and all material should be tested. In this way they have detected the most minute quantities of lead when other tests have failed.

9. **Human and Bovine Tuberculosis.**—In this preliminary note, Raw holds that there is some evidence to assume that tabes mesenterica is not true tuberculosis nor caused by the same organism as the pulmonary variety. He also concludes:

1. That there are two distinct varieties of tuberculosis affecting the human body, one produced by human tubercle, and the other produced by bovine tubercle. 2. That human and bovine tuberculosis are separate and distinct. 3. That bovine tuberculosis entering the alimentary canal in milk may set up tabes mesenterica, more especially in children. 4. That bovine tuberculosis is probably the cause of enlarged lymph glands, tuberculous joints, and lupus. 5. That true human tuberculosis or phthisis pulmonalis is always conveyed from one person to another by infection, and generally from advanced cases of phthisis. 6. That every effort should be made to stamp out tuberculosis in cattle, and that milk should be boiled before use by children.

12. **Astereognosis.**—After reporting a case in a tabetic patient, Rennie discusses the condition and concludes that when it occurs in this condition it is a manifestation of dissociation of these special sensory perceptions which in a normal person are all co-ordinated in the higher sensory center in the brain. That it does not occur in every case of tabes is proof of the random action of the toxin, which seems, in some cases, to affect the different peripheral sensory structures or afferent nerve fibers.

13. **Birth Paralysis.**—This condition in the upper extremities is described by Kennedy, who advocates operation and suturing of the brachial plexus. He has operated on three cases, one of which has made a good recovery. In the other two, sufficient time has not elapsed to draw a conclusion.

16. **Vaccination During Menstruation.**—Dawson reports a case in a healthy girl where vaccination seemed to cause amenorrhea, with serious disturbance, lasting for several months. At one time the symptoms suggested gastric ulcer, vomiting of blood ushering in the return of her normal menstrual periods.

19. **Bilberry (Vaccinium Myrtillus).**—Bernstein finds this, the European huckleberry, a valuable intestinal antiseptic. He tried it *in vitro* and clinically in enteric fever and dysentery with excellent results. He started fourteen years ago by prescribing it simply for its astringent qualities, giving the jam made from the berries in fermentative diarrheas with flatulence and cases of cholera nostras. In 1897 he tried it for the first time in a case of typhoid in a child. It seemed to him that the disease took a milder course and convalescence was earlier. The second case acted similarly, and likewise two cases in adults.

The Lancet, London.

January 31.

21 *The Treatment of Abdominal Emergencies. J. Rutherford Morison.
22 *Further Investigations Regarding the Infective Nature and Etiology of Pernicious Anemia (25 Cases). William Hunter.
23 *The Meaning of Uric Acid and the Urates. Dr. Woods Hutchinson.
24 *The Surgical Treatment of Gastric and Duodenal Ulcers. B. G. A. Moynihan.
25 Suppression of Urine in a Case of Ovarian Tumor and Pregnancy; Removal of Tumor and Uterus; Recovery. Bernard Pitts.
26 The Cosmetic Value of Paraffin Injections After Enucleation of the Eyeball. A. Maitland Ramsay.
27 Sunstroke. J. Gray Duncanson.

February 7.

28 *Aseptic and Antiseptic Surgery. W. Watson Cheyne.
29 *Fibroids of the Uterus and Ligaments Considered from a Clinical and Surgical Standpoint. Alban H. G. Doran.
30 *Electric Shocks. S. Jellinek.
31 *The Value of Blood Examinations as an Aid to Diagnosis and Prognosis. J. H. Bryant.
32 *Notes on the Results of the Treatment of an Unusual Series of Cases of Acute Intussusception. Hugh M. Rigby.
33 A Case of Extrauterine Fetation. Thomas H. Morse.
34 *Further Investigations Regarding the Infective Nature and Etiology of Pernicious Anemia (25 Cases). William Hunter.

21. **Abdominal Emergencies.**—Morison says the first duty of the practitioner in attending an abdominal emergency case is to determine whether it is one of the extreme cases or not, and when this is settled one-third gr. of morphin should be injected hypodermically and then operation pushed without a moment of unnecessary delay. In case of general peritonitis, when the abdomen has become distended, operation is too late, but if it is decided against, the first thing is to stop the administration of all food and drink by the mouth, wash out the stomach with an abundance of hot water if vomiting is troublesome and keep the patient perfectly quiet with small and repeated doses of morphin hypodermically. A linseed meal poultice large enough to cover the whole abdomen should be applied for an hour and repeated every eight hours, abundance of heated cotton-wool being substituted in the interval between the poultices. In the less serious cases, we should make a differential diagnosis as rapidly as possible. The first thing is to examine the hernial sites and to learn the history of the case. It is important to know whether the colon lies behind or in front of the tumor and to learn if previous attacks have been followed by jaundice or hematuria. In the female the possibility of twisted pedicle or ovarian tumor is to be suspected, and missing the menstrual period and other signs may indicate an ectopic pregnancy. He thinks that every acute case of appendicitis should be operated on without delay if, after a single dose of morphia and at the end of eight hours, every symptom and sign of danger have not disappeared. The risks of removing the acutely inflamed appendix, the author says, have been exaggerated. In concluding, he mentions pneumonia commencing with abdominal symptoms and suggesting abdominal disease. It is usually in patients past middle life in which this mistake has been made.

22. **Pernicious Anemia.**—This installment of Hunter's article is largely a comparison of Biermer's pernicious anemia and the disease described by Addison. Biermer's anemia is a complexus of conditions which may be produced by many causes. Idiopathic anemia is, as Addison thought, a disorder of definite infective nature, in which both the clinical observations and necropsy reveal well-defined infective and hemolytic lesions invariably associated with the disease and in which a very definite number of points can be got out of the history, throwing light both on the mode of origin of the disease and the sources of infection.

23. **Uric Acid.**—Woods-Hutchinson offers the following proposition, which seems to him, in the light of our present knowledge, the most rationally tenable view of gout and lithemia:

1. There is no connection whatever between the production of urea and of uric acid, hence interdiction and marked limitation of animal or of nitrogenous foods, as such, in gout is irrational. 2. The uric acid produced in health comes exclusively from two sources, the larger moiety, or exogenous uric acid of Chittenden, from the nucleins and purin bases of the food, the smaller, or endogenous moiety, from the destructive metabolism of the nucleins of the body tissues. 3. It is the endogenous moiety alone which is increased in gout and lithemia. 4. Gout and lithemia are mere symptom names for a miscellaneous group of chronic toxemic processes of widely varied origin, characterized by the production of uric acid and the urates. 5. By "gouty diathesis" we mean the possession of a sufficient degree of resisting power on the part of the protective cells of the body to oppose the entrance of any poison, whatever its character or source, with consequent destructive metabolism and production of uric acid, but not adequate to neutralize or successfully to prevent its absorption. 6. The uric acid of gout, like the phosphoric acid which invariably accompanies it, is merely a result and measure of the destructive metabolism of the nucleins of the body cells, chiefly probably of the leucocytes, in response to the invasion of poisons or toxins, either organic or inorganic (lead, phosphorus, alcohol, acetone). 7. Hence the use of lithia or other "solvent" agents is irrational, and any benefits resulting are to be explained on other grounds. 8. As most of the toxins setting up this destructive metabolism and consequent uric acid production are of intestinal origin or entry, diet in gout should be regulated solely with regard to the diminution of intestinal fermentation and putrefaction. 9. As animal foods, from their much more appetizing and attractive flavors, are more apt to be indulged in in excess of the oxidative powers of the body, their limitation may be found to be more frequently necessary than that of vegetable foods, but sugars and starches are also very often at fault. 10. As uric acid and the alloxur group are not toxic, or, at best, feebly so, and are not the cause of gout, the prohibition of even foods rich in nucleins and purin bases, such as red meats, roe and sweetbreads, has no rational basis and is clinically of doubtful utility except by diminishing the attractiveness of the dietary. 11. The rôle of the liver in gout is a negative one, being inability to perform its chief normal function as a "poison filter" and to absorb or to transform into harmless excretory substances the excess of toxins brought to it by the portal vein. 12. The drugs found of value in gout owe their efficacy chiefly to their power of checking intestinal putrefaction or of preventing the absorption or promoting the elimination of its products.

24. **Gastric and Duodenal Ulcers.**—Moynihan discusses the treatment of chronic and acute gastric and duodenal ulcer. He finds there is a possibility of recovery from the subacute and, perhaps, from acute perforation of the stomach without operation. He does not excise the ulcer in operating, but uses continuous sutures of catgut taken wide of the ulcer, folds the stomach walls over and buries the rent. A second continuous suture of Pagenstecher thread is placed outside the first. He generally flushes the abdomen if much soiled, and if only a little soiled he wipes it clean with large swabs dipped in saline solution and used at once without being squeezed. Drainage is rarely necessary. He discusses the characteristic symptoms and the character of hematemesis. He says the treatment of hemorrhage will depend on the nature of the ulcer. If from an acute ulcer, medical treatment alone will suffice, and surgery is rarely required. If any operation is to be done, gastroenterostomy is probably the most effective. In chronic ulcer, operation should be advised as early as possible. If readily exposed and not adherent to the pancreas or other organ, the ulcer, if solitary, should be excised, but a simple gastroenterostomy is probably sufficient to secure the arrest of the hemorrhage and the rapid healing of the ulcer. In performing gastroenterostomy he has lately used the simple suture and performed the posterior operation after the method of Von Hacker, the steps of which he describes. He thinks an error in the proper adjusting of the anastomosing loop is an undoubted cause of regurgitant vomiting, and in such a case he should in the future prefer Roux's operation, "the gastroenterostomy in Y," to any other. In connection with the operation of gastroenterostomy the following points are worthy of attention: Sterilization of the mouth, stomach and jejunum. Washing out mouth and stomach with calomel 48 hours before. He would use india-rubber gloves; no antiseptic, and take scrupulous care to avoid any possible infection from the mucosa. Scissors and clips which touch the mucous membrane are at once laid aside and not used during the subsequent stages of the operation.

28. **Aseptic and Antiseptic Surgery.**—Cheyne advocates the moderate use of antisepsis in surgery, and gives in parallel columns the disadvantages and advantages of the two as he estimates them. The differences are slight, but he believes important. He thinks in giving up catgut the surgeons have lost an important aid in wound treatment, and in the giving up of buried sutures for uniting divided muscles, etc., have taken a retrograde step. There is no special difficulty in asepticizing catgut and he can not conceive what should make silk more difficult of sterilization than swabs, etc. It is not the imperfect sterilization of these which make trouble—it is that they are present in a wound to which bacteria have been admitted by the employment of imperfect bacteriologic methods. He sees no logical reason whatever for giving up the use of antiseptic substances in the use of dressing. They can do no harm and may be a decided defense against infection.

29. **Fibroids of the Uterus.**—Doran's article is too detailed and lengthy to be fully abstracted here. He describes the anatomy of the parts and the specially pathologic conditions observed in broad ligaments, ovarian ligaments, round ligaments and undeveloped uterine cornua. He does not favor oöphorectomy for fibroids, though it can be advantageously done under exceptional conditions.

30. **Electric Shocks.**—Noticing an article by F. B. Aspinall, which appeared in *The Lancet* of March 8, 1902, and abstracted in THE JOURNAL of March 29, §12, p. 849, Jellinek reviews cer-

tain points and questions suggested. He agrees with Aspinall as to the importance of individual susceptibility, and holds that in certain diseases, such as Graves' disease, a lowered skin resistance predisposes to the accidents of electric shock. As regards the different physiologic conditions of the subject, he has made experiments on rabbits and finds that narcosis makes them more resistant. Therefore, the statement of Aspinall that electric shocks are less dangerous during sleep is probably correct. The path which the current takes through the body is important, as Aspinall says, and the left side is more sensitive than the right, but he attributes this not to the effect on the valves of the heart, but rather to the effect on the ganglia of that organ. As regards the effect of burns he disagrees, holding that they are not a protection. The time during which the person is exposed to the current is important. The alternating and direct current shock seem both likely to be fatal or dangerous when of a high voltage. With a low voltage or tension the alternating current is more disagreeable. Instead of there being a difference between the two, in one the direct current paralyzing and the alternating producing spasm, Jellinek finds these currents alike seem to produce severe spasm during their action. The question asked by Aspinall, why medical men can not give us a more certain method of ascertaining whether a man is dead or not is answered by the author that in his experiments on animals he has observed several hours after apparent death signs of life were present, and for this reason he believes that attempts at restoration after shock should be continued for hours, or until some certain signs of death appear. The suggestion made by Aspinall that the body should be held head downward to flush the brain, he considers a very dangerous one, as the capillaries of the central nervous system are torn and, in such a condition, would only run a greater risk of cerebral hemorrhage. It would be better, he thinks, to perform venesection, and artificial respiration should be continued for hours; massage of the abdomen and of the region of the heart, placing the patient in a hot bath, subcutaneous injections of ether, camphor, strychnin should also be carried out. He believes many cases pronounced dead may be revived by taking the necessary time and trouble.

31. **Blood Examination.**—Bryant reports cases illustrating the value of blood examinations which, while not infallible, are certainly of great value.

32. **Intussusception.**—The conclusions summarizes by Rigby from his series of cases are:

1. That in these cases immediate laparotomy should be insisted on without delay; 2, that no valuable time should be lost in attempting inflation of air or injection of fluids per rectum; 3, that the keynote of operative success is rapidity; 4, that in favorable conditions, as in hospitals and with skilled assistants, the mortality of reducible intussusceptions should be diminished to a very small percentage; and 5, that the chief points in the after treatment are (*a*) early feeding and (*b*) the use of opium when necessary.

34. **Pernicious Anemia.**—In this second installment of his article, Hunter gives the etiology of his 25 cases and other facts which seem to him to point out the differences of Addison's anemia from the progressive pernicious anemia of Biermer. He thinks a new nomenclature is advisable, and would suggest for this disease the name "infective hemolytic anemia" or Addison's anemia.

Intercolonial Medical Journal of Australasia, Melbourne.

December 20, 1902.

35 Notes on Puerperal Eclampsia. G. Rothwell Adam.
36 Simple Cysts of the Liver. Basil Kilvingston.

Bulletin de l'Academie de Medecine, Paris.

37 (January 13 and 20.) Prof. P. Panas. Obituary.
38 Discussion of Value of Arrhenal.
39 *Discussion and Resolution in Regard to Notification of Diseases.

39. **Diseases Requiring Notification.**—The final resolution adopted by the Académie after long discussion was as given in THE JOURNAL of February 7, p. 389, with the exception that epidemic cerebrospinal meningitis was added to the list of diseases requiring compulsory notification. They are as follows: Typhoid fever, exanthematous typhus, variola and varioloid, scarlet fever, measles, diphtheria, miliary fever, cholera and choleriform diseases, plague, yellow fever, dysentery, puerperal infections and ophthalmia neonatorum when secrecy in regard to the pregnancy has not been enjoined, and finally, epidemic cerebrospinal meningitis. A second list comprises the diseases for which notification is optional, and requires the consent of the family. It includes pulmonary tuberculosis, whooping cough, la grippe, pneumonia and bronchopneumonia, erysipelas, mumps, leprosy, tinea and purulent conjunctivitis and granular ophthalmia. The Académie recommended that special postal cards should be supplied for the purpose to all physicians, health officers and midwives, the diseases to be designated by number.

Centralblatt f. Allg. Pathologie, Jena.

40 (XIII, 11.) Fat in Kidney Infarcts. F. J. Fischler.—Ueber den Fettgehalt in Niereninfarkten. Zugleich ein Beitrag zur Frage der Fettdegeneration.
41 Neue Methode zur Färbung (staining) von Horn Substanz. H. Ebbinghaus.
42 Die microscop. Diagnose des Chorion-Epithelioma malignum aus curettirten Massen. L. Aschoff.
43 Die Wirkung des Toluylendiamins auf die Blutkörperchen (corpuscles). E. Schwalbe. Critical summary.
44 (No. 12.) Ueber den Kern (nucleus) und die amöboide Bewegung der Blutplättchen (blood-plaques). K. Wlassow.
45 (No. 13.) Beobachtungen bei der Färbung (staining) der elastischen Fasern (fibers) mit Orcein. E. Wolff.
46 Ueber die Anwendung (application) des Gallein zur Färbung (staining) des Central-Nerven-Systems. H. Aronson.
47 Ueber die Verbreitung (dissemination) von Geschwulst-Metastasen in der Lunge. A. Treutlein.
48 *Fortschritte auf dem Gebiete der Pathologie und path. Anatomie, 1901. E. Kromayer. Report of Progress.
49 (No. 14.) Die Serum-Diagnose verschiedener Blutarten und ihre Bedeutung für die forensiche Medicin. K. Ziegler. Critical summary.
50 (No. 15.) Beiträge zur Pathologie des Pfortaderkreislaufs (portal circulation). F. Saxer.
51 Study of Stainability of Living Tissues. A. Motta Coci.—Ueber das functionelle Verhalten der Wimperepithelien des Frosches gegen Methylen-Blau.
52 (No. 16.) Histolog. Untersuchungen über die path. Eigenschaften eines aus dem "Murex brandaris" isolirten Microorganismus.
53 Die path. Anatomie der Porencephalie. Schütte. Collective Review.
54 (No. 18.) Fall von Adenocarcinoma der Leber (liver). G. Herxheimer.
55 Ueber Tuberculose quergestreifter (striated) Muskeln. S. Saltykow.
56 Gas-Gangrän und Schaum- (foam) Organe. A. Sandler. (Commenced in No. 12.)
57 Pathologie at the Naturforscher Congress.
58 (No. 19.) *Experimentelle Untersuchungen über die Wirkung todter Tuberkel-Bacilli. C. Sternberg.
59 (No. 20.) Connective Tissue Formation in Inflammation. E. Ziegler.—Ueber entzündliche Bindegewebs-Neubildung.
60 Ueber Septikaemie und Pyaemie. C. v. Kahlden.
61 (No. 21.) Ueber die path. Histologie des Conglomerat-Tuberkels im Cerebrum. O. Barbacci.
62 Zur Frage über die Einschlüsse in und zwischen den Krebszellen (cell inclusions). W. N. Klimenko.

48. **Progress in Pathology in 1901.**—Kromayer cites as the most important works in this line in 1901 Bockhardt's study of eczema, the isolation of the microörganism of soft chancre, and Blaschko's study of the nerve distributions in the skin and their relations to cutaneous affection. He also mentions Judalewitsch's discovery that the nevus cells thrown up by the epithelium become transformed into connective tissue cells.

58. **Experimental Research with Dead Tubercle Bacilli.**—Sternberg found that he was able to induce the production in animals of the same tubercular lesions by injection of tubercle bacilli whether they were dead or alive. The only difference was that the extension of the process was proportional to the amount injected of the killed bacilli. This result was not constant, and only followed when a thick culture was injected.

Centralblatt f. Chirurgie, Leipsic.

63 (No. 50.) *Prevention of Hernia After Laparotomy. O. Wolff.—Wie lässt sich der Bauchbruch nach Laparotomie vermeiden?
64 Contrivance for Aseptic Self-Catheterization at Any Time.—W. Hirt.—Vorrichtung zum aseptischen Selbstkatheterismus ausser dem Haus.
65 (No. 51.) *Zur Radikal-Operation des congenitalen Leistenbruches (inguinal hernia) kleiner Kinder (of small children). Karewski.
66 Improved Suture Forceps for Metal Sutures. J. W. Silberberg (Odessa).—Eine verbesserte Nähzange für Metallnähte.
67 Receptacle for Threaded Needles. H. Eckstein.—Sterilisirbarer Behalter für eingefädelte Nädeln.
68 (No. 52.) *Zur Technik der Magenausspülung (lavage of stomach). C. Neck.
69 Zur chirurgischen Technik. M. Silbermark.
70 (XXX, 1.) *Harte und weiche (hard and soft) Paraffin-Prothesen. R. Gersuny.
71 Zur Vereinfachung der Naht (simplification of suture) bei Anwendung des Murphy-Knopfes (button). Von Hacker.

72 Ein eigenartiger Bruchsackinhalt (peculiar contents of hernial sac). J. Wletung.
73 (No. 2.) *Mobilisierung des Duodenum und Gastroduodenostomie. T. Kocher.
74 *Sehnen- (tendon) Transplantation und Verhalten (behavior) der Sehnen beim Plattfuss (flatfoot). E. Müller.
75 Wanderniere (wandering kidney) und Skoliose. O. Bender.
76 (No. 3.) *Application of Artificial Fistula between Gall Bladder and Intestine. H. Thomson.—Bemerkungen zur Anlegung der künstlichen Gallenblasen-Darmfistel.
77 Flexible Double Tracheal Canula. Tavel.—Eine lange biegsame Tracheal-Doppel-Kanule.
78 (No. 4.) *Prevention of Hernia After Laparotomies. J. Hahn. Die Verhütung des Bauchbruchs nach Laparotomien.

63. Prevention of Hernia After Laparotomies.—Wolff ascribes the tendency to hernia to the tension exerted on the suture by meteorism. He therefore directs special attention to the prevention of meteorism and has found that conditions were very much improved thereby.

65. Radical Operation for Congenital Inguinal Hernia in Children.—Karewski states that six to twelve years have elapsed in a number of cases since he operated on congenital hernia in very young children. His method is particularly applicable to severe cases of scrotal hernia, and its simplicity and facility commend it for general adoption. The incision is carried down only to the serosa and the processus vaginalis peritonei, forming the inner layer of the sac, is detached with the fingers. The parts are isolated to beyond the internal inguinal ring and at this point the peritoneum is tied. This affords a firm support and no further radical intervention is necessary even as late as the fourth year of age. The wound heals rapidly, although frequently soiled by the infant's discharges. He applies an iodoform dressing at first, changed every day, and later airol salve.

68. Improved Technic of Rinsing the Stomach.—Neck finds that it is possible to empty the stomach completely under all circumstances, by elevating the pelvis after the ordinary rinsing is finished. By this means considerable amounts of stomach contents can be evacuated after the organ is supposed to be empty. He has confirmed these clinical findings on the cadaver. The most complete evacuation is secured when the stomach tube is gradually withdrawn after the pelvis is raised. This prevents any accumulation of the contents around the tip of the sound projecting into the fluid.

70. Paraffin Prothesis.—Gersuny is much pleased at the reception accorded his method of subcutaneous prothesis, but he does not consider the substitution of paraffin with a higher melting point as any advantage. He still uses what he first recommended: Ung. paraffini with a melting point at 35 or 40 C., but has been experimenting lately with a still softer combination, mixing one part of the above with four parts of olive oil. The oil is gradually absorbed, leaving the encapsulated particles of paraffin at the same distance apart. The size of the prothesis remains the same, but it is not so solid as when paraffin alone is used. When injecting the paraffin into very porous tissue he commences with a very small amount, not more than 1 c.c., and waits a week until this is completely encapsulated before injecting the remainder of the paraffin into the center of the first deposit. His finest cosmetic results have been obtained in cases of hemiatrophy of the face, in raising Thiersch flaps and imparting the natural color to them by the under layer of paraffin, and also in obliterating the pits left by smallpox.

73. Technic of Lateral Gastroduodenostomy.—Kocher thinks that his method of anastomosis between the stomach and the duodenum is far superior to all other methods of gastroenterostomy, as it entirely avoids the "vicious circle," and can be conveniently done outside of the abdomen. Others have used it, and their results confirm his dictum, but they have considered it necessary to restrict it to cases in which the duodenum was movable. This is not necessary, he states, as it is easy to mobilize the duodenum in all cases unless it is extensively adherent to the liver. The loop of the duodenum hangs free during embryonal life, and is still very movable in children, but later becomes adherent to the posterior wall of the abdomen, whence it is easily detached, as can be established on the cadaver. The thin sheet of the parietal peritoneum is slit perpendicularly to the right of the descending portion of the duodenum. The incision passes in front of the right kidney, to the left of the descending part of the right flexure of the colon passing downward to the transverse colon. The parietal sheet of the peritoneum passes here from the anterior surface of the kidney to the colon and forms the upper sheet of the transverse mesocolon. The finger can be passed along the vertical portion of the duodenum above the peritoneal sheet of the kidney and into the foramen of Winslow, and thus lift up the hepato-duodenal ligament with the hepatic artery, portal vein and common bile duct. The thin sheet of peritoneum should be incised, not torn, parallel to the vertical portion of the duodenum and at least two finger widths from it. The portion of the sheet adherent to the duodenum can then be lifted and two fingers passed behind the latter, thus gently detaching it from the anterior surface of the spine, vena cava and aorta. The lower flexure of the duodenum can also be mobilized in the same way by slitting the peritoneum passing down to the colon. No large vessel is injured by the procedure. The head of the pancreas is raised with the duodenum so that the concave margin offers no resistance to the lifting of the duodenum. The posterior surface of the duodenum is not exposed down to the muscularis. It retains as the remains of its former peritoneal covering a sheet of connective tissue which, in comparison to the rest, has a raw appearance. These maneuvers mobilize the vertical portion of the duodenum to such an extent that it can be readily laid against the anterior surface of the pyloric portion of the stomach, above the greater curvature. The mobilization of the duodenum is restricted by the vessels, especially that of the superior flexure, but sufficient for the anastomosis, can easily be mobilized and the conditions realized by the change of position of the loop are peculiarly favorable for the anastomosis, as the duodenum retains its peritoneal covering intact on its anterior surface, now turned toward the left for union with the stomach. He has performed the operation by this technic in 5 cases, once for carcinomatous and four times for cicatricial stenosis of the pylorus.

74. Transplantation of Tendon for Flat Foot.—Müller detaches the tendon of the tibialis anticus from its attachment and draws it through a hole bored for it in the navicular bone, about the size of a pencil, passing from below upward and a little to the rear. The tendon is drawn through with a thread and is then pulled downward while the foot is pressed into normal shape. The end of the tendon is then drawn around the inner surface of the navicular and fastened to the bone with a wire suture. This holds the foot in its normal arched shape as if by a bridle. He emphasizes the necessity of cutting the Achilles as an indispensable preliminary to this and numerous other interventions on the foot.

76. Technic of Artificial Gall Bladder Fistula into Intestines.—Thomson's article is a plea for the more general use of the Murphy button for these operations.

78. Prevention of Hernia After Laparotomy.—Hahn attributes his success in the avoidance of post-operative hernias in a series of 88 laparotomies, to the use of sterile silk for the sutures, to the complete healing in of the threads and to his method of isolated suturing of the peritoneum and transverse fascia, then suturing the aponeurosis, exclusive of the muscle, as the fibers of the latter are liable to tear, concluding by the suture of the skin with a supplementary buried suture in case of much fat. In preparing his hands he cleanses them mechanically, he states, in hot soapy water for forty minutes and then devotes ten minutes more to the rinsing, drying and soaking in a 1/1000 solution of sublimate. He draws the threads in the skin the seventh to ninth day, and allows the patient to get up the thirteenth. No abdominal bandage is worn.

Centralblatt f. Gynaekologie, Leipsic.

79 (No. 52.) *Zur Technik und Anwendung des vaginalen Sectio cesarea. E. Bumm.
80 *Ueber Primiparæ unter 16 Jahren. A. Palotal.
81 *Zur Amenorrhoe dem Alter nach geschlechtsreifer Mädchen (of girls old enough to be sexually mature). L. Pincus.
82 *Septische Mastitis. M. Bensinger.
83 (XXVII. 1.) Zur Problem der geschlechtsbestimmenden Ursachen (causes of sex determination). B. S. Schultze.
84 Indiziert eine Uterus-Ruptur Sectio cesarea bei wieder eintretender Gravidität? O. Küstner.

85 *Ueber die Vorzüge der Ether-Narkose. J. Pfannenstiel.
86 Die Technik der Ether-Narkose an der gyn. Klinik zu Giessen. Kroemer.
87 (No. 2.) *Weitere Fälle von vorgeschrittener Extra-uterin-Gravidität bei lebendem Kinde behandelt im Coeliotomie. A. Sittner.
88 (No. 3.) *Fall von Endothelioma ovarii. M. Lange.
89 Beitrag zur Anwendung des Bossi'schen Dilatatorium. Osterloh.
90 Komplikation der Gravidität und Geburt (birth) mit Mastdarmkrebs (carcinoma of rectum). W. B. Semmelink.
91 (No. 4.) Ueber instrumentelle Dilatation der Cervix resp. des Muttermundes an der hochschwangeren oder kreissenden Gebärmutter (in advanced pregnancy or in labor). W. Zangemeister.
92 *2 Fälle von Lateralschnitt des Beckens (extramedian symphysiotomy) nach Gigli. E. Pestalozza.
93 *Zur Kenntniss der regionären Lymphdrüsen (lymph glands) beim Uterus-Carcinoma. E. Wertheim.
94 (No. 5.) *Nachtheile (disadvantages) der Ventrofixation. R. Gradenwitz.
95 Sectio cesarea und Ovariotomie wegen eingekeilten (impacted) Ovarial-tumors. G. van der Briele.
96 Primäre Bauchhöhlen- (abdominal cavity) Gravidität auf einem Netzzipfel (pointed process in the omentum). K. Witthauer.
97 Zur Eklampsie-Behandlung. E. Sintenis.

79. **Vaginal Cesarean Section.**—Bumm describes in detail 13 cases treated by vaginal cesarean section, which establish, he believes, that section of the anterior wall of the cervix alone is ample enough for nearly all cases, even at term, when there is no malignant growth and the uterus is to be retained. The portio is exposed and the sides seized with Collins' forceps. A sagittal incision from 5 to 7 cm. in length is then made in the mucosa of the anterior vaginal vault to the lip of the os. The loose cellular tissue between the bladder and cervix is cut with a few strokes of the scissors and the bladder pushed back to the orific. int. The anterior wall of the cervix is then incised on the sagittal line to this point. The upper edges of the wound are then drawn aside with two Collins', as for vaginal myomotomy. This exposes the lower segment of the uterus, and after the bladder has again been pushed out of the way, the uterus wall is incised. By this means an incision 8 to 12 cm. long can be made under complete control of the eye and without opening into the peritoneum. Even a fetus at term can be readily extracted through it. The bleeding is most profuse when the mucosa of the vagina is incised. He waits for the spontaneous expulsion of the placenta, which usually follows in fifteen minutes. He sutures the uterus with a row of catgut sutures and has never observed any mishaps or complications. In one case the incision measured exactly 7 cm. from the orific. ext. upward, and through it a child weighing 3,250 gm., with a suboccipito-frontal circumference of 34 cm., was extracted without trouble. The lips of the wound, therefore, must stretch, but they have never torn in his experience. The vaginal walls are more resistant than the incised cervix, in primiparæ, and lacerations are liable to occur in the perineum, vulva and side walls of the vagina. In the 13 cases described only one terminated fatally, and in this case the death was undoubtedly due to the severe eclampsia. In 8 the patients were aseptic, and there was no febrile reaction to the operation. Fever was noted four times; in two the patients had been infected by repeated examinations before entering the hospital; in one a pregnancy nephritis with edema prevented the union of the parts, and in one the uterus contained a purulent carcinoma. The wound in the vaginal vault and cervix healed faultlessly, with the exception of three infected cases. This median anterior hysterotomy leaves a harmless, easily healing wound, which does not interfere with further function of the parts. Even in a case of severe streptococcus infection, as the plica anterior of the peritoneum was not opened, there was no peritonitis. He has become convinced by his experience that in eclampsia the patient should be delivered at once after the first attack as the only means of safety, and he has found vaginal cesarean section the best method, if natural delivery be impossible. He thinks it is a less dangerous procedure than rapid dilation with the metal dilators, which are apt to lacerate the cervix. In one of his cases the operation was undertaken on account of the placenta previa, and the results encourage him to believe that this will be found the best method also for treating this condition. Many women bleed to death, not from the vessels in the placenta previa, but from lacerations in the cervix or at the point of implantation of the placenta. These can be prevented by vaginal section. He also considers it useful as a means of artificial delivery in case of an absolutely torpid uterus. Vaginal cesarean section exposes to less dangers than days of ineffectual maneuvers to arouse the torpid uterus to action. In the total of 39 cases of vaginal cesarean section which he tabulates, the mortality was 8, and in 3 of these the death was due undoubtedly to the coincident eclampsia and in 2 others to heart disease. Anemia, peritonitis and sepsis from the dead fetus were noted in the other fatal cases. The cesarean section was undertaken on account of carcinoma in 23 cases, and of eclampsia in 6.

80. **Primiparae Under 16.**—Palotai has observed 25 cases of childbirth under 16, a proportion of .145 per cent. of 8,054 primiparæ admitted to the Budapest Frauenklinik. Among them were 7 who were only 14, and 18 who were 15 years old. One of the 14-year-old mothers had been blind from birth, another had been violated, and 2 others had never menstruated. In the others menstruation had occurred from once to five times. The course of the pregnancy was normal, but abortion occurred once, and delivery was premature in 28 per cent., but was exceptionally brief in all, and all the children were viable. The puerperium was normal, the prognosis for injury of the parts during delivery is very good and also the prognosis for the welfare of the child. When Nature confers the possibility of conception she evidently makes arrangements for its consequences to follow without hindrance.

81. **Amenorrhea of Girls Old Enough To Be Sexually Mature.**—Pincus thinks that this field is too much neglected. When the amenorrhea is long continued, even without symptoms, internal exploration is indicated in case of preceding infectious diseases or constitutional anomalies, menstrual molimina or vicarious hemorrhage.

82. **Septic Mastitis.**—Bensinger's patient was ii-para, 30 years old, healthy and with no morbid antecedents except a severe febrile reaction to an insect sting nearly two years before. The birth and puerperium were normal, and the patient was tended by a superior nurse. The eleventh day symptoms of mastitis developed, and the nursing babe was weaned. The babe developed the second day a phlegmonous inflammation behind the ear, and died the third day with multiple small cutaneous abscesses. The mother died two weeks after the first symptoms of the septic mastitis, with multiple suppurative foci. In seeking for the cause of the infection, an old, dirty book from a circulating library was found in the bed. The patient had been in the habit of reading while nursing her babe. Bacteriologic examination of the leaves of the book disclosed numerous streptococci, associated with other microörganisms. Bensinger also refers to the possibility that the blood poisoning from the insect sting may have left some latent focus. The nurse had tended a scarlet fever patient six weeks before being called to this case, but all her patients in the interim had been "normal cases." The sequel to the case was a defamatory letter sent to the physician by the sister of the deceased, for which she was condemned by the local court to a fine of $63 and costs.

83. **Cause of Sex Determination.**—Schultze argues to prove that the sex of the ovum is already settled in the ovary.

85. **Advantages of Ether.**—Pfannenstiel proclaims that the correct technic for an ether narcosis is to induce a tipsy condition with a small amount of ether, the "ether-Rausch," then slight intoxication from the carbon dioxid of the expired air, and thereafter, with a regular supply of weak ether fumes, maintain the narcosis at the proper point, raising the mask from time to time so that a little atmospheric air may be breathed. By this method he finds 100 c.c. of ether sufficient for even protracted operations. The mouth, throat and nose are rendered as aseptic as possible before commencing, which reduces the danger of pneumonia, and the room is kept very warm and every effort made to avoid chilling the patient on his way to and from the operating room. He aids the elimination of the ether by inducing diuresis and sweating. If drinking of fluids causes vomiting, this is regarded as an aid in the elimination. He also has water injected per anum.

Ether leaves the body much more rapidly than chloroform. With these precautions, he considers ether as almost completely harmless, while chloroform is always a serious poison.

87. **Extra-Uterine Pregnancy with Living Child.**—Sittner adds 16 more cases to the 126 he collected and published in the Landau *Festschrift;* 3 of them date since 1900. The mortality was 15 per cent. in the 40 cases occurring between 1896 and 1900. In one of the latest series the placenta had developed on the peritoneum and liver. The placenta was left. The patient died. In one the placenta developed on the intestines and in three on the organs in the pelvis. The mortality was very high in these and in the similar cases previously described. Four of the eight viable children are living. One died three weeks later of a gastro-intestinal trouble, and three others in from two to sixty hours. The fetuses weighed from 3,500 to 5,000 gm. on an average. The results of Sittner's compilation indicate that the possibilities of well-developed, viable children under these circumstances are greater than hitherto accepted. In seven cases the mothers were supervised and the pregnancy carried from the fifth, sixth or seventh month to three weeks of term, thus securing viable children. In the majority of cases extra-uterine pregnancy is followed by permanent sterility, but not always. There was subsequent normal pregnancy in eight out of twenty-five cases followed to date. He gives the particulars of the last series of cases in a convenient tabular form.

88. **Endothelioma Ovarii.**—Lange describes a case of endothelioma of one ovary which he extirpated, leaving the apparently sound mate in place. But the further course of the case proclaimed that the other ovary was likewise the seat of malignant disease. He therefore recommends as a routine procedure the removal of the second ovary in such cases, especially if the patient is 40 or over.

92. **Extramedian Symphysiotomy.**—Pestalozzi has applied in two cases Gigli's extramedian incision for opening the pelvis, described in THE JOURNAL of July 26, 1902, p. 231. Comparing the results with seven previously treated by the classic symphysiotomy, he considers the new operation a great progress. Healing was rapid and perfect without drainage, and the loss of blood was trifling, while consolidation occurred with remarkable promptness. He found it necessary to insert his finger behind the bone to prevent injury of the bladder in introducing the saw.

93. **Regional Lymph Glands in Uterine Cancer.**—Wertheim found in two-thirds of his cases of cancer of the uterus in which the lymph glands were involved, that the glands exhibited a polymorphous cellular construction. In the other one-third, however, the glands showed a tube-shaped formation lined with a single layer of ciliated epithelium. These formations were observed in 13 per cent. of all the cases that came to operation, but examination of 80 cadavers free from uterine cancer failed to disclose anything of the kind. In three instances it was possible to behold the direct transformation of a gland thus affected into a typical alveolar carcinoma, with polymorphous cells. The formations in question must, therefore, be considered metastases of the malignant neoplasm in the uterus.

94. **Disadvantages of Ventrofixation.**—Gradenwitz expresses gratitude to Kreutzmann for his denunciation of ventrofixation, referred to in this column. The smoothness and facility of the operation do not compensate for the consecutive metritis or hernia, as he illustrates by five typical cases.

Deutsche Zeitschrift f. Chirurgie, Berlin.

98 (LXVI, 1-2.) *Die Influenza in chirurgischer Beziehung. G. Perez. (Durante's Clinic, Rome.) Concluded.
99 Zur Etiologie der Coxa Vara. M. Haedke.
100 Ueber das Ballon-Symptom bei Darm-Occlusion. J. Blumberg.
101 *Zur Carcinom Frage. W. Merkens.
102 Untersuchungen auf die Lymph-Bahnen (tracts) der Wangenschleimhaut (mucosa of cheek). A. E. Polya and D. v. Navratil.
103 *Fall von subacut verlaufender traumatischer Herz- (heart) Ruptur mit Tod (death) am 9 Tag. H. Ebbinghaus.
104 Die Reposition einer veralteten path. Hüftgelenkverrenkung (hip dislocation). J. Schoemaker.
105 Eine eigenthümliche Taschenbildung (pocket formation) des Peritoneums. O. Funkenstein.
106 Zur Chemie der Sauerstoff- (oxygen) Chloroform-Narkose. L. Michaelis.

98. **Influenza in Relation to Surgery.**—Perez has been making extensive researches on animals in the way of immunization against the influenza bacillus and study of the lesions produced by the infection. He says there is scarcely an organ or tissue that may not be attacked, and the local processes range from hyperemia to abscess formation or effusion. The tympanum is the most frequent site of experimental infection. He found that he was able to induce a slight and transient active immunity. The bacilli were almost invariably found intracellular and the pus was also frequently sterile. Another point to differentiate pure influenza infection from the pneumococcal is the presence of fibrin in the latter. He also reviews 520 articles that have been published on the surgical aspect of influenza.

101. **Prognosis of Carcinoma of Mamma.**—Merkens regards all new growths in the mamma as suspicious, with the sole exception of Schimmelbusch's fibro-adenoma. Ablation of the nodule is sufficient in case of the latter. All others should be considered malignant and amputation of the breast follow the diagnosis. He scouts the idea that cancer is directly contagious.

103. **Traumatic Rupture of Heart with Subacute Course.**—Ebbinghaus warns that the prognosis should be guarded in case of traumatism affecting the left thorax, even when the walls are elastic and no serious injury is apparent; death may result as late as the ninth day, as in the case he describes. The rupture at first was probably merely a partial laceration of the heart wall, but it gradually became a complete rupture as the region of the lesion became degenerated. The vagueness of the manifestations on the part of the heart is no criterion that the danger is past. The tear may gradually grow larger without causing appreciable clinical symptoms. In his case the left ventricle was the site of the rupture, and the pulmonary valve had also been injured.

Archivio Italiano di Otologia, Etc., Turin.

107 (XIV, 1.) *Sull' uso della formalina nella cura delle otiti medie purulente croniche. G. Geronzi.
108 Mancanza (lack) quasi completa della squama temporalis. A. Bovero.
109 Nistagmo riflesso di origine nasale. G. Ostino: Four cases.
110 Sulla tiroidite acuta. G. Garbini. Two cases.
111 *La condro-pericondrite laryngea. E. P. Arias.

107. **Formalin in Treatment of Purulent Otitis Media.**—Geronzi reports the results of formalin treatment of 55 cases of chronic purulent otitis media. He commenced with a 2 per cent. glycerin solution and gradually increased the strength to 5 per cent. The middle ear was tamponed with a small strip of gauze impregnated with the fluid, or two or three drops of the 5 per cent. solution were instilled. This treatment was applied only in those cases that had proved rebellious to ordinary measures. Improvement was manifest by the second or third application; and a complete cure between the tenth and fifteenth application was obtained in 34 out of the 55. The duration of the affection in some of the cured cases was from ten to twenty-one years. The formalin reduced the size of the granulations in the tympanum and, supplemented by nitrate of silver, was able to accomplish their complete disappearance in a number of cases. He found that the addition of 5 per cent. of sodium carbonate to the 5 per cent. solution of formalin increased the tolerance, while others have proved that it also enhanced its bactericidal power.

111. **Laryngeal Chondro-Perichondritis.**—Arias concludes his comprehensive study of this subject by recommending prompt tracheotomy, which not only insures the respiration but also leaves the affected parts in repose. It may be possible to abort the abscess, as was accomplished by Ferreri with a course of salicylic medication, followed by subcutaneous injections of iodated milk, as recommended by Sclavo. The patient was a boy of 10, with chondro-perichondritis of the left half of the larynx. Tracheotomy was postponed from day to day, as there were no indications of an abscess, and improvement continued under this treatment. The lad was dismissed in four weeks with no further traces of tumefaction. If an abscess has formed, tracheotomy is the only treatment. In case of subsequent stenosis, Schroetter's method of intuba-

tion is in use in the Italian clinics. Serum therapy has always proved disastrous in tubercular inflammation, but the course of the affection may be arrested with the use of adrenalin. He has witnessed complete cures under supplementary hygienic and prophylactic measures. It is very important, however, particularly in these cases, to place the organ in repose by means of an early tracheotomy. Even in case of syphilitic inflammation a tracheotomy aids the healing process and the patient can be dismissed sooner. The prognosis of typhoid perichondritis is grave. It always entails an abscess, and Bayle had only 1 out of 17 recover without operation, Valleix only 6 out of 31, while Obédinaire cured 13 out of 24 by surgical intervention. If an abscess ruptures spontaneously the pus invades the bronchi and lungs with various sequelæ. Primary chondritis is acute; the secondary has a more chronic course. The dyspnea increases during sleep; the interspaces and epigastrium sink in during inspiration; the veins of the neck are turgid, and the superficial venous network of the thorax is visible. In the acute form the symptoms may suggest edema of the larynx. There is likewise more or less inflammatory paralysis of the posterior cricoarytenoid muscles. The cricoid cartilage is most frequently involved. Attacks of gout elsewhere may suggest the possibility that the perichondritis may be of the same nature.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MANTON'S OBSTETRICS. A Manual of Obstetrics for Students and Practitioners. By W. P. Manton, M.D., Adjunct Professor of Obstetrics, and Professor of Clinical Gynecology, Detroit College of Medicine. Pp. 265. With 82 Illustrations. Cloth. Price, $1.00. Philadelphia and New York: Lea Brothers & Co. 1903.

FORTY-SEVENTH ANNUAL REPORT OF THE EXECUTIVE COMMITTEE OF THE HARTFORD HOSPITAL, Including the Eighteenth Annual Report of the Old People's Home and the Twenty-fifth Annual Report of the Hartford Hospital Training School for Nurses. Paper. Pp. 115. Hartford Press. 1902.

TOXICOLOGY. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College. Cloth. Pp. 132. Price, $1.50. St. Louis: Lewis S. Matthews & Co.

SEVENTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE SPRINGFIELD STATE HOSPITAL of the State of Maryland, Sykesville, Md., to His Excellency, the Governor of Maryland. Oct. 1, 1902. Paper. Baltimore: The Sun Book and Job Printing Office. 1903.

THE NOSE AND THROAT IN MEDICAL HISTORY. By Jonathan Wright, M.D. Cloth. Pp. 244. Price, $2.00. St. Louis, Mo.: Lewis S. Matthews & Co.

TRANSACTIONS OF THE BERKS COUNTY MEDICAL SOCIETY for the Year 1902. Volume VII. Paper. Pp. 124. Reading, Pa.: Norton Printing House. 1902.

New Patents.

Patents of interest to Physicians, February 3 and 10:

719781. Clinical thermometer. Charles J. Fritsch, Brooklyn.
719586. Insufflator. Sayer Hasbrouck, Providence, R. I.
719587. Atomizer. Sayer Hasbrouck, Providence, R. I.
719588. Spraying device. Sayer Hasbrouck, Providence, R. I.
719675. Support for massage machines. Francis King, San Francisco.
719487. Dilator. Wm. E. Minor, Kansas City, Mo.
719901. Photochemical and electrotherapeutical apparatus. Albert E. Sterne, Indianapolis.
719915. X-ray apparatus for treating diseases. Henry E. Waite. New York.
720311. Corn-eradicator. John B. Abler, Akron, Ohio.
720107. Door for sterilizers. Julius Brucker, Brooklyn.
720234. Sterilizing case for thermometers. Oscar H. Elbrecht, St. Louis.
720020. Medicinal battery. Fred Grimshaw, Northeast, Pa.
720159. Sterilizer. Richard Kny, Brooklyn.
720381. Hypodermic syringe. John N. Ranger, Evansville, Ind.
720071. Hot-air syringe. Joseph I. Richards, San Francisco.
720483. Electromedical apparatus. Granville S. Rider, New York.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 14, 1903:

P. A. Surgeon E. J. Grow, detached from the *Marblehead* and directed to wait orders.

P. A. Surgeon W. L. Bell, detached from the naval hospital, Mare Island, Cal., and ordered to the *Marblehead*.

P. A. Surgeon R. W. Plummer, commissioned passed assistant-surgeon, with rank of lieutenant, junior grade, from June 17, 1902.

Asst.-Surgeon R. E. Briggs, appointed assistant surgeon, with rank of lieutenant, junior grade, from Jan. 19, 1903.

Asst.-Surgeon R. L. Sutton, F. W. S. Dean, appointed assistant surgeon, with rank of lieutenant, junior grade, from Jan. 20, 1903.

A. A. Surgeon W. H. Block, ordered to the naval recruiting office, Chicago.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 12, 1903:

Surgeon G. M. Magruder, granted leave of absence for one day.

Asst.-Surgeon C. E. Decker, granted leave of absence, on account of sickness, for ten days.

Asst.-Surgeon H. B. Parker, to proceed to New Orleans, for special temporary duty.

A. A. Surgeon H. J. Hamilton, granted leave of absence, on account of sickness, for thirty days from Dec. 27, 1902; granted fifteen days' extension of leave of absence, on account of sickness, from January 27.

A. A. Surgeon H. C. Sibree, granted leave of absence for six days from February 7.

A. A. Surgeon C. F. Ulrich, granted leave of absence for twenty-five days from February 15.

Pharmacist Henry Gahn, granted leave of absence for five days from Feb. 6, 1903, under provisions of Paragraph 210 of the regulations.

RESIGNATION.

A. A. Surgeon Pedro Malaret, resigned, to take effect Jan. 31, 1903.

BOARD CONVENED.

Board convened at Washington, D. C., Feb. 9, 1903, to consider an outline plan for the marine-hospital to be erected at Savannah, Ga. Detail for the Board: Assistant Surgeon-General J. H. White, chairman; Assistant Surgeon-General L. D. Williams; Assistant Surgeon-General W. J. Pettus, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 14, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 6, 2 cases.
California: Los Angeles, Jan. 17-24, 4 cases; Sacramento, Jan. 24-31, 4 cases; Stockton, Jan. 1-31, 10 cases.
Colorado: Denver, Jan. 17-24, 17 cases.
Illinois: Chicago, Jan. 31-Feb. 7, 16 cases; Galesburg, Jan. 24-31, 5 cases.
Indiana; Indianapolis, Jan. 17-24, 152 cases, 36 deaths.
Maine: Biddeford, Jan. 31-Feb. 7, 16 cases; Eastport, Jan. 31, 7 cases.
Maryland: Baltimore, Jan. 31-Feb. 7, 4 cases; Cumberland, Jan. 24-31, 1 case.
Massachusetts: Jan. 31-Feb. 7, Boston, 6 cases; Haverhill, 1 case; New Bedford, 1 case.
Michigan: Detroit, Jan. 24-31, 43 cases; Grand Rapids, Jan. 31-Feb. 7, 14 cases.
Missouri: St. Louis, Jan. 24-Feb. 1, 26 cases.
Nebraska: South Omaha, Jan. 1-31, 1 case.
New Jersey: Camden, Jan. 27-Feb. 3, 2 cases; Newark, Jan. 31-Feb. 7, 2 cases.
New York: New York, Jan. 31-Feb. 7, 2 cases.
Ohio: Cincinnati, Jan. 30-Feb. 6, 11 cases, 1 death; Dayton, Jan. 31-Feb. 7, 6 cases; East Liverpool, Jan. 1-31, 2 cases; Hamilton, Jan. 1-31, 5 cases; Toledo, Jan. 10-31, 19 cases.
Pennsylvania: Altoona, Jan. 31-Feb. 7, 1 case; Philadelphia, Jan. 31-Feb. 7, 33 cases, 2 deaths.
South Carolina: Greenville, Jan. 24-31, 1 case.
Utah: Salt Lake City, Jan. 24-31, 19 cases, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 3-17, 14 cases.
Barbados: Jan. 2-16, 4 cases.
Belgium: Antwerp, Jan. 3-17, 10 cases, 3 deaths.
Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 9 deaths.
Canada: Winnipeg, Jan. 1-31, 2 cases.
Canary Islands: Las Palmas, Dec. 27-Jan. 17, 31 cases, 1 death.
Germany: Altona, to Jan. 22, 11 cases, 1 death.
Great Britain: Birmingham, Jan. 17-24, 5 cases; Leeds, Jan. 10-24, 19 cases; Leith, Jan. 10-17, 2 cases; Liverpool, Jan. 17-24, 51 cases, 1 death; Nottingham, Jan. 3-10, 1 case; Sheffield, Jan. 10-24, 3 cases.
Mexico: City of Mexico, Jan. 18-25, 5 cases, 2 deaths.
Russia: Moscow, Dec. 27-Jan. 3, 1 death; Odessa, Jan. 3-17, 12 cases; St. Petersburg, Jan. 3-10, 49 cases, 6 deaths.
Straits Settlements: Singapore, Dec. 20-27, 3 deaths.
Turkey: Constantinople, Jan. 4-11, 3 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 56 deaths.
Mexico: Tampico, Jan. 18-31, 3 deaths; Vera Cruz, Jan. 24-31, 6 cases, 3 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Jan. 12-19, 4 cases, 3 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Jan. 29-30, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Dec. 27-Jan. 10, 6 deaths.
Mexico: Mazatlan, to Feb. 4, 278 cases, 217 deaths.

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Original Articles.

LARYNGECTOMY FOR CARCINOMA.*

E. FLETCHER INGALS, M.D.
CHICAGO.

The text for this article was furnished by a patient who was brought to our clinic for diseases of the chest, throat and nose at Rush Medical College by Dr. Geo. A. Torrison, who had found him among his patients about six months previously. Dr. O. T. Freer had also seen the patient with him and a microscopic examination of a small mass removed for the purpose had confirmed their diagnosis of carcinoma of the larynx, which diagnosis was also concurred in by Prof. L. Hektoen.

THE PATIENT AND HIS HISTORY.

The patient, L. T., was a large, fine-appearing man, 47 years of age, who came to this country from Norway thirty years ago. He weighed about 200 pounds and had every appearance of robust health excepting the one symptom of hoarseness. He was a jeweler by trade, married and had three healthy children. He stated that he had malaria for three months seventeen years ago, had an attack of typhoid fever and also a slight attack of pneumonia some years ago, and in November of last year a rheumatic affection of the left thigh for a few days, which was followed by another slight pneumonia. Excepting these he had never been sick. He denied specific taint and there was nothing to cause us to question this statement. His mother died of old age at 83, father living at 83 in good health, two brothers and one sister living and well, aged respectively 56, 51 and 49.

The patient was a user of tobacco and alcoholic stimulants in moderate quantities, but had never been given to excess of any kind. There was nothing in his personal history to indicate the cause of the disease and there was no hereditary history of syphilis, malignant disease or tuberculosis. The hoarseness began eighteen months previously; it had gradually increased for twelve months, or until he came under the care of Dr. Torrison, six months before I saw him. At first, although the true nature of the growth was suspected, the diagnosis was in doubt, and the doctor wisely put him on iodid of potassium, under the influence of which the voice gradually improved for two months. When first seen by Dr. Torrison there were two smooth white nodules involving the middle third of the left vocal cord, attended also by some swelling or thickening of the ventricular band immediately above it. In November, 1901, the growth showed considerable increase in size and had already spread to the anterior end of the right cord, but there was no glandular enlargement.

THE PRELIMINARY TRACHEOTOMY.

On his first presentation at our clinic in the latter part of January, I found a growth of comparatively small size involving all of the left cord, giving it an irregular edge with a rough, slightly ulcerated surface, and increasing its size irregularly about four times. The false cord was also thickened and the right side was involved to about one-third this extent. There was no glandular involvement. I told the class that while I believed that, as a rule, patients with malignant growths in the larynx would live longer and suffer less from a simple tracheotomy than from laryngectomy, yet in this case the conditions were so favorable that I advised the latter operation. The patient was admitted to the Presbyterian Hospital February 4, and the next day at the college clinic I did a preliminary tracheotomy under cocain anesthesia. The patient made an uneventful recovery from this operation, and at my clinic on February 26 was again operated on by the late Prof. Christian Fenger, who did a laryngectomy, which proved to be the doctor's last operation, as he died of pneumonia about a week later.[1]

PROFESSOR FENGER'S CLINICAL REMARKS.

I am greatly indebted to Dr. Karl Doepfner, Professor Fenger's assistant and associate instructor in surgery, for the report of Professor Fenger's remarks on this occasion, and to Dr. Otto T. Freer, instructor in diseases of the chest, throat and nose, for the clinical report of the operation.

Because of the comparatively small growth, absence of enlarged glands and its intrinsic character, I hoped that J. Solis-Cohen's operation might be performed, but after opening the larynx Professor Fenger found that the growth had perforated its walls; therefore, complete laryngectomy was the only operation to be considered. Before coming to the operation Professor Fenger spoke as follows of the history of this procedure, its results and the various indications for removal of this organ, illustrating his remarks with numerous free-hand chalk illustrations on the blackboard, which, unfortunately, I am unable to reproduce. Professor Fenger said:

THE HISTORY OF THE OPERATION.

Regarding the history of this operation in 1829 Albers of Bonn did experimental laryngectomy on dogs for physiologic purposes, but surgery was not yet advanced enough to make practical use of his investigations. In 1854 Bernhard von Langenbeck of Berlin intended to do it, but the patient refused the operation. In 1856 Koeberle also pointed out its feasibility. In 1866 Watson of Edinburgh performed the first total

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. J. F. Barnhill, C. R. Holmes and G. H. Makuen.

1. EDITOR'S NOTE.—This paper is published on the anniversary of Dr. Fenger's death, which occurred March 7, 1902.

extirpation for syphilitic stenosis. In 1870 Czerny made successful experiments on dogs for the purpose of surgical intervention in man, whereon in 1873 Billroth for the first time totally removed a carcinomatous larynx. Up to the end of 1897 we find in the literature 267 cases of total laryngectomy. Since then many more cases have been published.

POINTS OF ORIGIN OF CARCINOMATA.

It is important to distinguish between intrinsic and extrinsic carcinomata of the larynx.

Intrinsic carcinomata may originate from the true cords, the false cords, the interarytenoid folds, the ventricles of Morgagni or the subglottic space.

Extrinsic carcinomata spring from the epiglottis, posterior wall of larynx—pharyngeal surface (out of 18 cases this point of origin has been found 13 times), the ary-epiglottic folds and the sinus pyriformes.

J. Sendziak, to whom we owe the most recent and best statistical work, gives the following data: Out of 273 cases where the point of origin could be located beyond any doubt, the carcinomata were intrinsic in 204 cases or in 74 per cent., and among these cases the true cords were 107 times the primary seat of the affection. This means that the carcinomatous new growth in the larynx attacks by preference the parts covered with squamous epithelium. Consequently, the squamous-celled carcinoma is the predominant variety in the larynx, while the cylindrical-celled and the glandular (adeno-) carcinomata are less common. It means also that wherever the intrinsic carcinoma starts it follows in its propagation the squamous-celled surface. In other words, it spreads from one side to the other, most frequently along one cord to the commissure and then to the other cord (circular carcinoma).

Early regional infection of the neighboring lymph glands is not always manifest. It is more common in the later stages of the disease, and yet more frequent in the extrinsic carcinoma. This peculiarity is said to be due to the scarcity of lymph vessels in the walls of the laryngeal cavity proper. Metastases in remote organs have been observed in but a few cases. We may, of course, occasionally see a secondary carcinoma in a larynx, which had its primary seat in some neighboring organ, base of tongue, pharynx, thyroid gland, trachea, esophagus.

ETIOLOGY.

The etiology is unknown. Carcinoma of the larynx is much more frequent beyond the age of 40 (84 per cent.). Out of all cases published 39 per cent. occurred between the fifth and sixth decade of life, which is the most dangerous period. It is six times more frequent in men than in women. The disease is fortunately rare. Gurly in his tumor statistics, pointed out that out of all carcinomatous growths only 0.5 per cent. are located in the larynx.

THE THREE STAGES OF THE DISEASE.

Three stages of the disease are described:

Intrinsic Carcinoma.—1. In the stage of irritation there exists chronic hoarseness, which, according to Gerhardt, when occurring without cough in old people always suggests carcinoma of the larynx. Paresis or paralysis of one cord may also be present.

2. The ulcerative stage will be accompanied by fetor, cough, expectoration of muco-purulent, bloody, necrotic masses, and beginning dyspnea. We may or may not have pain either spontaneously, or on coughing or swallowing along the auricular branch of the pneumogastric nerve, radiating to the ear and occiput.

Extrinsic Carcinoma.—1. Here the first noticeable symptom will be dysphagia. This soon increases, and at the same time dyspnea may be noticed.

2. In the ulcerative stage, the symptoms are the same as in the intrinsic carcinoma.

3. The third or cachectic stage is common to both varieties—due to the lack of food (dysphagia), lack of oxygen (dyspnea), and sleeplessness caused by difficult respiration and pain. Death ensues in about three years after the onset of the disease, sometimes rather suddenly from suffocation or aspiration-pneumonia, sometimes slowly from cachexia and marasmus, due to the cancer and to the difficulty in taking food.

DIAGNOSIS AND PROGNOSIS.

I need not speak to you of the diagnosis, which has already been considered by Professor Ingals, but you should remember that macroscopic inspection is of more value in diagnosis than all other methods of examination, but do not forget that the reflected image in the mirror seldom reveals the full extent of the disease.

Microscopic examination of an excised particle of the new growth certainly is one of our best methods to clear up the diagnosis, but it is not infallible. Where it fails, and there is still strong clinical suspicion of carcinoma, we are justified in proposing and performing a laryngotomy. The diagnosis, however, is perplexing only in the early stages of the disease. The prognosis is hopeless without surgical intervention.

OPERATIVE TREATMENT.

According to our present knowledge, carcinoma should be extirpated wherever an operation is practicable. Carcinoma of the larynx may be extirpated by different operative methods.

1. *Endolaryngeal Operations.*—While benign tumors can usually be removed by endolaryngeal methods, and while even small malignant growths have been successfully removed in this way and the patients permanently cured, yet we must not put too much faith in such methods in operating on malignant tumors. We must always bear in mind that carcinoma is an infiltrating growth, infecting neighboring tissues which to the naked eye seem yet to be normal, and that it often spreads in the submucosa, leaving the mucosa healthy for a time at least. No doubt a skilful specialist will have good results if he sees such cases sufficiently early, but unfortunately this very seldom happens. Out of 640 patients—I quote from Sendziak—only 36 were treated by endolaryngeal methods with 25 per cent. absolute cures (3 years of observation), 14 per cent. relative cures (1 year of observation), 39 per cent. recurrences; in 22 per cent. the time of observation was too short or the diagnosis not absolutely established. All these cases came early under the treatment of skilful laryngologists and yet there were 39 per cent. recurrences. The following operative procedures must usually be preceded by a preliminary tracheotomy.

2. *Laryngotomy.*—We understand by this operation an incision, median or transverse, into the larynx through the skin with removal of soft parts only, not including cartilage. There exist at least 6 modifications of this operation. What are the results? Statistical figures may be annoying in a clinical lecture but they are instructive. Sendziak gives complete statistics up to 1894; to von Bruns we owe the figures from 1890-1898.

	1851-1894 (92 cases.) Per cent.		1890-1898 (60 cases.) Per cent.	
Cured more than three years	8.7	21.7	18.0	36.0
Under observation from one to three years	13.0		18.0	
Recurrence	53.3		28.0	
Death from operation	9.8		15.0	

That means bolder operating during the last decade, more cases, less recurrences, but also more deaths. All our big operations on the larynx must begin with a laryngotomy except where there is no doubt as to the bilaterality of the carcinoma. The larynx once split open and its interior laid bare for inspection and palpation—then only are we able to decide whether laryngotomy will do or whether we have to resort to partial or total laryngectomy. In the cases which may be treated by laryngotomy alone, the cartilages must be sound and no perforation must have taken place.

3. *Partial Laryngectomy.*—This, generally speaking, is a laryngotomy with more or less resection of soft parts and cartilage. It may be of half the larynx or more. There are different methods of doing this operation. The results are as follows:

	1876-1894 (110 cases.) Per cent.		1890-1898 106 cases.) Per cent.	
Cured more than three years	10.9	22.7	12.0	27.0
Under observation from one to three years	11.8		15.0	
Recurrence	30.0		31.0	
Death from operation	26.3		17.0	

This means distinctly more cures and less death-cases within the last ten years, but the same number of relapses due to the conservatism of the surgeons, in cases that were already too far advanced for partial laryngectomy. Radicalism in doubtful cases is safest in all cancerous growths.

4. *Total Laryngectomy.*—This consists in removal of the whole organ, with or without the epiglottis, and perhaps some of the adjoining tracheal rings and part of pharynx and esophagus. We must resort to it in all the cases of circular carcinomata and in most of the cases where the growth has become bilateral. Here are the results:

	1873-1894 (188 cases.) Per cent.		1890-1898 (81 cases.) Per cent.	
Cured more than three years	5 8	12 7	8 6	26.0
Under observation from one to three years	6 9		17.4	
Recurrence	32.4		23.4	
Death from operation	44.7		18.5	

During the last decade there are distinctly more cures, less relapses and many less deaths. What has brought about this improvement? Most of the patients formerly died from aspiration-pneumonia or wound infection (primary and secondary) even long after the general establishment of antiseptic wound treatment. The aspiration-pneumonia was combated:

1. By operating with the hanging head (Rose's position).

2. By the various tampon-canulas of Trendelenburg, Hahn, Koehler, and Gerster.

3. By suturing the stump of the trachea to the skin (Glueck and Zeller) instead of leaving it open in the wound.

4. By operating in the combined Trendelenburg and Rose's position and by keeping the patient in Trendelenburg's position for several days (W. W. Keen).

5. By loosening the trachea from the surrounding connective tissue, pulling it upward and suturing it to the epiglottis (if not removed), hyoid bone, lateral sides of pharynx (Foederl). This is an ideal operation where it can be done.

Phlegmonous inflammation of the wound has been most successfully prevented by closing the large pharyngeal opening (Bardenheuer). No longer saliva with its microbes could run down and infect the wound, and the external wound itself could be closed and very well drained in its dependent parts. By this method the patient can sometimes swallow immediately after the operation, although it may be more prudent to introduce a soft tube into the esophagus or resort to rectal feeding.

DEGLUTITION AND SPEECH AFTER OPERATIONS.

The restoration of the power of deglutition is of even more importance to the patient than restoration of the voice. After closure of the pharyngeal wound, patients are soon able to swallow, and if the sutures hold, nothing can enter the trachea. Before this plan was adopted patients were able to swallow solid and semi-solid food, but liquids would escape through the pharyngeal fistula into the trachea and cause cough, tracheitis or broncho-pneumonia.

After endolaryngeal operations, the voice will be more or less perfectly restored; after laryngotomy and partial laryngectomy, the voice will also usually return to such a degree that the patient can make himself understood. In Professor von Brun's celebrated case, the carcinoma affected one vocal cord. Ten years ago he removed it by performing a total laryngotomy—splitting open the larynx from the superior thyroid down to the trachea. A cord-like cicatrix formed at the place of the removed cord and the voice was restored so that the patient—a professor of clinical surgery—has ever since been able to deliver his clinical lectures.

After total laryngectomy the laryngeal voice is of course lost, but patients are able to whisper. Several different artificial larynges have been devised to overcome this difficulty, but most of the patients prefer whispering to carrying around such a rather cumbersome instrument. The whispering voice can be much improved by use, especially in the cases where the pharynx has been successfully closed. After the operative method where the trachea is stitched to the hyoid bone, and therefore opens into the mouth cavity, the patient not only has soon learned to swallow every kind of food, but has also developed quite a good so-called pharyngeal voice. By this method the patient also retains mouth and nasal respiration—a not unimportant physiologic function—while with other operations tracheal respiration with its inconveniences and dangers is persistent.

THE PATIENT AND THE OPERATION PROPOSED.

Our present patient has an intrinsic carcinoma as suggested by chronic hoarseness for eighteen months without cough and no wasting of the body as would occur in phthisis. The laryngoscope and the histologic examination substantiate the diagnosis.

The carcinoma is bilateral, consequently partial extirpation is no longer admissible, unless it be by the Solis-Cohen operation. This method is better than a simple hemi-laryngectomy as it takes away a part of the laryngeal skeleton of both sides. Professor Ingals hopes that this more conservative measure is yet practicable. A laryngotomy will allow us to carefully survey the larynx and determine the full extent of the disease.

A preliminary tracheotomy through the third, fourth and fifth cartilages was done three weeks ago, and the temporary tracheo-bronchitis has subsided. In this case blood will be prevented from flowing into the trachea by the sponge canula of Hahn, which I prefer to Trendelenburg's canula. The rubber bag of the latter is liable to collapse, or to distend below the end of the tracheotomy tube so as to cause suffocation.

OPERATION.

After insertion of the Hahn canula, through which chloroform was administered, Professor Fenger began his operation by making an I-shaped incision, the upper transverse cut following the hyoid bone, the lower one a line below the cricoid cartilage. The vertical incision was made in the median line. The two flaps thus outlined containing the skin, superficial fascia and prelaryngeal muscles were held aside. A curved needle was next passed under the hyoid bone, which was then pulled forward by a strong silk ligature. This brought the laryngeal region into strong relief, the thyroid, cricoid cartilages and trachea lying bared to view. The larynx was next opened in the median line, the thyroid and cricoid cartilages being split vertically and the thyrohyoid membrane severed from the hyoid bone. At the anterior inferior angle of the right quadrilateral plate the thyroid cartilage was found very thin, and when touched with a probe broke down before it, yellow carcinomatous material in a state of fatty degeneration oozing out. This condition and the fact that the growth was found to have involved the anterior half of the other cord made Professor Fenger decide that total laryngectomy was necessary. He called attention to the fact that the laryngoscopic appearances gave no proper idea of the great extent of the disease. Though no enlarged lymphatic glands could be detected, he thought that the best course would be to follow the laryngectomy in about six weeks by an operative search for lymphatic metastases in the carotid and submaxillary regions.

The patient was now lowered into an extreme Trendelenburg position, the body being inclined at an angle of 45 degrees so that in addition to the tampon canula the position of the patient with the head downward made it impossible for blood to enter the trachea or for the saliva to flow into the wound. The patient's heart at this time began to beat very slowly and it finally stopped for a few seconds, but he was revived and the operation finished without further anesthesia. Contrary to the usual practice, Professor Fenger began the removal of the larynx by severing it from its attachments at its upper part, as this gave a better chance to treat the pharynx and esophagus conservatively because they could thus be brought into view and separated more carefully from the larynx. It also gave great freedom of motion to the larynx and made it possible to lift it from its bed and twist it so as to expose the lateral portions in order to reach the vessels at its side. These

were the superior laryngeal, superior thyroid and inferior laryngeal arteries. The vessels were divided between two artery forceps and each severed portion tied. Working downward in this manner on both sides the larynx was carefully dissected from the pharynx and esophagus and then drawn forward and removed from its attachment to the trachea.

After the larynx had been removed it was found that the growth had extended close to the base of the epiglottis, which had been left with the intention of using it for closing the wound in the pharynx. Because of the nearness of the carcinoma it was thought safest to sacrifice the epiglottis. The opening into the pharynx and esophagus was now closed by sutures from above downward, thus completely restoring the pharyngeal tube. The severed end of the trachea was brought out of the wound and stitched to the skin where the lower transverse incision met the median incision. The skin flaps were turned in and sutured, care having been taken that every nook and corner of the wound was properly drained. Hahn's canula was removed and the old canula replaced. No blood had entered the trachea around the sponge. Catgut was used for the ligatures and pharyngeal sutures. The knots were tied inside the pharynx. Moist boric acid dressing was used.

The recovery was uneventful, except that on the fourth day the esophageal tube was retched up by the patient and on the same day a communication formed between the pharynx and the wound from sloughing away of the anterior wall of the pharynx. This untoward event afterward prevented the patient from swallowing liquid food, which would escape through the pharyngeal fistula. Whether this fistula will close spontaneously in a few months or be closed by a plastic operation remains to be determined.

Dr. Fenger concluded that it would be better not to use a permanent esophageal tube for feeding, but to nourish the patient by rectum for a few days and afterward to teach him to swallow liquids, for this purpose using sterilized milk, or if this did not succeed an esophageal tube should be used for a time at each feeding.

34 Washington Street.

DISCUSSION.

Dr. T. R. Chambers, Jersey City, N. J.—I wish to speak of two points. The first is the assertion made that when you have cancer you must take it away. I think that is liable to be misunderstood. Personally, I think I would rather die, if I had cancer of the larynx, than to have to suffer with the growth only partially removed. Its return would mean a great deal more agony to me than the few months or possibly only a few hours of life after a major operation like laryngectomy. The Doctor then says that a major operation on the larynx must always be preceded by tracheotomy. I do not know whether he considers an excision of the epiglottis near its base as a major operation, but last Friday I removed the epiglottis at its base for cancer of the epiglottis and the patient did very nicely, although no tracheotomy was done. I think I would remove cancer in its very incipiency, if possible.

Dr. O. T. Freer, Chicago—Dr. Fenger did not advocate tracheotomy as a preliminary to all total or partial laryngectomies, but advised it where there is uncertainty as to the extent of laryngeal carcinoma, that is, in those cases where partial laryngectomy or laryngotomy may perhaps suffice to eradicate the disease, and preliminary laryngotomy is therefore done to determine whether the larynx may be in part preserved or needs total removal.

Where total laryngectomy is contemplated from the start and dyspnea is not urgent, it is better to remove the unopened larynx without preliminary tracheotomy, as this creates a suppurating wound with surrounding inflammation, and a cleaner, neater dissection can be done without it. In addition, the presence of a tube in the trachea leads to coughing fits that add to hemorrhage and interrupt the operation. In total laryngectomies of this type it is better, therefore, not to open the trachea or larynx at all. In distinction to this, partial laryngectomy, even if merely contemplated as a possibility, necessitates laryngotomy and consequent bleeding into the lumen of larynx and trachea. This hemorrhage may be severe and hard to control, while that occurring in total laryngectomy is easily arrested and reached. It is therefore well to insert a sponge tampon canula into the trachea in cases of contemplated partial laryngectomy, though it is not a necessity, as Rose's position will usually answer to keep the trachea free from blood. The tampon canula insures against aspiration of blood upward into the trachea and its clotting there and makes the extreme Rose's position unnecessary, and this is an advantage, as the position with inverted head adds much to bleeding and is uncomfortable for the operator.

Cocain is always to be first applied to the trachea through the tracheotomy wound to avoid the coughing due to the presence of the tampon canula.

Dr. Norval H. Pierce, Chicago—I think it is important in all cases to do a preliminary tracheotomy before either a partial or complete removal of the larynx. Not only does this give us breathing space during the operation and prevent the entrance of blood into the larynx, but in the after-treatment the discharges are cut off from the trachea, and thus the most frequent cause of death, aspiration pneumonia, is largely avoided. I have seen Fenger perform the operation three times, and in all of those cases he made a preliminary tracheotomy.

I would like to put on record a case which illustrates very nicely the difficulty of diagnosis of carcinoma of the larynx in its early stages. A Canadian clergyman was stopping in the city, and a friend advised him to consult me regarding a hoarseness which had lasted some six months. He was obliged to give up his work because of this hoarseness; his physician advising rest as a cure. The laryngeal picture was as follows: On the right cord below its surface was a nodule, pinkish in color, but well defined, with no induration around its base and no redness of the cord, except possibly a slight pinkish color of the upper surface above the growth. It was the size of a small split French pea or even smaller. I removed this growth as well as I could through the natural way, and was surprised, on microscopic examination, to find evidences of sequestration of epithelial cells. This case, immediately after the operation, assumed a malignant character. The induration increased so that after five days the entire picture was changed, the hoarseness was greatly increased, and it came to the point where I advised him to have an external operation performed. Greatly shocked, and not at all friendly toward me, he returned to his home in Canada, where I have heard that he is steadily going down. Now here is a case in its incipiency where I was misled in my diagnosis, thinking it to be a simple papilloma, and I am sure no one could have made the differentiation by the microscopic appearance at that time.

Dr. Peter J. Gibbons, Syracuse, N. Y.—I notice in the abstract that the patient was able to speak. I did some work registering on the phonograph the voice of Dr. Solis Cohen's first case. I registered on the cylinder of the phonograph what he could say and how it sounded and repeated the examination every three or six months or a year. At the meeting in Philadelphia I reproduced them. I have used the phonograph to register other cases since then, and I have come to use it frequently. In a case in which a physician was sued for malpractice for the removal of a tonsil, I used the phonograph for the registering of the voice, which won the case for the doctor. By registering the voice of the patient on the phonograph, we encourage other patients, who can hear the records when an operation is contemplated. The patient will often consent to an operation when he would not, prob-

ably, if he did not hear the reproduction of the voice. It is a simple matter to register the voice in this way.

Dr. E. Fletcher Ingals, Chicago—In reference to whether carcinoma should be operated on or not, I simply gave the late Professor Fenger's views. I am, personally, heartily in sympathy with what the Doctor said; I should not usually have laryngectomy done for carcinoma. In all my experience I have only seen a single case in which laryngectomy seemed to me justifiable, and that was the one here reported. In the presence of cancer I believe the majority of cases will live longer and more comfortably without laryngectomy than with it. Professor Fenger believed that tracheotomy was not desirable in some cases. In this case I had done tracheotomy myself beforehand, without consulting Dr. Fenger about it. The case referred to by Dr. Freer was operated on by what is sometimes called Keen's operation, without a previous tracheotomy. It is turning out very satisfactory, and if other cases do as well, preliminary tracheotomy would not often be necessary.

THE ASCH OPERATION FOR DEVIATIONS OF THE CARTILAGINOUS NASAL SEPTUM: WITH SOME CONDITIONS COMPLICATING ITS PERFORMANCE.*

EMIL MAYER, M.D.
NEW YORK CITY.

There are many varieties of deviation of the cartilaginous nasal septum. In some the occlusion is complete, in others partial, some are high up while others are close to the floor. In some there are adhesions resulting chiefly from previous attempts at their cure, principally caused by the use of escharotics, while in others the deviation of one side is associated with a dislocated columnar cartilage on the other, making it S-shaped; and finally diseased conditions may lurk behind the obstruction. The bony septum is likewise deviated at times.

The record of a few of the complications of septal deviations is here presented.

Case 1.— J. W., aged 17, was sent to the New York Eye and Ear Infirmary by one of our well-known laryngologists. His cartilaginous septum was deviated to the left. Occlusion was nearly complete, while on the right the columnar cartilage was dislocated, almost completely closing that side. His right nostril operated on by a dissecting operation with excision of the protruding end, the mucous membrane stitched together and in a fortnight the parts had healed firmly and a free current of air established on that side, thus relieving the dislocation of the columnar cartilage. Subsequently an Asch operation was performed and the result was a straight septum with perfect respiration.

Case 2.—E. S., male, 26 years old, suffering from complete obstruction of left nostril and periodic attacks of hay fever. The main points of an unusual nature in this case were the complete occlusion and many points of adhesion of the cartilaginous septum to the inferior turbinate and the exceeding thinness of the septum. Escharotics had been formerly applied. In this case a perforation resulted, but the breathing is free and unobstructed and the improvement in health marked.

Case 3.—Patient of Dr. C. S. Bull; male, aged 28; had applied to him for relief of a marked bulging of the left eye. The vision being normal, the bulging being prominent in the temporal and infraorbital regions, the diagnosis of an extrinsic tumor was made, which evidently caused the bulging. His nose was found to be obstructed, and at Dr. Bull's request I examined him. A complete deviation of the cartilaginous septum was found and it was utterly impossible to make any intranasal examination. I advised operation of his deviation to enable further examination, as a means for diagnosis. He was found to have a mitral regurgitant murmur and hence no anesthetic was given. Under cocain the Asch operation was performed and the result eminently satisfactory. A free field was opened for examination and no further intranasal obstruction found. With the restoration of breathing the bulging of the orbit diminished to a great degree, though it was still pronounced. The diagnosis of an osteoma of the orbital cavity was then made. The patient feeling so comfortable was averse to any operative procedure on the orbit and so was Dr. Bull.

A further series of cases might here be added for the relief of the bony deviations that occur so frequently. In all of these, however, the trephine, or the crushing instrument devised by Roe seems to be the most valuable of the means at hand, for details of which we refer to the writings of the originator.

In considering the accidents reported following the Asch operation we note that Robert Levy reports a case of death subsequent to the Asch operation, the cause of death being acute meningitis. The patient was an opium habitué, and his general condition so poor that any operative procedure would tend toward a fatal result, hence this operation could hardly be said to be the real cause of death in this case.

Stucky records injury to turbinates on the deflected side. The thought occurs, in trying to find a reason for the possibility of this, that the dull blade which is always introduced on the deflected side might have been made sharp by the instrument maker, otherwise its occurrence seems most difficult of explanation.

In a recent article on the "Correction of Deflections of the Nasal Septum with a Minimum of Traumatism," a new operation is presented, and the writer proceeds to demolish that of Asch. "Asch's procedure," says the author, "is intended to accomplish by force under narcosis in a few minutes, *without the aid of sight,* a result which can be attained only by the use of much more time and with the infliction of some pain by rhinoscopic methods."

As to the force required in the Asch operation, let us compare the writer's own method with that of Asch. The writer advocates the forcible removal of exostoses and crushing by means of the Roe forceps in an operation whose duration may be from thirty-five minutes to one hour and a half, under the local anesthesia produced by cocain in powder.

Asch cuts the cartilage in full ether narcosis, uses powerful compressors in the same unconscious state. Can any rhinologist picture the former method as being the gentler one? The most stoical of patients will surely moan as the former manipulations are being made, while the less determined will give vent to shrieks of pain of a heart-rending character as the crushing process is being performed; others again will go into collapse and give us a serious hour or two, if nothing more, from the action of cocain on the heart.

On the other hand, what surgeon hesitates to use force under ether to reduce a dislocation, to refracture a poorly-united bone, etc.? For this, anesthesia is humanity's boon and force can surely not be considered as an objection.

My own statement that "the Asch operation is one of magnitude" is quoted. The remark was made by myself in pleading for general narcosis and rest in bed and not as regards traumatism. The following instance, I am credibly informed, is by no means an unusual one:

Vigorous male, aged 32, septum deviated to right. Asch operation under cocain; tubes inserted and patient allowed to go home in an hour. Three hours later he was found exhausted and exsanguinated and hurried to a general hospital

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

in an ambulance, where his tubes were removed, his nose packed and the bleeding checked.

When, at the end of a week, he left the hospital he had some pronounced views, let us hope, on the question of resting after such an operation.

I still hold the views formerly expressed; in one instance operation was delayed for over a year because I insisted on anesthesia and at least three days' rest. The patient finally consented, and has been grateful to me ever since for considering the operation of sufficient magnitude to require this.

The writer uses the words "without the aid of sight" as indicating the manner of operating, and here I must seriously challenge him to produce one single line from either the writings of Asch or of myself, or from the very clear description given by Shurly, Ingals, Coakley and others in their text-books as indicating that this operation should be done in such a manner. Indeed, the first great care is to have the broad light from a window, either direct or reflected, or else a properly shielded electric lamp; the Asch operation is done no more without the aid of sight than is an operation for adenoids or than with the Roe forceps, which I employ.

There are no two opinions regarding the question of the purpose of the Asch operation. It deals with the cartilaginous septum only. The bony septum can and always is cared for by means within our command.

As to the use of tubes after the operation: in the earlier operation packing was indulged in. This was very distressing to the patient and the tubes were the ultimate result of our efforts to support the broken septum in a proper position until the parts were firmly knit. In the hundreds of cases seen by me I know of few real complaints about the tubes—surely a few granulations can have no terrors to a skilled rhinologist—one sweep of a curette will end that. Compared to the comforts obtained, as against packing, of a properly fitting tube, there can be no doubt whatever.

That the Asch operation is of "growing popularity" is not due alone to the rapidity of its performance, but surely also to the results attained. To present the names of those who perform the operation to their own satisfaction and that of their patients would be to call a roll of many of those distinguished in their profession as rhinologists. To say that these advise and practice its performance because it is so simple a matter and not because it is in their opinion of the greatest good to their patients, is to make an unwarranted statement, to attack their intelligence and their surgical skill. Results and these only must count. Furthermore, no operative procedure, however simple, is free from unforseen and unhoped for complications, nor has there been any operation ever devised that will answer for every kind of deformity; nor can any operation hope to become popular which rests on the basis of attacking all others. In neither Asch's statements nor my own have other methods been attacked; it has sufficed us to say that the vast majority of deviations may be successfully cured by this method, and an experience of twenty years fully justifies that assertion.

The last word regarding any operative procedure is never spoken; the more popular it becomes the more frequently it is mentioned and assailed.

By our own mishaps and those of others we learn to avoid these and perfect our technic. Intelligent and fearless criticism is cordially welcomed, and it becomes incumbent on us to weigh these carefully and to answer them as best we may in the same cordial spirit.

25 East Seventy-seventh Street.

DISCUSSION.

DR. O. T. FREER, Chicago—I am the author referred to by Dr. Mayer. It is possible that, in my enthusiasm for the operative method advocated by me, I criticised the Asch operation with undue severity in contrasting it with my own mode of procedure. The operation that I prefer is that of the window resection, as it is named by Krieg, who was the first to give it a detailed description. Not knowing of the writings of Krieg and Bœnninghaus on the subject. I developed the operation independently in the course of my own work, as it seemed to me the most natural and proper one for a structure like the septum. The details of my method, therefore, differ somewhat from those of Krieg's proceeding, and much of my instrumentarium is original; both are described in my article in THE JOURNAL of the American Medical Association, March 8, 1902. Since this publication further experience has led me to make improvements which I hope to describe at some future time. The essentials of the method remain unchanged, however.

The resection operation consists in the removal of the cartilage and bone between the layers of mucous membrane lining both sides of the septum to the entire extent of the deflection. It is my experience that deflection of the bony septum usually continues that of the cartilaginous portion and that if the latter alone be straightened the patient will get but partial or no relief. The usefulness of the Asch operation is limited to the cartilaginous septum, therefore if the cartilage be straightened by it and the bone behind it be deflected or an exostosis be present this must be removed by a second later operation.

I agree with Dr. Mayer's objection to the Roe forceps. I included it in the instrumentarium described in my article, but further experience has led me to discard it. As Dr. Mayer has stated, the instrument often inflicts great pain, and for this reason and because it is impossible to tell with all fracturing procedures whether the break will occur in the desired place or not I have discontinued the use of the Roe forceps. In elastic septa it often failed to fracture at all, and sometimes would displace fragments in unexpected and undesired directions. Instead of fracturing, therefore, I now cut away all of the bony deflection as well as the cartilaginous. For this purpose I use cutting bone forceps, Gruenwald's strong nasal scissors, trephines and the chisel. A light, sharp chisel, with long bevel, impelled gently with light taps of a dental mallet will not fracture the septum beyond the field of operation. The instrument must simply be proportioned to the strength of the structure to be operated on. The use of a heavier chisel and mallet with strong malleting would be disproportioned to the resisting power of the septum and might break it. The light chisel cuts bone like a knife.

Dr. Mayer's description of the suffering I inflict on my patients has made me feel very sorry for them. The fact is that many of them chat with me while the work progresses and they often tell me that the resection of the cartilaginous part of the septum is quite painless. Trephining and cutting the bone causes more pain, but nothing that children of 12 and 14 have not borne without much complaint. Cocain anesthesia, therefore, makes the resection operation one of such slight suffering that I now boldly tell my patients that they will have but little to endure. All fracturing, however, or attempts to push over portions of the septum cause severe pain, as it strains distant portions not under the influence of the local anesthetic.

Faintness, as I have explained in my paper, seems associated with the first terror due to anticipation of the operation, and has invariably passed off in my experience after the work has gone on for a few minutes. It is not due to cocain, as in spite of the continued use of this drug, the faintness disappears.

The septum is a partition that consists of an elastic spring, the quadrangular cartilage, in front and a stiff bony plate behind. Less injury is done by complete exsection of the buckled part of this elastic spring than by attempts to force it into a straight line by its infraction. It takes greater force to break elastic than it does to break brittle substances, and

the result is apt to be imperfect. I therefore, from experience, ceased to attempt to deal with cartilaginous septal deflections by attempting to deprive them of their resiliency and relied on cutting them out as the most certain and mildest method. The cartilage or bone removed is of no physiologic importance, providing the mucous membrane be retained. It does not interfere with the support of the external nose. I have proven this often by extensive resections of the cartilage. Krieg has proved it, Bœnninghaus has also done so, as also have others. The accidents following the Asch operation are few and most of them may be due to chance, but I do not believe that it is as safe as the resection operation.

Dr. Mayer says that he uses sight in doing the Asch operation, and I apologize to him for stating that he does not. Nevertheless, I do not think that the Asch operation can be regarded as one where vision gives much aid, for, though the cutting may be done rhinoscopically, the fracturing certainly can not, and after the first cut the bleeding is too great to admit of useful vision.

The tubes employed in the Asch method are mildly irritating foreign bodies and, while usually harmless, are a source of discomfort and better dispensed with. After packing the naris for 2 to 5 days to avoid secondary hemorrhage, nothing is placed in the nasal fossa after the resection operation, as the naris operated on stands wide open, the deflection having been bodily removed.

The view of the interior structure of the septum offered me by complete excision of the deflection has shown me that deflections with walls of even, or nearly even, thickness are commoner than those with thickenings or exostoses. Many of the deflections, if merely sawed off by me, would have left in my mind the impression of exostoses.

One of the chief merits of the resection method is the fact that by it all of the deformity, bony and cartilaginous, may be removed at one sitting, radically and for all time, so that secondary operations are not needed.

There is no variety of deflection, whether thin or thick, complicated with exostoses, or ecchondroses or not, that can not be radically corrected by means of the resection method. It can not be done under a fixed rule, and the operator must be capable of modifications to suit the case and must have a sufficient assortment of instruments to cope with unusual obstacles, but if he gives heed to these conditions he will never fail to give the patient perfect breathing through the obstructed nostril when the operation is completed.

DR. C. R. HOLMES, Cincinnati—I would like to ask the Doctor if he uses the mallet and chisel.

DR. FREER—Yes.

DR. HOLMES—I do not understand the Doctor's method, and I would like to have him send me his reprints. I am afraid of chiseling on the bony septum. My lamented friend, Dr. Thorner, had one sad case in Cincinnati, where the use of the chisel was immediately followed by affection of the brain, and it was supposed that the death of the man was due to a fracture caused in this manner. Is it possible that drills can do the work?

DR. FREER—The trephine can do the work.

DR. HOLMES—Well, if the trephine could do the work, I think that would be much safer. If you study the skull, you will see how easily fracture may be caused, so that I would hesitate to use the chisel on the bony septum.

DR. C. F. THEISEN, Albany, N. Y.—In the cases in which the Doctor has to practice dissecting off the septum possibly back to the posterior nares, as he says is necessary sometimes, how is the nose supported?

DR. MAYER—The cartilages hold it in place.

DR. THEISEN—What if the individual receives a blow on the nose?

DR. MAYER—The cartilages will spring back the same as before.

DR. THEISEN—If the patient is under ether the operation is soon done and, in my experience, the patients do not complain of wearing the tubes after the first few days. They readily take out the tubes, cleanse them, and re-introduce them. In only one case have I had any trouble, and that was a case in which there was a small perforation before the operation. A small perforation resulted from the operation in one other case.

DR. P. J. H. FARRELL, Chicago—I have frequently performed the Asch operation and have been well satisfied with my results. I had the pleasure of hearing Dr. Freer read his paper on the operation devised by himself. I also have seen a number of cases after operation and the result in each case was very satisfactory. I will adopt the Freer operation in a series of cases on my return and will then have practical knowledge of both methods of operating for deviations of the cartilaginous nasal septum. I confess that I can see no good reason to quote men just simply to agree with them. I find it more instructive and interesting when an essayist has the courage to disagree with other writers. We all know that many of the papers read at medical meetings are simply a compilation. The bibliography frequently takes up more space than the subject itself.

DR. G. MCAULIFFE, New York City—Any discussion in reference to the bony portion of the septum should not be included in the discussion of the paper. Asch deplored the fact that his instrument was so badly manufactured and so poorly understood. The inability to get an exact right angle cross-section and the fact that the instruments are sometimes made with sharp points, will account for many unpleasant experiences. You can never make a straight line out of a curve, and I have found subsequently, after the Asch operation, there is a spur of bone in the lower portion, which necessitates subsequent sawing. As to the question of gentleness, if the operation is done thoroughly, the force necessary to run the finger up and break up the triangles (and it is necessary to break them up or they will spring out again), this procedure alone precludes the possibility of very great gentleness. But if the Asch operation is followed out according to its indications the result is good, except that you may have a spur to deal with subsequently.

DR. J. C. BECK, Chicago—I suppose the Doctor referred to me with the other men, for I told him that I did this operation. I attempted the operation on a man with a deflected septum very anteriorly. It was an ideal case clinically for the operation. In this particular case the operation was not difficult, and I used Adams' straightening forceps. The result was very good.

DR. J. E. BROWN, Columbus, Ohio—It seems to me this ought not to be a question of antagonism between, but simply a choice of, operations. We have here two operations, each with excellent features to recommend it to the surgeon. In a field of work much more limited than that of either of the essayists I have seen cases that I felt were not adapted to the Asch operation, and I have studied with much interest the method of Dr. Freer, and believe that in a certain line of cases it is to be preferred to the Asch operation. Under general anesthesia this latter is certainly not brutal, but the use of general anesthesia is certainly necessary for its satisfactory performance. I have twice made the operation under cocain, both times in the hospital, and it was in each case followed by more reaction than usual, and considerable prostration. In one case acute follicular tonsillitis appeared following the operation. I would hesitate very much before trying the operation again under cocain. Since the publication of Dr. Freer's paper I used his method in two cases. I was able to complete it with only a slight faintness on the part of the patient, and there seems to be no more pain than in any operation for the removal of a septal ridge. In one of these cases where there was a deflection of the bony septum, instead of chiseling above and below as described by the author, I used the Hajek chisel, removing the apex of the ridge.

In regard to perforations following operations for deflected septum, I should like to hear from some one who has seen bad results from these. In response to a question on this point to Prof. Moritz Schmidt of Frankfort, he said he had never seen bad results from such perforations, and that in some cases he would feel no regret from having them follow. It would seem that where the deviation is not perfectly corrected a perforation might be a conservative factor.

DR. EDWIN PYNCHON, Chicago—In his discussion, Dr. Freer said he ofter found simple deflections, but my experience has been the opposite. There is, in my experience, almost always more or less thickening. The occasional unfavorable results from the Asch operation may, I think, be due to such thickening. It is advisable to first reduce the thickened deflection to a simple deflection. After doing the Asch operation, which I have done on several occasions, I find it necessary to do one or more minor intranasal operations in order to destroy the little ridges produced as the result of the Asch operation. I have not done this operation under cocain, but I shall do so. An occasional perforation will follow the Asch operation, but it in no way differs from perforations found at other times and from other causes. A small perforation here is not a source of annoyance if the septum is perfectly plain about it. The reason a perforation produces irritation is because there is a thickening of the septum posterior or superior to it. I have sometimes removed the thickenings in such cases and found the perforation caused no further trouble.

DR. G. HUDSON MAKUEN, Philadelphia—After reading Dr. Freer's original paper I resected the greater portion of a cartilaginous septum that was dislocated and protruded from the vestibule of the nostril for about half an inch. Not having all the instruments Dr. Freer describes in his paper, and perhaps owing to less skilful manipulation, I made a perforation at the junction of the skin with the mucous membrane fully half an inch long. I was surprised when I found it there, but it closed up fully by first intention, and I doubt if anybody, by looking into that nose, would know that any operation had been done.

DR. KATE W. BALDWIN, Philadelphia—One word in regard to local anesthesia in the Asch operation. Cocain, menthol and carbolic acid, equal parts, as an anesthetic enable one to do the Asch operation entirely satisfactorily without general anesthesia. This combination is a very strong local anesthetic and must be used more sparingly than cocain alone.

DR. EMIL MAYER, New York City—Dr. Farrell's point is well taken, and I shall omit all personal reference to Dr. Asch in the paper before publication. I felt that I owed an apology to the section for again presenting my views on this subject.

Regarding Dr. Freer's methods, I would like to say that dissections have been done ever since any operations were attempted on the nose. I must take issue with the statement that deviations of the cartilaginous septum are practically always associated with bony deviations. In the specimen which I here present and which I have just taken from Dr. Cryer's exhibit before you, you will see deviations of the cartilage with perfectly straight bone.

Dr. McAuliffe has called attention to the need of some slight operation being required after the deviation has been relieved. This does occur and is simply due to the anatomic conditions present. It is a mistake to believe that the septum is all of one thickness. It is broadest at its junction with the maxilla and, hence, after operation, we have a thickened base to relieve. This is done as though we had an ordinary enchondrosis to deal with.

Dr. Freer, in his original paper, said that he used Roe's crushing forceps and, hence, I made the comparison between the exquisite pain of that method and that of the Asch forceps. I protested against the statement that we work in the dark. The final outcome of all discussions on this subject will be that such operation will be chosen as best suits the individual case and with such methods and results with which the operator is most familiar.

A Preservative Solution.—J. A. Shellenberger of Philadelphia says in the *Philadelphia Medical Journal* concerning the best solution for keeping pathologic specimens: Some years ago I preserved a goodly number of specimens very satisfactorily in the following solution:

℞.	Chlorid of sodium	ʒiv	120
	Pulv. alum	ʒv	150
	Hydrarg. bichlorid	gr. ii	12
	Aq. Pur.	Oii	960

M.—In very delicate preparations use double the amount of water.

RECURRING MULTIPLE ANGIOMATA OF THE SEPTUM.*

JOHN O. McREYNOLDS, M.S., M.D.
DALLAS, TEXAS.

It is not my purpose at this time to present an exhaustive study of the literature of this affection, but only to report an interesting case which is now under my care, together with the treatment I have employed and the comparative failures that have followed, in the hope that the wider experience of the members present may aid me in the more successful management of an exceedingly obstinate trouble.

The patient, Mr. L. L. K., a young Jewish merchant of Dallas, is 32 years of age; and aside from his nasal disease is in perfect health, and gives no history of any serious illness or constitutional infection that would have any bearing on the subject. He reports that his mother for many years was subject to repeated very severe attacks of nasal hemorrhage that resisted all efforts at relief by very competent physicians. She finally died of some unrelated intercurrent affection.

Our patient is about six feet tall, weighs about 160 pounds and is rather pale in appearance. The general conformation of the nose is that which we so frequently observe among the Hebrews, but the type is not exaggerated and the contour would be considered normal. His habits as regards tobacco and alcohol are exceptionally good, and he is not addicted to any form of dissipation to my knowledge.

The interior of the nose, on inspection, reveals a fairly normal state of the turbinated tissues, and the structures about the nasopharynx are in good condition. But on each side of the cartilaginous septum, when the nose has not been recently subjected to any form of treatment, are a few very dark blue elevations, each about the size of a pea. They are discrete, rounded in shape, and are most numerous in the anterior superior portion of the septum. They are composed almost entirely of blood vessels apparently of the venous type and they do not resemble in color, contour or behavior the granulation tissue which we see following operations on the septum. In fact, they are little blood tumors, and on the very slightest provocation and many times without any discoverable reason, they will break forth without warning, and for an hour or more will bleed furiously, until the loss of blood is at times very great.

So far, we have not been able to find any marked alteration in the character of the blood itself and there is nothing like a general hemorrhagic tendency. Wounds in other parts of the body proceed in the normal way, and in other parts of the nasal cavity there has never developed any disposition toward hemorrhage. After a period of bleeding these little tumors are somewhat collapsed, but they soon fill up again, and by the following day they are again ready to repeat the process. Generally the bleeding is unilateral, but sometimes it is bilateral, and it occurs most frequently when bending forward or under the conditions which would exaggerate any ordinary epistaxis.

With regard to the treatment we have employed, looking to any possible constitutional background, we have administered a long line of alteratives, tonics and astringents in succession, and at different times, but without any appreciable results. For the local condition we have used all the most important chemical astringents and caustics in modified form, and with some degree of success. But by far the most useful agent that we have so far employed was the electrocautery for the complete destruction of the tumors and their tributary blood vessels immediately around them. This will effectually prevent the hemorrhage for a few weeks, when the patient again presents himself with another series of tumors demanding obliteration. More recently I have been using electrolysis in the region of recurrence, hoping that in this way I may be

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*Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

able to hold permanently the ground which I can always temporarily secure by the employment of the electrocautery.

Now, gentlemen of the Section, if you have any ideas to advance that will contribute to the permanent relief of this affection I wish to assure you that your suggestions will be most gratefully received, and due credit will be entered to your account in the future management of the case.

MERCURY IN SYPHILIS:

ITS ADMINISTRATION HYPODERMICALLY IN CONTRAST WITH OTHER METHODS.*

EUGENE FULLER, M.D.
NEW YORK CITY.

The question of the part played by mercury in the management and cure of syphilis is outside the sphere of the present paper. In fact, that question has long ceased to be a burning one, the potency and efficacy of mercury in this connection being admitted by all sane, honest and educated opinion. The relative value in the treatment of this disease of mercury and the iodids and the scope of each, although subjects of importance, will also not be here discussed.

The object of this communication is a consideration of the therapeutic methods of administering mercury, the rules to be observed in the employment of these methods, the relative advantages of each and the great importance of their proper adaption to individual cases.

ACCESSORY TREATMENT.

As a prelude to this discussion, however, the importance on the part of the patient of the observance of certain general rules tending to make the system tolerant of mercury, no matter how administered, should be duly emphasized. The most important of all these is the existence of a normal and cleanly condition of the teeth and gums. Decayed teeth should be filled or extracted, tartar removed and any defects at the line of junction of the gums with the teeth remedied. Careful brushing of the teeth and the use, twice daily, of a peroxid of hydrogen mouth wash is in all cases most essential. Oftentimes it is impossible for a person who maintains the mouth in a foul condition to tolerate mercury in sufficient quantity to stay the progress of syphilis. The avoidance of alcohol, the ingestion of an abundance of nutritious food, the observance of hygienic conditions and the regulated practice of physical exercise are other general rules, the following of which should be insisted on.

THE METHODS OF GIVING MERCURY.

There are three general and usual methods for the therapeutic administration of mercury, namely, by the mouth, cutaneously and hypodermically.

Administration by the mouth is the common method, and if judiciously so given the drug satisfactorily accomplishes its purpose in the majority of instances. There are many forms in which mercury by the mouth is administered. The metal in its natural state as pill-mass or as gray powder can be prescribed or one of the various salts of mercury can be given. Metal mercury salivates rather more readily than do the salts. If a person is naturally prone to looseness of the bowels, pill-mass, for instance, would be of little use, as its administration, even in small doses, would be apt to so accelerate the bowels that little or none of it would be absorbed. In a subject of naturally bilious or constipated habit the drug so given may be of special value, since, besides producing its constitutional effect, it also corrects the function of the bowels. Among the salts of mercury the bichlorid, the biniodid and the protoiodid are perhaps the most frequently prescribed. The bichlorid has comparatively little effect, as a rule, on the bowels. To be tolerated by the stomach it should be taken when that organ is full, and it should also be swallowed in conjunction with a rather long drink of water. Bichlorid of mercury to the amount of ⅛ grain three time a day can, in many instances, be well tolerated. In most cases the initial dose of the drug should be 1/20 to 1/16 of a grain, from which starting point the size of the dose should be increased. Some stomachs will not tolerate this salt. Where this form of mercury is pushed beyond the toleration point and where the stomach does not rebel a mercurial tremor is apt to be observed. Many of the preceding remarks apply to the biniodid, although I am not inclined to give that salt in quite as large doses as the bichlorid. The protoiodid is a salt much used and variously commented on. In the experience of many it is found too irritating to the bowels to be tolerated in a sufficient amount to overcome or even stay the progress of syphilis, provided the disease shows any evidence of activity. In my experience most brands of protoiodid made in this country are too irritating to be of value, small doses producing colicky pains and loose bowels. French imported protoiodid is much milder, and of this many times a patient will be found capable of tolerating ½, ¾, or even 5/6 of a grain three times a day before the bowel symptoms develop. Protoiodid is a safe form of the drug, as it shows little tendency to salivate, the explosive bowel symptoms being the usual evidence that the dose limit has been reached. With this salt, as with the bichlorid, the initial dose should be small, the maximum one being reached by a gradual progression. Little of a descriptive nature need be said regarding mercurial inunctions and fumigations. When more mercury than the system can tolerate is by these methods absorbed, mouth symptoms, chiefly in connection with the teeth and salivation, manifest themselves. Therapeutically the cutaneous methods are, as a rule, efficacious. The chief arguments against them perhaps lie in the time they consume and the discomfort and uncleanliness they occasion, together with the publicity which may be not only associated with their administration at special establishments, or by attendants, but also caused by the continual soiling of the body and underclothing.

THE HYPODERMIC TECHNIC.

As the administration of mercury hypodermically is of somewhat recent origin, and as its therapeutic use in this manner is still restricted to the practice of comparatively few surgeons, it may be well to devote some special remarks to the technic of this form of treatment. In the first place, mercury so used can be administered as an aqueous solution of a salt or as an insoluble salt suspended in an oily medium. The medication should not be injected subcutaneously, but intramuscularly and deeply in connection with thick fleshy structures. The gluteal region represents the part best suited for these injections, care being taken not to involve an area so low that the sitting posture subjects it to direct pressure. If a soluble salt of mercury is to be employed the corrosive chlorid is to be preferred dissolved in a normal aqueous salt solution, each 10 to 15 m. of the solution containing ¼ grain of the mercurial salt. The presence

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of the corrosive sublimate insures the sterility of the solution. As much as ¼ grain of the corrosive sublimate can be injected daily or ½ grain every two to three days. In commencing treatment, however, it is not well to make the initial doses as large as these until the tolerance of the individual to the drug is established.

Calomel suspended in sterilized olive oil is the form in which the insoluble mercurial salt was injected in the early experimental days of the treatment. Although the systemic mercurial effects from such injections were marked, still they were very unsatisfactory, owing to the painful local after-effects produced, many patients being rendered so sore in the gluteal region as to be in a large degree crippled for a week or so, while in a few instances actual abscess formation resulted. These disagreeable effects resulted chiefly from two causes: the difficulty in keeping a vegetable oil in a sterile condition and, to a less degree, to the natural irritating quality of the calomel. The substitution of liquid petroleum products in the place of olive oil worked a great change for the better in this method of treatment. Liquid vaselin, albolene and benzoinol are some of the names given to these petroleum derivatives. At the present time calomel is by many still employed suspended in one of these latter preparations, and the results reported from it when so used are satisfactory. Another mercurial salt, insoluble in oil, which has to a considerable degree supplanted calomel in this connection, is the salicylate of mercury. The salicylate is a powder which closely resembles the mild chlorid in gross appearance. The therapeutic strength of the two when employed in this manner is also identical. The salicylate is supposed to be the less irritating. As the result of much personal experience I have adopted it as the form of mercury I generally employ when using the drug hypodermically.

The ordinary full dose of the insoluble salt so injected is 1½ grains. This amount can be given in 20 minims of the oil. Twenty-four grains of the salt in ℥i of the oil would make a mixture every 30 minims, of which, when well shaken, would contain 1½ grains of the salt. The syringe to be used should be one of ℥i capacity, with a needle about 1¼ inches in length and of the bore and thickness of a small-sized aspirating needle. The caliber of an ordinary hypodermic needle is too fine to transmit oil. Syringes which are made wholly of glass or all of glass, with the exception of asbestos packing to the piston, are to be preferred. The oily mixture should be warm, about the temperature of the body when injected. Antiseptic precautions should, of course, be observed and the syringe and the solution should be sterile. The patient should stand erect with the buttocks exposed. After the mixture has been thoroughly shaken the syringe should be quickly filled, the needle attached and the injection given. Everything in this connection should be done speedily except the actual injection, which last should be gradual, a minute or so being taken to slowly inject the dose. The patient should be instructed to relax his muscle while receiving the injection. If 30 minims are to be injected care should be taken to load the syringe to the extent of 40 to 45 minims, and while the injection is being given the outer end of the syringe should be tilted slightly upward. The reason for this lies in the fact that in a freshly shaken oily mixture there must, of course, be an admixture of some air bubbles. If the directions here laid down are followed all these air bubbles will collect during the process of injecting in the upper further portion of the piston and be contained in the last 10 or 15 minims which are not injected. If at any time during the process of injecting much resistance is met to a further depression of the piston, or if the caliber of the needle becomes plugged by a packing therein of the mercurial salt, the needle should be immediately withdrawn and the remainder of the injection given in another place.

PRECAUTIONS.

Little pain or discomfort should be occasioned by the administration of this treatment. Sometimes the needle strikes a somewhat sensitive spot. The only really disagreeable feature connected with the treatment lies in the occasional puncture of a blood vessel of some size. This may cause a little intramuscular hemorrhage, the result being the leaving of a sore spot, which may persist for several days pending the absorption of the clot, or the end of the needle being left piercing the caliber of a vessel while the injection is being given the oil is taken immediately to the lung, the result being an embolism, which is evidenced by spasmodic coughing and some temporary dyspnea. It is on this last account that stress is laid on the slowness in the administration of the injection, so that if any chest symptoms develop the needle can be withdrawn. If severe chest symptoms develop the patient should lie down till they disappear. In 15 minutes to half an hour such symptoms generally disappear. In very rare instances a patient may have a reminder in connection with his chest for several days after such a mishap.

An injection of this description and dose is sufficient to medicate the average individual for five days to a week. The first few injections, and especially the very first one, are apt to produce systemic effects much more vigorously than are subsequent ones. In other words, individuals, as a rule, become systemically accustomed to mercury so given, the result being that they tolerate these injections without experiencing any special immediate or following discomfort. It is not unusual after the first injection for a brisk diarrhea to develop in an hour or two and last the better part of a day. Indefinite muscular pains or nervous symptoms somewhat akin to hysteria may with others be the immediate and temporary after-effects, while with many soreness of the teeth are experienced. On this account I make it a practice to explain to a patient preparatory to the administration of the first injection that some prompt systemic symptoms may be felt.

Although 30 minims of the oil mixture represent the average dose, many individuals will be found to take 40 minims without developing any systemic intolerance, while with a few 20 minims will be found to represent the dose best adapted. This form of injection, it is seen, does not require so frequent repetition to produce a given effect as does the corrosive sublimate solution.

Judgment must be used in hypodermic medication not to produce salivation. The gums must be watched and the breath observed. If mercurial odor be evident in the breath or if the gums be characteristically tumefied and bleed on pressure a repetition of the treatment must not be given till these symptoms subside. Although care should always be exercised in the continuous administration of mercury by any method, lest undue effects from the drug arise, especial care should be observed in connection with the hypodermic administration. I do not wish, however, by this remark, to frighten anyone so that he will be afraid to use this treatment, for I am firmly of the opinion that at the present time far more harm results in connection with

syphilis from the administration of too little than of too much mercury.

CHOICE OF CASES.

If an individual presents himself during the primary stage of syphilis and keeps under observation so that mercurial treatment can be inaugurated as soon as a definite diagnosis can be made, then, in most instances, the administration of the drug by the mouth is the form of medication to be first tried. If the drug so administered is satisfactorily tolerated and succeeds in not only dissipating the symptoms which may be present, but also in preventing the development of new ones, then there is no good reason for displacing the method first adopted in favor of another. Not infrequently in such an instance, however, mercury by mouth, although well tolerated, may not, especially during the first few months of its administration, be potent enough to entirely hold the disease in abeyance. In such cases a hypodermic injection given from time to time will satisfactorily supplement the effect of the mercury taken by mouth. If a person presents himself for the first time late in the secondary stage of the disease, where, owing to anemia, facial or other prominent eruptive manifestations, alopecia, cephalalgia, rheumatoid pains, mucous patches or like developments, it may be of the greatest importance to quickly quell symptoms, not only for the good of the individual, but also to prevent the fact that syphilis has been contracted from becoming generally known; then hypodermic medication is to be recommended owing to the quickness of the ensuing results, a marked fading in connection with an eruptive lesion and decided cessation in connection with pain being noted even after the first injection. In a case such as this after the disease is well under control, then it may be that another form of medication can be substituted.

ILLUSTRATIVE CASES.

There are a certain class of cases wherein mercury by mouth has little or no effect on syphilis. In a majority of this class the drug is not absorbed from the alimentary canal. This non-absorption many times is accompanied by diarrhea, though occasionally the bowel action seems normal. In the minority of these peculiar cases mercury taken by mouth is absorbed perhaps to the extent of producing soreness of the teeth and gums or salivation and yet may exhibit little potency in staying the progress of syphilis. In all these cases mercury should be administered cutaneously or hypodermically in order to attain satisfactory results. As there are some claiming to be authorities on syphilis who still declare that mercury administered by mouth is capable of successfully combating the disease in all instances, it may be well to make special allusion to the two following cases taken from my practice:

One was that of a man who first came to me nine months after his chancre. He had been put on mercury by mouth as soon as his chancre had fully developed, and had continuously so taken the drug until he left his first adviser and came to me. His alimentary tract had apparently tolerated the drug and he had been able to take it in full doses. So hard and persistently had the administration of the mercury been pushed that the gums and teeth had many times been resultingly affected. Three months after the chancre characteristic headaches began to appear, and then gradually the spinal nerves became involved. For six weeks before consulting me vertigo, more and more marked, had been associated with the headaches, the severity of which had become intense. The spinal condition had become so marked that the patient walked with great difficulty—and then with a bent and rigid posture. Areas of great sensitiveness had also developed over the cranium. As soon as the patient came under my care all mercury by the mouth was discontinued and the drug crowded hypodermically. A prompt amelioration of symptoms resulted and in six weeks he was in a comfortable state. Business at that time calling him away, the previous symptoms promptly returned, in spite of mercury by mouth. These were again subdued by hypodermic injections as in the first instance. This case finally got well under a prolonged course of hypodermic medication.

Another case which I will cite was that of a man who first reported with an initial lesion. After watching him long enough to make a diagnosis of syphilis positive the attempt was made to administer mercury by the mouth. The form of drug first used was pill-mass, gr. ½, three times a day being ordered. In four or five days marked salivation began in spite of careful attention to the mouth. After a wait of 10 days another attempt was made, gr. 1/16 hydrarg. chlorid corros., twice a day, being prescribed. In a few days the mouth again became sore, and the drug had to be stopped. In the meantime marked secondary evidences of the disease were rapidly developing. A careful trial was next made of inunctions. These were well tolerated. The disease, however, was precocious in its development, and on that account I thought well of making a trial of hypodermic treatment. The first hypodermic was very light, through fear of resulting mouth symptoms. As these did not develop, the hypodermic dose was quickly augmented and a full, vigorous course of such treatment was given. No mouth symptoms due to mercury manifested themselves during this latter treatment, and the subsidence of the syphilitic evidences was satisfactory and progressive.

In concluding, I wish to champion the cause of mercury hypodermically in conjunction with large doses of an iodid by the mouth in the treatment of syphilitic ataxia in such of those cases as come under observation before the spinal lesion has so resolved itself into sclerous tissue as to be wholly beyond the influence of antisyphilitic medication.

252 Lexington Avenue.

DISCUSSION.

Dr. A. W. Baer, Chicago—The question of the comparative value of the organic and inorganic mercurial compounds in the treatment of syphilis seems to be still unsettled. I have had very little to do with the organic salts, as I have found the inorganic salts efficient and reliable. I have no experience to report on the hypodermic administration. I prefer giving mercurials by the mouth and inunction and have not seen any reason to abandon this method as I have found it entirely satisfactory.

Dr. W. J. Robinson, New York—Has the author of the paper had any experience with mercuric succinimid. From some observations made I have been much impressed by its freedom from irritating quality. It can be combined for hypodermic use with cocain if desired. In Germany this salt is used in 5 per cent. solution, with which is combined 1 per cent. of cocain hydrochlorate.

Dr. Eugene Fuller, New York—I have had no experience with the succinimid. No doubt there are many cases where giving the mercury by the mouth will answer the purpose quite as well, but it takes too long for the mercury to produce its constitutional effects, when given by the mouth, to make it suitable for use in urgent cases. In such cases, the hypodermic method is preferable on account of its prompt action and accuracy of dosage, and the fact that it is administered by the physician. There are many cases which can not be kept under observation for the length of time required for successful treatment, when they are allowed to take the medicine themselves.

Health in Islands.—It has been frequently observed that the inhabitants of islands and small peninsulas attain longer life than those of continents. The Barbadoes, Greece, Madeira and the Shetlands are quoted as illustrations of the truth of this statement.—*Medical News.*

DOSAGE OF LIQUID MEDICINES: A SIMPLE PLAN FOR GREATER ACCURACY AND METRIC MEASURES.*

CARL S. N. HALLBERG, Ph.G.

Member Committee of Revision, U. S. Pharmacopeia; Professor of Pharmacy in the School of Pharmacy, University of Illinois.

CHICAGO.

The strongest reason for the adoption of the metric weights and measures is the use of the present collection of arbitrary standards, conceived by chance and inherited by ages of medieval crudescence.

The paramount quality of that by which quantities are determined must be accuracy; that by which comparison is made must be as nearly invariable and inflexible as can possibly be devised, otherwise it is not a true standard. Scientific accuracy requires also that a fixed relation, only varied through variation in temperature, should prevail between weight and volume, and consequently that units of weights and liquid measures must be correlated, that is commensurate. No scheme for comparison which does not meet these fundamental requirements is worthy the name of a system, nor should be tolerated in this twentieth century.

CUSTOMARY MEASURES.

Subjecting the customary weights and liquid measures to this test they are found to be so absolutely at variance as to be a travesty on our boasted civilization and progress. Take the ounces of the three alleged systems for comparison, and they show the following equivalents in grains: avoirdupois, 437½ grs.; apothecaries', or troy, 480 grs.; fluidounce, 456 grs. (water at 15 C.). This is due to the fact that one pint of water weighs 7,300 grs. (approx.) instead of one avoirdupois pound, or 7,000 grs. In other words, the old saying "A pint's a pound, the world around," is as far from the truth as probably was the conception of the world by those who coined the catchy phrase.

There is a difference of about 4 per cent. which appears also in the apothecaries' ounce as against the fluid ounce, and is thus introduced in the smaller denominations, drams, grains, and minims; the fluid dram being equivalent to 56 grains, the minim about 96/100 of a grain.

INACCURATE DOSAGE.

It is this very discrepancy or lack of commensurability which is so trying both to the physician and pharmacist. In the formulation of percentage solutions, where great accuracy is usually required, there will be a discrepancy of from 4 to 10 per cent., according to which particular method the quantities have been determined. If, for example, the formula appears:

℞. Atropinæ sulphatis ..... gr. x
Aquæ sterilatæ ad ..... ℥i
M. Et. f. sol. Sig.: Use one minim.

If prepared by fluid measure each minim will represent 1/48 grain of atropin sulphate; if, on the other hand, a troy ounce of water should be used, owing to the absence of the prefix "fl" before the ounce symbol, then the amount of atropin in one minim would be about 1/50 grain, or, if perchance avoirdupois ounce be used, 1/44 grain would be contained in one minim. The difference in dosage may not be serious, but should such variations be tolerated, or such inaccurate methods be continued?

Aside from the disadvantages of inaccuracy and lack of uniformity of the customary weights and measures, there is also the lack of correlation with our decimal system of notation. For domestic purposes the convenience of a decimal system of weights and measures, in harmony with our decimal system of coinage, must be equally as great as this so-called international system now appears to be advantageous for the extension of foreign trade. As is well known, the decimal system of weights and measures is now in use in all but English-speaking countries. As it is complementary to our decimal system of money, it should have been adopted along with it, as advocated by Jefferson and John Quincy Adams. The return to the old system of pounds, shillings, and pence would be no more absurd than to continue to inflict on the coming generation the present aggregation of weights and measures.

THE FALLACY OF THE SPOONFUL.

Contemporaneous with the customary weights and measures are the so-called domestic measures for liquids, as represented by the "spoonful." How this useful utensil varies in capacity is well known, and when it is also remembered that the amount of liquid a spoon will hold when "full" depends on the generosity of the person filling it, the spoonful method of administration, while innocuous for placebos, can not be regarded as scientific medication. The "meniscus," or the level of a liquid, which determines a measured quantity, is, according to the best authority (Dr. Hager), the medial of a transverse line drawn through the lowest point in the surface of the liquid and one drawn at the highest point of contact with the liquid and the confining sides. This line may be easily determined when the liquid is measured in glass, and the smaller the diameter the more exact the measurement. As is well-known, the graduated pipettes and burettes used in chemical work are constructed on this principle. In measuring by a spoon the *meniscus* can not be readily determined, and owing to the cohesion of liquids, especially when aqueous, after the spoon has been filled to its apparent level, an equal amount of the liquid can be poured on top of it, if done slowly, without any of the liquid running over. For these reasons it may be safely asserted that instead of a teaspoonful being equivalent to one fluidram, it may be two fluidrams. In larger spoons the difference is proportionately less, but yet so great as to have no semblance of accurate measurements. Not only should standard spoons be devised, but a uniform meniscus should, if possible, be adopted, although the spoon measure, as best being empiric, should be superseded by graduated glass measures, similar to those at present extensively used. A readjustment of the relative volumes of the three different spoon measures in vogue is necessary, and such relation should correspond with metric measures.

Recently the following metric equivalents have been approved by the Philadelphia College of Pharmacy, and incorporated in the scheme presented further on in this paper: One teaspoonful = 5 c.c.; one dessertspoonful = 10 c.c.; one tablespoonful = 15 c.c.

The following definition for the meniscus, originally taken from the French Codex, has also been approved: "A spoon is full when the liquid it contains comes up to, but does not show a curve above the upper edge or rim of the bowl."

THE DROP.

But if the spoonful measure is only an approximation, the drop shows still less uniformity in volume. As

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

is well known, the size of drops varies with different liquids, is influenced by the size of the container and shape of the lip from which it is dropped, and by the temperature and volatility of the liquid. No careful physician would administer a potent agent by drops except through a minim pipette. Recent investigations have shown that drops of uniform size may be obtained by dropping from a pipette of a certain outside diameter; thus a tube of 3 mm. outer diameter will deliver 20 drops of water at 15 C., which will measure 1 c.c. when dropped at the rate of one drop per second. Nor is the size greatly influenced by the character of the liquid, be it watery or more mobile. Such standard "droppers" have been recommended for the exact measurement of medicinal liquids and, owing to its many advantages, this drop has been incorporated in the table.

ADVANTAGES OF DECIMAL DIVISION.

The decimal system has advantages in computing dosage and formulating combinations not possessed by the binary or octonary system on which our customary weights are based, because in accord with our system of numeration.

But it is in preparations for external use that the decimal system is *sui generis,* because their strengths are usually referred to by the per cent. or by per mille. Thus solutions for injections, etc., may be quickly prepared by taking for 100 c.c. the number of grams represented by the percentage strength; for 10 c.c. decigram may be used. Ointments, plasters, etc., may be equally readily computed.

EXACT EQUIVALENTS THE OBSTACLE.

The greatest obstacle to the more general acceptance of the metric system, especially for the older practitioners, has been the attempt to learn and to use exact equivalents for the customary weights and measures. Since the latter are not in accord with each other, the discrepancies appear in the respective metric equivalents, and the result is chaos and confusion. To illustrate: While 32 grams is a fair approximation to the apoth. ounce, it will not do to take it as equivalent to the fluid ounce, because in that event 16 fluid ounces would be equal to 512 gram, or one pint, considerable more than one-half liter, which at once makes the error apparent. This same discrepancy occurs in the other

ADAPTATION OF APOTHECARIES' WEIGHTS AND MEASURES TO THE METRIC SYSTEM.*
Showing by cross-references the relative quantities of customary denominations in Metric Terms, based on the Metric Standard Liter and Gram.

Decimal proportion to 1 (Gm.)	Denomination.	Minim, drop, grain.	Cubic cm., gram.	Fl. Dram, spoonful, dram.	Centiliter, tablespoonful, dekagram.	Fl. oz., ounce.	Deciliter, four-oz., hektagram.	Semiliter, pint, semi-kilogram, pound.	Liter, quart, kilogram.	Abbreviations in order of preference.
0.001	Milligram. . .	50	1,000	5,000	10,000	25,000	100,000	500,000	1,000,000	mg.; 0.001. . . } These three denominations given only
0.01	Centigram. . .	5	100	500	1,000	2,500	10,000	50,000	100,000	cg.; ctg.; 0.01 . } for reference.
0.1	Decigram. . .	0.5	10	50	100	250	1,000	5,000	10,000	dcg.; dg.; 0.1 . }
0.05	Minim, drop . . Grain.	**1**	20	100	200	500	2,000	10,000	20,000	m.; mtm.; min.; gtt.; 0.05 c.c. gr.; mtgr.; 5 cg.; 0.05.
1	Cubic cm . . . Gram	20	**1**	5	10	25	100	500	1,000	c.c.; cm³.; ccm.; ml.; 1 c.c. Gm.; G.; 1.0.
5	Fl. dram . . . Dram	100	5	**1**	2	5	20	100	200	fldr.; flmd.; flmtd.; met. spoonful; met. cochl.; 5 c.c. mdr.; mtd.; metdr.; 5.0.
10	Centiliter. . . . Dekagram	200	10	2	**1**	2.5	10	50	100	cl.; ctlit.; met. tablespoonful; met. cochlmag.; 10 c.c. Dkg.; Dekag.; 10.0.
25	Fl. ounce . . . Ounce	500	25	5	2.5	**1**	4	20	40	mfloz.; met. floz.; quadcl.; 25 c.c. moz.; mtoz.; quad. Hkg.; 25.0.
100	Deciliter . . . . Hektogram. . .	2,000	100	20	10	4	**1**	5	10	dcl.; decilit.; ĦHk.; flquatuncia.; 100 c.c. Hk.; Hkg.; quatuncia; Four-ounce; 100.0.
500	Semi-liter. . . . Semi-kilogram .	10,000	500	100	50	20	5	**1**	2	Smlit.; mpt.; ½ L.; 500 c.c. Smkg.; mpd.; ½ K.; 500.0.
1000	Liter. . . . . Kilogram . . .	20,000	1,000	200	100	40	10	2	**1**	L.; mqt.; 1000 c.c. K.; Kg.; 1.000.

This adaptation is based upon the fact that 20 drops of water at 15° C., delivered from a minim pipette with an external diameter of 3 mm., will measure one cc.

* From a scheme of adaptation presented to the Committee of Revision of the U. S. Pharmacopeia (1900) by the author.

A little practice will soon prove that by formulating the quantity in decimal amounts, the individual dosage may be seen at once without, as a rule, entailing any calculations. If, for example, ten or its multiple of powders, pills, etc., are ordered, the amount of the active agent for the whole quantity is at once apparent; thus:

	Dose.	10 powders.	20 powders.
℞. Resinæ podophyllini	0|01	0|1	0|2
Hydrargyri chloridi mite . .	0|1	1|0	2|0
Sacchari lacti	0|5	5|0	10|0
		10 pills.	30 pills.
℞. Acidi arsenosi	0|005	0|05	0|15
Strychninæ	0|001	0|01	0|03
Quininæ sulphatis	0|1	1|0	3|0

If a liquid mixture is desired, it should be similarly ordered in quantities of 100 c.c., 50 c.c. or 25 c.c.

	Dose in 5 c.c.	Dose in 100 c.c.	Dose in 50 c.c.
℞. Morphinæ sulphatis	0|01	0|2	0|1
Potassii bromidi	0|5	10|0	5|0
Chloralis	0|3	6|0	3|0
Syrupi aurantii ad	5|0	100|0	50|0

denominations: dram, grain, and minim, and is too serious an objection to be disregarded.

There is only one way of using the metric system, and that is to use it, or a decimal adaptation of it, combining the desirable units, grain and minim, which are so inseparably bound up with dosage in the medical mind.

With 20 drops, equivalent to a cubic centimeter, instead of 16 drops, and assuming the gram to contain 20 grains instead of 15.432 grains, we obtain at once these two essential denominational units as concordant and with the necessary decimal relation to the metric units, cubic centimeter and gram, on which a simple adaptation of the customary weights and measures may easily be constructed, as shown by the accompanying table.

As will be observed, there are no changes whatever in the metric standards.

The new metric grain proposed is about one-fifth less than the troy grain.

The minim is a little less than one-fifth smaller.

The new dram is about two-ninths greater than the apothecaries'.

The new fluidram is about three-elevenths larger than the present fluidram.

Both drams contain 100 grains or minims.

The new ounces would be all alike, representing 25 gm. or c.c. and would be from one-eighth to one-fifth less than the customary ounces.

The metric ounce, 25.0; one-fifth less than 1 apoth. ounce, 31.0; one-sixth less than 1 av. ounce, 28.35.

The metric fl. ounce, 25 c.c.; two-thirteenths less than 1 fl. ounce, 29.5.

The metric pint and pound are 5 to 10 per cent. greater respectively than the pint and avoirdupois pound.

The discrepancy in these two is not great, and would be readily adjusted. Each would contain 20 ounces, or 100 drams, or 10,000 grains, or minims.

The advantages of this adaptation for the calculation of doses, the strength of preparations, etc., is self-evident. The dose of an active agent in any quantity of a solution or mixture would have a definite decimal proportion and could be quickly calculated in metric grains, or minims. The smaller quantities represented by the proposed grain and minim would not be as objectionable as is the lack of proper relation between the present denominations—a fruitful source of error in practice. Besides, the difference is on the safe side, and by employing the proper designations no mistakes could occur. The author recommends that the abbreviation of "Gm." for gram should always be written with a capital G, to avoid confusion with "gr." for grain, which is never written with a capital letter. The metric fluidram is especially designated "metric spoonful" to afford an accurate method for administration of liquid medicines.

The adoption of a definite spoonful measure would cause the domestic measurement of medicines by graduated measures exclusively. Of the centiliter, or tablespoonful, the same may be said. The decimal proportion of the ounces to the drams and also to the grain and minim would enable the prescriber to at once estimate the quantities and yet have the metric equivalents at a glance. The deciliter, or four-ounce, would be an exceedingly convenient quantity for extemporaneous prescription; containing 20 fl. drams it is well adapted to formulas of which the dose is a teaspoonful. For example: one grain at a dose; then 20 grains=1 Gm. to 100 c.c., or 4 fl. ozs.

In the belief that the adoption of some such adaptation, possibly as an appendix in the U. S. Pharmacopeia, would materially aid in the more general acceptance of the metric system for prescription writing, this scheme has been proposed to the Committee of Revision and is now presented to the profession.

NOTE.—*This paper was referred to a committee consisting of Drs. Frank Woodbury, H. C. Wood, Jr., and A. A. Eshner of Philadelphia to report on at the next annual session.*

A remarkable specimen was shown at the meeting of the "Section on Clinical Medicine and Surgery" of the Medical and Chirurgical Faculty, December 19, by Dr. José Hirsh. It was an immense aneurism of the arch of the aorta of 24 years' standing. The sac was entirely filled with a hard clot and had projected forward, evading the sternum at the junction of manubrium and gladiolus, so that these bones were at right angles to each other. Notwithstanding his condition, the man (a Frenchman) had led a laborious life as a bricklayer. The case was considered one of spontaneous cure. Owing to the position of the tumor, there was a remarkable lack of symptoms. Oozing of blood from the apex of the tumor took place from time to time, and infection occurred in this way, death being due to general streptococcus infection.

THE IDENTITY OF NERVE FORCE AND ELECTRICITY.*

J. EMMET O'BRIEN, M.D.
SCRANTON, PA.

There has been in recent years such advance by physiologists in knowledge of nerve mechanisms, though not of nerve force, and such advance by electricians in knowledge of electricity in its protean phases, that, I think, the view of the relation of nerve force to electricity ought to be taken up anew by physiologists and restudied in the light of modern electricity. Advances by physiologists appear in minutely studied anatomy of neurons, relaying nerve mechanisms, conduction paths, terminal mechanisms, etc., and advances in this direction by electricians have been in better knowledge of the electric phenomena of cables, learned since physiologic views of the electrical phenomena of nerves became rather arbitrarily fixed; of fine currents and the wide field of induction, as revealed by the telephone; new light on the merely relative value of insulation; the phenomena of high frequency currents and their apparent reversal of electric law in insulation; storage or secondary batteries; electric relays, repeaters, transformers, microphones, terminal mechanisms, etc., and lastly electrolysis and electrochemistry.

PRIORITY AS TO THIS THEORY.

Noting the analogies between nervous and electric mechanisms revealed by the advances of recent years in the separate fields of physiologic anatomy and electricity, I affirmed the identity of nerve force and electricity in a paper[1] entitled "Analogies Between Nervous and Electrical Mechanisms: What is Nerve Force?" to our county and state medical societies in 1900. On account of the importance of the subject, and because the same conclusion has since been reached through other paths by Professors Loeb and Mathews, I again present it, with some further studies. The lay press has, as you are no doubt aware, given entire credit for originality, not only in methods, but as to scope and conclusions, to Professors Loeb and Mathews. They are entitled to great credit for methods in arriving at the identity of nerve force and electricity.[2] But it is not the lay press but scientific societies and journals that ought to adjudicate the question of originality in method, scope and conclusions; and so to you I leave it.

THE SPEED OF NERVE IMPULSE TRANSMISSION.

In reviewing works on physiology I have not found reasons given for the usual statement that nerve force is not electricity. I presume that the supposed slow speed of nerve force, the apparent want of insulation, of continuous circuits and of galvanic elements in nerves have been the principal objections. If there are other, better reasons I am anxious to know and acknowledge their validity. It does not appear that any very decisive experiments indicating slow speed of nerve impulse have been made since those of Du Bois Reymond and Helmholtz, though theirs have been repeated by many. Although we have since learned much about electricity, these experiments appear to bind opinion still. These experiments were made and interpreted before much was known of the electric phenomena of cables; before

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, Winfield S. Hall and Frank B. Wynn.

1. Published with drawings in the Pennsylvania Medical Journal, November, 1900.

2. See, for instance, "The Nature of the Nerve Impulse," by Mathews, Century Magazine, March, 1902.

the Gramme ring made electric power possible; before quadruplex telegraphy; before Reis invented the telephone or Bell perfected it; before Gray showed the harmonic duplex; or Edison perfected electric light, invented the phonograph or developed the miracle of the microphone discovered by Hughes in the variable resistance of carbon; before wireless telegraphy and the Roentgen ray; and before Tesla had revealed the apparent reversal of electric law of insulation by high-frequency currents. They were made before neuron anatomy was known. Charpentier, repeating the Reymond-Helmholtz experiments and ingeniously varying them, succeeded, according to the *Revue Scientifique,* in demonstrating about a year ago—that is, about a year after my first paper—that nerve force is electrical. While his conclusions favor the contention of my papers, I think that, with all other laboratory experiments so far made, they are not above criticism.

All these experimental data for and against the electric concept, are so far, I think, inadequate. You test a nerve cable at different points with depolarizable electrodes and, from the indications of a capillary electrometer, say that nerve impulse has a speed of only 30 meters per second. Does this test the normal physiologic currents of a nerve or warrant the conclusion as to speed? I think not. You apply the electrodes to the cut surface of a nerve cable, or of muscle, and get electric manifestations. You irritate a nerve and note the time of muscular contraction. Do any of these experiments directly measure normal currents or indicate their speed? I can not think so. The most that can justly be said for them is that they prove the presence of electricity in nerve and muscle. Suppose we applied precisely similar tests to a telephone cable or an ocean cable, we would get various electric indications and might call them cable impulses, negative variation, cathodic closing, cathodic block, etc., but would not be fairly measuring the speed of normal cable currents. I think it is safe to say that the speed of the normal current in nerves has never yet been measured unless we consider the first part of the double current observed by Charpentier to be such. The *Revue Scientifique* describes this phenomenon as follows: "A short electric excitation produces a double transmission on the part of the nerve. One part is transmitted almost instantaneously as in an ordinary conductor." In experiments on the speed of sensory impulses, as well as motor, the time of relay and terminal mechanisms will have to be estimated and deducted. The fact is, I believe, that the experiments relied on as determining the velocity of nerve current, while ingenious, are relatively coarse, clumsy and inadequate for the gossamer tenuity of the neurons and the fine electric currents they normally evolve and transmit. We need finer experiments than these, and on living nerves, to demonstrate the normal currents. Tesla, in 1900, announced an electric invention sensative to the contraction of a muscle merely in the same room with it. This may indicate the direction of hope for methods fine enough for the demonstrations that we need.

But there is other evidence: There is available a series of what we may call natural experiments involving speed of nerve impulse which have not been studied to their logic conclusion in that regard, although physiologists have taken note of them in regard to fatigue, etc. I refer to the cases of rapid muscle movement in man, animals, birds and insects. It seems to me that the wing vibrations of insects, running up into thousands per second, invite study and imply at a glance greater speed of nerve impulse than the conventional figure. The pianist's movements have been noted but are complicated. Scripture of Yale is the latest to make some tests of fatigue, not speed, in key tapping by non-experts. I have made a study of a more rapid movement than that of the pianist's, who uses ten fingers and many muscles. The expert telegrapher in speed contests uses the same flexors and extensors of the hand throughout. Having to move his key through the smallest possible space he attains a speed of 54 words per minute. This gives a well-attested average of 11¼ flexions and 11¼ extensions, or 22½ vibrations, of the hand per second, sending the mixed Morse characters of average press words. Some of these characters are dots, as the letters e, i, s, h, p, and the figure 6; 1, 2, 3, 4, 5 and 6 dots respectively. As the dot is shorter than the dash or the space, it is made by motions faster than the average of 22½ vibrations per second attained in sending the dots, dashes and spaces. Experts think twice as fast, or 45 vibrations of the hand per second. This means a rate of 22½ contractions of the flexors and 22½ contractions of the extensors per second for the dots, with an equal number of muscular relaxations. It does not seem probable that a nerve impulse is traveling down the line to the flexors while the extensors are contracting, or vice versa, so that it seems fair to divide the time between the two motions, leaving half a second for 22½ impulses and flexions and half a second for 22½ impulses and extensions. The length of nerve from brain to forearm may be about 30 inches. This means that not only does a normal nerve impulse travel 30 meters per second, but that over 30 impulses pass over the same meter of nerve per second, which is a different thing. Some physiologists admit the probability that each muscle contraction is maintained by a series of nerve impulses like those of the induced current used to experimentally tetanize a muscle. If that is true, and I am inclined to believe it, then our 30 impulses per meter, or rather 45 impulses per ¾ meter, per second, have to be largely multiplied. But if you reject the view of series-impulses and insist on a make and break current the time of muscle contraction will have to be deducted to leave the time of the nerve impulse which induced it. Muscle action is a visible, tangible, mechanical, time-consuming phenomenon. Where the time of a single nerve impulse and a single muscle contraction is to be divided how much shall we apportion to the mechanical action and how much to the flight of the nerve impulse which induces it? Until this is accurately determined I can only conceive the relative time to be the same as that occupied by the electric current traversing a conductor and that occupied by an armature, or a muscle, in responding to its call. But in any way that this problem can be figured it shows that normal nerve impulses travel faster than 30 meters per second. In this calculation I have not doubled the length of current path for a return circuit, but that possibility should not be lost sight of.

Normal nerve force is not only, as I believe, vastly faster than has been supposed, but electricity may be much slower in action than its well-known maximum velocity. There is a lag in cables due to capacity, inductive static charge and the electric reaction of armor. Nerves are cables although they appear to be often treated in experiments as if they were single uninsulated conductors. There is a perceptible lag in poorly insulated land lines in wet weather due to escape, short-circuiting, etc. So, in comparing electricity and nerve

force the minimum speed of electricity should be considered. It may be further reduced by adjustment of relays, repeaters, condensers, terminal mechanisms, etc. I have thus endeavored to show that there is no such gulf between the speed of electricity and nerve force as has been supposed. In both cases the velocity may be materially affected by conditions and mechanisms. It seems to me that further investigation and experiment in this direction by well-equipped physiologists will fairly meet the principal objection to the electric concept.

NERVE INSULATION.

The telephone threw a flood of light on induction and insulation. When, on the telephone line through which I first heard speech, I also read the Morse of neighboring telegraph lines I realized that induction occupies a wider zone than had been previously dreamed of. When telephone currents came through lines so poorly insulated or badly grounded that the telegraph would have been mute I realized that insulation is indeed merely relative, and what we now know of high-frequency currents has further enlarged this view. At one time it was supposed that nerve force could not be electric because the nerves were not insulated as in glass or gutta-percha. We now know that less insulation will suffice as for fine telephone currents.

NERVOUS AND ELECTRIC SYSTEM ANALOGIES.

The analogy between a single axone with its myelin sheath and an electric conductor with insulation is so obvious that I will not dwell on it, but will have something to say on insulation further on.

The analogy between a telegraph or telephone cable and a nerve cable armored with its sheath and containing numerous axones, each with its own myelin covering, is still more striking. The use of both is the same—communication, or the transmission of force.

Nerve and electric units will be compared farther on in this paper.

The analogy between nerve relays and electric relays is most significant; their purpose is the same, their mode of action is similar; there is variety of form in both, more apparent in electric relays because they are more familiar and more easily dissected.

Nothing can be more wondrously analogous than the multiple switchboards of the spinal cord and higher centers with those of the telegraph and telephone. Analogies may be traced in multitudinous terminal mechanisms of electric and nervous systems, and at both termini, that is, at sending and receiving ends of the circuits. We find analogy and, I believe, identity in the form of force energizing nervous and electric systems. We find, I believe, analogy in the speed of this force. We find more than analogy in the ensemble of force, velocity, conductors and mechanisms. We find identity of plan, purpose and use in nervous and electric mechanisms.

A galvanic cell no larger than a cartridge shell may work an ocean cable. The simplest concept of an electric unit is such a cell with a conducting circuit. Electric systems are built up of such units. The simplest concept of a nerve unit is a nerve cell: its dendrites, axones and collateral branches. The whole nervous system is built up of such units and these neurons evolve, transmit, repeat to each other and exchange through multiple switchboards the impulses necessary to the complex system of communication in the living body. The analogy between nervous and electric units is not merely in appearance, there is identity of purpose and use, namely, to generate and transmit force. In the electric unit the force is electric. In the neuron it gives electric manifestations as shown by the electrometer. Why is it not electricity? The gymnotus and some other fish produce and use electricity on the large scale as a defensive or offensive force; their electric cells are probably storage batteries. (Storage batteries do not retain or contain the electricity pumped into them; by it they are only placed in the chemical position to produce electricity. They would be better called secondary batteries.) If these fish produce electricity in organic cells and operate it through their nervous mechanism for purposes of warfare, it must be admitted that Nature can evolve electricity in organic cells and utilize it for peaceful purposes in the domestic economy of animals. She seems to have taken great care to provide a fine and complex mechanism for it. Nature's technic is not meaningless.

There have been cases of excessive production of electricity in human beings. Physiologists find in nerve cells two substances stainable respectively by acid and basic dyes; this indicates galvanic possibilities. Barker, in his great work, "The Nervous System," says that he rather favors Von Lennhosek's view, as follows:

> We can very well conceive of a variety of excitation, which, starting from the cell, perhaps even from the nucleus, streams constantly through the axone and in it in some way, perhaps by a process comparable to electrolysis, maintains the chemical conditions suitable for the assimilation of the nutritive juices.

If eminent physiologists can conceive this can we not conceive a fine current of electricity; not enough to work an Atlantic cable, nor needing a mammoth battery so vast as a gun-cap to produce it, but of sufficient e. m. f. to work a nerve cable a few thousand miles shorter and needing nerve cells proportionately small to generate it? True, the physiologists refer to trophic processes, but if we conceive such a current for nutritive purposes why not for the obvious and appropriate purpose of communication.

If we take an electric unit and place an electro magnet, chemical paper, any one of a hundred terminal mechanisms, say a muscle, in the circuit, the kind of work done will depend on the mechanism of the terminal. The same is true of the nerve unit and argues that the communicating force is the same. It will suit my rude notions of these analogies better and make my conception of them easier if you can admit the existence of complete, or return, circuits. Recent investigations show that not only are there probably two filaments sent to each terminal organ, but every axone has numerous collaterals. Groups of cells have intimate relations, and connections are, according to the neuron concept, contacted by variable resistances; besides these paths there are general return circuits possible, like in the telegraph and telephone. Endowed with motility the dendrites make contact by different paths for the nerve current through the nerve centers, thus doing automatically what the operator does at the telephone switchboard when she connects different subscribers. The analogy may seem even closer than this in the case of automatic telephone exchanges requiring no operator, but I do not mean now to suppose electromagnetism in the nerve repeaters, but rather that their elements react on each other like galvanic elements in a battery or, by induction, like condensers, transformers, etc. In alternating circuits the transformer repeats from one line to another and converts the current to a higher or lower voltage. Every induction coil is a repeater. The electric condenser relays, retards and intensifies discharge. The effect is varied if the plates approach or recede; doubtless the same is true of the nerve processes.

The question of insulation is important to the electric concept. There is probably no absolute insulation anywhere; it is relative; a matter of degree. Let me illustrate: A man was killed on a lamp pole by an alternating current of 2,800 volts. I traced the current from the wire through his spur, body, hands, to the metallic braces of the mast-arm, where it divided, part going down the pole and part through the metallic mast-arm and manipulating rod to a spike in the pole within ten feet of the ground, thence by the pole to the ground. On testing the escape through the pole by inserting an electric bell wire in it a few feet from the ground and grounding the other end of the bell circuit the escaping current rang the bell. In military telegraph experience during the Civil War I have not only worked successfully through badly insulated lines, but through some grounded intentionally for obstruction. A portion of the first Atlantic cable, used across Chesapeake Bay in 1862, furnished me varied experience in poor conduction, bad insulation and slow work. With the telephone when the old ground return was used I have heard speech when the line sometimes lay on the ground. With such a wire of twenty miles so badly insulated and grounded that speech became indistinguishable in the receiving diaphragm I have yet kept up communication by the simpler Morse signals through the more sensative telephone mechanisms. Communication has been had through a mile or more of water not insulated from the earth which formed the other side of the circuit; this by means of the Morse language and telephone instruments. Wireless telegraphy scorns insulation. Whatever theory others may have of it, mine is that there is a complete circuit, the earth forming one side of it, the atmosphere the other, and Marconi has worked it across the Atlantic without insulation. So, I say electric insulation is merely relative, the degree required depends on the kind of current, the purpose and the mechanisms used. If nerve force is not electricity, what other form of force is it that could be better kept insulated in the axones?

In considering insulation, relays and switching, I quote the following from Lombard in the American Text-book:

> The axis-cylinders of the many fibers which run side by side in the nerve trunk are separated from each other by the neurilemma and, in the case of the medullated nerves, by the myelin substance as well, so that there is not even contiguity, much less continuity of nerve substance. Thus the fibres of a nerve trunk, some afferent and others efferent, though running side by side, conduct independently of each other. For example, if the skin of the foot be pricked, the excitation of its sense organs is communicated to sensory nerve fibres, and is transmitted along them to the spinal cord, where the stimulus awakens certain groups of cells to activity; these cells in turn, by their branches, the motor nerve fibres, transmit the excitation down to the muscles of the legs, which . . . contract and withdraw the foot from the offending irritant. The sensory and motor nerves concerned in this reflex act run for a considerable part of their course in the same nerve trunk, but the sensory impulses have no direct effect on the motor nerve fibres, and the round-about course which has been described is the only way by which they can influence them. It is probable that isolated conduction by separate fibres and their branches holds good within the central nervous system as elsewhere, otherwise we could scarcely explain the localization of sensations or coördinated movements. It is possible that within the central nervous system the neuroglia may act to secure isolated conduction.

This is an admirable description. What is this system of conduction and isolation for? What force is it intended to convey? Can it be anything but electricity? There is said to be more than 50 per cent. cholesterin in the solids of gross nerve tissue; it is probably mostly in the myelin sheath; it is an insulating substance; the conductors are very small, 1/1200 of an inch in diameter and smaller; the current needed is very fine if a battery of percussion caps may work an ocean cable. Nature has taken such exquisite care to keep these myriad conductors separate as she weaves them in skeins and tracts and plexæ in their course through her multiple switchboards that I can conceive the force they carry to be none other than electricity. Please note the apposition of axones of opposite polarity, so well described by Lombard, and which is found quite general throughout the nervous system, and compare it with the ingenious method of transposition of wires by which electricians have successfully endeavored to neutralize induction in telephone cables and air lines. In this, as in many other things, they seem to have unconsciously imitated Nature, and I have no doubt that the decussation and transposition of conductors has, in part, the same intention and the same effect in both nervous and electric systems: namely, to neutralize induction.

The sympathetic system is peculiar as to insulation; its axones are generally unmedullated, but they have sheaths. Gotch & Horsley[3] found larger electric currents in non-medullated than in the medullated nerves, explained by Lombard by the fact that non-medullated nerves contain a greater number of axones than medullated nerves of the same size. The sympathetic system has a general function to perform: to maintain the tonicity of involuntary muscle and influence secretion. Compared with the cerebrospinal system I regard it as a storage, or secondary, battery and practically monofunctional. In that view it is unnecessary that its axones should be so perfectly insulated from each other as are those in the central system where the individual circuits have to convey special messages like private wires.

I trace analogy of mechanism and identity of function between tactile papillæ, Meissner's corpuscles, *tastzellen* and other nerve beginnings, and electric variable resistances, microphone transmitters and other sending mechanisms, some of which are almost as sensitive to the slightest compression as are the nerve organs. Electric conductivity, or its opposite, resistance, is varied enormously by the slightest pressure in the Blake, or long-distance transmitter, and the coil of nerve fiber in one of these nerve-sending mechanisms seems adapted to the same purpose and, indeed, fulfills it whether you admit that nerve force is electricity or not. The touch of a hair is appreciated by the microphone and by the nerve key; electric conductivity is varied in the microphone circuit sufficiently to affect an electro-magnet and translate the impressions into audible sound by the vibrating diaphragm; electric or nerve conductivity is varied in the touch corpuscle sufficiently to send a current through the nerve relays to the sensorium. I can not conceive any form of force that would respond to these mechanisms in either case but electricity.

Permit me to quote an occasional line of description from your latest text-books, especially from Barker's admirable work, and to flash a little electric light on it as we pass. Barker says: "A single neuron of one system is by virtue of a number of end ramifications able to enter into conduction relations with a number of neurones in the next higher system, . . . and per contra the terminals of a larger number of axones of one system may be arranged to influence only a small number of

3. Philosophical Transactions, 1891.

neurones of a neuron system of the next order." This in the light of electricity describes a multiple relay system of transformers through which not only signals are repeated, but force is diffused or concentrated. In other words, step-up or step-down transformers changing the e. m. f. of the current.

"Cutaneous sensory fields overlap" (Barker). That is, they are herringboned by nerve filaments reaching neighboring segments of the spinal cord, like two or three telephone systems in the same town and having the same subscribers, so that injury to one conductor will not prevent the subscriber, say a tactile push-button, from ringing up Central.

"Four qualities of sensation are mediated by the skin and apparently by specific sense organs, cold, warmth, touch and pain." (Barker.) This does not mean that the sensory nerves need differ from each other, nor from motor nerves except in polarity; nor that the force traversing them need be anything but electricity to convey these different impressions. The difference is in the terminal mechanism. The same sort of wire, the same electricity translates, conveys and reproduces musical tones, the composite vibrations of articulate speech, the Morse language, handwriting, print, pictures, light, heat, the *x*-ray, and so on, all depending on the terminal mechanism.

"A centripetal impulse, originating at the periphery, reaches the primary end station of the sensory neurones inside the central nervous system after passing through only one neurone." (Barker.) That is, it reaches the suburban exchange in the spinal cord, where the dendrites and cells that represent the Hello Girl automatically make the connections for local and long-distance communication.

"It was long thought that these peripheral end organs contained ganglion cells, but that view," says Barker, "has been proved to be false." This, to me, means that the battery is not in the touch organs of the skin, etc., but is in the individual neuron; in fact, in the local central, where it ought to be; and these end organs, whether tactile papillæ, platelets, free endings, Ruffini's or Pacini's corpuscles, end bulbs of Krause or others on the sensory side, are sending mechanisms; keys, push-buttons, variable resistance transmitters, etc., such as we find in telephones, cables, telegraphs, electric bells and the like; and they operate in the same way.

"The number of nerve fibrils in ordinary epithelial structures is enormous. It would appear that almost every epithelial cell stands in contact relation with one or more nerve fibrils, and perhaps this may be true of all epithelial cells." (Condensed from Barker.) This shows a distribution of conductors sufficient for the phenomena of sensation to be electrical.

Let us glance at a point or two on the motor side. "Each of the separate muscle fibers is supplied by at least one nerve fiber, and under normal conditions only acts when stimulated by the nerve." (The American Text-book.) On this point I said, in my paper to the Lackawanna County Society in May, 1900, that "The fact is, I believe, that every muscle unit is surrounded by an electric field of force, disturbance of which causes it to contract; and the same is probably true of every protoplasmic unit." Thus anticipating Professor Loeb's announcement on that point by nearly two years.

"The motor nerve fibers to the muscles terminate in end plates." These motor terminal organs I regard as nerve electrodes which distribute and retard the current. One more word about retardation. For an impulse from toe to brain and back to muscle there are three to ten relays from neuron to neuron, and at different levels in the switchboard of the cerebrospinal axis such an impulse is switched across to the motor side or co-ordinated. These relays, conditions of insulation, electric reaction of cables, galvanic elements in nerves; resistance in conductors, relays, end plates, etc.; all these factors are concerned in the time element of nerve conduction, and they are all electric factors. The limit of one paper will not permit further tracing of analogies.

Is it not significant that you find it necessary in your best text-books to adopt electrical terms? You speak of "Storage of Energy," "Discharge of Energy," "Currents," "Cells," "Conductors," "Resistance," "Induction," "Dynamic Polarity," etc. I hope you will soon find it right to adopt "Electricity" for "Nerve Force," which is a name that has sprung as a sort of *filius nullus* from "Vital Force," inheriting a little of its supernatural attributes. Seriously, I mean that many seem to regard nerve force as something beyond a natural form of force.

It is in considering the nervous system as a whole that the analogy to electric systems of communication appears most striking. When, fresh from the study of a great work, like Barker's, I picture the nervous system and its mechanisms in living action before my mind, I see beside it the central telegraph system of New York or London, with its radii of lines and cables, telephonic and telegraphic; its multiple switches, batteries, relays, transformers, condensers, resistances, shunts, duplex and automatic circuits; all this mechanism, like the nervous system, transmitting force and translating intelligence from point to point by terminal instruments which move, talk, write, print, light, inhibit, accelerate and regulate, and in a hundred ways doing what is done in the nervous system, and always by means of the same force, the only form of force capable of such vast and varied service.

IMPORTANCE OF THIS CONCEPT.

If the proposition can be accepted that nerve force is electrical it will, I think, advance knowledge. From that point investigators will take a new departure to explore with new light the functions of the nervous system and other scientific fields. Dr. F. Savary Pearce, who approved these views expressed in my papers of 1900, has found the electric and neuronic concept useful in interpreting the manifestations of some diseases of the brain and nervous system.[4]

Professors Loeb and Mathews, advancing from the chemical side, arrived at the point where they found that muscle and nerve force is electric, and at that point we met; I having reached it before them from the electric side by other, but, I think, as certain paths. I have not presumed to invade the technical field of biologic chemistry, in which Professor Loeb has done such admirable work, further than indicated in this paper. I will leave it to Professor Mathews and others to elucidate his views as to the particular form of electricity he finds nerve force to be. If his ingenious view that it is electrolytic can be accepted it will make it still easier to account for the time element in nerve conduction.

SUMMARY.

The construction of nerves has been closely, though unconsciously, imitated in electric cables.

Experiments on nerves should be interpreted according to the electrical peculiarities of cables, and not as if they were bare conductors.

4. See, for instance, his paper, "Some Points on Intracranial Neoplasms, etc.," read at the New York Academy of Medicine, May 21, 1901. Phila. Med. Journal, Nov. 16, 1901.

Nerves are insulated, distributed and arranged like fine electric conductors.

Their purpose and use are the same as the purpose and use of electric conductors, namely, communication from point to point.

They convey some form of force, and there is not such a gulf between its velocity and that of electricity as has been supposed. This force must be electricity because:

1. Electricity is always present when nerves act.

2. Electricity is the form of force that would do the work required. It is the form of force that would work with such construction.

3. Because the terminal and central mechanisms connected with the nerves correspond to the terminal and central mechanisms connected with electric systems of communication and do similar work in sending, receiving, relaying, switching, transforming, accumulating, retarding, distributing and translating impressions.

4. Finally, because electricity, with such construction of conductors and of terminal mechanisms is the only form of force that we know of that would do all the work required.

I therefore maintain that nerve force is electricity, and that it would advance knowledge of the nervous system and its functions to accept this proposition.

These views were regularly presented to medical societies in 1900 and published in the *Pennsylvania Medical Journal* in November, 1900. If they are considered worthy I should value some acknowledgment of their method and priority. The conclusion that nerve force is electricity may have been guessed at before, and some analogy must have been noted by all observers, but I think my papers covered more ground and brought more evidence together than could have been done before, and first clearly stated the logical necessity of the electric concept.

THE ABSORPTION OF ALBUMINS AND GLOBULINS.*

CHAS. T. McCLINTOCK, M.D., PH.D.
DETROIT.

As albumins are non-dialyzable it was supposed until within recent years that they could not be absorbed as such, that they must be digested. The practice of rectal feeding has disproved this. Considerable quantities of undigested albumins are absorbed apparently unchanged.

Is there any such absorption from the stomach or small intestine? Using the ordinary albumins of food it is about impossible to determine this point. Give an albumin by the mouth and attempt to find it unchanged in lacteal or blood vessel—it is all but impossible. The text-books usually state that antitoxic serums given by the mouth are of no value, that antitoxin is destroyed by the process of digestion. This is probably true. It is certainly true that in artificial digestion, as carried out in the laboratory, the antitoxic power disappears.

But may there not be a part of the serum absorbed without undergoing digestion? I believe so. Ehrlich and his co-workers have shown that a suckling may receive a certain degree of immunity from the milk of an immunized mother, i. e., the antitoxin passes into the milk and is absorbed unchanged.

This is the only rational explanation of the well-known phenomenon that the suckling is relatively immune to a number of diseases that attack the older child.

Carrier, as the result of a series of experiments made in the Pasteur Institute, concludes that antitoxin is not affected by ptyalin, that it is slowly destroyed by gastric digestion and rapidly by pancreatin digestion. The clinical experience of some practitioners, who persist in giving antitoxin by the mouth, led me to undertake some experiments on this line. The results I have thus far obtained are far from satisfactory, but they are possibly worth recording.

I gave guinea-pigs hypodermic injections of diphtheria toxin of known strength. The antitoxin was given per stomach, at times before and again immediately after the administration of the toxin. On giving the antitoxin the mouth of the animal was pried open, a few drops of the serum were placed well back in the mouth and forced swallowing was attempted. It was impossible to tell how much was swallowed and what was wasted. Later the serum was forced from a syringe through a tube introduced into the stomach. This is a very difficult procedure with guinea-pigs, owing to the size and shape of the upper part of the alimentary canal.

In one experiment 12 pigs were given varying amounts from 600 to 3,000 units of antitoxin, on the following day they were given 10 to 30 times the minimum fatal dose of toxin. All died.

In another series of 7 pigs, all received about 1,000 units of antitoxin in the morning, in the afternoon 5 of these received another dose, the next day they were injected with from 2 to 10 times the minimum fatal dose of toxin. The 5 pigs receiving the double dose of serum lived, the 2 having but one treatment died.

In the next series 7 pigs were given respectively 2, 5, 10, 15, 25, 50 and 100 times the minimum fatal dose of toxin. They then had 1,000 units of antitoxin per mouth; of these the ones receiving 15 and 100 doses of toxin died, the remainder lived.

The next series of 5 pigs received 2, 5, 10, 15 and 25 fatal doses of toxin. They then had two doses of 5 c.c. each of serum per rectum (much of which was not retained). Of these the two having 15 and 25 fatal doses of toxin died, while three lived.

Seven pigs were kept without food for 16 hours; they then received 1,000 units of antitoxin and toxin in amounts from 10 to 100 fatal doses. One pig receiving 10, another 100 doses of toxin lived, 5 died.

In the next series 10 pigs were given .1 c.c. of a bouillon culture of diphtheria germs; of these 5 were given 1,000 units of antitoxin; of these 4 died. Two were given 2,000 units of antitoxin; these lived; 3 were untreated and died.

It is to be noted that in all of these experiments the pigs received enormous doses of antitoxin, a half-pound guinea-pig receiving an amount that usually suffices for a 50-pound child. But it must also be noticed that they received large doses of toxin; further, that the alimentary canal of these animals is not accustomed to the digestion or absorption of animal proteids. The experiments are of more physiologic than clinical interest.

Ehrlich has shown that the proteid poisons, abrin and ricin, are absorbed and produce their immunizing effect when given by mouth. Frazer demonstrates a like action with snake venoms. We know that the active principle of the thyroid passes into the circulation from the alimentary canal. Apparently the active principle of the suprarenal gland resists digestion and is absorbed as such.

These experiments appear to show that under certain conditions antitoxic serum may be absorbed as such, but

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, Winfield S. Hall and Frank B. Wynn.

the variations are so great in the experiments recorded, the results so uncertain, that one could not recommend the method for use. As the serum can be absorbed under exceptional conditions at least, I then began a series of experiments to try and determine what were the conditions necessary for absorption. These experiments are not yet completed, but the results have some interest, and I will give them in brief.

In the first series dogs weighing approximately 10 kilograms were used. The stomach was emptied with apomorphin and the bowels with saline previous to operation. Ether was used as the anesthetic. The abdomen was opened, the stomach and selected parts of the intestines were washed out with normal saline at body temperature. The stomach was tied off at the pylorus, and, after the introduction of the serum, the esophagus was tied. Three sections of the intestines were used: one in the jejunum below the opening of the pancreatic duct, another at the end of the ileum, and the other in the rectum. The intestinal loops were 11 cm. long, and, in so far as possible, their mesenteric attachments were unimpaired, rough handling was avoided, and, after the introduction of the serum, the organs were returned to the abdomen, the opening closed and the abdomen kept warm. After the serum had been in the various organs for one hour, the amount remaining was removed, and the amount of absorption was determined by precipitating the remaining albumin, drying and weighing.

The first experiment was with 0.6 per cent. sodium chlorid. Of this there was absorbed in the one hour from the stomach 36 per cent., from the jejunum 70 per cent., ileum 50 per cent., rectum 75 per cent.

The next experiment was with diphtheria antitoxin. This was diluted with 0.6 per cent. sodium chlorid, in some cases using 3 volumes of this to 1 of serum, in other cases 4 to 1. In the stomach was placed 125 c.c. of this mixture, in the loops of the intestines 20 c.c. After one hour 55 per cent. of the albumin was absorbed from the stomach, 45 per cent. from jejunum, 40 per cent. from ileum, 40 per cent. rectum.

In another like experiment with normal horse serum, the absorption was from stomach 48 per cent.., jejunum 59 per cent., ileum 60 per cent., rectum 54 per cent.

I then tried to see the influence of various drugs and medicines on the rate of absorption. With sherry wine, the mixture containing 25 c.c. antitoxin, 62½ of wine, 37½ bf .6 per cent. sodium chlorid the absorption from stomach was 45 per cent., jejunum 45 per cent., ileum 50 per cent., rectum 18 per cent. The mixture used in the above experiment contained 20 per cent. alcohol.

In a mixture containing 5 per cent. of alcohol the absorption from stomach was 55 per cent., jejunum 60 per cent., ileum 60 per cent., rectum 51 per cent. In a mixture containing 20 per cent. of brandy, or 10 per cent. of alcohol, absorption from stomach was 50 per cent., jejunum 70 per cent., ileum 85 per cent., rectum 73 per cent.

Next a mixture with a small per cent. of oil of peppermint was tried, and the absorption from stomach was 45 per cent., jejunum 76 per cent., ileum 73 per cent., rectum 45 per cent.

Next tincture of opium was added. The mixture placed in the stomach contained 2 c.c. of this in 125 c.c., that in the intestine 1 c.c. in 20. The rate of absorption was as follows: From stomach none, jejunum 80 per cent., ileum 70 per cent., rectum 60 per cent. A second dog gave stomach none, jejunum 64 per cent., ileum 71 per cent., rectum 69 per cent.

In the next experiment chloretone was used. One hundred c.c. of a saturated aqueous solution, 25 c.c. of serum in stomach and proportional amounts in intestines. Absorption from stomach was 38 per cent., jejunum none, ileum none, rectum none. On a second dog there was absorbed from stomach 38 per cent., jejunum 3 per cent., ileum none, rectum none.

With 10 per cent. glycerin absorption from stomach was 2 per cent., jejunum 30 per cent., ileum 24 per cent., rectum none. With 15 per cent. absorption from stomach was none, jejunum 27 per cent., ileum 9 per cent., rectum none.

A mixture containing, as usual, 25 c.c. of serum to 100 of normal sodium chlorid, had added to each of the sections of the alimentary canal 1/100 of a grain of atropin. Absorption from stomach was 12 per cent., jejunum 56 per cent., ileum 61 per cent., rectum 59 per cent. Second dog gave stomach 9 per cent., jejunum 64 per cent., ileum 58 per cent., rectum 54 per cent.

In the next experiment carbonated water was used instead of ordinary water. Absorption from stomach was 85 per cent. A second dog gave 80 per cent. The next dog with carbonated water gave absorption from stomach 58 per cent., jejunum 76 per cent., ileum 95 per cent., rectum 68 per cent. Another gave from stomach 60 per cent., jejunum 73 per cent., ileum 93 per cent., rectum 45 per cent.

In the next experiment the dog was starved several days to clear the intestinal canal. The mixture was introduced into the stomach with a catheter, no anesthetic being used. In this case there was no means of telling the amount of serum that had escaped from the stomach into the intestines. After one hour 56 per cent. of the albumin introduced had disappeared from the stomach.

The next dog was starved several days and then given a large dose of sodium sulphate to flush out the alimentary canal. A dog starved for the same length of time but without the purgative was used for comparison. There was absorbed from the stomach in the one without purgative 53 per cent., with purgative 60 per cent., jejunum 48 and 57 per cent., ileum 45 and 60 per cent., rectum 50 and 66 per cent. The average absorption after starvation was 49 per cent., and after starvation with previous flushing with sodium sulphate 61 per cent.

In the next three dogs sodium bicarbonate was added to the mixture. In the first and second dogs 2.5 per cent. of sodium bicarbonate the absorption from stomach was respectively 85 and 82 per cent. In the third dog 5 per cent. sodium bicarbonate was added and the absorption was 72 per cent.

In the guinea-pigs the absorption from stomach alone with normal serum and water was 60 per cent., with carbonated water 73 per cent., small amount of sodium bicarbonate 91 per cent., larger amount 65 per cent. The averages were taken from 6 guinea-pigs with each of the different solutions. The average absorption of egg albumin using 6 pigs, was 80 per cent.

These experiments are being continued. So far they appear to show either that antitoxin is not absorbed in the same proportion as the total albumins of serum, or is changed in being absorbed, the majority of the pigs dying when injected with several times the fatal dose of toxin, despite a large absorption of albumins. The result of this I will report later.

DISCUSSION.

Dr. W. Becker, Milwaukee, Wis.—Two years ago I attempted to get some knowledge as to toxins which are formed

in dilatation of the stomach, chronic gastritis, and similar diseases of the stomach. I found that if these filtered toxins were introduced into the venous circulation or subcutaneously into an animal they caused vague and unreliable symptoms, but if they were introduced into the stomach of a dog which had previously been washed with alcohol they showed very regular symptoms. I was compelled to drop the work and nothing was recorded. The introduction of alcohol favors the absorption of toxins on account of its paralytic action on the cells of the stomach. This much can be deduced by the experimental work I did, and it agrees perfectly with the work done by Dr. McClintock.

MODIFICATION OF THE CONNELL SUTURE.

RAYMOND CUSTER TURCK, M.D.

Professor of Anatomy and Operative Surgery, Chicago Post-Graduate Medical School; Director of the Post-Graduate Laboratory; Adj. Professor of Surgery, College of Physicians and Surgeons (University of Illinois); Surgeon to Post-Graduate, Chicago and Samaritan Hospitals.

CHICAGO.

Any method of intestinal anastomosis to be of value must, or should, combine, first, an absolute insurance from primary leakage of bowel contents; second, permanent strength of intestinal union; third, preservation of bowel lumen without creation of diaphragm; fourth, simplicity and rapidity of insertion. The fourth condition, however, is of relatively minor importance.

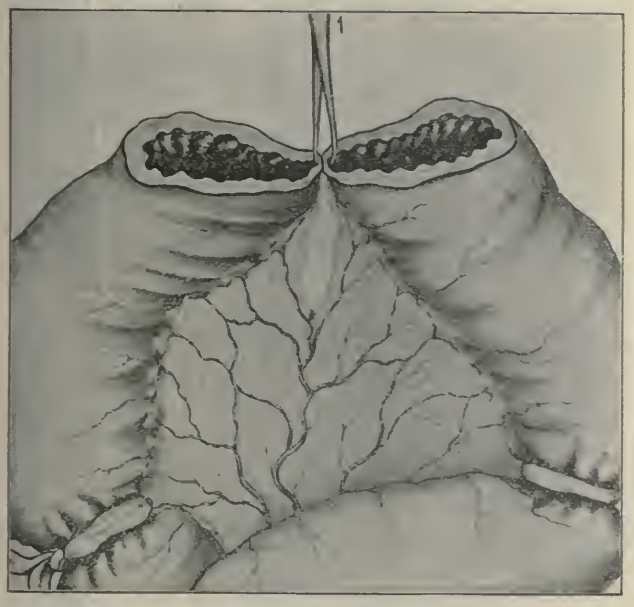


Figure 1.

At the Post-Graduate Laboratory of Anatomy and Operative Surgery there have been performed by the faculty and students, during the past three years, over 2,000 intestinal operations on living dogs, the results of which have been more or less carefully noted. In the course of this series practically all known procedures for the suture or anastomosis of all portions of the gastro-intestinal tract have been worked out, and their advantages and disadvantages demonstrated.

It is not out of the way to state here that work on the dog is a much more severe test of sutures, or of an intestinal operation, than work on the living human. From a somewhat extended experience in animal experimentation, and some experience in hospital and surgical work and surgical observation, I can unhesitatingly say that any intestinal operation which can be performed successfully on the dog can be performed with infinitely greater success and safety on the human being.

It is apparently a popular impression that one may do any kind of rough or septic work on a dog with no bad results, and that is more or less true outside of the abdominal cavity. The dog is peculiarly predisposed to peritonitis from leakage or infection. One may, however, do any intestinal operation on a dog in a barn without regard to asepsis, and the dog may live, but to obtain results the dog's peritoneum must be handled with care and with greater regard for cleanliness and asepsis than that of the human. The dog will not recover, as does the human in the great majority of cases, after dirty intestinal work with faulty suturing.

The human peritoneum may be soiled with pus in pyosalpinx operations, or in appendicitis, or in work on the gall bladder, or in pelvic abscess, with no bad result in many cases; but minute infection will almost invariably cause death of dogs from general septic peritonitis.

Even the mortality from the use of the interrupted Lembert suture in intestinal anastomosis on the human is small, but that form of suture is extremely unsafe



Figure 2.

and inefficient when applied to bowel work on the dog, it being impossible to prevent leakage of bowel contents, with subsequent death from peritonitis in over 35 per cent. of cases, unless the Lembert is used as Halsted's modification (i. e., Halsted's mattress suture) with the stitches placed very closely together or interlocked (author's interlocking stitch). Any form of continuous suture which embodies the Lembert principle of inversion of cut edges and union of a relatively broad peritoneal surface is greatly superior to any form of interrupted suture, unless interlocked, so far as primary or secondary safety from leakage is concerned. The right-angled Cushing suture is the best of the continuous forms yet devised.

The mortality from the use of the Lembert, or Czerny-Lembert, or Halsted, or other varieties of sutures now largely in vogue is reasonably small, and the results obtained therefrom comparatively good, yet there are forms of suture infinitely superior, and were it not for a tendency to stick to the good, old and tried methods the mortality would be less and the results better. Few operators have not had deaths from peritonitis, the re-

sult of leakage. A death from leakage in intestinal anastomosis under ordinary conditions in this advanced stage of surgical science is never justifiable nor excusable.

It has been demonstrated that, all conditions being equal, through-and-through sutures, i. e., those passing through all coats of the bowel, give greater holding power, better approximation of serous coats, greater ease of application and better primary and secondary union than sutures which include only the outer bowel tunics.

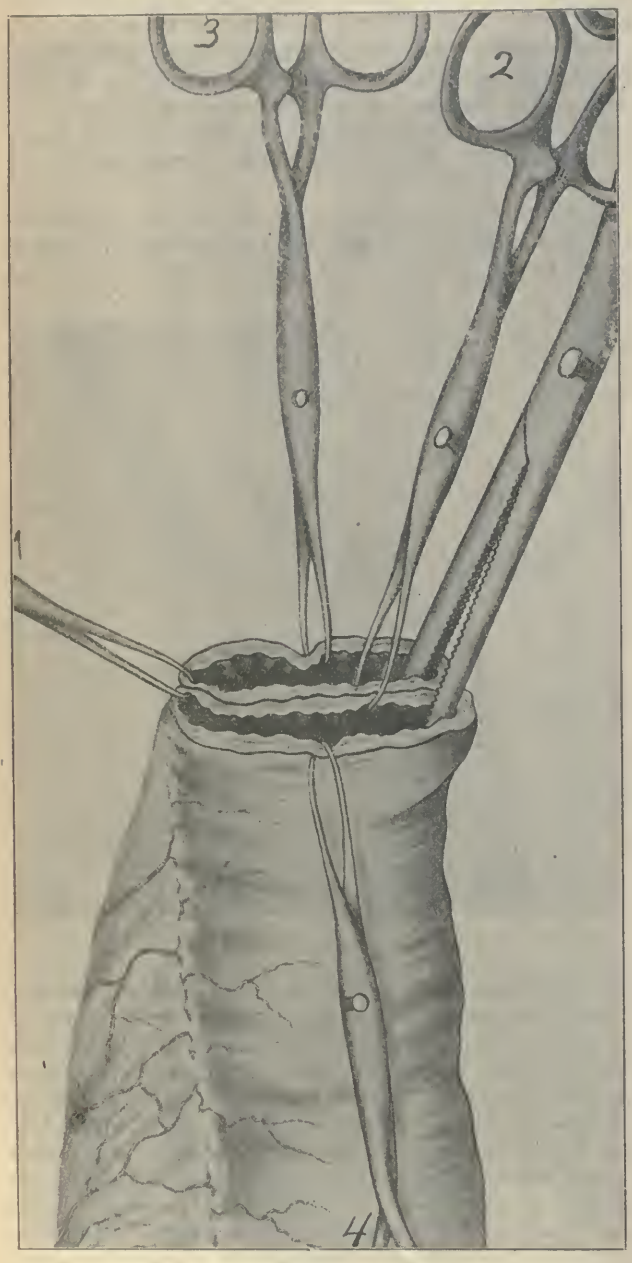


Figure 3.

The suture which is supposed to avoid the mucosa is never uniform, even in the hands of the most experienced operator; while it should include only the serous, muscular and fibrous coats, more often it includes or penetrates the mucosa, or misses the strong fibrous tunic and often has an extremely weak bite in the muscular coat.

The most valid objection to the through-and-through suture is that of infection traveling from within the bowel along the suture to the peritoneal cavity. The Lembert or Halsted may be open to this objection because of the frequent penetration through all of the bowel wall.

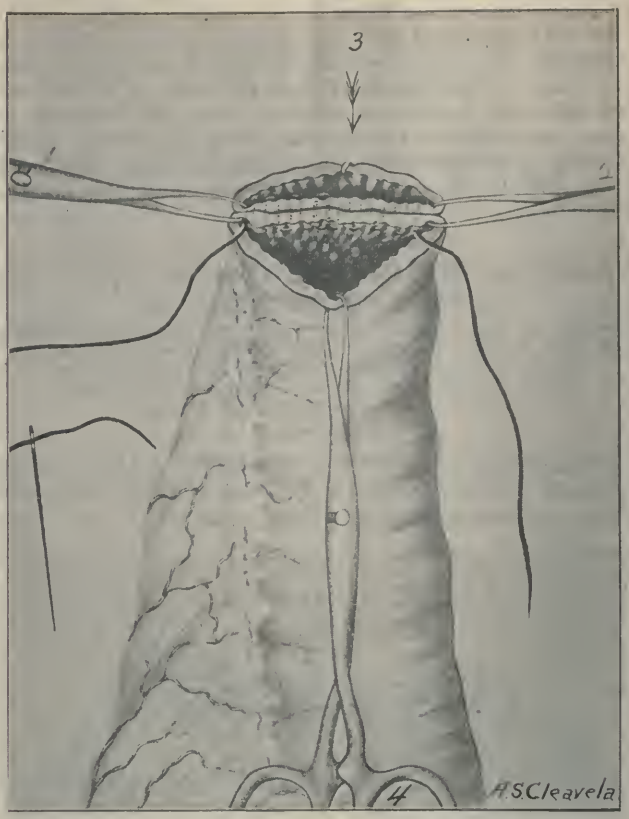


Figure 4.

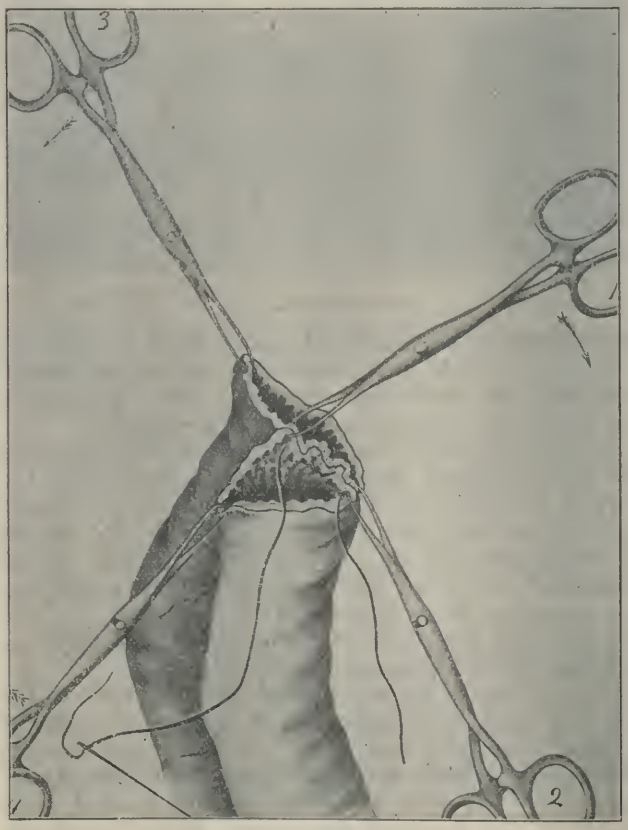


Figure 5.

With the through-and-through suture so placed that that part of it which appears in the peritoneal cavity

is practically of no moment, and with all knots and loose ends on the inside of the gut, no valid objection to it can be raised, and it appears as the safest, strongest, easiest and best of all sutures for the union of divided intestine. This was recognized by Maunsell, and the Maunsell operation for end-to-end anastomosis resulted. The Maunsell operation, however, is complicated and relatively difficult—it requires much manipulation of bowel, and even with extraordinary care there is always grave danger of peritoneal infection during the course of the operation from exposed mucous areas and bowel contents. The aim of the Maunsell operation and its *raison d'etre* is an approach to perfection, but the application of its principles admits of much improvement.

The suture devised by Dr. F. Gregory Connell is a modification of Maunsell's; it embodies the principle of through-and-through stitching, with very firm primary and secondary sero-serous approximation, with practically no suture material leading from the inside of the gut to the peritoneal cavity, and with all knots and loose suture ends on the inside of the bowel.

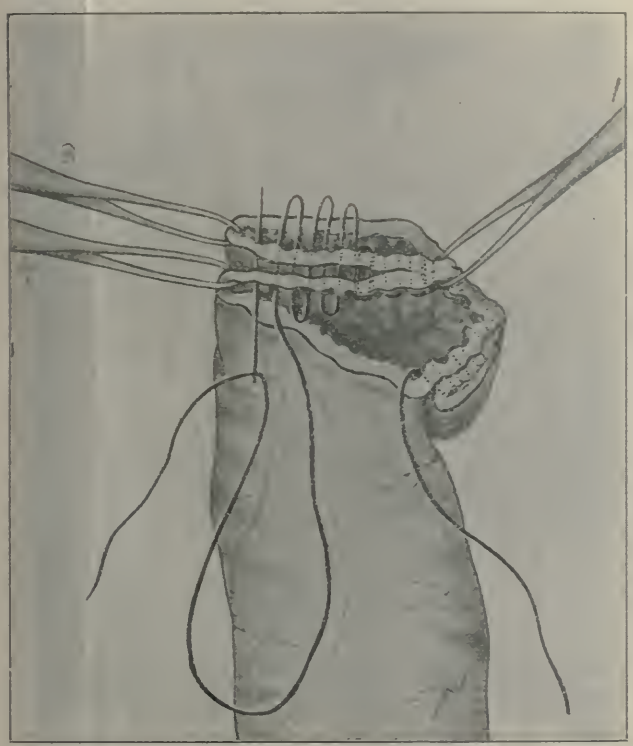


Figure 6.

The method of procedure greatly lessens the manipulation of gut and risk of infection, and does away with the Maunsell inversion of both bowel ends through an opening in the side of one bowel loop. The Connell suture is simple and easy of application when once thoroughly understood. Students have done a complete end-to-end anastomosis by the Connell method in eight minutes. At the Post-Graduate Laboratory there have been done by the faculty, by students working under a demonstrator, by students working alone and by independent investigators, over 400 end-to-end anastomoses by the Connell method with a mortality of less than 3 per cent. At the hands of experienced operators and those of our students who have taken courses in abdominal surgery, with the Connell suture properly applied, the mortality directly traceable to the anastomosis, *per se*, is *nil*.

The Connell suture has been used on the human with unvarying success by operators who have understood it and who have properly applied it. No deaths have yet been reported as due to faults in the method.

The writer has heard and read a very few harsh criticisms of the Connell suture; that it was difficult to apply; that the inversion of the cut edges of the bowel during the last stage of the suturing was incomplete; that the union at the mesenteric border was unsafe, and that the tying of the last knot was altogether a complicated and unwarranted procedure and one on which

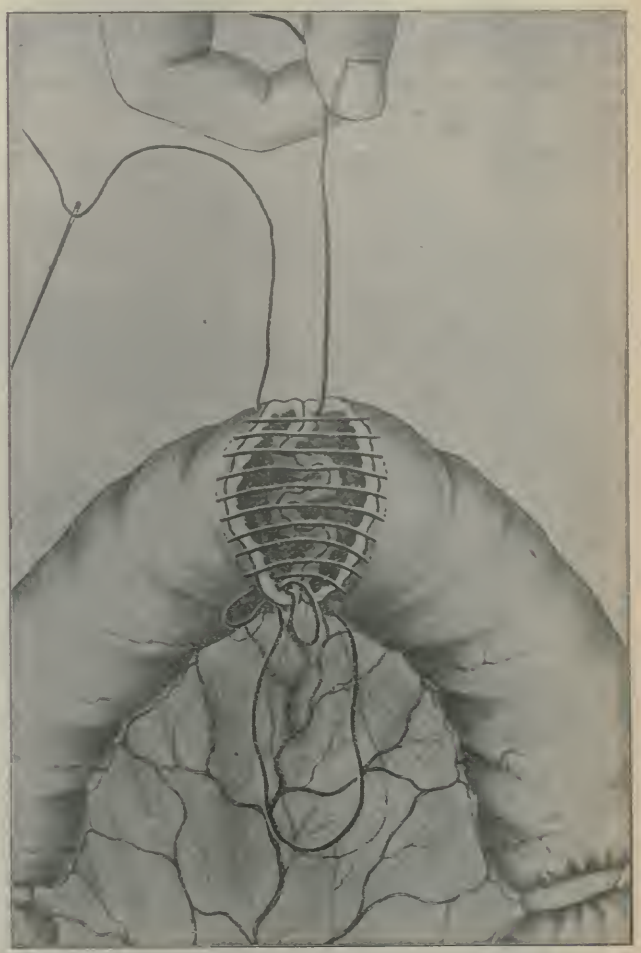


Figure 7.

no self-respecting and busy man could afford to spend time in mastering. A careful study of the method, a résumé of the work already done and the results obtained therefrom quickly demonstrate that the fault lies, not with the method, its technic, or its practical application, but in the lack of understanding and knowledge of the critic.

The Connell method of suture is not easily understood unless actually demonstrated or performed on intestine. It is difficult to illustrate or describe in a way which will show its simplicity and not confuse the reader. The most confusing features, in its description as well as in its actual application, is the method of placing the four tension sutures, which are of no importance so far as the vital principles are concerned, and the method of tying the last knot so that the knot will be on the inside of the gut.

The writer has modified a form of small tenaculum forceps (Fig. 11) which do away with the tension sutures

to good advantage in manipulation and understanding, and has devised a ligature carrier (Fig. 12) which simplifies the tying of the last knot.

The steps of the operation for end-to-end anastomosis are as follows:

First Step.—(*a*) Bring the mesenteric borders of the bowel ends together, as shown in Fig. 1. (*b*) Take a small bite with forceps 1 through both bowel ends immediately at the mesentery (Fig. 1), close forceps.

Second Step.—(*a*) Hold forceps 1 in left hand, lay bowels side by side (Fig. 2). (*b*) Have an assistant insert one blade of an ordinary hemostatic forceps in each loop; holding forceps vertically, make gentle traction away from forceps 1 (Fig. 2); this will put the bowel ends on the stretch and bowels will be laid evenly side by side. (*c*) A trifle more than one-half of the distance from the mesenteric to the opposite border of the gut place forceps 2, as shown in Fig. 2, taking small bite through the contiguous walls of both bowels.

Third Step.—With the bowel ends still gently stretched and lying evenly side by side, place forceps 3 and 4 on the cut edges of the outer bowel walls, each exactly the same distance from the mesentery as forceps 2 (Fig. 3). Remove the hemostatic forceps. (The four forceps are now in the positions of the four Connell tension sutures and are to be used simply for holding the gut to facilitate sewing.)

Fourth Step.—(*a*) Have an assistant hold forceps 1 in his right and forceps 2 in his left hand, pulling gently in opposite directions; drop forceps 3 and 4 (Fig. 4). (*b*) Proceed to suture that portion of the bowel ends between forceps 1 and 2 with a continuous through-and-through right-angled suture, using a straight round needle. Begin at forceps 2 and suture toward forceps 1. Tie the first completed loop of the right-angled suture and *leave the end long* (Fig. 4); continue the suture to forceps 1, taking care to make a back stitch on every fourth loop to prevent the suture from drawing and puckering the gut; continue the suture a trifle beyond forceps 1, taking care to pass beneath the point where the forceps are fast, and to make a complete back stitch at this point—the mesenteric border is always the point of danger in any suture—as the suturing proceeds keep the thread taut to insure close approximation of serous surfaces.

Fifth Step.—(*a*) Drop forceps 2, or it may be removed at this stage. (*b*) Have the assistant take forceps 1 in his right hand and forceps 3 and 4 close together in his left hand, drawing forceps 1 to the right and forceps 3 and 4 to the left (Fig. 5 shows forceps in transit, the arrows indicate direction of the traction), thus placing the bowels from 1 to 3 and from 1 to 4 together (Fig. 6). (*c*) Continue the suturing along from forceps 1 toward forceps 3 and 4 and a trifle beyond and beneath forceps 3 and 4 (Fig. 6).

All forceps are now to be removed and the bowel straightened out. Over two-thirds of the suturing will be completed at this stage and the remaining opening is to be closed by the through-and-through suture, applied in such a way as to completely invert the cut edges. The end of the suture which was tied and left long may be used as a tractor for one side. As the

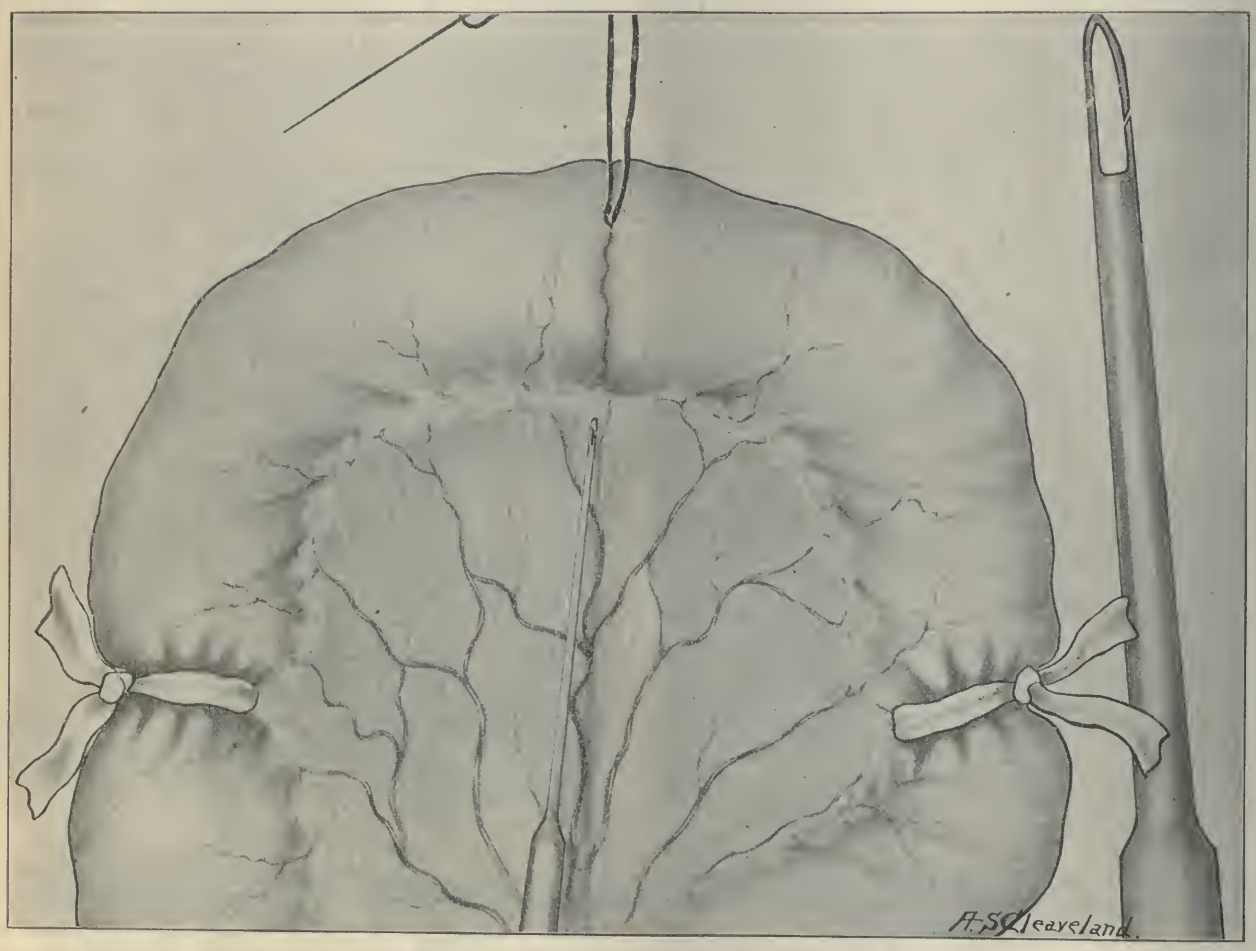


Fig. 8.—Note the spring eye in ligature carrier.

suturing proceeds keep the thread pulled fairly taut as before, thus keeping the sutured bowels snugly together and at the same time providing a tractor for holding the gut in position.

is all closed, when the beginning and end of the continuous suture will be together; leave the *free end longer* than the tied end so that they can be readily identified.

Care must be taken during this last stage, as in every

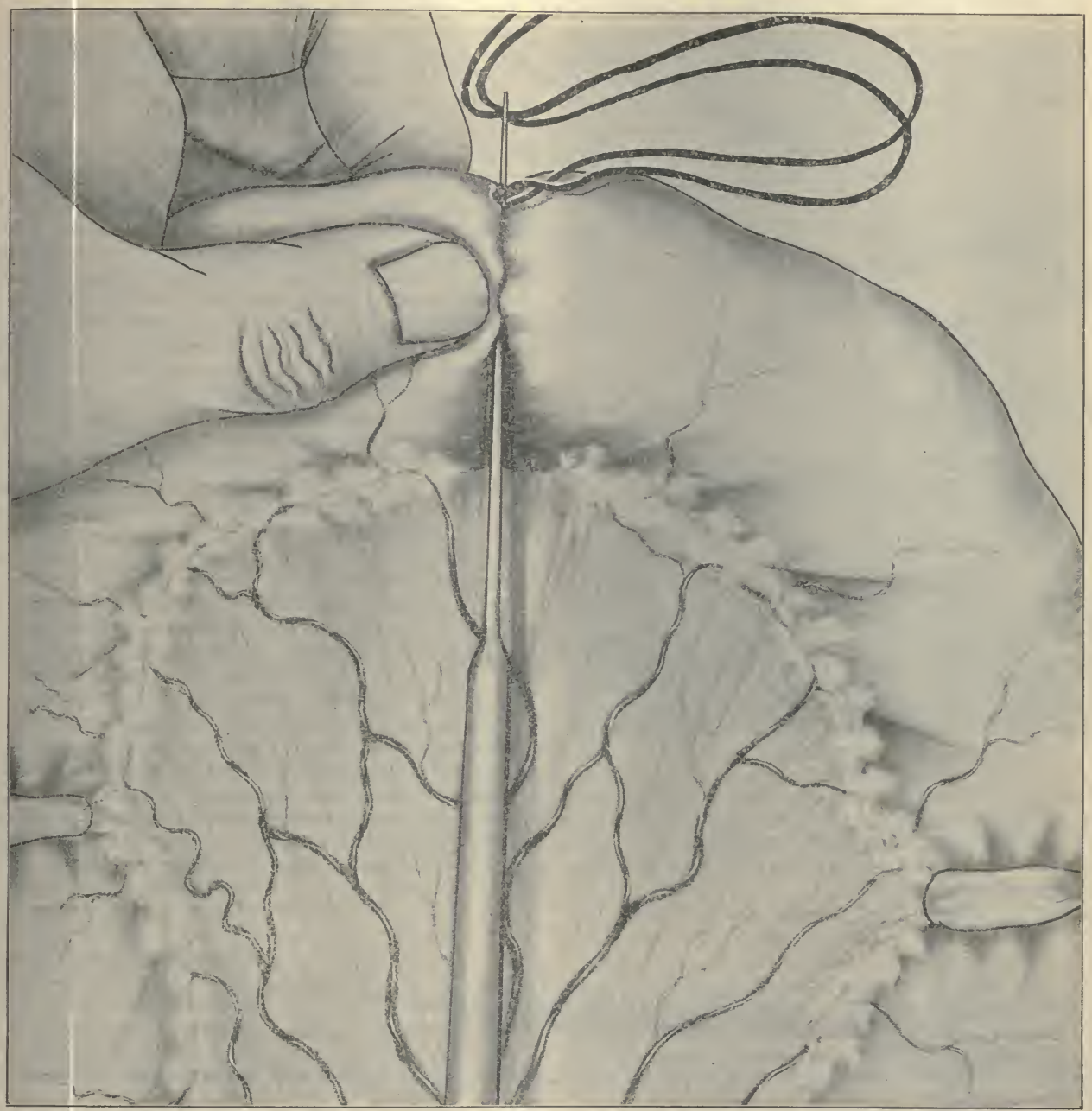


Figure 9.

Sixth Step.—Suture the remaining opening by applying the continuous right-angled through-and-through suture on exactly the same principle as if the bowels were laid side by side (Fig. 7). During the first step, when the bowels are held side by side, it should be noted

other case of through-and-through suturing when the bowel edges are not held firmly, that the suture penetrates all coats of the gut. When the bowel has been divided there is always an eversion of the mucosa with retraction of the serous and muscular coats—this must

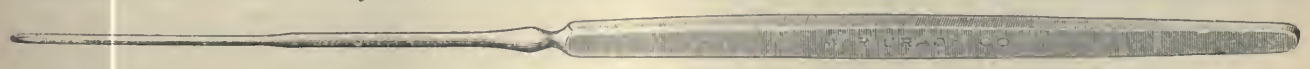


Figure 12.

that the needle passes from *within* bowel A outward, thence from without bowel B inward, then from within bowel B outward, and from *without* bowel A inward, thence from *within* bowel A outward, and so on, so that the *loop* is always on the inside of the gut. Carry out this method, inverting the cut edges until the opening

not mislead the operator into taking a bite through the mucosa only.

Nothing remains now but to tie the knot so that it shall lie on the inside of the gut.

Seventh Step.—Carefully insert the ligature carrier between the sutured edges from one-half to three-fourths

of an inch away from the point where the long suture ends emerge (Fig. 8); bring the carrier out exactly in the small opening between the long suture ends, thread both suture ends in the carrier and withdraw the instrument from the bowel (Fig. 9); pull the suture ends

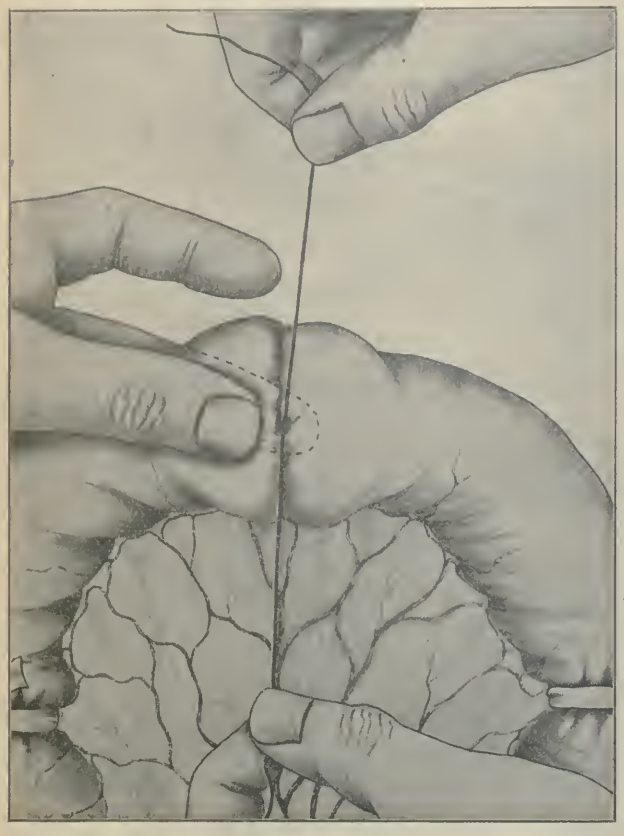


Figure 10.

entirely out through the place where the carrier entered and pull gently on the *long end only* until the two sides of the bowel are closely approximated and the bowel ends are entirely inverted. Tie the ends tightly together

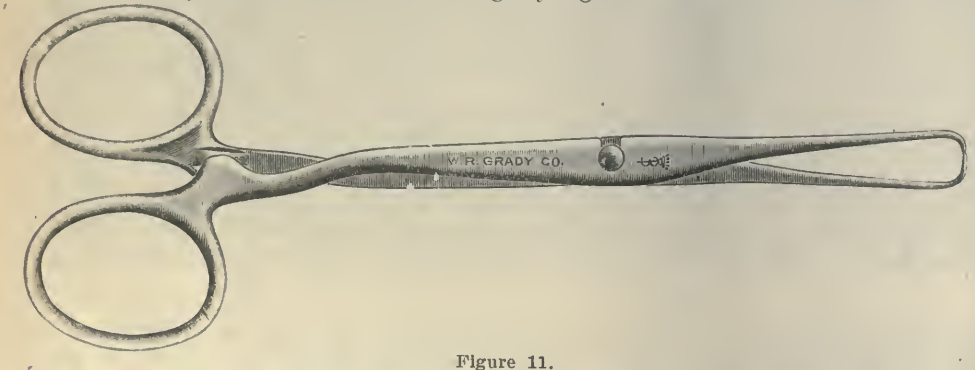


Figure 11.

with a surgeon's knot and cut ends short (Fig. 10). Roll the bowel gently between the fingers, the knot will slip through between the sutured edges and the bowel will regain its normal contour.

103 State Street.

Political Honors for Medical Men in Switzerland.—As THE JOURNAL has previously stated, the president of the Swiss republic is a physician. He is now serving his third term. He was elected to the National Council in 1867, and has served as legislator or member of the cabinet since. His salary as president is less than $4,000. The representative of Switzerland in France is also a physician, Dr. Lardy.

THE IMPROVEMENT OF GENERAL ANESTHESIA ON THE BASIS OF SCHLEICH'S PRINCIPLES:

WITH SPECIAL REFERENCE TO ANESTHOL.

WILLY MEYER, M.D.

Professor of Surgery at the New York Post-Graduate Medical School and Hospital; Attending Surgeon to the German and New York Skin and Cancer Hospitals; Consulting Surgeon to the New York Infirmary.

NEW YORK CITY.

(Concluded from p. 556.)

ADMINISTRATION.

It is not my intention to give you any statistic data concerning the effect of anesthol in the various cases. Working as I do at a number of hospitals, with their continuously rotating house staff and consequent change of narcotizers every few months, such statistics would be of little value. I should, however, like to narrate briefly what experience has taught us in connection with the administration of the drug. Anesthol should be administered by the drop method, the same as all other drugs used for general anesthesia, first rapidly, later slowly.

After considerable experimentation we now drop it on an Esmarch mask with a double frame, which is covered with a doubly-folded piece of sterile gauze and a piece of oiled silk or Mosetig batiste. The latter has an opening about the size of a silver dollar in the center. It is true some of the anesthetic is thus wasted, but in return the patient besides always inhales a sufficient amount of fresh air.

If administered drop by drop the subject is easily brought under the influence of the anesthetic. There is no struggling during the induction of anesthesia. If, on the other hand, anesthol be poured indiscriminately on the mask, especially during the induction stage, the patient may suddenly turn pale and respiration may become shallow or even to all appearances cease altogether for a little while; yet, the heart will be found to be but little influenced, the pulse continuing to remain full and strong, in agreeable contradistinction to chloroform with its sudden syncope. My experience has always been that if anesthol was given in too large doses by an inexperienced narcotizer it affected the respiratory center and not the circulatory. I have never had the narcotizer tell me, in the course of these four years: "Doctor, the pulse is weak," if by chance the anesthesia was not as satisfactory as desirable. The remark made in such an event was invariably: "Doctor, the patient does not breathe well." A short, rhythmic pressure on the abdomen or artificial respiration with the mask entirely removed would, in these instances, soon restore normal conditions.

I would, however, here especially emphasize the fact, that such accidents can be entirely avoided if the narcoses be carefully conducted. On the other hand, shallow breathing should not be mistaken for inhibition of breathing. So long as the patient's pupils were contracted and his lips red I did not share the alarm of the young narcotizer and have never considered artificial respiration called for. An inexperienced narcotizer may think that his patient has stopped breathing, when

respiration has merely become shallow. Removal of the mask, thus allowing the patient to breathe pure air for a few moments, will soon restore to normal the temporarily apparently alarming condition. Of course, if anesthol were continuously poured on the mask I am sure the narcotizer would succeed in killing his patient, even with this, I think, the safest of all anesthetics.

As soon as the second stage of general anesthesia has been reached, one or two drops every 2 or 3 seconds suffice in the hands of an experienced and efficient anesthetist to properly keep the patient under the influence of the drug. The administration by drops must be regularly continued throughout the narcosis.

DEEP ANESTHESIA IS NOT CAUSED.

In view of the fact that, according to Schleich's reasoning, the body stores very little of an anesthetic the B. P. of which corresponds, or nearly corresponds to its own temperature, since the patient exhales almost as much of the drug with each expiration as has been previously introduced into the blood on inspiration, anesthesia is thus merely kept going. The patient is kept just sufficiently under the influence of the anesthetic to enable the operator to conveniently do his work. The patient never is any more deeply narcotized than is necessary for the surgeon to perform his operation. In consequence of this almost complete equilibrium that is maintained between addition and loss, it sometimes took us some time, in the beginning of our clinical research, to reach the second stage of anesthesia. It also frequently happened that the patient never completely lost the reflexes, especially in abdominal operations, no matter how profoundly he seemed to be narcotized. As soon as, for instance, traction was made on the stomach or on the omentum, say in the case of gastroenterostomy, the patient would resist.

THE ADDITION OF MORPHIN.

On the strength of this clinical experience we introduced the administration of a hypodermic of 1/12, 1/8 to 1/4 of a grain of morphin, according to age, without atropia, one-half to three-quarters of an hour before beginning anesthesia in all abdominal cases. This procedure worked like a charm, so much so that a few months later, in the fall of 1899, we made this hypodermic administration of morphin prior to anesthesia a standing rule in every case, no matter what the nature of the operation.[15] This wrought immense improvement. Induction of anesthesia was more speedily accomplished and the second stage quiet; much less of the drug was required. If the reflexes were still pronounced in spite of the previous hypodermic injection, an additional dose of morphin of proportionate amount was injected during the operation. This had the desired effect, even in alcoholics, who by this means respond favorably to anesthol administration.

Still, in combination with morphin, anesthol must be continuously administered, drop by drop, during the entire course of the operation. If this be not done some patients will begin to retch or to vomit, just as we are accustomed to see it after the use of other anesthetics, particularly chloroform. If, in such an event, the amount of anesthol administered be gradually increased the vomiting during the operation promptly ceases. This phenomenon has been observed in every instance.

With the continuous drop method and a previous hypodermic of morphin not much of the drug is required, and the patient may be kept under its influence for hours with a comparatively small amount. Salivation and mucous râles never occur. There is no cyanosis. The patients appear to be in a deep natural sleep. Awakening is usually quick, just as was observed with Schleich's mixtures. The patients regain their mental faculties in an astonishingly brief space of time; they often awake while still on the operating table and intelligently respond to questions. Since receiving a preliminary morphin injection they now first sleep for a while after they come out of the anesthesia, but can be easily aroused.

SEQUELÆ.

As to sequelæ: vomiting is varying. I have had many patients who did not throw up a single time; others, again, vomit just as often as frequently happens after chloroform or ether narcosis. On the whole I think, however, that vomiting after anesthol is rare, and at no time as persistent, compared to the frequency of its occurrence after the administration of other anesthetics. Headache, general malaise and general systemic affections, so often witnessed after chloroform or ether anesthesia, are very rarely met. Not in a single case have I seen bronchitis or pneumonia as a result of anesthol narcosis. In a very few instances the symptoms of a previously existing nephritis were temporarily slightly increased. Heart, lung and kidney affections were never considered a contraindication to the use of anesthol. Of course, wherever local cocain infiltration or spinal anesthesia seemed indicated it was always employed.

DEATHS UNDER ANESTHOL.

In a series of many hundreds of cases operated on within the last four years there have been two deaths during the anesthesia, and these occurred at the end of the operation. Both were operations on hospital patients on the kidney. One was in a man with a large horseshoe kidney and total suppression of urine for six days in consequence of impacted ureteral stones. The operation was rather prolonged, resection of the eleventh and twelfth ribs being necessary in order to bring a very large hyperemic and edematous organ outside of the wound. The obstructed ureter was cleared first, after high ureterotomy; but a number of faceted stones in the calices of the kidney could not be extracted, though the wound had been lengthened into the pelvis. Therefore, section cut of the kidney was made. The assistant compressed the renal artery well, but failed with regard to the vein. A gush of venous blood was followed by sudden absolute anemia of the divided kidney surfaces. The face of the patient likewise turned pale and the pupils became dilated. All our efforts to restore the action of lungs and heart proved futile. The patient had died. Autopsy was refused. Death seemed to me due either to sudden aspiration of air through one of the very large branches of the renal vein or to true shock. The administration of anesthol had been stopped fully ten minutes before this accident.

The other death occurred during a nephrectomy performed on a much emaciated young woman with an advanced tuberculosis of the uropoietic system. When ligating the pedicle of the kidney the patient showed signs of awakening and became restless; deeper anesthesia was ordered. Suddenly respiration and pulse ceased. All our efforts at resuscitation were in vain. Here, too, autopsy was refused. It is possible that the sudden administration of a larger quantity of the anesthetic towards the end of a difficult operation proved too much for the patient's general condition, and suddenly

15. It is highly interesting to me to read in the report of the proceedings of the Congress of German Surgeons, in 1901, that Mikulicz advocates the administration of a hypodermic of morphin previous to inhalation narcosis.

increased the shock to a point where medical help was powerless. I feel confident, however, that the result would have been the same with any other kind of anesthetic.

OBSERVATIONS OF DR. GUTH.

Dr. William C. Guth of New York, who has conducted the anesthesia in the greater number of my private patients outside of the hospitals for the last eleven years, and hence has had most favorable opportunities to carefully note the varying effects of the respective anesthetics used from the very beginning to date, states his opinion regarding anesthol as follows:

Since Oct. 15, 1898, I have administered anesthol in your private practice as a general anesthetic in 200 cases, and at your suggestion I took extensive notes and kept a detailed record of all these cases, noting particularly the amount of anesthol administered to induce anesthesia, the total amount of the anesthetic employed in each case, the behavior of the patient from the time of the administration of the anesthetic to return to consciousness; also noted, as far as practicable, the respiratory, cardiac and renal conditions prior to, during and following such narcosis. In addition I have made such observations and entries in the record as were suggested and outlined by you.

Having had, therefore, during this period (3½ years) the opportunity of carefully noting the effects of anesthol, we are warranted in drawing conclusions as to its place and value among anesthetics and comparing its action and its advantages, if it possess any, with chloroform, ether or combinations of chloroform and ether.

I have observed that anesthol, when administered by the "drop-by-drop" method (employing an Esmarch or Schimmelbusch mask, covered with sterilized gauze and oiled silk with central opening) surgical anesthesia is established in the majority of cases in about 8 minutes. In those instances in which morphin (without atropin) was administered hypodermically about three-quarters of an hour previous to the introduction of anesthesia, the primary stage of anesthesia very frequently was established in a few minutes less time. We have noted, too, and we may stamp it as one of the agreeable and distinctive features of anesthol anesthesia when so conducted (i. e., preceded by morphin hypodermically) that the stage of excitement is practically eliminated from the primary stage of anesthesia; also, that in the transition from this stage to that of the complete surgical degree the patients in every instance enter into the latter stage gradually, never suddenly or with the next inspiratory effort, as is frequently observed in chloroform administration. Neither have we noted in this transition stage any sudden fall in pulse rate, the change to the slower, fuller pulse coming on gradually. Complete anesthesia having been gradually induced, the pulse is full, slow, regular (of the chloroform anesthesia type) and the respirations regular, full and not stertorous.

In no instance has there been an increase in salivation or bronchial mucus during narcosis. The face presents a healthy color, there is no pallor, and if the anesthesia be administered on the mask described, by the "drop-by-drop" method, cyanosis never occurs. Of course, if the anesthetic be administered carelessly or poured on the mask in an indiscriminate and indifferent manner, the danger of inviting serious and possibly disastrous results from overdose threatens. To accomplish an approach to an ideal narcosis for the surgeon's purpose and that with the least risk of subjecting the patient to undue anesthetic shock, anesthol must be administered with the same care and judgment necessary in conducting any general anesthesia.

As I have stated, to obtain the most satisfactory anesthesia, anesthol should be administered "drop by drop." This term, familiar to all anesthetists, may call for elucidation as applied to anesthol anesthesia. On consulting my records you will note that on an average 8 to 10 grams of anesthol were employed in about as many minutes to induce primary anesthesia and that throughout the administration of this agent, the drop-by-drop method was continued at about the same rate, so that, in a general way, we may say, for an operation of the major type, when complete muscular relaxation is to be maintained throughout, 60 grams of anesthol will be consumed in the course of an hour, or about one gram a minute, if administered drop by drop.

When given in the manner described, we have found in almost every instance, even in cases of prolonged anesthesia, that consciousness returns in a very few minutes after the withdrawal of the mask and frequently we have noted that the patient became fully awake and responded promptly and intelligently to questions, while still on the operating table during the application of outer surgical dressing.

Vomiting occurs in a small percentage of cases after return to consciousness; it is not of a prolonged or distressing type as far as I have been able to elicit. As with chloroform, if the patient be insufficiently under the influence of the anesthetic, retching or vomiting will occur during the administration. This condition is remedied by persisting in the administration of the anesthetic and not by pushing or crowding it.

Among cases recorded, you will note that several had chronic bronchitis or nephritis before operation, in all of which anesthol was administered with the happiest anesthetic result. There have been instances, too, of serious valvular cardiac lesion, atheromatous cases, diabetes, profound anemia and anemia with severe surgical shock, in which the anesthesia was most satisfactory and in which, contrary to what might have been expected in such instances, a better circulatory and respiratory condition was induced during the anesthetization. In but one instance, that of operative intervention for surgical kidney, I have noticed embarrassed respiration with cyanosis. This condition probably was due to the position of the patient on the table at the time of operation, for, on changing the position, these manifestations ceased and normal respiration and healthy color returned.

Résumé.—It will be found that in a patient under the influence of anesthol, respiration is slow, quiet, full; there is no excessive secretion of saliva or of bronchial mucus; the face is not flushed, neither is it pale; its color may be described as normal; the pupil is contracted as in chloroform narcosis; the pulse is slow, full and regular. Complete muscular relaxation is established and maintained. Anesthol combines the good effects of chloroform and ether and has its advantages over both as will be seen from the following: In no instance have we noticed any sudden or alarming changes in pulse rate, volume or pressure. In every instance the patient was brought to the stage of complete anesthesia gradually and progressively. Thus has been eliminated that source of concern of the anesthetist as is frequently met in chloroform narcosis, that, even when that anesthetic has been most skilfully administered, the patient at one moment appears to be but superficially narcotized while with the next inspiration or two a most profound anesthesia ensues with disturbed pulse rate and pallor. Pulmonary and renal complications have not in any case followed the administration of anesthol, and where they have existed prior to the use of it, they have not been aggravated. The return to consciousness is prompt; in fact, frequently strikingly so. The tendency throughout the narcosis is toward recovery from the anesthetic effect, not to an approach toward deeper and profounder anesthesia, hence the advisability of administering it constantly, at a suitable rate and drop by drop. We have observed no instance, even after its prolonged administration, in which the patient had to contend (in addition to reaction from surgical interference) with anesthetic shock.

CONCLUSIONS.

Summing up I would say: Believing Schleich's principle of improving general anesthesia on a physical rather than chemical basis to be correct, I consider anesthol—produced as it is in true conformity with this principle—to be the least dangerous of all anesthetics thus far known, as they are employed for regular narcosis in the daily work of the surgeon. I therefore be-

lieve it worthy of the most careful consideration of every physician employing anesthetics.

No doubt M.S. possesses great advantages over pure chloroform or sulphuric ether and is an excellent anesthetic, but in the light of the presumed correctness of Schleich's reasoning, outlined above, M.S. or any other combination of anesthetic drugs, the boiling point of which does not correspond to the temperature of the human body, can not be considered as safe as anesthol.

The improvement in general anesthesia brought about within the last few years has been manifold. Primary administration of nitrous oxid, followed by ether oxygen anesthesia, carried out by expert anesthetists such as New York may well be proud of, means a great step forward in the right direction. The same is true in regard to the efforts on the part of the various staffs of attending physicians and surgeons of our large hospitals, to create a paid position for permanent narcotizers. No doubt the future will see such experts in place in every well-conducted hospital, and thus put a stop to the jeopardizing of the lives of our patients by the inveterate method of having the youngest doctor, fresh from college, untrained and inexperienced as he is, attend to narcoses.

However, in private practice and in places remote from the larger cities, such expert anesthetizers can not always be at our disposal. The country doctor must carry the anesthetic in his valise; he can not regularly employ a second man, who carries with him the cylinders filled with nitrous oxid, nor can he himself bring along the large though ingenious and useful rubber bags, enabling the doctor to administer ether in a better and more scientific way than is possible with the paper and towel cone.

Here simpler appliances with regard to mask as well as the anesthetic are needed. Ether and chloroform administered with the help of uncomplicated masks or cones have carried the field so far. Anesthol, as has been demonstrated above, being a true solution, not a mixture, may thus well be employed in these cases in place of the former certainly more injurious pure drugs.

I should be pleased, indeed, if these lines should induce others to try anesthol, and they should get from their patients so gratifying a description of their subjective impression as I recently received from a colleague, on whom I operated at his home three times in close succession for a rapidly spreading phlegmon of hand and arm resulting from a finger infection. In each instance the anesthesia was conducted with anesthol preceded by a hypodermic of ¼ of morphin. His words to me after this threefold experience were these:

"You take it (anesthol) without knowing what you are taking, and when you awake you do not know what you have taken. It does not annoy you; it does not make you sick. It is simply a question of falling asleep and waking up."

The Need of Organization.—Dr. James C. Johnston, in the *Philadelphia Medical Journal*, says: "The worst of the many evils with which the medical profession has to contend is one of which all our national experience has taught us the folly, decentralization. It is evident throughout. Its business is worse handled than any other. Instead of trusts, in which overproduction is restrained, in which wages can be fixed and maintained, and in which the incompetent and superfluous are eliminated, it is every man for himself and the devil and his colleagues for the hindmost. This is true of its material for investigation and of the journals it supports, as well as actual practice."

FEVERS OF DOUBTFUL NATURE IN INFANCY.

PRELIMINARY CLINICAL NOTE.

J. L. DUENAS, M.D.

Attending Physician to the Children's Ward, Hospital No. 1; Visiting Physician of the Training School for Girls of Cuba; Children's Physician in Tamayo Dispensary.

HAVANA, CUBA.

In the island of Cuba the febrile process is found with extraordinary frequency during infancy and childhood. The meaning of the fever symptom in a tropical country where typhoid fever, malaria, influenza and yellow fever exist in all their forms and varieties has always been a matter of great local interest which has given rise to lively discussions. Not over 20 years ago the diagnosis of febrile diseases was made by the methods of the old clinic, and the anatomic denominations were the ones which prevailed in the nosologic charts.

ALL FEVERS CONSIDERED MALARIAL.

At the time that little was believed in the existence of typhoid fever in this island, and when it was supposed that yellow fever only attacked unacclimated foreigners, the tendency of physicians was to diagnose as malaria all cases where a local cause to the process could not be easily found, or where it could not be referred to another well-defined general disease.

During the decade of 1880 to 1890 the existence of typhoid fever in our towns of importance was well demonstrated pathologically; but notwithstanding many persisted in denying it, continuing to classify as malaria all cases of remittent fever of longer or shorter duration. A true epidemic of malaria-mania spread itself among the physicians to such an extent that seldom a febrile process was not attributed to malaria, even when there were evident signs to explain its origin in a different way. At about that time works were published in other countries intended to exhibit the different forms and localizations of this infection of the blood.

In 1890 I presented to the First Cuban Medical Congress a paper on the use of quinin in Havana, where I tried to refute the tendency to abuse of that alkaloid, particularly in children, and I firmly denied the existence of so many cases of malaria, either as a primary disease or as a secondary process, always supposed to be associated to many other pathologic processes. A very small number of physicians supported my idea at that time.

THE VARIOUS OTHER CAUSES OF FEVER.

In a lecture which I delivered two years later to the "Sociedad de Estudios Clinicos," I initiated a discussion on the several kinds of fever reigning in this city, especially during the hot season, and which attacked children with preference, being then inclined to admit for many of them an infectious cause of intestinal origin. I tried to differentiate them from typhoid fever by their etiology, their symptoms and their course, making saprophytism and endogenic or exogenic autointoxication responsible for some of our types of tropical fevers. I called attention to the cases of typhoid fever in which autopsy did not show the characteristic lesions of Peyer's patches and only the isolated follicles of the large intestine were involved, for which reason these cases were denominated colo-typhus by the ancient writers. I pointed out besides the coincidence of infectious enteritis in infancy during the epidemic of those fevers in children of all ages and young adults, considering colo-infection, as the physicians of Lyon's school did, as an attenuated expression of Eberth-infection.

In 1893, and as a consequence of a dedication to the study of children's diseases, I presented to the First

Pan-American Medical Congress, held at Washington, a paper on "Primary Acute Entero-colitis in Infancy," in which I described the different varieties of types of gastrointestinal troubles in the first years of life, and I called attention to the frequency and predominance among us of the eclamptic, cerebral, gastric and typhoid forms of the ancients in opposition to the cholera infantum which was common in the United States and certain regions of Europe. In that work I demonstrated with facts taken from my personal experience that in that division of pediatrics I had not observed anything in Havana which had not been minutely described in other countries by the old masters of that branch of medicine.

THE INFREQUENCE OF MALARIA.

In the course of recent years it has been proved beyond doubt by means of the observation of the blood that malaria is not frequent in Havana, as I affirmed in 1890, based on the clinical and epidemiologic observation. It has also been proved that the anopheles species of mosquito is seldom found within the radius of the city, being somewhat frequent in the suburbs and much more in the country where cases of acute and chronic malaria are common.

The results of modern scientific investigations have thus brought about a change in the ideas regarding the nature of our fevers. To-day it is accepted in a general way that malaria is not so frequent in Havana; that typhoid fever exists in greater proportion and that, on the other hand, there is a large number of febrile patients in which neither malaria nor typhoid fever can be diagnosed, not only on account of the clinical signs, but also by the constant negative results of the hematologic analysis, as far as Laveran's parasites and agglutination tests are concerned.

The fact that the Island of Cuba is one of the main foci of yellow fever introduces a new element of discussion in the etiology and diagnosis of infantile fevers, inasmuch as clinical and epidemiologic demonstrations have clearly shown the receptivity of the natives, denied for such a long time, for that dreadful disease.

THE DIAGNOSIS COMPLICATED.

I have thought it necessary to make this historical sketch in order to show how divided the opinion of physicians about the nature of our tropical fevers has always been; also to point out the difficulties surrounding the diagnosis of infantile pyrexias in a country where malaria, typhoid fever, influenza and yellow fever exist in their usual forms of epidemic exacerbations, and, where it is necessary to admit at the same time the existence of fevers as yet undeterminated, and which have their origin in the digestive tube and which the developing modern science accepts in all other countries since the intestinal autointoxication doctrine was established to explain the origin of general and organic troubles similar to those produced by other better known specific infections.

THE GASTROINTESTINAL FEVER.

The group of fevers which I intend to describe here constitute two principal types, one of rapid, the other of slow evolution. Both are common to all periods of infancy and childhood, but the younger the child the more frequently the rapid evolutive forms occur. The first type is characterized by feverish accesses most commonly of a depressive rather than of an excitative nature. The disease in many cases attacks the child unawares when he is in excellent state of health; but it is frequently preceded by digestive derangements, diarrhea and simple indigestion, the gastrointestinal symptoms being always more or less apparent. At first vomiting and constipation may exist or yellowish, greenish, thick mucous stools accompanied by redness and irritation of the anus. The tongue is slightly coated and if the child is traversing the dental period stomatitis and throat inflammation may exist to a certain degree. In some cases the symptoms mentioned do not exist, the only phenomena apparent being certain sensibility experienced on pressure of the abdomen, somewhat intensified on the region of the liver and accompanied by muscular contractions.

From the first stage the temperature rises to 104 or more. During the first day of the disease the thermic cycle is sustained or continuous, or interrupted by slight descents followed by new rises. During the succeeding days the temperature follows a different course dependent on the evolutions taking place in the morbid process of the disease, whether in the direction of recovery or death. In the first case the fever assumes a remittent character and in a few days completely disappears together with all other symptoms which gradually disappear at the same time. When the process of the disease must certainly end in death the temperature has a marked tendency to continuity, the cerebral symptoms grow more intensified, convulsive phenomena appear accompanied by coldness of the extremities and suppression of the urine. The little patient may die in the course of 24, 36 or 48 hours.

The causes which in Cuba have always originated discussions on the nature of these cases are:

1. The belief in the prevalence of endemic paludic germs.
2. The possibility existing at present that they may constitute syderant types of yellow fever.
3. The absence of phenomena in the digestive apparatus frequently observed in the early period of invasion of the disease.

In other countries the differential diagnosis of these cases is made on malarial infections, typhoid infections, acute cases of influenza, cerebrospinal meningitis, primary tubercular meningitis, or secondary meningitis of rapid evolution; but in all of them the influence of intestinal infection on the origin of these pathologic cases which are so frequent during the first stages of life, is to-day recognized.

Marfan, Saint Philip, Comby, Escherich, Bagınsky, in Europe; Booker, Jacobi, Starr, Holt, Crandall, and many others, in America, have described the rapid type of these intestinal infections. Modern doctrines compel us to classify these cases as fevers whose nature is still undergoing due study and investigation, so as to bring them to the rank of definitely specified infections. But they correspond exactly to the severe eclamptic, cerebral, meningitic or convulsive forms of acute enteritis, or enterocolitis which are described by such authors of old text books, as: Bouchut, West, Trousseau, Rilliez and Barthez, Meigs, who pointed them out as a very frequent ocurrence during the first two years of life. The diseases are the same. The only difference to be observed is in the denomination which varies in accordance with modern theories held as to its etiology and pathogenic mechanism.

REASONS FOR THE GASTROINTESTINAL FEVER THEORY.

In the Island of Cuba, and above all, in the City of Havana and other localities where malaria is not so frequent, I can assure, after more than twenty years' experience, that the majority of these cases of acute infec-

tions have in infancy a gastrointestinal origin owing to the following reasons:

1. The etiologic investigation allows us to discover among the antecedents of the case, more or less serious transgressions in the dietary hygiene, on the strict observance of which I have greatly insisted in my work on acute enterocolitis, published in the "Transactions of the first Pan-American Medical Congress" (Vol. II, p. 1343). I will here add that in many instances the mothers absolutely deny said origin, but clinical observation reveals abnormal discharges. In some cases they confess the fault incurred and later the exact causes of the intestinal derangements can be discovered.

2. The epidemiologic investigation shows, on the other hand, that the disease is more frequent during the warm weather and coincides with the development of fever of typhic nature, with the different types and varieties of gastrointestinal accidents, in many children under two years of age, and with the remittent prolonged cases of fever in children above that age. Its frequent repetition observed in the same child and always obeying to the same cause, dissipates all idea of typhoid or yellow fever; diseases which do not attack the same person twice in accordance with the opinion generally established and admitted.

3. The bacteriologic examination demonstrates the existence of great number of *Bacillus coli communis* in virulent condition, as well as of other saprophytes in the potable waters of Havana. Very frequently unboiled water is administered to nursing children.

4. The hematologic examination reveals the absence of plasmodies in the blood obtained from these small patients as well as the absence of the serum reaction of Widal.

5. The treatment by means of quinin though administered hypodermically, is absolutely inefficient. The children inevitably die while taking quinin unless use be previously made of intestinal eliminators. The greater number of cures and the rapidity with which they are affected depend evidently on the energetic administration of calomel, castor oil or other laxatives, the use of antiseptics and intestinal injections, stimulants of nutrition, and rigorous hydric diet.

CLINICAL CHARACTERISTICS.

Very frequently the fever reappears owing to some neglect of the dietetic plan during convalescence and again yields under the same therapeutic treatment. The inadequate, defective or tardy treatment, the lack of compliance with any detail of the medical prescriptions, physical weakness on the part of the child to resist the disease, intensity of the toxemia owing to the retention of toxic substance in the higher portion of the intestinal canal, due to the atony of the muscular coat, hereditary tendencies or renal insufficiency, are all circumstances which contribute to aggravate these cases, originate secondary infections, and occasion the fatal end of the disease.

The second type of these fevers comprises the cases of slow course. The persistence of fever constitutes the ruling feature of this group. Together with the febrile symptoms gastrointestinal troubles are developed as well as troubles of the other organs without there being any constant relation between the former and the latter.

The disease as a whole reproduces the clinical characteristics of an incomplete typhoid fever, and it may last from one to four weeks, there being cases of longer duration.

The thermic cycle varies greatly: the type of subcontinuous fever is very common during the first and second day, followed by remissions which become more and more pronounced in the subsequent days. There may be accesses every two days and periods of abatements lasting one, two or three days followed by a new rise in temperature which generally occurs together with an aggravation of the intestinal symptoms. Therapeutic intervention directed against the gastrointestinal states always modifies the course of those cases. At other times a moderate and rather regular remittent fever is observed which lasts for many days without any more symptoms until suddenly febrile paroxysms present themselves which then become complicated with cerebral phenomena and may be followed by death with all symptoms of toxemia. In other little patients the fever maintains its remittent character for many days and then diminishes gradually in an irregular way.

The digestive disorders accompanying the feverish syndrome may vary from the mildest form to the predominance of gastrointestinal localization of certain intensity. The tongue is red and somewhat desquamated or slightly coated; there is vomiting of mucous matter, fetid breath, anorexia and thirst; the stools have a semifluid consistency of greenish yellow color, grumous and mucoid, very foul at first and occasionally like those of dysentery. The urine is turbid, loaded with uric acid, urates and sometimes mucin or albumin. Usually the stools turn yellow and lose their offensive smell.

The visceral infarctions are frequent; the liver is almost always augmented and its consistency may reach that which is observed in cirrhosis. The spleen may also be enlarged, but this is less frequent. This fact may occur at the onset of the disease. Finally there are cases where both viscera are in normal state from the beginning to the end of the disease.

The exploration of the abdomen shows pain and distension at the level of the transverse colon in the ascending and descending colon, these symptoms disappearing later on more or less intense fever remaining as the only manifestation of the pathologic process.

Not unfrequently cases are observed which act in a normal way, and with tendency to constipation, but oily laxatives determine the expulsion of mucosities and the attenuation or temporary disappearance of fever. This result at other times can not be obtained without a change in the alimentation.

The type of enteritis of typhoid form of the ancient writers is recognized when studying some of these pathologic classifications in children under two years of age. In other children the morbid process has the type of the gastrointestinal troubles of the ancient writers, or that of gastric fever, which traditional observation separated from the similar form of typhoid fever and malaria.

The diagnostic study of every fever is one of the most difficult ones that may present themselves in pediatric practice. Before the birth of bacteriology the clinical and epidemiologic criterion served as a base to distinguish general diseases among themselves. Often the diagnosis was left uncertain when it could not be confirmed by means of pathologic anatomy. Bacteriologic discoveries have afterward solved many etiologic problems; but doubtless the negative result and the insufficiency of our knowledge in that respect have contributed to a certain extent to throw more confusion on the etiologic conception of some morbid processes. Besides, modern procedures of investigation and experimental demonstrations have revealed that side by side with the better known specific infections there are others which are not

classified as yet. This has given rise since the notable work of Bouchard, to the doctrine of intestinal auto-infections, by which it is tried to explain at present the nature of certain obscure, incomplete or atypical processes which according to the epidemiologic criterion were systematically included in either of the two great pyrexias, typhoid and malaria, and also in yellow fever in countries like ours. In order, therefore, to properly solve the diagnostic problem we must be more cautious than ever, trying to resort to every possible source of positive information; clinical observation, first, laboratory work afterward and a minute etiologic investigation comprising the patient and the surroundings.

Having thus excluded malaria, grippe or typhoid as origins, disregarding the other processes, local or general, capable of producing fevers of a similar course in children, it may be admitted that the forms of slow course that have been described are, in the same way as those of rapid course, consequences of putrefactions that take place in the intestinal tube. These putrefactions may be caused either by direct introduction of morbid agents with the food or by the increased virulence of the micro-organism habitually living in the intestine in a saprophytic state, due to faults in the dietary or to other external influences. The effects are the same: increased intestinal fermentation, production of toxic element and consecutive autointoxication after their absorption in the circulatory system. The feverish syndrome represents a functional trouble depending on an infection which takes place on the surface of the mucous membrane without leaving a trace of any kind. At other times the infection causes more or less extensive injuries which may be propagated to other organs of the digestive apparatus and to the remainder of the organism.

This way of thinking agrees with the work carried out in recent times by Hayen, Lesage, Thiercelin, Escherich, Baginsky, Booker and many others on the part acted by divers micro-organism in the production of infantile gastroenteritis.

An inspection of medical literature shows that the same doubts have arisen in all parts of the world about the classification of those feverish types, which differ in many respects from all the other groups of defined specific infections.

Kelsh and Kiener, Ferée and Vincent in Algiers have argued against those morbid states described by Sesary under the name of gastrointestinal fevers. Legrain, more recently, has attributed them to the colon bacillus and he affirms that this agent may give rise to a whole series of cases of remittent fevers which offer a scale of seriousness from the simple mild form to the syderant form resembling yellow fever. Manson studied them among "unclassified tropical fevers." In Italy, Tomaselli, Cantani, Fazio and others discussed them many years ago as a *sui generis* infection. Fedé, of Naples, describes it with the name of "gastrointestinal infection of infancy," and it is very common to find allusions to those diverse types of fevers in the medical literature of the United States.

The expression "entero-septic fever" proposed by Dr. Tomás, of Matanzas, has become very usual in Cuba, and it is certainly preferable, as it has the advantage of expressing the location and nature of the pathologic phenomena without making reference to any specific micro-organism.

In conclusion, the feverish process during the infantile period of life is very frequent in the Island of Cuba. In a great number of times fever owes its existence to the same infectious diseases which have been described by observers of other countries. Ignorance of this fact has been one of the causes which have contributed to mislead medical opinion on the nature of infantile pyrexias. As a rule, these pyrexias have a tendency to reveal a similar clinical expression during early stages of life. In other words, there does not always exist a constant relation between the infectious agent and the clinical phenomena exhibited by the patient. Hence the diagnosis is extremely difficult and requires minute and wide information of a clinical, etiologic, epidemiologic and experimental order to reach with more certainty the scientific truth.

But it can not be denied that most of the infantile fevers come from intestinal infection. These fevers which I have classified in two groups, according to their duration, correspond to the same processes that in the ancient nosologic classifications were called acute enteritis or enterocolitis, and which at present are named by some writers infectious gastroenteritis or infectious enterocolitis; also intestinal fevers or intestinal infections. Endogenic or ectogenic infections of the intestinal tract are the ones which give rise to the feverish types already described; the septicemic or rapid and the enteroseptic or slow, according to the predominance of the symptoms of autointoxication of the organism or whether more or less extensive inflamatory lesions on the mucous membrane of the intestine are produced.

The prognosis in these fevers depends on the virulence of the germs producing them and on the amount of resistence opposed to it by the organism of the child; but to a great extent it is secondary to the opportunity and energy of the treatment employed as well as to the experience acquired on infantile diseases.

A CONTRIBUTION TO THE PATHOLOGIC HISTOLOGY OF SYPHILITIC ETHMOIDITIS.

J. L. GOODALE, M.D.
BOSTON.

Among the causes of chronic inflammation of the ethmoid bone syphilis has long been considered to play a prominent part. In the cases, however, which usually come under observation the process is well developed, and it is a rare experience to be able to follow the condition from the beginning. The following case is, therefore, of particular interest, especially in view of the fact that a histologic examination of the anterior portion of the middle turbinate was made at an early stage of the disease.

NARRATION OF CASE.

P. J. B., a man 30 years of age, was referred to me by Dr. H. W. Kilburn, Oct. 25, 1899, with reference to a possible source of irritation in the nose, which might cause inflammation in the conjunctiva of the right eye. Examination showed an enlarged right middle turbinate, the nose and throat being otherwise essentially normal in appearance. The patient's previous history was negative.

The anterior end of the right middle turbinate was snared, and found to exhibit cystic enlargement of the bone. November 1, a portion of the stump remaining was removed with the conchotome. November 16, examination of the right middle turbinate showed an irregular swelling at the margin of the stump which had the appearance of granulation tissue, and which was of such size as to occupy almost the same region as the original anterior extremity. This was removed by the snare. November 21, the granulation tissue had reappeared, and by December 5 had exceeded even the original size of the turbinate. The patient was then put on protoiodid of mercury, one quarter grain, t.i.d. December 19, examination showed the growth to have become smaller, and

exhibiting a cleaner, smoother surface. January 1, iodid of potassium was added to the mercury. The growth continued to diminish in size, and by May 2 was no longer visible. May 22, there was an ozenic odor from the nose, and a portion of dead bone from the region of the right ethmoid was removed. June 19, the region of the right ethmoid showed much irregular retraction and distortion, but there was no odor or discharge. The patient was continued for the next few months on small doses of iodid of sodium. October 1, there was again a polypoid swelling of the right middle turbinate, with purulent discharge, together with a bad odor. Mercury was again administered, in combination with the iodid, and was followed by a disappearance of the polypoid swelling and of the odor. The patient has since that time taken 10 grains of iodid of potassium or sodium, 3 times a day, together with mercury at intervals. There has been no return of the polypoid swelling of the right middle turbinate, and he has been otherwise in excellent health.

Histologic Examination.—The specimen removed Oct. 25, 1899, of the right middle turbinate showed a hemispherical wall of bone, lined on its interior with mucous membrane, and covered externally by swollen erectile tissue and mucous membrane, differing macroscopically in no essential particular from the appearances found in ordinary cystic degeneration of the middle turbinate. The specimen was hardened in Zenker's fluid, and imbedded in paraffin.

Specimens stained with alkaline methylene blue and eosin show, under a low power, the epithelium of the interior and external aspects to consist of flattened pavement cells. In places, the epithelium exhibits an invagination, the walls of which are lined with columnar cells. The epithelial cells are everywhere penetrated with polynuclear leucocytes, particularly in the regions of the invaginations. Below the epithelium there is seen to be a marked proliferation of the connective tissue cells, and of the endothelial cells of the blood vessels. The region immediately below the epithelium contains large numbers of polynuclear leucocytes, which extend downward, though in diminishing numbers, to a point about midway between the epithelium and the periosteum. These are accompanied by lymphoid cells, plasma cells, and a small number of Mastzellen. The mucous glands present no characteristic changes, and no abnormal infiltration of cells in the vicinity. In the submucous region, the most striking changes are seen in the connective tissue. This exhibits a marked proliferation, increasing in intensity, as one advances in the direction of the periosteum. Sections stained with Mallory's triple connective tissue stain show characteristic blue connective tissue fibers to begin a short distance below the mucous membrane, and to increase in density and abundance rapidly. The deeper mucous glands are surrounded on their inferior surface by connective tissue of considerable density. The blood vessels in the regions of the most marked connective tissue proliferation show a thickening of their intima, resulting in a narrowing of their lumen, and giving the characteristic picture of obliterative endarteritis. The periosteum presents a marked proliferation as shown by the closely-packed osteoblasts, and covers irregular prolongations and digitations of the bone. This is chiefly marked on the distal surface of the bone, which in cross section has the appearance of being broken up into numerous irregular islands. The proximal aspect of some of these islands of bone shows but little alteration from the normal, although others are completely surrounded by numerous osteoblasts. Here and there, particularly on the proximal aspect of these islands of bone, osteoclasts are seen, although apparently not more numerous than in middle turbinates of essentially normal character.

In reviewing the description of these appearances we see that the tissue changes consist essentially in a proliferative periostitis, with a new formation of bone in the form of irregular excrescences, in association with a proliferation of the connective tissue in the vicinity and of the endothelial cells of the arteries, leaving in places an obstruction of their lumen. These changes partake of the character of a granulation tumor rather than of a gumma, and are to be referred to the class of syphilitic new growths termed syphiloma.

DIFFERENTIAL DIAGNOSIS.

The differential diagnosis in this case could hardly have been made clinically, previous to the rapid recurrence of the granulation tissue, after each operation. Even then it is not very uncommon, in the writer's experience, for recurrence of granulation tissue to take place after operation, in cases of ethmoiditis, due to influenza. In the case under consideration the prompt effect of anti-syphilitic remedies established the diagnosis beyond question. From the histologic standpoint it is probable that a diagnosis of syphilis could be made with a reasonable degree of certainty. In cases of ethmoiditis following influenza, and in those cases of polypoid enlargement of the middle turbinate, of unknown, but at least of non-syphilitic etiology, we find, to be sure, a proliferation of the periosteum, with a new formation of bone, but by no means such marked changes in the connective tissue or in the arteries.

It is to be hoped that in cases of ethmoiditis of a similar nature investigators will not only bear in mind the possibility of syphilis, from a clinical and therapeutic point of view, but will subject the excised tissue to careful microscopic examination.

Quackery Quarantine.—The citizen has as much need of quarantine against ignorance and quackery in medical practice as he has gained against all forms of contagion.—G. F. Johnston, Pres. Kan. Board of Regis.

Quadruple Pregnancy with Two Ova.—Baudouin describes (*Gaz. Med. de Paris*) a recent delivery at Paris in which one ovum contained three fetuses, two of them forming a sternopagus, all of the female sex, and one of them surviving. After their delivery a second bag of waters ruptured and a stillborn male child followed.

Lectures on the Physician's Relation to the Community.—The students of Harvard Medical School, says the *Boston Medical and Surgical Journal*, have, on their own initiative, arranged for a series of evening lectures to be given by prominent men, not necessarily physicians, on the general topic of the relation of the physician to the community. This action is noteworthy from several points of view. It shows, in the first place, a growing interest among students of medicine in the broader aspects of their professional work and in the responsibilities which it is sure to entail. Such a movement on the part of medical students, popularly supposed already to be overburdened with lectures, could hardly have occurred ten years ago. To those who have watched the development of the last few years, however, it comes as no great surprise. The students are certainly becoming more and more independent in thought, and are standing more in judgment on the work which they are called on to do and on the teachers who direct it. The results have been in every way salutary, both as regards teachers and students. The desire of a large body of students to provide certain lectures for themselves furthermore points toward a definite need, which they are feeling is not supplied them in the regular course. They want, broadly speaking, to learn from men of experience of their future social and ethical relations to the communities in which they may happen to be placed. This is evidence that they receive no such instruction in their ordinary undergraduate work, which, we believe, is the fact. This leads us to speak of a distinct lack in medical education, and that is, the direction of students in their relation to patients and others whom they must later come in contact with in their professional work. No attempt is made to teach the ethics of medicine except by precept and example, a good but not a sufficient method. Students of medicine certainly need instruction in this subject, a fact which the Harvard students have appreciated.

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THE DIPLOMA VS. EXAMINATION.

An esteemed correspondent offers in this issue some criticisms on a recent editorial in these columns on the above subject, and asks for reasons for the position we assume. Reduced to a sentence, our critic objects to examination by state boards, and wants the medical college diploma recognized as the only necessary qualification for the right to practice. In other words, he would have us go back to the old conditions. Arguments against this position have been given over and over again in the past in medical societies, in medico-sociologic discussions and in medical journals. It would seem useless to go over these again, or to point out the incorrectness of the claim that instructors are in a better position to judge of the fitness of a man to practice than a company of individuals "armed with a series of stock questions," when by "instructors" are meant the faculties of medical colleges, the large majority of which exist for purely commercial purposes, and by "a company of individuals" is meant a state examining board.

In the main we agree with our correspondent that it would be easier and, possibly, more "in harmony with the economic and centralizing spirit of the time, for a small number to authoritatively investigate and pass on the educational merits of fifty or one hundred institutions of learning occasionally, than to adopt the task of perpetually investigating the qualifications of thousands of individuals." If this body could be a national one, with full authority in all the states, composed only of thoroughly competent and disinterested men, and absolutely secure against all local, external, and political influences, it might be that the problem would be solved. But how are we to select such a competent body, and who is to give them the right "to authoritatively investigate and pass on" the merits of these institutions? There would still remain the question how to dispose of applicants from institutions not in the recognized list, and how to meet the pressure for such recognition. These, perhaps the most embarrassing problems, would still remain unsolved.

The great obstacle in securing satisfactory legislation comes from the fact that such legislation is a function of the state and not of the national legislature. And here we are reminded that the average state legislature is prone to be decidedly too lenient with its own institutions and, if possible, to favor these as against those outside of the state. Further, no state can rightfully deputize a matter involving the health and welfare of its citizens to an indefinite number of irresponsible bodies, such as college faculties, which are outside its limits and in no way subject to its jurisdiction or to that of the national government. A diploma from a few colleges means something, from the majority it means nothing, unless it be that the holder has paid a certain number of dollars into the treasury of the institution that granted it.

No other civilized nation, so far as we know, grants the right to practice on a diploma granted by a private teaching institution, and even Uncle Sam guards his soldiers and sailors, for it is well known that no one can be admitted to the medical corps of the Army, the Navy, or the Public Health and Marine-Hospital Service on the strength of a diploma alone, no matter how high the standard of the college issuing it.

We hardly see that the requirement of a diploma as a prerequisite to examination is a confession of weakness. The diploma is supposed to be an evidence of a certain amount of medical training and clinical instruction and the requirement of this or of some evidence that the applicant has had clinical experience should be insisted on. Many states, however, do not require a diploma, depending entirely on examination. Our correspondent's reference to "A central examining board and its associate committees" is of local import only, as we presume he refers to the pending legislation in Illinois.

We recognize as a fact that but few of our state examining and licensing boards are constituted as they should be; that written and oral examinations by means of questions and answers, and without practical clinical demonstrations are decidedly unsatisfactory, and that for an already licensed physician to have to pass an examination when he chooses to move to another part of his own country, if this should happen to be another state, is worse than outrageous. But, in spite of all this, we can not think of going back and of giving to commercially controlled medical colleges the right to say how much or how little a man or woman must know before entering on the responsible duties of a practicing physician.

The question of medical education and with it that of protecting the public from incompetent practitioners, charlatans and impostors, is one for our profession to solve and, as stated above, the question is seriously involved from the fact that we have to recognize fifty different legislating bodies. For years we have been improving, the standard has been gradually raised, and we can not afford to go back now. We must, however, recognize the necessity for meeting the present unsatisfactory conditions, especially that of granting a man the right to practice all over his own country if he has the right to practice in any part of it.

CHLOROMA, OR GREEN TUMORS.

There are few parts of the human body that have received more attention from investigators and clinicians during recent years than the lymphoid structures —spleen, lymph glands and bone marrow. The numerous contributions relating to splenic anemia indicate a growing interest in the disease as well as a general spread of a knowledge of its clinical and anatomic characteristics. A commendable, critical spirit has arisen with regard to Hodgkin's disease, and cases are repeatedly submitted to laborious inquiry to determine their tuberculous or non-tuberculous nature. The researches by Warthin and others on the hemolymph glands, the study of the hematopoietic structures in acute infections, and the increasing importance of these organs in the production of immunity have greatly advanced the work in this field. In this field of diseases of the blood-forming organs there is much to attract the clinician and to stimulate him to careful and complete observations of the many interesting forms of disease that here may meet him.

Although it may be determined at some future time that chloroma is simply a rare form of other and better known processes of disease, the recent accounts of two cases by Rosenblath and Risel,[1] together with their summary of the literature, leave a strong impression that this condition will always command a separate place on account of the clinical features. Notwithstanding that the first report dealing with these grass-green, yellowish or grayish-green tumors was made nearly one hundred years ago, only about 20 cases have been recorded since. In most of the cases double or unilateral exophthalmus is one of the earliest symptoms and naturally has frequently led to the consultation of ophthalmologists. It is caused by development behind the eyeball of tumors which soon become palpable. Exophthalmic goiter has been suspected or diagnosed in a number of cases. Tumors develop elsewhere also, as in both pseudoleukemia and leukemia, but with a marked predilection for the periosteum, especially of the skull bones; occasionally the long bones, sternum or vertebræ are affected. In this feature of chloroma there will be seen a close resemblance to those other rare tumors of bone, the multiple myelomas, which are also allied to leukemia and pseudoleukemia. In many cases of chloroma a hemorrhagic diathesis has been observed, and in a few cases changes have been found in the blood similar to those of acute leukemia.

The disease runs a short course and terminates fatally. In some of the cases a green coloring material appeared in the urine. In the two cases considered by Rosenblath and Risel the so-called Bence-Jones reaction of the urine for albumoses was absent. The peculiar color of the growths is not appreciable unless portions of the more accessible tumors are removed for examination; in some instances operations, such as evisceration of the eyeball, have revealed this striking characteristic.

Various theories have been advanced to explain the pigmentation of the newly-formed tissue, but as yet no satisfactory solution of this question has been reached; the theory of metamorphosed pigments from the blood, however, has numerous points in its favor. It is to be regretted that there are no accounts of bacteriologic investigation of the cases reported by Rosenblath and Risel for this aspect of chloroma merits thorough examination. The attention of the profession generally should be directed not only toward the recognition of these cases, but also toward securing complete investigations.

1. Deut. Arch. f. klin. Med., 1902, lxxii, 1.

UNDERGROUND TRANSIT AND PUBLIC HEALTH.

The question of transportation in our great cities is one that is agitating public opinion and becoming more or less an issue in local politics. The inconveniences of obsolete systems not progressive *pari passu* with the growth and needs of the cities call more and more for better facilities, especially in view of the modern tendency to concentration of population and expansion of municipalities. The inconvenience, however, of permanent surface railway tracks in the business centers is such that some substitute is constantly being advocated. Surface railroads are going out of date in some of our larger cities and elevated and underground transportation are being advocated. New sanitary questions will be raised by these changes and it is worth while to make some inquiry for the benefit of the public as to all the possible dangers.

The subject is taken up by Dr. Louis C. Parkes in the Public Health article of the *London Practitioner* for February. He points out the dangers to health from the confined air in subways. He shows that the amount of carbonic acid gas is increased in the atmosphere of the railway tubes and that the sanitation of the Central London Railway underground line, as shown by most recent investigations, is very bad, especially at the times when the traffic is greatest. Air of the carriages has been found to contain as much as 15 to 25 parts of carbonic acid per 10,000, or four or five times as much as in the atmosphere. While this is unquestionably deleterious to health, even though breathed for a comparatively short time, there are still other dangers to which he calls attention in subway traveling, such as the danger in the warm summer and the cold winter months alike of bodily chilling. In hot weather the traveler changes suddenly from a warm street to a much colder atmosphere and in winter the reverse happens. Then, again, the air is so confined that it can not purify itself of carbonic acid gas, and also contains a large amount of organic material and the dangers of contagion, tuberculous infection, etc., are vastly increased. It is impossible to prevent overcrowding of these cars at certain periods of the day, and this greatly aggravates the conditions. He also speaks of the tendency of large numbers of people living adjacent to these routes and traveling by tube to their working places and back again to their

homes, living their whole lives in an artificial atmosphere. What can be expected, he asks, from such a mode of existence but physical degeneration and lowering of the national health?

While this is at present more especially a London problem and one hardly yet applicable to American conditions, except possibly in New York City, it is still one to which, in view of future possibilities, we can give our careful attention. He thinks there is danger of the passive and little-assertive Londoner being rushed into costly and ill-digested schemes of multiple "tube" transit. It is a pretty generally acknowledged fact that in matters of public grievance the English are better "kickers" than the Americans, and we would do well to take some of this warning in this country where underground transit projects are being considered. The question of rapid transit in our municipalities is very far from being settled. We should utilize the experience of older countries where methods like the underground railways, etc., have been long in use and have afforded chances for observation of their effects.

MICHIGAN BOARD UPHELD.

It is well known to our readers that the Michigan State Board of Registration has had trouble almost from the beginning with a certain class of practitioners, and more especially certain of the graduates of the Armstrong diploma mills of Chicago. The strife has been carried up through the courts until it finally reached the highest tribunal in the land, and a decision has only recently been handed down. This was delivered by Judge Brewer and not only establishes a precedent, but fixes the status and authority of such medical boards, at least in certain particulars. The judge says in part: "The power of the state to make regulations providing for determining the qualifications for those engaged in the practice of medicine and punishing those who attempt to engage therein in defiance of such statutory provision, is not open to question." The state courts are the tribunals in which the question of the constitutionality of the acts as regards the state constitution is to be decided, and in this decision it is said that there is no decision known in the federal constitution forbidding a state from giving to a tribunal, whether it be called a court or a board of registration, the final determination of a legal question. Certain minor points which have been brought up by the plaintiffs were also settled, and the decision as a whole is a valuable one as establishing jurisdiction of registration boards and the legality of medical practice acts.

THE THERAPEUTICS OF THE CACODYLATES.

Within the last few years much has been published in regard to certain special arsenical compounds and their therapeutic value. These compounds, cacodylates, were found to be practically non-toxic in large doses, and it was claimed that they produce many of the therapeutic results of the basal element. Some recent investigators, however, have thrown discredit on the therapeutic efficacy of these drugs, claiming that they are practically inert in the system. They have, nevertheless, been found to produce certain symptoms, not those of ordinary arsenical preparations, which are of disadvantage. More recently, to obviate these latter disadvantages, still another organic compound of arsenic, disodic methyl arsenate, has been introduced and given the name of arrhenal, and has formed the subject of a number of clinical contributions. At a meeting of the Edinburgh Medico-Chirurgical Society, January 21, the president, Sir Thomas R. Fraser, reviewed the subject, calling attention to the fact that the efficacy of arrhenal had been combated, more especially its efficacy in malarial affections. He reported cases in his own practice where it had been given as a substitute for the ordinary arsenical preparations, but without the results that might have been expected were its effects those of arsenic itself. He also made examinations in order to determine why these failures occurred, as to the chemical conditions, using tests of extreme delicacy and found no evidence that arsenic was retained in the body after the administration of the drug. As in the case of the cacodylates, according to later reports, it passes unaltered. The general results of Fraser's observation were that arrhenal was practically an inert substance, that it can not produce either the pharmacologic action or the toxic effects of the arsenic ion and that, therefore, it is incapable of exerting remedial or therapeutic effects of the commonly used compounds of this substance. It seems now probable that both the cacodylates and this more recent substitute will pass into disuse unless some special properties not those of arsenic are absolutely determined. The enthusiasm with which these were at first received appears to have been unwarranted by fuller experience and may be taken as another instance of ill-judged medical faith in a remedy which is often one of the misfortunes of the profession.

Medical News.

CALIFORNIA.

Lehman Acquitted.—Dr. Charles A. Lehman, San Diego, who has been on trial charged with practicing medicine without a license, was acquitted February 19.

Will Not Change Law.—The Assembly Committee on Public Health and Quarantine has reported against the bill changing the law regulating the State Board of Medical Examiners, and providing that medical graduates must be given certificates to practice without further examination.

Plague Stamped Out.—Governor Pardee has transmitted to the legislature a message from the surgeon-general of the United States Public Health and Marine-Hospital Service, announcing that no plague has been discovered in San Francisco since Dec. 11, 1902; that searching inspections are being made daily in Chinatown and that no infected rat has been found since Dec. 8, 1902.

Births and Deaths in San Francisco.—The deaths in San Francisco during January numbered 783, equivalent to an annual death-rate of 21.44 per 1,000. The death rate for the corresponding period of 1902 was 24.96. The births registered were 544, equivalent to an annual rate of 15.91 per 1,000. Tuberculosis caused 125 deaths; heart disease, 87; pneumonia, 85; nephritis, 47; and violence, 71.

Cancer Specialist Held Responsible.—As a result of the coroner's inquest in the case of a patient under the care of S. R. Chamley, an advertising cancer specialist of San Francisco, the jury found that deceased came to her death from hemorrhage from an operative wound in the breast, through lack of knowledge of the attending physician, Dr. S. R. Chamley, and further found him responsible for her death. It also

recommended that Dr. Chamley's license be revoked for falsely certifying to the board of health as to the cause of death.

COLORADO.

Hospital Incorporated.—The Fairmount General Hospital Association has been incorporated at Pueblo by Drs. Thomas A. Stoddard, Ferdinand G. Mohlau, Charles O. Rice, and others.

Farm for Use of Consumptives.—David Brothers has given an improved farm of 36 acres, valued at $20,000, to the Y. M. C. A. of Colorado, to be used in connection with its proposed sanatorium for consumptives. A large number of tents will be erected as domiciles for the patients, who will be expected to work on the farm in part payment of their board and lodging.

Medical Bill Amended.—The Sanford bill, which passed the house February 7, was delayed when it reached the senate, which body amended it. One of the amendments provides for a state board of medical examiners, to be composed of 12 members, six of whom are regulars, two homeopaths, two eclectics and two osteopaths. Applicants are to be examined by that fraction of the board representing their desired line of practice.

State Board of Health Reorganized.—The board met at Denver, February 19, and reorganized, electing Dr. Josiah N. Hall, Denver, president; Dr. William H. Davis, Denver, vice-president; Dr. Claude E. Cooper, Denver, secretary, and Dr. Frank N. Carrier, Canon City, treasurer. The governor has appointed Drs. William H. Davis, Denver; Frank N. Carrier, Canon City, and Edward A. Mattoon, Salida, new members of the board.

DELAWARE.

Personal.—Dr. Pietro A. M. Rovith has succeeded Dr. John C. Fahey as physician of the Italian Mutual Beneficial Society of Wilmington.

Physician as Senator.—Newly-elected Senator Louis Heister Ball, Faulkland, who has previously served his state as treasurer, and as member of congress, is a practicing physician, and was graduated from the University of Pennsylvania in 1885.

Reception to Dr. Flexner.—Dr. Joseph P. Pyle, Wilmington, gave a dinner and reception to the physicians of Wilmington, February 3, at which Dr. Simon Flexner of Philadelphia was the guest of honor and delivered an address on the serum-therapy of diphtheria and typhoid fever.

DISTRICT OF COLUMBIA.

Personal.—Drs. John T. Dunn and W. Robert Perkins, both of Washington, have become resident physicians of Emergency Hospital, as the result of a competitive examination.

University of Vermont Alumni.—The fifth annual dinner of the Alumni Association of the University of Vermont was held February 27. Dr. A. F. A. King of Washington was elected president.

Health of the District.—Report of the health officer for the week ended February 21 shows the total number of deaths to have been 135, of which 74 were white, 61 colored, number of births 76, 45 white, 31 colored. At the close of the week there were under treatment 101 cases of typhoid fever, 12 of scarlet fever, 6 of diphtheria, 8 of smallpox.

New Hospital and School Opened.—The new hospital and building for the department of medicine and dentistry of the Columbian University were formally opened February 28. The new hospital contains private rooms and medical and surgical wards, with three operating rooms and a dispensary. The new medical building has four lecture halls, each seating from 200 to 350, large laboratories for chemistry, pharmacy, histology, physiology, bacteriology, pathology and anatomy, with recitation rooms, museum, library, reading rooms, etc.

To Prevent Epidemics.—Representative Smith of Illinois has introduced a bill in the house to prevent the spread of communicable diseases in the district. The bill provides that every person in charge of any patient who is suffering from measles, whooping cough, chicken-pox or epidemic cerebro-spinal meningitis, immediately after becoming aware of the existence of such disease, shall send to the health officer of the district a certificate, stating the name of the disease; the name, age, sex and color of the patient; the school which he or she has attended, if any, and the name of the physician, if any, in attendance on the patient; and designating the place in which the patient can be found. If the patient recover, the person in charge must send to the district health officer a certificate to that effect. But no person shall certify that a patient has recovered until he is free from danger of communicating the disease to other persons. Every physician attending any patient suffering from communicable disease, immediately after discovering the nature of the disease, must notify the person in charge of the patient of its nature and that the person in charge is required by law to report the case to the district health officer. The bill makes it unlawful for any person in the district suffering from a communicable disease or from symptoms which so resemble those of a communicable disease that they can not be distinguished therefrom with reasonable certainty, or for any physician attending or examining any such patient, or for any person in charge of such patient, to do any act reasonably likely to cause the spread of such disease, or to omit the performance of any act reasonably likely to prevent the spread of such disease. Any person who violates, or aids or assists in the violation of any of the provisions of the proposed act is made liable to a fine of $100 or to imprisonment in the workhouse for thirty days.

ILLINOIS.

Fire at Marion.—A fire which broke out at Marion, February 19, destroyed the offices of Drs. George W. Evans and Griffin Baker, Jr.

To Clear Title.—The University of Illinois has transferred to the College of Physicians and Surgeons, Chicago, the property now used as the medical department of the university. The transfer is made for technical reasons, to clear title.

Veterans Are Dying.—Statistics prepared by the adjutant-general of the department of Illinois, Grand Army of the Republic, show that in the year just closed there were 702 deaths among the 21,725 members in Illinois, a death rate of 30.8 per 1,000.

Personal.—Dr. Samuel M. Wylie, Paxton, has been elected to fellowship in the German Surgical Society.——Dr. James A. Marshall, Pontiac, declares his intention of resisting discharge as physician of the state reformatory at Pontiac, on the ground that the institution is under civil service supervision, and that no employe can be discharged for political reasons.

Hospital to Celebrate Silver Jubilee.—St. Francis Hospital, Peoria, is making extensive preparations for the celebration of its twenty-fifth anniversary, March 20, 21 and 22. In 1878 a building which cost about $10,000 was the home of the hospital. In October, 1901, the new hospital was opened, which cost $125,000. The institution also has branches at Bloomington, Ill., Menominee, and Marquette, Mich.

Chicago.

Widow Sues Physician.—Mrs. Mary Kerwin has sued Dr. Thomas J. Balhatchet on the charge of larceny as bailee, claiming that he withheld $1,023 of insurance money on her husband. Dr. Balhatchet claims that he attended the plaintiff's husband, receiving in lieu of fees for medical service, promissory notes, secured by the insurance policy. He characterizes the suit as an attempt to extort money.

Personal.—Dr. Casey A. Wood has returned from a stay of several weeks in the east.——Dr. Seward P. Gibbs was struck by a cable car, February 19, and seriously injured.——Dr. Maurice F. Doty has been elected president of the Referendum League.——Dr. George E. Cooke has moved to Arlington, Ky. ——Dr. Augustus L. Craig, who was recently robbed of a suit case containing valuable securities, was so fortunate as to have them recovered by the Kansas City police.

Record-Breaking Mortality.—The 713 deaths recorded during the week ended February 28, represent an annual mortality rate per 1,000 of 19.73; and the 2,570 deaths in the month give an annual death rate of 18.30 per 1,000. These figures break all records for a week in February, and the rate for the month is the highest recorded since 1882. As compared with February, 1902, however, there were 16.2 per cent. more deaths over 60 years of age and 4.6 per cent. fewer under 5 years of age.

IOWA.

The Board's Work.—During 1902 the State Board of Medical Examiners issued 538 certificates, 300 of which were issued to osteopaths. Of the remainder 211 were regulars, 24 homeopaths and 3 eclectics.

Personal.—Dr. George Kessel, Cresco, was thrown from his buggy, February 22, fracturing his left arm near the wrist and breaking his nose.——Dr. Lysle Reppert, Muscatine, has returned after a year of study in Europe.

Golden Weddings.—Dr. and Mrs. Benjamin F. Keables, Pella, celebrated the fiftieth anniversary of their marriage, February 24.——On New Year's evening Dr. and Mrs. Joseph

L. Powers, Reinbeck, commemorated their semi-centenary of married life.

Itinerant Physician Indicted.—Dr. Edwin E. Rohrabaugh, an itinerant rupture specialist of Chicago, arrested at Des Moines on the charge of practicing without a permit from the State Board of Health, was found guilty, gave bond of $1,000 to appear for sentence when called on, and left the city.

Faculty Member Resigns.—Dr. Charles Henry Hoffman, professor of histology and bacteriology in the medical department of Drake University, Des Moines, has resigned because he refused to give his real name. For the same reason he resigned as censor of the Des Moines Pathological Society. He admits that he is bound by honor not to reveal his true name until he has permission to do so.

MARYLAND.

Minute Damages.—The suit of Mr. R. E. Lee Bosley of Towson, former sanitary officer, against Dr. R. C. Massenburg, for $10,000 damages, resulted in a verdict of one cent.

Smallpox at Chestertown.—There are three cases of smallpox at Chestertown. Dr. G. W. C. Rohrer of the City Hospital has been engaged to attend them at $10 per day, and a house is being erected near the pesthouse for his residence.

Physician Fined for Assault.—At Hagerstown, February 24, a fine of $200 and costs was imposed on Dr. P. Elwood Stigers, Hancock, for assault on a dentist of the same place. The court said it was a most grievous offense, and that only the numerous appeals for clemency saved the accused from imprisonment.

For New Epileptic Ward.—Plans for the new epileptic ward at Maryland Hospital for the Insane (No. 2) are being prepared. The cost will be $25,000. It will be detached from the other buildings, but will conform to them in style. The dormitory on the second floor will be 21 by 157 feet, and will accommodate about 90 patients. There will be six private rooms in each wing, and on the second floor will be a sun parlor 20 by 33 feet.

New Hospital for Eastern Shore.—The plans have been completed for a new hospital at Cambridge. Of the $40,000 required for the purchase of site and building, Mr. John E. Hurst, Baltimore, has contributed $15,000, the state and Cambridge each $5,000. The site will be a bluff, the highest point in the town. The building will be of brick, in colonial style, 136 feet long, and varying from 51 feet deep at the center to 36 feet at the wings. There will be a basement and three stories and accommodations for 35 patients. The local staff consists of Drs. Brice W. Goldsborough, John Mace, Guy Steele, and Eldridge Wolff; the surgeons are Drs. Nathan R. Gorter and Thomas S. Cullen, Baltimore, and the oculists are Drs. Herbert Harlan and Henry O. Reik, Baltimore.

Baltimore.

Personal.—Drs. Frank D. Gavin and Thomas S. Cullen have returned from a pleasure trip to Jamaica.

The Week's Deaths.—The mortality was nearly normal last week, the death rate being 19.90 per 1,000 per annum for the whole population. Pneumonia caused 42 of the 212 deaths, bronchitis 11, grip 7, and measles 4.

Tuberculosis Mortality.—The statistics of the Tuberculosis Commission show that the death rate in Baltimore is nearly twice that of the state in the cases of whites, and that the mortality among negroes is twice as great.

Abortionist Sentenced.—Dr. William B. Hawkins, whose conviction of manslaughter by criminal operation was mentioned last week, has been sentenced to 10 years in the penitentiary, the maximum penalty. His lawyers have appealed the case.

Offer of Hospital Site Refused.—A recent offer of a piece of ground of 40 to 50 acres with a large three-story house on it, large enough for 50 beds, to be used for a children's country hospital, has been declined by the authorities of the Robert Garrett Children's Hospital, who have provision in this respect. It has, therefore, been offered to Washington, to which it is nearer than to Baltimore.

Dispensary Report.—The forty-ninth annual report of the Northeastern Dispensary shows that 9,588 persons attended during the year; 5,701 white, 3,887 colored. The appropriation of $1,500 by the state and the contract with the city have put the institution in a good financial footing, while the election of a board of lady managers has added much to its efficiency. Dr. Arthur Wegefarth is president.

MASSACHUSETTS.

Boston's mortality rate has been exceptionally low for the last few weeks. During January there was a good deal of influenza, but the cases were generally of a mild type and not often preliminary to pneumonia, as in some epidemics. Early in February even this mild epidemic abated.

Memorial Infants' Hospital.—A gift of $76,000 to establish an infants' hospital as an adjunct to the Harvard Medical School, is announced; $60,000 more is promised, and the entire gift will be a memorial to Thomas Morgan Rotch, class of '01, Harvard. The site will be adjacent to the medical school, which will be built in the Longwood section of Boston.

The New Harvard Medical School.—Work will be commenced on the new buildings for Harvard Medical School, in the near future. They will occupy a 26-acre lot in the Back Bay Fens. Seven buildings will be erected; five for the medical school, one for the dental school and one for a power house. They will cost more than $2,000,000, and are expected to be ready for occupancy in 1904.

Foot and Mouth Disease.—This disease has again gained a foothold in Massachusetts. A large district of the state has been strictly quarantined and most vigorous efforts are being made to stamp the disease out. Believing that stray cats and dogs are carrying the disease, all such visiting by these animals within that district is forbidden. Pigeons are also suspected by Dr. Salmon of being carriers of the virus, but inasmuch as the virus is submicroscopic it is difficult to prove these suspicions. Few, if any, cases of the disease in children have occurred in the state, which fact accords with the general experience that the disease is only rarely transmitted from animals to men.

Meetings Successful.—The meetings held at the Boston Medical Library this winter have been a great success. In place of the usual dozen or twenty men, the physicians of Boston and vicinity have assembled by the hundred. Dr. William T. Councilman has presided, and the committee have provided a series of excellent papers. At the last meeting, February 23, Dr. Townsend demonstrated that his method for pouring off the upper quarter of a quart of milk which has stood 8 hours yields cream of a uniform percentage of about 10 per cent. fat. Papers were also read on "An Analysis of 117 Specimens of Mother's Milk," "Foot and Mouth Disease," and a lantern slide lecture was given on "Congenital Hip Disease," by Dr. Bradford. The so-called bloodless method was fully explained, and its limitations pointed out. A photograph was shown of a child treated successfully by this method by Dr. Dam at the Boston Children's Hospital several years ago.

MICHIGAN.

Medical Law Sustained.—The United States Supreme Court has sustained the validity of the Michigan law regulating the practice of medicine, affirming the decision of the Supreme Court of Michigan in the case of August G. Reetze, who attacked the validity of the law.

January Mortality.—There were 2,856 deaths reported during January, corresponding to a death rate of 13.5 per 1,000 population per annum. This is 190 more than that registered for the preceding month, and 32 more than the number registered for January, 1902. There were 550 deaths of infants under 1 year, and 906 deaths of persons aged over 65. Tuberculosis caused 195 deaths; typhoid fever, 48; diphtheria, 58; scarlet fever, 36; measles, 13; whooping cough, 40; pneumonia, 382; influenza, 39; cancer, 140; accidents and violence, 126, and smallpox, 7.

Mortality for 1902.—The total number of deaths registered in the state during 1902 was 30,962, corresponding to a death rate of 12.6 per 1,000. For the year 1901 the number of deaths registered was 33,848, and the death rate was 14.0. There were 2,886 fewer deaths registered for 1902 than for the preceding year. At certain important ages, deaths were proportioned as follows: Infants under 1 year of age, 5,754, or 18.6 per cent.; children aged 1 to 4 years, both inclusive, 2,214, or 7.2 per cent., and persons over 65 years, 9,081, or 29.3 per cent. These ratios were substantially the same as for the preceding year. The total number of deaths from certain important causes during the year 1902 was as follows: Tuberculosis of lungs, 2,030, a decrease of 58 from 1901; other forms of tuberculosis, 323, a decrease of 10; typhoid fever, 592, a decrease of 43; diphtheria, 500, an increase of 2; scarlet fever, 261, a decrease of 25; measles, 229, an increase of 156; whooping cough, 290, an increase of 136; pneumonia, 2,907, a decrease of 86; diarrhea and enteritis, under 2 years, 1,350, a decrease of

320; meningitis of all forms, except traumatic and tuberculous, 496, a decrease of 37; influenza, 373, a decrease of 881; puerperal septicæmia, 168, a decrease of 15; cancer, 1,441, a decrease of 2, which may be rather remarkable as perhaps marking a turning point in what has heretofore been a progressive increase of this disease; accidents and violence, 1,951, a decrease of 87.

NEW YORK.

Sale of Adulterated Milk.—The senate has passed a bill providing that the sale of each can of adulterated milk shall constitute a distinct violation of the law.

State Medical Inspector.—A bill has been introduced into the senate providing for the appointment of a state medical inspector at a salary of $5,000 a year, to be appointed by the State Commission in Lunacy, and whose duty it shall be to examine patients and hospitals for the insane.

Typhoid at Ithaca.—During the past week there have been 15 or 20 new cases daily, and the total number of deaths among the students at Cornell has reached 17. Many of the new cases seem to be the result of secondary infection. The local board of health adopted a resolution making it a misdemeanor for any one to drink, or serve to others, unboiled water supplied from the local water company's system.

Personal.—Dr. George K. Meynen, Jamaica, has been appointed chief surgeon of the Long Island Railroad, vice Dr. J. Frank Valentine, deceased.——Dr. Julius F. Wingenbach, Utica, has been made surgeon of the Twenty-eighth Separate Company, N. G., N. Y., vice Dr. William A. Burgess, removed to Cheyenne, Wyo.——Dr. Albert H. Brundage, Brooklyn, has been elected president of the New York State Board of Pharmacy.

Registration of Nurses.—According to a bill introduced by the New York State Nurses' Association, no one is to be styled or known as a registered nurse, or use the abbreviation "R.N." who does not hold a diploma from a training school for nurses connected with a hospital giving a course of at least two years, and who is not registered by the regents of the University of the State of New York. The regents are to appoint, annually, a board of five examiners.

Pure Drug Bill.—A bill, having some peculiar provisions, has been introduced into the legislature by Assemblyman Bostwick, and it has already developed a strong opposition. It is aimed at patent medicine companies, but other drug dealers suffer as well. It compels the labeling of all medicines and drugs, showing what their ingredients are and proof of purity. The label must also state at what time the drug deteriorates and the date when it was put up. Mr. Bostwick now admits that the bill is not as good as he at first thought, but insists that the provision that no druggist shall substitute one drug for another without the knowledge and consent of the buyer should be enacted into law.

New York City.

Lebanon Hospital.—The tenth anniversary of Lebanon Hospital, in the Borough of the Bronx, was celebrated with appropriate ceremonies, February 22.

Columbus Hospital Extension.—This hospital has purchased, in the rear of the present building, three three-story dwellings, which are to be converted into an extension for the institution.

Bellevue Hospital.—The much-needed building for Bellevue Hospital is not long to be delayed, for the first appropriation of $75,000 for the preliminary work has been made, and it is stated that the cost of the new hospital will reach $3,000,000. A new building is also to be built for Fordham Hospital at a cost of $500,000.

Child Labor.—There has been so much evasion of the present laws regarding child labor that a bill has been introduced into the legislature, which prohibits the employment of children under 16 years old in certain dangerous occupations, requires children between the ages of 12 and 14 to attend school throughout the school year, and makes it necessary to produce the certificate of birth, instead of the parents' affidavit of age, before a certificate of employment can be granted to children under the age of 16.

Personal.—Dr. S. Oakley Vanderpoel, medical director of the New York Life Insurance Company, is taking a trip to the Orient, via San Francisco.——Dr. John A. McCorkle, Brooklyn, has been elected president of the Long Island College Hospital. In honor of Dr. McCorkle, nearly a hundred of his colleagues gave him a dinner, February 14.——The reappointment of Dr. A. H. Doty as health officer of the port of New York has been confirmed by the senate.——Dr. Farquhar Ferguson has been transferred from visiting to consulting physician of the Columbus Hospital; Dr. Frederick C. Keller has been appointed attending physician, and Dr. Henry Hazen, attending physician in diseases of children.

PENNSYLVANIA.

Action Against Smallpox.—To stamp out the smallpox epidemic in Bristol, Pa., the mill owners have contributed $5,000 to be used by the board of health. A special hospital is to be erected, and a house-to-house canvass is to be made by vaccine physicians.

A Legislative Visitation.—Members of the house of representatives committee on appropriations, to the number of a score or more, recently spent several days in Philadelphia on a tour of inspection to the institutions, including many hospitals, which have applied for state aid.

Makes Plea for Poor Consumptives.—Dr. Lawrence F. Flick, Philadelphia, was given a hearing by the house of representatives in his advocacy of an appropriation of $300,000 to the Free Hospital for Poor Consumptives. Of such an appropriation, $200,000 would be used to extend the White Haven Sanitarium by an addition of 200 beds; $50,000 for intermediate places to treat patients not well enough to go to White Haveu, and $50,000 for dispensaries in first and second-class cities for the treatment of walking cases.

To Raise Standard of Preliminary Education.—A bill introduced into the legislature seeks to raise the standard of education preliminary to a medical course. The bill requires from candidates for license to practice medicine a diploma of graduation from a reputable college or university, or a diploma of graduation after a four years' course at a state normal, a high school or academy, or a certificate of having passed the examinations for admission to the freshman class of a reputable literary or scientific college or university. The bill provides that, after Jan. 1, 1907, applicants for license must furnish proof that they have pursued the study of medicine for four years, for at least eight months in each year, in four different calendar years, in some legally incorporated reputable medical college.

Philadelphia.

The Children's Hospital.—This institution, a new structure forming a part of the Philadelphia Hospital, has been completed for a few months, but has very recently been equipped and occupied by some 60 inmates from different departments of the institution. Room is provided for 50 more patients.

Personal.—Dr. James Tyson, professor of the theory and practice of medicine in the medical college of the University of Pennsylvania, has been appointed a visiting physician to the Pennsylvania Hospital, the place made vacant by the death of Dr. Frederick A. Packard. Dr. Tyson resigned as visiting physician to the Philadelphia Hospital, and the place has been filled by the appointment of his son, Dr. T. Mellor Tyson.

"Med-Chi" Troubles.—Contractors refuse to make proposals for the repair of Medico-Chirurgical Hospital, recently damaged by a boiler explosion, asserting that, owing to the peculiar nature of the damage, no reliable estimate can be made. The work of repairing will likely be done by the day. Some liberal contributions towards the expense of repairing have been made, but donations are far short of the necessary amount. The Baldwin Locomotive Works Company has donated $5,000 for the maintenance of a free bed.

Deaths and Disease.—For the week ended February 28 there were 12 more new cases of smallpox, 7 of typhoid fever, 1 of diphtheria, and 15 of scarlet fever than for the previous week. From all causes there were 639 deaths, an increase of 57 over the previous week, 47 more than for the corresponding week of last year, and 101 more than for the corresponding week of 1901. Besides the prevalence of the contagious diseases mentioned, affections of the respiratory tract, influenza, bronchitis and pneumonia claim many victims.

The Carnegie Gift Secured.—Andrew Carnegie's gift of $50,000 towards a commodious library for the College of Physicians is assured, as the additional $50,000 which it was stipulated should be raised by the college before his gift was available, has virtually been pledged. An important question to be determined by the college now arises, namely: Whether to increase the height of the present structure or to purchase a new site and erect thereon an entire new building? The latter plan, favored by many of the fellows, would necessitate the raising of a large additional sum.

GENERAL.

X-Rays for Hodgkin's Disease.—A case of lymphadenoma treated by *x*-rays with marked improvement at the University of Colorado Hospital at Boulder suggests the value of further investigations along this line.

Actors' Tuberculosis Sanatorium.—It is said by one of their number that 50 per cent. or more of actors die of tuberculosis. A project is under way to establish in Colorado or New Mexico a sanatorium where actors affected with this disease may find a home and treatment.

Address on Ophthalmology at New Orleans.—Dr. W. Uhthoff, professor of ophthalmology in the University of Breslau, and one of the best known authorities on the pathology and bacteriology of the eye, will give an address before the Section on Ophthalmology of the American Medical Association at New Orleans in May.

Whiting Caught.—Word has been received that Whiting, who has been representing himself to be an agent of THE JOURNAL and the American Medical Association, has been apprehended and is held by the police authorities of Jamestown, N. Y. Physicians in that state who have been defrauded by this individual should at once enter complaints with the chief of police of Jamestown, and physicians in Pennsylvania should communicate with the chief of police of Reading.

The Samuel D. Gross Prize.—The Philadelphia Academy of Surgery announces that this prize of $1,200 will be awarded Jan. 1, 1905, to the writer of the best original essay, illustrative of some subject in surgical pathology or surgical practice, founded on original investigations, the candidates for the prize to be American citizens. The essays should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 South Thirteenth street, Philadelphia," of whom further particulars may be had.

New Board of Medical Examiners in Hawaii.—Some time ago a board was appointed by the acting treasurer, and later this appointment was called illegal. As mentioned at that time in THE JOURNAL, the physicians whose licenses were thereby invalidated began suit to prevent their re-examination being required. This suit was never brought to trial, and the question arose as to where the appointing power rested. As the result of a recent conference it was decided that the governor should appoint this board of examiners, which he has accordingly done. A number of physicians are waiting examination.

CANADA.

McGill's President Honored.—Dr. William Peterson, president of McGill University, Montreal, had conferred on him the degree of doctor of laws, at Philadelphia, February 21, by the University of Pennsylvania, the occasion being the celebration of Washington's birthday.

An anti-cigarette deputation recently waited on Premier Laurier at Ottawa and presented a largely signed petition praying for the absolute prohibition of the manufacture, importation and sale of cigarettes. The premier has promised consideration on behalf of himself and colleagues.

Manitoba's Health for 1902.—There was no fatal form or epidemic of infectious or contagious diseases in Manitoba in 1902, although there were a number of cases of smallpox in the early part of the year. There were many cases of typhoid fever and the usual number of cases of diphtheria.

British Columbia Quarantining Against the State of Washington.—Owing to laxity of quarantine regulations at Blaine, Wash., where many cases of smallpox exist, the British Columbia authorities have increased the number of special officers assisting Dr. Kendall in preventing any one coming across the line into the province.

Cost of Maintenance in Toronto Hospitals.—The total cost of maintenance in the leading five hospitals of Toronto last year was as follows: General, $85,841.34; Western, $15,504.71; St. Michael's, $39,224.19; Grace, $23,021.14; Sick Children's, $35,000. The cost per patient per day was: General, $0.935; Western, $0.625; St. Michael's, $0.60; Grace, $0.77; Sick Children's, $0.88.

New Maternity Ward for Victoria, B. C., Hospital.—An early start will be made in the erection of a new maternity ward to the Provincial Royal Jubilee Hospital. Lord Strathcona has written the hospital authorities consenting that his donation of $5,000 to the hospital may take that disposition. The total number of patients admitted to the wards during January was 78, and the number treated, 137.

FOREIGN.

Puericulture at a Young Ladies' Seminary.—Professor Pinard is giving a course of lectures on the care of babies before a young ladies' seminary at Paris.

Association of Directors of Sanatoria.—The third annual assembly of the directors of sanatoria in Germany is being held in Berlin this week. One of the principal subjects under discussion is the organization of a training school for attendants which the University Institute of Hydrotherapy has agreed to establish.

Retirement of Hitzig.—Dr. E. Hitzig, director of the clinic for nervous diseases and the polyclinic at Halle, has resigned his professional duties on account of a progressive eye affection. When he organized the clinic for psychiatry and nervous diseases in 1885, it was the first institution of the kind connected with any Prussian university. His name is, perhaps, best known by his studies on cerebral localizations.

Tuberculosis in Germany.—The following facts are gathered by the German department of health:

Out of 1,000 deaths in Germany of persons between the ages of fifteen and sixty, 316 are from tuberculosis. Persons under fifteen and over sixty are seldom affected. The mortality of the whole population has averaged 242 per 100,000 yearly, rising in the Bavarian Palatinate to 329, in Bremen to 337, and in Hesse to 314. The conditions in Germany are shown to be better than in France, Austria, and Russia, but worse than in Switzerland, Belgium, Denmark, Norway, and, especially, England.

Consumption can best be treated in special hospitals, in which Germany now has accommodation for 30,000 patients.

A Spartan School in Switzerland.—The *Journal de Med. de Paris* describes a boys' boarding school in successful operation at Sekingen in Switzerland, near Basle. The boys are brought up in the strictest simplicity and as close to nature as possible. Unusual facilities for bathing are provided, but the water is never warmed. The lads wear sleeveless shirts, sandals instead of shoes, and no caps. The handkerchief is fastened to the belt, as no pockets are allowed. The school has developed many strong boys out of puny ones, and Professor Ringele, the director, is now establishing a school for girls on the same principles.

Charlatans in Berlin and Its Province.—The Berlin Medical Chamber has been collecting information in regard to charlatans, and finds that there are 600 in Berlin alone and 383 in the province. The police have knowledge of 185 cases in which injury has resulted from their practices, proving fatal in 24. Extraordinarily excessive money demands were known in 10. In some of the cases the damage done reacted to the pecuniary disadvantage of sick benefit or life insurance companies. The department of public works has recently ordered the railroad officials to warn the employes explicitly against the dangers of resorting to nature healers.

Silver Jubilee of Prof. F. Bezold of Munich.—A souvenir number of the *Zeitschrift für Ohren-Heilkunde* was presented to Bezold on the twenty-fifth anniversary of his professional career by his pupils and assistants, some of whom had traveled from distant lands to bring their congratulations. The festivities included a speech by six deaf mutes from the Deaf and Dumb Asylum, whose utterance was surprisingly good. They thanked him for his achievements on behalf of the deaf and dumb. The *Muench. Med. Woch.* of February 10 brings an excellent portrait of Bezold, the one hundred and fortieth in its "Gallery of Prominent Medical Men."

Wireless Telegraphy the Invention of a Physician.—The first private wireless message sent across the English channel was from Marconi and was addressed to Dr. E. Branly of Paris. It was a message of congratulation on the success of wireless telegraphy, "due in part," it stated, "to the remarkable labors of Dr. Branly." As long ago as 1890 he reported experiments before the Académie des Sciences which established the practicability of telegraphing without wire communication, and the Comptes Rendus of the Académie and of journals devoted to physics contain many reports by him. He is professor of physics at Paris and the last *Gazette Med. de Paris* contains his portrait and an interview on the subject of his discoveries, which contained the germ of wireless telegraphy and the opening and closing of an electric circuit at a distance.

Struggle to Maintain Ethical Principles.—In Witten, another German city, a conflict between the physicians and the sick benefit society is impending like the one now in progress at Gera. Our readers will remember that the physicians connected with a certain *Krankenkasse* refused to serve longer when a "nature healer" was added to the medical staff on the same terms as the rest. The *Kasse* has been unable, to date, to

find any physicians willing to take their place, although it is advertising for them in the Berlin papers, etc. The Leipsic Verband, or "Union for Protection of the Economic Interests of the Profession," is sustaining the Gera physicians, both morally and materially. They have officially announced that they will aid the *Kassen* members in any emergency, give first aid, etc., but decline further attendance until the "nature healer" is dismissed.

The New Moscow Cancer Hospital.—Professor Lewschin of Moscow has succeeded in organizing a cancer hospital, which is said to be a model in every respect. Contributions of more than $175,000 were collected for the purpose, and the university has taken the new institution under its charge. The word cancer is omitted from its name, and it is known as the "Tumor Clinic and Asylum." Four large laboratories for special research are installed in it, and the operating rooms are lighted by seven large windows and glass roof. All the inner corners and angles are rounded, and the floors slope slightly to the drains. At all the wash rooms there are special cranes and handles, so that the vessels can be washed without touching them with the hands. Lewschin has written a circular of questions concerning cancer patients, which the authorities have sent to 15,000 physicians in Russia, and 5,000 replies have already been received. A recent letter to the *Deutsche Med. Woch.*, in addition to the above items, mentions that the number of deaths from cancer at Moscow has risen from 411 in 1880 to 832 in 1896.

Fourteenth International Medical Congress.—Particulars in regard to the numerous excursions in Spain, open to the members of the congress, have been received at this office. A reduction of 50 to 30 per cent. is allowed on presentation of the coupon membership ticket to be given each member. The transportation is in the hands of the transportation company, the "Voyages pratiques," 9 rue de Rome, Paris, which will furnish further particulars and circulars on demand. Special trains for the members will leave Irun and Port Bou for Madrid on certain dates. The congress will convene April 23 to 30. The committee in charge of lodgings announces that there are a large number of hotels at Madrid whose table and comfort vie with those of the larger European cities, and many of the best private families have volunteered to open their homes to the members, so that thousands of lodgings are provided for, at rates ranging from 13 to 50 pesetas a day, that is, about $2.60 to $10. The committee urges the necessity, however, of early application for lodgings to secure first choice. Mr. Ulrich Frei has charge of the matter, and should be directly addressed. The king and queen regent are to offer the members a garden party and a general reception at the palace. The municipality has organized a special fête with, probably, a gala performance at the Theatre Royal. There will also be a special bull fight for those who wish to visit this national institution. In addition to these general affairs, the sections expect to organize special excursions, etc., for their members. Mail should be addressed to the members, with the name, followed by "Membre du xiv Congrès International de Médicine, Section de ———" (concluding with the name of the country in which the member resides). Membership fees (25 francs, or $5 in a draft on Paris) may be sent directly to the secretary general, Dr. A. F. Caro, Faculté de Médicine, Madrid, or, until March 20, to the national committees. The secretary of the American committee is Dr. Huddlestone, 126 West Eighty-fifth street, New York. Great interest is being manifested in the approaching congress in medical circles in Europe, and it will undoubtedly be a noteworthy gathering of prominent men. It seems probable that the congress will have presented to it the results of much research on serum therapy in various diseases. The complete program may be had of Dr. Huddlestone.

LONDON LETTER.

Lathyrism in Central India.

Lathyrism is prevalent in the central provinces of India. Major Buchanan, of the Indian Medical Service, and Mr. Stockman, professor of pathology in the Edinburgh Veterinary School, have been appointed to inquire into its cause and prevention. It is thought to result from the consumption in large quantities of the food grain known as *Lathyrus sativus*, or teora, when not prepared in such a way as to eliminate a poisonous principle. The clinical features are as follows: For two or three months before the onset the patient has been living almost exclusively on teora, which has been made into cakes and cooked, but not boiled. Then, for a few days, he feels weak and drowsy, with pains in the legs and occasional cramps in the calves. Suddenly, while at work, he falls and finds he is unable to rise. After this he is confined to bed for a month or two, and stops eating teora. The arms are not affected, and there is no loss of sensation, but the lower extremities are paralyzed and, in severe cases, there is loss of control over the sphincters and loss of sexual power. The condition of the leg muscles is one of marked spasticity; the knee jerks are exaggerated, ankle clonus is obtained and, when the patient stands for a few minutes without the aid of sticks, clonic spasms occur in the legs. There is also rigidity of the muscles of the spine, so that when sitting down the patient is unable to turn the upper part of his body around. Improvement is slow, but gradual, whether treatment is adopted or not. There is no fever and little or no muscular atrophy.

Food Poisoning and Epidemic Diarrhea.

At the Epidemiological Society, Prof. Sheridan Delepine read an important paper on the "Bearing of Outbreaks of Food Poisoning on the Etiology of Epidemic Diarrhea." He defined epidemic diarrhea as an infectious disease affecting many persons at the same time, especially during the hot season and in populous districts, where it causes a high infant mortality. Its bacteriology is far from being settled. Most observers believe that the *Bacillus coli communis* is the most important factor, but a spirillum, the *Bacillus enteritidis sporogenes*, various streptococci and *Bacillus lactis ærogenes* have been incriminated by others. Professor Delepine described various outbreaks, which he had examined, especially those of milk diarrhea at Manchester in 1894 and of pork pie and sausage poisoning at Derby in 1902 (recently described in THE JOURNAL). The general conclusions at which he has arrived are that epidemic diarrhea is caused by bacteria of the *Bacillus coli* group, the least virulent being those that most resembled the *Bacillus coli communis* and the most virulent being those that most closely approximate to the *Bacillus enteritidis*, especially the *Bacillus enteritidis* of Gärtner. The most dangerous are, consequently, those that acidify or coagulate milk or impart an offensive odor to it. The obvious precautions to be observed are cleanliness, consumption as early as possible, refrigeration to 4 C., or sterilization by heat.

The Serum Treatment of Poisoning by Snake Venom.

Two very important papers on this subject have been read at the Glasgow Medico-Chirurgical Society. Dr. George Lamb of the Indian Medical Service, who has minutely investigated the subject of snake bites, pointed out that the poisonous snakes of India might be divided into two groups—colubrine and viperine. An example of the former is the cobra, of the latter, the *Daboia russellii*, or chain viper. The poisonous principles of all snakes' venoms are albuminous substances, which vary in different species. Thus cobra venom contains no poisonous principle which is contained in daboia venom and *vice versa*. Hence the symptoms of poisoning by these venoms are very different. When a man is bitten by a cobra severe pain and swelling around the wound occur, after an hour or two nausea and lethargy begin, paralysis soon follows, and death usually takes place about six hours later from failure of respiration. On the other hand, daboia venom causes a large bloody extravasation around the wound, because it has destructive action on the capillaries and red corpuscles, and depresses the action of the heart, sometimes to a fatal extent. Hemorrhage may occur from all the orifices of the body. Paralysis is never produced, and recovery often takes place. Dr. Calmette of Lille, by immunizing horses with a mixture of snake venoms, of which cobra venom is the principal ingredient, has produced an antivenomous serum which is reliable in cases of cobra bite. But Dr. Lamb has found that it is useless in poisoning by daboia venom, and Martin of Melbourne has shown its inability to neutralize the venom of Australian snakes. In the treatment of cobra poisoning the object is to get the serum as quickly as possible into contact with the venom, which is effected by intravenous injection. If this can not be performed the serum may be injected subcutaneously. At least 40 c.c. should be injected. If after injection symptoms occur the dose should be repeated. The only other treatment of any use is tying a ligature about the bite. At present there is no serum for daboia poisoning. Cases can be treated only on general principles; diffusible stimulants help to tide over the stage of cardiac depression.

Dr. Walter K. Hunter then read a paper on the histological appearances of the nervous system in krait and cobra poisoning. His investigations were made on animals killed by Dr. Lamb in the course of his experiments on snake poisoning. In monkeys killed with krait and with cobra venom he found acute degenerative changes in the ganglion cells of the cord, medulla, and

pons, and in the peripheral nerves. In one monkey killed with cobra poison degeneration of nearly every nerve in the central nervous system was produced. In the cervical enlargement of the cord the outlines of the Nissl granules of the antero- and postero-lateral groups were blurred as if they had been acted on by some solvent. The rest of the cells of the anterior were degenerated, and without any granules whatever. In the lumbosacral enlargement these changes were still more marked. In the cerebral cortex there was acute chromatolysis of the majority of the pyramidal cells.

The Professor of Anatomy in the University of Edinburgh.

Sir Wm. Turner having been promoted to the principalship of the University of Edinburgh, the chair of anatomy became vacant. The curators of patronage have appointed Dr. D. J. Cunningham, F.R.S., professor of anatomy in the University of Dublin, to the position. He is pre-eminently qualified, having been eminent in that branch for many years.

PARIS LETTER.

Honors Paid to Professor Brouardel.

Professor Brouardel, who was replaced last year by Professor Debove as dean of the faculty, was recently made a grand officer of the Legion of Honor, and on this occasion a fitting tribute was paid to Brouardel's work as professor of legal medicine. The ceremony took place in the large amphitheater of the Faculty of Medicine, and the minister of public instruction, Chaumié, was present, as well as Liard, the vice-rector of the academy, and other high dignitaries of the university. Professor Gilbert, a pupil of Brouardel, made a speech, in which he showed how Professor Brouardel had always sacrificed his private interests for the general welfare, giving up his laboratory work, his practice and his hours of rest or recreation when his professional duties required his doing so. Dr. Marey, a member of the institute, who is so well known for his work on physiology, had written a speech which was read by Chauveau, as he was ill at the time. Dr. Debove also made a speech in which he made the remark that he trusted his successors would leave the deanship with as much affection and sympathy shown by their pupils and colleagues, which reminds one that Dr. Debove has not been in great favor with the students of the Paris Faculty. The minister, Chaumié, spoke of Brouardel's recent efforts in the campaign against tuberculosis.

Terrier's Statistics in Appendicitis.

Almost all the important surgeons in Paris are publishing their statistics on appendicitis at the weekly meetings of the Society of Surgery. Professor Terrier has been one of the last to do this. His statistics include three years' work at La Pitié, 1900-1901-1902. He divides operations into three categories: urgency operations, operations "*à chaud*," operations "*à froid*." Thirty-nine urgency operations furnished four deaths, or 10.25 per cent. mortality. The second type of operation was performed 17 times with one death, or 5.88 per cent. mortality. Of the last variety there were 61, with one death, or 1.80 per cent. The grand total is 117 operations with 6 deaths, or 5.12 per cent. mortality.

Cure of Gin Liver by the Internal Use of a Hog's Liver.

At a recent meeting of the Medical Society of the Hospitals, Dr. Galliard reported the case of a woman, 54 years old, who was suffering from cirrhosis of the liver. Various drugs were tried without effect, and, at last, she was given daily 150 grams of the liver of a pig. The urine soon became clearer and more abundant, the symptoms improved, and now she seems to be quite cured.

Faure's Second Operation for Cancer of the Esophagus.

Dr. Faure, surgeon at the Hotel Dieu, had already operated last December, on a case of cancer of the thoracic portion of the esophagus, and the patient died the next day. In a second case, which was operated on recently, Dr. Faure did not excise the first rib as before, but was able to remove a part of the esophagus eight centimeters long. The operation was done in both cases on the right side, though Drs. Quenu and Hartmann consider it best to operate from the left side on account of the pleural sinus. The latter was not, however, in the way, whereas on the left side the aorta might render the operation more difficult.

Hydrocele Containing Tuberculous Bacilli.

At a recent meeting of the Society of Surgery, Dr. Tuffier presented two patients who had been treated for simple hydrocele and who showed no trace of genital tuberculosis. The effusion had been treated by Jousset's method of centrifuging and had been found to contain tuberculous bacilli, which would tend to show that in a certain number of cases hydrocele was of tuberculous origin.

Infantile Scurvy.

At a recent meeting of the Obstetrical Society, Dr. de Rothschild reported the recent statistics of infantile scurvy, which show that this affection is exceedingly rare in France, there being only 23 cases reported. It is, however, frequently seen in Germany, Baginski coming across 8 or 10 cases yearly. The latter author has ever cited instances where the child was fed from the breast. Professor Budin, the great advocate of feeding with sterilized milk, said he had never seen a single case of the disease and, as he uses sterilized milk, he feels that it must have some other etiology. In connection with this it may be stated that at a recent meeting of one of the medical societies of Paris a certain variety of sterilized milk was spoken of as having been given to a child suffering from scurvy. It is a noteworthy fact that in the reports that appeared in the medical papers no mention was made of the name, the milk being spoken of as sterilized milk.

Correspondence.

The Diploma vs. Examination.

PEORIA, ILL., Feb. 23, 1903.

To the Editor:—Your remarks in your issue of February 21 under the caption "The Diploma vs. Examination" lead me to a desire to know your reasons for the position therein taken. The question involved is a particularly vital one at the present stage of legislative effort on the part of the profession of the state of Illinois, and a goodly number, including myself, entertain views diametrically opposed to those you have expressed. If the judgment of such is erroneous, I for one should like to have it corrected by efficient arguments. The action of a majority of our state or territorial legislatures is not alone conclusive, in that a particularly active coterie of medical men may, as we have had reason to know, secure legislation not representative of the sentiments of the profession as a whole.

I can not conceive of the likelihood of procuring, under existing political conditions in and out of the profession, a central examining board so constituted as to secure, in the time and with the opportunities ever at its disposal, a superiorly adequate knowledge of any individual's fitness for the practice of medicine. If the possession of a diploma is to be considered a prerequisite to examination, either as an excuse for laxity or a safeguard against omissions, it seems to me a confession of weakness of the whole cumbersome scheme of a central examining board and its associate committees. In my judgment it were far easier and more practicable, and more in harmony with the economic and centralizing spirit of the time, for a small number to authoritatively investigate and pass on the educational merits of fifty or one hundred institutions of learning, occasionally, than to adopt the task of perpetually investigating the qualifications of thousands of individuals. Instructors, or even some special individual appointed for the purpose, must, it seems to me, be acknowledged to be in a better position, through constant association with students and their course of work, to judge of their all-around fitness than can be any company of individuals armed with a mere series of stock questions entirely unassociated with any opportunity for their practical application. O. B. WILL.

Ἀχιλλέυς ἀνέστη Χωόμενος.

Achilles Rose in His Wrath.

BROOKLYN, Feb. 25, 1903.

To the Editor:—In THE JOURNAL of February 14 there appeared a letter from one, Achilles Rose, M.D., who seems to have a grievance of some kind. Our attention has just been called to his amusing invective. The editors of the *Medical Library and Historical Journal* doubtless would have qualified as "men of learning" if only the journal had been published in modern Greek. This "monstrosity" might then have seemed

as sweet as "A Rose of Yesterday." Alas! we are not "men of learning," and we do not claim to be—we are only men who are learning. There is only one man of learning, only one—and he will not quote titles of books "because many of these titles are misspelled." We are desolate. We once knew of a woman who never married because some men are bad. All mankind grieved.

The writer acknowledges the justness of the criticism of Achilles Rose, M.D., as to there being some misspelled titles in the 17-page list of "New Medical Publications" published in the initial number of the *Journal*. Typographical errors will creep in, and in this instance circumstances, unfortunately, prevented this list from receiving the careful revision the editors will be able to give it in the future. Then, if the eyes of "The Great Corrector" perchance ever again should see this "monstrosity" perhaps his grief will be somewhat assuaged.

We like just criticism and take it kindly. We solicit it. Criticism is the index finger pointing to progress. Thank God, we have not the slightest idea that we have reached a state of perfection.

The Medical Library and Historical Journal,
ALBERT T. HUNTINGTON, Editor.

Registrations at the Madrid Congress.

The following circular letter is self-explanatory:

CINCINNATI, Feb. 24, 1903.

Dear Doctor:—Some time last year I received a lot of application blanks from the secretary of the International Medical Congress of Madrid, and, in turn, forwarded them to the members of the A. A. O. G., requesting such as desired to fill out the same and return them, with the admission fee of $6. I received in return a number of applications, with checks, etc., and forwarded them to Madrid, with the request that the registration tickets be forwarded direct to the subscribers. I heard nothing more of the matter, and entirely overlooked the fact that I failed to receive my own admission ticket, until I received, to-day, advice as follows:

> Your very gracious letter, enclosing 126 pesetas, was duly received. I am, however, full of humiliation to advise you that the accompanying applications were mislaid. We have tried to find them, but, at the last moment, forced to abandon the effort. If you will be so kind as to again forward the names, the certificates will be made out at once.

I have no memorandum of those who subscribed, and write to ask whether or not you sent your subscription to me. If so, kindly advise me, and I will at once forward the information to Madrid.

Please let me hear from you by return mail.

Very sincerely yours,
CHAS. A. L. REED.

Anti-Infectious Action of Crede's Collargol.

To the Editor:—In your issue of December 20 I notice with much surprise and regret an editorial, "Anti-Infectious Action of Credé's Collargol," in which the statement is made that, because the bacteriologic investigations of Cohn in Pfeiffer's laboratory (Königsberg) have given negative results, and because 45 minutes after introduction into the circulation colloid silver is no longer demonstrable in the blood, its fate as a specific against sepsis is settled.

It seems that you expect from collargolum a powerful bactericide effect, as from sublimate or nitrate of silver; if it possessed an action of this character, it could never be introduced so freely into the system. As, however, Professor Wenckebach (director of the Groningen University Medical Clinic) states, collargolum is a powerful catalysator in the body, and hence can only enhance the normal bactericide properties of the blood.

Bacteriologic experiments are incompetent to determine the efficacy or inefficacy of collargolum, since its action is only developed in the body, and in the presence of pathogenic bacteria or their toxins, with which it forms combinations, while in sterile blood or lymph it remains metallic silver.

I am sorry that in this editorial you have brushed aside the clinical testimony of such men as Professors Roswell Park, A. Jacoby, S. Marx, Chas. G. Cumston, H. J. Boldt, Dieckerhoff, Tillmanns, Walter B. Dorsett, George M. Coon, Forchheimer, Drs. Gustav Schirmer, Oscar Werler, and many others, whose reports you will find in our pamphlets of March, 1899; March, 1900; October, 1900; March, 1901; October, 1901; March, 1902, and October, 1902, which we send you by this mail, separately. I do not remember having ever seen a single clinical report "denying all claims of efficacy" for collargolum; if such have been published their number is utterly insignificant to that of the favorable ones. Your very truly, C. F. STEIFEL.

A Sample Health Board Propaganda.

DETROIT, MICH., Feb. 28, 1903.

To the Editor:—I accepted the appointment as a member of the Detroit Board of Health from Governor Pingree, Feb. 21, 1899, for the term ending Feb. 28, 1903.

On March 15, 1899, certain thoughts of mine appeared in the *Detroit Evening News* concerning the workings of the Detroit Health Department, and the kind of man needed as health officer. These thoughts later became my convictions, and were contained in my fixed policy, and were, viz.:

(*a*) Health officer to be a clinical physician with executive ability, and to have had personal experience diagnosing contagious diseases, including smallpox, scarlet fever and diphtheria.

(*b*) Health officer to examine *personally* suspicious or doubtful cases reported to the department, and meet *personally* private physicians asking consultation thereon.

(*c*) Health office to be operated on practical business principles, and without political coloring.

(*d*) Methods of health office to be up-to-date, but for every dollar of cost of maintenance the department to obtain full value in practical results—all unnecessary expense to be eliminated.

(*e*) All health department work of a medical nature to be performed by the salaried physician employes of the city.

(*f*) Health officer and all employes to give their entire time to the department. Under no circumstances should persons on regular salary be paid extra compensation.

Spencer says: "Political life is healthy only in proportion as it is conscientious." I have endeavored faithfully to enforce the above policy, as well as all health laws and ordinances applicable to Detroit, with what success the official records of the Detroit Board of Health will show.

JOHN L. IRWIN, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL PRACTICE QUERIES.

GRAND RAPIDS, MICH., Feb. 27, 1903.

To the Editor:—I am a graduate of a recognized medical college and am registered in Michigan. I wish to move to California. I understand that there is reciprocity between Illinois and California and between Michigan and Illinois. Is this true? Now, would it be allowable for me to register in Illinois and from there register in California? If not, what will I have to do to practice in California? Kindly answer in your "Queries." J. S. RANDALL.

ANS.—Illinois reciprocates on certain conditions with Michigan, but not with California yet. An examination will probably be required in California.

JOHNSON CREEK, WIS., March 2, 1903.

To the Editor:—Kindly let me know through the Queries and Minor Notes department of THE JOURNAL which state boards of medical examiners reciprocate and on what basis? MICH.

ANS.—Delaware reciprocates with New Jersey and Maryland; Illinois with Indiana, Maine, Michigan, New Jersey and Wisconsin; Indiana with Michigan, Wisconsin and Illinois; New Jersey with Delaware, Maine and Illinois; Maine with Illinois and New Jersey.

Some states accept certificates of certain others—thus Pennsylvania accepts those of New York, and Texas those of some twenty other states—Delaware, District of Columbia, Georgia, Iowa, Louisiana, Maryland, Mississippi, Missouri (if issued after July, 1901), Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Utah, Virginia, **Washington.**

Marriages.

JOHN J. ZAUM, M.D., to Miss Gertrude Anderton, both of Milwaukee, Wis., February 24.

ISAAC A. THOMPSON, M.D., to Miss Alma M. Despres, both of Traverse City, Mich., February 25.

JOSEPH A. GUERTIN, M.D., St. Mary, Ill., to Miss Amy Grossaint of L'Erable, Ill., February 18.

JOHN G. MCKINNEY, M.D., Barry, Ill., to Mrs. Electa Henry of El Dara, Pike County, February 18.

JAMES W. BLAN, M.D., La Fayette, Ill., to Miss M. Mollie Gochring of Warsaw, Ill., February 18.

ROBERT STANLEY GOODMAN, M.D., Oakhill, Fluvanna County, Va., to Miss Mary Dixon Boggs, of Baltimore, February 17.

RICHARD M. FLETCHER, JR., M.D., acting assistant surgeon, U. S. A., to Miss Anna Ford Ludlow of Chicago, February 12.

Deaths.

T. Gaillard Thomas, M.D.

Theodore Gaillard Thomas, M.D., of New York City, died in Thomasville, Ga., February 28, aged 71. Dr. Thomas was one of the pioneers in American gynecology; as a teacher and



T. GAILLARD THOMAS, M.D.

clinician he was unsurpassed in his day; his courtesy and kindness of heart endeared him to the thousands of students whom he instructed, and to his brothers in the profession, and his sympathy and chivalrous tenderness endeared him to his patients.

Theodore Gaillard Thomas was born at Edisto Island, S. C., November 21, 1831. His early education was received in Charleston (S. C.) College, which he left in his senior year to enter the Medical College of the State of South Carolina, Charleston, from which he was graduated in 1852. He settled in New York City immediately after graduation and was resident physician at Bellevue Hospital, and New York City Hospital, Blackwell's Island. He soon devoted his attention especially to obstetrics and diseases of women. He was for many years professor of obstetrics and diseases of women and children in the College of Physicians and Surgeons, New York; physician to Bellevue Hospital; surgeon to the Woman's Hospital in the State of New York; consulting surgeon to Nursery and Child's, French Lying-In, Skin and Cancer, Presbyterian, and St. Mary's hospitals. He was also at one time physician to Bellevue, St. Luke's, Roosevelt and the Strangers' hospitals.

He was a member of the American Medical Association; a founder, and in 1891, honorary fellow of the American Gynecological Society; a member and once president of the New York Obstetrical Society; a member of the New York State Medical Association, New York Academy of Medicine, New York County Medical Society, and New York Pathological Society; honorary fellow of the Obstetrical Society of London; corresponding fellow of the obstetrical societies of Berlin, Philadelphia and Louisville.

His work entitled "Diseases of Women" has been for many years a standard text-book.

His funeral was held in New York City, March 3, and was largely attended. Members of medical societies of which he was a member, hospital staffs on which he had served and the faculty of the College of Physicians and Surgeons were present in great numbers to pay the last honors to their deceased colleague.

W. E. B. Davis, M.D.—The later reports are still indefinite as to the manner in which Dr. Davis met his death. One account says that he got out of his buggy to go to his horse's head, when the animal reared, throwing him under the wheels of the train; another, that he lost his footing and fell under the train; another, that he did not take hold of the horse's bridle, but threw himself under the train; a fourth, that he was drawn under the moving train by the suction, and a fifth, that as he was about to sieze his horse's bridle he was struck by the step of the coach and thrown under the train. The wheels of the rear truck passed over his body just above the hips, not breaking the skin. His right leg was broken and his face showed abrasions.

The body lay in state at his late residence for six hours on February 26, and hundreds took advantage of the opportunity to look on his face for the last time. The funeral ceremonies were marked by the simplicity which was characteristic of the deceased.

The *Age-Herald*, in an editorial mention of Dr. Davis' death, says: "He held not only a high place among the surgeons of this state, but he was widely known in other states. It may be said that he was esteemed by eminent surgeons throughout this country, and even in other countries. Here at home those to whom his skill and deep knowledge of the human frame had come are inconsolable, and in their homes the loss will be grievously felt. He was as tender-hearted as he was skilful, as genial and lovable as he was helpful and scientific. He was loved as a man and respected as a great surgeon. The loss of this people is heavy, and the grief of those to whom he was a companion and friend is beyond the power of words to express."

The newspaper also states: "The scenes at the infirmary were deeply pathetic. The white-capped nurses went quietly about their hospital duties, but in the atmosphere was the appalling hush of death. These good women would pass each other in the long, silent corridors, but their lips were mute. They passed in and out of the sick chambers and carried out to the minutest detail the instructions left by the physician whose end came so suddenly. Every white bed had its sufferer looking for relief to a life that had just gone out. They watched and waited the long afternoon and grew restless at the delay. And yet never a word of the tragedy came from the lips of the white-capped nurses, never a hint of the accident that was being discussed in the streets, at the clubs, in thousands of homes, in the most fashionable avenues and in the poorest districts of the city."

Franklin M. Kemp, M.D. Long Island College Hospital, Brooklyn, 1893, died from heart disease at Nueva Caceres, Philippine Islands, February 23. After his graduation Dr. Kemp served as assistant surgeon in the Soldiers' Home, Dayton, Ohio, and in 1896 was appointed first lieutenant and assistant surgeon in the Army. He served in Vancouver Barracks and Alaska, and in 1898 went to Manila, where he served under General Lawton, and twice was mentioned in despatches for bravery. He was invalided home in 1899, and was on duty at the United States Military Academy, West Point. He was made captain and assistant surgeon in 1901, and ordered back to the Philippines. He was a member of the Association of Military Surgeons of the United States.

Cochran McClelland, M.D. Jefferson Medical College, Philadelphia, 1873, formerly assistant to Prof. Ellerslie Wallace, a well-known gynecologist and obstetrician of Philadelphia, and a member of the American Medical Association, and the Philadelphia County Medical Society, died at his home in Philadelphia, February 16, from pneumonia, after an illness of two weeks, aged 53.

Caird Ryerson Maclean, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1859; M.R.C.S. Eng., 1879, surgeon-lieutenant-colonel, a veteran of the Civil War, through which he served as surgeon, died at his home in Meaford, Ont., February 17, from paralysis, after a long illness, aged 65.

David Miller Anderson, M.D. Bellevue Hospital Medical College, New York, 1866, assistant surgeon in the Civil War, and three times a member of the Pennsylvania legislature, died at his home in Venetia, February 16, from pleuro-pneumonia, after an illness of two weeks, aged 65.

Robert Rose Dorsey, M.D. University of Pennsylvania, Philadelphia, 1882, fourth of his family in linear descent to practice medicine, died from consumption at his home in Los Angeles, Cal., February 18, from consumption, aged 43.

A. L. Cressler, M.D. Jefferson Medical College, Philadelphia, a member of the legislature in 1874, and a charter member of the Luzerne County Medical Society, died at his home in Wilkesbarre, Pa., February 23, aged 75.

Thomas Atkinson Councell, M.D. College of Physicians and Surgeons, Baltimore, 1894, of Easton, Md., health officer of Talbot County, died at the City Hospital, Baltimore, from Bright's disease, February 18, aged 30.

James E. Ferguson, M.D. Philadelphia Medical College, 1852; Jefferson Medical College, Philadelphia, 1870, twice a member of the state legislature, died February 16, at his home in Bangor, Mich., aged 78.

Ingham Wood Donnan, M.D. Bellevue Hospital Medical College, New York, 1871, of South Side, Pittsburg, Pa., died from consumption at Aiken, S. C., February 13, after a long illness, aged 58.

Peter V. R. Dafoe, M.D. University of the Victoria College, Cobourg, Ont., 1864, of Tecumseh, Neb., died from consumption, February 17, near Macon, Mo., while returning home from Florida, aged 64.

Edward E. Baker, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1887, of Friendship, Maine, died recently from consumption at Jefferson, Maine, after an illness of three years.

David A. Kappes, M.D. Jefferson Medical College, Philadelphia, 1884, a specialist on diseases of the eye, died from pneumonia at his home in Philadelphia, February 14.

John J. Conway, M.D. Long Island College Hospital, Brooklyn, 1880, died from pneumonia at his home in Brooklyn, after an illness of one week, February 13, aged 44.

Benjamin Bevan, M.D. New York University, 1890, died at his home in West Pittston, Pa., February 20, from myelitis, resulting from a fall, after a long illness, aged 41.

Martin B. Cherrie, M.D. Rush Medical College, Chicago, 1888, died at his home in Ankeny, Iowa, February 20, from consumption, after an illness of nearly four years.

Charles C. Conway, M.D. Washington University School of Medicine, Baltimore, 1869, died at his home in Orange County, Va., February 17, after a long illness, aged 70.

Alice H. Burdick, M.D. Eclectic Medical College of the City of New York, 1872, was struck by a train and instantly killed at Passaic, N. J., February 19, aged 60.

Carlos R. Allen, M.D. Dartmouth Medical College, Hanover, N. H., 1838, the oldest practitioner in Sussex County, Va., died at his home in Vernon, February 19, aged 88.

William J. Springfield, M.D. Cleveland College of Physicians and Surgeons, 1874, died recently from pneumonia at his home in Jolly, Daviess County, Ky.

Henry Addison Mandeville, M.D. College of Physicians and Surgeons, New York, 1891, died at his home in South Orange, N. J., January 31, aged 45.

D. Erastus Thomas, M.D. Medical College of Evansville, Ind., 1851, of Lacon, Ill., died at St. Petersburg, Fla., from heart disease, February 5, aged 78.

Pacificus B. Porter, M.D. Chicago Medical College, 1869, of Chicago, died suddenly in a drug store in Ravenswood, February 9, from heart disease, aged 57.

Elizabeth McFarland, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1901, died at Sharon, Pa., from broncho-pneumonia, February 7.

Henry Helfrich, M.D., a retired homeopathic physician of Allentown, Pa., died at his home in that city, February 1, from pneumonia, aged 99.

Benjamin R. Dostor, M.D. Jefferson Medical College, Philadelphia, 1858, died at his residence in Blakely, Ga., February 15, from Bright's disease.

William W. Wilkes, M.D. Louisville Medical College, 1871, died at his home in Waco, Texas, January 29, after an illness of several weeks, aged 56.

William Y. Howard, M.D. University of Louisville, Ky., 1888, died from hemorrhage of the stomach at his home in Louisville, February 2.

Hiram W. Alexander, M.D. University of Nashville (Tenn.), 1857, died at his home in Muir, Fayette County, Ky., February 24, aged 73.

Robert W. Norwood, M.D. University of Tennessee, Nashville, 1894, died at his home in West Nashville, Tenn., January 26, aged 43.

Jonas Watkins, M.D., an eclectic physician of Blanchester, Ohio, died at his home in that city, February 3, from apoplexy, aged 74.

John Tatman, M.D. Indiana Medical College, La Porte, Ind., 1840, died at his home in Mitchell, S.D., February 2, aged 85.

Bishop B. Sudworth, M.D. University of Michigan, Ann Arbor, 1883, died at his home in Ann Arbor, February 15, aged 73.

Herman S. Bissey, M.D. University of Pennsylvania, Philadelphia, 1880, died at his residence in Philadelphia, February 22.

Tousley B. Lewis, M.D. University of Buffalo, 1879, died at his residence in New York City, February 8.

Isaac Sanders, M.D., died at his home in Fordsville, Ky., January 29.

Book Notices.

THE WORK OF THE DIGESTIVE GLANDS. Lectures by Professor J. P. Pawlow, Director of the Physiological Department of the Institute for Experimental Medicine. Translated into English by W. H. Thompson, M.D., M.Ch., F.R.C.S. (Eng.). King's Professor of the Institute of Medicine, Trinity College, Dublin. Illustrated. Cloth. Pp. 196. Price, $2.00. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Co. 1902.

This is a translation of the lectures delivered by Professor Pawlow before a gathering of medical men in the St. Petersburg Institute for Experimental Medicine, before the Russian Medical Academy, etc. Since his audience was made up of men who were not supposed to know of the methods or results of his experimental work, he presented his facts in the simplest language, so that the least learned could understand; at least this is the opinion one would get from reading the English translation. It is barely possible that the translator should have credit for a part of this. In any event, even the ordinary intelligent layman will find the book intelligible, but, above all, easily readable and almost fascinating. The lectures give an account of Pawlow's great work in his physiologic laboratory connected with the St. Petersburg Institute for Experimental Medicine and of the splendid results achieved. We commend these lectures to every physician, whether he is interested in experimental medicine or not. It can not but stimulate every one who reads the book. The general reader will find in it food for thought and, at the same time, relaxation. It is a pity that the American publishers have given us a reprint of the English edition, which is in small type. The matter is deserving of, and the reader is entitled to, a larger type, especially at the price charged.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III. The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., and T. Melville Hardie, A.M., M.D. December, 1902. Cloth. Price, $1.50. Chicago: The Year-Book Publishers.

This small book contains a good collection of articles, mostly abstracts, which are very interesting and instructive reading.

One of the subjects in the chapter on nose and throat of special interest to a considerable number of physicians, is the effect of the suprarenal solution on the mucous membranes. Some writers claim it is of value as an anesthetic and of little value as a hemostatic, while others claim the opposite effect. One case is reported of a severe hemorrhage in a case of hemophilia which was controlled in thirty-six hours. Vansant claims that if the solution is applied by means of cotton wool, the usual anesthetic effect of cocain is increased and prolonged and is equivalent to that produced by a strong solution of cocain. This is due, Oppenheimer says, to the prevention of hemorrhage and the consequent loss of cocain from the tissues. It is also claimed that this temporary anemia retards healing and causes excessive sloughing of tissue following operation. We have noticed that the adrenalin apparently prolonged the anesthetic effects of cocain, but we doubt the correctness of the observation about sloughing.

HUMAN ANATOMY. A Complete Systematic Treatise by Various Authors, Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M.A., and M.B. Lond., F.R.C.S. Eng., Member of the Council (Lately Vice-President) of the Royal College of Surgeons of England. Illustrated by 846 Wood Cuts, the Greater Part of Which Are Original and Made Expressly for This Work by Special Artists, 266 Printed in Colors. Third Edition, Revised and Enlarged. Cloth. Pp. 1328. Price, $6.00. Philadelphia: P. Blakiston's Son & Co. 1902.

It might seem on first thought that the frequent revision of a work on such an apparently fixed subject as anatomy would not be required, but such is not the case. Not only are many new points in the finer anatomy constantly coming out, but our comprehension of the meaning of many anatomic facts change with increasing knowledge of embryology, comparative anatomy, etc. Methods of teaching also undergo changes, so that it is as essential that a work on anatomy, in order to be modern, should be subjected to revision almost as frequently as text-books on other subjects. In this, the third edition, we notice many changes, noticeably the addition of a number of new illustrations, both colored and diagrammatic, which facilitate materially the study of this, to students, usually dry subject. The sections on surgical and topographic anatomy and on vestigial and abnormal structures are particularly interesting and instructive to the practitioner as well as the student. The matter is well arranged, and the whole work one of the best on the subject.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume IV. December, 1902. Diseases of Digestive Tract and Allied Organs; Liver, Pancreas and Peritoneum—Anesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics—Genito-urinary Diseases—Diseases of the Kidneys—Physiology—Hygiene—Practical Therapeutic Referendum. Cloth. Pp. 422. Price, $1.50. Philadelphia and New York: Lea Brothers & Co. 1902.

This work, which is really a serial in book form, contains in the present issue a digest of medical science under the heads given above. Each of these chapters is written by a known expert. The first is by Dr. Max Einhorn, whose authority no one will question; the second, on anesthetics and operative surgery, is by Dr. J. C. Bloodgood; that on genito-urinary diseases by Dr. William T. Belfield; the chapter on diseases of the kidneys is by Dr. John Rose Bradford, F.R.C.P.; a summary of the physiology is made by Dr. Albert P. Brubaker; hygiene is treated by Dr. Charles Harrington; the therapeutics section by Dr. E. Q. Thornton. The book, with its other quarterly issued volumes, is an epitome of medical progress which, we think, few physicians can afford to be without.

APPLIED SURGICAL ANATOMY Regionally Presented for the Use of Students and Practitioners of Medicine. By George Woolsey, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College. With 125 Illustrations, Mostly Colored. Cloth. Pp. 521. Price, $5.00. New York and Philadelphia: Lea Brothers & Co. 1902.

The practitioner soon learns to distinguish between the descriptive anatomy of the text-book and the practical or applied anatomy of the operating room and the bedside. Not that there is any difference in the anatomy, but the practical application of anatomic points in medical and surgical cases is a study in itself. The author appreciates thoroughly this fact, and it has been his aim to bring before the practitioner applied anatomy in a practical, interesting and instructive manner. We may add, too, that he has succeeded exceedingly well, for the work is replete with useful and valuable facts and suggestions. There are a number of minor defects and errors, such, for instance, as the promiscuous use of inches and centimeters in measurements; the statement that the cranial bones never reproduce lost portions; that the speech center in right-handed persons is on the right side, etc., but these can easily be corrected in future editions, and should not be allowed to detract from the worth of the book. It is well worth careful study, and can be recommended.

ATLAS AND EPITOME OF DISEASES OF THE MOUTH, PHARYNX, AND NOSE. By Dr. L. Grunwald, of Munich. From the Second Revised and Enlarged German Edition. Edited, with Additions, by James E. Newcomb, M.D., Instructor in Laryngology, Cornell University Medical School. With 102 Illustrations on 42 Colored Lithographic Plates and 41 Text-cuts. Cloth. Pp. 219. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1903.

This is a small octavo volume, one-half of which is devoted to colored plates of the various lesions of the mouth, pharynx, nasopharynx and nose, with descriptive text, and 212 pages which also contain numerous illustrations. It is devoted largely to the special pathology and treatment of the more important classes of diseases involving these organs. The book is concise and well written, and will be a boon to many of the younger specialists and to physicians who are not thoroughly familiar with the diseases of these organs. The author may be heartily congratulated on the excellence of his work and the translator on having furnished a valuable addition for the libraries of Americans who are not thoroughly familiar with German.

TASCHENBUCH DER MASSAGE. Für Studirende und Aerzte. Von Dr. Erich Ekgren an der III medicinischen Universitätsklinik zu Berlin. Mit einem Vorwort von Geh. Med.-Rath Prof. Dr. H. Senator. Mit 11 Abbildungen. Cloth. Pp. 90. Berlin: S. Karger. 1903.

This is perhaps the most concise little manual for the physician that we have seen. Of course, to those who do not understand German its usefulness would be very limited, though the illustrations are numerous and helpful. The author has condensed in less than 100 pages a large amount of instruction, and it seems to us there ought to be many physicians who can make use of the book. It has an advantage, not so common in many works of its size, of a convenient little index, and contains a list of the latest literature, which is, of course, as given in a German work, almost exclusively German.

BACTERIOLOGICAL TECHNIQUE. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. Eyre, M.D., F.R.S. Edin., Bacteriologist to Guy's Hospital. With 170 Illustrations. Cloth. Pp. 375. Price, $2.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This work is intended as a guide to the medical student in bacteriology and is fairly well suited for its purpose. There is hardly any book that we can well compare to it, except perhaps that of Novy, which is one or two years behind it in point of publication.

Miscellany.

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

A Statement of Work and Plans.

The Rockefeller Institute for Medical Research was founded in 1901 by Mr. John D. Rockefeller, who gave for this purpose the sum of $200,000. The aims of the institute are the promotion of medical research, with special reference to the prevention and treatment of disease.

It was thought wise by the directors of the institute not, at first, to concentrate the work in any one locality, but to enlist the interest and co-operation of such investigators throughout the country as might be engaged in promising researches or who might enter on new fields if suitable pecuniary assistance could be afforded them. It was the conviction of the directors that in this way it would be possible not only to stimulate and foster valuable contributions to science, but also to secure important practical suggestions as

to the lines along which the institute might most wisely develop.

Among the large number of applications for assistance in carrying on original studies which relate to the cause, prevention and cure of disease and to the problems on which new knowledge on these subjects must be based, over twenty have been selected. The directors have secured counsel in these selections from the heads of departments or others in the universities of Harvard, Yale, Johns Hopkins, Pennsylvania, Columbia, New York, Chicago, Michigan, McGill, Wesleyan, California and Western Reserve, and in many of these institutions work has been prosecuted. Two of the Rockefeller fellows have been working in Europe. Some of the workers under these Rockefeller Institute grants, which vary in amount from $200 to $1,500, have completed and published their investigations; some are still engaged on them.

It is the purpose of the directors from time to time to bring together, in the form of volumes of collected reprints, the results of these researches, which may be published in various technical journals. An arrangement has been effected by which the institute will assume the publication of the *Journal of Experimental Medicine*, which will remain under the editorial supervision of Dr. William H. Welch, professor of pathology in the Johns Hopkins University, and president of the board of directors of the institute.

At the end of the first year of practical work of careful study of the situation, it became clear to the directors that existing institutions in this country, while in many instances carrying on most valuable researches in medicine, do not afford adequate facilities for many phases of investigation which are of the utmost importance and urgency. This is, in part, due to the lack of sufficient endowment, in part to the large demands made on the time and energy of the workers by their duties as teachers. It was further evident that such assistance as the institute had thus far been enabled to extend to selected investigators in various parts of the country had fostered work of great actual value as well as of high promise and should be perpetuated along similar lines.

The directors, however, were united in the conviction that the highest aims of the institute could not be secured in this way alone. Useful as such individual studies are, and important as it is to enlist and to maintain the interest of research workers in established institutions of learning, it is not possible in this way to secure the unity of aim and the co-ordination and mutual stimulus and support which are essential to the highest achievements in research. These are to be secured, it was believed, only by the centralization of certain lines at least of the work of the institute under a competent head or series of heads of departments, in a fixed place, with adequate equipment and permanent endowment.

There is no lack of men of sufficient training and experience ready to devote their lives to the solution of medical problems which bear directly or indirectly on the welfare of mankind. The widely open fields of research are many. Some of these relate to the application of existing knowledge to the prevention and cure of disease; others to the development of new knowledge along various lines of science, which, more than ever before, give promise of great significance in the problems of physical life.

In a broad sense, the directions and methods for the study of disease may be classified as morphologic, physiologic and chemical, and the institute, it was thought, should include departments providing for these divisions of the subject. For the morphologic study of disease there should be a complete equipment for pathologic-anatomic research. For the physiologic study of disease provision should be made for experimental pathology, for pharmacology and therapeutics, for the study of bacteria and other micro-organisms, with special reference to their relation to the infectious diseases, and for other investigations in personal and public hygiene, including preventive medicine. Here belong, especially, the problems of infection and immunity, and here also, in large part, such studies as require access to patients in hospitals. There should be a laboratory, well-equipped for investigations in physiologic and pathologic chemistry.

It was the conviction of the directors that such an institute might wisely add to its aims in the direct increase of the knowledge of disease and its prevention and cure, a phase of activity which should look toward the education of the people in the ways of healthful living, by popular lectures, by hygienic museums, by the diffusion of suitable literature, etc. For, in fact, the existing agencies for medical research for the most part stop short of those direct and widely diffused applications of newly won knowledge, on which the immediate practical fruitage of their work so largely depends.

In order that the causes and treatment of human disease may be studied to the best advantage, it was the opinion of the directors that there should be attached to the institute a hospital for the investigation of special groups of cases of disease. This hospital should be modern and fully equipped, but it need not be large. It should attempt to provide only for selected cases of disease, and the patients would thus secure the advantages of special and skilled attendance and such curative agencies as the institute might develop or foster.

It was thought that an institute for medical research of the largest promise would require a central institution, fully equipped and endowed, and with capacity for growth, in which the more comprehensive studies demanding the co-ordinated forces of various phases of science could be carried on from year to year; while, at the same time, by means of such grants of assistance as had been offered during the initial year, it should continue to make available the resources of special workers all over the country, as well as in Europe.

In view of the above considerations relating to its future, in June, 1902, Mr. Rockefeller gave to the institute the sum of $1,000,000 for the purchase of suitable land, the erection of buildings, and the organization of a working force along the broader lines which had been projected. It is the purpose of the directors to proceed at once to the erection of a laboratory building which will provide for the present requirements and will be capable of enlargement as the character and extent of the work of the institute may develop. Negotiations for a suitable plot are now under way.

A small hospital will also be built in the immediate future, which will be maintained in close association with the experimental work of the institute.

Provision will be made in the laboratory building for research in physiologic chemistry, pharmacology and therapeutics; in normal and pathologic physiology, and in various phases of morphology, and for the study of bacteria and other micro-organisms. It is hoped that the laboratory buildings may be completed and ready for the commencement of work in the autumn of 1904.

Dr. Simon Flexner, professor of pathology in the University of Pennsylvania, will direct the scientific work when the building is completed. His colleagues deem it of the highest importance that the institute has been able to secure so eminent an investigator as Dr. Flexner to shape the work of its early years. Dr. Flexner will spend several months abroad while the new buildings are in course of erection.

It is proposed to organize the various sections and departments into which the work of the institute will naturally fall so that each of them, though in a measure autonomous, will still be so closely associated as to favor the conjoint investigation of comprehensive problems. Associated with the head of each of these departments it is proposed to have a staff of trained assistants.

Provision will also be made for research work by a group of trained men, to be designated fellows, scholars, etc., of the institute, under pecuniary grants of varying amounts.

Finally, opportunity will be afforded to suitable investigators not members of the regular staff of the institute to pursue special lines of research.

The directors of the institute are: Drs. William H. Welch of Baltimore, Theobald Smith of Boston, Simon Flexner of Philadelphia, and Drs. Hermann M. Biggs, C. A. Herter, L. Emmett Holt, and T. Mitchell Prudden of New York.

The officers are: Dr. William H. Welch, president; Dr. T. Mitchell Prudden, vice-president; Dr. L. Emmett Holt, secretary, and Dr. C. A. Herter, treasurer.

Association News.

RATES TO NEW ORLEANS.

One Fare for Round Trip in Territory of Central and Western Passenger Associations Assured.

Central Association.

The Central Passenger Association has granted a rate of one fare for the round trip on lines in its territory en route to New Orleans and return. This territory comprises Indiana, Ohio, Michigan, a small portion of Pennsylvania and southern Illinois.

Western Association.

The Illinois Central Railroad has granted a rate of one fare for the round trip from all points on its lines. Mr. H. J. Phelps, city passenger agent, informs us of this arrangement, and says that some other roads in the Western Passenger Association have granted the same rate and that more will follow. The Illinois Central Railroad reaches Omaha, Minneapolis, Sioux City, Iowa, and Sioux Falls, S. D., and the precedent established by this road will doubtless be followed by roads covering the large territory of the Western Passenger Association, which extends to Canada and to the Rocky Mountains.

Trunk Line Association.

This association covers New York, Pennsylvania, West Virginia, New Jersey, Delaware, Maryland and part of Virginia, and authorizes the following rate:

> One first-class fare for the round trip from Washington, D. C.; and *from other points in Trunk Line territory* regular excursion fares to Washington or Trunk Line western termini added to one first-class fare authorized therefrom for the round trip; continuous passage tickets in each direction, to be sold and good, going, from Washington, D. C., May 1, 2, 3 and 4, and from other points May 1, 2 and 3, with final return limit to reach original starting point not later than ten days from date of sale, except by deposit of tickets by original purchaser with Joseph Richardson, special agent, Room 204, No. 204 Camp street, New Orleans, La., not earlier than May 1 nor later than May 12, between 8 a. m. and 8 p. m., and payment of fee of 50 cents at time of deposit, and extension of final return limit may be obtained to reach original starting point not later than May 30.

These conditions are in accord with the announcements in THE JOURNAL, Jan. 3 and 31, 1903, from the Southwestern Passenger Association.

Further particulars may be had from roads interested.

THE JOURNAL'S special New Orleans number, April 11, will contain a complete statement of railroad rates from all parts of the country, as announced last week, page 597.

Medical Organization.

Lexington (Ky.) Medical Society.

On January 14 this society disbanded and then reorganized, adopting the constitution and by-laws proposed by the American Medical Association for subordinate societies and re-electing Dr. James C. Carrick, president; Dr. Louis H. Mulligan, vice-president; Dr. George P. Sprague, secretary, and Dr. Francis M. Greene, treasurer.

Berrien County (Mich.) Medical Society.

At the regular meeting of this society at Benton Harbor, February 12, the national plan of reorganization presented at the January meeting was adopted. Dr. Edward J. Witt, St. Joseph, was elected president; Dr. Charles N. Sowers, Benton Harbor, vice-president; Dr. John D. Grecnamyer, Niles, secretary; and Dr. Frank M. Kerry, Benton Harbor, treasurer.

Dickinson-Iron County (Mich.) Medical Society.

Dr. Theodore A. Felch, Ishpeming, councilor of the twelfth district for the Michigan State Medical Society, organized this society at Iron Mountain, February 18, with the following officers: Dr. John D. Cameron, Iron Mountain, president; Dr. C. Frithiof Larson, Crystal Falls, vice-president, and Dr. Samuel E. Cruse, Iron Mountain, secretary and treasurer.

Brown County (Wis.) Medical Society.

The physicians of this county met at Green Bay, March 26, and organized a county society to become a branch of the Wisconsin State Medical Society on its reorganization. The following are the officers: President, Dr. B. C. Brett; vice-president, Dr. A. W. Slaughter; secretary, Dr. Walter J. Hagen; treasurer, Dr. J. R. Minahan; censors, Drs. H. A. Wolter, D. J. O'Connor and J. P. Lenfesty.

Drew County (Ark.) Medical Society.

District Councilor Dr. Vernon McCammon, Arkansas City, met the physicians of Drew County at Monticello, in October, 1902, and explained the plan for reorganization suggested by the American Medical Association. A constitution and by-laws in conformity with these suggestions were adopted, and Dr. William T. Stanley, Selma, was elected president; Dr. J. G. McKinney, Nelson, vice-president, and Dr. James R. Tarrant, Monticello, secretary and treasurer.

Macomb County (Mich.) Medical Society.

At a meeting of physicians of the county at Mount Clemens, February 24, Drs. Leartus Connor and Andrew P. Biddle, Detroit, and Dr. Oliver Stewart, Port Huron, were present as delegates from the Michigan State Medical Society. A society was organized on the lines suggested by the American Medical Association for county societies, and the following officers were elected: President, Dr. Philip A. Knight, Utica; vice-president, Dr. Robert L. Parkin, Romeo, and secretary and treasurer, Dr. Joseph M. Croman, Mount Clemens.

Societies.

Medical Society of Alexandria (Va.)—At the annual meeting, February 16, Dr. William M. Smith was elected president; Dr. William R. Purvis, vice-president; Dr. Hugh McGuire, secretary, and Dr. Thomas S. Gibson, treasurer.

Allegan County (Mich.) Medical Society.—At the annual meeting held in Allegan, January 28, Dr. Walter H. Bills, Allegan, was re-elected president; Dr. Milton Chase, Otsego, vice-president, and Dr. William S. Albright, Allegan, secretary and treasurer.

Medical Club of Philadelphia.—The election of officers, January 22, resulted as follows: Dr. Edward E. Montgomery, president; Drs. Roland G. Curtin and Jonathan C. Biddle, vice-presidents; Dr. Guy Hinsdale, secretary, and Dr. F. Savary Pearce, treasurer.

Champaign County (Ill.) Medical Society.—At the meeting, February 12, Dr. E. Fletcher Ingals, Chicago, delivered an address on "Medical Organization," which was freely discussed by the members. At the banquet which followed Dr. Ingals was the guest of honor.

Northeastern District (Mich.) Medical Society.—At the meeting of this society in St. Clair, January 29, Dr. Albert E. Thompson, St. Clair, was elected president; Dr. W. P. Dierck, Marysville, vice-president, and Dr. A. Henri Cote, Port Huron, secretary and treasurer.

Burt County (Neb.) Medical Society.—The physicians of the county met at Tekamah, February 11, and organized, with Dr. Andrew D. Nesbit, Tekamah, president; Dr. Mortimer L. Hildreth, Lyons, vice-president; and Dr. Isaiah Lukens, Tekamah, secretary and treasurer.

Nicollet County (Minn.) Medical Society.—At the annual meeting, January 19, at St. Peter, Dr. Harry A. Tomlinson was elected president; Dr. Jared W. Daniels, vice-president; Dr. Mary P. Hopkins, secretary, and Dr. Walter H. Darling, treasurer, all of St. Peter.

Barry County (Mich.) Medical Society.—The first annual meeting was held in Hastings, January 29, at which Dr. James M. Elliott, Hickory Corners, was elected president; Dr. Aleck F. Hutchinson, Nashville, vice-president, and Dr. J. G. McGuffin, Carlton Center, secretary and treasurer.

Eaton County (Mich.) Medical Society.—The annual meeting was held in Charlotte, February 5. Dr. Giles B.

Allen, Charlotte, was elected president; Dr. Mary E. Greene, Charlotte, vice-president; Dr. Warren H. Rand, Charlotte, secretary, and Dr. H. Allen Moyer, Chester, treasurer.

Medical Society of the State of New York.—At its annual meeting in Albany the following officers were elected: Dr. Algernon T. Bristow, Brooklyn, president; Dr. Edward B. Angell, Rochester, vice-president; Dr. Frederic C. Curtis, Albany, secretary, and Dr. Ogilvie D. Ball, Albany, treasurer.

Ulster County (N. Y.) Medical Association.—At the regular meeting in Kingston, February 16, Dr. Henry Van Hoevenberg, Kingston, was elected president; Dr. George S. La Moree, Highland, vice-president; Dr. Mary Gage-Day, Kingston, secretary, and Dr. Alice Divine, Ellenville, treasurer.

Adams County (Neb.) Medical Society.—The physicians of the county met at Hastings, January 31, and organized this society with an initial membership of 20. Dr. Winfield Ackley, Juniata, was elected president; Dr. Jay G. Roberts, Hastings, vice-president, and Dr. Marble, Hastings, secretary and treasurer.

Nemaha County (Neb.) Medical Society.—The physicians of the county met at Auburn, January 28, and organized a medical society, with the following officers: Dr. Ira H. Dillon, Auburn, president; Dr. Benjamin F. Lorance, Brock, vice-president, and Dr. William E. Shook, South Auburn, secretary and treasurer.

Monroe County (Mo.) Medical Society.—This society has been organized at Paris, with the following officers: President, Dr. Benjamin D. Dysart, Paris; vice-presidents, Drs. C. H. Dixon, Holliday, and A. I. Griffith, Stoutsville; Dr. William B. A. McNutt, Monroe City, secretary, and Dr. Fred M. Moss, Paris, treasurer.

Ogle County (Ill.) Medical Society.—At its annual meeting in Oregon, January 7, the following officers were elected: Dr. William W. Burns, Polo, president; Drs. James Parkhurst, Grand Detour, and Jesse C. Akins, Forreston, vice-presidents; Dr. Horace Sheets, Byron, secretary, and Dr. Leo E. Schneider, Oregon, treasurer.

Hall County (Neb.) Medical Society.—The physicians of Hall County met at Grand Island, and organized a society as a component branch of the proposed reorganized state society. Dr. George Roeder was elected president; Dr. Henry D. Boyden, vice-president, and Dr. C. J. Horton, secretary and treasurer, all of Grand Island.

Johnson County (Neb.) Medical Society.—The physicians of the county met recently at Tecumseh and organized a county society, with the following officers: President, Dr. Malcolm Stewart, Tecumseh; vice-president, Dr. Edwin T. Black, Cook; secretary, Dr. Carlton K. Chubbock, Tecumseh, and treasurer, Dr. George J. Rubelman, Tecumseh.

Buffalo County (Neb.) Medical Society.—In pursuance of the plans suggested by the Nebraska State Medical Society, the physicians of the county met in Kearney, February 20, and organized this society, with the following officers: President, Dr. Frank A. Packard, Kearney; vice-president, Dr. James W. Miller, Gibbon, and secretary and treasurer, Dr. George M. Hull, Kearney.

Livingston County (Mo.) Medical Society.—About twenty physicians of the county met in Chillicothe, January 31, and organized a county society, with the following officers: Dr. Rueben Barney, Chillicothe, president; Drs. William L. White, Spring Hill, and William A. Swope, Wheeling, vice-presidents; Dr. Arthur J. Simpson, Chillicothe, secretary, and Dr. Byron N. Stevens, Chillicothe, treasurer.

American Electro-Therapeutic Association.—At the twelfth annual meeting held at the Hotel Kaaterskill, N. Y., the following officers were elected: President, Dr. Daniel R. Brower, Chicago; vice-presidents, Drs. Maurice F. Pilgrim, and C. Frank Osman, Boston; secretary, Dr. Clarence E. Skinner, New Haven, Conn., and treasurer, Dr. Richard J. Nunn, Savannah, Ga. The next meeting will be held in Atlantic City, N. J., September 22, 23 and 24.

Champaign County (Ohio) Medical Society.—At the January 29 meeting, held in Urbana, Drs. Horace Bonner, Dayton, state councilor for the district, Brooks F. Beebe, Cincinnati, and Charles L. Minor, Springfield, presented arguments for reorganization on the plan outlined by the American Medical Association. At the annual election of officers, February 19, Dr. Samuel M. Mosgrove, Urbana, was re-elected president; Dr. Davis R. Emmons, North Lewisburg, vice-president; Dr. Edwin W. Ludlow, Urbana, secretary, and Dr. David O'Brine, Urbana, treasurer.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, held Feb. 16, 1903.

President, Dr. Alexander Lambert, in the Chair.

A New Method of Fixation of the Movable Kidney.

DR. W. GILL WYLIE commented on the relative frequency of movable kidney in women, and its frequent association with appendicitis, and cautioned the surgeon to make sure that it was really the kidney and not the appendix which was causing the pain. He considered that the effort so commonly made by surgeons to fix the kidney at the level of, or just below, the twelfth rib, as wrong in principle because of the fact that normally the kidney was not a fixed organ, but had a certain degree of mobility. He objected also to selecting this point for the anchorage of the kidney on the ground that if this were done the kidney would be pressed on by tight corsets and bands, thus causing discomfort. The object of his method of operating was to keep the kidney in good position and, at the same time, allow its moving slightly with respiration. The incision should be made just below the twelfth rib and the kidney replaced; then the capsule was pulled out with forceps until the resulting tension was sufficient to hold the kidney just above the twelfth rib and, at the same time, allow of the slight mobility normally possessed by this organ. Having cut away the redundant capsule, the ends were sutured to the fascial lining of the muscles about the opening by means of silk, and the muscles themselves were sewed with catgut.

Results of Kidney Fixation by Present Methods.

DR. A. B. JOHNSON gave a brief sketch of the common methods for anchoring the movable kidney. As regards suture material, his own preference was for catgut.

Discussion.

DR. J. A. BLAKE thought that failure to secure permanent fixation of the kidney often arose from a rotation of the organ by which it came to lie horizontally. He preferred catgut for the sutures, but thought it made little difference whether they were passed through the fatty or fibrous capsule, as they were only of service until granulations had formed.

DR. JOHN F. ERDMANN remarked that, while he employed kangaroo tendon for the sutures, this was not a matter of much importance, and that if the patient could be kept sufficiently quiet the sutures might be entirely dispensed with.

DR. A. H. GOELET condemned catgut as being too unreliable, and stated that his preference was for silk.

DR. E. W. LEE said that when catgut was treated with the Credé silver salts it became strong and could not be stretched. The method of operating which he advocated consisted in splitting the capsule, rolling the latter back on either side into a roll, and making use of the latter for securing a firm hold with the sutures.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting, held Jan. 22, 1903.

The Vice-President, Dr. H. H. Donaldson, in the Chair.

Nature of Neuroglia Tissue.

DR. G. CARL HUBER of the University of Michigan reported a study, extending over a series of years, of neuroglia tissue of different classes of vertebrates, made especially with Benda's sulpha-lizarate toluidin blue method. The research was undertaken with a view of harmonizing the various views expressed concerning the structure of neuroglia tissue and of obtaining data for experimental work. Tissue was studied from man, dog, cat, rabbit, dove, tortoise and frog.

The following general conclusions were reached: the neuroglia tissue of all vertebrates consists of neuroglia cells and neuroglia fibers. The cellular elements vary greatly in size and shape, depending in the main on the spaces which they occupy. In the majority of the neuroglia cells a granular cytoplasm can be clearly made out. This varies greatly in amount, at times forming only a narrow zone around the nucleus; again present in much larger quantity and presenting very distinct protoplasmic branches. In certain cells, which

are designated as "free nuclei," no distinct cytoplasmic covering can be seen. The nuclei of neuroglia cells vary in size, shape and structure. The majority of them may be spoken of as vesicular nuclei with chromatin in the form of a number of relatively large granules, variously disposed. Other nuclei, usually the smaller and smallest seen, present the appearance of compact masses of chromatin, taking the stain relatively deeply. Transition forms between these two varieties of nuclei may readily be made out. The neuroglia fibers show very definite relation to the neuroglia cells, being imbedded in the peripheral layer of their protoplasm. With the method used, whenever the preparation is properly differentiated, the neuroglia fibers could be traced through the protoplasm of neuroglia cells without interruption. In imperfectly differentiated preparations they often appeared as processes. The small, deeply-stained "free nuclei" and the free nuclei showing a vesicular structure show no definite relation to neuroglia fibers, and are looked on as undifferentiated and undeveloped neuroglia cells. Microscopic preparations substantiating the statements made were demonstrated.

Mesoblastic Origin of the Neuroglia Tissue.

Dr. Shinkishi Hatai, from the Neurological Laboratory of the University of Chicago, stated in preface that on examining cross sections of the central nervous system of the white rat and mouse, two kinds of nuclei, differently characterized, are easily recognized. One kind coincides in structure with that found in the nerve cells while the other resembles very much in size, shape and staining character, and in an internal structure, the nuclei found in the walls of the capillaries. These nuclei, so-called, are always surrounded by a small amount of cytoplasm. These facts led him to a systematic study of these structures in order to determine their origin within the central nervous system.

The tissues of new-born white rats and mice were fixed in Carnoy's mixture and the paraffin sections were stained with toluidin blue and erythrosin.

"One group of the nuclei, which resembles in structure as well as in shape those of the nerve cells, can be identified without difficulty as derived from the ectoblast. For convenience I called these nuclei Type 1. The identification of the other group of the nuclei, or Type 2, is, however, difficult since these nuclei have no similarity to the nuclei of the ectodermal derivatives. On examining the capillary wall, I noticed very frequently a nucleus projecting outward, and in some cases these nuclei were isolated from the capillary wall, but lay close to it. Between these two appearances, various intermediate stages could be easily found. In some cases, a tip of the nucleus is still attached to the capillary wall, while the rest of it has become separated. This appearance shows very plainly the migration of the nucleus from the capillary wall into the surrounding tissue. There is no danger of confusing these nuclei with those of the leucocytes which escape from the capillary wall and exhibit ameboid movements, since they differ from them both in structure and size; the former being very much larger than the latter. As soon as the nuclei are separated from the capillary wall they migrate away from the capillary."

Dr. Hatai thought there was no doubt that the nuclei called Type 2 were derived from the capillary wall and migrated away from it. "The identification of these nuclei, which have migrated from the capillary wall, with neuroglia nuclei, is difficult. Since it has been shown that a small amount of connective tissue is present in the central nervous system in both young and old animals, this connective tissue might have been formed by the nuclei which I am describing, but there is no evidence to support the view that this could occur. The large number of the nuclei which have migrated from the capillary walls suggests at once that some of the neuroglia tissue is supplied by these nuclei. This idea is favored by the fact that similar neuroglia nuclei to those migrated from the capillary wall or mesodermal in type, exist in the adult animal."

Dr. Hatai quoted Kuhne, Chittenden, Chavalier and other investigators and concluded "that the nuclei which migrate from the capillary wall into the central nervous system are one source of the neuroglia tissue. The reasons for this conclusion may be summarized as follows:

"1. The great number of these nuclei; 2, neurokeratin may be formed not only by the cytoplasm of the ectodermal cells, but also by the cytoplasm in mesodermal cells; 3, presence of the nuclei of mesodermal type in the central nervous system of the adult animal; 4, ordinary connective tissue nuclei present in the central nervous system are there in much smaller numbers than the nuclei which have migrated from the capillary walls; 5, there is no evidence that the neuroglia fibers stained by the modern neuroglia technics are of ectodermal origin only; 6, since the cytoplasm undergoes very easily morphologic and structural alterations while the nucleus is more resistant, it follows that the nuclei are the better indication of the genetic relationship of the cells; 7, Capobianco and Fragnito, who observed the nuclei which migrate from the meninges into the central nervous system and believe these nuclei form a part of the neuroglia tissue, were unable to trace the successive transformations of the former to the latter.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chronic Diarrhea.

Lyon, according to an abstract in *Amer. Med.*, states that where there is lienteric diarrhea the food must be as easily digestible as possible. Where the secretion of pepsin is deficient the food should consist of pure milk and of starchy vegetables prepared with milk. If there is hypopepsia accompanied by dilatation and active fermentation the stomach should be washed out. The treatment should be directed toward stimulating the remaining healthy glands of the gastric mucous membrane and which will combat fermentation. The first indication may be met by the administration of sodium phosphate in 2-gram doses (gr. 30) in half a glass of hot water or hot vichy water before breakfast. The following may be substituted:

℞.	Sodii chloratis	℥iiss	10
	Syr. belladonnæ	℥i	30
	Aq. destil.	℥iv	120

M. Sig.: One dessertspoonful before each meal.

Small doses of sodium bicarbonate may also be given before meals. Massage to the stomach has produced very satisfactory results, acting as a tonic to the musculature, decreases stasis, which is a persistent cause of fermentation.

Constipation.

H. Surmont, in *Indian Med. Record*, recommends properly-selected food, which includes some of the coarser articles of diet, honey, cooked fruits, oranges and raisins. In the way of hydrotherapy he recommends cold water in the form of the abdominal douche with broken jets or cold compresses applied over the abdomen and covering them with waterproof cloth and over this a flannel bandage. These should be left in place for half an hour. Cold water should be drunk on rising and a cold enema occasionally.

Massage and Swedish gymnastics are to be employed in the treatment of atonic constipation. The faradic current is also of service. In the way of drugs he recommends psyllium seeds three teaspoonfuls a day, one after each meal, by placing them in a little fresh water and swallowing them. Linseed may be taken in the same manner in tablespoonful doses. The oils may be used, which are classified according to their action, as follows: Oil of sweet almonds, olive oil, castor oil. A teaspoonful of castor oil at bedtime gives, after a few days, good results. This may be given in capsule if necessary. If not sufficient to produce the results a teaspoonful may be given in

the morning. Calomel is of service as a cholagogue and should be given in small doses.

More trustworthy are those preparations which tend to produce muscular contraction of the intestinal coats. Among these preparations the author mentions cascara, senna, strychnia and ergot. His advice is to leave aloes, jalap and rhubarb alone. The latter especially increases the constipation after short amelioration. Strychnia should be given in doses of gr. 1/70 (.0009) three times a day. This may be alternated with cascara, the powder, extract or cascarin.

The following combination containing senna is recommended:

℞. Pulv. senna (washed in alcohol) 3iiss 10
Sulphuris sublim. 3i 4
Pulv. feniculi
Pulv. glycyrrhizæ, āā.....3ss 2
Pulv. sacchari 3i 4

M. Sig.: One teaspoonful every evening or every morning where patients are unusually susceptible to the drug.

Podophyllin and euonymin are also recommended as follows:

℞. Podophyllin .....gr. 1/3 02
Saponis q. s.

M. Ft. pil. No. i. Sig.: One or two daily.

℞. Euonymin .....gr. 3/4 05
Saponis q. s.

M. Ft. pil. No. i. Sig.: One or two daily.

The following points are emphasized by the author: Diet and hygiene must always take preference over treatment by drugs. Drugs should always be used in small doses, tonic, so as not to stimulate too much a feeble muscular contractibility. No drug should be continued too long; discontinue it for a time and return to it again so as to prevent the system getting accustomed to it.

Enemas may be employed. To eight ounces of water two level tablespoonfuls of salt may be added or three of brown sugar or honey or from two to four of glycerin. The time most suitable for absorption seems to be an hour after breakfast or dinner, when the stomach begins to empty itself, and thus aids peristalsis.

Stimulating enemas and suppositories should not be employed daily as a catarrh of the rectum or colon may be set up and prevent their further use. They are, however, of great service to those individuals who complain that they never have any desire to go to stool, and in whom constipation appears to be connected with a diminution of the sensibility of the rectum. These patients should be instructed also to go to the closet at a certain time each day.

Excessive Perspiration.

The following powder containing salicylic acid is recommended to relieve excessive sweating of any parts of the body:

℞. Pulv. acidi salicylici 3ii 8
Pulv. zinci carb. precip. 3ii 8
Pulv. magnesii ustæ 3iii 12
Pulv. amyli .....℥iiss 75

M. Sig.: Apply as a dusting powder.

Treatment of Buboes.

William A. Groat, in *N. Y. Med. Journal*, states that the treatment of buboes which show signs of suppuration, comprises rest in bed, removal of the exciting cause or inhibition of its virulence and local application to the inflamed gland. The patient must remain in a recumbent position, with light, non-stimulating liquid diet. One-tenth grain of calomel should be administered every hour until the bowels move freely, and subsequently salines should be given throughout the course of the disease. Calcium chlorid in three to five-grain doses should be given three times a day.

If acute gonorrhea is the cause the urethra should be irrigated two or three times a day, with at least two quarts of warm, normal salt solution followed by a weak solution of some of the organic silver compounds. Later the number of irrigations may be decreased to one daily, and the strength of the silver solution increased. All sores on the penis should be cauterized, and if secondary symptoms have appeared mercurials should be pushed.

Locally to the inflamed glands the following combination should be applied:

℞. Ichthyol 3i 4
Guaiacol 3ss 2
Ung. hydrarg. 3ss 2
Lanolini q. s. ad.....3v 20

M. Sig.: Apply thickly over the swollen glands, cover with gauze and a layer of cotton or cotton wool dressing.

C. D. Luckett, in the same periodical, recommends the following local application:

℞. Ung. hydrarg.
Ung. belladonnæ
Ichthyol
Lanolini, āā 3iv 15

M. Ft. unguentum. Sig.: Apply locally every other day until resolution is accomplished.

Joseph N. Weller recommends the application of the following:

℞. Tinct. opii .....℥i 30
Liq. plumbi subacet. dil. .....Oi 480

M. Apply locally on gauze saturated and place an ice bag over this compress.

When there is much induration the following is recommended:

℞. Iodi .....gr. v 30
Pot iodidi .....gr. xx 1 30
Lanolini .....℥i 30

M. Sig.: Apply locally.

The author has obtained good results by injecting the following into the diseased parts:

℞. Acidi carbol. 3iss 6
Aq. destil. q. s. ad.....℥i 30

M. Sig.: Inject a few drops of the solution into the gland at various points by means of the hypodermic syringe. These injections should be made once a day for three days. A good point he brings out is that this watery solution permeates the gland more thoroughly than the pure drug, which only cauterizes in a limited area.

In debilitated persons tonics containing iron, quinin and strychnin should be given. If there is suspicion of the trouble being tuberculous, guaiacol in doses of five minims should be given internally. Rest and elevation should be carried out in all cases until all of the acute inflammation has subsided.

Bromoform.

The following combination is recommended by Scoville in administering bromoform:

℞. Bromoformi 3ss 2
Tinct. tolutani 3i 4
Mucil. acaciæ 3ii 8
Syrupi simp. 3iv 15
Aq. menth. viridis q. s. ad.....℥ii 60

M. Place the mucilage in a bottle and add an equal volume of the syrup, then add the bromoform and tincture of tolu, shaking well after each addition.

The following formula is sometimes employed in administering bromoform:

℞. Bromoformi .....gtt. x 65
Alcoholis 3i 4
Syr. simp. 3iii 12
Aq. destil. .....℥iiiss 105

M. Sig.: One to two tablespoonfuls every hour.

Eclampsia.

Maygrier, in the *Med. Press*, states that as soon as the diagnosis of albuminuria is made every pregnant woman should be placed on a milk diet and put to bed. When eclampsia is diagnosed the first thing is to relieve the system of toxic principles and to calm the nervous excitability. The first indication is filled by blood-letting—withdrawing from ten to twelve ounces as rapidly as possible, followed by an injection of artificial serum equivalent in amount to the blood withdrawn. The agitation and excitability are best controlled by a few whiffs of chloroform and an enema of chloral. He does not recommend rapid delivery as the eclampsia could persist after delivery, and on the other hand pregnancy could continue after the attack. Only two complications could

warrant intervention: Anuria or a rise in temperature. Beyond these conditions the pregnancy should not be interrupted. If labor has set in then every means should be taken to perform rapid delivery.

Medicolegal.

Special Damages to Physician Which Must Be Pleaded.—What is entitled in the Court of Appeals of Kentucky "the case of the Louisville & Nashville Railroad Company vs. Reynolds" was brought to recover for personal injuries, by the latter party, who stated on the witness stand that he was a practicing physician, making a specialty of diseases of the eye, ear, nose and throat for something like thirty years. His allegation as to the damages was that he "was badly bruised and injured in his person, and his health and vitality permanently impaired, and his ability to walk with ease and comfort permanently and greatly decreased, and he was also caused great mental and physical suffering, and for a long time rendered incapable of attending to his business; whereby he has been damaged in the sum of $10,000, for which he prays judgment and all proper relief." For 17 or 18 days after his injury he was not able to sit up, and at the end of three months was not able to ride in a street car. The jury returned a verdict for $9,166.66, under an instruction allowing them to find, among other things, such an amount as would fairly and reasonably compensate him for the value of time lost. But the Court of Appeals holds that the petition in this case was not sufficient to admit evidence that he was injured during the best time of the year for his practice, when he earned something more than $100 per day. It says that the fact that this was the best season of the year for him in the practice of his specialty, and that the time he lost was so valuable, was not to be inferred from his injury, or the bare allegation that he lost time; and, to justify a recovery of items so unusual, the fact should have been specially pleaded. In other words, it applies the rule that where special damages are not such as the other party would naturally anticipate from the injury, they must be pleaded with sufficient particularity as fairly to apprise him of the charge which he is to meet.

Validity of Notes Given to Unlicensed Practitioners.—The Supreme Court of Nebraska holds, in the case of the Citizens' State Bank of Newman Grove vs. Nore, that a note given for medical services by an unlicensed practitioner may be recovered on by a bona fide purchaser, notwithstanding the provisions of article 1, chapter 55, of the Compiled Statutes, prohibiting the practice of medicine without a license. It says that in that state a statute will not be construed so as to make a negotiable instrument void in the hands of a bona fide purchaser unless the act specifically so declares. Article 1, chapter 55, of the Compiled Statutes of Nebraska makes it the duty of all persons desiring to practice "medicine, surgery or obstetrics" in that state to obtain a certificate from the state board of health, and to file the same with the clerk of the county in which they desire to practice. Section 15 provides: "No person shall recover in any court in this state any sum of money whatever for any medical, surgical or obstetrical services unless he shall have complied with the provisions of this act and is one of the persons authorized by this act to be registered as a physician." Section 7 declares it to be unlawful for any person to practice in any of these lines without first obtaining and registering such certificate; and section 16 makes it a misdemeanor to so practice, and imposes a fine therefor. It will be seen, the commissioners say, after thus summarizing the legislation invoked in this case, that none of these provisions declares a contract for medical services by an unlicensed practitioner to be void. Indeed, while section 15 provides that "no person shall recover," the latter part of the section indicates that this prohibition is limited to the practitioner himself. Again, they say that they fully recognize the importance of such legislation as the medical act. It embodies a fixed and time-honored policy of the most vital concern to the state and its people. But it may well be questioned whether the evils consequent on the free circulation of the notes given for services of unlicensed practitioners could be more serious than the derangement of business resulting from a rule that would make all such notes void in the hands of innocent purchasers. It must be remembered that instruments like these have no earmarks and, when once it is understood that a limited and indistinguishable class of them is deprived of the virtues of negotiability, a step is taken toward casting the taint of suspicion on all.

Liability for Necessaries Furnished the Quarantined.—A Texas statute provides that: "Whenever the commissioners' court of any county has reason to believe that they are threatened at any point or place within or without the county limits with the introduction or dissemination of a dangerous, contagious or infectious disease that can and shall be guarded against by quarantine, they may direct their county physician to declare and maintain said quarantine against any and all such dangerous diseases; to establish, maintain and supply stations or camps for those held in quarantine; to provide hospitals, tents or pest houses for those sick of contagious and infectious disease; to furnish provisions, medicine and all other things absolutely essential for the comfort of the well and the convalescence of the sick. The county physician shall keep an itemized account of all lawful expenses incurred by local quarantine, and his county shall assume and pay them as other claims against the county are paid." The Court of Civil Appeals of Texas holds, King County vs. Mitchell, that a proper interpretation of this statute would require that a county whose commissioners' court has determined that they are threatened with the introduction or dissemination of a dangerous, contagious, or infectious disease, that can and should be guarded against by quarantine, and has directed the county physician to declare and maintain such quarantine, should furnish to those thus detained such provisions, medicines and other things as are absolutely essential to their comfort and convalescence, and is legally liable therefor. It can not hold, it says, that it is optional with a county to assume the duty of supplying these things. Nor can it assent to the contention that the county would be relieved of this duty because of the fact that there was no county physician to keep the itemized account of the expenses incident to the quarantine after the county physician had resigned. The beneficial purpose of the statute was to supply to those detained in quarantine such things as were absolutely essential to their comfort and convalescence, and the duty of the county physician in the particular of keeping an itemized account of expenditures is, at most, only ministerial in its nature, and the liability of the county not made to depend on his compliance. If such were the case, the county could in the most meritorious cases avoid all liability by refusing to appoint such auditing officer. Further, it was the duty of the county judge to appoint another physician on the resignation of the county physician referred to. Here the county made an order directing a quarantine, appointed a county physician, who established such quarantine, placing guards, etc., knew of the resignation of the county physician, and continued thereafter to maintain such quarantine, without providing another, and without in any manner providing for the wants and necessities of those thus affected by the order and, the court holds, must be held to have consented to the party suing supplying such things as it was legally liable for, but which it had made no arrangements to supply. However, such an account, the court holds, could not be treated as a verified one under the state statute requiring denial by affidavit before trial if to be disputed. To treat it as such an account, and to deny the right of cross-examination as to the correctness or reasonableness of the items sued for, the court says was material error, for it was certainly pertinent to inquire into the correctness and reasonableness of the items, to the end that the county be not held liable save in the event the "provisions, medicine and other things" appeared to be "absolutely essential for the comfort of the well and the convalescence of the sick," considering the nature and extent of the quarantine.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

February 21.

1 *Chronic Pancreatitis. B. L. Hardin.
2 *Some Further Results in the Treatment of Pulmonary Tuberculosis. J. H. Elliott.
3 *Dangers from the Indiscriminate Use of Morphia. T. D. Crothers.
4 *Routine Examinations of Chyme. A. L. Benedict.
5 *Briefs on Physical Training. G. Frank Lydston.
6 *Gonorrhea in Children. H. Lowenburg.
7 *Vital Statistics: A Plea for Actuarial Administration and Control of the Great Resources of Preventive Medicine. (Concluded.) John S. Fulton.
8 The Importance of Mechanical Manual Training to the Surgical Student. S. D. Van Meter.

1. **Chronic Pancreatitis.**—This disorder was first described in 1896, but has been fully understood only within the last eighteen months. Hardin reports a case and discusses the anatomy, etiology, etc. He thinks the cause is obstruction due to calculi lodged in the pancreatic duct, pressure from gallstones, infection by micro-organisms, or to toxic substances in the blood. The symptoms are severe hypogastric pain, central in situation, nausea and vomiting, jaundice, diarrhea or constipation, undigested muscle fiber in the dejecta and in rare cases lipuria. In advanced cases glycosuria occurs. The diagnosis is difficult. The presence of undigested muscle fiber in the stools and the absence of carbolic acid in the urine after the administration of salol are good tests, but we must base the diagnosis mainly on jaundice, paroxysmal epigastric pain, midepigastric tenderness and resistance, rapid loss of flesh and strength with absence of marked anemia and leucocytosis, the presence of undigested muscle fiber and the peculiar reaction of the urine to the phenylhydrazin test. In many cases exploratory operation should be done. The disease may be a chronic one, but early operation generally gives good results and mortality will be practically nil. If sugar is found in the urine the prognosis is unfavorable for it means that the pancreas is pretty nearly destroyed.

2. **Tuberculosis.**—The experiences at the Muskoka Cottage Sanatorium for the treatment of tuberculosis are reviewed by Elliott, who reports very favorable results.

3. **Morphin.**—Crothers pleads against the careless use and prescription of morphin as causing the morphin habit.

4. **The Gastric Test.**—Benedict gives details of the examination of the stomach contents after the test meal, using bread and butter for the simple test meal, and allowing one and one-fourth hours. In a meal containing meat and vegetables, one and one-half to two hours. He prefers the use of the large tube to bring out the contents. The various tests for acidity, carbohydrates, bile, proteids, etc., are described, as well as the microscopic findings. He remarks that it is worse than looking for a needle in a haystack to attempt to diagnose ulcer, cancer, catarrh, etc., from the microscopic examination. For any serious investigation with regard to these points the jejune stomach should be washed out. Scraps of exfoliated gastric epithelium are practically always found. Setting aside cancer and ulcer it is exceedingly difficult to distinguish between the normal shedding of epithelium and the indications of genuine gastritis. He says he is disposed to think that almost every stomach is almost constantly in a state of localized catarrh.

5. **Physical Exercise.**—In this first article Lydston speaks of the mistakes that have been made in prescribing exercises in a routine way, leading to such measures as advising postmen to take walks or gripmen to indulge in free exercise in the open air. There should be a department of physical training attached to the chair of therapeutics in every modern medical school. The value of a knowledge of physical training in the special departments such as neurology and surgery, especially orthopedic surgery, is obvious..

6. **Gonorrhea in Children.**—Lowenburg reports a case in a four-year-old child who probably infected himself by his hands as he was in the habit of handling rags and clothes from the refuse boxes. The lesson which the case teaches, he says, is:

1. All urethral discharges in young boys should be viewed with suspicion.
2. All such discharges should be submitted to a microscopic examination.
3. Should the gonococcus be found the possibility of the case assuming a medicolegal nature should be remembered.
4. The question of rape should be carefully eliminated or conclusively proved.
5. Treatment consists in securing local cleanliness and a free action of the emunctories in conjunction with the administration of urinary antiseptics and alkalies.
6. Gonorrhea is no contraindication to circumcision.
7. Vulvovaginitis in little girls is very often due to gonorrhea.

7. **Vital Statistics.**—In the conclusion of his article, Fulton insists on the importance of thorough local registration covering:

1. Records of death made at the time and place of their occurrence, by the most competent persons acquainted with the facts, including a medical certification of the cause of death, the making and filing of such a record being in every instance an indispensable preliminary to the disposal of the dead body; 2, records of birth, secured by the payment of fees, by every appeal to private interest and public necessity, including, if possible, conditioning of certain privileges of citizenship on recorded evidence of attained age; 3, records of marriage and divorce, with all such items of information as have statistical importance; 4, records of sickness, including all cases of those infectious diseases which fall within the provisions of the notification laws, all cases of sickness which come under study in the public health laboratories, all sickness which is relieved at public cost, all sickness falling under the observation of inspectors of schools, tenements and factories, and all sickness occurring in the public services, *e. g.*, Army, Navy, police, and fire departments.

Finally, the data of vital statistics should be systematically utilized, not only for the broader purposes which have grown into common use, but for the minuter inquiries which such records may answer.

Medical News, New York.

February 21.

9 New York Academy of Medicine—Address. Robert F. Weir.
10 The Young Practitioner. Andrew H. Smith.
11 *Functional Disorders of the Biliary Secretion and Their Treatment. H. Richardson.
12 *The Treatment of Tuberculosis. Charles W. Heitzman.
13 *A Contribution to the Surgery of the Internal Saphenous Vein. William F. Campbell.
14 *Empyema of the Accessory Sinuses of the Nose. J. H. Woodward.
15 A New Sputum Slide. James R. Arnell.

11. **Functional Disorders of the Liver.**—These conditions which may be included under the head of morbid excess, morbid deficiency and a vitiation of the bile, are noted by Richardson. He remarks that a considerable percentage of the population is more or less affected by gallstones, judging from the Johns Hopkins autopsy reports, about 7.5 per cent. in this country. The surgeon seems to have the monopoly of treatment of these conditions, but he still thinks much may be done with drugs. He speaks particularly of the use of glycocholate of soda.

12. **Tuberculosis.**—Heitzman briefly reviews the general facts in regard to the treatment of tuberculosis and concludes that the hope for the future is in hematotherapy and serumtherapy.

13. **The Internal Saphenous Vein.**—From a number of experiments performed on 50 subjects, Campbell finds a considerable variation in the tributaries of the internal saphenous, and that the proper point in which to ligate is that portion of the vein which lies between its last tributary and the saphenous opening. This space is about ¾ of an inch in length, varying somewhat in different subjects. A circle about the size of a five-cent piece ought to fix the limits within which we can expose this portion of the vessel. The author found that the end of a line, 3½ inches long, projected from the spine of the pubes at right angles to Poupart's ligament, will always fall within this circle. The end of this line marks the point for the center of the incision, which should be about one inch long and parallel with the fold of the groin. In retracting the edges of the incision, retract the upper edge so as to ligate as near the saphenous opening as possible.

14. **Empyema of the Accessory Sinuses of the Nose.**—Woodward describes the various conditions of suppuration in the accessory sinuses in which he includes the ethmoidal cells. In view of the variations in the size and position of the frontal sinus he gives the following rule:

Almost without exception, when they exist at all, the frontal sinuses will be found immediately underneath the triangles constructed as follows: Connect the supra-orbital foramina or notches by a horizontal line, drop from its mid-point a vertical to the fronto-nasal suture, and complete the triangles by lines drawn from the naso-frontal end of the latter to each respective supra-orbital foramen. Thus two triangles are constructed above the root of the nose, through which even the smallest sinus may be opened. The anterior wall of the sinus may be 8 mm. in thickness, although, as a rule, it is very much thinner. In operating through the anterior wall of the sinus, our course should be directly backward. If, however, we have traversed in this direction 8 mm. of bone without opening the sinus, it would be wise to change the course of the excavation to downward, backward, and inward, toward the uvula. Thus, opening the anterior cranial fossa may be avoided, while our explorations would expose even the smallest sinus, or, in the absence of the sinus, open into the anterior ethmoid cells.

He prefers to approach the frontal sinus through the anterior wall as it gives a chance for more thorough treatment. To reach the maxillary antrum he would prefer an opening high up in the soft parts under the upper lip, which will remain open long enough for lavage and drainage. It is not advisable in his experience to irrigate the antrum even with the mildest solution for a longer period than four or five weeks. Irritating antiseptics should never be used. If, after treatment, pus formation is marked a large opening for drainage may be cut in the wall of the inferior meatus and the sinus irrigated as circumstances require. Of course the obstruction in the nose should be removed as a preliminary treatment. Suppuration in the ethmoidal cells he attacks preferably by the intranasal route. They may be opened through the ethmoidal sinus and through the orbit, but only when there is complicating sinusitis or orbital abscess and even then the intranasal operation should still be performed. The sphenoidal sinus should be approached through the intranasal route after removal of the middle turbinated bone.

New York Medical Journal.

February 21.

16 *A Critical Review of Some of the Recent Literature of Tuberculosis. Jonathan Wright.
17 *Pulmonary Anesthesia. W. A. Bryan.
18 A Case of Intussusception in a Baby Five Months Old. Louis Fischer.
19 Pyemia and Exsection of Part of the Lower Jaw Following a Fracture Due to Tooth Extraction. J. A. Hofheimer.
20 *The Prophylaxis of Appendicitis. H. Illoway.

16. **Tuberculosis.**—Wright reviews the literature of the transmission of animal tuberculosis to man. He questions the possibility of this, holding that Koch's paper has done a great deal of good, though his views are not original. The inhalation of bacteria is also studied and he finds both from his own studies and the recent work on the subject by Saenger that the bacteria can not penetrate very well to the alveolar regions by inhalation. He suggests a discussion of the diagnosis of tuberculosis, which is probably often erroneous. Influenzal hemorrhages sometimes simulate early tuberculosis, as suggested by Donelan. The laryngeal and pharyngeal forms of tuberculosis and their curability are also discussed at some length. In conclusion he speaks of the serum cure, which from reports has a rather encouraging prospect. He suggests that if we could form the habit of going to Germany for our facts and to England for our deductions, we should in the former find a more abundant harvest, and in the latter a more trustworthy separation of the wheat from the chaff.

17. **Pulmonary Anesthesia.**—Bryan says that the paralysis of respiration due to forcing the anesthetic and the crowding of blood in the right heart which occasionally occurs during the second stage, may cause distension beyond the power of contraction, and death ensues. He suggests that the means to prevent the second stage of struggling in anesthesia are ample and the co-operation of the patient can often be usefully employed. A patient at the beginning of anesthesia had to be held by four men; he was released and told to clasp his hands. He immediately became quiet and did not move again until he came out of the anesthetic. Death may occur from paralysis of the heart from over-dosage and from the operation, especially in the region of the fifth nerve. Care on the part of the anesthetist can prevent either of these accidents. These statements are especially applicable to chloroform. Death may occur instantaneously from paralysis of the heart during complete anesthesia; from damming of the blood in the right heart at a stage when it is preventable, and from paralysis of the heart due to operative interference in incomplete anesthesia; from obstruction of the respiratory passages, causing asphyxia, and from the combined shock of anesthesia and operation. In the last two cases it is usually preventable. In impaired respiration or heart function, the rule is to lower the head to allow a freer flow of blood to the brain and the heart, but where an intra-abdominal obstruction to diaphragmatic function is causative of the symptoms, as in abdominal tumors, the only course is to elevate the head and relieve the pressure of the tumor on the heart. When conjunctival reflexes are gone, we are reasonably certain of surgical anesthesia. On giving too much or too little of the anesthetic, particularly ether, the pupil dilates. The question is whether this dilation is a danger signal or a sign of too little anesthesia. He says close the eye, open it again in the presence of light; if the pupil reacts to light, the patient is safe and more ether can be given; if the pupil will not respond to light too much ether has been given, and we must wait for the pupil to respond. Under complete anesthesia, when the steady, straightforward stare of the eyes is supplanted by a nystagmus, it means the patient is coming out from under the drug and needs another dose. In surgical anesthesia, respiration is regular, full and stertorous. A deep sighing respiration nearly always precedes the appearance of reflexes and should be recognized as their forerunner. The general circulation should be watched in all cases as an index to the condition of the blood and heart. He speaks in conclusion of chlorid of ethyl as a valuable anesthetic, being quicker in action with a quicker return of consciousness. He ranks danger as regards mortality as: 1. Chloroform; 2, ether; 3, ethyl chlorid, and fourth, nitrous oxid. He gives ethyl chlorid through a tight-closed cone that allows a spray of the liquid to run on a piece of gauze, over which all the inhaled air must pass, and containing an outlet valve, so as not to permit waste by expiring through the same opening. This agent is peculiar in that not every case is completely relaxed by it, and ocular reflexes are not always destroyed, but otherwise the anesthesia is complete.

20. **Appendicitis.**—Illoway considers constipation the principal factor and one much more common than is generally recognized, the patients themselves not estimating their own condition properly.

Medical Record, New York.

February 21.

21 *The Treatment and Care of Consumptives at Their Homes, and the Urgent Need of Local Sanatoria. S. A. Knopf.
22 *The Present Status of Surgery of the Gall Bladder and Bile Ducts. William J. Mayo.
23 *Post-operative Malaria, with a Report of Two Cases. John T. Moore.
24 *Trachoma in the Public Schools of New York. Walter E. Lambert.

21. **The Home Treatment of Consumption.**—Knopf gives a description of appliances for the care of the sputa, directions for the care of the patient, use of light, air and hydrotherapy and pleads for the establishment of a sanatorium in the neighborhood of every large city.

22. **Gall Bladder Surgery.**—The percentage of latent gallstones commonly accepted is held by Mayo as probably too high, and he asks the question what causes latent calculi to become active. Remarking on the theory of Kehr, who attributes everything to infection, and the other more generally adopted one of mechanical interference with drainage, he thinks both have their share. He compares the condition with appendicitis, which may have its alternations of aggravation and rest. In some cases the results of early operation for gallstone disease are remarkably good. The death rate under his hands was less than 1 per cent. In the later stages, however, after repeated attacks of biliary colic, with adhesions and general infection of the parts, the condition is different and operation is fraught with some danger. It is in this class of cases that cancer of the gall bladder is most likely to occur. In 49 of his cases stones were found in the common and hepatic ducts, with or without jaundice, but in any event necessitating a very serious operation. Infection of the liver ducts introduces a serious element in the prognosis. Most deaths after operation he attributes to this cause.

23. **Post-Operative Malaria.**—The revival of malaria after operations or injuries, which is a matter of common faith among physicians of malarial districts, has been denied, but Moore here reports two cases, which he thinks prove the correctness of the belief. He suggests a blood examination by the microscope in every case from a malarial locality before operation, and says that many infections which have lain dormant for weeks, months and even years may be rekindled. Malarial fever, especially the chronic forms, brings out a very unfavorable condition for the healing of wounds and the reaction from the shock of the anesthesia and operation. It is reasonable to suppose, he holds, that many cases of fatality after operation are due to the presence of the malarial parasite.

24. **Trachoma.**—The conditions in the New York schools are reviewed by Lambert, who believes in thorough inspection and a special hospital for the treatment of all contagious eye diseases in New York City. It would be important, of course, to have the inspectors thoroughly competent men, who will examine the upper as well as the lower cul-de-sac of the eye.

Boston Medical and Surgical Journal.

February 19.

25 *Observations on Long-Distance Runners. J. B. Blake and R. C. Larrabee.—The Blood. Ralph C. Larrabee, Wilder Tileston and Wm. R. P. Emerson.—The Hearts. Ralph C. Larrabee and Lawrence W. Strong.—Kidneys. John M. Connolly.

26 *Medical Treatment of Intestinal Obstruction. Thomas F. Harrington.

25. **Long-Distance Runners.**—This subject takes up most of this issue and includes general observations as to the condition of the runners, pulse, weight, temperature, condition of the blood, heart, kidneys and physical characteristics. The distance run was about twenty-four miles over a more or less hilly country. The effects seem to have been largely physiologic; pathologic conditions were not noted. So far as known none suffered serious or permanent harm from the race. The heart changes seemed to be physiologic. The article is an interesting study.

26. **Intestinal Obstruction.**—The different forms of intestinal obstruction and their non-surgical treatment are described by Harrington. In cases where foreign bodies have been swallowed, he advises against castor oil administration, but to give food that will produce bowel evacuation. Examine the rectum frequently as the foreign body often lodges there. In intussusception he thinks it best to chloroform the child, lay it on its back, and slowly inject one or two gallons of warm water into the rectum. He remarks that the rectum is capable of holding 6 quarts (?). Large enemata should always be tried before advising surgical interference. He thinks the experience with exploratory laparotomy offers little to endorse this short road to knowledge. The article is one that rather depreciates the value of surgery in these cases.

Philadelphia Medical Journal.

February 21.

27 *Tropical Diseases—Abscess of the Liver. Charles F. Kieffer.

28 *The Toxemia of Pregnancy. (To be Continued.) William H. Wells.

29 *Uterine Carcinoma—Its Treatment by the Combined Use of the Finsen Light and the Roentgen Ray. George G. Hopkins.

30 Report of a Case of Transverse Myelitis in a Newborn Infant. Alexander H. Davisson and D. J. McCarthy.

31 *Retinal Hemorrhages: An Aid to the Early Recognition of General Arterial Degeneration. Henry C. Haden.

27. **Tropical Diseases.**—This fifth lecture by Kieffer is devoted to abscess of the liver and more especially to tropical abscess, which is in the vast majority of cases due to the *Ameba dysenteriæ*. Predisposing causes, however, are necessary. These are usually found in the free living, both as to alcoholic beverages and food, but especially the former. The natives are quite as liable to it as the Europeans if they follow the same habits of diet and drinking. European women and children are, as a rule, free from this complication. There is a small group not due to this cause, but to the *Balantidium coli*, and the various pyogenic organisms may have their causal action. Cantlie holds that all intrahepatic abscesses are amebic, and that the so-called "idiopathic abscesses" are suprahepatic, or subhepatic, that is, abscesses of the dome or concavity. The symptoms may be obscure; hectic range of temperature, liver enlargement, sense of weight and fulness, occasionally deformity, pain especially in the right shoulder and occasionally a sharp pain in the esophagus in swallowing, while a hacking unproductive cough may be present. There is characteristic decubitus; the patient lies well over on his right side with the shoulder drawn down and the knee drawn up. Jaundice is rare. Ascites only occurs when the abscess presses on the portal vein, which is of some importance in the operative treatment. The old-fashioned way of leaving the abscess to "determine its own direction" is condemned; the "determined" spot is usually a grave. The proper method is to operate; 90 per cent. of cases of single abscess operated on fairly early recovered. If spontaneous rupture occurs into the colon, about one-half recover; rupture elsewhere is not nearly so favorable. The diagnosis is difficult. The common mistake is to call the condition malaria, but he points out the differences, especially the character of the fever, occurring at or near the same hour every day, which is clearly not malaria. In all obscure cases, he says, attended with signs of sepsis, insert an aspirator to make the diagnosis sure. Leucocytosis is of some importance. It may be absent, but its presence is corroborative. Sometimes the abscess may be intimately connected with the parietes, though it is difficult to be sure as to locality. Usually when the liver is punctured, respiratory excursion gives a pendulum-like movement of the needle. In this class of cases this movement may be absent. The treatment will be discussed in a coming lecture.

28. **Toxemia of Pregnancy.**—The theory of convulsive seizures of eclamptic or pregnant women is coming to be that they are due to a general toxic state of the blood, instead of being so exclusively a kidney affection as was formerly held. Wells has had opportunity to note the effect on pregnant women of stomach and intestinal catarrh following influenza. He thinks these are often the predisposing cause of what seems to be a rather resistant form of toxemia. Most of the cases occur in full-blooded rather than in anemic women. The symptoms are generally headache, pain and soreness about the eyes, occasionally photophobia, a dull and heavy feeling, sensitiveness to changes of weather, frequent urination with less than normal quantity, a sort of pyrosis, occasional nausea and edema. He describes several cases and remarks that the symptoms are quite different from those usually described in text-books, except those of recent date. The first case briefly mentioned is one in which the kidneys seemed to be suffering most, with albumin and casts, mental dulness with general symptoms pointing to uremia. The second type, of which several cases are reported, presents symptoms of chronic gastro-intestinal catarrh, but with a urine characteristic of toxemia. He holds that in the excretion of urea we have the most valid index of solid excretion. This is never as great in amount in the pregnant as in the non-pregnant condition, and an increase in the toxic symptoms is almost invariably preceded by decrease in the urea percentage. It is impossible to lay too much stress on the value of clinical study of the urine of pregnant patients. He always looks with suspicion on any headache, nausea or indigestion in pregnant women and instructs them to report at once if they have any of these symptoms. The pathology is noted—changes in the kidney, heart, liver and brain.

29. **Carcinoma of the Uterus.**—Hopkins finds the combined light and *x*-ray treatment of special advantage in uterine cancer and describes the arrangement which he has made for securing it. He would give about an hour's exposure to the Finsen light and about five or eight minutes to the *x*-ray as a treatment. This has given good results.

31. **Retinal Hemorrhages.**—With a report of two cases of retinal hemorrhage and remarks on the importance of the symptoms, Haden concludes as follows:

1. Retinal hemorrhages, associated with high arterial tension and accompanied by transitory albuminuria, are significant of beginning widespread arterial degeneration.

2. That in those cases of so-called physiological or transitory albuminuria, occurring in active, healthy young business men or students, in those who are working under forced pressure, ophthalmoscopical examination should be made for retinal hemorrhages.

3. When retinal hemorrhages occur without albuminuria, the patient should be kept under observation, the urine to be examined from time to time and the quantity passed noted.
4. In case of finding these conditions, it is our duty to warn the patient of his condition, and, as Osler says, "so gain his intelligent co-operation," and preserve his life and usefulness.

Cincinnati Lancet-Clinic.

February 21.

32 A Trunk Sewer for Mill Creek Valley. Louis Schwab.
33 A Plea for Spring-time Movers. Evelyn B. Dodd.
34 Neuralgia. F. Pirnat.
35 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) S. Merrill Ricketts.

St. Louis Medical Review.

February 7.

36 Views Suggested by the Study of the Etiology of Puerperal Eclampsia. J. K. Bauduy.

February 14.

37 Recent Radical Operations for Cancer of the Uterus. Fred J. Taussig.

American Journal of Obstetrics, New York.

February.

38 *Transabdominal Intra- and Extra-peritoneal Ureterovesical Grafting. Dougal Bissell.
39 Intra-abdominal but Retroperitoneal Shortening and Anterior Fixation of the Round Ligaments for Posterior Uterine Displacements. F. F. Simpson.
40 *Intramural Extraperitoneal Anchorage of the Round Ligament for Posterior Displacement of the Uterus. George H. Noble.
41 Two Hysterectomies for Fibroma Uteri. H. Grad.
42 Sarcoma of the Uterine Parenchyma. Henry D. Beyea.
43 Hepatoptosis. Irving Miller.
44 Strangulated Hernia in Children Under One Year; Report of a Case Twenty-seven Days of Age; Herniotomy; Recovery. W. B. Reid.
45 *Management of Difficult Breech Presentations. H. J. Stacey.
46 *Thoughts on the Prophylaxis of Puerperal Eclampsia. Douglas H. Stewart.

38. **Ureterovesical Grafting.**—Bissell's method consists in finding the ureter through an incision in the anterior surface of the broad ligament, and a dissection downward between the broad ligament folds, passing the forceps through the urethra into the bladder and up to the posterior vesical wall just below the junction of the broad ligament and the bladder, then incising the bladder between the blades and dragging the ureter through and anchoring it with an intestinal silk suture. He claims this method is most direct, admits of extraperitoneal manipulation and extraperitoneal implantation at the point of selection of the bladder wall; shifts the ureter but slightly from its normal direction, and allows thorough provision for leakage through the vagina at the base of the extraperitoneal space within the folds of the broad ligament.

40. **Retro-Uterine Displacement.**—The method here described by Noble is, in brief, the intramural extraperitoneal implantation of the round ligaments. Through a transverse incision in the lower abdomen the round ligament loops are brought forward and the ends fastened together, if long enough to meet on the median line, in front of the recti muscles. He has thus anchored the uterus 67 times and claims many advantages for the operation: a single incision through which pelvic complications may also be treated; the strong uterine end of the ligament is utilized; there is no vesical irritation or dysuria or interference with the normal mobility of the uterus, no sutures in the fundus to irritate the uterus, absence of tendency to hernia, no encroachment of the bladder or abnormal shortening of the ligament, and the fixation is extraperitoneal. The danger of operation, he thinks, is about equal to that of exploratory abdominal incision.

45. **Difficult Breech Presentations.**—This article considers only those cases in which one is confronted by a difficult, but not impossible, breech presentation. Such is most often seen in primiparæ, where the child is disproportionately large because the mother's pelvis is slightly contracted or the child is unusually large; it may also occur in any case where the cervix, vagina, and perineum are unyielding; or even in multiparæ when the child is disproportionately large. It includes original breech presentations, and those changed into breech by version. Labor is allowed to progress as usual until the breech is nearly to the pelvic floor; that is, until the child is sitting on the recto-vaginal septum. The patient is placed in the dorsal position and anesthetized profoundly. The child is then pushed carefully upward and both feet brought down, the possession of both feet giving the operator better control of the child. With the child's thighs in the cervix, dilate with the hand until the cervix is practically paralyzed; meanwhile dilate the vulvar orifice and vagina fully with the hand and closed fist, the success of this method being dependent on the thoroughness of the dilatations. During these dilatations gradually withdraw the chloroform. See that the cord is out of the way. Grasp the feet and draw the child slowly down until the umbilicus is nearly to the mother's vulva, while the assistant, or operator's own hand, if necessary, keeps the head well flexed so as to avoid extension and consequent catching at the pelvic brim. The operator then makes strong traction while the assistant presses down on the head firmly; if the woman is sufficiently aroused from the anesthetic, instruct her to expel the child with all her strength. The head then passes down the parturient canal, escaping the grasp of the cervix uteri, a little rotation of the child's hips, or side-to-side pull, serving to deliver the child to the shoulders. The arms and shoulders are then quickly delivered, delivering the posterior arm first, then rotating and delivering opposite arm (following the method well described on page 786 in Hurst's Obstetrics, 3d edition). The assistant then takes the child while the operator quickly delivers the head with forceps. The advantages of this method are: 1, the time of the labor is shortened; 2, there is little or no laceration of the mother, and 3, the child is neither strangulated nor mutilated because of being caught by the cervix or perineum.

46. **Puerperal Eclampsia.**—The treatment advised by Stewart is avoidance of noise, excitement and alarm, using hot packs to excite perspiration, frequent small venesections if necessary. He also notices the possible advantages of using irrigations of normal salt solution. We should carefully lower the amount of nitrogen in the food and increase the aggregate of its discharge, and in this way we have gone a long way in the prophylaxis of the condition.

Brooklyn Medical Journal.

February.

47 *Hookworm Disease—A Newly Recognized Factor in American Anemias. Charles W. Stiles.
48 Infant Diarrheal Mortality in Brooklyn—Its Cause and Preventability. Louis C. Ager.
49 Note of a Case of Gunshot Wound of the Neck. G. R. Fowler.
50 Report of a Case of Laceraton of the Subclavian Artery from a Fractured Clavicle. Wm. E. Butler.
51 Memorial Address, Kings County Medical Society. James P. Warbasse.
52 A Case of Puerperal Psoitis. A. M. Judd.
53 The Overindulgence in Fluid as an Etiological Factor in the Production of Stomach Disorders. Hugh E. Rogers.

47. **Uncinariasis.**—Stiles points out the differences between the American and cosmopolitan form of uncinariasis, and remarks as to the economic importance of the disorder as it occurs in the South, especially in sandy regions. The great point is to instruct country physicians as to the disorder itself, and to educate the rural population is the best means of prophylaxis, preventing infection from drinking water polluted by dejecta, etc.

Annals of Surgery, Philadelphia.

February.

54 *An Operation for the Radical Cure of Aneurism Based upon Arteriorrhaphy. Rudolph Matas.
55 *Cases Illustrating Some Important Points in the Diagnosis and Treatment of Abdominal Contusions Associated with Visceral Injuries. George E. Brewer.
56 Intraperitoneal Rupture of the Bladder. Daniel F. Jones.
57 A Case of Pancreatic Cyst, with Remarks on the Pathology and Surgical Treatment. Charles G. Cumston.
58 *The Question of Surgical Intervention in Cases of Injuries to the Spine. John C. Oliver.
59 *Post-Typhoidal Infection of Ribs. J. Shelton Horsley.

54. **The Radical Cure of Aneurism.**—Matas describes in detail the methods of treatment of aneurism, with illustrations, and in conclusion submits in substance the following conclusions: 1. That the recognized advantages of the radical operation for the cure of aneurisms in the peripheral arteries as shown by recent statistics, can be greatly increased. The sphere of the operation can be broadened by the adoption of the method of suture and obliteration of the sac instead of the classic ligation of the arteries, with or without extirpation, as hitherto practiced. 2. That the closure of the arterial orifices which supply the aneurismal sac, whether single or multiple,

by means of suture, and within the sac itself, greatly simplifies the technic of the radical operation and is a reliable means of securing hemostasis. 3. That in favorable cases such as saccular aneurisms with a single orifice communicating with the lumen of the larger arterial trunks, it is possible by careful suture to obliterate the aneurismal opening without obstructing the lumen of the parent artery, thus lessening the risk of gangrene. 4. It is also possible in favorable cases of fusiform aneurisms of traumatic origin, and in those in which the sac material is pliable and healthy, to restore the lost continuity of the artery by building a channel which will connect the two main orifices of communication and restore the interrupted circulation in the parent vessel. This can be done by utilizing the sac in the manner described by the author. 5. The fear that atheroma and other degenerative changes will interfere with the healing and repair of the arterial tunics has been greatly exaggerated, as shown by abundant experience of the aseptic period in the ligature of sclerotic arteries in continuity, in the absence of secondary hemorrhages in the amputated stumps of the aged, diabetic, and other arterially diseased subjects, and is still more fully demonstrated by the statistics of Delbet, Kubler, Ransohoff and others who have reported numerous successful results in spontaneous as well as in traumatic aneurisms. 6. The fallacy and dangers of the old operation of Antyllus lie, first, in the fact that the preliminary ligation of the main artery above and below the sac does not always control collateral bleeding, hence compels a more or less extensive dissection of the sac out of its bed as one of the necessary features of the procedure to include all the collateral vessels; the difficulties of the operation are increased and the vitality of the limb is endangered by interfering with the collateral circulation. Another serious objection to the old Antyllian operation is that the sac is allowed to remain as an open cavity in the bottom of the wound, where it is packed or drained and allowed to heal by granulation, thus inviting infection, suppuration and secondary hemorrhage. All this is obviated by the author's method of endoaneurismorrhaphy, which does not disturb the sac from its vascular connections and favors its prompt obliteration by suturing the infolded walls of the sac, and keeping them in direct and close approximation. 7. The dangers and uncertainties of extirpation of the sac are often more apparent because, in addition to the technical difficulties, there is the great risk of injury to the accompanying satellite veins and nerves which blend most intimately with the sac and often compel the surgeon to make his operation a partial one. The greatest objection, however, is in the interference with the collateral circulation, which entails a considerable risk of mortification in the distal parts. All these dangers are reduced to a safe minimum, and are largely eliminated by simply obliterating the sac, instead of extirpating it.

55. **Abdominal Contusions.**—Brewer notes the possibilities of abdominal contusions in the way of rupture of the viscera, liver, spleen, bladder, etc., and considers that in the earliest stages of abdominal injury, pain, tenderness and muscle rigidity are the most prominent and reliable signs. Their association is almost pathognomonic of peritoneal irritation. In the absence of spontaneous pain, localized tenderness with rigidity is strongly suggestive of visceral injury. Muscular rigidity, however, is the most reliable and sometimes the only sign. Spasm of one or more of the abdominal muscles following a traumatism may be looked on as Nature's efforts to protect the injured organ from further irritation. Vomiting is occasionally present, but is not always an accompaniment. The occurrence of free fluid in the peritoneal cavity, shown by the different percussion signs in different positions, is valuable. The presence of a large amount of fluid feces in the colon may rarely lead to error. Their specialized diagnosis, Brewer considers, is rarely possible. He reports a number of cases illustrating the points which he has brought out. He favors the treatment of extensive fractures of the spleen by pressure and gauze packing rather than by splenectomy. This is also applicable to the liver. It gives less shock, saves time and preserves an important organ. Speed of operation, perfection of technic and the ability to administer at any moment the most vigorous stimulants are the most important requisites of success. The assistants should be prepared to give saline infusions at the time the peritoneal cavity is opened.

58. **Injuries to the Spine.**—Oliver holds that it is proven that complete transverse lesion of the cord is hopeless, and asks if a correct diagnosis of such can be made. He reports cases as showing the utility and effects of operation. On the whole, his opinion seems to be favorable to delay in operating in cases of spinal injuries. It gives them a chance for spontaneous recovery or improvement.

59.—See abstract in THE JOURNAL, xxxix, p. 1410.

Albany Medical Annals.

February.

60 Dr. Lorenz's Clinic in New York, December 18, 1902. Charles E. Davis.
61 *Infantile Diabetes Mellitus. Howard E. Lomax.
62 *Surgery of the Stomach, with Report of Cases. Albert Vander Veer.
63 *Therapeutic Effects of Roentgen Rays on Malignant Growth; Report of Cases. Arthur F. Holding.

61. **Infantile Diabetes Mellitus.**—Diabetes in children has not an extensive literature, but seems to be pretty thoroughly reviewed by Lomax, who describes the symptoms and reports cases. He discusses the general subject of diabetes, its pathology, etc., and remarks that no recoveries from infantile diabetes have been recorded. The cases reported varied from 2 to 16 years of age. One case in an adult was also mentioned. Some benefit seems to be derived with occasional fasts for twenty-four hours or so in removing unfavorable symptoms for the time being.

62. **Surgery of the Stomach.**—Vander Veer discusses surgery of the stomach, and reports two cases of complete removal of the organ, one of which was successful.

63. **Roentgen Rays.**—Holding reviews the cases published in the literature of malignant growths treated by this agency and reports personal observations of a number. He thinks that, from the uniformly good results reported, we may be too sanguine as regards the beneficial effects of the rays in malignant tumors. There are probably unsuccessful cases that are not reported.

Annals of Gynecology and Pediatry, Boston.

February.

64 *The Roentgen Ray in Gynecology. Eden V. Delphey.
65 Report of a Case with Autopsy. Loren A. Sanders.
66 *Further Report on the Use of Ethyl Bromid as a Primary Anesthesia to Ether. Emery Marvel.
67 *Portal Anastomosis, with Report of a Case. Daniel H. Craig.

64. **The Roentgen Ray in Gynecology.**—Delphey finds that the *x*-ray has a somewhat lesser value in the diagnosis in gynecologic conditions, and is principally useful in the treatment of malignant neoplasms.

66. **Ethyl Bromid Anesthesia.**—Marvel finds the advantages of using ethyl bromid anesthesia as a preliminary to ether anesthesia over that of the administration of ether alone, are the lesser time required, reduction of the discomfort to the patient taking ether by the absence of bronchial irritation and increased mucous secretions, less excitement and the danger of injury to which the first stage of ether narcosis is liable, the smaller quantity of ether required, more rapid regaining of consciousness and the lessened tendency to post-anesthetic vomiting. He has employed the method in 33 cases since the former report which he made, and 30 of these were celiotomies. The time required to secure unconsciousness varied from ten seconds to two minutes, an average of twenty-five seconds.

67. **Portal Anastomosis.**—The case reported by Craig seemed to be completely relieved by the Talma-Morrison operation, which is described. The technic was somewhat different from that ordinarily used. The lower extremity of the omentum after having been some time exposed to the air and rubbed with a dry gauze sponge, was tucked down into the sulcus formed by separating the peritoneum about two inches in all directions, being placed thus between the outer surface of the peritoneum and the muscle. Six catgut sutures were used to secure the end of the omentum within this pocket to the

abdominal parietes. The peritoneum was closed about and above the omentum with interrupted catgut and the sutures and abdomen closed in three layers. Multiple adhesions between various organs and parietes seemed unnecessary and by making an incision in the lower half of the abdomen, instead of the upper half, the physiologic function of the omentum of protecting the intestines was preserved and equally efficient adhesions secured.

Indiana Medical Journal, Indianapolis.

February.

68 Recent Evolution in Medical Education and the Intellectual Status of Medicine. Theodore Potter.
69 *Fracture of the Zygomatic Arch. G. W. H. Kemper.

69. **The Zygoma.**—Kemper reports a case where a young man was injured in the game of football, showing fracture of the zygoma. He replaced the bone with the index finger in the buccal cavity, using his thumb also and crowding the end of the bone upward and behind the process. He finds that this method of replacing is a novelty not mentioned in text-books or it is stated that it can not be thus replaced, and an incision and blunt hook under the skin are advised.

Journal of the Michigan State Medical Society, Detroit.

February.

70 *Mosquitoes and Malaria—The Present Knowledge of Their Relations. George Dock.
71 A Case of Absence of the Rectum. W. P. Manton.
72 Malnutrition in Infants. Charles Douglas.
73 The Treatment of Apoplexy. Charles W. Hitchcock.
74 The Diagnosis of Aneurism of the Aorta. P. M. Hickey.
75 *The Causes and Treatment of Asthma. Charles H. Baker.
76 Modern Diagnosis. P. S. Root.

70. **Mosquitoes and Malaria.**—Dock describes the life history of the infecting mosquito and gives his experiences in search of the anopheles in the neighborhood of Ann Arbor.

75. **Asthma.**—Baker holds that asthma is a reflex disorder primarily due to nasal pressure, intermittent or constant, occurring in a patient of neurotic temperament, and relieved in most cases by removal of this pressure. He is, therefore, dependent on surgery rather than on drugs for the treatment of this condition.

American Journal of the Medical Sciences, Philadelphia.

February.

77 *Diseases of the Pancreas. John B. Deaver.
78 Tropical Abscess of the Liver, with Report of a Case. Solomon Solis Cohen and John H. Gibbon.
79 *A Study of Some Cirrhoses of the Liver. Beverley Robinson.
80 A Case of Multiple Melanotic Sarcoma Unsuccessfully Treated by X-Rays. James P. Marsh.
81 *Mixed Tumors of the Thyroid Gland. Leo Loeb.
82 *The Pathology of Labial and Nasal Herpes and of Herpes of the Body in Acute Croupous Pneumonia, and Their Relation to the So-called Herpes Zoster. William T. Howard, Jr.
83 *An Experimental Study of Lithium. Clarence A. Good.
84 *Ureteritis in the Female. Edgar Garceau.
85 Gonorrheal Vulvovaginitis in Children. Richard F. Woods.
86 Memoir of J. M. Da Costa, M.D. Mary A. Clarke.

77. **Diseases of the Pancreas.**—Deaver's article is a complete review of the various disorders of the pancreas up to the most recent acquisitions, describing the methods of treatment, operations, etc., and quoting extensively from the literature. In conclusion Wilbert gives some data as regards *x*-ray findings with the pancreas and it appears that it is possible to note decided changes in the organ.

79. **Cirrhoses of the Liver.**—The views ordinarily held in regard to hepatic cirrhoses are, according to Robinson, not always correct. The facts do not justify the gloomy prognoses that have been so generally given to these affections. There are different forms and degrees and not all are alike serious. He describes the different forms, atrophic, hypertrophic, and syphilitic. The former he claims are in reality of long duration as their earlier stages are not recognized. The imperative thing to do is to absolutely shut off alcohol. In the hypertrophic form he holds that the typical Hanot's cirrhosis must be rare. He does not recall a single typical case in his observation. Ascites is not the rule, but jaundice is, and in these respects it differs markedly from the atrophic type. The causation of this form of hepatic cirrhosis is obscure; the spleen often being enlarged, a malarial origin is sometimes suspected. Syphilitic cirrhosis resembles sometimes one and sometimes the other form. There may be ascites, jaundice or both together, or neither may occur. He holds that there is little doubt as to hypertrophic and atrophic alcoholic cirrhoses being distinct forms of disease and not different types of the same. In one the lesion is markedly multilobular, in the other it is monolobular in quite a pronounced degree. As Fagge has shown, cirrhosis often becomes quiescent before it reaches its final stage, and Flint seems to corroborate this view. The prognosis is far better in the hypertrophic and syphilitic than in the atrophic form. In conclusion, he speaks of surgery, Talma's operation more particularly, and reports a number of cases of this "omental anastomosis."

81. **Mixed Tumors of the Thyroid Gland.**—Loeb summarizes in substance as follows: Mixed tumors of the type of carcinosarcoma have been found in both man and animals. All have some characteristic point in common. Although carcinosarcomata occur elsewhere, the majority of them are found in the thyroid. They are also found in the thyroid in combinations of new-formed bone and sarcoma. The facts that have been cited in favor of the embryonic origin of mixed tumors can not be applied in the case of these. That a tumor is a mixed tumor is not in itself sufficient to prove its embryonic origin. It is not possible to determine with certainty, from the character of the constituent parts of a mixed tumor, from what kind of embryonic cells such a tumor is derived. Heterotopic tumor formations need not necessarily be produced by displaced blastomeres.

82. **Herpes Zoster and Pneumonia.**—Howard reports cases illustrating the relations of herpes zoster and pneumonia, and concludes that zoster is a pathologic condition like pneumonia, with definite lesions of certain sensory ganglia, sensory nerves and the skin, capable of being excited by a variety of causes. It is probable that the primary ganglionic lesions are commonly due directly or indirectly to the soluble toxins of various micro-organisms. The skin lesions may be on the head, neck, trunk or extremities, corresponding to the gasserian and posterior root ganglia affected. Various forms can be distinguished: 1. Spontaneous or primary herpes thought by Head, Carpenter and others, to be a specific infectious disease, the specific causal agent of which has a special affinity for certain sensory ganglia (posterior, spinal and gasserian). 2. Herpes occurring after certain definite toxic agents, as arsenic and carbonic oxid gas, etc. 3. Herpes in the course of certain infectious diseases like pneumonia, cerebrospinal meningitis and probably malaria and typhoid. In all three of these forms, the ganglia and the skin lesions are the same and the processes presumably identical. 4. Herpes simplex so-called, affecting the lips and nose in coryza, gastrointestinal intoxication, etc., and genitals (herpes genitalis) has not been sufficiently investigated to be classified; no evidence for or against its connection with changes in the nervous system exists. As far as skin changes in herpes are concerned, they are illustrations of particular forms of necrosis and inflammatory reaction, and, as in similar lesions in other organs, can probably be excited in a variety of ways. 4. Herpes should be classified according to its relation to changes in the nervous system, and every opportunity embraced to extend our knowledge in this direction.

83. **Lithium.**—From clinical data and a series of experiments on cats and dogs, Good offers the following conclusions:

1. Lithium is excreted in the saliva, into the stomach and bowel, and in the urine. The greater amount is excreted in the urine, though more appears in the stomach and bowel when nausea, vomiting, and diarrhea have been profuse. It can usually be demonstrated in the secretions within ten minutes after a hypodermic injection, though its excretion proceeds slowly, for I have found it in the secretions twenty-three days after the injections were stopped. 2. Lithium salts given to animals, hypodermically or by the stomach, cause, sooner or later, fatal gastro-enteritis. This gastro-enteritis, is, undoubtedly, connected with the excretion of the metal through the bowel wall. 3. Lithium salts do not possess any diuretic action that can not be accounted for by their salt action. They render the urine alkaline, and thus act like other alkalies. 4. Lithium carbonate, in fifteen to twenty-grain doses, and lithia tablets have been known to cause gastro-intestinal symptoms in man. 5. Dilute solutions of lithium salts are not solvents for uric acid or urates.

84. **Ureteritis in the Female.**—Garceau's article is a complete study of ureteral disease as it appears in the female. He classifies it as simple ureteritis of the acute or chronic form, ureteritis with obstruction and tubercular ureteritis. In

the former he notices particularly one sign of great diagnostic importance, that is, an excess of desquamated epithelium which may or may not be associated with the presence of pus on the affected side. He thinks the gonococcus the germ to be chiefly dreaded, and points out the diagnostic and clinical symptoms. There is one affection which may be confounded with it, that is ureteral stricture; but as stricture is a sequel of the disease, and as ureteritis always accompanies stricture, the distinction is not marked. If a stricture is suspected passing a graduated bougie will clear up the diagnosis. Most frequently simple ureteritis is not recognized at all or is treated as a chronic cystitis or as a reflex bladder trouble. Cystoscopic examination is always advisable. The prognosis is bad if it has existed a long time. As to treatment, he recommends a non-stimulating diet, attention to the secretion of the skin, moderate exercise, regularity of living, use of drugs to modify the acidity of the urine and sometimes as disinfectants and topical applications to the bladder, a solution of 5 to 10 per cent. nitrate of silver. He illustrates the apparatus he has himself devised for topical applications to the ureter itself, consisting of a fine silver tube with a blunt-pointed extremity and a bulbous expansion a short distance from its end. This is introduced into the ureteral orifice as far as the bulb permits, and the bulbous expansion held here in close contact to prevent regurgitation of liquid. Then the silver is injected. He has only used this a few times and it is too early to say what the results will be of this method of treatment. Ureteritis with obstruction is discussed at length. It is a long-standing affection and very difficult to cure. The danger is on the part of the nervous system, which is constantly irritated, the mental equilibrium being often more or less disturbed. A constant nagging desire to urinate is felt. Treatment generally has for its object the restoration of the caliber of the lumen. He speaks with some reserve as regards dilatation methods. They are extremely painful and the patient does not always submit. The best operation is one which exposes the ureter through the extraperitoneal incision, after preliminary introduction of a ureteral catheter. The stricture may then be cut on the catheter and the two angles of the incision united by means of fine suture. The sewing should not be done until the rest of the canal has been explored for high strictures. If the stricture is of great length and near the bladder, it is advisable to transplant the ureter. Any stricture below the pelvic brim can be treated in this way. If there is a high stricture the only other resource is a nephrectomy or the establishment of an artificial loin fistula. The condition of the opposite kidney should always be considered. Calculous obstruction is noticed and cases reported. The prognosis in ureteral obstruction depends on the length of time it has lasted and whether infection of the upper urinary passages has taken place. Tubercular ureteritis receives but comparatively brief mention at the end of the article. He gives a tabulated statement of the cases and the results of operations including those in which the ureter has been abandoned, and it appears that complete recovery can take place even if this is the case. If the ureter is abandoned, however, further complications may be expected. The most to be dreaded is tuberculosis in some other part of the body. He thinks nephro-ureterectomy will be more commonly done in the future than in the past, and total nephro-ureterectomy should be done in all cases where the condition warrants it.

Carolina Medical Journal, Charlotte, N. C.

February.

87 Report of Two Successful Cases of Rectopexy or Suspension of the Rectum upon the Sacrum. S. T. Earle.
88 Sebaceous Cyst—Ostitis Deformans—Laminectomy. William L. Rodman.

American Practitioner and News, Louisville.

November 15, 1902.

89 On the Prevention of Infectious Diseases. (To be continued.) E. J. Kempf.
90 A Plea for More Careful Study of Diagnosis. B. F. Frazier.
91 The Most Practical Organization for the Medical Department of the United States Army in Active Service. (Continued.) Thomas Page Grant.
92 Typhoid Fever—Its Treatment. R. E. Garnett.
93 Differentiation of Varicella and Variola. Ewing Marshall.
94 Report of a Case of Articular Rheumatism with Peculiar Heart Action. H. S. Taylor.
95 Typhoid Fever, with Rare Complications. T. H. Garvin.
96 Obscure Case of Intestinal Obstruction. B. F. Fyke.

Northwestern Lancet, Minneapolis.

February 15.

97 The Early Clinical Manifestations of Pulmonary Tuberculosis. J. W. Bell.
98 Gonorrhea in the Female. George C. Barton.
99 Unequalized Sexual Sense and Development the Great Cause of Domestic Infelicity and Nervousness in Women. C. W. Malchow.

Iowa Medical Journal, Des Moines.

February 16.

100 The Diagnosis and Treatment of Round Ulcer of the Stomach. Arthur R. Edwards.
101 The Therapeutic Use of the X-Ray. D. C. Brockman.
102 The Public School—Its Environment, Hygienic Conditions, etc. L. J. Bowman.
103 Strabismus—Its Causes and Treatment. M. F. Patterson.
104 Some Coughs Which Are Not Benefited by Cough Mixtures or Expectorants. B. C. Kelley.
105 Scleroses of the Spinal Cord. Clifton Scott.

Washington Medical Annals.

January.

106 The Treatment of Typhoid Fever. G. Wythe Cook.
107 Fibroma of Uterus; Hysterectomy; Softening of Brain; Death. D. Percy Hickling.
108 History of Dr. Walter Reed's Illness from Appendicitis. W. C Borden.
109 Omphalopagus. D. S. Lamb.
110 Transposition of the Heart. J. M. B. Banister.
111 Exencephalus with Spina Bifida. DeWitt C. Chadwick.
112 Marked Elongation of the Cervix Uteri. J. Wesley Bovee.
113 Hemorrhage in Left Lenticular Nucleus with Left Ptosis; Otherwise Right Hemiplegia; Origin Probably Embolic. D. S. Lamb.
114 Appendicitis from a Physician's Standpoint. E. Castelli.
115 Clinical Notes of Some Interesting Cases (Menstrual Epilepsy, etc.) Henry D. Fry.
116 Case of Gangrene of Scrotum in an Infant. J. Ford Thompson.
117 Case of Carcinoma of Bladder. Francis R. Hagner.
118 Address, Medical Society of the District of Columbia. Samuel S. Adams.

St. Louis Courier of Medicine.

February.

119 Report of a Case of Chorioma. H. S. Crossen.
120 Pathological Report, with Some General Remarks on Chorioma. Carl Fisch.
121 A Case of Anthrax. H. L. Nietert.
122 Bacteriologic Report. C. A. Snodgrass.
123 Some Observations on Scarlet Fever. Philip Newcomb.
124 A Case of Hydrophobia. John Zahorsky.
125 A Case of Syphilis Tarda. M. J. Lippe.
126 Calcium Chlorid in Typhoid Fever. J. R. Clemens.

Occidental Medical Times, San Francisco.

February.

127 Intracranial Neurectomy, Including Part of the Gasserian Ganglion, for Trigeminal Tic. Harry M. Sherman and Leo Newmark.
128 Leucoplasia of the Tongue During Secondary Syphilis. Douglass W. Montgomery.
129 Report of Cases of Acute Lacunar Tonsillitis, with Skin Eruptions. Ray L. Wilbur.
130 Cavernous Angioma of a Voluntary Muscle and Sarcoma of Axilla, Recurring After Seventeen Years. W. S. Thorne.
131 Hysteria. J. O. Hirschfelder.
133 Purpuric Menorrhagia. David Hadden.
134 Results of Urinary Analysis in a Series of Postmortem Examinations, with Reference to the Conditions of the Kidneys of the Same Cases. Wm. Osmers.
135 Are Ventrofixations and Ventrosuspensions of the Uterus Justifiable Operations? H. Kreutzman.

Medical Summary, Philadelphia.

February.

136 Preventive Medicine in Regard to Custom. E. J. Kempf.
137 Herpes Zoster—Impetigo Herpetiformis—With Cases Cited with Treatment. John R. Smith.
138 A Plea in Behalf of Suffering Humanity. C. W. Canan.
139 The Common House-Fly, and Typhoid Fever. Charles P. McNabb.
140 Is Spermatorrhea a Myth? C. E. Boynton.
141 Typhoid Fever. G. O. Smith.
142 Singular Remedies. Silas Hubbard.

Proceedings of the Pathological Society of Philadelphia.

January.

143 Angiosarcoma of the Hypophysis Cerebri without Acromegaly. Joseph McFarland.
144 A Fatal Case of Anthracosis, with Autopsy. Thomas S. Githens.
145 Atrophic Cirrhosis of the Liver. Solomon Solis Cohen and David Riesman.

The Post-Graduate, New York.

February.

146 Prophylaxis in Children. Andrew Von Grimm.
147 A Study of the Typhoid Cases Treated in the Hospital Wards During the Past Two Months. Edward Quintard.
148 Clinical Lecture on an Interesting Cardiac Case Previously Diagnosticated as Tuberculosis. William H. Porter.
149 The Telephone as an Aid to Hearing. D. B. St. John Roosa.
150 Notes from the Clinics. Bryan D. Sheedy.

Chicago Medical Recorder.

February 15.

151 Cutaneous Affections in Relation to Life Insurance Examinations. Joseph Zeisler.
152 The Treatment of Progressive Deafness Based on Differential Diagnosis. J. Hollinger.
153 A Case of Spina Bifida without a Sack. A. R. Small.
154 New X-Ray Tube. J. Rawson Pennington.

Bulletin of the American Academy of Medicine, Easton, Pa.

February.

155 Children in Cities. Rosa Engelmann.
156 Good Vision an Important Factor in the Educational Process. S. D. Risley.
157 *The Family Physician of the Past, Present and Future. S. A. Knopf.
158 The Physician as an Accountant. Charles M. Culver.
159 Pure vs. Applied Science in Medicine. Winfield S. Hall.
160 State Aid to Medical Colleges. Charles McIntire.

157.—This article has appeared elsewhere. See THE JOURNAL, xxxix, ¶6, p. 862.

Nashville Journal of Medicine and Surgery.

January.

161 Myomectomy. R. E. Fort.

Medical Times, New York.

February.

162 A Clinical Study of Insanity and Nervous Cases. Wm. Magaziner.
163 Points in Heart Disease. M. Shellenberg.
164 The Study of Certain Obstetric Conditions. A. C. Griggs.
165 The Treatment of Insomnia. G. R. Reynolds.
166 The Relation between Chorea and Rheumatism. H. M. Haywood.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

February 14.

1 *Unsuccessful Operations for Cancer of the Tongue and on the Early Diagnosis of the Disease. H. T. Butlin.
2 *Study of Cancer Mortality. Charles Templeman.
3 Two Cases of Carcinoma of the Liver Presenting Several Points of Clinical and Pathological Interest. Herbert R. Vachell and W. Mitchell Stevens.
4. Case of Primary Carcinoma of the Ovary. May Thorne.
5 A Case of Primary Sarcoma of the Lung, Simulating Empyema, with Remarks on the Nature of Primary Malignant Disease of the Lung. H. D. Rolleston and R. S. Trevor.
6 Scirrhous Carcinoma of the Male Breast. W. Blair Bell.
7 An Unusually Large Angioma of the Liver. Alfred Mantle.
8 A Case of Prolapse of the Bowel with Loss of Control. Stephen Paget.

1. **Cancer of the Tongue.**—In a former article Butlin has given his results, which show that success in the operative treatment of cancer of the tongue is much greater than had been supposed. He has in his present paper brought together all the results of his experience. Out of 129 cases, 32 may be regarded as absolute successes. If we take away all the cases that died of other diseases after the operation, the total is then 32 to 117 cases, or nearly 27 per cent. If he had exercised greater care in the selection of cases the percentage might have been still higher, but the rule has been to operate whenever there has been the smallest chance of relieving the patient; still he thinks he could reduce his mortality considerably in a future series of equal numbers. He reviews the predisposing causes of cancer, particularly the cracks, fissures, ulcers and other lesions of the tongue which form the basis for cancerous growths. Carcinoma may begin in almost any form, a little warty growth, patch of leukoplakia, etc. He says he has asked himself over and over again why physicians watch these dangerous conditions for weeks and months until cancer is fairly established without action. He accounts for it by the lack of knowledge of the actual pre-cancerous condition and the prejudice against operations on the tongue on the part of the patients—the fear that it will destroy the power of speech. The last is needless, as he has shown, for with any considerable portion of tongue being left, the ability to speak is retained. He says in the first place if we are consulted about warts or warty growths, particularly of the tongue, no time should be lost in removing them. In the case of indolent ulcers, caused by the decay of teeth or any such cause, the cause of irritation should be removed at once, and if the ulcer does not then heal, cut it out. He has often advised in cases of superficial glossitis where the tongue was constantly irritated, to have that part removed even when there is no sign of any pre-cancerous condition. He gives that advice, particularly when the under surface of the tongue is healthy, so that it can be used as a flap.

2. **Study of Cancer Mortality.**—Statistics of the town of Dundee are analyzed by Templeman and he finds as a summary the following:

1. That the death-rate from cancer as a whole during the twenty-five years under review has more than doubled, having increased from 7.27 to 16.92 per 10,000 of the population over the age of 20. 2. That this increase is greatest at ages over 45, is common to both sexes, but more marked in the male sex, though the actual mortality is higher among females. 3. That in females this is chiefly due to an increase in malignant affections of the abdominal viscera. 4. That uterine cancer and cancer of the breast in females have increased, though not in any marked degree. 5. That cancer of the rectum also shows a slight increase in both sexes. 6. That in males the highest mortality is from cancer of the abdominal viscera. 7. That in males cancer of the mouth and upper digestive tract has also greatly increased. 8. That, therefore, cancer of regions which may be described as "accessible" has increased, as well as that of parts which are not accessible, and where the diagnosis is more difficult, but the increase in the latter is out of all proportion to that in the former class. 9. That during the same period there has been a great improvement both in clinical and pathological diagnosis, as well as in death certification, and consequently a considerable diminution in returns from such indefinite conditions as "old age" and "disease" of the various organs (without any specification of its nature). 10. That this must to a considerable extent have helped to swell the returns of death from "cancer."

He does not think the facts here stated absolutely account for the great increase in cancer mortality, which is the fact, and a substantial one, though not so alarming as the general public believe or some recent statements have intimated. It is difficult to assign any special cause to the increase. Before we can solve the problem of increased cancer, we must have some more accurate knowledge of its etiology, and if parasitic in its nature, we must know something of the life history of the organism that caused it.

The Lancet, London.

February 14.

9 *Fibroids of the Uterus and Its Ligaments Considered from a Clinical and Surgical Standpoint. Alban H. G. Doran.
10 *Certain Principles and Methods in the Surgery of the Paralysis of Children. Robert Jones.
11 Lunacy and the Law: The Care and Treatment of Persons of Unsound Mind in Private Houses and Nursing Homes. Ernest W. White.
12 Notes upon a Case Where Symptoms of Early General Paralysis of the Insane Followed a Head Injury; Trephining; Removal of Depressed Bone; Disappearance of the Symptoms. A. M. Shield and T. Claye Shaw.
13 A Method of Examining the Pulmonary Apex. A. G. Auld.
14 A Rare Form of Purpura. H. Laing Gordon.
15 A Case of Appendicitis with General Peritonitis. W. Greenwood Sutcliffe.
16 Hemorrhage in Pregnancy: A Case of Central Placenta Previa. H. T. M. Whitling.
17 Note on "Relapses" in Scarlet Fever. A. Bankier Sloan.
18 A Case of an Unusual Number of Gallstones; Cholecystotomy; Recovery. C. A. S. Ridout.
19 A Case of Compound Comminuted Fracture of the Skull with Hernia Cerebri; Operation; Recovery. Llewelyn Lewis.

9. **Uterine Fibroids.**—The question as to the retention of certain parts of the ovary in case of hysterectomy is mentioned first in this lecture by Doran. While this conservative plan has its merits, he thinks they have been overestimated. He analyzes his own cases and finds that there are certain questions to be answered in regard to it: 1. Whether the period always ceases after hysterectomy with removal of both ovaries; 2, if their removal really involves bad menopause symptoms; 3, if when more or less is left of the ovaries, the period will continue regularly, and lastly, if this preservation of the ovaries be wholly beneficial. In his 25 cases where both ovaries were removed the period ceased, with only four exceptions; in one it appeared once in six months; in one it appeared irregularly thirteen months after operation; in one it was kept up for two years, and in the fourth for two years and seven months. The second question is closely associated with the first, does removal of the ovaries necessarily cause these bad symptoms? In 21 cases, those where the menopause was complete after removal of both ovaries, there were no symptoms whatever in seven, mild and infrequent flushing in seven, and severe symptoms in seven. In six of the last seven there were simply the usual subjective evidences of change of life, severe enough to give discomfort. The seventh developed symptoms of persecutory mania a few months after the operation, but this was merely a repetition of a former attack, and

he does not attribute too much value to it. We must not be too ready to put the blame on the operation. Marked corpulence developing rapidly was noted in two cases, one of 30 and one of 50 years. He thinks from the results that it is best to leave one or both ovaries if healthy, the more so since it involves a smaller wound, but he does not consider retention of the ovaries a matter of supreme importance and does not guarantee the patient against a severe menopause. The question whether the period remains regular after hysterectomy when more or less is left of the ovaries, was answered in his experience by the fact that in nearly 53 per cent. the period did not appear after operation and in 5 of the 9 the menopause was distinctly severe. The question as to the retention of a portion of the uterus above the cervix, which is insisted on by Abel and Zweifel, though rejected by Kelly, is mentioned and Doran's own experience to a certain extent supports the Abel-Zweifel theory. As to the question whether leaving the ovaries or sparing one ovary is harmful or not, he points out that inflammation may occur, but the most serious matter is their possibility of its becoming the seat of tumor. The question as to previous hemorrhage has to be taken into account also, but he can not draw any conclusion. According to Doran's experience the family history of fibroids is more interesting than important. It sometimes is detected, but is not a sound guide to the prognosis and treatment. The questions of the diagnostic importance of hemorrhage and the occurrence of ascites are also discussed and the author thinks that the latter subject at least deserves more attention than it has received. He is inclined to doubt the occurrence of absorption of fibroids, though there is no doubt that they sometimes vanish. The process which brings about this result, he holds, is probably necrosis or aseptic necrobiosis not rare in fibroid tumors; the source of nutrition fails and the fibroid softens and disintegrates. This necrosis of fibroids is a matter of great clinical interest, especially if septic. It usually produces a certain amount of disturbance of health and may lead to trouble. While the condition may justify hysterectomy it is not always advisable to urge the removal of a small fibroid on the plea that it may become necrotic. Impaction of fibroids in the pelvis, the "cup and ball" fibroid is also mentioned and the relation between fibroid uterus and disease of the appendages. It does not always follow that the imbedding of the ovaries in soft peritoneal adhesion with congested tube require their sacrifice. Necrotic fibroids do not necessarily affect the appendages, whether they are originally septic or not. The infection is more often derived, he thinks, from the contents of the uterine cavity.

10. **Paralyses of Children.**—Jones criticises the neglect of orthopedic surgery on the part of physicians; there is a tendency to turn their patients over to the instrument makers, and this has been too much the practice in England. He insists on the importance of working on the muscles, stretching and lengthening the flexors in acute infantile paralysis and putting the extensors in such a position that their structural shortening will ensue. We must not confuse muscles which for years have been useless with muscles that are positively paralyzed. The operations of tendon transplantation and arthrodesis are also noted in relation to spinal paralysis. The nearest efficient tendon should be employed if sufficiently strong rather than one from a distance and the selection should be made, if possible, of a re-enforcing muscle the mass of which is parallel to the re-enforced. If the tendon is to be spliced by tendon, it should be done as near its insertion as practicable, to avoid as much as possible a yielding of the paralyzed section, which is apt to occur. If possible to transplant into the periosteum he has found that the best way. The proximal part of the re-enforcing tendon should be fixed into the paralyzed tendon so that it can be maintained as tense as possible, if we are to have it do its work. He describes the operation of arthrodesis, and speaks of its advantages, in flail-like joints. Cerebral paralysis of the spastic type is also discussed at length by Jones, who puts the idiot, the microcephalic, and the violent irritable type of diplegic outside of the class which can be successfully treated. The treatment of any condition short of this may be undertaken with varying success, allowing that it may require a long period. The treatment of the hand and arm in infantile hemiplegia is less promising than the diplegic cases. If the spasm is never relaxed treatment is futile. He speaks particularly of the importance of flexing the elbow superficially, hyper-extending the wrist as the dominant deformities are pronation and carpal flexion. It may be taken as a rule that the fixation of the spastic muscles in a position opposed to their contraction lessens the severity of their spasm. This is perhaps the best explanation of how the good results occur. In the later period of treatment tenotomy or tendon transplantation may be required and no opportunity should be lost in proper cases of performing tenotomy. The treatment of spastic paralysis involves operative, mechanical and educational stages. If the surgeon is not satisfied after the case has been under his care for twelve months, he would do best to leave it alone.

The Practitioner, London.

February.

20 *Address on Tuberculosis in Glasgow. T. Clifford Allbutt.
21 *Notes on Urinary Chemistry. Walter G. Smith.
22 A Lecture on Melanoma. Frederic Eve.
23 *An Operation for Incontinence of Feces Due to Relaxed or Paralyzed Sphincter Ani. A. W. Mayo Robson.
24 *Four Cases of Snap- or Trigger-Finger. Harold L. Barnard.
25 *On the Micrococcus of Acute Rheumatism. E. W. Ainley Walker.
26 *Twenty-six Cases of Sunken Nose. Treated by the Subcutaneous Injection of Paraffin. Stephen Paget.
27 *Color-Blindness in the Mercantile Marine. T. H. Bickerton.
28 A Case with Comments (Adhesive Mediastino-Pericarditis). G. A. Gibson, H. H. Bullmore and A. F. R. Conder.
29 Some Recent Work on the Etiology and Treatment of Eclampsia. W. E. Fothergill.
30 A Review of Recent Work on Ophthalmology. E. Treacher Collins.
31 The Health Aspects of London Locomotion. Louis C. Parkes.

20. **Tuberculosis.**—Allbutt depreciates the panicky fears on the part of the public and anything encouraging them, and advocates sanatorium treatment, establishment of proper vital resistance, and the precautions against the dissemination of the microbe by care of the sputum, etc.

21. **Urinary Chemistry.**—Smith reports a case in which a bulky sediment of leucin was found in the urine. He remarks that he does not know of any previously-recorded cases in which it appeared in such quantities not associated with tyrosin. The patient had simply apparent digestive disorders and a frequent desire to urinate. The second part of his article is on the reaction between urea and formaldehyd and its clinical significance. The reaction consisted in a white deposit consisting of discoid, very small oblong and oval bodies, single, or arranged in pairs, somewhaat resembling large bacteria. The chemical study of the substances lead him to formulate the following three points of practical interest as regards relation of formalin to the urine:

1. It yields with urea a white precipitate (probably methyleneurea) which might easily be mistaken for leucin. 2. If present in urine formaldehyd will reduce the copper test, and so introduces a fallacy in testing for sugar. 3. Formaldehyd interferes with the detection of small amounts of albumin by means of heat and acetic acid.

23. **Relaxed Sphincter Ani.**—The following is a description of Robson's operation which was performed for incontinence and paralyzed sphincter ani following ablation of the pils-bearing area:

With the patient in the lithotomy position, a semilunar incision was made at the junction of skin and mucous membrane around the anterior half of the anus, and this was deepened about ¼ to ½ inch. The upper and lower margins were then separated by being drawn apart by means of forceps, so as to make the semilunar slit into a lozenge-shaped cavity, and this cavity was then closed by bringing together the sides by buried catgut sutures and the skin by silkworm-gut sutures. It will be seen that the wound is entirely external to the bowel and that it diminishes the size of the anus; but it does more than merely contract the orifice, for it restores the power of the sphincter muscles.

The description is more intelligible with the schematic illustrations which he gives. The operation probably acts in one or both of two ways: 1. By shortening of the sphincter muscle, enabling it to grip the anal orifice or by bringing together the torn ends of the muscle. Whatever may be the explanation, the operation answers the purpose for which it was designed, and the patient was completely relieved of the incontinence.

24. **Trigger-Finger.**—Four cases are described by Barnard, who discusses the condition and its probable cause. The thumb seems to be most commonly affected, next the ring, the middle, the little and the index finger. The most typical cases are undoubtedly due to changes in the tendon, producing a local enlargement which snaps below the osseofibrous arch opposite the metacarpo-phalangeal joint, or, in the case of the thumb, between the two sesamoid bones and beneath the ligament which unites them. The cause of the snap, however, may be in the joint and some irregularity of the anterior surface producing the trigger action. For the treatment of those due to sudden injuries, rest on a splint with pressure from a pad placed over the swelling and later massage, appears to be the suitable and successful treatment. Where a definite nodule has been formed and persists, it is correct to expose the tendon and dilate according to what is found, either removing the mechanical obstacle or overcoming the disproportion between the tendon and its sheath. The most scrupulous asepsis must be followed.

25. **Acute Rheumatism.**—The substance of this article is largely included in that already abstracted in THE JOURNAL of February 28, ¶1, p. 609, by R. M. Beatson and E. W. Ainley Walker.

26. **Paraffin Prothesis.**—This gives in substance Paget's experience, which has been already analyzed in a former article, abstracted in THE JOURNAL of January 31, ¶4, p. 338.

27. **Color Blindness.**—Bickerton takes up this question, showing the deficiencies of present practice, the imperfections of the Holmgren test, the frequent successful appeals, which destroy confidence in the test and the necessity of examining for color sense not only the officers, but the sailors who may be put in positions of trust as lookouts, etc., where the perfection of the color perception is essential.

Journal of Tropical Medicine, London.

February 2.

32 Photographs Illustrating the Parasites of Malaria in a Stained Dehemoglobinised Thick-film Preparation. Ronald Ross.
33 *The Relationship of Kala-azar with Mediterranean Fever and Some Details of the Hematology of the Latter. P. W. Bassett-Smith.
34 Ethyl Chlorid as a Substitute for "Gas" in the Tropics. J. Preston Maxwell.
35 Malarial Fever in the Isthmus of Suez. J. E. Cresswell.
36 On Nagana and Other Trypanosomes. Dr. Schilling.

33. **Kala-Azar.**—Bassett-Smith points out the differences which exist between kala-azar and Malta fever, which have been considered by Bentley to be identical. He thinks the principal differences of kala-azar from Malta fever are in the greater degree of infectivity and more rapid diffusion, the high mortality, more constant hypertrophy of the liver and spleen and the greater degree of emaciation and pigmentation produced on the one hand and the absence of those neuralgias and peripheral neuritic symptoms of Malta fever on the other. The identity of the two diseases is not proven.

Bulletin de l'Academie de Medecine, Paris.

37 *Report of Committee on Liqueurs and Essences Used in Their Manufacture.
38 Note sur l'urgente nécessité d'appliquer la vaccine obligatoire à l' Indo-Chine française. Hervieux.

37. **Liqueurs and Essences.**—Laborde is chairman of a committee which comprises Brouardel, Lancereaux, Cornil, Magnan, Pouchet, Motet and Joffroy. Their report gives a list of the most dangerous essences used in the production of liqueurs, and urges their absolute prohibition or stringent measures for their control. The essence or volatile oil of absinthe is so dangerous that its sale should be absolutely prohibited, as also the oil of rue, of gaultheria, of hyssop, of illicium, of angustura, salicylic aldehyd and benzoic aldehyd or prussic acid. All these essences—the French use the term essence to express a volatile oil—are used in the manufacture of various liqueurs, and they should be unconditionally prohibited, on account of their peculiarly toxic character, or at least a prohibitory tax imposed. In a second list they include the essences, whose sale should be regulated, but need not be suppressed entirely. This includes the oil of peppermint, spirit of anise, oil of nutmeg, oil of cloves, oil of mace and sixteen others. The report concludes with a clinical portrayal of some of the effects of the habitual use of beverages concocted with these volatile oils, followed into succeeding generations, referring to Féré's research on the influence of alcohol and essences on the incubation of hen's eggs. The secret recipes for several liqueurs are given, showing the large proportion and the number of dangerous essences that enter into their composition.

Bulletins de la Societe Med. des Hop. de Paris.

39 (No. 27.) Les flux biliеux dans la cholémie familiale. A. Gilbert and P. Lereboullet.
40 Le pseudo-ulcère stomacal d'origine biliare. Ibid.
41 Le signe d' Argyll-Robertson et la lymphocytose du liquide céphalo-rachidien. Widal and Lemierre.
42 (No. 28.) Cas d'appendicite pneumococcique. Ferrier.
43 De la lymphadénie lymphatique aleucémique. E. Weil and A. Clerc.
44 (No. 30.) Tabes hérédo-syphilitique. (Tabes héréditaire). J. Babinski. Two cases.
45 (No. 32.) Lymphocythémies aleucémiques. Vaquez and Ribierre.
46 De l'influence favorable de la ponction lombaire sur le vertige Voltaique et sur certains troubles auriculaires. J. Babinski.
47 *Clinical Relations between the Mumps and Pneumococcus Infection. Simonin.—Pneumococcie et infection ourlienne.
48 (No. 33.) Vomissements (vomiting) acétoniques. L. Guinon.
49 Résultats négatifs du sérum proposé par le Dr. Leurlaux pour traiter la coqueluche (anti-whooping cough serum). G. Variot. Three cases.
50 Du traitement de l'hémoptysie par l'adrénaline. Souques and Morel.
51 (No. 34.) Ibid. L. Renon and Louste.
52 Nature, évolution et durée de la réaction méningée dans le zona. A. Chauffard and G. Froin.
53 Arthrites blenorrhagiques. H. Vaquez and C. Laubry. Two cases.
54 (No. 35.) *Recherches sur les éliminations urinaires et la physiologie pathologique des néphrites scléreuses chroniques. H. Claude and F. Burthe.
55 Rhino-pharyngite typhoidique à bacilles d'Eberth. P. Gallois and others.
56 (No. 36.) Cas de paralysie ascendante aigue; névrite radiculaire sans altération méningée; absence de lymphocytose dans le liquide céphalo-rachidien. F. Widal and L. Le Sourd.
57 La radiographie du crane (of skull) et le diagnostic de l'acromégalie. A. Béclère.
58 *The Typhoid Bacillus in the Blood. J. Courmont and C. Lesieur. Le bacille d'Eberth dans le sang des typhiques.
59 *Ibid. F. Widal.
60 (No. 37.) Le diagnostic radioscopique du diverticule de l'esophage. A. Béclère.
61 *Quelques résultats du traitement des névralgies par les injections sous-cutanées d'air atmosphérique. P. Marie and O. Crouzon.
62 *Efficacité de l'argent colloidal (collargol) dans le traitement des maladies infectieuses; multiplicité de ses indications. Netter.
63 (No. 38.) *Ibid. L. Renon.
64 *Fièvre typhoide traitée par le collargol. L. Renon and Louste.
65 A propos du collargol. Moutard-Martin.
66 Ulcères multiples du pylore et gastrosuccorrhée sans stase. M. Soupault. Two cases.
67 (No. 39.) *2 cas de pneumonie traités par le collargol. Moutard-Martin.
68 Les suites éloignés (remote consequences) de la méningite cérébro-spinale. Widal and Lemierre.
69 Néphrites chroniques bilaterales consecutives à des lésiones traumatiques d'un seul rein (of a single kidney). J. Castaigne and F. Rathery.
70 (XX, 1.) Note sur quelques particularités cliniques des paralysies diphthériques. C. Aubertin.
71 Nouvelle methode de recherche du bacille tuberculeux. A. Jousset.
72 (No. 2.) L'inoscopie appliquée au diagnostic des ascites tuberculeux. Béclère. See THE JOURNAL of Feb. 21, p. 547.
73 *Argent colloidal. Indications diverses. Mode d'emploi. Doses. Effets. Mécanisme de son action. Netter.
74 La duodénite ulcéreuse urémique. E. Barie and P. Delaunay.
75 Les lesions du système lymphatique postérieur de la moelle sont l'origine du processus anatomo-pathologique du tabes. P. Marie and G. Guillain.
76 (No. 3.) Ulcérations hémorrhagiques de la peau (skin) et des muqueuses (mucous membranes) dans l'urémie. P. Dalché and H. Claude.
77 L'adrénaline dans un cas d'hemorroides irréductibles avec menace d'étranglement. A. Mossé.
78 *Recovery in Case of Atrophic Cirrhosis of the Liver Treated "in extremis" with Liver. Galliard.—Guérison d'une cirrhose atrophique du foie soumise "in extremis" à l'opothérapie hépatique.
79 *Gumma hérédo-syphilitique guérie par les injections locales d'iodure de potassium. Labadie-Lagrave and M. Rollin.
80 Les angines banales chez les rougeoleux adultes (angina in measles in adults). Etude clinique et bactériologique. Simonin.
81 Une nouvelle observation de phlébite syphilitique secondaire. A. Renault and G. Roussy.

47. **Mumps and the Pneumococcus.**—Simonin describes 8 cases in which a pneumococcus infection coincided with or preceded the mumps. Laryngo-bronchitis has been frequently observed in the course of or consecutive to mumps, and his experience indicates that this disease induces a peculiar predisposition to pneumococcus infection, and also that the latter

germ acquires greater virulence in its symbiosis with the mumps germ. He therefore urges prophylactic measures to avoid the double infection.

54. **Elimination in Chronic Sclerous Nephritis.**—Claude and Burth made a most careful study of seven cases of this affection and tabulate the findings. They show that the elimination in the urine is profuse for a long time, thanks to a peculiar adaptation of the cardio-vascular system to the condition of the kidney. The glomerulo-tubular systems become hypertrophied and compensate the lesions of sclerosis until the heart becomes affected or some infection or intoxication causes inflammation in the globerulo-tubular systems, after which insufficiency of the kidney becomes manifest and more or less permanent.

58-59. **Typhoid Bacillus in the Blood.**—Courmont found the typhoid bacillus constantly in the blood in 37 typhoid patients, all adults, from the first days of the disease to the end of the third week. They inoculated 300 to 500 c.c. of bouillon with 2 to 4 c.c. of blood. In 6 cases the bacilli were found long before the agglutinating test was positive. Widal's experience has been that he could not cultivate the bacillus from the blood in 5 very mild cases of typhoid fever. It was found in 17 out of 20 moderate or severe cases, examined from the fifth to the fifteenth day. In 5 cases the staphylococcus was found with the typhoid bacillus, and in 2 of the negative cases it was found alone. In another negative case a streptococcus and a colon bacillus were found in the blood. He inoculates 400 c.c. of bouillon with 4 c.c. of blood. Agglutination was positive in all the cases.

61. **Injections of Air in Treatment of Neuralgias.**—Marie has been giving Cordier's method of treating neuralgia by injections of air a trial in his service. He reports that 2 out of 3 patients with sciatica were benefited after several repetitions of the injection. One of the patients was relieved at once and permanently. A third of a liter of air was injected at three different points. A patient with neuralgic zona was also relieved at once and likewise a tabetic. In lumbago the relief was merely transient.

62 *et seq.* **Colloid Silver in Infectious Diseases.**—Netter is professor agrégé and physician to the Trousseau Hospital, where he has been testing since November 15, Credé's colloid silver, better known as collargol. A child of 7 with acute pericarditis received an intravenous injection of 2 c.c. of a 1 per cent. solution, with three frictions of 2 gm. each of the collargol salve. The child's recovery was rapid, resembling in every respect the curves of pericarditis published by Wenckebach, showing the great benefits of collargol treatment. Other cases were pneumonia, meningitis and typhoid fever and the results were apparently good. Netter remarks that the favorable action of the collargol is first marked by the subsidence of the temperature, then by the general well-being, similar to the relief afforded by antidiphtheria serum. Renon states that Follet of Paris has been treating patients with various affections since 1898, with silver powder in suspension. He reports that a large number with acute or chronic tuberculosis have been treated with silver powder injected once or twice a week. He mixes about 1 gm. of the powder with 60 gm. of artificial serum and 10 gm. of oil of guaiacol and eucalyptol. The cough and expectoration have gradually disappeared and the majority now consider themselves cured. The injections are made in the buttocks and are not painful. Renon also calls attention to a patient with typhoid fever treated after the tenth day with collargol frictions, using 3 gm. at a time of the 15 per cent. salve. The temperature fell after the second rub and the disease was evidently aborted after the fourth. No other treatment was used and the depression and delirium of the onset indicated that the case promised to be severe. Martin found rapid improvement in 2 cases of pneumonia. Netter's experience now includes 9 cases of pneumonia, and the same of typhoid fever, 14 of bronchopneumonia, 4 of severe scarlet fever and 37 of diphtheria. He emphasizes especially the remarkable results attained with it in several cases of malignant diphtheria. The results have also been fine in a case of puerperal infection and in one of infectious endocarditis and of endocarditis in articular rheumatism. No benefit has been apparent to date in tubercular affections in his experience, nor in any cases of cerebrospinal meningitis, erysipelas, phlegmon of the breast or adenitis. He ascribes the efficacy of the colloid silver to its catalytic action rather than to its bactericidal power. Bredig has established that platinum, gold and silver in the colloid state behave like a true ferment, an inorganic ferment accelerating the chemical transformations by their presence in infinitesimal quantities the same as the figured and the organic ferments.

78. **Organ Treatment of Cirrhosis of Liver.**—A woman had been treated at intervals for nearly a year on account of advanced cirrhosis of the liver. She was much emaciated and scarcely urinated at all, while the ascites and edema were excessive and recurred after every puncture, notwithstanding a strict milk diet and diuretics. Pig's liver was then ordered for her and she took 150 gm. a day. In a few days the urine became clear and abundant. The edema and ascites subsided and the patient was able to get up in ten days. The improvement continued and in five months she was able to abandon the liver without recurrence of symptoms. About a year after the last symptoms had disappeared she returned to the hospital complaining of scanty urine (800 gm. a day). It contained urobilin. After resumption of the liver for a few days, the urine returned to normal and the patient's recovery has been undisturbed since, more than two years and a half since the liver treatment was first commenced. Galliard has treated a number of cases of cirrhosis in this way during the past few years, but none showed such surprising benefit as this one.

79. **Local Treatment of Gumma.**—The gumma developed on the leg at the same time as a keratitis was observed, both indications of hereditary syphilis, presenting no manifestations until the subject was 25. The gumma was as large as a hen's egg, and was treated with daily local injections of 2 c.c. of a 3 per cent. solution of potassium iodid at a little distance from the lesion. By the seventh day it had entirely disappeared.

Dermatologisches Centralblatt, Berlin.

82 (No. 11.) Ein statistischer Beitrag zur Prophylaxe der geschlechtlichen Krankheiten (venereal diseases). R. Loeb.
83 (No. 12.) Noch ein Fall von extragenitaler Syphilis. J. S. Gouladze.
84 (VI, No. 1.) Ueber Urethritis petrificans und Steine der Harnröhre (stones in urethra). J. J. Karvonen. One case of each.
85 *Zu einer Prophylaxe der Tabes und Paralyse und vielleicht syphilitischer Nachkrankheiten überhaupt (and possibly of all syphilitic after-affections). P. Cohn.
86 (No. 2.) Die Circumcision in der Prophylaxe der Syphilis. H. Breitenstein.
87 Beitrag zur Frage der individuellen Prophylaxe der venerischen Krankenheiten. Neuberger.

85. **Venesection Prophylaxis of Syphilitic After-Affections.**—Cohn recommends venesection periodically to remove toxins in the blood. He says the new formed blood to replace that lost will bring renewed energy to the combat with the disease.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

88 (No. 4.) Ueber freie Receptoren von Typhus- und Dysenterie-Bazillen und über das Dysenterie-Toxin. M. Neisser and K. Shiga.
89 *Ueber die Untersuchung von Menschen- und Thierknochen (differentiation of bones) mittels der Wassermann'schen Differenzirungs-Methode. A. Schütze.
90 *The So-called Physiologic Salt Solution. F. Engelmann.—Einiges über die so-gen. physiol. Kochsalzlösung.
91 *Cancer Tissue and Etiology. L. Feinberg.—Ueber das Gewebe und die Ursache der Krebsgeschwülste.
92 *Verband (bandage) der dislozirten Phalangeal-Fractur. Clamann.
93 Malaria-Immunität und Kindersterblichkeit (child mortality) bei den Eingeborenen (natives) in Deutsch-Ost-Afrika.
94 Eeine neue wirksame (effective) Lampe für licht-therapeutische Zwecke (for phototherapy). H. Strebel (Munich).

89. **Differentiation of Human and Animal Bones by the Biologic Test.**—Schütze has found it possible to differentiate scraps of bone in forensic cases by the biologic test when all other measures had failed. It is indispensable, however, that enough albuminoid substance should still cling to the bone to induce the specific cloudiness. It is very seldom that a scrap of bone sent for examination is entirely free from some albuminoid matter.

90. **The Physiologic Salt Solution.**—Engelmann insists that the term physiologic salt solution should be exclusively reserved for the true isotonic solution, which is 9 per cent. Otherwise the term should be dropped, or used merely in a relative sense, always adding the percentage of concentration.

91. **Structure and Etiology of Cancer.**—Feinberg has been applying the methylene-blue-eosin stain to the study of the cells found in cancer, and states that it reveals a number of cells in which the nucleus is of the peculiar and exclusive type of independent unicellular living beings. It differs from the nucleus of all other cells in that it never contains nucleoles or anything suggesting a framework for the nucleus. The chromatin substance, which in other cells forms the framework, in these cells is collected in a single compact body, which he calls the "nucleus point" (Kernpunkt). This "nucleus point" is always to be found when the cell is at rest. The constant discovery in cancer tissue of numbers of these cells with the structure of independent unicellular organisms is, he thinks, an important factor in the etiology of malignant neoplasms. Of all the writers who have published communications in regard to the discovery of assumed parasites, he remarks that those of Soudakewicz, Foa, Plimmer and Sawtschenko are the only ones based on the technic of an expert. Closer study will probably show that the same object was seen by each of these observers, and that it is identical with the unicellular living animal or vegetable organism he describes.

92. **Bandage for Fractured Phalanx.**—Clamann bends the finger over a covered spool or roll of linen, and fastens it firmly in this position by a long strip of adhesive plaster passing from the back of the hand the whole length of the finger and then brought up on the back of the hand again. In order to make the plaster fit better, the ends are slit at the nail and also on the back of the hand, and slits are cut at the points of the knuckles.

Muenchener Med. Wochenschrift, Munich.

95 (No. 4.) *The Kidney in Scarlet Fever and Diphtheria. O. Heubner.—Bemerkungen zur Scharlach- und Diphtheriemiere.
96 *Serum Treatment of Exophthalmic Goiter. O. Lanz.—Weitere Mitteilung über serotherapeutische Behandlung des Morbus Basedowii.
97 *Ueber das Antithyreoidin. P. J. Möbius.
98 Atypische Myom-Operationen. H. W. Freund.
99 *Ueber Ionen-Wirkungen (action of ions) und ihre therapeutische Verwendung. W. Pauli.
100 Die Syphilitische fibröse Darm- und Magen- (intestine and stomach) Striktur. H. Gross.
101 Beiträge zur Sondierung der Speiserörhe (sound for esophagus). H. Starck.
102 Fall von urämischer Amaurose. W. Hauenschild.
103 Kasuistische Beiträge zur Lehre von den Missbildungen (deformities). R. Kompe.
104 Fall von Gravidität-Hemoglobinurie. Meinhold.
105 (No. 5.) Ueber die Begutachtung der Unterleibsbrüche (medical testimony in regard to abdominal hernias). G. Sultan.
106 *Operative Behandlung gewisser Lungenerkrankungen (of certain lung affections). G. Treupel.
107 Ueber akute cerebrale Ataxie. A. Bickel. One case.
108 *New Facts and New Prospects in the Domain of Nutrition. M. Ascoli.—Neue Tatsachen und neue Ausblicke in der Lehre der Ernährung.
109 2 seltene Masernfälle (unusual cases of measles). J. A. Grober.
110 *Fall von Thrombophlebitis. J. Cnopf.
111 Fall von Pharyngitis gangränosa, kombiniert mit Appendicitis gangränosa. W. Mayer.
112 Ueber die Auscultation der Mundhöhle (of the mouth). U. Baccarani.
113 Ueber plastische Hilfsmittel (aids) für den geburtshilf-gynakologische (obstetric-gyn.) Unterricht (instruction). E. Winternitz.
114 *Screw Gag. E. Braatz.—Schrauben-Mundsperrer.
115 Ueber die Immunisierung des Typhus-Bacillus gegen spezifische Agglutinine. P. T. Müller.

95. **The Kidney in Scarlet Fever and Diphtheria.**—Huebner describes his examination of the kidney in two pure cases of each disease. He found that the organ was the seat of a pronounced hemorrhagic affection in scarlet fever. The glomeruli were principally involved and the epithelium secondarily. The vascular portion of the kidney was thus predominantly and primarily affected. The aspect was different in diphtheria; here there was little if any hemorrhagic tendency. The degeneration of the epithelium was primary. It occurred only in parts.

96. **Serum Treatment of Exophthalmic Goiter.**—Lanz commenced in 1894 to apply the milk of goats, after ablation of the thyroid gland, to the treatment of Basedow's disease. He has now an experience of 6 cases, in which the patients were supplied with a thyroidectomized goat, and of 3 other cases in which the symptoms were less pronounced or other remedies were used as adjuvants. He describes the particulars of the series of 6 cases and the results attained will evidently attract attention. His Case 3 was a woman of 38, apparently in the last stage of Basedow's disease. She had to be carried into the train, was confused, stuttered, wept and sobbed instead of replying to questions, with extreme tremor of the four extremities, emaciated, skin moist over entire body, tachycardia of 140 to 160, edema of legs, extreme exophthalmus, struma very large, neck 39 cm. in circumference, apex beat abnormally strong, long suppression of menses and the typical heart symptoms of the disease. She was put on the milk of a goat thyroidectomized for the purpose and improved rapidly. In five or six weeks the heart symptoms began to subside; the menses returned later, and by the end of the year she announced herself as completely restored. A letter from her attending physician is quoted at length. He states that the tremor, excitability and other nervous symptoms have entirely subsided. The pulse has fallen from 120 or 140 to 80. The excessive thirst has disappeared and the weight has increased from 98 to 126 pounds. There is no longer any insomnia; the eyeballs have retrogressed, and the patient feels perfectly well. The struma has not diminished in size and the circumference of the neck is about the same as before. The symptoms did not recur after suspension of the milk at the end of the year. The goat which supplied the patient in Case 4 gave about one liter of milk. After five months the supply of milk failed, but the improvement obtained during the milk treatment did not subside on suspension. Her attending physician writes that the patient's weight has increased from 78 to 110 pounds, with pulse 80 when quiet. The prominence of the eyeballs is no longer noticeable. All previous treatment had been ineffectual. Case 7 was a man of 25, with a negative family history. Six weeks after he had been supplied with a thyroidectomized goat his physician writes that the improvement gained has been permanent. Lanz calls attention to the fact that it is easy to mistake the salivary glands for the thyroid in the goat, and also to overlook the isthmus glandulæ thyreoidæ. Other attempts at serum treatment of Basedow's disease have been made with thyroidectomized dogs. Schultes has recently reported great benefit derived from the serum of thyroidectomized sheep, Möbius' "Antithyreoidin." The patient's mind was affected and, consequently, the benefits derived could not be attributed to suggestion. His case is also interesting from the fact that the symptoms recurred on suspension of the treatment and promptly subsided again on its resumption.

97. **Antithyreoidin.**—This is the name applied to the serum of thyroidectomized sheep. Möbius has been using it in doses of 5 gm. every second day and the results have established its harmlessness and the unmistakable benefit derived. His patients had all suffered for years from benign Basedow's disease, and all were unmistakably improved. The only objection to the remedy is the high price. He longs for some millionaire patients who could afford to try a course of the serum in much larger doses, as he anticipates better results from more vigorous treatment.

99. **Therapeutic Application of the Action of Ions.**—Pauli believes that he has succeeded in establishing several laws in regard to the manifold analogies between the alterations in the condition of colloid substances with the processes that occur in living matter. He gives his reasons for assuming that the precipitating action of a salt on the albuminoid bodies is principally the result of the algebraic sum of the actions of the single ions. Also that the anions and the cations have an antagonistic action, the latter causing precipitation and the former inhibiting it. The salts can thus be grouped by their precipitating power, as he shows in a table, the fluorids of magnesium, potassium, sodium and lithium being the strongest precipitators and the bromids, iodids and rhodanids the weakest. The precipitating power increases with the

cations from magnesium to lithium, and decreases with the anions from the fluorids to the rhodanids. The fact that the rhodanids are the last link in this regular chain suggests that they may likewise possess therapeutic value like the iodids just above them. Pauli has been testing them in this respect on 35 patients with various affections, administering 1 gm. of sodium rhodanid as the maximum dose. In 10 cases of neuroses or organic nervous affections the symptoms rapidly subsided, and recurred on suspension of the drug, while they disappeared again on its resumption. The only exception was a case with pains in the epigastrium, the pathogeny of which is still obscure. In 11 cases of arteriosclerosis, the pains and oppression subsided, the exacerbations became less and less intense and the vertigo and sounds in the head completely vanished. In every case the blood pressure sank from 10 to 25 per cent. On suspension of the drug, the blood pressure rose again in three or four days to its original figure, and some of the symptoms recurred, but subsided again on its resumption. The efficacy of the rhodan compounds in such small doses is explained by their low molecular value; 1 gm. of sodium rhodanid is equivalent to 2.15 gm. of the bromid and 2.82 of the iodid. Besides the sedative and blood pressure reducing action of the rhodanid there is probably another factor in its therapeutic effect, its power to induce the formation of easily soluble combinations of protein which favor the elimination of the heavy metals to an extreme degree and is particularly useful in case of chronic lead or other poisoning. It also has a marked effect in favoring the elimination of calcium, as he shows by research on the calcium ions. In 4 cases of kidney disease the sacral pains, neuralgias and insomnia vanished as the patients took the sulfocyanid in connection with a strict milk diet, showing that, to say the least, chronic albuminuria is no contraindication to it. The effect was strikingly beneficial also in 4 cases of syphilitic headache. As a further evidence of the close analogy between the rhodanids and the iodids is the fact that the former are liable also to induce acne and coryza, as occurred, to a slight extent, in a very few instances, but subsided on suspension of the drug. The rhodanid (sulfocyanid) has no apparent influence on the thyroid gland, even after months of use. It did not cause the slightest gastric disturbances in any case. The researches of Meyers and Overtons have established the relations between the "lipoid" elements of the cell and the non-ionized narcotics, and it is probable that the ionized combinations assail the albuminoid complexes of the protoplasm. As the normal cell ions are affected or displaced, the colloid conditions become altered and with them the functional activity.

106. **Operative Treatment of Lung.**—Treupel describes another case in which notable benefit was derived from an operation in a case of gangrenous abscess of the lung in a boy of 4. An exploratory puncture revealed only a serous, sterile fluid at first, although all signs pointed to an abscess, but ten days later the symptoms indicated a pyopneumothorax and puncture this time disclosed a fetid, gaseous, purulent exudate. The abscess had evidently perforated into the pleura, and he regrets that he had not operated earlier, before this perforation occurred. The serous effusion first found was undoubtedly the reaction of the pleura to the abscess in the vicinity, and should have been the signal for intervention, even if the lesion were known to be of tubercular origin, which was not established in this case.

108. **New Outlook in the Domain of Nutrition.**—Ascoli states that it is possible to detect particles of the food in the lymph by the biologic test after feeding dogs with raw eggs or roast fowl. The entrance of these precipitable particles into the circulation induces variations in the precipitins contained in the blood, and alters the balance of the pre-existing side-chain complexes. He found the same phenomenon in man after ingestion of roast beef, and thinks that it is the key to the pathogenesis of the so-called nutritional diatheses or affections.

110. **Thrombophlebitis in Measles.**—A healthy child, about the seventh day of the exanthem of measles, developed cerebral symptoms, with death four days later. The sinus longitudinalis was the seat of a necrotic thrombophlebitis, with extensive destruction of the surrounding parts. The kidney was also disseminated with infarcts. The case suggests that the measles process alone, without outside aid, affords a favorable soil for necrobiosis. Cnopf reviews a number of cases in the literature, in which a septic process coincided with measles, to sustain this view.

114. **Screw Gag.**—The two flat plates that form the gag are parallel and are introduced between the teeth close together. They are then separated by a screw in the handle, on the principle of a monkey wrench.

Therapie der Gegenwart, Berlin.

116 (January.) *Oxygen in Therapeutics. F. Kraus.—Zur Sauerstofftherapie.
117 *Ueber Infusions-Behandlung. W. Ercklentz.
118 *Ueber Chinaphenin. C. v. Noorden.
119 *Local Treatment of Surgically Important Infections. E. Lexer.—Ueber die örtliche Behandlung der chirurgisch wichtigen Inf.
120 Zur Pathologie und Therapie einiger Kniegelenkskrankheiten (knee affections). A. Hoffa.
121 Die Complication von Schwangerschaft (pregnancy) mit Herzfehler (cardiac defect). J. Veit.
122 *Die Behandlung der Syphilis mit Calomel-Injectionen. E. Lesser.
123 Zur Tuberkulose-Frage (question). F. Klemperer. Collective Review.
124 Fieber und Schüttelfröste (chills and fever) mit Leberschwellung (with enlargement of liver) geheilt durch Quecksilber (cured with mercury). G. Klemperer.
125 *Die Anesthesin-Behandlung des Erysipels. Henius.
126 Ueber Bromipin-Klystiere (enemata) besonders in der Kinderpraxis (in pediatrics). A. Rahn.
127 *Radiography without Plates. F. Kronecker.—Eine Methode zur wesentlichen Vereinfachung und Verbilligung des Roentgen-Verfahrens.
128 Treatment of Consumption 133 Years Ago. S. Kaminer.—Schwindsuchts-tnerapie vor 133 Jahren.
129 (February.) Reduction of Obesity. E. H. Kisch.—Ueber den Gang der Fettabnahme bei Entfettungskuren.
130 Ueber die Wirkungen zweier neuen Verbindungen des Arsens und Phosphors (action of two new combinations of arsenic and phosphorus). R. Kobert.
131 Klinische Beobachtungen über Agurin. F. Montag.
132 Die Rahmgemenge und ihre neuere Ergänzung (mixtures of cream and their latest completion). Biedert and Gernsheim.
133 Ueber die obere Altersgrenze (highest age limit) für die Behandlung der congenitalen Hüftverrenkung (hip dislocation). G. Müller.
134 Zur Therapie der Gonorrhoe. W. Pick.—Die combinirte Chrom-Säure-Argentum-Therapie.
135 Ueber die Bekämpfung des Typhus nach R. Koch. F. Klemperer. Review.
136 Ueber die Schädlichkeit (injuriousness) der Bor-Säure (boric acid). C. v. Noorden.
137 Zur Verwendung des Wasserstoffsuperoxides (hydrogen dioxid) als Verbandmittel (for dressings). E. Unger.
138 Kreosotal gegen Pneumonie. B. Friedemann.

116. **Oxygen in Therapeutics.**—Kraus remarks that he has experimented on himself with inhalation of oxygen, and never noticed any special subjective or objective phenomena after inhaling it for more than an hour at a time. The pulse was unaffected, but the respiration was a little deeper. He experimented with it both at rest and during physical exercise, but could not detect any variance from ordinary conditions either in himself or in a number of anemic and diabetic subjects. On account of the negative results, he has never published an account of these quite extensive researches. The freezing-point of the blood was not altered in healthy persons, even after prolonged inhalation of oxygen. The proportion of chlorin remained approximately the same. In one patient with croupous pneumonia and extreme cyanosis, the chlorin was in the proportion of .635 per cent. before and .63 per cent. after prolonged inhalation of oxygen. The pulse and diuresis were not affected, but the patient stated that she felt "relieved." The process of oxidation in the organism is probably complex and requires oxidases as well as the oxygen itself. Inhalation of it does not relieve the death agony. Kraus has seen scarcely any but bad results follow its use in pneumonia, and it is generally useless in tuberculosis. In cardiac insufficiency and dilatation, it usually affords subjective relief, but the cyanosis never actually vanished in his experience. In the coma of morphin intoxication much better results were obtained from tracheotomy and artificial respiration for twenty to thirty-six hours. Oxygen never induced the slightest appreciable benefit in anemia nor in leukemia, diabetes and other constitutional diseases. The principal indication for its use is stenosis of the air passages. When only

a small quantity of air can reach the alveoles, it is rational to supply the air in as concentrated a form as possible. Oxygen is also useful in carbon oxid intoxication. In urgent cases intravenous injection may be preferable to inhalation.

117. **Infusion in Therapeutics.**—Ercklentz found that animals treated by infusion after otherwise fatal intoxication survived, and their organs showed little trace of the intoxication to which the control animals all succumbed with severe alterations in their organs. The best results, strange to say, were obtained, not from the true isotonic 9 per cent. salt solution, but with the 6 per cent. The benefit was most apparent the nearer the infusion approached to being continuous. In some of the tests the poison used entered so rapidly and firmly into combination with the nerve cells that the infusion was too late to affect it. The diuresis invariably induced did not eliminate any of the poison in these cases. The results of infusion after experimental injections of anilines and potassium chlorate harmonize with what is observed in the clinic, especially in respect to severe anemia, which is now regarded as a toxic affection, in septic affections and in uremia. Septic conditions are benefited to a remarkable extent by infusion. In a case of malignant endocarditis, for example, with extremely painful joint metastases, the swelling and pains in the joints vanished as if by magic after the infusion. A patient with puerperal sepsis was roused from her stupor, and another was undoubtedly saved by the systematic continuous use of infusion. Its efficacy in uremia is well known. Improvement and sometimes recovery followed the copious diuresis induced, but the specific gravity of the urine frequently remained high, and even rose higher with the increasing amount of urine. The results were always highly satisfactory in severe anemia. In one case the hemoglobin rose from 20 to 85 per cent. and the reds from 368,000 to 4,800,000. The morphologic alterations in the blood retrogressed, and the slight temperature subsided. So long as severe symptoms persist, one or two liters should be injected subcutaneously once to several times a day. When exceptionally prompt action is desired the intravenous route may be preferable, preceded, perhaps, by venesection. He concludes by advising the use exclusively of the .9 or .92 per cent. solution as the only isotonic one.

118. **Chinaphenin.**—This combination of quinin and phenacetin has been tried by Von Noorden during the last two years in a number of affections, including whooping cough, typhoid fever, pneumonia, neuralgias, etc. It apparently possesses the virtues of each of its ingredients, while their drawbacks are neutralized. It was always well tolerated.

119. **Surgical Infections.**—Lexer reviews his experience at Von Bergmann's clinic, and separates the lesions in question into three groups. The first includes snake bites, etc. Absorption of the poison is best averted by constriction above on the limb and excising the wounded part, always using the knife, never the thermocautery. The second group includes anthrax and similar septic processes. Incisions, application of disinfectants and even movements of the muscles of the part may irritate the inflamed tissues and lead to absorption of the germs which otherwise may remain localized. It is sufficient to cover the lesion with a thick layer of salve on a rag and immobilize the part, in a sling, for instance, if the arm be involved. Any one who has seen a facial thrombophlebitis and fatal meningitis develop from a furuncle on the lip which had been pricked and squeezed and otherwise maltreated, will appreciate the benefits of cautious, conservative treatment. The smallest boil may be the source of the severest suppurative osteomyelitis. After opening such a lesion the cavity should be drained and a dry tampon loosely applied. The dry tampon sucks up the secretions and prevents their reabsorption from the wound. The cautery scab has the opposite effect and should be strictly avoided. In incising a large plegmon narcosis is necessary and a constricting bandage around the part. In case of inflammation of a finger, the constriction should be applied at the root and cocain injected into sound tissue, which should always be the rule, never into already inflamed tissue. Small abscesses, etc., are best incised under ethyl chlorid anesthesia. Moist dressings should be rejected except, possibly, for the very mildest affections. Suppuration is more liable and more rapid with than without them, and once established they promote its continuance. Panaritium in the bone is frequently induced by them and poultices are liable to entail extensive necrosis. Suppuration is injurious, as it destroys the tissues. In his third group, the surgeon has long abandoned the hope of destroying the germs in a tetanus wound, bite of a mad dog, or in glanders, by disinfectants: Foreign bodies should be removed from the wound which should be incised freely and kept open under aseptic treatment. This will remove a certain portion of the germs. Excision is better than cauterization for small wounds, but in case of extensive lesions, much soiled, the only treatment is immediate amputation if symptoms of tetanus develop during the first week and they prove violent, even when serum treatment has been promptly applied. In case of a mad dog bite, excision into sound tissue is considered sufficient. In both cases the excision must be smooth and kept open. The conditions are the least promising in acute glanders. Amputation, to be successful, must be done before the lymphatics are involved, and this can occur only in exceptional cases. The abscesses must be incised and every mechanical irritation scrupulously avoided. Curetting the focus has transformed many a mild chronic case into an acute and fatal one.

122. **Calomel Injections in Syphilis.**—Lesser has observed a number of cases and remarks that injections of calomel are liable to cause symptoms of severe intoxication and disagreeable by-effects. They should be reserved for exceptional cases, but are very useful when absolutely indicated.

125. **Anesthesin in Erysipelas.**—Henius states that 25 cases of erysipelas have been treated at Von Noorden's clinic with a 10 per cent. lanolin-vaselin salve of anesthesin, with the result of complete abolition of all pain. No intolerance or by-effects were observed in any case. He adds that he used the anesthesin in two cases of gastric crises in tabes, by intradural injection of a 3 per cent. oil solution, as in spinal cocainization. There was not the slightest anesthesia from it, which confirms Von Noorden's assertion that anesthesin acts only on the nerve terminals and does not affect the nerve trunks.

127. **Radiography Without Plates.**—Kronecker gives some fine radiographs, which were obtained by the use of sensitized silver bromid paper in place of plates. The exposure has to be three or four times as long as when a plate is used, and the exposed parts of the paper must become a shiny black before the picture is complete. But, once taken, the advantages of having the paper instead of a plate are obvious. The radiogram can be taken and completely finished in an hour or so. Another advantage of the paper is that as large an area can be photographed as desired. By combining two of the large sheets it might be possible to take the entire skeleton of an adult at once.

Hospitalstidende, Copenhagen.

139 (Nos. 49-50.) *Tapeworm in Children. N. Schiödte.—Baendelorm i Barnealderen.
140 Medical Practice in Greenland. A. Bertelsen.—Bidrag til Belysning af Laegevaesenets Ordning i Groenland.
141 (No. 51.) *Three Gastric Affections Treated Operatively. F. Guldberg.—Tre Ventrikellidelser, behandlede operativt.
142 Polyneuritis alcoholica. K. Faber. One case.
143 (Nos. 52-53.) Blood-Vessel Endothelioma in Uterus. P. N. Hansen.—Blodkarendothellom i Uterus.
144 *2 Tilfaelde af puerperal Sepsis, behandlede efter Fochler. L. M. Hoff.
145 Bemaerkninger om Opforelse af Sanatoriebygninger for Tuberculose. N. Flindt.
146 (XLVI, 1.) Om Behandlung af Lungen-Tuberkulose paa Provins-Sygehuse. C. A. Larsen.
147 (Nos. 2-3.) *Transfusion ved Betaendelser i Peritoneum (in peritonitis). L. Kraft.

139. **Tapeworm in Children.**—Among the 9,000 children admitted to the Luise Hospital at Copenhagen during the last twenty-four years, 43 had tapeworm. The Tenia mediocanellata was found in 37, the solium in 2, and the cucumerina, flavupunctata and the bothriocephalus latus once each. In the above cases 11 were recurrences. Schiödte also adds another series from another hospital, which brings the number to 65 cases, all the patients under 14. The particulars are given

in tabulated form. The exact age was mentioned in 48 cases: It was less than 1 year in 1; between 2 and 3 in 3; between 3 and 4 in 5; between 4 and 5 in 7. The sexes were nearly equally represented. The treatment was not invariably successful. Out of 40 with T. m., only 26 were completely cured. The best results were obtained with rhizoma filicis. One child required five courses before the complete expulsion of the parasite, another four courses, and three, two. Several had had treatment before; the total number of courses was eight in one instance. In one of the unsuccessful cases the child returned for treatment eight years later, proving that the parasite had continued to live for this length of time. The longest tapeworm was expelled from a boy of 13; it measured 14 yards. Another, in a child of 15 months, measured 8 yards. In one case 6 yards were expelled, and two months later 10 yards with the scolex. From this and other cases, he computes the growth of the worm as 10 cm. a day. The appetite in the children was ravenous or defective, or alternating periodically. The general health suffered much from the presence of the parasite and also from the courses of treatment. Some children were much emaciated, and others showed a deficient growth for their age. Nearly all the little patients exhibited pallor of skin and mucosæ, with slight anemia, possibly due to the toxins secreted by the parasite. He mentions that if the after-purge is given too soon, the children are liable to vomit it. He thinks that two or three hours should elapse. His monograph is a very complete study of the subject from all points of view.

141. **Three Gastric Affections.**—One of Guldberg's cases was an hour-glass stomach and gastroptosis, treated by a plastic operation and gastropexy. The second was similar, and was treated in the same way, but required later a gastro-enterostomy with Murphy button and subsequent enteroanastomosis. The button did not pass away, and required removal by a laparotomy thirteen months later. The third patient was treated by gastroenterostomy on account of an ulcer. All the patients were completely cured of their troubles.

144. **Treatment of Puerperal Fever with Artificial Abscesses.**—In the 2 severe cases of septic puerperal fever described, the patients rapidly recovered after the application of turpentine abscesses made according to Fochier's directions.

147. **Transfusion in Peritonitis.**—Kraft has been making an extensive experimental study of the effect of transfusion, that is, intravenous injection of normal saline solution, in artificially induced inflammation of the peritoneum and in health. He describes typical examples out of his experience with about a hundred rabbits. No effect from the transfusion was observed in regard to the absorption or transudation of the peritoneum in health, but it induced transudation whenever the heart or kidneys were insufficient. In case of incipient peritoneal septicemia, absorption by the peritoneum was promoted by the transfusion. It also increased the exudation in case of peritonitis with effusion from any cause. Transfusion is, therefore, indicated in cases of diffuse peritonitis with exudation, as a preliminary to operation, as the exudation is increased and absorption diminished. On the other hand, it is contraindicated in case of circumscribed or migrating peritonitis, as the increased exudation may loosen or detach the adhesions, and thus transform a circumscribed into a diffuse affection. But after an operation, in these cases, when ample outlet has been provided for the secretions and the still sound portion of the peritoneum is protected, transfusion may be useful. It must be cautiously applied, however, as the system would suffer if the resulting exudation were to entail too severe a loss of serum and albumin.

Hygiea, Stockholm.

148 (No. 11.) *Impressions in Regard to Treatment of Scoliosis. P. Haglund.—Om skoliosbehandlung.
149 *Insanity Among Women Teachers in Sweden. H. Lundborg.—Om sinnessjuka läkarinnor jämte en kort öfverblick öfver smaskoleläraringnorna ställing i Sverige.
150 Fall af spontan intrakapsular resorption af alderstarr (senile cataract). C. Lindahl.
151 Om katatoni. F. Svenson.
152 (No. 12.) Ruhemann's Test for Uric Acid. A. Blomquist.—En ny metod för kvantitativ bestämning af urinsyra.
153 Cesarean Section Under Compression of the Aorta. K. Dahlgren.—Kejsarsnitt under aortakompression.

148. **Treatment of Scoliosis.**—Haglund has been traveling in Europe and studying methods of treating scoliosis. The results of the best are far from satisfactory, he thinks, and do not repay the time and efforts. He urges that more attention should be devoted to prevention.

149. **Insanity Among Teachers.**—Lundborg found that 17, or 8 per cent., of the 216 unmarried female insane inmates of the Upsala asylum had been teachers in small schools or private families. He proposes various reforms in the management of the school system to counteract this tendency.

Gazzetta degli Ospedali, Milan.

154 (No. 147.) Alterazioni della sensibilita tattile, termica e dolorifica in seguito (consecutive to) lesione del nervo ulnare. A. Veneziani.
155 Bactericidal Action of X-Rays. Cippolina and V. Maragliano. Sull azione batt. dei raggi X.
156 Two Cases of Pulmonary Tuberculosis Recovered Under Serum Treatment. C. Romeo.—Tub. della pleura e del polmone, etc.
157 (No. 150.) La modificazioni istologiche degli organi nel corso del immunita sperimentale. G. Guerrini.
158 Contributo all'eziologia delle peritoniti iperacute. W. Zannini.
159 Contributo all'epidemiologia della malaria. G. Perrod.
160 Delle temperatura rettale nel tetano sperimentale. A. Kleefeld and J. Pinchart.
161 Contributo allo studio dell' incompatibilita terapeutica del miscuglio calomelano-antipirina in confronto col calomelano-piramidonis. F. Ubertis.
162 (XXIV, 2.) Contenuto in Azote delle principale derrati alimentari degli Ospedali Civili di Genova (nitrogenous elements in hospital rations). G. Zanoni.
163 Su di una epidemia familiare da diplococco di Fraenkel. C. Baduel and C. Gargano.
164 Sul tratamento chirurgico delle affezioni non-cancerose dello stomaco. G. Maresco. One case.
165 L'atropina nell oculistica occlusione intestinale. U. Fabris. One successful case.
166 Emorragia capsulare destra. E. De Renzi. One case. Cured by electricity.
167 (No. 5.) *Sul riflesso polmonare. A. Plessi.
168 Sulla pneumonite lobare acuta nei bambini (in children), a dolore ectopico appendicolare. O. Cozzolino.
169 Le aniline nella chimica clinica. C. Bernabei.
170 2 suture del ventricolo sinistro per ferite da punta e taglio (sutured stab wounds of left ventricle). Two cases; one recovery. E. Giordani.
171 Valore dell'esame chimico dell succo gastrico (chemical tests of gastric juice) nella diagnose delle dispepsie. G. Campanella.
172 Ancora dell' euchinino nell' infezione palustre. M. Capurbano.
173 La faradizzazione nell' occlusione intestinale. G. Fratti. One successful case.
174 Caso di ossurasi cutanea. P. Barbagallo.
175 *Caso di avvelenenamento da sublimato corrosiva. A. Bormans.

167. **Lung Reflex.**—Plessi examined eight patients in regard to the lung reflex described by Adams, after spraying the skin over the lung with ether. He did not find the change in the outline of the lung so marked as Adams claimed. It was never more than 1 or 2 cm., and it is due, he believes, to the contraction of the diaphragm and muscles of the thorax under the influence of the spray.

175. **Recovery from Severe Sublimate Poisoning.**—A girl of 20 took three sublimate tablets of a gram each with suicidal intent. Her friends gave her hot drinks, which helped to dissolve the sublimate, but she vomited one tablet almost entire. None of the drug was found in the stomach when the physician washed it out. He administered white of egg. There was absolute anuria for five days and acute anemia from the severe losses of blood from the necrotic stomatitis, but recovery was rapid and complete.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in all branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Arranged, with Critical Editorial Comments, by Eminent American Specialists, Under the Editorial Charge of George M. Gould, A.M., M.D. Volume II, General Surgery. Cloth. Price, $3.00 net. Pp. 670. Fully Illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noor-

den, Physician-in-Chief to the City Hospital, Frankfort a. M. Authorized American Edition, Translated Under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College, Philadelphia. Part I. Obesity. The Indications for Reduction Cures. Cloth. Pp. 59. Price, $0.50. Part II. Nephritis. Price, $1.00. New York: E. B. Treat & Co. 1903.

A MANUAL OF TOXICOLOGY. A Concise Presentation of the Principal Facts Relating to Poisons, with Detailed Directions for the Treatment of Poisoning; Also a Table of Doses of the Principal and Many New Remedies. By Albert H. Brundage, A.M., M.D., Phar. D., Professor of Toxicology, Physiology and Hygiene in the Brooklyn College of Pharmacy. Second Edition, Revised and Enlarged. Cloth. Pp. 374. Price, $2.00 net. New York: The Henry Harrison Co. London: Bailliere, Tindall and Cox. 1902.

THE PRACTICAL TREATMENT OF STAMMERING AND STUTTERING, with Suggestions for Practice and Helpful Exercises. By George A. Lewis, Originator of the Lewis Phonometric Method. And a Treatise on the Cultivation of the Voice, with a Discussion of Principles and Suggestions for Practice. By George B. Hynson, M.A., Late Principal of the National School of Elocution and Oratory. Illustrated. Cloth. Pp. 415. Price, $3.50. Detroit: George Andrew Lewis. 1902.

PROCEEDINGS OF THE SEVENTEENTH ANNUAL MEETING OF THE CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA. New Haven, October 28 and 29, 1902. Paper. Pp. 192. Providence: Snow and Farnham. 1902.

TWENTY-SEVENTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE NEW JERSEY STATE HOSPITAL at Morris Plains, for the Year Ending October 31, 1902. Paper. Pp. 116. Trenton, N. J.: John L. Murphy Publishing Co. 1902.

PHYSIOLOGY AT HARVARD. By William Townsend Porter, M.D., Associate Professor of Physiology in the Harvard Medical School. Second Edition. Paper. Pp. 101. Cambridge, Mass.: The University Press. 1903.

A MANUAL OF DENTAL METALLURGY. By Ernest A. Smith, Associate of the Royal School of Mines, London. Second Edition. Cloth. Pp. 294. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

THIRTEENTH ANNUAL REPORT OF THE ST. MARY'S HOSPITAL, Rochester, Minn., for the Year 1902, Conducted by Sisters of St. Francis. Paper. Pp. 32. Rochester, Minn.: Daily Bulletin Print. 1903.

TWENTY-NINTH ANNUAL REPORT OF THE SUPERINTENDENT OF THE CINCINNATI SANITARIUM for the Year Ending Nov. 30, 1902. Paper. Pp. 17. Cincinnati: The Robert Clarke Co.

REPORT OF THE BOARD OF MANAGERS OF THE NEW JERSEY SANATORIUM FOR TUBERCULOUS DISEASES, 1902. Paper. Pp. 10. Camden, N. J.: Sinnickson Chew & Sons Co. 1902.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. Jacobi, M.D., LL.D. Third Edition. Cloth. Pp. 559. Price, $3.50. Philadelphia and London: J. B. Lippincott Co. 1903.

ANNUAL REPORT OF THE NORTHEASTERN DISPENSARY, Baltimore, Md. Paper. Pp. 12.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending Feb. 21, 1903:

Medical Director J. A. Hawke, retired, detached from Naval Hospital, Mare Island, Cal., and ordered home.

Medical Inspector M. H. Simons, ordered to Washington, February 24, for examination for promotion, and thence to Naval Hospital, Mare Island, Cal.

Surgeon H. B. Fitts, detached from the Naval Hospital, Sitka, Alaska, and ordered to the *Pensacola*.

A. A. Surgeon H. T. Nelson, Jr., ordered to the Marine Barracks, Sitka, Alaska.

Medical Inspector D. N. Bertolette, detached from the *New York*, and from duty as fleet surgeon of the Pacific Station, and ordered home to wait orders.

Surgeon D. O. Lewis, detached from the *Pensacola* and ordered to the *New York* for duty as fleet surgeon of the Pacific Station.

A. A. Surgeon G. C. Grieve, ordered to the Navy Yard, Boston.

A. A. Surgeon J. R. Dykes, ordered to the *Franklin*.

A. A. Surgeon V. Dabney, ordered to the *Pensacola*.

A. A. Surgeon T. C. Blackburn, ordered to the *Culgoa*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 19, 1903:

Surgeon P. C. Kalloch, to proceed to Augusta, Me., for special temporary duty.

Surgeon S. D. Brooks, to assume temporary command of the Portland, Me., quarantine station during the absence of Surgeon P. C. Kalloch.

Asst.-Surgeon Edward Francis, relieved from duty in the Hygienic Laboratory, and directed to proceed to Mexico and Durango, Mexico, for special temporary duty.

Asst.-Surgeon W. K. Ward, granted leave of absence for four days from Feb. 13, 1903, under Paragraph 191 of the regulations.

A. A. Surgeon J. T. Bullard, granted leave of absence for 30 days from February 13.

Pharmacist E. M. Holt, to proceed to Louisville, Ky., and report to P. A. Surgeon G. B. Young, chairman of board of examiners, to determine his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist G. A. Morris, granted leave of absence for seven days from Feb. 11, 1903, under Paragraph 210 of the regulations.

PROMOTION.

P. A. Surgeon G. M. Guiteras, commissioned as surgeon to rank as such from Dec. 13, 1902.

BOARD CONVENED.

Board convened at the marine hospital, Louisville, Ky., for the purpose of examining Pharmacist E. M. Holt, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the Board: P. A. Surgeon G. B. Young, chairman; Asst.-Surgeon T. D. Berry, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 20, 1903:

SMALLPOX—UNITED STATES.

California: Fresno, Jan. 1-31, 15 cases; Los Angeles, Jan. 31-Feb. 7, 2 cases; Sacramento, Jan. 31-Feb. 7, 1 case; San Francisco, Jan. 24-Feb. 8, 13 cases.

Colorado: Jan. 31-Feb. 7, Colorado Springs, 1 case; Denver, 8 cases.

Illinois: Belleville, Jan. 31-Feb. 7, 1 case; Galesburg, Jan. 31-Feb. 14, 7 cases.

Indiana: Elwood, Feb. 8-15, 3 cases; Evansville, Jan. 31-Feb. 14, 9 cases, 1 death; Indianapolis, Jan. 31-Feb. 14, 121 cases, 24 deaths; South Bend, Jan. 31-Feb. 7, 1 case.

Iowa: Davenport, Jan. 31-Feb. 14, 12 cases; Ottumwa, Jan. 8-10, 1 case.

Kentucky: Lexington, Jan. 31-Feb. 14, 4 cases; Newport, Jan. 31-Feb. 14, 2 cases.

Louisiana: New Orleans, Jan. 31-Feb. 12, 3 cases, 2 imported.

Maine: Biddeford, Feb. 7-14, 12 cases; Eastport, Feb. 7-10, 13 cases; Portland, Jan. 31-Feb. 7, 1 case.

Maryland: Baltimore, Feb. 7-14, 1 case.

Massachusetts: Boston, Feb. 7-14, 4 cases, 2 deaths; Haverhill, Feb. 7-14, 1 case; Lynn, Jan. 31-Feb. 7, 1 case.

Michigan: Detroit, Feb. 7-14, 38 cases, 1 death; Flint, Jan. 31-Feb. 14, 4 cases; Grand Rapids, Feb. 7-14, 10 cases; Port Huron, Feb. 7-14, 12 cases.

Nebraska: Omaha, Jan. 31-Feb. 7, 7 cases.

New Hampshire: Manchester, Jan. 31-Feb. 7, 10 cases.

New Jersey: Camden, Feb. 7-14, 1 case; Jersey City, Feb. 8-15, 3 cases, 1 death; Newark, Feb. 7-14, 1 case; Plainfield, Feb. 7-14, 1 case, imported.

New York: New York, Feb. 7-14, 3 cases.

Ohio: Chillicothe, Jan. 24-31, 8 cases; Feb. 7-14, 3 cases; Cincinnati, Feb. 6-13, 7 cases; Cleveland, Jan. 31-Feb. 14, 16 cases, 4 deaths; Dayton, Feb. 7-14, 1 death; Hamilton, Jan. 31-Feb. 14, 2 cases; Toledo, Jan. 31-Feb. 14, 15 cases, 1 death.

Pennsylvania: Butler, Jan. 17-Feb. 7, 2 cases; Erie, Jan. 31-Feb. 7, 4 cases; Johnstown, Jan. 31-Feb. 14, 5 cases, 3 cases imported; Philadelphia, Feb. 7-14, 30 cases, 2 deaths; Pittsburg, Jan. 31-Feb. 7, 18 cases, 3 deaths; York, Jan. 1-31, 1 case.

South Carolina: Charleston, Jan. 31-Feb. 7, 14 cases, 1 death.

Utah: Ogden, Jan. 1-31, 17 cases; Salt Lake City, Jan. 31-Feb. 7, 21 cases.

Wisconsin: Milwaukee, Jan. 31-Feb. 14, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 17-24, 7 cases.

Barbados: Jan. 16-30, 8 cases.

Belgium: Jan. 17-24, Antwerp, 4 cases, 2 deaths; Brussels, 1 death.

Canada: Amherstburg, Jan. 24-31, 1 case; Winnipeg, Jan. 31-Feb. 7, 1 case.

Canary Islands: Las Palmas, Jan. 17-24, 33 cases, 2 deaths.

Colombia: Cartagena, Jan. 26-Feb. 1, 1 death.

Ecuador: Guayaquil, Jan. 24-31, 1 death.

France: Rhelms, Jan. 18-24, 1 case.

Germany: Hamburg, Jan. 24-31, 1 case; Leipsic, Jan. 17-24, 1 death.

Great Britain: Dublin, Jan. 17-31, 1 case, 1 death; Leeds, Jan. 24-31, 4 cases; London, Jan. 24-31, 6 cases; Manchester, Jan. 17-31, 27 cases, 1 death; Nottingham, Jan. 17-31, 14 cases.

India: Bombay, Jan. 6-20, 61 cases; Calcutta, Dec. 13-Jan. 17, 2 cases; Madras, Dec. 20-26, 2 deaths.

Italy: Palermo, Jan. 10-31, 15 cases, 5 deaths.

Mexico: City of Mexico, Jan. 26-Feb. 1, 4 cases, 4 deaths.

Russia: Moscow, Jan. 10-24, 7 cases, 4 deaths; Odessa, Jan. 17-24, 2 cases; St. Petersburg, Jan. 10-24, 71 cases, 21 deaths.

Straits Settlements: Singapore, Dec. 27-Jan. 3, 3 deaths.

Turkey: Constantinople, Jan. 18-25, 1 death.

SMALLPOX—INSULAR.

Philippines: Manila, Dec. 13-27, 2 cases.

YELLOW FEVER.

Colombia: Panama, Jan. 26-Feb. 9, 5 cases, 2 deaths.

Ecuador: Guayaquil, Jan. 17-24, 20 deaths.

Mexico: Vera Cruz, Jan. 31-Feb. 7, 2 cases, 2 deaths.

CHOLERA—INSULAR.

Philippines: Manila, Dec. 13-27, 16 cases, 10 deaths; Provinces, Dec. 13-27, 1,130 cases, 813 deaths.

CHOLERA—FOREIGN.

India: Bombay, Jan. 9-20, 1 death; Calcutta, Dec. 13, 152 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Feb. 5, 1 death.

Philippines: Manila, Dec. 13-27, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Jan. 6-20, 818 deaths; Calcutta, Dec. 13-Jan. 17, 85 deaths; Karachi, Dec. 28-Jan. 11, 53 cases, 52 deaths; Madras, Dec. 20-26, 1 death.

Mexico: Mazatlan, Feb. 4-12, 11 new cases, 23 deaths.

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Original Articles.

BACTERIOLOGIC EXAMINATION OF THE BLOOD DURING LIFE IN SCARLET FEVER WITH SPECIAL REFERENCE TO STREPTOCOCCEMIA.

FROM THE MEMORIAL INSTITUTE FOR INFECTIOUS DISEASES.

LUDVIG HEKTOEN, M.D.

CHICAGO.

In this article are presented the results of a bacteriologic examination of the blood during life of cases of scarlet fever with especial reference to general streptococcus infection in this disease.

FREQUENCY OF STREPTOCOCCI IN FATAL SCARLATINA.

Streptococci have played a prominent part in the bacteriology of scarlet fever since the earliest application of bacteriologic methods to its study. Their importance has grown as the observations have multiplied, and many now regard streptococci as an essential factor in the scarlatinal process. Among the earlier observations concerning general streptococcus infections in scarlet fever are those of Crooke, Löffler, Friedländer, Fränkel and Freudenberg, Heubner and Bardt, Lenhartz and others, who found virulent streptococci in the internal organs and sometimes in the joints of victims of this disease. All these investigators appear to have regarded the streptococcus infection as entirely secondary in its character, the principal point of entrance being the throat.[1]

Babes[2] found streptococci in the internal organs of seventeen fatal cases of scarlatina. In fourteen instances of scarlatinal nephritis streptococci were present in the kidney in pure culture. In various articles Babes has suggested that streptococci are the cause of scarlatina. His material certainly justifies the conclusion that streptococci of varying virulence cause the larger part of the secondary infections in scarlet fever.

Streptococci have been found, in a large proportion of the cases examined, in the urine of scarlet fever patients by Courtois,[3] Lewis and others, and more frequently in albuminous than in non-albuminous urines.

Marie Raskin[4] made very extensive studies in the bacteriology of scarlet fever and its complications. She failed to find streptococci in the blood of 64 cases, but isolated it four times from the skin in 20 cases. But in 31 cases with serious complications of various kinds she found streptococci present in the pus, generally in the internal organs, occasionally in the blood. In two cases of scarlatina fulminans without complications streptococci were found in the blood. The streptococcus she found formed long twisted chains in bouillon which remained clear except for some sediment, and she regarded it as a form of *Streptococcus pyogenes* and as the most important cause of the complications of scarlet fever. In another article[5] she speaks of a micrococcus of irregular form and size, growing like streptococcus in gelatin and agar, and found in the blood and organs during the first four days of the disease. In the blood the organism was found within the leucocytes in diplococcus form, one coccus being larger than the other. Unfortunately the available abstract is too fragmentary to justify any conclusions as to the real nature and significance of the coccus.

R. M. Pearce[6] records the results of the examinations of 23 fatal cases of scarlet fever. "Of the 11 cases in which there was a general infection, the streptococcus was found in 9. In 6 of these it occurred alone, and in 3 associated with the *Staphylococcus pyogenes aureus*. Infection with the *Staphylococcus pyogenes aureus* alone occurred in one case, and with the pneumococcus alone in one case." *Streptococcus pyogenes* was found also to be the most frequent cause of the secondary inflammatory lesions in this series. Pearce regards the streptococcus infections, local as well as general, in scarlet fever as secondary in their nature, and he considers the streptococcus found in his series as identical with *Streptococcus pyogenes*.

Wright,[7] in 11 fatal cases, notes a general streptococcus infection in 4. Baginsky and Sommerfeld[8] found streptococci in the heart's blood and internal organs in every one of 82 fatal cases of scarlet fever, including several in which death occurred early and in which gross secondary lesions had not developed. They were unable to differentiate the streptococci isolated from ordinary pathogenic streptococci. A high degree of virulence for rabbits could be created readily by repeated passages through this animal. The serum of convalescents from scarlet fever had no demonstrable agglutinating effect on streptococci from the victims of the disease; nor did the serum of convalescents have any definite protective action in rabbits injected with such streptococci. In other words, the organism did not appear to possess any specific properties of any kind, demonstrable by these methods. Nevertheless, Baginsky and Sommerfeld contend that this streptococcus plays a specific rôle in scarlet fever and that all the phenomena of the disease are explainable by the distribution of the cocci in the tissues and by intoxication with their products. While scarlet fever never transfers erysipelas or sepsis, but only scarlatina, yet streptococci are constant in scarlatinal angina; they cause a general infection in all fatal cases of scarlatina, even the uncomplicated, and they have been found in the blood of scarlatinal patients during life. This seems to be the line of reasoning that leads to the conclusion that scarlet fever is a streptococcus disease.

Slawyk's[9] observations are interesting. Of 98 fatal cases of scarlet fever 52 (52.6 per cent.) yielded bacteria on examination of the blood after death. Streptococci were found 39 times, streptococci and staphylococci 6 times, staphylococci 3 times and pneumococci 4 times. He examined the blood during life in 72 cases with positive results in 7, streptococci being found 4 times and staphylococci 3 times. These 7 children died and in all the same bacteria were found after death. In these cases the blood was taken from the lobe of the ear and the small amount of blood thus obtainable may have reduced somewhat the number of positive cases. Slawyk regards the streptococcus invasion as secondary because of its absence in a goodly number of cases even after death; because in 82 per cent. of the cases in which it was found there existed grave ulcerative complications through which invasion readily could take place; and because streptococci were absent in those cases that died in the first three days of the disease. Present on the tonsils of healthy children he believes the oropharyngeal cavity to be the common point of entrance for streptococci in scarlet fever, the virus of which either increases their virulence or decreases the resistance of the tonsillar tissue. In measles and diphtheria he found streptococci in the blood in 22 and 20 per cent. of the fatal cases respectively.

Based on the negative result of a careful bacteriologic examination of the internal organs of a child that died 48 hours after the onset of scarlatina, Böhm[10] categorically denies all etiologic relationship between scarlet fever and streptococci.

Gordon[11] isolated a streptococcus from 10 fatal cases. The claim that this streptococcus is distinct and that it merits the designation *"Streptococcus scarlatinæ"* as yet seems to rest on rather slender basis. And Moser[12] isolated streptococci from the heart's blood in 63 of 90 cases of scarlet fever.

The foregoing summary shows the great frequency of streptococcus infection in fatal cases of scarlatina. It certainly lies near at hand to conclude that scarlet fever without streptococcus invasion would lose half its terrors even if one is not willing to accept the view that scarlatina is a streptococcus disease, caused by a specific streptococcus, a contention that is without definite proof though some facts may be adduced in its favor. Under these circumstances it would seem desirable to learn more about the presence or absence of streptococci in the blood of non-fatal, mild as well as severe, complicated as well as uncomplicated, cases of scarlatina. Comparatively little work has been done on this phase of the problem, and that is mostly of a rather fragmentary character.

BACTERIOLOGIC STUDIES OF SCARLATINAL BLOOD DURING LIFE.

Lemoine[13] found the streptococcus in the blood during life in 2 of 39 cases. Klein[14] was one of the first to describe cocci as the cause of scarlet fever. For years he has upheld as this cause *Streptococcus scarlatinæ* or *Streptococcus conglomeratus,* which, so he claims, was described by himself and Kurth.* Klein claims, further, that this organism does not occur in healthy persons or such as have angina not scarlatinal. He isolated it from the blood of 4 cases of 11 scarlet fever between the third and sixth day.

D'Espine and Marignac isolated from the blood of the finger of a scarlet fever patient a streptococcus. The case being typical and without complications in the usual sense, d'Espine[15] claims that the streptococcus was the cause of the scarlet fever.

Mery[16] isolated from the blood of a scarlet fever patient a streptococcus that proved refractory to Marmorek's antistreptococcus serum.

Seitz[17] examined the blood bacteriologically in the early stages of 12 cases of scarlatina, using about 1 c.c. of blood on various media. Streptococci developed in the cultures from one case that subsequently proved fatal. He also found streptococci in the internal organs of two fatal cases.

Reference has been made to the fact that Slawyk made cultures of the blood in 72 cases, the blood being obtained by puncture of the lobe of the ear; of the 7 positive results 4 concerned streptococci and 3 staphylococci. All of the 7 cases died and the same organisms were recovered from the internal organs after death.

Hlava[18] has described recently a streptococcus that he finds with special frequency in the acute eruptive diseases. In many respects this streptococcus resembles the ordinary pathogenic streptococci, especially *Streptococcus conglomeratus,* but Hlava claims for it the individual peculiarity of forming crumbling masses in certain media containing saccharose (Zopf's bouillon, saccharose-agar), the masses consisting of short chains of atypical and pleomorphic cocci embedded in homogeneous membrane. The organism is said by Hlava to be of feeble virulence, and that only when grown in fluid human serum. Much further work is necessary before this streptococcus, which Hlava designates as *Leuconostoc hominis* because of its resemblance to *Leuconostoc mesenteroides,* can be accepted as a definite and distinct form. Because of its frequency in scarlatina Hlava is led to say: *"Der Leuconostoc spielt enschieden eine wichtige Rolle in der Pathogenese der Scarlatina."* He demonstrated its presence in the blood during life in 6 cases of scarlet fever.

MATERIAL AND TECHNIC.

The cases of scarlet fever that furnished the material for the investigation, the results of which are now presented, occurred partly in the hospital of the Memorial Institute for Infectious Diseases, partly in the Cook County Hospital. I am indebted for courtesy and aid in various ways to Drs. Frank Billings, James B. Herrick and W. L. Baum, and to members of the resident staffs of the Cook County and Presbyterian hospitals.

The blood for the cultures is secured by puncture of some vein at the elbow after careful disinfection of the skin. This is the best method to secure blood for bacteriologic work. Glass syringes with platinum-iridium needles are used. In the case of very young children it may be difficult to puncture accessible veins, and in a relatively small number of instances the effort to secure blood may have to be abandoned. In no case has any evil resulted from the punctures, all of which have healed without the faintest indication of local reaction. The pain of the puncture is insignificant; momentary

* It will be recalled that Kurth (Centralbl. f. Bakt., 1892, xi, 503-509) has made one of the most successful efforts at differentiation of the streptococci by accurate study of their different forms of growth in bouillon and of the sediment that forms therein. From the tonsils in scarlet fever he isolated a form that produces granular or scaly coherent masses composed of very long, interwoven chains with only a few free cocci. This is his *Streptococcus conglomeratus,* which may occur also in the internal organs of fatal cases of scarlet fever. In Kurth's experience it was never absent from the surface of the tonsils. It may be associated in scarlet fever with other streptococci. *Streptococcus conglomeratus* nearly always kills white mice when inoculated at the root of the tail. It may remain viable for as long as six weeks or so when dried, and, while the question of its etiologic rôle had to be left open, Kurth points out that the transmissibility of scarlatina corresponds well with viability of *Streptococcus conglomeratus.*

washing the skin with 5 per cent. solution of carbolic acid seems to deaden acute sensation somewhat; the drawing of the blood so rapidly as to cause collapse of the vein seems to give considerable pain.

In the early part of the work white staphylococci appeared in the cultures much more frequently than later. White staphylococci have appeared in altogether about 18 flasks and 7 of these occurred among the cultures from the first 10 cases. This certainly speaks in favor of accidental contamination, and it is likely that in spite of painstaking precautions occasional contamination will take place either from the air or by the needle picking up cocci from the skin. As it has been impossible to differentiate the white staphylococci developing from time to time in the flasks from the vulgar staphylococci of the skin and air, it has seemed best, at least for the present, to pay no attention to these organisms. Of course, streptococci may occur occasionally on the skin in scarlet fever. This, however, probably is so infrequently the case that accidental contamination of blood cultures from this source may be left out of consideration. This is probably also a fair view to take of the rôle of the air as a source of accidental contamination with streptococci. In bacteriologic examinations of the skin in some 30 cases of scarlet fever by Mr. Dreyer, he did not encounter streptococcus, and Dr. Weaver met it only once in 18 cases.

In most of the cultures in this series quite large quantities of blood have been used, 0.5 to 1 c.c. in each flask of 150 or 100 c.c. of medium. Usually two flasks or more have been inoculated in each case. The principal reason for using large quantities of blood was to increase as much as possible the chances for positive results in case but few bacteria might be present. The media used were glycerin bouillon, plain bouillon, ascites bouillon (peptone bouillon 2 parts and ascites fluid one part), glucose bouillon and milk. From time to time the adaptability of the media used for streptococci has been controlled carefully. After 48 hours or so in the incubator (mostly under aërobic conditions) subcultures on solid media and stained smear preparations have been made in most of the cases even though there was no definite evidence of growth in the original cultures. When growth was evident plates were made to secure pure cultures.

RESULTS.

The principal details of the cases giving positive results are given in the accompanying table. In many of the cases smears of the blood were examined for bacteria, but in every case so far with negative outcome. In smears from the cultures in which streptococci developed diplococci and short chains were seen often within cells, but this need not necessarily indicate that the cocci occupied an intracellular position in the circulating blood. In no case was hemolysis of human corpuscles *in vivo* recognized, but this was not looked for systematically in all cases, and certainly not with sufficient care (centrifugalization of the whole blood so as to secure clear serum) in the cases that proved to give streptococci in the cultures of the blood. We hope to give closer attention to this point in the future.

In all cases giving streptococci, *Staphylococcus aureus*, or typhoid bacilli pure cultures developed in practically every instance.

Typhoid Bacillemia.—In two cases (only one of which is included in the table) the routine bacteriologic examination of the blood discovered the presence in it of typhoid bacilli at a period so early in the development of the disease that suspicion had not yet been directed to typhoid fever. In one of the cases the typhoidal attack began as the scarlet fever subsided; in the other case the typhoid fever developed in a woman admitted to the scarlet fever ward because of a slight general eruption, which did not prove to be scarlatinal. A third case of this sort has just been observed. In these cases we have a good example of the diagnostic usefulness of bacteriologic examinations of the blood. In both typhoid bacilli were demonstrated some time before the appearance of agglutinins in the blood.

Streptococcemia.—It is not the intention now to discuss the question of the unity or multiplicity of pathogenic streptococci. All the strains isolated in this series, except the one from Case 60, correspond to *Streptococcus longus,* most of them showing pronounced conglomerate growth. Some of the more important facts are given in the following abstracts of the records:

The streptococci isolated on the third and eighth days of the disease in Case 11, appears to be identical. Both give a moderately heavy, crumbling sediment in bouillon, and coagulate and acidify milk promptly. One c.c. of a 24-hour bouillon culture injected intravenously in a rabbit weighing 1,720 grams caused death in 4 days. This virulence was soon lost. On the fifteenth day of the disease the serum of the patient had no marked restraining influence on this streptococcus, nor did the serum of another case of scarlet fever. The streptococcus does not grow in filtrates of its own cultures. Such filtrates remain sterile also when inoculated with streptococci from some of the other cases.

Judging from the temperature curve, pulse record and general course, it can not be said that the streptococcemia in this case produced very marked clinical symptoms. There were no complications.

The streptococcus in the cultures made on the fifth day of the disease from the blood of Case 15 forms a sand-like sediment in bouillon, the particles being composed of conglomerate masses of cocci. It acidifies and coagulates milk. It does not grow in its own filtrates or in the filtrates of cultures of other streptococci in this series. The filtrate of bouillon cultures causes hemolysis of dog's corpuscles. One c.c. of bouillon cultures three

Table Showing Positive Results of Bacteriologic Examination of Blood in Scarlet Fever During Life.

Number.	Age.	Sex.	Day of Disease.	Medium and Number of Flasks.	Results.	Character of Attack and Remarks.
11	26	M.	3	Glycerin-broth, 4	Streptoc. in 1 F. .	Moderat'ly severe.
			5	" " 2	Sterile.	See text.
			8	" " 2	Streptoc. in 1 F. .	
			12	" " 2	Sterile.	
14	22	M.	5	" " 1	Streptoc.	Mild.
			7	" " 2	Sterile.	
15	38	M.	2	" " 3	Sterile.	Severe. See text.
			3	" " 2	Sterile	
			5	" " 2	Streptoc. in 2 F. .	
			10	" " 2	Sterile.	
17	10	M.	2	" " 2	Streptoc. in 2 F. .	Severe. See text.
			6	" " 2	Streptoc. in 1 F. .	
21	12	F.	3	" " 2	Sterile.	Moderat'ly severe.
			6	" " 2	Streptoc. in 1 F. .	
27	22	F.	4	" " 2	Streptoc. in 2 F. .	Mild.
			7	" " 2	Sterile.	
33	7	M.	5	Asc.-broth, 1 . .	Strept c.	Mild. See text.
41	16	M.	2	Glycerin-broth, 2	Sterile.	Moderat'ly severe.
			3	" " 2	Streptoc. in 2 F. .	
57	24	F.	7	" " 2	Streptoc. in 2 F. .	Moderat'ly severe.
60	23	F.	2	" " 2	Streptoc. in 2 F. .	Mild. See text.
			4	" " 2	Streptoc. in 2 F. .	
68	21	M.	9	" " 4	Sterile.	Death. See text.
			10	" " 2	Staphy. aureus. . .	
72	10	M.	4	" " 2	Sterile.	Very severe. See
			28	" " 1	Streptoc.	text.
80	12	F.	1	Glucose-broth, 2 .		
				Collodion sac. .	Streptoc. in sac. .	Moderat'ly severe.
81	7	M.	7	Glycerin-broth, 2	Staphy. aureus. .	Death. See text.
			10	" " 3	Cocci; no growth in subc.	
101	22	F.	6	" " 2	B. Typh. in both .	Scarlet mild.

days old kills rabbits in five days after intravenous injection and causes hemolysis *in vivo*. The organism grew well in the serum of the case from which it was isolated and also in that of another case of scarlet fever. Clinically this case showed no glandular enlargement, but there were definite indications of inflammation in the wrist, shoulder and ankle joints which subsided rapidly.

The streptococci isolated from the culture of the blood of Case 17, on the second and sixth day of the disease are identical and form granular masses in bouillon. There is no growth in filtrates of streptococcus cultures. Two c.c. injected intravenously in a rabbit weighing 1,720 grams caused death in seven days. There were in this case severe throat symptoms and also swelling and tenderness of the wrist joints.

In Case 33 the cultures from the blood in ascites bouillon contained atypical streptococcal forms, but subcultures were not obtained. In the cultures made in ascites bouillon from the urine of the same patient there developed a feeble growth of streptococci with an unusual number of swollen, atypical and bacillary forms similar to those described by Ohlmacher,[19] and also noted by Hilbert[20] in his work on streptococci in the normal tonsils, as well as by others.[21]

In Case 60 the cultures on both the second and fourth day yielded pure growths of a streptococcus that was provided with a mucoid capsule. This coccus grew like ordinary streptococci on most media, but on Löffler's serum it produced rust-colored spots. This pigmentation disappeared after the second generation. Its pathogenic powers were not tested. The clinical course in this case was very mild, the temperature falling to normal on the fifth day. No complications.

In Case 72 the cultures made on the fourth day of the disease remained sterile. Three flasks were inoculated. On the twenty-eighth day a pure growth of streptococci was obtained. This coccus has the following characteristics: Abundant flocculent growth in the fluid part of Löffler's serum and in the lower parts of peptone bouillon ascites fluid tubes; milk acidified but not coagulated; in glucose bouillon crumbling masses formed at the bottom. The principal facts in the history of this case are as follows: From the time of entrance the patient was for many days more or less delirious; later on he lapsed into stupor and unconsciousness, the clinical picture being distinctly that of sepsis. In the early stages there was an intense pharyngitis and tonsillitis with large swellings of the cervical glands. Otitis developed and for a time there was tenderness over the mastoid processes. During the entire illness there was a marked leucocytosis which gradually passed away. There was no evidence of joint infections or of secondary internal foci.

In Case 80 the cutlures made in glucose bouillon remained sterile. At the same time as the cultures were made 1 c.c. of blood was mixed with 9 c.c. of ascitic fluid, first heated to 55 C. for 45 minutes, and placed in a collodion sac. At the end of 24 hours the fluid within and without this sac appeared sterile and the sac was inserted into the abdomen of a rabbit, where it remained for one month without apparent detriment to the animal. When removed the contents of the sac were milky and smears showed minute coccoid bodies not staining readily by methylene blue. The fluid in the sac was alkaline in reaction. Cultures were made on a large number of media, and on most of the tubes there developed a streptococcus, like *Streptococcus conglomeratus*, but only of small virulence that was increased by repeated passage through rabbits. This coccus grew readily in conglomerate masses in filtrates of its own cultures in milk and glucose bouillon, the reaction being acid to litmus. In the early cultures in milk especially many atypical and irregular forms were observed in the smears. Clinically the case was free from complications.

The streptococcus cultures from Cases 57, 21 and 14 correspond to those of *Streptococcus conglomeratus*. Those from Cases 14 and 41 caused the death of rabbits on intravenous injection of 0.5 c.c. or more: there was hemolysis of the red corpuscles in the rabbit injected with the coccus from Case 41. In Case 52 distinct streptococcal chains developed in the original cultures on the fourth day of the disease, but subcultures did not develop.

The evanescent character of the streptococcemia in some of the cases of this series makes it not unlikely that in many cases it may have escaped detection, especially in the younger patients in whom it was deemed best to make but one venous puncture. Perhaps this may serve also to account in some degree at least for the relatively greater number of positive results in the older patients.

Table Showing the Ages of the Cases.

Age.	1-5	6-10	11-15	16-20	21-25	26-30	31-43	Total
Total number...	9	32	11	10	21	12	5	100
Streptococci in. .		3	2	1	4	1	1	12

It might be said, too, that perhaps streptococci were not detected oftener because the blood cultures were not made early enough in the attack. It could be answered that in three positive cases the first cultures gave negative results, while later cultures gave positive; further, that of 10 cases examined on the first day only one gave growths.

Table Showing the Days of the Attack When Cultures Were Made.

Day.	1	2	3	4	5	6	7	8	9	10	Later or Unknown	Total
Total number...	10	14	24	17	14	5	4	4	1	1	6	100
Streptococci in first culture..	1	2	1	1	2	..	1	..	..	..	..	8
Streptococci in second culture	..	..	1	..	..	1	..	..	..	..	1	3
Streptococci in third culture.	..	..	..	..	1	..	..	..	..	..	..	1

Undoubtedly the number of positive results would increase the more frequently from the earliest period the cultures in the single cases could be made. On account of the well-known sensitiveness of streptococci special care must be had always with respect to the media used. In work of this kind positive results are more valuable in the forming of definite conclusions than negative.

Table Showing General Character of the Cases in This Series.

	Mild.	Mod.	Severe.	Severe.	Fatal.	Total.
Total number.....	45	40	11	4	100	
Streptococci in.....	4	5	3	..	12	

This summary shows that the relatively largest number of streptococcal growths were obtained from the more severe cases. Two of the fatal cases are accounted for further on; in the other two there was no postmortem examination and in each case of these there was but one set of blood cultures made.

Genesis of Streptococcemia.—In many of the cases giving streptococci in the cultures it seems to concern a streptococcus bacteriemia (septicemia) without localizations in different parts of the body. This form of bacteriemia without metastases is referred to by Monod and Mascaigne,[22] and more recently again by Kretz,[23] as common in the eruptive diseases and as only poorly understood, being more marked in some epidemics than in others. No doubt continued routine bacteriologic examinations of the blood in these and other diseases will prove the best source for light on the relations of this

bacteriemia without metastases to the severity of the clinical symptoms as well as on other points not now clearly understood.

The investigations of Hilbert[24] and others show that pathogenic streptococci—*Streptococcus longus*—are constant inhabitants of the normal throat, especially the surface of the tonsils. On this account some, like Hilbert, would deny streptococci all importance in the etiology of anginas, but it is difficult to go so far in view of the great increase in the number of streptococci in anginas of various kinds, especially the scarlatinal, a fact definitely established in the cases of this series by Dr. Weaver in this institute. At all events the conditions of the throat in scarlet fever would seem to offer excellent opportunities for general streptococcus invasion either directly by entrance into the blood or indirectly by way of the lymphatics and lymph nodes. The exact mechanism of the general infection is not easily unraveled. It lies too near at hand to assume that it may depend on the loss of bacteriolytic complements of serum. Indeed, this assumption has been made by some who would explain in this way the frequency of streptococcus infection in chronic diseases of various kinds because the serum in such diseases may show a loss of bacteriolytic complements for colon bacilli and typhoid bacilli; but normal human serum has no appreciable bactericidal action on streptococci, so far as this can be demonstrated by the usual methods for such purposes, and streptococcemia is, of course, not to be explained by the loss of certain properties the blood does not possess normally. Experiments made in conjunction with Dr. Weaver show, furthermore, that the serum of cases of scarlet fever of moderate severity does not lose any bactericidal effect on typhoid bacilli, a fact that still further disproves the inference that the loss of bacteriolytic serum complements is responsible for streptococcus infections. It is not the intention to discuss now the relations to streptococcus infection of the leucocytes and of phagocytosis on which Denys, Bordet and Marmorek lay so great a stress. Suffice it to say that in general human tissues appear to be favorable soil for the growth of streptococci; indeed, of all animals Marmorek regards man as the most susceptible for streptococci. There is reason to believe, too, that streptococci grow in virulence when introduced into the human body. In connection with this it is interesting to note, as first shown by Marmorek, that streptococcal virulence—a most changeable quantity—is best preserved in a medium of human serum one part and peptone bouillon two parts. Given then a normally feeble general resistance to streptococci and specially favorable conditions for their multiplication in the throat and on the tonsils in scarlet fever, it need not be an unusual event for streptococci to enter the blood either in small quantities as only transitory sojourners there or increasing in number and virulence to cause the most severe general infections. That this is the case is indicated by the results in this series in which streptococci are shown to have appeared in the blood to such an extent as readily to be demonstrable by inoculating one or two cubic centimeters into bouillon or similar medium, and that in comparatively mild cases in which the normal or uncomplicated course of the disease was not modified to any extent (Cases 14, 27, 33, 60). In other cases, again, the streptococcus invasion was associated with more severe symptoms and a more protracted course (11, 15, 17, 72). Case 72 may be taken as an example of a severe type of streptococcus infection in scarlet fever, terminating in recovery.

The fact that spontaneous recovery may take place in streptococcus bacteriemia, even when severe and long continued, naturally tends to make one somewhat skeptical in regard to the actual benefit of antistreptococcus serum in similar cases. Since the introduction of bacteriologic blood examinations during life, observations have been made that show, as did Petruschky in one of the earliest studies of this kind, that recoveries in various forms of bacteriemia are not so very rare. Bertelsmann[25] reports 47 cases of surgical bacteriemia examined bacteriologically during life; in 28 of these it concerned streptococci, and 13 of these were all that proved fatal. In 2 cases the bacteriemia appeared transitory, but recovery took place in cases whose blood yielded as many as 435 colonies on mixing 15 c.c. with agar and pouring into plates.

Influenza Bacillemia.—While streptococci no doubt are the most common agents of general infection in scarlet fever and other diseases of the same group, the investigation of Jehle seems to show that under certain conditions other bacteria also may find open doors, so to speak, to general invasion in these diseases. Jehle[26] found the bacillus of influenza so frequently in the blood of fatal cases of scarlet fever (22 times in 48 cases), measles (15 times in 23 cases) and varicella (5 times in 9 cases) as compared with non-eruptive diseases, that he believes the exanthemas in some way favor the general infection with this bacillus when it is present on the tonsils or in the bronchial exudate. This form of secondary infection may cause a high mortality. In scarlet fever influenza bacillemia may occur even before the rash breaks out. In this work not a single case of this form of secondary invasion has been encountered, although it has been kept in mind almost from the first; the mixing directly of considerable quantities of blood with glycerin, glucose and ascites bouillon would seem to offer proper conditions for the growth of the bacillus of influenza. It must be borne in mind, however, that during the past year influenza has not been especially prevalent in Chicago. Not a single case of the disease has been recognized among the cases of scarlet fever composing this series nor in the wards occupied by them.

Staphylococcemia.—In the two fatal cases of this series *Staphylococcus aureus*, and not streptococci, developed in the cultures made during life. In both cases it concerned pure cultures.

Case 68.—Man, 21, admitted to the hospital of the Memorial Institute for Infectious Diseases on the 9th day of a severe attack of scarlet fever. There was beginning desquamation; swelling and erosions of lips and nostrils; purulent conjunctivitis, pharyngitis and otitis; swelling and tenderness on both sides of the neck; heart and lungs normal; spleen palpable. Violent and nearly continuous delirium set in. The cultures from the pharynx showed streptococci and staphylococci, those from the ears streptococci. Lobular pneumonia developed and death took place on the 16th day of the attack. There was no leucocytosis but rather leucopenia—9,500, 3,300 and 5,200 on the 10th, 12th and 15th days respectively.

The cultures of the blood made on the 9th day of the disease, the day he entered the hospital, all remained sterile. Three days later new cultures developed rapidly a liberal growth in pure form of *Staphylococcus aureus*. In both the flasks there were seen the day after inoculation numerous irregular masses, much like the plugs of exudate in lobar pneumonia, scattered over the bottom and clinging to the sides, each mass being surrounded by a circle of hemolysis. This coccus produced a funnel-shaped liquefaction of gelatin, coagulated and acidified milk, and formed golden-yellow pigment, especially on potato and blood serum. Blood from this case preserved in glass tubes with bouillon in proportion of 2 to 8 also underwent hemolysis.

Anatomic Diagnosis (Dr. Robinson):—Desquamation of scarlet fever; pustules on arms, neck and legs; bronchopneumonia; pulmonary infarction; ulcerative pharyngitis; suppurative otitis; acute splenic swelling.

Cultures made from the heart's blood at the time of the autopsy showed *Staphylococcus aureus* only; those from the lungs showed *B. mucosus capsulatus* and *Staphylococcus aureus* as did also the cultures from the bone marrow. The liver contained *B. mucosus capsulatus*. The kidney, brain and spleen were sterile.

CASE 81.—Boy, age 7, admitted on the 7th day of the attack, much emaciated, throat ulcerated, cervical glands enlarged. Beginning desquamation. Pulse weak and intermittent. Bloody discharge from nose and mouth. Semi-unconscious. Death on the 11th day. Leucocytes on the 10th day, 32,000.

The cultures from the blood made on the 7th day of the disease gave pure growths of *Staphylococcus aureus*. The cultures made two days later showed cocci in the smears, but all subcultures remained sterile.

Anatomic diagnosis.—Scarlatinal desquamation; pharyngeal necrosis and ulceration; acute cervical lymphadenitis; splenic swelling; acute renal degeneration; enlargement of intestinal lymph nodes and of mesenteric glands; esophageal ulceration; multiple purulent arthritis; pleural adhesions. The cultures made at the autopsy gave the following: Plate cultures from blood, bile and pus in the left knee-joint remained sterile. The spleen gave streptococcus and colon bacillus; the liver streptococcus; the kidney colon bacillus. This streptococcus grows in conglomerate masses in bouillon.

In this interesting case it looks as if the staphylococci in the blood on the seventh day died out completely. There was, however, a coincident or subsequent, more likely the latter, streptococcus infection, as shown by the presence of this organism in the liver and spleen at the autopsy. The case indicates more the complexity of these secondary conditions than would be apparent from knowledge of postmortem findings only. Recovery from staphylococcemia is perhaps more frequent than thought; instances of it are described recently by Hug[27] and by Reymond and Alexandre.

RELATIONS OF STREPTOCOCCI TO SCARLET FEVER.

We come now to a brief discussion of the very important question of the exact relation of streptococci to scarlet fever. I have pointed out that some investigators impressed especially with the frequency, not to say constancy, of streptococcus infection of a general character in fatal forms of the disease, look on the streptococcus as playing a specific part in the scarlatinal process. The results of this study of the bacteriology of the blood of scarlatina in life, if they are to be given any value in deciding this question, would seem rather to favor the view that the streptococcus infection is secondary because absent in the large majority of the cases, even severe ones, and because though absent in the early part it may appear in the later stages of some cases. It seems to me that the theory that scarlatina is a streptococcus disease does not receive any direct support from these observations. In this connection it may be well to refer to the fact that streptococci seem to occupy about the same relations to diphtheria and to smallpox as they do to scarlet fever, if we judge from the frequency of streptococcus infections in these diseases. Dahmer[28] obtained streptococci from the heart's blood and spleen in 47 per cent. of 36 cases of fatal diphtheria, from the lungs in 85 per cent. and from the trachea in 100 per cent. As stated, Slawyk found streptococci in the blood in 22 and 20 per cent. of fatal cases of measles and diphtheria respectively. The literature on streptococcus infection in diphtheria is further reviewed by Councilman, Mallory and Pearce in their comprehensive study of this disease.[29] In Flexner's[30] statistics of terminal infections in chronic heart and kidney disease, the most prominent organism, in the local as well as the general infections, appears to be the streptococcus either singly or associated with the organisms.

James Ewing[31] found a streptococcus in the heart's blood of all of 29 cases of smallpox, the abundance being directly proportional to the severity of the disease. In five examinations during life all the cultures of the blood were sterile, but Arnaud[32] is quoted by Ewing as having found streptococci in the blood of two hemorrhagic cases during life. Ewing also found streptococci generally in the variolous skin lesions. This streptococcus, which does not seem to have any cultural or morphologic peculiarities, was pathogenic for mice and rabbits, but in no case did it produce any variolous lesions, while material from pustules caused smallpox in two monkeys. In hemorrhagic smallpox Ewing believes the condition to be one of symbiosis of the specific agent and the streptococcus. It would be interesting to know the results of the bacteriologic examination during life of a large series of cases of smallpox, which we see is a disease just as prominently associated with streptococci as is scarlet fever, but in which it is possible to show definitely that the real cause is distinct and peculiar.

In the face of these considerations it seems to me that the best hypothesis of the etiology of scarlet fever for working purposes is the one that in this disease two infections generally coexist in the oro-pharyngeal cavity. The cause of the specific, primary infection is unknown. So far its existence has not been rendered evident except by the specific contagious and clinico-epidemiologic peculiarities of scarlatina. The well-marked and durable active immunity, an immunity entirely different from anything we know of spontaneous or experimental streptococcus diseases may also be cited as strong evidence of a specific primary infection in scarlatina. The second infection is the streptococcus infection, which may be regarded as practically constant because there seems to be in all cases of scarlet fever a marked increase in the number of streptococci in the throat as compared with normal conditions, but this infection does not seem, as a rule, to be generalized when we except the severe, fatal cases. Whether the virus of scarlet fever directly increases the virulence of existing streptococci, stimulating them to the production of toxins peculiar to scarlet fever, and whether it favors general streptococcus infection by decreasing local or general resistance to streptococci, whatever the factors concerned may be, are questions on which further light is greatly needed.

Welch's Theory of Bacteriogenic Cytotoxins.—The view has also been advanced that scarlet fever is in one way a local disease and caused by *Streptococcus longus*, which, localizing in the pharynx, produces an erythemogenic toxin (Berge[33]). Much discussion has been carried on as to the specificity of the scarlatinal streptococci, but without final settlement of the question. It has been suggested that the cocci may be ordinary, well-known streptococci that under special conditions from a limited pharyngeal focus produce a specific toxin which, carried in the circulation, calls forth the cutaneous eruption. This view recalls the interesting theory recently advanced by Welch[34] in order to explain some of the effects of pathogenic organisms on the cells of the host not readily explainable by what can be learned from the study of bacterial cultures and the toxic substances there produced. This is the theory of the production of bacteriogenic cytotoxins under the influence of stimuli from the host according to the general principles of Ehrlich's

great theory of the production of toxins and lysins in general. In response to the action of atom complexes from the cells and fluids of the host the bacteria produce substances with special affinities that act as intermediary bodies in linking to cells of the host toxic complements derived either from the fluids of the host or from outside sources. It is, of course, conceivable that streptococci under special conditions might cause the symptoms and signs of scarlet fever, according to the principles of Welch's hypothesis of bacteriogenic toxins of somatogenic origin. This view of the nature of scarlet fever as yet lacks experimental proof. It receives neither support nor discredit from the results of this study.

CONCLUSIONS.

The conclusions that suggest themselves from this work so far as scarlatinal streptococcemia is concerned are that streptococci occasionally may be found in the blood of cases of scarlet fever that run a short, mild, and uncomplicated clinical course; that streptococci occur with relatively greater frequency in the more severe and protracted cases of scarlet fever in which there also may develop local complications and clinical signs of general infection, such as joint inflammations, but even in the grave cases of this kind spontaneous recovery may take place; and finally, that streptococcemia may not be demonstrable in fatal cases of scarlet fever. The theory that scarlet fever is a streptococcus disease does not seem to receive any direct support from this work.

REFERENCES.

1. The earlier observations on secondary mixed infections in the eruptive diseases are summarized well by Bayard Holmes, North American Practitioner, 1889, i, 75-83, 121-131, 268-275.
2. Bakteriologische Untersuchungen über septische Processe des Kindesalters, Leipzig, 1889.
3. Streptocoque et scarlatine, These, 1899.
4. Centralbl. f. Bakt., 1889, v, 433-444 and 465-479; also Abstract of article in Wratch (1888). Ibid., 286.
5. Abstr. from Russian, ibid., 683.
6. Medical and Surgical Reports of the Boston City Hospital, 1899, x, 39-82; see also, ibid., 1898, ix, 86-105.
7. Boston Medical and Surgical Journal, 1894.
8. Berl. Kl. Wochenschr., 1900, xxxvii, 588-592 and 618-621. Arch. f. Kinderheilk., 1902, xxxiii, 1-55. Berl. Kl. Wochenschr., 1902, xxxix, 1113-1116 and 1152-1154.
9. Jahrb. f. Kinderheilkunde, 1901, liii, 505-515.
10. Arb. aus Baumgarten's Institut, 1891-1892, i, 392-403.
11. Twenty-ninth Report Local Government Board, 1901, London. Abstr. in Baumgarten's Jahresbericht, 1902, xvi, 105.
12. Wien. Kl. Wochenschr., 1902, xv, 1053-1055.
13. Bull. et Mem. Soc. med. d'Hop. de Paris, 1896, xiii.
14. Centralbl. f. Bakt., 1899, xxv, 776-777.
15. Compt. rend. de l'Acad. de Paris, 1895, 1007.
16. Compt. rend. de Soc. de Biol., 1896, x.
17. Münch. med. Wochenschr., 1898. Abstr. in Centralbl. f. Bakt., 1898, xxiii, 1061.
18. Centralbl. f. Bakt., 1902, xxxii, 263-270.
19. Journ. Med. Research, 1902, vii, 128-136.
20. Zeitschr. f. Hyg. u. Infektionskr., 1899, xxxi.
21. Babes and Stolz: Quoted by Hilbert, see 24.
22. Rev. de Chir., 1894, xiv. Abstr. in Centralbl. f. Bakt., 1894, xiv, 1019.
23. Verh. deut. path. Gesellsch., 1901, iv, 186-187. Zeitschr. f. Heilkunde, 1902, xxii.
24. Zeitschr. f. Hyg. u. Infektionskr., 1899, xxxi, 381-415.
25. Verh. d. Gesellschaft f. Chir., 1902, xxxi, 291-304.
26. Zeitschr. f. Heilkunde, 1901, xxii, 190-220.
27. Centralbl. f. Bakt., 1902, xxxi, Ref., 783 and 784.
28. Arb. aus Baumgarten's Institut, 1896, ii, 262.
29. Journ. Boston Soc. Med. Scien., 1900, v, 139-319.
30. Journ. Experiment. Med., 1896, i, 558-576.
31. Trans. Assoc. Am. Phys., 1902, xvii, 208-216.
32. Rev. de Med., 1900, 303.
33. Compt. rend. de la Soc. de Biol., 1893, 1012.
34. British Med. Jour., Oct. 11, 1902, 1105-1114.

The metric system is objected to by some London physicians on account of the liability of mistaking the abbreviation of "gram" for that of "grain." This difficulty is easily overcome by following the practice in the United States of designating "gram" by the abbreviation capital "Gr.," or "Gm.," and continuing to designate "grain" with small "gr." What is more, a prescription written in the metric system is very likely to have other terms than that of "gram," and no pharmacist would expect to receive a prescription with some terms in the metric system and others in the old, cumbersome system.—*Meyer Bros. Druggist.*

THE GLYCOSURIC SYMPTOM OF DISEASE AND ITS MEDICINAL TREATMENT.*

HEINRICH STERN, PH.D., M.D.
NEW YORK CITY.

An unusual amount of grape sugar in the urine is by no means an absolute indication of the presence of diabetes mellitus; it may be concomitant with, or sequential to, various other transitory, as well as chronic, anomalies. Thus glycosuria in its alimentary form *e saccharo* may be induced in the presence of various traumatic and non-traumatic neuroses; of alcoholism; of Graves' disease; of gastrointestinal disorders, as hyperacidity; of hepatic affections, etc.

Glycosuria, mostly of the spontaneous transitory type, may appear after injury and extirpation of less important organs; after ether and chloroform anesthesia; after administration of drugs and chemicals like phloridzin, mercuric bichlorid, chloral, morphin, strychnin, amyl nitrite, curare, thyroid preparations, adrenalin, etc.; after inhalation of carbon monoxid; after the excessive use of tobacco; during the luetic process, and during or after infectious diseases.

Generally speaking, non-diabetic glycosurias are the result of intoxications, that is, of slight or graver disturbances due either to influences coming from without or to such arising from within. Some transitory glycosurias may attain a certain degree of chronicity by the persistence of their underlying cause. These factors, however, are mostly of a non-permanent nature. While thus non-diabetic glycosuria may occasionally continue for protracted periods, diabetic glycosuria, or what is considered such, the concomitant phenomenon of exceedingly chronic processes is chronic in the majority of instances.

The vast difference between non-diabetic and diabetic glycosuria is the endurance of the causative factors in the latter. True diabetes exists before excretion of sugar supervenes,[1] and apart from some very rare exception, it still continues when, for the time being, glycosuria has ceased.

While we are able to assign or to trace the majority of non-diabetic glycosurias to a direct or more remote factor, we have as yet not succeeded in determining the substratum of diabetes proper. While, therefore, non-diabetic glycosurias may be amenable to rational treatment by influencing or removing their causal conditions, the therapy of true diabetes, on account of our meager knowledge concerning its pathology, must of necessity be of a more or less empiric nature.

Hence it occurs that the diet plays such an important rôle in the treatment of diabetes mellitus. Total or partial withdrawal of carbohydrates from the nutriment results in decrease or complete cessation of glycosuria and in obliteration of the other characteristic phenomena in almost every instance. Again, the exclusion of starchy and saccharous material from the food remains not without influence on non-diabetic glycosuria. Under an antidiabetic regimen non-diabetic melituria is frequently diminished, but although the latter hardly ever attains that degree of intensity which is common in diabetic glycosuria, yet it does not yield to carbohydrate-free nutriment in the same measure as diabetic glycosuria.

Those cases of long-continued glycosuria which are not modified by a diet devoid of farinaceous material, as

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a general rule, are non-diabetic. This is especially the case (excepting, of course, when the patient is in the last stage of diabetes) when progressive bodily decline ensues after persistent adherence to a rigid antidiabetic dietary.

Furthermore, there are some instances in which diabetic glycosuria occurs contemporaneously with chronic non-diabetic mellituria in one and the same individual. Here the diabetic glycosuria and the other diabetic phenomena may subside on dieting; the glycosuria of non-diabetic origin, however, is likely to continue.

The good results attained by instituting a rigid diet in diabetes and its concomitant glycosuria lead to the supposition that analogue improvement would accrue from it in other glycosurias. In fact, little discrimination is exercised between the various types of glycosuria; one is, as a rule, treated like the other, that is, by an antidiabetic regimen.

Apart from exerting little or no influence on the respective foundation of the various non-diabetic melliturias, it is evident that the indiscriminate adaption of this excellent empiric method in combating the diabetic state to the treatment of all glycosurias irrespective of their underlying cause, is irrational and undoubtedly injurious in many instances.

If we bring to our mind that glycosuria is but a consequence, but an enunciation of manifold causes, we will understand that it is useless to treat the symptom *per se* and that we must try to influence the causal conditions directly.

Moreover, is it necessary to combat glycosuria whenever it occurs? My experience prompts me to say "No." If the patient feels well and if there is no evidence of physical or mental decline, I think we should not attempt to interfere with an eventual slight glycosuria. The end may not justify the means, especially if routine treatment implying deprivation is to be employed.

On account of the general application of the dietary methods to the management of the various glycosuric states and on account of injudicious prescribing and the polypharmacy of former years, medicinal treatment has of late been relegated to the rear. In the degree however, in which the influence of diet on amelioration of all the forms of mellituria has been overestimated, the potency of a number of medicinal agents on the various substrata of the glycosuric symptom is nowadays unquestionably underrated.

When both dietary and medicinal treatment are instituted contemporaneously, the real value of either of them can not be determined, because an eventual amelioration of the glycosuric symptom may be due to the diet alone, to the medicament alone, or to their combined influence.

INDICATIONS FOR THE INSTITUTION OF DIETARY TREATMENT ALONE.

All patients exhibiting the usual syndrome of diabetes mellitus, whose urine is free from acetone, diacetic and beta-oxybutyric acids, should be subjected to strict dietary regulations until all the symptoms have completely subsided, or until all symptoms excepting glycosuria, which in the meantime has declined to less than 1 per cent., have disappeared.

INDICATIONS FOR THE INSTITUTION OF MEDICINAL TREATMENT ALONE.

1. All cases systemically declining on the regulation of diet.

2. All cases in which a long-continued rigid diet can not effect complete cessation of the glycosuric symptom.

3. All cases excreting less than 1 per cent. of glucose in which the patient suffers from some disorder but does not exhibit the usual symptom-complex of diabetes mellitus.

4. Such cases in which diet has brought about subsidence of diabetic phenomena, but in which continued mental excitement is liable to effect recurrence of glycosuria.

INDICATIONS FOR BOTH DIETARY AND MEDICINAL TREATMENT.

1. All cases in which a dietary as well as a specific hygienic treatment is indicated and in which the patient through circumstances is prevented from properly executing them.

2. All cases exhibiting the syndrome of diabetes mellitus, but which for reasons of an accompanying affection, like chronic nephritis, for instance, can not be kept under a rigid antidiabetic regimen.

The following lines are devoted to the consideration of such drugs and chemicals which I have employed for the purpose of obliterating certain disorders and anomalies and the glycosurias accompanying them. Being entirely based on personal experience, it is obvious that account can be furnished of but a limited number of medicinal agents and their respective modes of employment.

Medicines do not seem to exert any influence in arresting the progressive tendency of diabetic deterioration, that morbid state characterized by apparent disintegration of body albumin into carbamid and dextrose. The medicinal treatment of this affection, with its unknown, or at least very obscure pathology, of course, was not considered at all. The medicinal treatment of chronic glycosurias of supposedly known origin, however, is dwelt on in the following.

PSEUDO-REMEDIES.

In the treatment of the glycosuric symptom we have to distinguish between two kinds of drugs and chemicals, viz., those which act as genuine remedies and those which interfere with various tests for urinary glucose, thereby misleading us to assume a lesser degree or the absence of glycosuria. Among the pseudo-remedies there are a number of so-called intestinal antiseptics which interfere more or less with the various testing methods, especially with the fermentation test. Jolles[2] pointed out that the guaiacol compound, known as benzosol, introduced into the organism yields levorotatory substances which would on that account indicate an apparent decrease of dextrose if the urine were examined polariscopically.

Record of Mrs. C. L., aged 59 years.

Date.	24 hrs. Urine. cc.	Medicine.	Dose.	Glucose. Fermentation. p. c.	Fermentation. grms.	Fehling. p. c.	Fehling. grms.
Sept.	2100	. . . . .	. . . . .	3.22	67 62	3.33	69.93
20 25	2350	Salol . . .	0.3 gram 4 times a day for 3 days.	1.84	43.24	3.12	73.32
29	1960	Acid carb..	gtt. 2, 3 times a day for 4 days.	2.3	45.08	3.57	69.972
Oct. 6	2150	Ac. salicyl.	0.3 gram 3 times a day for 5 days.	2.07	44.505	3.8	81.7
13	2000	Ac. benzoic	1 gram 4 times a day for 6 days.	2.76	55.2	3.8	76..
20	1740	Calomel. .	0.5 gram on this day .	2.99	52.026	3.33	57.942
27	1850	Beta-naphtol salicylate.	0.35 gram 4 times a day for 1 week.	2 .07	38.295	2.77	51.245

During the last year I have made a series of observations in glycosurias regarding the influence of certain

remedies on the urinary fermentative qualities. These observations are not as yet concluded, but to give an idea of the potent influence of some medicines in preventing complete fermentation, I cite from my notes the following instance:

Among the chemicals interfering with the reduction of the copper and bismuth solutions, thereby deceiving the observer as to the true state of affairs, is benzoylsulphonic imide the saccharin of commerce.

MEDICINAL AGENTS IN GLYCOSURIA DEPENDING ON PERVERTED FUNCTION OR REMOVAL OF GLANDS AND ORGANS.

(*a*) *Pancreas.*—As a general rule, pancreatic glycosuria is very little influenced by medicines. An alkaline treatment may avert its rapid progression, but it exerts no action on the existing phenomena. The ingestion of large amounts of alkaline waters, of course, diminishes the percentage of glucose by diluting the urine; the absolute amount of excreted glucose, however, remains thereby unaltered. Preparations of pancreas avail nothing beyond improving proteid-fat assimilation; they may thus prevent further systemic retrogression or may even effect augmentation of body weight. In a case of undoubted pancreatic diabetes with which was associated far-advanced chronic diffuse nephritis and achylia gastrica, I finally succeeded in reducing the glucose output which originally amounted to over 100 grams per diem, to 10 or 15 grams a day with the aid of this combination:

℞.	Pancreatin .....gr. xxx	2
	Trypsin	
	Foliæ myrtilli pulv., āā.....gr. xv	1
M.	Ft. pulv. d. tal. dos. L. (50).	
Sig.:	One powder three times a day.	

As the patient was under an exclusive milk regimen there is no doubt that it was the medication which effected the glucose reduction. The subsidence of the nephritis as well as of the diabetic phenomena went hand in hand with the decline of the glycosuria. The case was under my observation about two years ago, and appeared then rather hopeless. Lately I heard that the patient is well enough to attend to his business.

The trypsin was added to the pancreatin after this *per se* had been prescribed and had been found wanting. It was my intention to add each of the three pancreatic ferments to the pancreatin—separately, of course. This was done to increase the action of the pancreatin and to find out whether any of the pancreatic ferments occurred in diminished amounts in the organism to the deficiency of which the glycosuria could have been due.

The same combination worked satisfactorily, at least for some time, in some other instances of apparent pancreatogenous glycosuria. In two or three similar instances, however, it displayed no activity whatsoever.

(*b*) *Liver.*—Common or hepatogenous glycosuria, that form which is due to interference with the glycogenic function of the liver to the extent that the ingested carbohydrates are not utilized normally,[3] is best managed by dietary means. In exceptional cases only, as in the presence of acetonemia and acidosis, or where on account of an associated affection a strict antidiabetic regimen can not be continued for any length of time, is medication called for. It is here that the various alkalies and the prolonged administration of arsenical preparations do most good.

Chionanthus virginica has given me good results in some glycosurias which were dependent on functional liver disease.

In acid intoxication the following combination has given me very gratifying results:

℞.	Sodii bicarbonici		
	Calcii carbonici prec., āā.....ʒiss	45	
	Sodii pyrophosphorici .....ʒiiss	10	
M.			

From 10 to 50 grams of this combination should be taken every day in plain or carbonated water for a protracted period.

When coma seems imminent, and during the comatose state, from 2 to 6 grams of precipitated calcium carbonate, suspended in water by the addition of 25 per cent. its weight of acacia, and administered every 2, 3 or 4 hours of enteroclysis, has proved very useful in my hands.[4]

Mineral waters deserve some recognition in the therapeutics of hepatogenous glycosuria. The action of the salt solutions, however, contrary to former belief, is not a direct one. By increasing cellular metabolism they stimulate hepatic activity, and hence there may be a greater tolerance for carbohydrates.

As a general rule, the glycosuria yields in the same ratio as the underlying affection disperses.

(*c*) *Gastrointestinal Tract.*—Chronic affections of the stomach and intestines stand occasionally at the foundation of enduring glycosuria. I had a case under observation in which long-continued hyperchlorhydria proved to be the cause of the obstinate glycosuria, as by suppression of the former the latter became also obliterated.

If an individual has glycosuria and at the same time a chronic gastric or intestinal disorder, the latter should be treated first, especially when other diabetic phenomena are missing and when the excreted dextrose amounts to less than 1 per cent. Of course, such dietary treatment has to be pursued, as the particular gastric or intestinal affection demands. I think milk is best adapted for most cases, at least at the outset. If, in addition to the proper diet the same medication were employed as would be if glycosuria were not present, there is little doubt that with the amelioration of the underlying affection the glycosuria would also cease.

Antacids, antifermentatives, stomachics, etc., and stomach or rectal tubes should be utilized in much the same manner as if the glycosuric condition did not exist.

(*d*) *Kidneys.*—Phloridzin glycosuria, the association of chronic diffuse nephritis with glycosuria when the former is antedating the latter, and the frequent excretion of glucose in renal hemorrhages seems to point to an eventual renal origin of glycosuria.

I have seen four cases in which glycosuria followed pre-existing Bright's disease. Dietary regulations adapted to the condition of the kidneys—milk predominating—and medication directed toward amelioration of the nephritic state, brought about decided general improvement in two cases. In the one case, urinary glucose, after three weeks' treatment, was reduced from 0.47 to 0.14 per cent., and in the other, glucose was not excreted any more in appreciable amounts in the second week following the institution of treatment.

(*e*) *Other Organs.*—As long as the functions of a diseased or extirpated organ are assumed by another organ, in other words, as long as the metabolic equilibrium remains undisturbed, glycosuria will not occur. It is therefore often necessary to treat, that is, to stimulate, the organs which are expected to exert vicarious functions.

In a case under my observation glycosuria occurred after ulceration and subsequent removal of both sub-

lingual glands. A diet somewhat reduced in starchy material, an occasional mild ptyalagogue and the administration of ptyalin, or pancreatin, kept the glycosuria in check for over two years. Later true diabetes supervened, for the treatment of which a rigid antidiabetic diet had to be resorted to.

Hyperthyroidism is occasionally associated with glycosuria. In the two cases of the association which came under my observation thyroid therapy, arsenic, etc., were of no avail.[5]

MEDICINAL AGENTS IN GLYCOSURIA DEPENDING ON URIC-ACIDEMIA AND POLYSARCIA.

Glycosuria arises not infrequently from a gouty basis. This is readily understood when we remember that both may be the result of similar intracellular processes. The medicinal treatment should be chosen to influence the substratum common to both affections. In such instances diabetic phenomena, excepting glycosuria, if present at all, are only slightly pronounced. The glycosuria hardly ever exceeds 1 per cent.; the urine is normal, or almost normal, in amount; its density is high.

As a rigid antidiabetic diet is here contraindicated on account of the mild form of the secondary affection and of the untoward influence it may exert on the gouty state, medicaments should be the factors mostly to be dependent on in the therapy of the two concurring conditions.

Antilithiatic measures causing amelioration of the gouty affection subdue also the accompanying glycosuria in the majority of instances. In those cases in which glycosuria persists after cessation of the gouty phenomena, glycosuria is very likely the original abnormal condition and is depending on some other cause.

Medicines like the salicylates, salol, piperazin, tincture and salts of iodin, aspirin, various alkalies, alkalin-muriatic waters, and, in a sense, also opium, formerly lauded as efficacious in the treatment of glycosuria and diabetes, probably possess remedial qualities only when the glycosuric condition is the consequence of a gouty process.

When obesity preceded glycosuria, a diet effecting reduction of body weight is imperative. Diet as well as exercise should be carefully regulated according to the type of obesity.[6] Thyroid therapy, on account of its well-known tendency to produce or to intensify glycosuria, should be resorted to only under extreme circumstances. Fucus vesiculosis, especially the citric acid extract as devised by me, I have found of great value in the reduction of polysarcia and its accompanying glycosuria.

MEDICINAL AGENTS IN GLYCOSURIA DEPENDING ON LUETIC CONDITIONS.

Syphilitic infection seems to be much oftener the direct cause of glycosuria than is generally assumed. We have syphilitic affections of the liver, of the gastrointestinal tract, of the pancreas and especially of the brain. Glycosuria may be attendant on an eventual syphilitic process in any of these organs. I have seen two cases during the last year, both young men who were rejected by two of the large life insurance companies on account of "diabetes." In Case 1 the excreted glucose never amounted to more than 0.25 per cent., or about 3.5 grams per diem; in Case 2 from 5 to 6 grams of glucose were egested daily. Both patients admitted to have been infected with syphilis. Antiluetic treatment resulted in the cessation of glycosuria in Case 2; Case 1 is still under observation as the glycosuria persists. Case 2 was granted a life insurance policy some time ago.

Potassium iodid and the mercurials are the indicated remedies. Mercury should be applied by inunctions or by subcutaneous injections. I have seen speedy results following the hypodermatic injection of mercuric bichlorid. This, by the way, is the only rational manner in which to administer corrosive sublimate. Introduced into the stomach it is frequently followed by untoward secondary effects, and it does not display that degree of activity which it exhibits when injected hypodermatically. I use solutions of the strength of 1, 2 and 3 per cent., to each of which 2 per cent. sodium chlorid is added. I generally start with 8 drops of the 1 per cent. solution, adding two drops at each subsequent injection. When 15 or 20 drops have been used—the capacity of the ordinary hypodermic syringe—I continue with 8 or 9 drops of the 2 per cent. solution, adding but one drop at each subsequent injection. If, after prolonged administration of 15 or 20 drops of the 2 per cent. solution, the syphilitic process is not under control, the 3 per cent. solution should be utilized. In the first two weeks injections are daily made; later on they are administered at first every second day and then twice a week. I inject the solutions through a platinum iridium needle, which is introduced at least to the depth of three centimeters in order to prevent abscess formation. The injections are best made into the buttocks.

MEDICINAL AGENTS IN NEUROGENOUS GLYCOSURIA.

Chronic glycosuria is very frequently the enunciation of an affection of the nervous system. It has been found to occur in tumors of the brain, particularly when located in the medulla oblongata, cerebellum or pons varolii; in dementia paralytica; in multiple sclerosis; in cerebrospinal meningitis; in cerebral hemorrhage; in encephalomalacia; in tabes; in affections of the sympathetic nervous system; in traumatic conditions of the brain; in traumatic and functional neuroses, etc.

Generally speaking, the neurogenous type of glycosuria is the one in which medicinal treatment seems *a priori* indicated. The majority of medicaments propounded for the "cure of diabetes" exert their action on and through the nervous system. Opium (morphin, codein, heroin, dionin), the bromids, chloral hydrate, chloralamid, antipyrin, acetanilid, phenacetin, belladonna, strychnin, *Syzygium jambulanum*, ergot, uranium nitrate—these all influence the nervous system to a greater or less extent.

In certain instances of neurogenous glycosuria, especially in such cases where the output of glucose does not exceed 1 per cent., that is, about 15 grams per day, and where the patient is rather emaciated, well-directed medicinal treatment alone will often afford relief of the nervous affection as well as of its glycosuric phenomenon. In other cases, however, in which we have to deal with a well-nourished and even obese subject egesting more than 1 per cent. of grape sugar, a proper dietary treatment, at least at the outset, should go hand in hand with the administration of medicines.

As many of the nervous conditions underlying glycosuria are of an exceedingly chronic nature, the poisonous and narcotic remedies should be resorted to on exceptional occasions only. I do not think that I prescribed opium or its alkaloids or derivatives (for the condition *per se*) more than in 5 per cent. of the several hundred cases of chronic glycosuria which have come under my observation. I only give opium when excessive cellular catabolism is to be arrested, that is, in cases rapidly declining. Opium retards the intracellular processes, and on this account it may act efficaciously in the

specific instances, at least for the time being, however, in consequence thereof it is a double-edged sword which may also cut the other way.

If the effect of opium is desired, its alkaloids or derivatives should not be given. In the control of the glycosuric symptom opium seems to exhibit qualities not possessed by either of them. However, morphin is more reliable than codein, and this acts prompter than heroin or dionin.

The bromids, cerebral and spinal depressants as they are, may subdue some of the nervous symptoms, but I found them rather indifferent concerning suppression of the glycosuric phenomenon. Chloral hydrate, by reason of its antispasmodic and depressant properties, affords relief in certain conditions of the nervous system underlying glycosuria without influencing the latter.

Antipyrin is not without merit in reducing glycosuria consequential to functional neurosis, particularly if the latter is a sequela of an acute infectious disease. Glycosuria on the basis of a traumatic neurosis sometimes yields to belladonna or atropin. I have seen satisfactory results from the administration of small doses of ergot in glycosuria following injury of the nervous system. In no case of glycosuria in which uranium nitrate alone was employed did I notice any material change in the output of glucose.

Syzygium jambulanum is undoubtedly that agent which is of greater value in the suppression of neurogenous glycosuria than any other medicinal substance as yet advocated for that purpose. Preparations of this drug obtainable are powdered jambul seeds and fluid extract of jambul seed. The dose of either should be in the beginning 0.75 gram three times a day; this is to be increased to 10, 20 and even 30 grams a day.

I had a solid extract prepared from the jambul seeds which in appearance and consistency resembles the extract of aloes. I prescribe it in the form of pills or capsules. I have given as much as 10 grams a day of this solid extract.

There seem to be different qualities of jambul seed in the market. I judge so from the degree of activity displayed by various specimens. When, therefore, the administration of jambul has proved a failure in lowering the glucose output, it is best to obtain the drug from some other source and to try it again.

Jambul in small doses may be given for protracted periods. It is best to continue its administration indefinitely in all those conditions where the nervous affection proves to be unyielding and where the accompanying glycosuria is generally of a low degree, but tending to occasional exacerbations. The following mass may be put up in pills or gelatin capsules. In cases where the combination was indicated it has nearly always kept the glycosuria at a minimum point:

℞.	Ext. seminis jambulæ	3ixss	37 | 5
	Ext. valerianæ	gr. cxiiss	7 | 5
	Ext. fuci vesiculosis	gr. lxxv	5
	Ext. cypripedii		
	Ext. scutellariæ, āā	gr. xxxviiss	2 | 5
	Ext. piscidiæ erythrin	gr. xx	1 | 25
	Ext. gelsemii		
	Ext. belladonnæ, āā	gr. viiss	0 | 5
	Ext. physostigmæ	gr. iv	0 | 25
	Aloin	gr. xv	1

M. Ft. Massa et divide in pil. (caps.) No. CC. (200). Sig.: From three to twelve pills (capsules) a day.

REFERENCES.

1. Heinrich Stern: On the Prodromic Stage, the Early Recognition and Early Treatment of Diabetes Mellitus. N. Y. Med. Jour., July 10, 1897.
2. A. Jolles: Prager med. Wochenschrift, 1893, No. 12.
3. Heinrich Stern: Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus. Phila. Med. Jour., April 27, 1901.
4. Heinrich Stern: Coma Diabeticum: Its Treatment. The Journal A. M. A., Dec. 8, 1900.
5. Heinrich Stern: On the Association of Graves' Disease with Glycosuria and Diabetes Mellitus. The Journal A. M. A., 1902.
6. Heinrich Stern: On the Treatment of Obesity. The Journal A. M. A., Feb. 11, 1902.

DISCUSSION.

Dr. W. W. Tompkins, Charlestown, W. Va.—In the region in which I live the population is about one-third negroes. They are largely syphilitic and tuberculous, but it is remarkable that I have never seen a case of diabetes or glycosuria in the colored race. Other practitioners in my neighborhod, on being asked, could not recall having seen a case. I can not offer any reason for the immunity, if it exists; they live in about the same way and eat the same food that the whites do. They eat sugar and are very fond of sweets, but do not seem to have glycosuria as the whites do. Has the author made any observations on this point? I do not just comprehend the difference that Dr. Stern made between glycosuria and diabetes and wish for a clearer definition.

Dr. H. C. Wood, Jr., Philadelphia—I have given methylene blue to three cases of diabetes mellitus, with apparently good results in two. One case improved very distinctly; this case happened to be in a negro. On one point I desire some light: Does the form in which the carbohydrates are administered in these patients make any difference? In the German medical journals lately much has been said about the value of potatoes in the dietary of diabetics. I can not understand the rationale of giving potatoes and excluding bread; or why potatoes should be good and bread bad for a patient with diabetes.

Dr. Henry R. Slack, La Grange, Ga.—In regard to the use of potatoes as a substitute for other forms of starchy food in diabetes, I have closely watched several cases while under this treatment in the Johns Hopkins Hospital at Baltimore. A number of experiments were made with regard to the effects of different articles of diet on the excretion of sugar. In one case, a divinity student, after taking 500 gm. of bread, 390 gm. of grape sugar were excreted; while after taking 800 gm. of potatoes he only had 90 gm. of sugar in his urine. In another case, that of a young woman, while the results were not so marked as in the former, yet the decline in the glucose was notable. On 400 gm. bread she excreted nearly 300 gm. sugar, while on 600 gm. potato it was less than 100 daily. One day I was much surprised, while the patient was on the potato diet, to find that the amount of sugar suddenly went way up, to over 200 gm.; but I discovered afterward that visitors had been with the patient the day before, and that they had given her about a quarter of a pound of candy to eat, which fully explained it. However, in a few days, with care in the diet, the amount of sugar again diminished. It showed that while the girl had only eaten about 60 gm. of candy still the candy had so stimulated the glycosuria that not only the candy was added to the sugar but more of the starch of the potato had also been converted. I offer no explanations for this phenomenon, but merely state it as a clinical observation that less sugar is excreted when the patient is kept on potatoes than when on any other form of starchy food.

Dr. W. J. Robinson, New York City—There are many diseases about which we really know very little; but about diabetes and rheumatism we know less than of any other. We know absolutely nothing about the etiology of either disease. With regard to the use of potatoes in the diet: A few years ago if a physician had dared to propose the use of potatoes it would have been taken as an indication of gross ignorance; but now this is advocated by some of the best practitioners. It has been suggested in explanation that the potato contains a large amount of potassium salts, and that the condition giving rise to the diabetes is favorably affected by these salts in the potato, when used as food. It is also claimed that the carbohydrates of the potato act more favorably than other starches. If this is so it will explain the reduction in the grape-sugar of the urine when potatoes are used. Whether true or not, if the result of eating potatoes is a reduction of the glycosuria, we

can give them empirically, just as we use certain drugs in the treatment of diabetes, on a purely empirical basis.

Dr. A. B. Lyons, Detroit—Not long ago my attention was directed to one of the many preparations recommended to physicians for the treatment of diabetes, which was said to be made from one of the myrtaceæ. The formula given called for "myrtle (crystals)." This puzzled me at first, but on examining the preparation I arrived at an interpretation. Myrtle crystals can mean nothing but jambul seeds, a well-known remedy in some forms of glycosuria.

Dr. W. J. Robinson, New York City—A few years ago a remedy for diabetes was brought out and was much vaunted in Germany by the manufacturers as an infallible specific. It was called "musol." It was found afterward that it was absolutely nothing but salol.

Dr. Heinrich Stern, New York City—Some of the participants in the discussion must have misunderstood me as I did not utter a single word as to the medicinal treatment of diabetes mellitus. I merely considered the glycosuric symptom of disease and the medicinal treatment of conditions attended by this symptom, and more especially of certain types of disease in which glycosuria is apt to occur. I can not accept the statement that we know nothing about the cause of this symptom. It is the office of the physician to investigate the etiologic factors of each individual case presenting itself for treatment. Routine treatment in glycosuric conditions is certainly unscientific and often injurious. To treat every case of glycosuria like diabetes is a very easy thing, but it is not the proper procedure. In a large proportion of cases of non-diabetic glycosuria, perhaps in over 90 per cent. the causes of the glycosuric symptom can be ascertained and with the knowledge of the cause to guide us, it may be successfully treated. While we know very little as to the causative factors of diabetes itself, we know a good deal about the various types of glycosuria and the conditions underlying the appearance of the glycosuric phenomenon. In reply to the question as to the frequency of diabetes in negroes, some years ago I studied and arranged the records relating to vital statistics in the city of New York, and found that in a period of eleven years prior to 1900 there had been reported fifteen cases of diabetes that had ended fatally in negroes. One of the cases of Graves' disease, accompanied by glycosuria, which I reported before the Section on Practice of Medicine, occurred in a negress. So that, while it is unusual to find grave conditions attended by glycosuria in the negro, such cases are occasionally observed.

Among the remedies considered in my communication I only included such as I have personally found to be efficacious in the treatment of the glycosuric symptom. I purposely omitted all those so-called remedies which, after continued and repeated trials, I have found valueless in ameliorating the output of urinary glucose. In answer to Dr. Wood's question, I have no definite results to report from the use of methylene-blue. I have used the chemical not very frequently and only reluctantly. Still, in those cases in which I have employed it, it was continued for protracted periods and the cases were kept under close observation. Ergot has rendered me good service in a number of instances. Its action is especially marked in cases characterized by pronounced polyuria. It influences the circulation of the brain and hence is indicated when the cause of the glycosuria is within the brain and when it seems necessary to produce an artificial anemia there. It is also of decided influence in cases depending on or concurring with cardiac hypertrophy.

Now as regards the form of carbohydrates to be allowed in the diet. I did not speak on the dietary treatment of either diabetes or glycosuria. This is a chapter of itself, and a very long chapter at that. I pointed out that dietetic treatment is not always indicated in the various non-diabetic glycosurias. The question of carbohydrates, therefore, could only be of importance in non-diabetic glycosurias, if the patient was also affected with a gastric disturbance demanding for a time the exclusion of starchy or saccharin material. The question was raised as to the tolerance of potatoes by the diabetic organism. A French clinician was the one who first introduced the potato diet. I have allowed the use of potatoes in a number of patients. Certain patients, it is true, tolerated the potatoes very well, but it must not be forgotten that at least the same proportion of diabetic persons tolerate other forms of starchy food if taken in moderation and that there exists a great number of diabetics who can partake of large quantities of milk with impunity. I do not consider the potassium salts contained in the potatoes to be of any advantage, for if they were, potassium as such or any of its salts should have proved of benefit in the treatment of the diabetic or glycosuric conditions. This is plainly not the case. In comparing potatoes with other forms of carbohydrate food, it should be remembered that, in the first place, potatoes contain very small amounts of solid material, therefore also of starch, in proportion to their bulk. This is one reason why their employment may be less objectionable than that of bread. They are bulky; in one hundred grams of potatoes but twenty-one grams of carbohydrate matter are contained, while in the same amount of wheaten or rye flour from 60 to 90 grams of carbohydrates are found. To obtain the same caloric value about four times as much of potatoes as of flour or bread must be consumed. The potato diet may satisfy a patient, but he has taken very little starch and a great deal of water. In the way of substitutes for bread I have advised the preparation of peanut flour and bread and cakes baked therefrom. As a general rule, however, I find that most patients get along with little or no bread.

I am no advocate of bread substitutes; the dietetic treatment is essential in diabetes. Combined with a medicinal treatment, dietary regulations may be very beneficial in the various forms of glycosuria, but a majority of instances of glycosuria do not ask for an antidiabetic regimen.

SOME RARE FORMS OF CHRONIC PERITONITIS

ASSOCIATED WITH PRODUCTIVE FIBROSIS AND HYALINE DEGENERATION.*

ALBERT G. NICHOLLS, M.A., M.D.
Lecturer in Pathology, McGill University, and Assistant Pathologist to the Royal Victoria Hospital.
MONTREAL.

In the discussion of the subject of peritonitis an element of confusion has been introduced owing to the loose way in which certain descriptive terms have been used. A confusion in the nomenclature leads inevitably to a confusion of ideas. We find that many writers of repute use terms such as "peritonitis," "perihepatitis" and "perisplenitis" to designate a condition in which fibrous bands of adhesion connect the various viscera or traverse serous cavities, even in the absence of any sign of accompanying active inflammation. While, of course, such adhesions are an evidence of an inflammatory process, they are the result of such a process rather than the process itself. Now a result can not be the cause; scar-tissue is not the wound, nor are fibrous adhesions inflammation. It is obviously then incorrect and misleading to use a term like peritonitis to designate such a condition. We should prefer to restrict the term to those cases in which inflammation is actually in progress at the time of observation, since fibrous adhesions may be merely evidence of an inflammatory process long since past and gone. There are cases, however, where adhesions occur with the addition of changes due to an associated active process, with certain forms of which I propose to deal.

In the course of the present communication I desire more especially to call attention to a peculiar form of chronic peritonitis of progressive development, several instances of which have come under my notice recently

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

that is of considerable interest and importance. While from the point of view of etiology several varieties must be recognized, anatomically speaking they have much in common; in many there is more or less exudation of a sero-fibrinous or fibrino-purulent character, while adhesions, plastic and fibrous, are common. The feature, however, that gives the affection its characteristic form is a peculiar overgrowth of fibrous tissue on the peritoneal membrane and the surfaces of the abdominal viscera leading to induration and deformity. This fibrous tissue undergoes hyaline transformation so that plaques or continuous sheets of pearly-white cartilaginous appearance are produced in various parts. The material in question has every feature of newly-formed tissue, and the disease is both chronic and progressive. Shrinkage of the fibrous tissue takes place, hence one might correctly speak of the disease as a chronic "indurative" peritonitis.

The process when diffuse is usually most marked about the upper part of the peritoneal cavity, the capsules of the liver and spleen, the mesentery and the great omentum, and may even extend to the pleural and pericardial cavities. Although not new, the subject is one that has attracted but little attention in proportion to its importance. Cases of this kind usually come under the notice of the clinician with ascites, slight abdominal pain, alteration in the size of the liver and slight anasarca, so that at first sight there is a considerable resemblance to cirrhosis of the liver. These cases are so remarkable and differ so much from the ordinary chronic peritonitis that their exact relationship is not at first sight apprehended.

A brief reference, in passing, to the forms of peritonitis may not be out of place at this point, since it will render plainer what is to come. All peritonitides may be divided into primary and secondary forms. A primary peritonitis is defined by Flexner[1] to be "a condition in which the inflammation, usually diffuse, of the serous cavity takes place without the mediation of any of its contained organs, and independently of any surgical operation on its parts." As Flexner correctly points out, these are usually due to terminal infection. From their nature it is obvious that they can not lead to the chronic disease and so may be dismissed at once from our consideration. Chronic peritonitis may be developed from an originally acute disease, either by a succession of relapses or a gradual amelioration in the severity of the attack, or it may develop insidiously from the first. A point of some importance in chronic peritonitis, even if it subsequently become generalized, is that, with the exception of those cases dependent on ascites or secondary infection, it is practically always local at the beginning and is in almost every case secondary to disease of one of the abdominal viscera. Careful examination in these cases will show that the vast majority of instances arise by the extension of disease from some organ in close anatomic relation to the peritoneal membrane. The ways in which this may occur are multitudinous, but the more important may be mentioned—gastric or intestinal ulcers, cholecystitis, pericholecystitis, traumatism, abscess or gumma of the liver, inflammations of the internal female genitalia, hernia, tuberculosis and carcinoma, echinococcus cysts.

THE VARIETIES OF PERITONITIS.

In many cases it is not uncommon to find local inflammation with adhesion of the adjacent surfaces, but a certain percentage of these will go on to a wide dissemination; we have, therefore, to recognize both local and diffuse forms. Why a local process of this nature should persistently spread is not very clear. The answer is perhaps to be found in the nature of the initial lesion which is usually of a type not amenable to ordinary medicinal measures, while it usually occurs in some part where there is continuous mechanical irritation incident to the functioning of the parts affected. Probably, too, the germs at work are of relatively low virulence and adhesions form which tend to inhibit the activity of the process, and thus convert what would otherwise be an acute process into a slowly progressive one. Dissemination of the infective agent takes place through the lymph system rather than by direct extension over the peritoneal surface. According to the nature of the exudation produced we can conveniently divide chronic peritonitis (diffuse) into three main forms:

1. *Chronic Exudative Peritonitis,* in which there is a considerable outpouring of serous, sero-fibrinous or fibrino-purulent fluid, with loose plastic adhesions; fibrous bands are few or absent.

2. *Chronic Exudative and Adhesive Peritonitis,* presenting less exudation, but with somewhat numerous and firm adhesions, often leading to sacculation of the contents.

3. *Chronic Hyperplastic Peritonitis,* in which there is sero-fibrinous or fibrino-purulent exudation, but more or less generalized adhesions are the rule, together with the formation of firm nodules or continuous sheets of hyaline fibrous tissue.

Many points of interest tempt us to discussion, but in the present paper we are principally concerned with the third form:

CHRONIC HYPERPLASTIC PERITONITIS.

In entering on a consideration of this affection it may be said at the outset that this form is much rarer than either of the other two. Many cases are merely of pathologic interest, since they are only discovered incidentally at autopsy, but some few, owing to the extent of the lesions and their localization to special organs, are susceptible of diagnosis during life, and hence are of clinical importance. Anatomically speaking, the cardinal features of the disease are the production of more or less exudation into the abdominal cavity and the production of fibrosis leading to the formation of sporadic elevated nodules on the peritoneal surface or to a continuous fibrous membrane of considerable thickness and cartilaginous texture on the various viscera.

Judging from a careful review of the literature, cases of this kind are not very common, but this, I think, is possibly due to the fact that attention has not been sufficiently drawn to the possibility of their occurrence. As an illustration of the early stage in the process I may refer briefly to the following case coming under my own notice at the Royal Victoria Hospital:

Case 1.—Male, aged 80, gave a history of intestinal disturbance in the epigastrium, pain after eating, epigastric tenderness, occasional vomiting and progressive emaciation. When admitted to the wards free fluid was found in the abdominal cavity, with tenderness and resistance in the epigastrium, and to a less extent over the ileocecal region.

Autopsy.—The gall bladder contained calculi and was shrunken, with greatly thickened walls. On the under surface of the diaphragm were numerous pearly nodules of hyaline, translucent appearance, which microscopically were composed of laminated fibrous tissue with hyaline degeneration. The great omentum was converted into a fibrous cord, and the spleen was tied up in fibrous adhesions. Between the coils

of the intestines were numerous plastic and some firmer adhesions, with pockets of fibrino-purulent fluid. A glassy avascular membrane of new formation covered over the whole front of the abdominal cavity, through which the intestines could be indistinctly made out.

Here, no doubt, the exciting cause of the peritonitis was cholelithiasis with cholecystitis and pericholecystitis. A very similar case has been recorded by Hübler, Sr.,[2] in a woman of 56, who suffered from repeated attacks of biliary colic and jaundice followed by ascites. Death ensued after ten years, and at autopsy cholecystitis was found, the peritoneum over the anterior abdominal wall was thickened and the liver covered by a thick membrane of porcelain-like appearance; a local purulent peritonitis was also present. Here the lesion was more diffuse than in my own case, but in both we have a chronic diffuse peritonitis of the peculiar type in question, clearly originating in a local inflammatory lesion.

Some of these cases appear to be due to trauma, as in an instance related by Henoch,[3] where a little girl was kicked in the region of the liver and some weeks later developed enormous ascites. At autopsy an extensive hemorrhagic and hyperplastic peritonitis was discovered, together with bruising and laceration of the liver. Von Wuncheim[4] records a similar case apparently of a different origin, in a man of 43, who had suffered for four years with palpitation of the heart and ascites. At autopsy there was ascites and the peritoneum was greatly thickened and of pearly-white appearance. A large aortic aneurism had ruptured into the right auricle, and in addition to the chronic peritonitis there was contraction of the aortic valves, chronic Bright's disease and passive congestion of the organs. Von Wunscheim's case suggests strongly that the determining factor in the production of the peritonitis was the vascular disturbance and transudation induced by the heart lesion.

Both Rokitansky[5] and Ziegler[6] state that local thickenings of the peritoneum may arise from the irritation of a simple ascites. But after a careful investigation into this point I have not been able to satisfy myself that a diffuse thickening of the membrane of the type referred to occurs from this cause. It is well known how frequently an acute peritonitis complicates those diseases associated with ascites, such as cirrhosis of the liver and Bright's disease, but as yet it has not been made clear in how far this event is due to secondary infection rather than to the simple mechanical irritation of fluid. I am inclined to think myself that in every case infection is at work. It is probable, however, that passive congestion of the organ may lead to a local thickening of the peritoneum covering it. Taking the spleen, for instance, in 467 postmortems of which I have notes, fibro-hyaline plaques were found on the capsule 17 times, and the most important single causative factor was passive congestion. This view is also held by Eichhorst.[7] In my experience, however, in cases of passive congestion the hyaline thickening remains strictly local. So far as I can see from a careful study of this form of peritonitis the most important factor is the extension of an inflammatory process from some one of the contained viscera. I have been led to this conclusion from a consideration of the etiology, the clinical course of the disease and a careful study of the exudation and the thickened membrane produced.

In another class of cases the peritoneum is affected together with other serous membranes. In a recent study of this form,[8] for which I have proposed the term "Multiple Progressive Hyaloserositis," I have been able to collect 14 instances, and several more are now recorded. (See A. O. J. Kelly.[17]) As a rule the pericardium, the pleuræ and the upper part of the peritoneal membrane are the parts affected, although variations occur. About half the cases seem to have started from some lesion of the abdominal viscera, frequently a perihepatitis secondary to some inflammatory affection of the liver. One case apparently started from a duodenal ulcer. Next to this the most important association is a chronic indurative mediastino-pericarditis extending secondarily to the peritoneal cavity. More rarely still chronic pleurisy is an exciting cause. In such cases extension of the inflammatory agents takes place by means of the lymphatics of the various cavities which have free communication. The most important form of this type is chronic perihepatitis, to which Curschmann[9] has drawn attention under the name of "Zuckergussleber," or "icing liver." Chronic perihepatitis is almost invariably associated with chronic peritonitis,, although the converse proposition by no means holds good. Clinically, the most striking symptoms are, general weakness, shortness of breath and a gradual increasing and refractory ascites; jaundice is uncommon in uncomplicated cases. The resemblance to atrophic cirrhosis of the liver is striking, but differential diagnosis is possible. In the form beginning with peritonitis and perihepatitis the leading features are ascites, which tends to return after repeated paracentesis; the liver is at first enlarged and later small, smooth and hard. Later, pleural effusion or adhesions may form, particularly on the right side, and later still a similar involvement of the pericardium leading to cardiac insufficiency.

The disease may begin acutely with fever, rigors, pain in the epigastrium and tenderness in the hepatic region. Other cases develop insidiously and do not come under observation until the ascites is well marked. The spleen is usually enlarged. A case of this type is the following, which I have have had an opportunity of studying fully:

Case 2.—A woman, aged 48, had been ill for some two years with weakness, dyspnea, palpitation of the heart, and extreme anasarca.

Autopsy.—The abdomen contained 6000 c.cm. of straw-colored fluid clotting readily; there were fibrous adhesions between the great omentum and the uterus and left ovary, and between the coils of the intestines. The great omentum was contracted into a firm fibrous mass, the mesentery thickened and greatly shortened.

A striking feature was that in the upper part of the abdominal cavity, particularly the capsules of the liver and spleen, the serous membrane was greatly thickened and of pearly-white gelatinous appearance. Both pleural sacs were obliterated and the pleural membrane showed the same peculiar metamorphosis. The two layers of the pericardium were universally adherent by fibrous adhesions.

Microscopic Examination.—This showed that the material referred to was an organizing inflammatory deposit, the main features of which were hyperplasia of fibrous tissue with consecutive hyaline degeneration.

While, as has been mentioned, most of such cases hitherto reported have originated in the peritoneal cavity, in others the peritonitis arose by extension from the pericardium or pleuræ. In cases of hyperplastic peritonitis such as has just been described it is difficult, in the light of our present knowledge, to assign the exact cause. In most there is a history of acute infection of various kinds, such as acute hepatitis, cholecystitis and pericholecystitis, typhoid fever, perityphlitis and the like, and it is probable in these cases that we are dealing with an infection by micro-organisms of relatively low virulence, so that for a considerable length of time the

tissues of the body are able to resist the inroads of the disease, and thus the fatal termination is almost indefinitely prolonged.

Much interest attaches to the question: What part does tuberculosis play in this form of peritonitis? Louis[10] held that every case of chronic peritonitis was tubercular. But this is certainly incorrect. It is probably true that the majority of cases are tubercular, but numerous exceptions occur, as the above recorded cases sufficiently prove, for in none of them was the *Bacillus tuberculosis* discovered, although search was made for it. It is quite possible, however, for the tubercle bacillus to produce a hyaline and productive fibrosis of the peritoneal membrane, quite comparable to the simple form previously described. This fact has been but little recognized up to the present. Within recent years numerous observations have been made tending to show that tuberculosis of the serous membranes and of the various organs is not necessarily a destructive process, but is, on the contrary, occasionally a constructive one; caseation may be slight or absent while fibrous hyperplasia is in excess. Such hyperplastic tuberculosis, or "pseudo-neoplastic growth," has been met with in the larynx, where it has been mistaken for carcinoma.

Analogous to this is that peculiar form of lymphadenitis, which clinically may be taken for Hodgkin's disease, until the discovery of the specific bacillus reveals the true nature of the case. Why the disease should take this form is difficult to say, unless it be, as Lartigau has suggested, that we are dealing with a bacillus of very low virulence. It is possible, too, that bacilli from other than human sources may be at work. The following case will illustrate the hyperplastic type of tubercular peritonitis:

Case 3.—A male, aged 37; five months before coming under observation noticed that he was losing flesh and his appetite was failing. Two months before admission the abdomen was noted to be hard and somewhat distended; there was neither tenderness nor vomiting and the bowels were regular. Three days before admission he was seized with severe pain in the left hypochondriac region which gradually became generalized. On admission he was found to be greatly emaciated and cachectic with great abdominal distension and rigidity of the abdominal walls. A friction rub was detected over the left base anteriorly and there was slight cough; irregular areas of dulness were noted over the abdomen. The diagnosis was probably tubercular peritonitis with perforation and acute septic peritonitis.

Autopsy.—There was found sero-fibrinous pleurisy on the left side and scattered tubercles were present on the left pleura and diaphragm. A few older tubercles were found in the right lung and peribronchial glands. The main interest centered in the condition of the peritoneum. The abdominal cavity contained fecal material and gas due to perforation of the ileum; some chronic fibroid tuberculosis was found matting together the intestines. The liver capsule was greatly thickened, covered with shaggy adhesions and showed some hyaline degeneration; the liver was adherent to the diaphragm. The spleen was also adherent to the diaphragm and its capsule showed hyperplastic pearly thickening. Microscopically this consisted of a laminated deposit of connective tissue with marked hyaline metamorphosis. Small isolated tubercles on the surface of the intestines presented an identical structure. The capsule of the liver showed much less hyaline change, but contained numerous caseous foci; the great omentum was not detected; tubercle bacilli were demonstrated in the capsule of the liver.

Here the thickening of the peritoneum was very similar to the hyaline change in the simple form of inflammation and at first sight might be mistaken for it, but the main difference is that, to some extent, areas of caseation were superadded. In the hyperplastic tubercular peritonitis the ascites is not likely to be so great as in the simple form, and may indeed be absent, while fibrous bands of adhesion are more numerous. So far as the distribution of the lesions is concerned the disease is strictly comparable to the non-tubercular form, for in both we may have small isolated nodules scattered over the peritoneum, or thick sheets of hyperplastic material. The two forms present an additional similarity in that the process is not necessarily confined to the peritoneum, but may extend to the pleuræ and pericardium. I have met with two cases of this type, and Strajesko[11] has recorded a case which is important, since it proves that the multiple involvement of the serous membranes of Curschmann's "icing-liver" type may be due to tuberculosis, a fact which was hitherto unknown. A similar case has been recorded in this country by Herrick.[18]

I would like here to emphasize the similarity in appearance between the simple and the tubercular forms of hyperplastic peritonitis. Many of these cases come to operation and confusion is liable to arise. It is not likely that the tubercular form will be mistaken for the non-tubercular, but I am convinced that the reverse not infrequently occurs; particularly when isolated fibrous nodules are seen upon the surface of the intestines or about the liver and diaphragm is the case likely to be regarded as tubercular. As in the tubercular form the mere fact of opening the abdomen seems, to some extent, to mitigate the process, and it is not unlikely that many of the so-called cures of "tuberculous peritonitis" have occurred in this type of case. The resemblance between the two forms may be so striking that only a microscopic examination of the nodules with the demonstration of the presence or absence of the tubercle bacilli will reveal the true nature of the case.

Another type of chronic hyperplastic peritonitis of tubercular origin is of great practical importance. I refer to a more or less localized form in which a tumor-like mass is produced. The great omentum may be matted into an irregular lump, or the process may be most marked in some part of the intestinal tract, notably about the appendix and cecum. In other cases the small and the large intestines have been found contracted into a ball. This form is liable to be mistaken for carcinoma. Lartigau[12] has collected the literature on this subject. It is important to recognize this variety, for many cases are amenable to operation and of course the prognosis is very much better than in the case of carcinoma. In a case reported by Lartigau of a very peculiar form of hyperplasia without caseation, the disease was proved to be tubercular, and was entirely confined to the wall of the bowel without accompanying peritonitis. Extensive peritoneal adhesions may, however, form about a similar tubercular mass involving the cecum, as in a case reported by Koerte.[13] In other cases the great omentum has been involved as well, as shown by Routier[14] and Tédenat.[15] While these cases are examples of a local or sporadic distribution, they are undoubtedly etiologically of the same nature as the diffuse form with effusion, for the *Bacillus tuberculosis* has been detected in the hyperplastic tissue.

It is important to recognize the existence of this peculiar form since in the early stages it is perfectly amenable to operative measures, while if allowed to go on the process spreads, extensive adhesions form, and it becomes impossible to remove the mass. I believe

that in all cases of tumor-formation about the ileocecal region or in the mid portion of the abdominal cavity an exploratory laparotomy is justifiable, for if a too ready diagnosis of carcinoma be made and the patient left alone he is nearly always condemned to death by intestinal obstruction or dissemination of the tubercular process, while in suitable cases operation may be followed by complete cure.

A third form of hyperplastic peritonitis is that associated with carcinoma. It is, of course, well recognized that sero-fibrinous or fibrino-purulent peritonitis may arise as a complication of carcinoma of the peritoneum, but, so far as I am aware, scarcely any attention has been given to the hyperplastic form in this connection. Nothnagel[16] refers to an indurative and deforming peritonitis as occasionally met with, but I have been unable to find any extended references to that particular type associated with hyaline degeneration. The cases afford great similarity to those already described, for there is a chronic course, more or less cachexia and ascites, with the formation of nodular masses in the abdominal cavity. One such instance came under my notice recently:

Case 4.—Male, aged 46; alcoholic and syphilitic; for three or four years had been complaining of palpitation of the heart and oppression in the chest. Three weeks before being admitted to the Royal Victoria Hospital he noticed swelling of the abdomen and of the left leg. On admission the abdomen was tense and greatly distended, with evidence of fluid. The appetite was poor and there was tendency to constipation. He suddenly developed pain in the abdomen and died in a few moments.

Autopsy.—A very singular condition of things was found at autopsy. The peritoneal cavity contained 4300 c.cm. of straw-colored fluid with flakes; the mesentery was shortened, thickened and pearly in appearance; the great omentum was much contracted and contained a number of firm nodules about the size of walnuts and of a yellowish color, with some congestion of the capillaries on the surface, and lay in close contact with the stomach as a firm nodular cord extending across the abdomen midway between the xiphoid and the umbilicus; the parietal peritoneum was thickened, especially in the upper part of the cavity and was of a pearly-white, hyaline appearance, presenting a multitude of shallow depressions or pits. In other parts where the hyaline change was not so diffuse it formed tree-like masses about the vessels. Here and there on the intestines were small flat pearly nodules. Similar nodules were seen on the suspensory ligament of the liver and on the under surface of the diaphragm. Along the mesenteric attachment of the descending colon were numerous nodular growths identical with those in the great omentum. The stomach was contracted and its wall hypertrophied. On the lesser curvature posteriorly near the cardia was a chronic cancerous ulcer. There was some hyaline thickening of the liver capsule, especially near the gall bladder. On the surface of the spleen were scattered thin fibroid plaques of pearly-white hyaline appearance.

Microscopic Examination.—This showed that the peritoneal membrane presented proliferation of fibrous tissue with hyaline change. The primary condition was a scirrhous cancer of the stomach extending into the peritoneum; the nodules in the great omentum and mesentery were scirrhous cancer, as were also the hyaline-looking plaques on the surface of the intestines. It is singular that there were no metastatic deposits in the viscera, but instead a diffuse dissemination of carcinoma throughout the peritoneum. Death ensued from pulmonary infarct due to a loosened thrombus of the left iliac vein.

The exact nature of the peritonitis which complicates carcinoma is as yet obscure. The more acute and the subacute forms in some cases are due to perforation of cancerous ulcers in the hollow viscera or to secondary infection of the cancer-mass and its neighborhood. The hyperplastic form may possibly depend on infection with microörganisms of low virulence, but it is debatable how far the overgrowth of tissue is dependent on inflammation. It is more probable that, in addition to an inflammatory process, we have diffuse carcinosis leading to marked proliferation of fibrous tissue, such as is usually the case in the scirrhous variety. The combination of inflammation with neoplasia would exactly reproduce the picture of hyperplastic peritonitis. In the case in question the ascites resembled an inflammatory exudate rather than a transudate, and, in fact, no condition was found at autopsy which could have brought about obstruction, either in the portal system or in the inferior vena cava. I am strongly inclined to think that a secondary infection of the peritoneal cavity had taken place, possibly from the carcinomatous ulcer of the stomach. Until more cases are studied, however, many of these questions can not be settled definitely.

From a consideration of the foregoing cases I would suggest the following as a suitable classification for the disease:

Chronic Hyperplastic Peritonitis.

Sporadic.		Diffuse.		
Simple.	Tuberculous.	Simple.	Tuberculous.	Carcinomatous.

DIAGNOSIS.

In conclusion a few words as to diagnosis may be given. The local forms of hyperplastic peritonitis, with the single exception of that form affecting the cecum or other parts of the intestinal tract, give rise to no manifestations that suggest their presence. The discovery of a large nodular mass in the neighborhood of the cecum of very chronic development and without marked signs of cachexia should always suggest tuberculous hyperplastic peritonitis, or at least involvement of the intestinal wall. When the process is diffuse four diseases come specially into mind: (1) simple chronic hyperplastic peritonitis, (2) tubercular peritonitis, (3) cirrhosis of the liver, and (4) carcinoma of the peritoneum, since in all there may be ascites, with abdominal pain and in most the formation of nodular tumors in the abdomen. Simple chronic hyperplastic peritonitis may be suspected if there be extreme ascites, and little or no anasarca, especially if with these signs there are evidences of an adherent pericardium or right pleura. A history of previous infective disease, gastric or intestinal ulcers, gallstones, will be suggestive of this condition.

The clinical picture is often dominated by signs of adherent pericardium or perihepatitis, and, in fact, unless perihepatitis be present the disease can probably not be diagnosed. Portal congestion is absent and there is no marked disturbance of digestion, no hematemesis nor melena; jaundice does not occur unless gallstones be present. The liver may be enlarged or small, but is rarely warty. In the tubercular form the ascites is not so great and the fluid is more apt to be sacculated, while abdominal pain and tenderness are more marked. Pigmentation of the skin has been observed. Careful examination should be made of the lungs, glands, testes, ovaries and fallopian tubes for evidence of a primary tubercular focus. The disease is more common in females than is the simple form. The distension of the abdomen is often uneven, owing to the irregular dilatation of the intestines. A hemorrhagic exudate is more in favor of tuberculosis or carcinoma than the simple peritonitis. Hectic fever is not uncommon, but cases may run without fever and intestinal symptoms may be in the background. Tuberculin injections may be tried in suitable cases. In cirrhosis of

the liver, dyspeptic disorders, alcoholism or syphilis are prominent etiological factors; portal stasis is marked; nausea, vomiting, hematemesis, melena and the various signs of portal obstruction differentiate this form from the "icing-liver" type of Curschmann. The great omentum is never nodular, as in the form of chronic peritonitis. Jaundice occurs in 27 per cent. of cases; the liver may sometimes be felt to be warty. Cerebral manifestations are not uncommon. As Hale White[19] has pointed out, when tapping becomes necessary the patient rarely lives long. On the contrary, in simple hyaloserositis the abdomen may be tapped a great number of times and the patients may live for years in comparative comfort.

In carcinoma the patient is usually advanced in years and cachexia is marked. Careful examination of the stomach and, in the female, the ovaries should be made; a hemorrhagic or chylous or pseudo-chylous ascites is in favor of carcinoma. The hemorrhagic exudate is somewhat less frequent in the tubercular form. It is doubtful whether the presence of peritonitis, unless of the perforative variety, can be diagnosed with certainty when complicating peritoneal carcinoma. Abdominal pain and tenderness might in some cases suggest it or the presence of a friction rub. In carcinoma the disease is fairly rapid.

TREATMENT.

Complications or special symptoms may call for appropriate remedies, but the treatment is essentially surgical. It has long been known that tuberculosis of the peritoneum has been apt to disappear after abdominal section, and indeed without it, and a simple hyperplastic peritonitis has been occasionally benefited by this procedure. Especially in the form of hyperplastic tuberculosis localized to the cecal region resection of the affected part may result in complete cure. Operation in some cases may be called upon to relieve obstruction.

For the simple form, tapping is usually necessary at increasingly frequent intervals. With regard to medicinal measures, diuretics, especially caffein, have been recommended in the hope of diminishing the ascites. The patients should be kept in the best hygienic surroundings.

In the carcinomatous peritonitis the outlook is, of course, hopeless.

REFERENCES.

1. Philadelphia Med. Jour., Nov. 12, 1898.
2. Berliner klin. Woch., December, 1897.
3. Deutsche med. Woch., Jan. 7, 1892.
4. Prager med. Woch., 1893.
5. Path. Anat. 3, Aufl. iii, S. 138, 1861.
6. Path. Anat. 8, Aufl. ii, S. 654, 1895.
7. Zuckergussherz, Deutsche med. Woch., April 17, 1902.
8. Studies from the Royal Victoria Hospital, Montreal, vol. i, No. 3.
9. Deutsche med. Woch., 1884, p. 564.
10. Quoted by Bauer, Von Ziemssen's Cyclopedia. 1878; Eng. Trans., vol. viii, p. 292.
11. Allg. Wien. med. Zeit., iv, 1902.
12. Journ. of Experimental Med., vol. vi, No. 1.
13. Deutsche Zeit. f. Chir., 1894-5, lx, p. 562.
14. Cited by Coquet, Thèse de Paris, De la Variété Chirurgicale de Tumeurs Coecales Tuberculenses. 1894, p. 28.
15. Cited by Itié, Thèse de Montpellier, De la Tuberculose Intestionale à forme Hypertrophique, 1898, p. 12.
16. Spec. Path. u. Therap., Intestines and Peritoneum, p. 742.
17. On Multiple Serositis. Trans. of Coll. of Phys., Phila., 1902.
18. Pericarditic Pseudocirrhosis of the Liver. Trans. Chicago Path. Soc., April, 1902.
19. Guy's Hosp. Rep., 1893, vol. xlix, p. 1.

DISCUSSION.

Dr. W. M. Welch, Baltimore—Dr. Nicholls' description and classification of these interesting forms of chronic peritonitis are most commendable. I have been interested in a number of the forms which he describes, especially in the diffuse chronic thickenings of the peritoneum associated sometimes with carcinoma, particularly with cancer of the stomach and of the ovaries. In some of these cases the fibrous thickening is limited to the wall of the stomach, in others it may affect a large part of the peritoneum. It may be impossible to recognize the existence of cancer in some of these cases without careful microscopic examination. There may be no circumscribed tumor, no ulceration of a mucous surface, and the nests of cancer cells may be relatively small and far apart. The disease may present itself to the naked eye as simply a diffuse fibroid thickening of the gastric and intestinal walls, with perhaps similar thickening of the peritoneum elsewhere. Both simple and colloid types of carcinoma may appear under this form.

There is another condition to which I should like to call attention in this connection, namely, the occurrence of richly vascularized, thin layers of new connective tissue, particularly on the pelvic peritoneum, associated with small hemorrhages and blood pigment. This condition is analogous to chronic hemorrhagic pachymeningitis, the morbid process being of the same general nature in both affections.

The chronic proliferative forms of peritonitis associated with tuberculosis are, of course, well recognized. There occur, as Dr. Nicholls has pointed out, diffuse or more circumscribed forms of peritoneal fibrosis, especially about the liver, but also over the spleen, the under surface of the diaphragm, and elsewhere, the etiology of which is very obscure.

Dr. E. R. LeCount, Chicago—I have met several cases. One of them had to do with a liver which was encased in a shell, resembling that of a cocoanut, from which the liver could easily be lifted out; the capsule then maintained its former shape when laid on a flat surface.

I think Dr. Nicholls is to be complimented in his arrangement of these diseases, and for not becoming entangled in the subject of "pseudo-cirrhosis."

Dr. A. G. Nicholls, Montreal—The reference made to pachymeningitis, by Dr. Welch, as a disease having some of the anatomic peculiarities of this *zuckerguss* condition, is interesting, and I am of the opinion, as he is, that there is a close analogy between this disease and what may be termed "pachyperitonitis." Cases such as I have described are not entirely new and the only point on which I would claim novelty is in the recognition of the fact, which has not been brought out before, that the *zuckerguss* form of peritonitis has at least a threefold etiology—simple, tubercular and carcinomatous.

THE GROWTH OF THE TUBERCLE BACILLUS AND ORGANISMS RESEMBLING IT ON FRUITS AND VEGETABLES.*

M. J. ROSENAU, M.D.

DIRECTOR HYGIENIC LABORATORY, U. S. MARINE-HOSPITAL SERVICE.

WASHINGTON, D. C.

At one time the tubercle bacillus was looked on as standing in a class by itself, sharply differentiated from all other micro-organisms, but not long after its recognition two important points came to light; first, that there are other organisms, especially the streptothricæ, that have the power of producing lesions resembling the tuberculous granulomata; and secondly, that there are other organisms resembling the tubercle bacillus in some of its biologic and staining characteristics.

The fact that the tubercle bacillus stains with difficulty and decolorizes with corresponding difficulty was for a long time regarded as peculiar to this organism. This staining peculiarity was looked on as a definite and final test, quite as specific as a chemical reaction. But now we know a whole group of acid-proof bacteria widely distributed in Nature, that resemble the tubercle bacillus closely enough in certain features to cause confusion and errors in diagnosis. These organisms are found in butter, milk, on grass, in manure, and even in certain lesions in the body.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Winfield S. Hall.

They have been found, for instance, in an ovarian cyst and in the nasal secretion of healthy and diseased mucous membranes; also in sputum. They stain with carbol-fuchsin exactly similar to the tubercle bacillus and resist the decolorizing action of alcohol and acids, that is to say, they are acid-proof.

While these bacteria may readily be distinguished from the true tubercle bacillus by their cultural characteristics or by their pathogenic action in animals, it may readily be seen how they have been the source of error in diagnosis and how they have further complicated the difficult problems of tuberculosis. Some of these organisms stain and decolorize more readily than others. That is to say, they do not all have the same high degree of acid-proof qualities presented by the tubercle bacillus itself. Therefore this also causes confusion in the study of leprosy, especially in staining the *Bacillus leprœ* in nasal secretions.

We can no longer make a scientific diagnosis of tuberculosis by simply staining the bacilli in the sputum, although for clinical purposes this method remains useful. It is necessary to isolate the organism in pure culture and study its pathogenic action on animals. This takes a long time, often a matter of weeks and months.

Therefore, the problem confronts us of finding a media on which the tubercle bacillus will grow quickly in order to save time, and thereby render the process of cultivation a practical one for clinical work.

Of the various media tested we have so far had best success with certain vegetables and fruits. While this work which I am now presenting to you is not yet completed, I am at present able to state that there are vegetables on which the tubercle bacillus grows quite as well, if not better, than on potato. Beet and cauliflower seem especially favorable. Sometimes the growth appears more quickly on these vegetables than on potato.

A good growth of the human variety has been obtained on the following: potato, cabbage, cauliflower, turnip, carrot, squash, celery, egg plant, beet and radish, and a small or doubtful growth on apple, onion, cocoanut and pineapple.

It is nothing new to grow micro-organisms on vegetable media, although I have not heard of anyone growing the tubercle bacillus on the various substances mentioned, except potato.

For comparison with the tubercle bacillus, I herewith present for your consideration growths on the same fruits and vegetables, of avian tuberculosis, bovine tuberculosis, Karlinski's bacillus of nasal secretion, Rabinovitch's bacillus of butter and margarine, and Moeller's grass bacillus. These growths present a very suggestive picture. We seem to have here a tubercle group, just as we have a colon group. There is a very considerable difference between the extremes of this tubercle group, also several remarkable points of resemblance. If the tubercle bacillus of man has been specialized by a process of evolution from the more lowly grass bacillus of Moeller, or if the grass bacillus is a degenerate saprophytic form of the tubercle bacillus there are several missing links between the two. The saprophytic acid-proof organisms resembling the human tubercle bacillus grow readily on the ordinary media used in the laboratory, both at room temperature and in the incubator. A visible growth is often obtained over night. They also have more color than the tubercle bacillus, usually a salmon-red or yellowish tint. The human tubercle bacillus grows as a crinkled, rugous, dry, mould-like mass. Some of the cultures of the acid-proof organisms resembling the human bacillus have a dry, corrugated growth on various fruits and vegetables which is very suggestive.

These few remarks are only given with the specimens herewith presented as a preliminary note of the work now being done on this group of micro-organisms in the hygienic laboratory of the Marine-Hospital Service, and a further report will be made at a later date.

DISCUSSION.

DR. JOSEPH MCFARLAND, Philadelphia—Did the growth take place in direct proportion to the amount of sugar these vegetables contained?

DR. C. A. SMITH, Atlanta, Ga.—How does Dr. Rosenau prepare his media?

DR. M. J. ROSENAU, Washington, D. C.—The media are prepared just as we prepare potatoes as a culture medium in test tubes. With an apple corer I cut out a solid plug of the fruit or vegetable, this cylinder is cut in two and each half is placed in a test tube in the bottom of which is some 5 per cent. glycerin bouillon. This is then sterilized fractionally on a number of successive days. Those we prepared to keep through the winter were saturated with glycerin bouillon by filling the test tube almost full, and when we are ready to use the media we pour off the excess of fluid, leaving only enough at the bottom to keep the vegetable moist.

As to the relation between the amount of sugar in the different vegetables and the growth obtained thereon, this is a very interesting feature. I have not gone into this at all yet, but am doing so from another standpoint and hope to be able to say more about it another time.

THE DIAGNOSIS OF BRAIN ABSCESSES.*

HERMAN H. HOPPE, M.D.

Lecturer on Nervous Diseases, Medical College of Ohio, University of Cincinnati; Professor of Nervous Diseases, Clinical School, City Hospital, Medical Department, University of Cincinnati; Neurologist to City Hospital.

CINCINNATI, OHIO.

We encounter difficulty in diagnosing brain abscesses in two ways: First, in determining whether or not an abscess is present, and in the second place, in locating it. These difficulties are entirely out of proportion to the difficulty found in diagnosing other brain lesions, say, for instance, tumors and cysts. In the former condition the symptoms are not only frequently obscure and indefinite, but for a considerable period may be absent altogether; the abscess may be in a latent state. In tumors and cysts time is not of such very great importance, a few days or a few weeks may elapse and the diagnostic points may be allowed to develop themselves, without there being any added perils to the patient. In abscess, however, time is of great importance, a few days, even twenty-four hours, may determine whether or not the individual's life can be saved. It is in the latent or developmental period of a brain abscess that surgical interference offers the best chances; when the abscess has ruptured and the stage of manifest development has set in, the outcome of the surgical interference is, to say the least, very doubtful. The great problem, therefore, is to be able to diagnose the presence and if possible locate an abscess in its latent period or at least in the very earliest stage of its period of positive manifestation.

In order to bring this subject before the section I am going to cite for you a number of cases which were either operated on or which were suspected of having brain abscesses and in which the subsequent develop-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

ment failed to confirm the suspicion. The importance of the subject is manifest and we all are in the predicament very often in just such cases as the following, as to whether we shall advise surgical interference or not. The question is entirely different in brain tumor. In the latter cases the question of surgical interference never arises unless the tumor is located in the cortex, but in every case of abscess we may at least hope that surgical interference can remove the trouble. There are but two solutions to every abscess of the brain, death or surgical interference. Rosl raised a two-fold objection to operations for abscess: 1, The tendency of abscesses to become encapsulated; 2, the difficulty of diagnosis. There can not be any doubt about brain abscesses becoming encapsulated, but we know from clinical experience as well as from the record of autopsies, that the single abscesses, at least, do not remain encapsulated. The same process of softening which is seen around brain tumors and cysts also occurs around the brain abscess, and invariably death results from rupture either into the lateral ventricles or through the cortex. Superficial abscesses on very rare occasions have been known to rupture through the cribriform plate of the ethmoid or the roof of the middle ear, or even through an old fracture, but these fortunate exceptions can not enter into consideration of treatment. The second objection, the difficulty of diagnosis, of course, is valid, but should only urge us to make greater efforts toward the relief of a condition which may offer a favorable surgical outcome. The difficulties are not as great as formerly and at times the diagnosis is even easy.

Given a certain group of signs and symptoms which lead us to suspect the presence of a brain abscess, the first point is the tracing of the source of infection. Bergman says that without the streptococcus pyogenes aureus there can not be a brain abscess. If this is correct then we should at least be able to find the source of infection. Now this is notoriously difficult. Pus-forming organisms always come from without. This is the most important and the first point; with the development of bacteriology the theory of idiopathic abscesses has collapsed.

BERGMAN'S CLASSIFICATION.

According to their origin Bergman divides brain abscesses into four groups, and for the purpose of studying the difficulties in the latent period the consideration of the etiology offers the best results.

1. Traumatic abscesses caused by an open scalp wound or a fractured skull.
2. Those abscesses resulting from a purulent inflammation of bone or bony cavities.
   (*a*) Otitic abscesses.
   (*b*) Rhinogenetic abscesses.
   (*c*) Abscesses due to caries of the bones of the skull.
3. Tubercular abscesses.
4. Metastatic abscesses.

TRAUMATIC ABSCESSES.

In traumatic abscesses the most important point to remember is that there must be some direct communication between the cranial cavity and the external world, an open channel through which the infection may travel. It is not necessary to have a fracture of the skull, as Case 1 will illustrate, but an open wound is absolutely necessary. I am well aware of the fact that there are cases on record of abscesses following mere contusions of the scalp, streptococci being brought to the bruised part by the cerebral arteries, but for practical purposes in suspected latent abscesses we should adhere to the fact that there can not be a traumatic abscess without an open channel of infection. This is usually an open scalp wound that has become infected, but it is not at all uncommon to have an abscess follow a fracture at the base of the skull and then the open channel is by way of the auditory canal, pharynx, or the frontal sinuses. In recent abscesses, following soon after the injury, this will not offer any difficulty, but in latent abscesses occurring weeks or months after an accident this point may be overlooked, especially where the original symptoms and signs of basilar fracture have not been very marked.

Case 1.—M. R., female, aged 22, single, admitted to the Cincinnati Hospital Jan. 22, 1901. Mental condition such that history was unobtainable. Said to have been struck on the head by a chair on New Year's eve, since which time she has not been well. Further history than this can not be obtained at present time.

Examination.—Temperature, 100.4; pulse, 80; respiration, 20. When not disturbed lies quiet and seems to be somewhat stupid. Easily aroused, and apparently understands everything said to her. Can tell the name of some objects, while she can not of others. Knows the use of some of the objects she can not name. Can write (her name at least) but holds the pen loosely, and seems to have lost the finer movements of the fingers. Can not read, but attempts to spell out the words, calling almost every latter "C" or "R." She is fairly well developed and nourished. Swelling on left side of head above the ear, about three inches in diameter, the most prominent point of which is about two inches from the median line. Fluctuation is easily obtained. Pressure over this area causes a contraction of muscles of same side of face. Pupils moderately dilated, equal and react sluggishly to light. Muscles of eyes not affected. When lying quiet with eyes closed, there is an angle between upper and lower lids of right eye, but when asked to do so, can completely close both eyes. There is no ptosis. With above exceptions there is a right facial paralysis; absence of nasolabial fold, can not whistle or show teeth, saliva drools from right corner of mouth and tongue is apparently protruded to the right. Tongue slightly coated. Lips dry and cracked. Very slight paresis of right arm. Left arm and both legs all right. Reflexes normal. Knee-jerks diminished. Sensation normal (rough test). Babinski's reflex-flexion. Appetite poor. Bowels have moved and she has voided urine since admission. Urine amber, acid, 1018. Blood count: Reds 5,500,000; whites 13,400.

January 25: Temperature range a little lower. Paresis of right arm has increased. Aphasia about same; speaks a few words clearly and distinctly; writes her name and copies letters very well; does not do so well from dictation.

January 26: Is much better this morning; paralysis of face much better; when she laughs the face wrinkles almost equally on both sides; both corners of the mouth retract, but the right drags a little; strength in right arm better; holds pencil very well and writes much better; talks better and seems brighter.

January 27: Aphasia about the same; temperature 97.

January 28: Unchanged; temperature 99.8 last night.

Operation.—The operation was performed by Dr. Ransohoff. Chloroform. A semilunar incision was made in scalp through the fluctuating mass about four or five inches long, convex upward, center just about over the ear. Flap turned down. Upper part of temporal muscle softened and broken down into a nasty-looking granulating mass. No pus found. Cultures in blood serum and bouillon were taken from this mass. There was a small softened area in the skull just over the lower part of the Rolandic fissure, from which bloody serum was oozing. Trephine applied here and button of bone about size of quarter removed. This opening was enlarged by rongeur forceps until about four inches long and three wide. Dura very much thickened, red and injected, as if the site of recent inflammation over an area about 1½ inches in diameter over the lower end of fissure of Rolando. Cultures taken. Incision through dura, and aspirator needle thrust into the brain in various directions. No pus found. Veins somewhat dilated,

dura not sewed. Inner surface of scalp flap curetted and washed with 1-2000 bichl. Strands of silkworm gut passed through from one end of incision to other, for drainage. Scalp sutured with silkworm gut. Dry dressings.

January 29: Seems a little better this morning.

January 30: Aphasia much better, can say many words which she could not before operation. Temperature normal.

January 31: Aphasia still improving; wants to get up; KI. ordered.

February 1: Aphasia almost entirely gone; sits up in bed; appetite good.

February 2: Improving rapidly; facial paralysis and aphasia nearly gone.

February 4: Head dressed; sutures not removed; no pus or bogginess.

February 12: Second dressing to-day; sutures removed; small drop of pus in lower end of incision; no bogginess; temperature has been up for past 2 or 3 days.

February 28: Complains of headache and pain over mastoid; nothing abnormal found in ear.

March 10: Improving nicely, although still has the pain over mastoid and a little above.

March 21: Discharged well.

In this case the abscess occurred without a fracture directly under the seat of a badly-infected scalp wound; the abscess was extra-dural and the location of the wound gave rise to the suspicion of an abscess. Had the scalp wound been located over an indifferent portion of the cortex, it would, to say the least, have given rise to a great deal of difficulty of diagnosis and might even have been overlooked.

This case illustrates another difficulty; we may have abscesses of the brain, following a scalp wound, without a fracture of the skull being present; the infecting agent can penetrate through the skull probably in this case by medium of a localized ostitis, and still this does not explain the penetration of the internal table which was intact.

CASE 2.—George Kling, aged 49. Was admitted to strong ward with diagnosis of delirium tremens. Patient has alternating periods of stupor and delirium. Can be aroused only slightly. History obtained from police stated that he was struck on head in a fight.

Examination.—Marked tenderness over right side of head, just above the ear; marks of contusion; paresis of left side of face, slight ptosis of right eyelid; right pupil smaller than left; pulse 72, temperature 99½. On account of mental condition, unable to make a more careful examination, but the patient is able to use both arms and legs.

There was gradual increase in the stupor, the temperature gradually rose to 103; on the fourth day a spastic paresis of right arm set in; on fifth day temperature rose to 104½. An abscess of the left psycho-motor area was suspected.

Operation.—A linear fracture of skull was revealed, tearing of dura mater and contusion and laceration of the brain tissue, but no abscess or pus formation. Recovery complete.

Here we have all the indications of a surface abscess: fever, delirium, low pulse, monoplegia, surface tenderness and no scalp wound. The operation revealed a linear fracture of the skull, a torn dura mater and a badly lacerated cortex without the slightest inflammation or pus formation. This last case is specially instructive. Our caution and delay in operating was justified by the results. It was only when there was no improvement, but rather an increase in the symptoms, that we decided on an operation. We can readily see how much better such an individual would be without an operation as far as the future is concerned. There is always more or less danger from shock, from cerebral prolapse, with its attending scar and subsequent danger of epilepsy, to say nothing of the large aperture in the skull which remains after the operation.

When a violent headache, mental hebetude, mild delirium, increasing somnolence and a slow pulse follow soon after an accident to the head, when the scar is still fresh and there is undoubted evidence of a recent injury, the diagnosis even then can be very difficult. I need not cite successful operations or the history of suspected abscess which turned out to be localized meningitis. They are too common an everyday occurrence in large general hospitals to require especial mention. But when a long time, months or even years, have elapsed between an injury and the development of symptoms which point to brain abscess, the difficulty becomes very great. Case 3 is of this character.

CASE 3.—Charles Legnore, aged 23, admitted for conjunctivitis. Had an accident to head followed by unconsciousness 18 months before. States that he has had epileptic seizures for 3 years, at intervals of once a month. Denies syphilis. Transferred to neurological service in a stupor after a series of convulsions. These convulsions began about a week ago, always beginning in left side of face and then extending over left side of body, afterward becoming general.

Examination.—Pain and tenderness over right mastoid and occipital region. Percussion brings on a convulsion in left facial. Stupor—can be aroused only very imperfectly; when put on his feet staggers and complains of vertigo; falls to left side. Marked paresis of left side of face, of left arm and left leg. Complete anesthesia and loss of reflexes on left side of body. No optic neuritis. Left hemianopsia seems to be present. Examination in other respects negative. Temperature normal. Urinalysis negative. Pulse 66. One week after admission to neurological service there was complete paralysis and anesthesia of left side of body.

Operation.—Was operated on by Dr. Ransohoff for suspected abscess of the right temporal lobe. Operation revealed a perfectly normal condition of meninges and cortex. Aspiration in all directions, no pus. Mental condition and delirium cleared up after operation. Patient became bright and cheerful. Paresis diminished very much. Epileptic convulsions occurred only occasionally. The operation revealed no cause either for convulsions or for the paralysis.

Here we have all the signs of a cerebral localized abscess; not one is wanting, nor is there any aberration in the history of the case, and still the operation reveals no abscess. The case remains under observation six months after the operation and is discharged as a hemiplegic with no apparent cause for the hemiplegia that can be found, unless we look on it as a very small abscess or area of softening in the internal capsule, probably the size of a hazel nut. But how such a small focal lesion could produce such violent general symptoms is a mystery. A similar case is reported by Oppenheim. Early traumatic abscesses are usually extra-dural or intra-dural, practically cortical in location and usually are detected by their focal symptoms or, what is more common, localized tenderness of the skull on percussion. But latent abscesses are almost invariably subcortical and are situated in the white substance just beneath the cortex. There is always a layer of healthy bone or brain tissue with intact meninges between the source of infection and the abscess. This increases the difficulty of diagnosis, not only before the operation, for we all know that subcortical lesions produce less manifest signs than cortical ones, but also at the time of operation when the surgeon is confronted with healthy calvarium, meninges and a normal-looking cortex.

One more point before leaving the consideration of traumatic abscess. Gunshot wounds, knife thrusts or compound comminuted fractures are more apt to be followed by abscesses than simple fractures. Moreover, wounds attended by a longer period of suppuration are

more apt to be followed by latent abscesses than those which have closed quickly.

ABSCESSES FOLLOWING MIDDLE-EAR DISEASE.

The difficulties in abscesses following caries of bone, especially middle-ear disease, are again two-fold. First, the difficulty of determining the presence of an abscess, not only in the acute, but especially in the latent period; secondly, of locating the abscess. In the period of acute manifestations of mastoid inflammation, especially in children, the signs and symptoms of the mastoid disease may simulate perfectly those of brain abscess, especially if the case is bedridden. The only absolute signs before the operation of brain involvement are cerebellar signs of a positive nature, or if the left side be involved, the occurrence of sensory aphasia. In doubtful cases, however, the bone and ear disease should first be attended to. Sinuses should be looked for and if the general signs of brain abscesses do not clear up after the operation, then a secondary operation may be indicated. Abscesses from middle-ear trouble are, however, notoriously latent, and this fact gives us great difficulty. Let me illustrate by an appropriate case.

Case 4.—Mary Corcoran, aged 20, American, single, cigar maker, family history negative. Had a fall on head in childhood; there was, soon after, a discharge from right ear. Always had nasal and throat catarrh. In July, 1901, had a mastoid operation which was successful; no more discharge from this ear. Since then complains of headache, pain and soreness in occipital region on right side. Pain in the head is increased by sneezing and coughing; has vertigo and staggers at times like one intoxicated; usually staggers toward right side and says that she would fall if she did not grab hold of something. There is a constant fear of this vertigo and staggering. No vomiting; general health is very good. Sleeps and eats well; no constipation.

Examination.—Mental condition good; no hebetude; no impairment of memory; examination of right ear shows a healthy condition of the bones and mastoid process has healed completely. Ophthalmoscopic examination revealed some slight congestion of the veins of the right papilla, nasal margin sharply defined. Temporal margin a little indefinite. In every other respect the examination is negative.

Treated with tonics and protoiodid. All doubtful cerebellar symptoms disappeared after three months of treatment.

The most important contribution concerning brain abscesses in middle-ear trouble has been given to us by Koerner. He proved that we could accurately locate the seat of the abscess in the brain if we knew which part of the temporal bone was diseased. Koerner made autopsies on 109 cases of brain abscess; 86 times the temporal bone was diseased to the dura mater, 8 times half way through the bone, and in only 15 cases was it healthy. In 40 abscesses, 38 times the seat of abscess was immediately below the diseased bone, and the dura was involved. The dura was frequently adherent to brain and diseased bone.

If the roof of the middle ear is diseased the abscess is in the temporal lobe. If the mastoid cells or the posterior portion of the petrous portion of temporal lobe is the seat of inflammation the abscess is in the cerebellum; the middle lobe of cerebellum is involved if this purulent inflammation passes through the semi-circular canals. Bergman speaks strongly in favor of the above method of localization.

Another point in diagnosis is, that otitic suppuration when associated with a cholesteatoma, whether the latter be primary or secondary, is more apt to cause abscess of the brain than an uncomplicated one. The reason for this is given by Kirchner. The cholesteatoma penetrates the bone; in its growth ramifies the Haversian canals for a considerable distance around its base; makes the bone thin and friable, fills it with large cavities, and in this way renders the corrosion by the pia an easy matter and paves the way for an abscess. In addition to this the pus is dammed back by the cholesteatoma and the breaking through and the corrosion becomes an easily accomplished fact. In these cases the pus is thus decomposed and cholesteomatous masses float in and on it. Virchow, in 60 cases of otitic brain abscess, found one-fourth with cholesteatoma. Two other factors predispose to the formation of otitic abscesses: *a*, the course of suppuration in acute or subacute exacerbations, the pus being fetid; *b*, the presence of large granulation masses in the middle ear, or deep in the external ear; the granulation masses acting as a dam to the pus. Thus we see we can obtain important diagnostic data from the examination of the external ear. Another important diagnostic point in otitic abscesses is the fact brought out by Koerner, that otitic abscesses are oftener on the right side than the left. Herzberg showed that the transverse sinus on the right side lies deeper in the bone than on the left. Koerner proved this to be the case in 70 per cent. of his autopsies. This causes the bone, therefore, to be thinner and more easily perforated by a cholesteatoma or fragment of dead bone (by the suppurating process).

When the origin of the abscess is in the roof or attic of middle ear, the bone having become inflamed or corroded, the first step is a purulent pachymeningitis, and this is followed either by an extra- or intra-dural abscess. The intra-dural abscess is at first connected with the dura mater, afterward becomes separated by becoming encapsulated and then becomes subcortical in the temporal lobe. Often we have both extra-dural and intra-dural or brain abscesses at same time; this is very important to remember (E. Hoffmann). We can diagnose an epidural or extra-dural abscess (Bergman) only by the following signs; by external signs when the pus escapes either through middle ear, through temporal bone or mastoid cells. Abundant flow of pus, of short duration, will arouse suspicion of abscess, especially if the signs of previous increased intra-cranial pressure disappear with flow of pus. Discharging fistulæ and especially edema or fluctuating abscess over the mastoid bone, lead to diagnosis of an epidural abscess of the middle or temporal fossa.

The difficulty of locating an otitic abscess is increased by the fact that middle-ear suppuration is often associated with suppuration of the mastoid process. Then we must look for caries or ostitis, because if the latter process is either in the antrum or in the mastoid it is liable to determine the seat of abscess.

A badly located or a small tympanic perforation is apt to cause brain abscess by damming back the pus. Otitic abscesses have an imperceptible and unknown (as to time) beginning; never sudden; trauma plays no rôle.

Otitic cerebellar abscesses are very difficult to diagnose and are frequently complicated with sinus thrombosis and lepto-meningitis and masked by the latter. We look for cerebellar abscesses in caries of the sigmoid fossa, of the sulcus transversus, of the labyrinth and the mastoid cells (Koch). Koch has proven that cerebellar abscesses before the age of 10 are rare (2 out of 105). Hence, prior to this age we must look for tempero-sphenoidal abscesses.

The cerebellar abscesses are found in the lateral and at times in the median surface of the hemispheres and

usually in the anterior lower surfaces, and in such a way that caries of the sigmoid sulcus cause abscess of the lateral and the caries of the labyrinth, of the lower median surface.

Koch divides symptoms of cerebellar abscess into groups according to three types of abscess:

1. Diagnosis made from marked cerebellar focal signs.
2. Marked signs of general brain pressure with but few and indistinct focal signs.
3. Neither local nor general symptoms are well marked, but the nature of the suppuration is in the mastoid region and the finding of fistulous openings through the dura leads to discovery of the abscess in the cerebellum.

The general symptoms are those of general brain pressure, but the pulse is very slow, the vomiting rare and optic neuritis occurs in but one-fourth of the cases. General pressure symptoms in cerebellar abscesses are due to dilatation of the ventriculi.

Rhinogetic abscesses are due to purulent processes in the upper nasal passages and the sinuses connected with them, viz.: The frontal, sphenoidal and maxillary. The route which the pus may travel is through the cribriform plate, along the horizontal plate of the ethmoid, or through the orbital cavity along the optic nerve. Simple operations, like the removal of polypi or of adenoid vegetations of the naso-pharyngeal plate, may, if followed by infection, cause cerebral abscesses. Just as in otitic abscesses, the inflammation and caries of bone of the above-named cavities cause an extra-dural and intra-dural abscess, a leptomeningitis and cerebral abscess, with an associated phlebitis of the sinus cavernosum, the difference being the greater frequency with which they are associated in the same case. The course of the inflammation from the malar sinus is through the orbit, by the way of the orbital veins. Out of 20 abscesses of the brain due to the above source of origin, 19 were found in frontal lobe and only one in the temporal.

This great frequency of abscesses of the frontal lobe following the above-named diseases makes the diagnosis easy when the general signs and symptoms of abscess are present. The localization is made from the seat of the pus infection, but, like tumors of the frontal lobes, the general and special signs may be absent. In a case on record in the Cincinnati Hospital service of Dr. Murphy, the boy was in the wards for fully sixty days for frontal sinus disease; he was up and about daily and was considered bright, active and intelligent. Two days before death he suddenly developed the general signs of a brain abscess, the operation revealed an abscess of the size of a duck's egg, discharging foul, offensive pus, which must have been present for months.

TUBERCULAR ABSCESSES.

In connection with tubercular abscesses two things are positive: One is that after the formation of a tubercle in the brain, a purulent inflammation may occur around the tubercle, and in reported cases the tubercle may completely break down, a microscopic examination being necessary to determine its tubercular origin, and, secondly, Koch has shown that the cause of the purulent inflammation is the dead tubercle bacillus. These tubercular abscesses may explain the so-called idiopathic abscesses and are of special interest in one direction, namely, that we may have all the indications of a cerebral abscess without any known traumatic or pus cause and still be justified in the diagnosis and the operation.

The difficulty in diagnosing tubercular abscesses is two-fold: In the first place there is an absence of all known causative factors in the case as it lies before us, and, in the second place, the general symptoms of tuberculosis overlap those of the brain trouble, and distort the clinical picture. These abscesses are very frequently in the cerebellum and then by producing basilar symptoms simulate very closely either a tubercular or syphilitic meningitis. A case of the latter character occurred in the Cincinnati Hospital on the service of Dr. Jos. Eichberg. Let me introduce a case which illustrates the difficulties named above:

Case 5.—F. E., male, aged 42. Admitted to the Cincinnati Hospital March 4, 1901, in a state of syncope and no history obtainable except that he had had headache for some time and had been dizzy; uses alcohol and tobacco. Patient very much emaciated; lies in bed and seems to observe everything that is going on; expresses no ideas; when spoken to does not always answer; sometimes it is several minutes before he replies; does not utter any connected phrases; complains of severe pain. Left pupil dilated; both react to light and accommodation. Paresis of right side of face.

Necropsy.—By Dr. D. I. Wolfstein. Brain when taken out was very soft and flabby, the left lobe being especially so on the cortical surface in an area extending downwards from the lower half of anterior frontal convolution to the base of the brain and bounded posteriorly by the fissure of Rolando, inferiorly by the Sylvian and anteriorly impinging on left inferior, frontal and middle frontal convolutions was an area of softening; after hardening in formalin this proved to be a globular mass, which could be shelled from its surroundings and which was hollow and filled with greenish pus. Brain tissue surrounding mass was also extensively softened; whether this is a broken-down tumor or a tubercular abscess microscopic examination must determine. The symptoms were aphasia, right facial paresis, some slight paresis of right arm and less of right leg, ataxia, and patient lay in a state of stupor. Macroscopic examination of pons revealed nothing abnormal, likewise in cord. Heart small and flabby. Lungs, left, tubercular, lower lobe full of miliary tubercles, and one small abscess. Liver fatty; spleen friable; kidneys small, hyperemic; extremities negative.

Histology.—Brain: From what was a cyst or cavity filled with purulent material, sections were made and stained according to two methods of Mallery's to determine the presence of any overgrowth of glia tissue. This the specimens examined did not show. The staining was hematoxylin eosin. The wall of the cyst, which was of about 1/32 m. in thickness, shows a very intense small-celled infiltration with an inner layer next the cavity ragged, and in many places broken-down and degenerated; while no typical tubercles were found, there were many rather small suspicious nodular collections of cells which were taken to represent tubercular areas. The outermost area shows a layer of thickening which we think was due to glia proliferation, in spite of the fact that the miliary specimens were negative. There was also meningeal thickening over the area. The cord was not examined as there were no symptoms presenting.

The location of this abscess, tubercular, secondary to pulmonary tuberculosis, explains the aphasia, and also the facial paresis, as it involved the lower half of the frontal region on the left side (speech center) and extended back to the pre-central convolution. The arms and leg centers were not included in its territory. No study of secondary degeneration was made, as the brain was in a state of decomposition when obtained.

METASTATIC ABSCESSES.

Metastatic abscesses are usually pyemic in origin, multiple, and usually not good subjects for diagnostic skill. Bergman says, however, that at times they are solitary and operable. MacEwen says that solitary metastatic abscesses constitute one-third of the pyemic abscesses and Martin found in 22 cases 9 of pyemic metastatic abscesses of the brain. The origin of these metastatic

brain abscesses is usually the lung. Gangrene, abscess, empyema, pleurisy or bronchiectasis, but they may be secondary to gangrene in any part of the body. Like all cerebral emboli the metastatic abscess if solitary is usually found in the left carotid region (Martin's 7 cases out of 9).

SO-CALLED IDIOPATHIC ABSCESSES.

To Bergman's classification of abscesses a fifth group should be added, namely, the group not so much of idiopathic abscesses, but of abscesses in which there has been no previous deposit of pus in the body from which the streptococci could be drawn. This leads us to the discussion of so-called idiopathic abscesses. That there can be no idiopathic abscess in the sense of an absence of some cause for suppuration we must admit. But we know that we can have primary brain abscesses which can not be grouped under any of the four preceding heads. This is an exceedingly important point to remember when we are confronted with the necessity of making a diagnosis or differential diagnosis. Martin has worked up this subject and points out four cases of Strümpell's observed during an epidemic of cerebro-spinal meningitis in which no other cause could be found. Oppenheim says that there is no doubt whatever that the influenza bacillus can cause not only a meningitis or an encephalitis, but that also an abscess may complicate the meningitis, the latter may disappear and the former may remain behind, or the abscess may occur independently of a meningitis. He also reports cases in two articles in which he calls attention to the fact that acute non-purulent cortical encephalitis may simulate brain abscess. At this point I would like to introduce a very interesting case in which the clinical diagnosis was either brain abscess or purulent meningitis.

Case 6.—Lincoln B., aged 38, married. Had deafness and ear trouble since childhood. Pneumonia 10 months ago. Denies syphilis. Has been demented for 3 days (queer actions), brought to hospital in patrol. On admission was maniacal, after 24 hours alternate periods of apathy, depression, with difficulty of speech, alternating with delirium and mania.

Examination.—Pupils equal in size, react to light; slight divergent strabismus; ophthalmic examination negative; can not protrude tongue; responds sluggishly to questions; complains of pain in head; discharge of fetid pus from right ear; extremities weak, rigid with increased reflexes. Babinski's reflex on left side; Kernig's sign well marked; slight trace of albumin in urine; pulse varies from 60 to 70, temperature from 98 to 101.2.

The difficulty of speech increased during the next few days, the stupor became more marked and a twitching of the muscles of right side of face developed; afterward the rigidity with marked twitching but no real convulsions of all four extremities; the pulse going to 130, the temperature to 102.

During next few days some improvement; then developed a convulsion beginning in the right arm and then becoming general. This was followed by coma and death.

The autopsy showed no abscess or purulent meningitis, nor even any congestion, but a marked case of interstitial nephritis.

Here we see how a case of uremia may simulate brain abscess or purulent meningitis. Gussenbauer and Von Beck have published similar cases. Gussenbauer's case was not cleared up at all, Von Beck's proved to be a case of hemorrhage encephalitis of the pons.

SYMPTOMS OF ABSCESS.

The consideration of the symptoms of brain abscess is rendered easier by dividing them into three groups:

1. Symptoms due to deep-seated suppuration.
2. Symptoms due to increased intra-cranial pressure.
3. Focal symptoms.

1. If there is an absence of pus in other parts of the body and there is no other cause, the occurrence of fever with other signs of sepsis may aid us to form a diagnosis. Fever and the attendant signs of sepsis, viz.: general malaise, loss of appetite, headache, occur in remissions and exacerbations, with complete remissions. This variation is dependent upon the successive increase in size of the abscess and is characteristic. The fever in the latent or preactive stage is usually low, rarely over 101, usually between 99 and 100, although in the acute period of active manifestation it reaches a higher mark. Slight chilliness with a rise of fever occurs usually at night. The patients frequently look sickly pale, jaundiced and emaciated. Typical chills may occur in abscess, but repeated chills are rather indicative of septic sinus thrombosis. A high continuous fever speaks rather against abscess and for purulent leptomeningitis, sinus thrombosis or extra-dural pus. The presence of fever in suppurating middle ear or mastoid disease is no indication of abscess.

Bergman and Broca both maintain that the surface temperature is higher on the side of the abscess. The temperature may be normal for a long time during the latent period, and MacEwen called attention first to the frequency of subnormal temperature. In the period of acute manifestation the headache is extremely violent and constant. During the latent period it is intermittent. Characteristic of the headache is its regular increase during the evening fever. This headache may be absent during the rest of the day, is increased by anything that increases the intra-cranial pressure.

In otitic abscesses, and in others also, the pain may be localized over the abscess, and is much increased by percussion. This localized tenderness does not appear when there is inflammation of the mastoid or the neighboring temporal bone in middle-ear trouble. In many cases this circumscribed localized pain and tenderness is very valuable in the localizing of abscesses.

Vomiting is important; early, present in majority of cases, especially cerebellar cases; mere change of position, from reclining to sitting, may bring on vomiting. Vertigo is of little value. The condition of the sensorium varies with the amount of intra-cranial pressure in the latent stage. There may be very little intra-cranial pressure for the reason that unlike brain tumor, abscesses do not compress the brain tissue, but liquefy, destroy and replace it, and therefore large abscesses in a quiescent stage, even to the size of a duck's egg in the frontal lobe, may produce no disturbance of intelligence or of consciousness. In the stage of activity, however, and just before rupture, we have the typical mental hebetude, somnolence, often delirium and hallucinations.

A slow pulse of 60 or less is always indicative of increased cerebral pressure, other causes being absent, but a rapid pulse in the acute stage is often present, and is not a contraindication to abscess. During any fever the pulse usually becomes somewhat more rapid, but in abscess there is often a decline of the pulse rate with increased somnolence during the evening rise of temperature, and this, if found, is a very valuable symptom. Optic neuritis is more frequent than in tumor, but not so well developed (as to degree). If optic neuritis is absent the abscess is either of very acute development or small in size; abscess of frontal lobe has most marked optic neuritis.

Focal symptoms help much to make the diagnosis if the abscess is present in the psycho-motor area, little if

present in the occipital, temporal or frontal lobes. Focal signs in abscess may come and go because of the varying size of the abscess and the disappearance, temporarily at least, of the surrounding softening. We may have large abscesses of the centrum semi-ovale without focal signs, for the pus at first separates the white fibers instead of destroying them, and if the gray matter is intact, a whole lobe, Bergman says the greater part of a hemisphere may be destroyed without the development of a focal sign. The closer, however, the abscess is to gray matter and the greater destruction of tissue the more focal signs are developed. As in brain tumor, we must distinguish between focal signs due to destruction and focal signs due to pressure from edematous infiltration. The latter may come and go; the former are permanent and localizing. As abscesses may be present in any part of the brain we may have any of the corresponding focal signs.

Traumatic abscesses of psycho-motor area are characterized by the rapidity with which monoplegia and hemiplegia follow the Jacksonian epilepsy, or if the abscess is deep-seated, the rapid, but not apoplectic development of a hemiplegia without hemianesthesia. The paralysis is rarely complete.

Abscesses of the frontal lobe, like tumors in this region, have no specially localizing signs; on left side when large we may have motor aphasia involvement of right facial, even of arm; the localizing can be done, however, by considering the causal factors.

The hearing center is of value only if opposite ear is involved externally and has not been the seat of previous inflammation. Hence, according to Barr, it is of no value in two-thirds of the cases because the purulent otitis is bilateral.

Sensory aphasia is present in abscess of the left tempero-sphenoidal lobe. It is very important to remember that in most cases the sensory aphasia is transitory and not permanent; this is due to the fact that the abscess is usually on the underside of the tempero-sphenoidal lobe, which lies above the roof of middle ear, and affects the speech center only by distal pressure. Even epidural abscesses can affect the speech center by pressure (second case).

Abscesses of the temporal lobe are differentiated with difficulty from tumors, because fever is so frequently absent. We must rely on the etiology. Bergman says that even with all our diagnostic aids we frequently make mistakes in temporal abscesses.

With the abscess in the lateral lobes we will usually miss marked cerebellar signs, unless the pressure of the abscess affects the vermiform lobe, when, as in MacEwen's case, we will have marked ataxia. Then the centers and branches of six of the basilar nerves may be affected, but not so often as in tumor. Vertigo may just as well be due to labyrinthine as to cerebellar trouble, and is therefore of little value. Vertigo, uncertain gait and retraction or stiffness of neck are fairly often associated in cerebellar abscess. We can see, therefore, that the diagnosis of cerebellar abscess has usually been made, after the mastoid had been opened. In 19 operated cases tabulated by Koch, 8 times the abscess was found by the finding of a sinus leading to the abscess during mastoid operations, 7 times by aspirating in all directions and finally finding the abscess in the cerebellum, and only 4 times was the diagnosis properly made before the operation by a consideration of signs and symptoms.

A chief factor of chronic latent abscesses is that they are subcortical, usually about one eighth to one-fourth of an inch beneath the surface. The discovery that the cortex of the brain could be punctured and cut into with almost no danger, is very recent. In compound comminuted fractures Ashley Cooper would not even remove the spiculæ of bone which had been driven into the brain. Dupuytren was the first to cut into the brain and empty an abscess, but his patient died, and for many years no surgeon ventured to repeat the daring operation. As a result of aspiration on the one hand and of increased knowledge of the physiology of the cortex on the other, surgeons no longer hesitate to make incisions into and puncture even deep into the brain substance. This procedure, however, is not without some danger. I have seen one death result after aspiration as a result of an injury to a vein of the choroid plexus with hemorrhage into the lateral ventricle.

CONCLUSION.

In conclusion let me introduce Oppenheim's résumé of his diagnostic experience. He says that in the majority of cases of suspected abscess he could rule out abscess at once without any trouble. In 35 cases he had serious difficulties of diagnosis. In 14 of the 35 cases he made the diagnosis of abscess. The other 21 cases were either localized meningitis, cerebrospinal meningitis, encephalitis median otitis and brain concussion.

Of the 14 abscesses, four belong to the period antedating the days of brain operations. In five cases an operation was deemed inadvisable, either because the abscess could not be located or because of complications. In five cases an operation was performed, in two of these the abscess was not found, although present. In the three remaining cases the operation was successful, but only one case recovered, the other two dying of the complicating meningitis. This experience of Oppenheim is the experience of all neurologists and explains the difference of opinion between us and the surgeon. The surgeon sees only the sifted and positive cases and feels that the diagnosis is easy and the results good; the neurologist sees all the doubtful and fatal cases and is not quite so sanguine.

THE DISEASED MIDDLE TURBINATE.*

CHARLES H. BAKER, M.D.
BAY CITY, MICH.

The undue importance which has been given the lower turbinate bodies in the search for the etiology of nasal disorders has overshadowed all other parts of the nasal cavities and led to wrongfully crediting the lower turbinals with the more important instead of the less important rôle in the production of nasal disease. This was principally owing to their easy accessibility and also to the fact that in most nasal disorders these bodies were found swollen and occluding the respiratory passages whereby effect was mistaken for cause.

A moment's reflection will convince one that an acute coryza manifests itself in the region above the lower turbinate first, with a feeling of dryness and pressure followed later by obstruction to respiration due to swelling of the lower turbinate. Very often a patient presents himself with a beginning coryza in which the only perceptible change of the mucous surface is a dryness and redness of the upper nasal chambers with some swelling of the tissue over the middle turbinate and little obstruction to breathing; but a few hours later having the lower passages tightly plugged by swollen tissue.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

The anatomic relations of the middle turbinates are of the highest importance and can not too often be reviewed. The middle, sometimes called the ethmoid turbinate, is the extension of the ethmoid bone into the nasal chambers. This fact must be borne in mind for its important bearing on the etiology of disease in the middle turbinate, for suppurations in the ethmoid cells are often accompanied by a like condition in the turbinate, and vice versa.

Between the body of the middle turbinate and the nasal side wall are the openings of the frontal sinus, maxillary sinus, ethmoid cells, and at its posterior end is the opening of the sphenoid antrum. In a state of health the turbinate acts as a barrier, protecting the outlets of these various cavities from external irritants, but when inflammation occurs the resultant swelling produces occlusion of the outlets and retention of the secretions. The retained discharges ferment and in their turn become irritants, whence the above condition tends to be self-perpetuated.

The shape of the middle turbinate within physiologic limits varies greatly, depending on the type of nasal chambers in which it is found. In the high-roofed narrow chamber it may be merely a thin lamellar plate suspended by its upper border from the inward leaning side wall, and may be easily bent from side to side by the exploring probe. In the wide roomy chambers of the Germanic races it may assume the typical shape described in the text-books, while it may possess almost any variation from these and still retain, physiologically, perfect shape. By this I mean that when, itself not involved in inflammation, it does not press on any of the sensitive areas in its neighborhood or block the openings of the accessory sinuses it may be considered physiologic, however bizarre its shape.

The most common type of the middle turbinate is the one with knobbed anterior, which quite effectually shuts off from view the space lying above and behind. The space between the turbinate and septum varies from 1.5 to 3 mm., and between the turbinate and side wall usually a little less.

The opinion seems gaining ground that the meatuses serve merely as gutters to drain off nasal secretions and when pus is found in them it is produced in one or more of the accessory sinuses or cells. If time proves this to be correct it will greatly simplify our etiology if it does not make treatment any easier.

For the location of the point of origin of nasal pus a certain line of procedure is important. Inspection both anterior and posterior should precede cleansing or blowing the nose and masses of pus will often be seen lying in the lower and middle meatuses which are continued upward to their point of origin, or at least far on the road. After the patient blows his nose inspection is to be made again.

By way of parenthesis let me say that one-half the patients, especially children, need instruction in the proper way to blow the nose, most of them holding both nostrils tightly closed until the air is under pressure, then allowing it to partly escape by both nostrils at once and suddenly checking it; a method eminently calculated to precipitate Eustachian and middle-ear catarrh. The proper method is this: One nostril should be closed by pressure on the ala and the whole explosive air current directed through the open side. When this is properly done the masses of fluid pus will be expelled from the lower passages and inspection will often show the pus drawn out into a rope with one end issuing from the infected sinus infallibly pointing out the way.

Next, a cocain solution is applied with a probe to the lower turbinate and the anterior part of the middle one, sufficiently strong to induce some shrinking of the tissue. This opens the way frequently to discovery of hidden polypi, spurs, etc., which are not seen on first inspection.

Next, with a very thin and flexible probe, the tip surrounded by a thin pledget of cotton tightly wound and dipped in cocain, the regions about the middle turbinate are carefully explored and an estimate of the amount of space between septum and turbinate body, and the latter and side wall is obtained, together with the discovery of small polypi, localized hypertrophies, abnormalities of form and size of the turbinate and possibly denuded areas of bone.

The limited time at my disposal will permit an examination of two conditions only which are the results of suppuration, the one external and the other internal to the turbinate body, both of which may lead to increase in its bulk.

The first of these is nasal polypus, and my first proposition is this: Nasal polypus is a sign of existent or past suppuration in either the ethmoid cells or one of the accessory sinuses. Nasal polypus arises most frequently from the middle turbinate, next from the edges of the hiatus semilunaris around the outlets of the frontal and maxillary sinuses and anterior ethmoid cells, lastly from the posterior ethmoid and sphenoid antrum outlets. They are usually accompanied by suppuration, and I believe they never occur without antecedent suppuration of the ethmoid or the sinuses.

Pus issuing from these and flowing over the mucous membrane, eroded as happens during an acute coryza, excites the formation of true granulation tissue just the same as forms in the suppurating ear or around a healing mastoid and aided by gravity and an over-abundant serous secretion they go on to become polypus. I am aware this is not a generally accepted theory, but it has the merit of newness and plausibility, and in view of the fact that about all authorities acknowledge that the cause of nasal polypus is obscure or "in accord with some unknown law" it is as worthy of acceptance as any.

By far the larger number of cases of nasal polypus, particularly if multiple, will be found accompanied by suppuration, sometimes unseen until the polyps are removed, when an enormous amount of pus may be found to issue from some adjacent sinus. The removal of polypus should be considered as preliminary to more extensive operations in most cases, and should be undertaken only with the cold snare and strong illumination so as to be able, so far as may be, to see every step of the operation. Blind fishing with polypus forceps is a relic from the days of the moxa and seton, and no man is warranted in being guilty of their use.

After removal under cocain and adrenalin of all the polyps in sight, within a day or two it is often possible to find more which have come down from the spaces above, where they had been retained by the pressure of the lower ones, so that several sittings may be necessary to secure those which can be reached without interference with the bone. There is no assurance that when this is done all have been secured, for I have repeatedly removed the middle turbinate body and found from one to a dozen good-sized polyps concealed either behind, above or within the bone. Because of this experience I now make it a rule to remove the middle turbinate, either in whole or in part, when there is active disease of the turbinate, the adjacent sinuses or cells or

when asthma is not relieved permanently or when the polyps reform after removal.

The tendency of polyps to grow again after removal is well recognized, but this is more common with the mucous than the fibrous and the multiple than the single. This is due, not to an inherent disease or degeneration in the mucous membrane so much as it is to irritation from pus flowing over it externally or to purulent inflammation of the underlying bone.

No treatment of the stump is likely to prevent recurrence and is often worse than useless, increasing rather than checking growth. Nothing but removal of the cause will succeed, and to do this the middle turbinate requires amputation. This bone is the site of fully one-half the polyps formed and I believe much more than half, so that its removal gets rid of the basis of the larger part. Then the turbinate is usually greatly increased in size in these cases, adding its own bulk to the causes of obstruction. After polypus has existed for some time, even if from disease of other parts, this bone is found diseased and the pneumatic cells filled with pus or containing polyps.

I would therefore advocate removal of the middle turbinate in all cases of recurrent polypus of the middle turbinal itself; in all cases of recurrent polypus of the hiatus semilunaris; in all cases when removal of polypus opens and reveals collections of pus issuing from the sinuses, and in cases when by pressure the enlarged turbinate causes reflex nervous ailments, such as muscular asthenopia, persistent headache, chorea or epilepsy and especially asthma.

Nasal suppurations, post-nasal dropping, asthma, headache, disposition to frequent coryzas with slight cause; in short, continual nasal irritability is liable to remain so long as a single polypus is left, and if such symptoms persist after the healing following total removal of all which can be discovered, I contend it is the duty of the rhinologist to remove the middle turbinate, or enough of it to uncover the hiatus semilunaris and render easily accessible all portions of the nasal chambers lying above and behind the turbinate. So generally have I found polypus in surprising amounts after such removal in case of multiple polypi that I would now be surprised if I did not find them.

CASE 1.—A case in point is that of a physician, for years an acute sufferer from asthma, who under several eminent rhinologists had run the gamut of fashionable treatment, from galvano-cautery, that converted the nasal chamber into a beautiful dry scar, to trephine, which left only a hypertrophied scar stump on the site of the opposite inferior turbinate. As interlude he had had frequent removals of mucous polypus from either chamber. The right middle turbinate was hypertrophied and pressed on the septum, but no polyps could be detected on either side. To stop pressure the bone was removed and four large polyps were found in the hiatus semilunaris and above the bone posteriorly three additional were found within a week. The result of removing the stump of lower turbinate and straightening a deformed septum on the same side and removal of the middle turbinate of the opposite, with its concealed polyps, was nearly total relief of an asthma which had lasted for years and broken down an otherwise vigorous constitution.

Removal of the turbinate for several different conditions has brought to my notice a considerable number of cases which I think account for the bullous enlargement of the middle turbinate, which is such a fruitful source of nasal disorder. Bullous enlargement has been variously attributed to a periostitis and to a hyperplasia of the bony elements, but these cases point to a very different cause.

CASE 2.—A hay-fever patient had in childhood suffered from eczema and asthma, probably from adenoids, which disappeared before puberty, but his hay fever developed at about 30 years of age. There was at that time no enlargement of the middle turbinate and no asthma, but about six years ago asthma complicated the attacks coincident with commencing enlargement of the turbinate. The asthmatic seizures grew heavier as the bone grew thicker, and lasted later into the winter, until they were likely to be precipitated by any overexertion or error of diet. By this time the bone was pressing continuously on the sensitive septum. To relieve the irritation of this pressure the turbinate was amputated in October last and was found becoming bullous; stiff, inspissated pus occupied the greater part of the cell in the anterior portion. None of the adjoining ethmoid cells or sinuses gave any evidence of disease and healing was very prompt. The patient gained weight and strength very rapidly and passed the last winter in better health than for years. There was very moderate post-nasal discharge with a burning, smarting feeling above the palate, particularly on awakening, and disposition to rasp the throat and an obscure feeling of constant pressure in the bone below the inner angle of the eye, but nothing else to indicate the presence of the pus. There has been no asthma since the operation, but the next hay-fever season will tell whether it is curative for the asthma.



Fig. 1.—Specimens (actual size) illustrating cases 1, 2 and 4. No. 2 is the first case—dried specimen; No. 1, three fragments of specimen from Case 2, also dry; No. 3 is from Case 4, with its adhering polyps P' and P'', the latter being on the upper posterior surface entirely concealed until the bone had been extracted.

CASE 3.—Another case was also an asthmatic without any definite clinical history, either as to origin of the attacks or symptoms aside from frequent severe paroxysms. The removal was done for relief of the pressure on the septum, which was very severe. The bulla, which was very much larger and the walls thinner than in the last case, was found completely filled with cheesy pus. As before, there was no involvement of the adjacent sinuses or cells and the healing was uneventful. There has been no asthma since the operation except an attack brought on by pressure from dry secretions imperfectly removed by the patient.

Case 4.—The last case to which I call your attention shows an extreme development of this condition. The patient was a German farmer, who developed a paralysis of the external rectus of the left eye, for which no cause could be discovered outside the nasal chambers. His previous health had been perfect, there had been no specific disease or any unusual exposure or hardship, no headache, impairment of vision or any discernible cause until inspection of the nasal cavity showed a very much enlarged middle turbinate pressing both on the septum and the side wall, and a large nasal polypus dependent from its anterior end. The polypus was first removed and then the turbinate body, which was filled with thick and cheesy pus. Behind the turbinate was a small polypus which was impossible to discover until the bone had first been removed. No suppuration could be discovered in the adjacent cells or sinuses.

At the time of removal the various specimens of these conditions presented no evidence of inflammation within the cell, the pus being stiff and cheesy, and when the cavity was emptied the lining membrane had the pearly glistening appearance of those in which no pus was found. I therefore contend that bullous hypertrophy, the so-called pneumatic distention, is the result of continued suppuration within the middle turbinate, doubtless from infection of one of the normal pneumatic cells, and that the growing accumulation of

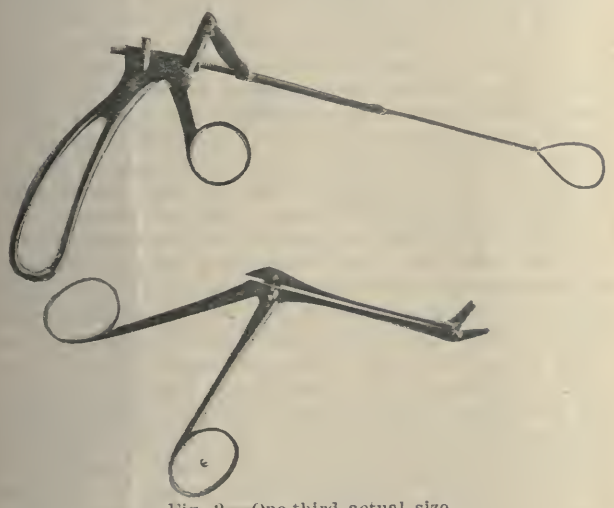


Fig. 2.—One-third actual size.

pus causes the obscure feeling of pressure of which patients with fairly open lower meatuses often complain.

Internal pressure fuses the existent pneumatic cells and gradually distends the bone, at the same time thinning the wall of the cell. The suppurative process in time dies out, the pus is absorbed and the cell is empty, or it may contain one or more polypi which in no way differ in appearance or origin from the mucous polyp of the other parts of the nose.

In conclusion let me say, the removal of the middle turbinate is not always the easy operation it is when the bone is thin and dependent. Its base is often wide and the bone dense and a variety of instruments are required. Various modifications of Grünwald scissors and forceps and a good snare are necessary, and they must be mechanically correct or they will fail to work at a critical period.

I wish to call attention to a modified cutting forceps with angular blade which I have found useful, particularly in cleaning the ethmoid cells and edge of the hiatus semilunaris.

The snare, which is operated by a toggle joint, operates by pushing the canula over the loop instead of drawing the latter into the canula, which makes it easy to remove sessile growths and it is particularly suited to remove posterior hypertrophies of the turbinals, which are usually so exasperatingly elusive. This snare will cut the turbinals very easily, and as it threads the loop like the Sajous snare it is very quickly made ready and very economically of wire.

I have been asked if the removal of the middle turbinate does not unduly expose the sinus openings to external irritants in the inspired air currents. It does not, and for the very good reason that the bulk of the air current does not pass into the upper chamber, as we have been taught.

All experimenters, so far as I have been able to learn, who sought to determine the direction taken by the inspired air in its passage through the nose, have blown the air through the nostril to the pharynx instead of drawing it through, as is the method of Nature. The result has been identical with the act of pushing a string through a hole, namely, to bend it in all sorts of directions instead of pulling it through, in which case it goes straight. The only correct way would be to attach a suction apparatus to the posterior naris and draw the air through, in which case the course would be in the line of least resistance, which would be by way of the lower meatus.

DISCUSSION.

Dr. O. T. Freer, Chicago—Where the nasal fossa is of a high, narrow construction or is contracted by reason of a moderate septal deflection I have found that there is at times not sufficient room for the manipulations with scissors or cutting forceps necessary for the removal of the middle turbinated body, unless force be used in applying the instruments. In these cases I have successfully employed a heart-shaped spokeshave with the blade attached to the shank at an angle of 45 degrees. The blade is passed back into the nasopharynx and applied to fit over the posterior end of the middle turbinated body. Then, with a strong, steady pull forward, while the shank of the instrument is crowded upward and uplifts the cartilaginous external nose, the middle turbinal is cut away. Where possible it is well to sever the anterior attachment of the middle turbinal with scissors as a preliminary, as scissors can usually be applied here, even though there may be no room to use them further back. Lifting the external nose makes it possible to bring the spokeshave forward in nearly a horizontal line. The method seems crude, but really does with one clean cut what is accomplished by many with scissors, cutting forceps and snare. Where there is room for the latter instruments their accuracy of application makes them preferable.

I think that Dr. Baker has exaggerated the influence of intranasal suppuration in producing nasal mucous polypi. I think that we have all seen cases in which, before and after removal of polypi, there was no evidence of suppuration, and I think that in the majority of instances there is no purulent discharge visible in the nose. I can recall two cases of cyst of the anterior end of the middle turbinal, neither of which showed proof that there had even been any suppuration, and I think that simple cyst of the middle turbinal is rather more common than the suppurating cyst.

Dr. Edwin Pynchon, Chicago—There is no doubt that nasal occlusion in child life is one of the most frequent causes of the coryzas and catarrhs we so often meet in years later. Suitable attacks on the hypertrophied middle turbinal will give drainage to the attic of the nose. The course of respiration has been proved to be normally through the upper part of the nose, hence, as soon as the upper part of the nose is stopped, the normal respiration is interfered with, so we get our catarrhal manifestations. As regards blowing the nose, I have been in the habit of instructing patients to stoop over the washstand and blow simultaneously through both nostrils, preliminary to the cleansing of one nostril after the other. The enlargement of the middle turbinal and the pressure resulting therefrom is a common cause of headache.

Asthma and hay fever are particularly aggravated by attic occlusion from middle turbinal enlargement. There is one point that I have been rather surprised not to find mentioned in the literature, and that is the invariable association of middle turbinal hypertrophy with atrophy of the inferior turbinal. I have found the best results in atrophic rhinitis to follow vigorous attacks on the middle turbinal so as to improve the ventilation and drainage of the attic of the nose. One very important thing in operating is not to substitute one evil for another, therefore we do not want to produce a synechia which will also cause occlusion. Consequently, a method of operation should be selected whereby the wound will be limited to the middle turbinal and whereby the mucous membrane of the septum will not be injured. The objection to the punching forceps, often used, is that the mucous membrane of the septum may be injured and a synechia follow. I have designed a trephine, whereby I can remove a piece from the anterior end of the middle turbinal both painlessly and bloodlessly. This trephine is different from the ordinary trephines and is very much longer. It is probably six inches long, including the hand-piece collar, and the projecting guard is perhaps an inch and a half long and projects about one-quarter of an inch beyond the trephine, being thin and flat, so it can always be passed between the middle turbinal and the septum, and thus serves as a protector of the mucous membrane of the septum. As the trephine enters, the guard projecting beyond its point acts not only as a guide but also as a guard, preventing the injury of any part that it is not desired to touch. By a slight up and down motion the core is detached and the trephine removed, leaving a hole in the turbinal into which one blade of a pair of shears may be introduced while the other blade is placed in the meatus beneath and an incision is then easily made with the shears. This leaves a loose piece, somewhat resembling a polypus that is horizontal instead of vertical, about which a cold snare is introduced, so the entire piece is removed. I will say I have found that there is more resilience in a certain kind of wire that is sold as the E guitar string wire. In regard to the snare, I have found the Bucklin snare to be the most satisfactory. It is a modification of the Wright snare. I have not seen the forceps mentioned by the essayist, but it has occurred to me if the blade that cuts upward was only a fenestrated blade, as in Dr. Myles' forceps, it would be more useful. I recently ordered such a pair from Europe, but when the order returned the forceps were not included. I have since learned that such forceps have been designed by Dr. Roe of Rochester, but I have not yet been able to secure a pair.

DR. G. V. WOOLEN, Indianapolis—I have noticed of late a very strong tendency to deal with the affections of the nose and head with a view to suppuration and empyema. One time we ran in the direction of microbes, and then we ran in the direction of suppuration. I have not heard anything about pressure irritation. I wonder if we have forgotten the classical paper by Dr. Lefferts, written in the eighties, in which he called attention to pressure irritation and defective drainage. When we take into consideration the nasal nerve coming down over the turbinates and septum, the form of the attic of the nose and the middle turbinal, the first thing, it seems to me, that we ought to think of is pressure irritation. Anybody who has had an attack of pain from a corn or bunion can appreciate it.

DR. KATE W. BALDWIN, Philadelphia—I have had one case of severe hemorrhage seven days after a turbinectomy. At the time of the operation a number of polypi were thoroughly removed, leaving the space free. There was almost no hemorrhage at the time of the operation and not until the seventh day, when it occurred after some vigorous exercise. It was as alarming a hemorrhage as I have seen in nose and throat work. There was so little bleeding at the time of the operation that I did not pack. At the time of the hemorrhage I was obliged to do so. A large polypus had come down, and I am not sure whether or not it was the release of it that caused the hemorrhage.

DR. EMIL MAYER—What was the age of the patient? Was there any constitutional condition, hemorrhagic diathesis, that might account for it, or might there have been an arteriosclerosis?

DR. BALDWIN—The patient's condition was very poor, especially the mental condition. I think there were probably polypi in the sinuses, but I had no further opportunity to watch her. There was no hemorrhagic diathesis. The mental condition improved somewhat. The patient was 25 years of age.

DR. MAYER—The reason I asked the question was to determine if there was any arteriosclerosis, such as might be due to syphilis or something of that kind.

DR. ALLEN DEVILBISS, Toledo, Ohio—I wish to ask a question of Dr. Baker. I understood that he would hook his spokeshave over the growth and pass it through the mucous membrane and bone at one pull. Is that correct?

DR. BAKER—Yes, sir.

DR. DEVILBISS—I believe I have a good strong hand, but I can furnish some turbinates in which the Doctor would have to have a stronger arm than I have to do that. We could shave the soft tissues off in that manner, but it requires only a little resistance to stop a cutting edge against a hard surface. It is different if you can use a sliding motion, and it may be that the Doctor has some peculiar method of doing this.

DR. O. T. FREER, Chicago—I have resected both the inferior and middle turbinated bodies in this manner and have had no trouble in cutting through the bone in the cases that I have so far met. Ordinarily the turbinated bones are so frail and porous that they can be infracted with the finger and they offer thus but little resistance to the strong edge of the spokeshave. Where middle turbinectomy is done to give drainage of the upper nasal passages, the middle turbinated bone is often softened by rarifying osteitis, due to chronic suppurative inflammation. There is less trouble in cutting through the bone than in hooking the spokeshave over the posterior end of the turbinated body. This may be impossible of performance and the instrument may slip off, where tortuous nasal chambers displace it from the intended direction. I do not advocate the use of the spokeshave as an exclusive method for turbinectomy, but as a valuable resource where scissors, snare or cutting forceps can not be employed with satisfaction. In these cases it may do with one cut what otherwise could only be attained by tedious and painful manipulation.

DR. R. C. MYLES, New York City—I must confess it has been rather difficult for me to always tell definitely how far the middle turbinate is diseased. We have mechanical conditions that interfere with its functions and when those are relieved the middle turbinate recovers. That is chiefly true in cases of deflection of the septum. If the deflected septum is properly treated, the middle turbinate will return to its normal condition. Removal of the anterior half of the middle turbinal will relieve many cases of incipient empyema. Eight or ten years ago I described an instrument in the *Medical Record*, and from that time until now I have modified it, until I believe in all cases in which the septum is not deflected, and in many cases in which it is, it may be moved over sufficiently to introduce this instrument. Under cocain and adrenalin the turbinal may be quickly and satisfactorily removed. I was forcibly struck by the elongation of the uvula in cases of quinzy. It may become three or four times its normal length within a few days. This is because the quinzy interferes with the venous return of blood. I have found that elongated palates, more or less chronic, may shorten up when the blood is allowed to return through the venous channels. I believe much is due to the stasis of blood circulation. We find it in arteriosclerosis, and in syphilis and in polypi. When the antrum of Highmore is opened and free ventilation is secured one will find that polypi and edema will frequently disappear, because the pressure has been removed and the irritating material drained off.

DR. P. J. GIBBONS, Syracuse, N. Y.—In the removal of the middle turbinate, I have often found we can make a mere perforation, if necessary, and it will make a cracking sound as if you punctured the shell of an egg, and then you can use the instruments more readily. I have seen the anterior portion of the middle turbinate so dense that the electric

drill, revolving 2,200 to even 3,200 revolutions per minute, would not touch it. I would like to speak of the total removal of the middle turbinated bone. You should not remove it entirely except when you can not possibly help it. The posterior part, if possible, should be retained. If the turbinate presses on the septum, crush it, if necessary, as you do in craniotomy for the removal of a child. An article by me appeared in the *New York Medical Journal* of July 9, 1892, on the treatment of nasal stenosis by means of a new intranasal tube. I called it a new intranasal tube because Hippocrates and later Galen used intranasal tubes. Dr. Baker called attention to asthma. In one part of my article I say: "In the tube we possess a valuable device, and with it, in conjunction with medicinal and operative treatment, we can cure diseases that we were unable to cure in the past. This is true, especially in asthma and hay fever, which, I believe, can positively be cured by one or more of the drugs which we now possess, or by operative interference, or by using the tube, or it may be necessary to resort to two or even the three measures combined to cure some of the cases we meet."

I think the opening of the anterior part, either with the drill and the removal of part of it afterward, or by some other method, is better than the total removal of the middle turbinate. If you ever want to make a new instrument for nose and throat work and want to know whether there is any like it made, it has been said that all you need to do is to write to Dr. John Roe, and you will probably find that he has made the same thing a number of years before.

Dr. W. S. Anderson, Detroit—I want to make a plea not to destroy more than is absolutely necessary in the removal of the turbinals. Only in a very few instances is it necessary to remove more than the anterior portion. It is possible, in many cases, to make an incision with a small knife through the mucous membrane, push it up, remove the anterior portion of the turbinal, drop down the flap of mucous membrane over it, and thus save the mucous membrane. There is too much of a tendency to unnecessarily destroy tissue. By being careful one can often save the mucous membrane, which is so often destroyed. The results, after the saving of the mucous membrane, are more satisfactory and prompt and the irritable scars are largely avoided.

Dr. J. A. Stucky, Lexington—I wish to protest against the crushing process for the removal of the turbinal. I have frequently found an osteitis following the use of this method. I would like to refer to the use of Dr. Holmes' little scissors. With them you can cut off an enlargement with a single cut while you would be adjusting a snare, and in this way take off two turbinates while adjusting the wire around one.

Dr. George L. Richards, Fall River, Mass.—I think an examination of the skulls here will show the portion necessary to be removed is the anterior portion, and if you use the spokeshave that is practically all you can remove. That is the operation I almost invariably do, only I do not do it with the spokeshave, for the removal of the anterior third is usually all that is necessary. Beside, I think a part of the middle turbinated is important in olfaction.

Dr. B. A. Randall, Philadelphia—The essential basis of much of this work depends on the question of how we breathe and what is the respiratory tract of the nose. It is remarkable that such a matter should still be a matter of dispute. The failure definitely and finally to answer this seems to depend largely on the work of such men as Harrison Allen, who made very few mistakes, but who, because of study of comparative anatomy and the anatomy of the lower animals, was led to believe that we have an olfactory tract above and a respiratory tract below. Dr. Baker seems to take the same view. If you will take a few grains of magnesium powder and dust it in the air before the patient with normal, tidal breathing, and then find any of it, as drawn in and deposited on the mucous surfaces, below the level of the middle turbinate you will very much surprise me. The lower nasal meatus is not the respiratory but the drainage channel. You can, in this manner, very easily convince yourself that the upper olfactory tract is the respiratory tract of the nose. It is a pity that the matter is not clear in the minds of every one. Dr. Baker's admirable ecraseur observes the only proper indication in that the cannula moves forward over the snare. I mention this because others may have only the other kind of snare, such as the Jarvis, and will find that it will slip off if the loop is drawn. But it is perfectly feasible for us to push forward the cannula over the snare, when we use any of those snares, and avoid all slipping.

Dr. C. R. Holmes, Cincinnati—I have made a crude sketch here. Some of you have probably read my article on the removal of the turbinated bodies, particularly the inferior turbinated, and in that is pictured also the manner in which the scissors are introduced. And, by the way, I wish to state that they are usually not made correctly. Meyrowitz does make them right, but I have seen some not made correctly. If they are too long they will fracture. I have had Meyrowitz thicken the point a little and strengthen it so that they answer better. I have had occasion to see how a little lack of knowledge in the use of an instrument may cause the condemnation of the instrument. I let my first assistant remove a turbinate. He is an able man, who has been with me for three years. I noticed him having some difficulty, and finally he said: "Doctor, that is too hard; we can not cut it." I found he had taken the middle turbinate in the middle of its body. The object of the scissors is to get up near to the wall, and that is the reason they are made in this shape. A pair of scissors has been made by another gentleman, that work at right angles, but they do not seem to me so applicable. By taking hold of it with a pair of forceps, after using the scissors, or, if necessary, following the scissors with the snare, we can readily remove the turbinate. Many a man, however, does excellent work with a clumsy instrument, because he is familiar with it. I would say it is advisable to buy the smaller size of these scissors, because they usually are sufficient. Dr. Randall has called attention to the fact that the air does rise and go through the upper passages. The air passes along the upper passages of the nose, and if you have obstruction there you must remove it. At the time my paper was written I had made 1,500 turbinectomies, and I have made 2,000 since then, but they were not all middle turbinectomies by any means.

Dr. Emil Mayer—I would like Dr. Holmes to make it a little clearer that two instruments are used, a right and left, and that the instrument is suitable for the middle turbinated but not for the inferior turbinated.

Dr. Holmes—Yes, that is true. For the removal of the inferior turbinated I prefer an instrument made by Betz.

Dr. G. Hudson Makuen, Philadelphia—When you are standing, the air passes naturally upward, and it would have to go almost at a right angle to get through the inferior passage of the nose. I have accepted Dr. Reynolds' explanation without having tried the experiment, for it seems to me that is the natural course for the air to take.

Dr. Holmes—Those who are interested in that subject will find that the experiment has been made. Cadavers were used and the inside of the nasal passages painted with iodin and powders of starch were used, with the cadavers in both the standing and sitting position.

Dr. G. McAuliffe, New York City—The inspiratory currents experiment, etc., quoted by Dr. Randall were mentioned in a French magazine some 8 years ago. Since then I have been interested in studying the middle turbinate. It is surprising how often we will find collapsed inferior turbinates with troubled respiration due to the encroaching middle turbinate. We then find it is usually the turgescence of the mucous membrane which it is necessary to treat. By snipping off the mucous membrane of the anterior end of the middle turbinate, we can relieve the symptoms of impaired respiration. The statement of Dr. Randall that the powder is not found on the inferior turbinate will be explained by the fact that the air enters the nose in eddies. The eddies started up by the slow inspiration carry the powder to the roof. There is no doubt that some of the air passes across the surface of the inferior turbinate. The quick expiration goes more through the inferior meatus. All the treatments that have

done any good have been those in which the space of the middle meatus has been enlarged. By enlarging the space in the middle meatus we relieve the stagnation of secretion and the difficulty of inspiration that these patients complain of.

Dr. J. C. Beck, Chicago—Two points I would like to make. In regard to the enlargement of the middle turbinate, nothing has been said about the effect of a large middle turbinated on the tear duct. After turbinectomy, you will find it stated that secondary hemorrhages, due to infection, may occur, where the proper cleansing of the nose is not attended to after operation. This is hemorrhage due to infection.

Dr. Ira J. Dunn, Erie, Pa.—It seems to me appropriate to present these scissors, which I have found more satisfactory in nasal operating than any I have been able to find in the stock of the instrument makers. It was only after thorough search and failure to obtain scissors that would cut on the point strong enough to go through bone if necessary and still leave room for observation that these were devised. They only represent the best ideas of others. They are very strong, the blades are straight and compact, giving all possible room for observation. The hand is well out of the way of vision and situated so that, if necessary, a powerful grasp can be made. The edges are serrated, so that they do not slip back, but go cleanly through any tissue, cutting by one closure what is with difficulty accomplished by other scissors by a number of cuts. With more or less blood present, as is usual, several



cuts necessitate making a ragged and bruised surface. They enable one to cut off the posterior portion of a turbinated which otherwise usually has to be snared, because they do cut clear to the point. I hope they may be found useful by some of the members of the Section.

Dr. Charles H. Baker, Bay City, Mich.—I purposely omitted the method of removing the turbinal, because I described that at length in my paper, read last year, in which I credited Dr. Holmes' instruments. Dr. Holmes has said that the base is not always of a thin lamellar character, and sometimes the scissors may be used with difficulty. In those cases I have found the Gruenwald instruments and, particularly, the angular one which I have devised, very useful. I frequently find it advisable to remove the whole body of the turbinal. The polypi often occupy the posterior upper portion of the middle turbinal and you can not see them until you have removed the bone. That will explain the frequent failure to cure nasal polypi by persistent removal. I will acknowledge that I have sometimes secured the cure of polypi in this way. Failure is due to the polypi sometimes being out of sight, in the way I have described. Anatomically, the tear duct has no relation with the middle turbinate, since it opens behind the lower turbinate. As to synechia, they occur when you have not removed sufficient tissue or can not keep the patient under observation long enough to know that healing is complete before he passes out of your care. The trouble with the spokeshave is that you are trying to remove a curve by cutting on a straight line, and you often will not remove the entire body if you use the spokeshave.

Age Limit Fixed by Dentists.—In the November *Digest* we stated that factory inspectors in Illinois were enlisting the aid of dentists to tell by the teeth the age of children who seemed too young to work in factories. There is now a bill before the Illinois legislature providing that no factory owner shall employ a child who can not produce a certificate from a dentist showing that he is over 16 years of age.—*Dental Digest.*

TYPHOID FEVER WITH PERFORATION OF THE BOWEL AND RECOVERY.

T. K. HOLMES, M.D.
CHATHAM, ONTARIO.

Miss S., aged 30, of good family and personal history, was attacked with typhoid fever Oct. 6, 1900, and the disease pursued a mild and favorable course until October 26, when she was seized with agonizing pain in the abdomen accompanied by severe shock. I saw her half an hour later and found her temperature 96, pulse 150, skin cold and wet and altogether presenting the symptoms of perforation. The nurse had given a hypodermic injection of morphin ¼ grain, and strychnin 1/20 grain. Dr. J. H. Duncan saw the patient with me and we deemed it inexpedient to operate on account of her desperate condition. The strychnin and morphin were repeated at varying intervals to control the pain and sustain the heart, and normal salt solution was transfused beneath the skin every 12 hours, a quart being used each time. Tympanitis, which had been absent, soon became excessive, and vomiting was almost



Pelvic abscess due to perforation of a typhoid ulcer. A transverse section of the body just above the pelvic brim. Small portions of the bladder, uterus and of the left tube and ovary are seen, but the major portion of the pelvis is occupied by a large abscess. The intestinal loops are everywhere densely adherent to it and at the point indicated by the arrow is an opening between the loop of the small gut and the abscess. The omentum also was adherent to the surface of the abscess.

incessant for 24 hours. For ten days the patient was sustained entirely by rectal enemata. On the tenth day the bowels moved spontaneously, the bloating subsided and the stomach became tolerant of small quantities of peptonized milk.

Recovery after this occurred gradually, but when the bloating and tenderness had sufficiently subsided to permit examination a hard mass could be felt below and a little to the left of the navel, and could also be detected by pressing the finger through the vagina in the same locality. The mass was very hard and no fluctuation could be detected at any time. During the winter she gained slowly in strength, but her pulse never became normal and there was a slight rise of temperature toward evening.

In April, 1901, I consulted Dr. Cullen of Baltimore as to the propriety of operating on the patient, and asked him to perform the operation. This he did May 9, assisted by Dr. McKeough and myself. On vaginal examination a distinct mass could be felt occupying the pelvis, but not lying very low. On making an abdominal incision the intestinal loops were found adherent to the surface of this mass, which almost completely filled the pelvis. They were separated with considerable difficulty. In liberating one of these adhesions, evidently at the point of rupture, a perforation fully 2 cm. in diameter was found blending with the wall of the sac. This opening was closed with a continuous silk suture and reinforced by a second one. Further intestinal loops were freed, but it was impossible to remove the sac. The sac was punctured and about 700 c.c.

of most fetid yellowish white pus escaped. This had the characteristic fecal odor. The sac was scoured with gauze and a thick layer of granulation tissue removed from its walls. During this procedure the intestines were walled off carefully and after operation the intestinal fat was drawn up to and fastened to the upper part of the incision to prevent the intestines from dropping into the pelvis. A light iodoform pack was introduced around the sac and a loose drain placed in its interior.

The patient stood the operation well and in the evening the pulse was 116. The gauze packing was removed on the third day and the drain continued to be replaced daily until only a small sinus 3 inches deep remained. The hardness to be felt per vaginum did not completely disappear and much pain and tenderness remained at the left side of the cervix where the hardness was most marked.

A month after the operation this hardness had emptied itself into the sinus and a free discharge of pus was followed by freedom from pain and tenderness and fever. It was possible now to introduce a small glass irrigation tube through the sinus from the abdomen a distance of 5 inches downward and toward the left, and in this way the second abscess cavity was irrigated daily for several weeks, but drainage was so imperfect that I decided to make a counter opening into the vagina. I was thus enabled to pass a perforated rubber drainage tube from the abdominal surface through into the vagina and in this way to get better drainage and to irrigate the whole canal. By gradually withdrawing the tube the sinus finally closed and there was no further trouble. The patient has fully recovered her strength.

Special Article.

THE TYPHOID EPIDEMIC AT ITHACA.

(By Our Special Commissioner.)

I.

Ithaca, N. Y., March 10, 1903.

Ithaca is a town of about 13,000 inhabitants, with an additional student population of some 2,500. An excessive number of typhoid fever cases began to appear about Jan. 15, 1903, but it was not generally recognized that there was any unusual prevalence of the disease until Monday, January 26, when one of the local papers contained a statement that 73 residents of Ithaca were ill with "fever." During the week of January 26 to February 1 the epidemic progressed rapidly, and on February 2 it was stated that 237 cases of the fever existed in the city.

Up to the present date there have been about 91 cases among the resident students of Cornell University, and 12 of these have resulted fatally. There have been 8 additional deaths among Cornell students who had gone to their homes outside of the city; and it seems not unlikely that altogether 150 cases have thus far appeared among the student body. It is, at present, impossible to obtain exact information regarding the number of cases that has developed in the whole city. The number of deaths among the townspeople amounts to at least 24, and up to the present time more than 600 cases have probably occurred. The crest of the epidemic seems to have been reached in the latter part of February. Since the first of March the new cases reported have been relatively fewer in number and are of a much milder type.

The public water supply is distinctly responsible for the outbreak. Those portions of the town receiving any of the water from Six Mile creek have suffered most severely, while the houses on the University campus and in its immediate neighborhood, including Sage College, with its 200 women students, in all constituting a population of more than 500, have been practically exempt. The one exception is a student who is known to have taken water in the infected part of the city.

It has been known for years that the public water supply was impure and wholly unfit for drinking purposes, and the present epidemic is the outcome of conditions which were clearly understood and the significance of which was urged on the authorities many times.

During the last week a material improvement in the situation has been effected by the energetic action of Dr. Soper, representative of the New York State Board of Health. Measures designed to diminish the opportunities for secondary infection have been vigorously pushed under his direction, and it seems likely that the persistent application of rational methods will speedily relieve the local tension and restore complete confidence to the stricken town. So much infectious material, however, still exists in and about the community that rigorous precautions will have to be continued for a long time to prevent a recurrence of the same epidemic conditions.

Much enthusiasm has been manifested locally in a project for obtaining water for the entire city from artesian wells sunk in the valley, but it is stated by high engineering authority that an adequate and satisfactory supply is hardly likely to be obtained from this source. Measures for improving the character of the present supply by rigorous control of the water-shed or filtration are also being considered. The university authorities have already placed a contract for the installation of a small mechanical filter to supply the university campus. It is expected that the filter will be in operation within 35 days. The present university supply (from Fall Creek), as has been pointed out, is not involved in the present epidemic, but is nevertheless liable to sources of gross pollution. Good fortune rather than good management has been responsible for the immunity of the district served by the supply, since the conditions of the water-shed do not differ materially from those of the basin of Six Mile Creek.

(To be continued.)

Smallpox Vesicles.—A writer in the *Lancet*, referring to the prevalence of smallpox in London, and the difficulty sometimes in mild cases of differentiating between this disease and chickenpox, calls attention to a well-known method by which the object can be attained. The vesicles in chickenpox are unilocular, while in smallpox they are multilocular, the practical result of this pathologic fact being that, if a chickenpox vesicle be pricked with a needle, its contents can be completely evacuated, and the cell will collapse; whereas in smallpox, if you make twenty pricks with a needle, the vesicle will not collapse, because, being multilocular, it is impossible to empty it. —*Medical Times.*

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FAMILY CARE OF THE INSANE.

In the proceedings of the Twenty-ninth National Conference of Charities which has just appeared, there is an article on a system for the care of the insane so little known to Americans as to merit attention. It is written by Julia C. Lathrop, for some years a member of the Illinois State Board of Charities, who has personally observed this system in Scotland, France and Belgium. Briefly stated, this system consists of family care for certain classes of quiet patients.

The village of Gheel in Belgium is the classic instance of such care. Here for more than a thousand years patients have been received into the homes of the villagers as boarders, and at the present time the boarding of 2000 patients is the main industry in the commune with its 6000 inhabitants. About twenty years ago a similar colony for quiet patients was opened by the government at Lierneux in southern Belgium. This has prospered and now contains between 400 and 500 patients. In 1892 the French government began the care of women patients in the village of Dun-sur-Auron and in 1900 they began at Ainay a like undertaking for men. These colonies were only opened after the French had studied what is known as the Berlin system as well as the Scotch and Belgium methods. By the Berlin system patients are sent out from the asylums, as Dalldorf, to board in neighboring families under the medical supervision of the asylum physicians, and it is chiefly valued as a halfway home for convalescents, while the French, Belgian and Scotch systems apply primarily to chronic patients and offer a method of permanent care.

In 1900 there were 654 women patients at Dun-sur-Auron and Ainay was just opened; in 1901 Ainay had 100 men. The patients have the greatest possible measure of liberty. If they desire, they do work of various kinds according to their former occupations; but it is expressly understood that their labor does not belong to the families in which they live and that they can dispose of their time as they like. A medical superintendent is in charge of each colony and effective supervision is easy because the patients are so concentrated. In Scotland, family care has a still different development. Instead of gathering patients into large village groups, they are carefully scattered so that there shall not be enough in any one place to give it a distinctive character. In 1901 there were 2793 patients in private dwellings in Scotland, while the total number of insane was 15,899. It is evident that family care is not suitable for all classes of patients, but the experience of Scotland and Belgium shows that in both of those countries about 20 per cent. of all the insane may be thus cared for.

The principal arguments in favor of the system are: 1. Humanitarian. The increased comfort and happiness of patients. A Scotch inspector says: "The freedom from irksome discipline and the social advantage of mixing with sane people of their own rank in life and on a footing of equality, has a wonderfully beneficial effect and has resulted in not a few cases of complete recovery." The Belgian and French authorities tell the same story. 2. Economy. The daily expenditure per capita in asylums of the Department of the Seine is 58 cents. At the village of Dun it is 28 cents. "In Scotland the current cost of boarding-out is about two-thirds that of hospital care," and this estimate does not take into consideration the enormous cost of hospital plants.

The most obvious objection to this system would be the danger of violence to the families, yet Drs. Peters and Duperon in Belgium, Marie and Lwollf in France, agree in stating that instances of violence are of phenomenally rare occurrence, while in Scotland it is authoritatively stated that "during the 43 years in which this system has been in operation there has been but one serious assault committed by a boarded-out patient"—a record of amiability scarcely to be equaled by a like body of sane boarders for the same period, were the truth known.

Miss Lathrop gives an instance of family care in Scotland and draws a contrast between it and the American system. In the course of a visit to one of the Scotch villages, she found a male patient sitting in the cottage of one of the neighbors tending a baby, and was told that this baby was the object of John's devoted care. "Not long after, I was visiting an American asylum of the usual baronial castle type and in a locked ward of rather violent patients an elderly woman was knitting a pair of socks. The attendant said she could live perfectly well outside 'if she only had some one to look after her a bit.' In the main building a few hundred feet distant, apparently, but really as remote as Europe, she had heard that there was a new baby in the family of one of the staff physicians, and sent a pair of socks of her own knitting to this child whom, probably, she would never see. She was far more expensively housed, clothed and fed than John; the great building in which she lived was set in the midst of a splendid park instead of a humble cottage garden, but as for me or any kin I would choose the lot of John."

THE LIMITATIONS OF THE CYTOTOXIC THEORY.

Just now the cytotoxin occupies the center plank of the stage of medical research. The antitoxin is ancient history, and even the hemolysin and the bacteriolysin are falling behind. There is probably no organ or tissue that is not now being injected in emulsionized form into the midst of the complacent goat, the sedate goose, the

rabbit or guinea-pig. We may look soon for a deluge of reports on cytotoxin work, and we should await them with interest, for present indications are that the results may be either very great or very small. It is the simplicity of method that undoubtedly accounts for the rapid and general invasion of the field. One simply takes some particular organ or tissue, preferably one not already studied, grinds it up with sand and aseptic precautions, extracts it with salt solution, and injects the product into the selected animal. After a number of such injections at intervals of a few days the injected animal is bled, the serum separated from the corpuscles and injected into an animal of the same species as those that have furnished the tissues; and then the last animal is studied, both alive and dead, for evidences of effects of the serum.

The earlier reports that have been published have not been harmonious, and it is hard to know what to expect; but because of the large number of workers we may reasonably anticipate that it will not be long before enough facts have been established to set the work on a firmer basis. That it is an enticing study there can be no doubt, and from the standpoint of science it should be worked out to the end. How much is to be expected in a practical way is another matter, and it may be well for the benefit of those who are not in a position to appreciate the exact situation to call attention to some of the obstacles that may prevent practical application, in order that too great expectations may not arise. The first is the fact that to a large extent results are being obtained with heterolysins rather than with autolysins. By this is meant, for example, that in experiments on neurotoxic serum a goose is immunized with nervous tissue from dogs, and that its serum is then injected into dogs to study its effects. It is evident that the conditions so established are not the same as with serum obtained from dogs treated with dogs' tissues. And even in the latter case there is still a gap before we reach ordinary conditions of human pathologic processes, in which the toxins, if produced at all, would arise within the body of the animal they affect. As might be expected, the general rule is that the more remote in nature the two kinds of animals are the more activity will the cytotoxic serum possess; therefore, experiments using animals of the same species have yielded little result. It is evident that as matters now stand we can not apply many of the results obtained with heterogeneous serums in explaining the genesis of pathologic processes, for these must, if due to cytotoxins produced by cell immunization, be due to cytotoxins produced within the body of the very animal that they attack. However, there is some hope in this direction, for a few studies of autocytolysis have indicated that it may occur; these have concerned particularly the kidneys.

The earliest work, in which destruction of such cells as ciliated epithelium was observed, suggested the possibility that an immune serum against cancer might be produced, and attempts have been made in this direction. Here one great obstacle lies in the difficulty of securing material with which to immunize the animals that are to furnish the serum. To treat a single case of cancer of the breast, for example, would require the amputation of many other cancers of the breast to secure material for immunization. Furthermore, when we come to consider cancers in sites where they are generally badly infected, as the stomach or uterus, we should undoubtedly find difficulty when we inject our animals. Another therapeutic possibility lies in the anticytotoxic serum, which is obtained by immunizing animals to the cytotoxic serum. Here again the application to human medicine is impossible, for where are we to find subjects which will produce our anticytotoxic serum, even if we were able to procure human material to immunize animals in the first place?

Our only object in making prominent these difficulties in the practical application of this particular line of work is to caution against the evident tendency of those who are not fully informed to draw unwarranted conclusions or predictions. There is probably no investigator who does not appreciate the situation fully. Undoubtedly there are possibilities that means may be found to evade the obstacles, and great advances result. But even were there no hope evident that any clinical use might come of all this work it is the right of science to expect the study to be pushed to completion, if for no other reason than that there are questions still unanswered. We have never the right to ask of science, *cui bona?*

A NURSES' STRIKE.

The trained nurses in a New York hospital recently struck and left the institution badly in confusion for a time. By aid from other hospitals the trouble was tided over without serious consequences, but the occurrence is an unfortunate one and does not tend to elevate the opinion of the profession as regards the strikers. The affair curiously paralleled certain labor union strikes. The alleged or apparent cause was the introduction among them of a non-diplomaed assistant who had not, or was not entitled to wear, the nurse's uniform, and it is alleged that when they left, the striking nurses or some one among them destroyed records, mixed up medicines, deranged glasses and bottles and concealed keys of instrument cases. The only thing apparently lacking was the picketing of the hospital and slugging, or perhaps hair pulling and scratching of their substitutes. Next to the physician's the nurse's should be an altruistic profession, but these particular nurses seem to have had a very low ideal of their duties and status. It is to be hoped that the action of these nurses will not be imitated by others, but that, if the facts are as charged, they will be promptly condemned and repudiated by their associates.

SCIENCE AND REST.

An opportunity to escape from the turmoil of this commercial world is often eagerly sought by the phy-

sician no less than by others. With the omnipresent mail and telegraph pursuing him, he begins to find it hard to secure a place for quiet recreation. Unless he can take an ocean voyage, the busy physician sometimes solves the problem by stealing away into the wild woods, his location being known to but one trusty friend. An ocean voyage has been long considered an ideal of freedom from care. Here the brain-fagged worker could read no daily paper, hear of no startling crime or commercial unheaval, receive no urgent letter or telegram on business matters, and the days passed amid quiet but novel and interesting scenes. But the quiet of this scene is threatened. We are told that while on her voyage many miles from land a ship received news by wireless telegraphy, a newspaper was printed and laid by the breakfast plates of the passengers. So it may not be long ere the busy physician can take his ocean voyage, but yet not get away from his g. p's. Hawaii, once called "the paradise of the Pacific," and delightfully free from worry because all outside news was at least a week old, is now connected by cable and is no longer in "charming isolation and yet accessibility." Thus by the advance of science the world becomes smaller and smaller until there will be no place left whither weary man may escape for rest.

COMPELLING TEMPERANCE BY LAW.

The saying that "You can not make a man temperate by act of parliament" has evidently a British origin and there has certainly been no tendency heretofore in that dominion toward prohibitory laws. Notwithstanding this, it seems to be a fact that one of the most stringent anti-liquor laws has just gone into effect there, and the consequences will be worth watching. Instead of being prophylactic against drunkenness in the way of prohibition, it is directly punitive. Drunkenness itself is made an offense, whether the individual is disorderly or not, and repeated convictions make the offender, as it were, a habitual criminal subject to compulsory detention for a considerable period up to three years. The appearance before the court and conviction more than a certain number of times, moreover, puts the individual on a published blacklist, and the personal responsibility of dramsellers as regards those thus listed is to be stringently enforced. The working of the law will be watched by all who are interested in the reduction of the evils of intemperance. If inebriety is a disease, as some claim, the provisions of the law would appear to be harsh, unless, indeed, we assume that, though a disease, it does not diminish responsibility. Probably the British magistrates will accept this view if the disease theory is pleaded before them, and it would certainly be unreasonable to permit disease to be a license to commit offenses against good morals and public welfare. The London and Glasgow police will have their hands full if they construe the law with any strictness and the licensed dealers will have to walk in narrower paths than they have been accustomed to if they wish to keep out of trouble.

LIFE-SAVING INVENTIONS.

The prevention of loss of life has been the subject of a number of recent inventions and some of these appear to promise something of real value. Anything that will reduce the amount of suffering and loss of life incident to travel is in line with the physician's plan of labor. One of the measures proposed is the use of acetylene to prevent the sinking of ships. The inventor proposes the placing of packages of calcium carbid throughout the lower parts of the ship in connection with collapsed gas bags. On the entrance of water it will reach the carbid and generate acetylene gas, which will inflate the bags and keep the ship afloat. The inventor has not told us how he proposes to prevent the explosion of the gas, or its ignition. Some of us might prefer to go down than up, or to drown than burn. Turning to railroads, we find a telephonic connection proposed between different engines by means of a third-rail system. On the approach of one train to another a signal is given, the engineer may then stop and telephone and learn the conditions. A more noteworthy plan is a system holding the drive wheels of the locomotive by magnetism to the rails. It is urged that this will prevent all accidents in case brakes fail to work on hills, in case slippery rails prevent the stopping of trains and in many cases where trains would otherwise leave the track. But the most promising invention is one by which electric connection is established through the rails to the engine so as to control the throttle of the locomotive. Whenever a locomotive approaches too near to another, a short circuit is established which automatically shuts the throttle, applies the brakes and stops the train. This would seem to remove an element of human fallibility. If any of these pass beyond the experimental and theoretical stage, where so many inventions linger, they will be welcomed into the equipment of the railway systems.

JUSTIFIABLE SUMPTUARY LEGISLATION.

The protest against "sumptuary legislation" is the war cry of the man who considers it an inalienable right of the individual to eat and drink what he pleases. It is frequently raised and for selfish ends. A similar protest is that against legislation that seeks to have those who treat disease qualified to some extent. One of these protests was by Mark Twain, who urged that a man should not be limited in his choice of a physician. Since the legislation was to restrict incompetence it was equivalent to saying that a man should be allowed to die in any way he chooses. This would not be bad for a joke, but no joke was intended. A man is emphatically not privileged to die as he chooses, nor to eat and drink what he pleases. It is now recognized as a right of the community to forbid the sale of liquor to the habitual user of intoxicants, and the sale of cocain, of carbolic acid and of other drugs where proper use is not intended, and the sale of embalmed beef and of salicylic-acid-preserved food. No one disputes the right. The latest curtailment of alleged sumptuary rights is the action of the Board of Health of Ithaca, N. Y., the scene of the recent typhoid epidemic. It is made a misdemeanor, punishable by $50 fine or fifty days in jail, for anyone to drink unboiled city water or to furnish it to others for that purpose. Who will question their right to take this action? Two score homes bereaved, every available physician overworked, hospitals full, the work of a great university almost suspended, hundreds of lives threatened and the future health of

the locality in jeopardy from the pollution—the community has indeed the right to limit individual acts that add to these perils. The rights of man and the rights of men are coming more and more to be interpreted in the light of ultimate results and for the greatest good to the greatest number.

Medical News.

ALABAMA.

College To Be Renovated.—A bill has been introduced in the house appropriating $20,000 for the renovation of the building of the Medical College of Alabama, Mobile.

Smallpox Among Medical Students.—The health officials of Mobile have discovered eleven cases of smallpox among students of the Medical College of Alabama, Mobile.

Rhett Memorial.—The new operating room at the City Hospital, Huntsville, erected and equipped by the City Council in memory of the late Dr. R. Barnwell Rhett, Jr., was recently opened.

Personal.—Dr. T. Chilton Thorington, Montgomery, has been appointed captain and assistant surgeon, S. T. Ala., and assigned to the Second Infantry, vice Dr. Walter S. Britt, Eufaula, resigned.——Dr. Henry M. Hunter, Union Springs, has located in the City of Mexico.——Dr. William M. Faulk, who has been a member of the staff of Bryce Hospital for the Insane, has resigned, and will practice in Tuscaloosa.

GEORGIA.

The Cocain Question.—In a trial at Atlanta, March 3, the fact was elicited that at one drug store in that city more than 3000 prescriptions for cocain had been filled within two months.

Want Scholarships.—Applications are pouring in on the governor for appointment to scholarships in Augusta Medical College, under the law whereby the governor is authorized to name two persons from each of the eleven congressional districts of the state for free scholarships at this institution.

Society Victorious.—The Supreme Court has confirmed the decision of the lower court for the defendants in the case of E. S. E. Bryan versus the Atlanta Society of Medicine. Bryan brought action against the society for $10,000 damages on the ground that his name had been presented to the grand jury as an illegal practitioner of medicine.

Violation of Cocain Law.—Dr. O. H. Snider, Atlanta, arraigned on the charge of distributing free packages of cocain to negroes, was found guilty, February 25, and fined $500, a thirty days' sentence in the stockade, and bound over to the city court on a $1,000 bond. On his promise not again to offend, the fine was reduced to $100.——W. C. Moran, Atlanta, on March 3, was fined $100 and costs for dispensing cocain in a box which did not bear the red label required by law.

ILLINOIS.

To Repeal Law of 1901.—Representative Miller has introduced a bill to repeal the law of 1901 requiring reports of births and deaths and the recording of the same, and the registration of interments or other disposal of dead bodies.

Senate Bills.—A bill has recently been introduced in the senate giving the osteopaths representation on the State Board of Health; another abolishing the State Board of Health, and a third abolishing 56 of the 61 trustees of the state charitable institutions and vesting full control of these institutions, 16 in number, in a state commission of public charities.

Medical Practice Act.—On March 6 Representative Wheeler introduced the new medical practice act proposed by the Illinois State Medical Society. It creates a State Board of Medical Examiners, consisting of seven members, who shall be appointed by the governor with the advice and consent of the senate. The appointments are to be made from persons nominated by the state medical societies, and every incorporated society having an actual membership of not less than 100 licentiates in medicine and surgery and embracing membership from at least twenty counties may submit nominations. The term of office is to be seven years.

Smallpox.—During February 180 cases of smallpox were reported to the State Board of Health from 45 localities in 34 counties. In 1902 there were about 4,000 cases in the state in February, and the diminution is undoubtedly due to the persistent efforts of the State Board of Health to enforce vaccination. Difficulty is still found in handling the disease, because it is often not at first recognized as smallpox. Spread of the disease in many localities is due to the refusal of the local health authorities to accept the diagnosis of the attending physician. They call on the State Board of Health for an inspector before taking action, and many may be exposed before he comes.

Chicago.

Health Department Appropriations.—The Department of Health estimated its needs for 1903 at $188,000; the city comptroller made an estimate of $188,619, and the budget calls for $188,000.

New Hospital Site.—It is announced in the daily press that negotiations are in progress for the sale of the old West-Side baseball park, 560 by 640 feet, to Cook County, for $125,000, to be used as the site for a contagious-disease hospital.

Smallpox.—During the week ended March 7, 13 cases of smallpox were discovered; two patients died at their homes and 11 were removed to the isolation hospital. There are now nearly 60 patients at the hospital, and 20 deaths have occurred.

Physician Sued.—In the suit of Mrs. Parmelia J. Davis against Dr. Edwin H. Pratt for $3,000 damages on account of an operation alleged to have been illegally performed on her, by the defendant, without her or her husband's consent, the court gave judgment for the plaintiff for the full amount.

Fewer Deaths.—There were 118 fewer deaths reported during the week ended March 7, than during the previous week—a decrease of 16.5 per cent., says the Bulletin of the Health Department. The mortality rate is still excessive, however, when compared with that of 1902. The total deaths for the week numbered 595, as against 713 for the last week in February and 515 in the corresponding week of 1902.

Physicians Protest.—Physicians attached to the county agent's office protested, March 2, against the new method of paying for their services. They were formerly paid $50 a month. The new appropriation provides that they shall be paid $1.50 a call. The chairman of the finance committee said it was the intention to redistrict the city and to so systematize the work that long trips would be unnecessary.

INDIANA.

Osteopath Bill Defeated.—On March 4 the senate defeated Senator Johnston's bill, providing a separate board of examination and registration for the osteopaths of the state.

Suit Settled by Death.—The case of James M. Shelley against Dr. George W. Spohn, Elkhart, for $10,000 damages on account of alleged improper treatment of cancer, was abruptly terminated, March 9, by the death of the plaintiff.

Unclaimed Cadavers for Dissection.—The governor signed the bill giving unclaimed bodies to medical colleges for dissection on payment of expenses of shipment, on February 26. As this law repeals "all laws within the purview of this act," it includes the law under which resurrectionists were convicted, but it is believed that as the bill became a law after the indictments were returned, it will have no effect on these cases.

Disease in January.—Smallpox for the twenty-fourth consecutive month leads the list as the most prevalent disease, 921 cases, with 50 deaths, were reported. The increase in smallpox, as compared with the corresponding month last year is enormous, and was predicted by the State Board of Health. There was a 98 per cent. increase in number of cases, 80 per cent. increase in area covered, and 90 per cent. increase in the number of deaths. The order of prevalence of diseases was as follows: Smallpox, tonsillitis, bronchitis, pneumonia, rheumatism, influenza, typhoid fever, scarlet fever, pleuritis, diarrhea, intermittent fever, diphtheria and croup, erysipelas, whooping cough, measles, inflammation of bowels, puerperal fever, dysentery, cerebrospinal meningitis, cholera infantum, and cholera morbus.

January Deaths.—There were 2,910 deaths reported in January—a death rate of 13.6 per 1,000. The greatest number of deaths, 410, was caused by pneumonia, and the next, 302, by consumption. Typhoid fever caused 64 deaths, diphtheria 53, scarlet fever 23, whooping cough 19, cerebro-spinal meningitis 33, influenza 39, cancer 88, violence 129, and smallpox 50. The city death rate was 16.8, and the county death rate 11.9 per 1,000. Compared with January, 1902, there is an increase of .4 in the death rate for January, 1903. There is a decrease in the death rate from consumption of 16.4 in 100,000. There is also a decrease in typhoid fever, pneumonia, influenza, violence

and smallpox. There were only five deaths from smallpox in January, 1902, which compared with 50 in January, 1903, shows a very great increase.

LOUISIANA.

State Board of Health.—Dr. Edward Souchon, New Orleans, has been re-appointed president of the board, and Dr. Joseph S. Stephens, Natchitoches, and Percival B. McCutcheon, New Orleans, members.

Charity Hospital Report.—The annual report of the hospital shows revenues for the year of $134,799.14 and expenditures of $126,042.15, leaving a balance of $8,756.99. During the year the hospital received $34,895.21 from donations and legacies. There were 6,793 patients admitted during the year.

Near a Million for Tulane.—By the will of the late A. C. Hutchinson, the bulk of his estate is devised to Tulane University Medical Department. The estate is appraised at $991.169. The brother of the deceased has begun suit at New Orleans to break the will on the ground that the university is not competent to receive the bequest.

Personal.—Dr. Arthur W. D. Roaldes, New Orleans, has been made an officer of the Legion of Honor of France.——Dr. Jefferson D. Bloom has been re-elected house surgeon; Dr. James M. Batchelor, first assistant house surgeon; Dr. Joseph A. Danna, second assistant house surgeon; Dr. Oliver L. Pothier, pathologist, and Dr. Maurice J. B. Couret, assistant pathologist, of Charity Hospital, New Orleans.

MARYLAND.

The Shooting at Westport.—Dr. Houghton Boxley was fined $10 and costs for firing a pistol at Dr. John Floyd at Westport, a suburb of Baltimore, February 27. He claimed that he shot in self-defense. He was bound over to keep the peace for six months.

Deaths and Disease.—There were 202 deaths in Baltimore for the week ended March 7, an annual rate per 1,000 of 18.63. There were 37 deaths from pneumonia; 9 from bronchitis; 6 from la grippe, and 3 from measles and 2 from diphtheria. A few new cases of diphtheria and measles were reported, but the epidemic of the latter has almost subsided.

Dr. Flexner's "Bacteriolysin."—Dr. Flexner is engaged in manufacturing his dysentery antitoxin, or "bacteriolysin," as he terms it. Trial will be made of this antitoxin this summer at the Wilson sanitarium near Baltimore. In about 2 months Dr. Flexner will institute a course of instruction for about 30 young men at his laboratory in Philadelphia, on the identification of the dysentery bacillus, so that during the summer a very widespread study of the summer diarrheas of children in this country may be made. It is rumored that Dr. W. G. MacCollum, associate professor of pathology at the Johns Hopkins Medical School, may succeed Dr. Flexner at the University of Pennsylvania.

MASSACHUSETTS.

Foot and Mouth Disease.—Dr. A. J. Peters, chief of the cattle bureau, having discovered that a case of "foot and mouth disease" had been imported from New Hampshire, has arranged with the Boston and Maine R. R. that no more cattle, sheep or swine shall be brought into Massachusetts from that state over that system till the danger from the infection is over.

Personal.—Dr. W. R. Brinckerhoff, assistant pathologist of the Boston City Hospital, will soon go abroad for a year's study.——Two changes in the staff of the Massachusetts General Hospital are the resignation as visiting physician of Dr. William L. Richardson, and the appointment as visiting surgeon of Dr. Charles L. Scudder.

Faulkner Hospital Opened.—The Faulkner Hospital, Jamaica Plain, Boston, which has been built and fitted up at an expense of $100,000 by Dr. and Mrs. George Faulkner as a memorial to their daughter Mary, was opened for inspection February 25, and for the care of patients March 9. The hospital has 25 beds and is thoroughly equipped. Dr. Frank Balch and Henry Jackson are in charge, and are assisted by a staff made up from the physicians of that vicinity.

Bequests to Hospitals.—By the will of the late Jacob H. Hecht more than $50,000 is given to charities. Among the hospitals thus aided are the Massachusetts General Hospital, Boston Lying-in Hospital, St. Mary's Lying-in Hospital, Boston Emergency Hospital, and the Carney Hospital.——The Children's Hospital, the Perkins Institution for the Blind, the Eye and Ear Infirmary, the Carney Hospital, Massachusetts General Hospital, Boston City Hospital, School for Crippled and Deformed Children and the New England Peabody Home for Crippled Children are among the beneficiaries of the will of the late W. I. Bolton of Chelsea, Mass.

MISSOURI.

Moves into New Quarters.—The medical department of the Missouri University, Columbia, moved, February 24, into the new $40,000 building recently erected for it.

Influenza Raging.—It is reported that there are 15,000 cases of influenza in St. Louis. Nearly ten per cent of the 700 patients in the City Hospital are said to be suffering from the disease.

Hospital Saturday and Sunday.—The annual report of the Hospital Saturday and Sunday Association of St. Louis shows collections of $24,732.66, with expenses of $755.09. The association distributed $23,000 among the associated hospitals of the city.

College Commencements.—Central Medical College, St. Joseph held its graduating exercises, February 27. Dr. Thompson E. Potter delivered the faculty address, Dr. Edward T. Molzahn was valedictorian, and the diplomas were presented to a class of 24 by Dr. Moritz F. Weyman, president of the college. ——On February 28, a class of 14 received diplomas from Ensworth Medical College, St. Joseph. Dr. Wallace B. Deffenbaugh delivered the address on behalf of the faculty, and Dr. Thomas H. Doyle, president of the college, conferred the degrees.

New Bills.—By Mr. Baker, to establish a hospital in State Hospital for the Insane, No. 1 Fulton, for the detention and treatment of dipsomaniacs and inebriates and those addicted to excessive use of narcotics.——By Dr. Horace D. Quigg, Cooper County, providing for the appointment by the governor of three separate medical boards, one for each of the three schools of medicine, each board to consist of five members and they to examine applicants for their respective schools and issue licenses to those found qualified.——By Mr. Dorris of Oregon, to require the State Board of Health to issue certificates to practice medicine to all graduates of reputable medical colleges without examination.——By Mr. Brown, Ozark, to allow graduates from a four-year course medical college to practice medicine without examination, provided they apply for authority to practice within three months of their graduation.

NEW YORK.

Hospital for Crippled and Deformed.—The New York State Hospital for the Care of Crippled and Deformed Children, Tarrytown, has issued its report for the year ended Sept. 30, 1902. During this period 35 patients have been treated, of whom 10 have been discharged. About 150 applications for admission have been made during the year, but owing to the restricted accommodations the larger portion could not be accepted. If the hospital had been equipped with 5500 beds the surgeon-in-chief says he could have filled them in a month with deserving patients.

State Charities Aid Association.—The thirteenth annual report of this association shows that in the past year 1,158 children have been placed in families at an expense that is a mere trifle compared with that which would have been incurred if these children had been cared for in institutions. This, of course, takes no account of the good to the children and to the community resulting from family life for young children as compared with rearing in institutions. A committee of the association co-operates with the Department of Charities of New York City in caring for motherless infants. In this way 112 motherless babes were cared for in the past year, while in the past four years 127 such infants have been provided with permanent homes before reaching the age of two years. By the same means the mortality among foundlings has been reduced from over 95 per cent. to less than 11 per cent. The total number cared for since the beginning of this work in 1898 is 303.

Typhoid Legislation.—Senator Stewart of Ithaca with an interest in the public health quickened by the fact that his wife is ill with typhoid at his home, has introduced into the legislature a bill aiming at preventing the pollution of the waters of the state. The bill provides that permission will hereafter have to be obtained from the state commissioner of health for any person, shop, factory or industrial establishment to discharge sewage or other putrescible matter into the waters of the state after the same shall have been forbidden by any local board of health or other public authority. The penalty for the discharge of sewage from any public sewer system without a permit is $500, and $50 a day while the nuisance is maintained.

The penalty for discharging into any of the waters of the state any other matter prohibited by this bill is to be $25 and $5 a day for each day the offense is continued. At the request of Dr. Frederick Holme Wiggin, president of the New York State Medical Association, the committee on legislation of that body is actively to support this bill.

New York City.

Skene Avenue.—The suggestion is made that the name of the late Dr. Alexander J. C. Skene be perpetuated by the naming of some suitable avenue in Brooklyn.

Found Lectureship.—Dr. and Mrs. Christian A. Herter have given $25,000 to Johns Hopkins University, Baltimore, for the establishment of a lectureship in medicine.

Charges Unfounded.—The sensational charges recently made by an alcoholic patient in Bellevue Hospital against the nurses have been carefully investigated and, at the request of the district attorney, the case was dismissed because the charges were found to be without foundation.

Columbus Hospital.—This institution is to be enlarged shortly by the addition of new buildings, adjoining the present property, the ground for which has already been purchased. The erection of these new buildings will increase the capacity of the hospital from 98 to 150 beds. Funds for the erection of the buildings are available, which will be sufficient to provide for modern equipment of the new wards.

A Nurses' Strike.—Nine of the trained nurses of the New York Eye and Ear Infirmary left the hospital on the refusal of Dr. Richard H. Derby, the executive surgeon, to accede to their demand that the new head nurse and an objectionable assistant be removed. For a short time the service of the hospital was badly crippled by this high-handed action, but several nurses were sent from other institutions to render assistance in the emergency.

Suit for Death in Narcosis.—In the suit brought against Drs. John A. Wyeth and W. H. Landon White by Mrs. Alice Wood, as administratrix of the estate of her son, Robert Wood, deceased, for damages sustained by him by reason of alleged negligent treatment, the Appellate Division of the Supreme Court dismissed the case on its merits. The boy, who was being operated on by Dr. Wyeth for an infected wound of the arm, died under chloroform, and suit was thereon instituted. It will probably be carried to the appellate court.

Personal.—Dr. Frederick C. Keller has been appointed attending physician to Columbus Hospital, to succeed Dr. Farquhar Ferguson, who has been made consulting physician.——Dr. G. A. De Santos Saxe has been appointed assistant pathologist to Columbus Hospital.——Dr. George L. Peabody has resigned his position as professor of materia medica and therapeutics in the College of Physicians and Surgeons.——Dr. John Harrigan has been elected president of the staff of St. Mary's Hospital, Brooklyn, vice Dr. John J. Byrne, deceased.

Buffalo.

Personal.—Dr. Edward L. Frost has been appointed physician to the Erie County penitentiary, and Dr. Prescott Le Britien physician to the jail.——Dr. Marshall Clinton has been appointed attending surgeon at the Buffalo Hospital, Sisters of Charity.

Foreign Bodies in Stomach.—Dr. H. R. Gaylard recently made a gastrostomy on a patient at the Erie County Hospital, when the following articles, numbering 689 and weighing 2 pounds and 3 ounces, were removed from the stomach: One piece of chain 3 inches in length, 41 knife blades, 2 wire nails, 142 screws, 3 nuts, 452 sharp tacks, 48 shoemaker nails, 144 grammes of glass.

Typhoid Menace to Buffalo.—In an interview, Dr. Daniel Lewis, state commissioner of health, states that the condition of typhoid fever at West Seneca should greatly concern the people of Buffalo, for the reason that Buffalo has so many more people to be affected. The only remedy for Buffalo is to filter its water supply, and he is of the opinion that a filtering plant could be established for $750,000.

Marine-Hospital Site Selected.—Surgeon-General Wyman has reported to Representative Ryan in Washington the selection of about three acres of land on Main street, Buffalo, between the Providence Retreat and the Deaf and Dumb Institute, as a site for the new United States Marine-Hospital. The selection is based on the recommendations of Dr. L. L. Williams and Francis B. Wheaton, who were appointed a commission to act with Dr. Eugene Wasdin. It is one of the highest points of land in the city. There is stone three feet below the surface and excellent drainage.

OHIO.

Fire in Dayton.—A loss of about $1,500 was sustained by Dr. Dagobert A. Scheibenzuber, whose house was much damaged by fire, February 17.

Semi-Centenary in Practice.—On February 20, Dr. Bernhard Krause, Cleveland, celebrated the fiftieth anniversary of his graduation in medicine from the University of Göttingen, Germany.

Serious Accident.—Dr. Abijah J. Miles, Cincinnati, on February 27, while crossing a street, was struck by a street-car, causing a deep scalp wound in the back of the head and a compound fracture of the skull.

PENNSYLVANIA.

Concealed Smallpox.—The board of health of Chester will order the arrest of two hospital patients on the charge of their having concealed the fact that they had smallpox.

Must Not Use Name Without Permission.—The legislature has passed a law prohibiting the use of a person's name or picture as a testimonial for a patent medicine without the individual's consent.

Norristown Hospital Crowded.—The State Hospital for the Insane at Norristown is so over-crowded that 205 men and 192 women have to sleep on cots in the corridors. The inmates number 1,012 men and 1,097 women.

Diphtheria Unreported Quarantines Hospital.—Charity Hospital of Norristown, containing 32 patients and about a dozen nurses, has been placed under strict quarantine by the board of health, because a case of diphtheria which developed in the institution was not reported for several days.

Osteopathic Examiners.—The house of representatives recently gave a hearing to advocates of a bill to provide for an osteopathic board of examiners to grant license to practice ostopathy to those who have studied twenty months—five months in four different years—and have graduated from an osteopathic college.

Philadelphia.

Hospital Bequest.—Jefferson Medical College Hospital recently received a bequest of $5,000 from the estate of the late Thomas Elkinton.

Hospital Applies for Charter.—Frankford Hospital, occupying temporary quarters on Frankford avenue, has applied for a charter. As the nearest hospital is three miles distant, the new hospital will supply a need, especially for the treatment of emergency cases. The hospital now has accommodation for 40 patients.

Typhoid Not Abated.—As shown by the official report, the typhoid fever epidemic has not abated. For the week ended March 7 there were 254 new cases, as compared with 255 for the previous week. The general death-rate in the city is still high, there being 614 deaths, as compared with 508 for the corresponding week of last year.

Personal.—On March 3, Dr. A. Palmer Dudley, New York, operated in the gynecologic clinic of Jefferson Hospital. In the evening he gave an address to the members of the E. E. Montgomery Gynecological Society and their friends, and was afterward a guest of honor at the annual banquet of the society.——Dr. C. S. Ely has resigned as resident physician at Jefferson Hospital, having passed the examination for admission to the Navy.

Regulation of Barber Shops.—A meeting was recently called in Philadelphia by the International League of Barbers to further the passage of a bill by the Pennsylvania legislature providing sanitary regulation of barber shops. The proposed law provides for the licensing and registration of barbers, and requires their better education. It also provides for a board of examiners, of five members, who shall have been actually engaged in the business at least ten years. The movement is supported by the International Union of Journeymen Barbers.

Homeopaths Want Hospital.—In a recent message to the council, Mayor Ashbridge calls attention to the fact that for several years homeopathic physicians have been asking recognition on the medical boards of the Philadelphia Hospital; that since the enactment of an ordinance removing the Municipal Hospital from its present site, committees representing the homeopaths have several times waited on the mayor with petitions that, on removal of the institution, the present municipal hospital buildings and grounds be turned over to

them for a public homeopathic hospital for the treatment of non-contagious diseases. The message closes as follows:

In compliance with this request, I have the honor to lay the suggestion before your honorable bodies, and would ask that you have it referred to the appropriate committee. Inasmuch as a very large proportion of our citizens believe in the homeopathic method of treatment, I am of the opinion that the suggestion merits the very best consideration at your hands.

GENERAL.

Pension for Mrs. Walter Reed.—Congress has passed a bill appropriating $125 per month during her lifetime as a pension to Mrs. Emily Lawrence Reed, widow of the late Major Walter Reed, U. S. A.

Plague Spreads in Mexico.—A few cases of plague have appeared at points near Mazatlan, viz., El Oso, Villa Union and Lapaz. The outbreak seems to have been entirely subdued at El Oso by vigorous measures. The sanitary officials who burned plague-infected houses at Villa Union were mobbed. None was seriously hurt. Soldiers were sent there and precautions taken against the further spread of the disease.

The Diphtheria Antitoxin Question.—By invitation of Prof. Joseph P. Remington, chairman of the committee of revision of the United States Pharmacopeia, eight prominent physicians and bacteriologists recently met with him to consider the advisability of inserting diphtheria antitoxin in the Pharmacopeia. The state boards of health of New York, Pennsylvania and Massachusetts, the Army and Navy, and two prominent manufacturing firms were represented in the meeting. No definite decision is announced.

That Decreased Birth Rate.—Congress has passed a resolution recommending that state and municipal authorities cooperate with the Census Bureau in securing uniform and complete registration of births and deaths. It is said that the United States is behind European governments in this respect. Further statistics on the birth rate are appearing in the lay press, and some of these are quoted here, their accuracy not being guaranteed. The average annual rates of increase of the population, calculated by the excess of births over deaths, are as follows: Mothers of native birth and parentage, 19.5 per 1,000; foreign parentage, 36.5; colored, 17.8. In New England the native rate is 3.8 and the foreign 39.6. The census gives very meager information on the birth rate. About all the statistical summary possible is to deduct the number of deaths and the number of immigrants from the apparent increase of population. The total population of the United States in 1890 was 62,947,714, and the natural increase during the next ten years was 12,315,361. The average annual rate of excess of births for those ten years was 17.7 per 1,000 of population. The death rate was 16.3 per 1,000 in 1900 and about 8 per cent. per 1,000 in 1890, as given in the census reports of that year. Taking the mean of these, as representing the average annual death rate for the decade, there must have been an average annual birth rate of 35.1 per 1,000 to produce the increase of population. This rate is said to exceed the rates in some European countries. Their rates are given as follows: Hungary, 40.5; Austria, 37.2; Germany, 37.2; Italy, 35.5; England, 30.1; France, 22.2. Returning to the United States, a tabulated statement of the states is given. The lowest birth rate is among the native families of New England (3.8 per 1,000). In Connecticut it is the lowest of any state (1.8 per 1,000), while in Utah we find the highest percentage (63.1 per 1,000). The following table shows the excess of births over deaths per 1,000 of the population among native white parents:

Utah	63.1	Illinois	22.8
Idaho	48.3	Iowa	29.8
Wisconsin	41.2	Missouri	26.3
Minnesota	40.0	Nebraska	22.2
Texas	38.7	Kansas	21.6
North Dakota	35.3	Indiana	16.3
Louisiana	35.8	Michigan	19.3
West Virginia	33.9	Ohio	12.9
Arizona	36.8	Pennsylvania	14.0
Montana	32.2	New York	8.9

The following table shows the birth rate among the foreign-born population:

Utah	41.7	Illinois	43.9
Idaho	50.8	Iowa	31.0
Wisconsin	34.5	Missouri	17.1
Minnesota	53.4	Nebraska	43.7
Texas	53.2	Kansas	30.0
North Dakota	92.1	Indiana	19.4
Louisiana	11.2	Michigan	40.1
West Virginia	25.2	Ohio	21.9
Arizona	52.5	Pennsylvania	36.8
Montana	73.2	New York	36.6

There is an interesting table in the census reports showing that among the foreign population of the United States the fecundity of the different races of mothers during the ten years from 1890 to 1900 was in the following order: Bohemian, Russian, Hungarian, Italian, Scotch, Scandinavian, Canadian, English, German, French, Irish. The officials of the census office believe that the true birth rate of the country was probably much higher than 35.1 per 1,000. As near as they can calculate, it should be about 10 per cent. higher.

CANADA.

Dominion Board of Health Wanted.—Drs. Roddick and Lachapelle of Montreal and Dr. R. W. Powell of Ottawa had an interview last week with the premier with regard to the establishment of a Dominion board of health to take charge of all matters affecting public health.

Trinity Consolidation.—Arrangements are now being completed whereby Trinity Medical College will become the Medical Department of Trinity University. For some months a committee has been at work. It is understood that a very fine site has been secured adjoining the present medical college building, on which new and modern buildings, to cost perhaps $200,000, will be erected.

Richardson Testimonial.—It is the intention of the old students of Dr. J. H. Richardson, Toronto, to tender him a banquet in April, and to present him a portrait of himself in oil. Dr. Richardson, who was born in 1823, was appointed professor of anatomy in the University of Toronto in 1850. Three years ago he gave up active teaching and was appointed emeritus professor. He is still surgeon to the Toronto jail.

For Fifty Years a Medical Teacher.—This is the record of Dr. Uzziel Ogden of Toronto, who recently retired from the chair of gynecology in the University of Toronto. He may now be given the emeritus professorship. Dr. Ogden commenced practice in 1849 and commenced lecturing in medicine in 1853. He was the first editor of the *Canadian Practitioner and Review* when that journal was established in 1876 as the *Canadian Journal of Medical Science*.

McGill University Union's Building.—The graduates of McGill University have decided to mark the seventy-fifth anniversary of the commencement of lectures by the formation of a students' union and the erection of a building to be used by the union as a home. The anniversary will occur next year; and it has been decided that the building should cost $75,000 of which $10,000 has already been subscribed. This amount has been promised by two members of the McGill Graduates' Society, of New England. A canvass of the entire graduate body of McGill will be made to raise the balance. Dr. Craik, late dean of the medical faculty, was elected president.

Personal.—Dr. Gilbert Gordon, professor of hygiene in Trinity Medical College, Toronto, is recuperating at Old Point Comfort.——Dr. R. Barrington Nevitt, dean of the Woman's Medical College, Toronto, is paying a visit to his birthplace in Georgia.——Dr. Lapthorn Smith, Montreal, will read a paper at the International Medical Congress at Madrid.——Dr. C. F. Martin, associate professor of medicine in McGill University, has been delegated by the Canadian Medical Association and the American Pediatric Society to the International Medical Congress at Madrid.——Dr. W. H. Drummond of Montreal was given a reception by the Canadian Society of Philadelphia February 27.

FOREIGN.

The Thirty-second German Congress of Surgery will be held at Berlin, June 3 to 6, 1903.

The German Society of Orthopedic Surgery will hold its second annual congress at Berlin, June 2.

Chodin Endowment.—The pupils and colleagues of Professor Chodin of Kiev recently endowed two free beds in the Eye Hospital in his name on the occasion of the thirtieth anniversary of his connection with the university.

Projected Sanatoria for the Poor in Belgium.—It is proposed to found a stock company in Belgium for the erection of inexpensive sanatoria for lung diseases. The prices will be not over 40 to 60 cents a day. The capital is only $40,000, and aid is expected from the state.

Opening of Dispensary at Manila.—A free dispensary has been opened at Manila by a dozen American and Philippine physicians, Dr. Albert, president of the "Federal Party"; Dr. E. H. Winslow, surgeon to the constabulary, and Dr. H. W. Yemans, secretary; Drs. G. Ageo, P. H. Lyon, Lukban, Bautista, and others.

Charity Home for Physicians.—Dr. C. Rasch of Kropp bei Schleswig, Germany, is agitating the necessity of establishing

a home for physicians convalescing from diseases, and also for the superannuated, with, possibly, a view to including the members of physicians' families in its projected benefits. Our German exchanges endorse the necessity for such an institution "on account of the growing financial distress of our profession," and hope that the seed will fall on fruitful soil.

The Campaign Against Charlatans in Germany.—According to a regulation introduced last year, charlatans, before settling in a town, must report to the local medical authorities. The quacks now add to their advertisements: "Nature healer, duly reported to the local medical authority," *beim Kreisarzt Angemeldeter Heilkundiger*. This clause seems to express the official sanction of their practices, so that the regulation in question promotes quackery instead of combating it, as intended.

An American Professional Man's Club, composed in large part of physicians who are studying in Berlin, has been recently organized there, with headquarters at the Hotel Terminus. It is a source of much practical benefit to American physicians arriving in Berlin. Its objects are to promote social intercourse and the discussion of new and interesting professional matters and to afford information as to how and where to find the most practical professional work. Our correspondent says that this organization fills a long-felt want in Berlin, and that the club decided to notify the American medical profession through The Journal.

A Medical Woman of the Second Century.—Galen mentions a cataplasm "according to Antiochis," and Heraclides also refers to the same woman physician. An Austrian scientific exploring party found, in 1892, in the ruins of Tlos, a city in Asia Minor, the pedestal of a monument bearing the following inscription: "Antiochis, daughter of Diodotus of Tlos, honored by the senate and the people of Tlos for her experience in the medical art, has erected this statue to herself." No traces could be found of the statue. Baudouin establishes the identity of the person referred to in these three references, as a supplementary note to his work on "Woman in Medicine."

The Latest Charlatan Suit in Germany.—The charlatan Nardenkötter of Berlin, in a suit that has been dragging for two years, has been fined $750 and condemned to three years' imprisonment on the principal count, and to $150 fine and sixty days' imprisonment on another. The case was briefly mentioned in The Journal, Feb. 21, page 526. He had a regular physician in his employ, Dr. Kronheim, who signed the charlatan's prescriptions and received about $40 a month for his work in this line, to which he devoted an hour a day. He was condemned to six months' imprisonment and "loss of honor for one year,"—*zu einem Jahre Ehrverlust*. The charlatan diagnosed and prescribed by mail, and the suit revealed practices among the druggists who put up his prescriptions which have led to a suit against one of them. The drugs prescribed were heroic remedies in many cases, and most exorbitant prices were charged. The details of the case have been fully written up in the lay papers and must have enlightened part of the public, at least, in regard to the dangers of quackery, although our German exchanges express little hope of this possibility. The *Allg. Med. Ct. Ztg.* of February 21 gives the particulars of the suit.

LONDON LETTER.

Lead Poisoning from "Plumbo-Solvent" Drinking Water.

A valuable and elaborate report on this subject by Dr. Houston has just been issued by the medical department of the local government board. As long ago as 1885 the attention of the department was directed to a considerable number of cases of lead poisoning in Sheffield which were believed to be due to the drinking water. Investigation showed that the water was acid in reaction, especially at its origin in the peaty moorlands, where it collected in depressions. This acidity was found to be due to the life processes of bacteria contained in the moist peat. The present report shows that the property of "plumbo-solvency" is generally destroyed when the water possessing it is mingled with a large volume of neutral or acid-neutralizing water derived from other sources. In other instances filtration through sand or neutralization with lime or whiting may be adopted. But local authorities are warned of the need of bearing in mind the risks incidental to using plumbo-solvent water. It is declared undesirable to rely wholly on any system of neutralization. It should be first ascertained whether acid water can be altogether rejected from the supply, as by eliminating special peaty areas or by providing "leaping weirs" which insure that the first washings from the peat after a period of drought are automatically cast aside. The most satisfactory method of neutralization is sand filtration, with the addition of some neutralizing material to the filter and the subsequent addition of a trace of carbonate of soda to the neutral filtered water. But, whatever methods are adopted, they should be checked from time to time by suitable observations on the gathering areas, at the reservoirs and at the filters, as well as by examination of the water delivered to consumers.

Drunk or Dying?

The ever recurrent error of mistaking a serious injury or lesion of the brain for drunkenness has aroused the ire of London coroners and of the press against some of the great hospitals. Under the head of "A Grave Scandal" the *Hospital* insists on the necessity of providing a few emergency beds at each hospital, where this type of case could be kept under observation. Yet such are provided at only four out of the twelve great hospitals. A provincial coroner stopped the scandal of inquests coming before him of dying patients turned away from hospitals as drunk by declaring that in the next case he would commit the chairman of the committee and the superintendent of the hospital for manslaughter.

Non-Septic Puerperal Pyrexia.

At the Edinburgh Obstetrical Society Dr. Lamond Lackie read a very important paper on this subject. He pointed out that while most of the cases of fever in the puerperium are septic and in cases of doubt should be treated as such, yet septic organisms are not the only cause of fever. He related several cases. Dr. Lackie called attention to a very important practical point, which several of the cases illustrate: He has several times observed a rigor after administering an intrauterine douche, but always in cases in which the result showed that there was no retention of septic material. On the contrary, when the douche was needed the result was a fall of temperature.

Correspondence.

The Identity of Nerve Force and Electricity.

Richmond, Ind., March 7, 1903.

To the Editor:—My attention has been called to a paper read by Professor Loeb of the University of Chicago early in January, 1902. My reason for addressing you is this, viz.: to direct attention to work done, experiments made by myself, and conclusions reached, which will anticipate by priority his deductions and conclusions, as I understand them in his paper. I desire to mention my papers which have been read and published as early as 1873, 1875 and 1879, and papers since those dates which were published in the *Chicago Review* and are along the line recently indicated by Professor Loeb as "recent progress." I noticed the same, and desire to make my claim good, since 1873, in papers read and published. If, as he claims, the views are recent progress, I have anticipated him more than twenty years, as I was then teaching anatomy and physiology in the medical schools of Indianapolis. I only desire to mention the subject of each paper, as showing the subject and title.

First. My presidential address before the Indiana State Medical Society, May, 1873, subject "Vital Dynamics or What Is Force." 1. What Does It Represent? (Motion.) 2. What Are Its Relations and Correlations? 3. What are its Conservations?

Second. "Proofs of the Identity of Electrical Force and Nervous Force." A paper read at Indianapolis in 1879 before the Marion County Medical Society.

Third. Some papers on the relations of nervous force in the contraction and dilatation of blood vessels, also of heart dilatation and contraction, which were published in the *Chicago Medical Review*, copies of which are in my possession. (1884, September.)

A quotation is here made from this paper for the purpose of showing its basis: "The blood which is arterial, is the fluid which charges the battery, the brain, and hereby is generated force which is supplied to all tissues, and this charge, be it nervous or electrical, is a force which is universal in one form or another." The main question is, "What are the endowments and true relations of nervous tissue?" If we look at the re-

sults of mind and its power to impress other forces, we believe the evidence of our senses, and say that the directing forces in the entire universe were from mind, and this is the *primal* mind.

Now I have other papers which continue the thought of electricity and nervous force, and my last one is Jan. 1, 1902, with the title "Natural and Preternatural Law," in which are discussed "The Influence of Electricity and Mind in the Industrial and Economic Forces of the World."

These papers will establish my claim to priority on the questions at issue, and I desire now to only point to the proofs.

R. E. HAUGHTON, M.D.
Formerly Professor of Clinical and Operative Surgery in Central College of Physicians and Surgeons, Indianapolis.

Committee on Prophylaxis of Venereal Diseases.

NEW YORK, March 4, 1903.

To the Editor:—At the last (fifty-third) meeting of the American Medical Association, held at Saratoga Springs, June 10-13, 1902, a joint resolution from the Sections of Cutaneous Medicine and Surgery and Hygiene and Sanitary Science was introduced in the House of Delegates, as follows:

WHEREAS, There is a burning necessity to check the spread of venereal diseases, and, assuming that the States can not with impunity ignore the condition, it lies in the province of the medical profession to discuss and recommend to the respective state legislatures and municipalities means not regulamentative, but social, economic, educative and sanitary in their character, to diminish the danger from venereal diseases.

Resolved, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invite the Section on Hygiene and Sanitary Science to co-operate with the Section on Cutaneous Medicine and Surgery in bringing about a propaganda in the different states, looking toward a proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year at Brussels, under the authority of the Belgian Government.

This was later submitted to the House of Delegates, which endorsed the action of the section and adopted the following:

Resolved, That a joint committee of six from the Sections on Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the President to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases and to present to the American Medical Association a plan for a national meeting, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels, under the auspices of the Government of Belgium.

The Committee on Prophylaxis of Venereal Diseases consists of Drs. Henry D. Holton, chairman, Brattleboro, Vt.; Ludwig Weiss, secretary, 77 East 91st Street, New York; George M. Kober, 1600 T Street, Washington, D. C.; W. H. Sanders, Montgomery, Ala.; L. Duncan Bulkley, 531 Madison Avenue, New York City; and Frank H. Montgomery, 100 State Street, Chicago.

The peculiar social, racial and political conditions of our country are so different from those on the continent that they necessitate an expression of solely American ideas on this mooted question, both from a socio-economic and sanitary point of view. The committee desires the support of the medical profession and the aid and powerful collaboration of the medical press of the country to help them in this work. It takes the liberty of soliciting expressions and views editorially and otherwise, and would be glad of personal correspondence from those supporting the movement and who will contribute by papers, etc., to make it a success in case the House of Delegates should favor the holding of such a congress.

LUDWIG WEISS, M.D., Secretary of Committee.

The Chicago Water Supply.

CHICAGO, March 6, 1903.

To the Editor:—In the Bulletin of the health department for February, 1903, there is a comment on my paper "The Fly as a Carrier of Typhoid," published in THE JOURNAL, which seems to require an answer.

The Bulletin quotes my statement that the value of daily reports issued by the board of health as to the condition of the water "becomes somewhat problematical when one considers that twenty-four hours must always elapse between the collecting of the water and the published report, so that the people who read on Tuesday morning that the water at a certain station is bad and take precautions accordingly are a full day late, for they were drinking the bad water on Monday." It then proceeds to explain that the water samples are collected at the pumping stations between 8 and 9 o'clock each morning, and that the results of the analyses are given to the press before noon and appear in the afternoon papers of the same day, and that, as the pumping stations are several miles out, the water does not reach the city until several hours after the character has been announced.

I must explain the seeming inaccuracy of my statement by saying that it was based on a sentence in Dr. Reynolds' paper in the *Medical Recorder*, 1902, vol. 23. "By 'good' in the laboratory characterization is meant a water free from pathogenic organisms, the colon group." If, as would appear from this statement, the water is examined bacteriologically, eighteen hours at least would be required, but from the statement in the Bulletin it is evident that the examination is only chemical, not bacteriologic.

Even if it were true, however, that a chemical examination is sufficient, that would not alter my contention that the daily bulletins as to the state of the water are misleading. Water which changes its character with every change of wind and current and with every heavy rainfall is always dangerous. The sample examined on any particular morning represents a small portion of water for a very limited period of time. On Monday morning, for instance, the water "is good," on Tuesday morning "bad." At what time did the change take place? And is it not possible that on Monday morning also a part of the water was "bad," although not the particular portion taken for analysis?

The daily examination of the water may be valuable from the point of view of the statistician and the sanitary engineer, but the publication of the results as "warnings" to the people simply serves to lull them into a false security.

ALICE HAMILTON.

Silkworm Gut, Not Silk, for the Sustaining Sutures in Fixation of the Kidney.

NEW YORK, March 7, 1903.

To the Editor:—In THE JOURNAL of March 7, page 665, in the report of the proceedings of the New York County Medical Association it is incorrectly stated that I prefer silk for suturing the kidney. I employ temporary sutures of silkworm gut which are brought out through all the structures of the back and tied over a fold of gauze.

AUGUSTIN H. GOELET, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

MEDICAL PRACTICE IN TEXAS AND AFRICA.

AGRICULTURAL COLLEGE, MISS., March 5, 1903.

To the Editor:—Please let me know what the requirements are for the practice of medicine in Texas. W. H. B.

ANS.—Examination is required in Texas, but the certificates of twenty states, including Mississippi, are recognized by the state board in lieu of examination. A list of these states was given in this column last week.

NASHVILLE, TENN., February, 1903.

To the Editor:—Kindly inform me through your valuable columns of the requirements for practice in Orange River Colony and Transvaal, South Africa. G.

ANS.—We have no copy of the laws of the Transvaal under the new government and have not learned that a medical council has been organized. A proclamation was made last year requiring license from the secretary of the Transvaal administration, presentation of diploma and proper identification. The applicant must be legally qualified in his own country, which must grant equal privileges to qualified British subjects. We do not know if any changes have been made since.

MADSTONES.

DUNKIRK, IND., March 9, 1903.

To the Editor:—We have through the Ohio valley what are known as madstones. They are small stones, usually found among the collections of some relic-hunters and have a real or fabled history of having been a cure-all for poisoned wounds, snake-bites, dog-bites, etc. J. B. GARBER.

ANS.—There is no scientific evidence that they have any effect other than a moral one.

State Boards of Registration.

The New South Dakota Law.

A law just enacted in South Dakota regulating medical practice provides for a board of seven members appointed by the governor, not more than four from the regular school, two from the homeopathic and one from the eclectic. The board is to hold two regular meetings, beginning on the second Wednesday of July and the second Wednesday of January each year and such additional meetings and at such times and places as the board may deem advisable. Applicants must give satisfactory proof of being at least 21 years of age and of good moral character, and must pass an examination on the following subjects:

Anatomy, physiology, chemistry, pathology, therapeutics, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, bacteriology, medical jurisprudence and such other branches as the board may deem advisable, and in addition thereto shall present evidence of having attended four full courses of lectures of at least twenty-six weeks each in a legally organized and reputable medical college recognized by the board of medical examiners, no two courses being in the same year and of having received a diploma from a legally organized and reputable medical college which shall be in good standing as shall be determined by the board, and said diploma must be submitted to the board for inspection and verification: provided, that the four courses of lectures of six months each shall not apply to applicants who graduated prior to 1898.

The applicant, before being permitted to take the examination, shall pay the secretary of the board an examination fee of $20; the examination shall be written, oral or both, as the board may determine; the questions on all subjects except therapeutics and practice of medicine shall be such as may be answered alike by all schools of medicine. The applicant shall, if possible be examined in therapeutics and practice of medicine by those members of the board belonging to the same school as the applicant, and a license and certificate shall not be refused any applicant because of his adherence to any particular school of medicine. An average of at least 75 per cent. of correct answers is required. Any applicant who fails to pass the examination shall be eligible to a second examination at the next meeting of the board or at such time as the board may designate without an additional examination fee.

License can only be granted by the consent of not less than five members of the board and shall be signed by the president and secretary and attested by the seal of the board. All examination papers, together with the lists of questions answered shall be kept for reference and inspection for a period of not less than three years.

The law contains a reciprocity clause as follows:

The said board may, in its discretion, accept and license on the payment of the license fee and without examination of the applicant, any license which shall have been issued to him by the medical examining board of the District of Columbia, or any state or territory of the United States; provided, however, that the legal requirements of such examining board shall have been at the time of issuing such certificate or license in no degree or particular less than those of the state of South Dakota at the time when such certificate or license shall be presented for registration to the board created by this act: and provided, further, that the provisions of this section contained shall be held to apply only to such of said medical examining boards as accept and register the certificate or license granted by this board without examination by them, of the persons holding such certificates or license. Each applicant on making application under the provisions of this section shall pay to the secretary of the board a license fee of $20.

The board shall have the power and authority to revoke any license of any physician or surgeon heretofore or hereafter granted or issued, on complaint made to it on oath by one responsible person if it shall satisfactorily appear to the board: 1, that such physician or surgeon has been guilty of unprofessional, immoral or dishonorable conduct; or 2, that such physician or surgeon has been convicted of a felony; or 3, if such physician or surgeon publicly professes to cure or treat disease, injury or deformity in such a manner as to deceive the public; 4, if he shows gross unprofessional incompetency, provided that such license shall not be revoked except after a hearing before the board of medical examiners at which at least five members of such board shall be present and of which hearing the person holding the license to be revoked shall have had net less than ten days' written notice of the time and place of said hearing and only on due proof of the facts stated in the complaint.

The words unprofessional or dishonorable conduct as used in Sections 11 and 12 of this act are declared to mean:

1. Procuring or aiding or abetting a criminal abortion.
2. The employing of what is known as cappers or steerers.
3. The obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured.
4. Wilfully betraying a professional secret.
5. All advertising of medical business in which untruthful or improbable statements are made or which are calculated to mislead or deceive the public.
6. All advertising of any medicine or any means whereby the monthly periods of women can be regulated or the menses re-established if suppressed.
7. Conviction of any offense involving moral turpitude.
8. Habitual intemperance.

Appeal to the Circuit Court can be made in case of revocation or refusal to grant certificate. Itinerant physicians are charged a license of $500 annually.

Licenses must be recorded in the office of the register of deeds in the county where the holder resides and practices. The register of deeds shall in July and January of each year furnish the secretary of the board of examiners a list of all licenses so recorded.

The definition of the practice of medicine is given in the following:

Section 21. When a person shall append or prefix the letters "M.B." or "M.D." or the title "Dr." or "Doctor," or any other sign or appellation in a medical sense to his or her name or shall profess publicly to be a physician or surgeon, or who shall recommend, prescribe or direct for the use of any person any drug, medicine, apparatus or other agency for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture or bodily injury or deformity, after having received or with the intent of receiving therefor, either directly or indirectly any bonus, gift or compensation, shall be regarded as practicing within the meaning of this act.

This act shall not apply to the commissioned surgeons of the United States Army, Navy or Marine-Hospital Service in actual performance of their duties, nor to regularly licensed physicians or surgeons from outside this state in actual consultation with physicians of this state nor to dentists or osteopaths in the legitimate practice of their profession nor to christian scientists as such, who do not practice medicine, surgery or obstetrics by the use of any material remedies or agencies, nor to resident physicians and surgeons of this state regularly licensed and practicing in this state at the time of the taking effect of this act; provided, however, that the license heretofore or hereafter granted to any physician or surgeon may be revoked for the same reason and in the same manner as stated and provided in Sections 12 and 13 hereof.

Penalties are provided for impersonation or violation of the law, and it is made the duty of the state's attorney to prosecute. The law has an emergency clause which makes it in effect immediately on its passage.

Proposed New Jersey Law.

The State Board of Medical Examiners of New Jersey has introduced a bill into the legislature requiring applicants for a state license to submit certified evidence of an academic education embracing a certificate or diploma issued after four years of study either in a normal, manual training or high school of the first grade in that state, or in a legally constituted academy, seminary or institute of equal grade, or a student's certificate of examination for admission to the freshman class of a reputable literary college, or an academic education considered and accepted by the state superintendent of public instruction as fully equivalent.

The medical requirements are four full school years of at least nine months each, including four satisfactory courses of lectures of at least seven months each, in four different calendar years prior to graduation from a legally incorporated medical college in good standing.

Provision is also made for graduates in practice prior to 1894, by accepting ten years of continuous and reputable practice as the equivalent of two courses of medical lectures, and for graduates in practice prior to 1903, by accepting five years as the equivalent of one course of lectures, provided that such substitution or exemption be specified in the license.

Book Notices.

BIOGRAPHIC CLINICS. The Origin of the Ill Health of De Quincey, Carlyle, Darwin, Huxley and Browning. By George M. Gould, M.D., Editor of *American Medicine*. Cloth. Pp. 223. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1903.

Whatever the accomplished editor of *American Medicine* may write is sure to be interesting. His writings have a positive, aggressive note about them that is refreshing and invigorating.

These characteristics and his versatility are well shown in this latest work, a study from the borderland between pure literature and medicine.

Dr. Gould takes five great Englishmen, De Quincey, Carlyle, Darwin, Huxley and Browning, each of whom it will be remembered was a great physical sufferer, and makes a critical study of the afflictions. All this suffering Gould believes was due to eye-strain. This is the object of the book, to prove that unrecognized and untreated refractive errors with consequent eye-strain drove De Quincey to opium, made Jane Welsh's husband an inconsiderate, ill-tempered dyspeptic tyrant, deprived Darwin of the power of long continuance at study of books or with the microscope, and caused Huxley and Browning to groan with the tortures of unexplained and almost constant headache. Numerous quotations are given from the letters of these men or of their contemporaries bearing on their health, striving to show that whenever the eyes were used for near work complaints appear of headache, nervousness, sleeplessness, biliousness, indigestion, etc. When reading and writing are dropped, especially when open-air work or recreation is indulged in, i. e., when little strain for near accommodation is demanded of the eyes, the complaints of ill health cease.

Whatever may be our views concerning eye-strain as a cause of headache and other disorders of health, and however prejudiced we may be at first as to the relation of refractive errors to the ill health of these five men in particular, we can not read this really fascinating book without feeling that the author has advanced a strong chain of circumstantial evidence in favor of his view. Nor can we avoid agreeing with him that in the light of our present day knowledge it seems disgraceful that no physician appears to have made even crude tests of vision and surprising that such scientific men as Darwin and Huxley apparently never once have suspected that there might be ocular defects to explain their suffering.

It seems to us that the author weakens his cause by his last chapters on the topic of eye-strain as the cause of various reflex phenomena. His views seem extreme. If we understand his statement—about the only one that is at all involved or the least obscure (p. 154)—he believes that "at least 90 per cent." of such symptoms as "headache, dyspepsia, 'biliousness,' sick-headache, migraine, neurasthenia, anemia, vertigo, insomnia, anorexia, constipation, eructation of gas, languor, ill-temper, melancholia, etc., are not caused by dietary indiscretion or organic disease, and of these, over 90 per cent. are reflex ocular neuroses, i. e., due to eye-strain." "Most eye-strain is due to astigmatism."

To the physician in general practice this will seem a broad and incredible statement. Granting that there is truth in Dr. Gould's statements that Nature cares for the delicate and all-important eye by making the rest of the body the vicarious sufferer, granting that the modern physician in his eager study of infectious diseases neglects the non-infectious and functional diseases and that he pays too little attention to "the reflex" and overlooks especially the reflex symptoms due to the eye, granting that glasses are not prescribed as often as they should be because of popular prejudice, or because "the eyes do not hurt," granting that many oculists are careless and unscientific, that opticians are worse and that the "muscle-cutters" are faddists, granting all this, yet who of wide experience in practical medicine can believe that the one great cause of 80 or 90 per cent. of headaches and a very large proportion [80 per cent.] of "digestional" or "nutritional" diseases is to be sought in eye-strain, and that these headaches and "digestional" disorders together are direct or secondary sources of a large part of the functional diseases and misery of the world (p. 205). But if the general practitioner can not believe this what shall be said of the specialists other than the oculist? Where does the stomach come in? Must our old notions as to errors in diet being a fruitful cause of dyspeptic symptoms go? Farmers furnish some of the worst cases of digestional disease. And what about our hyperchlorhydria and the train of secretory disturbances? Will glasses correct 80 per cent. of these cases, and have all our cures by diet been mistakes? And then the gynecologist, what must be his feelings as he sees the general practitioner after reading this book, steering the neurasthenic woman not to the office of the man who would cure her by stitching up a torn cervix, cutting a piece out of an ovary, breaking up adhesions, putting the displaced uterus where he thinks it ought to be, but across the hall to the oculist, who cures it all by glasses. And then the floating kidney reflex and Glénard's disease, and the hypertrophied turbinated bones and hemorrhoids, are they all delusions? And is there no such thing, then, as a true nerve-tire and brain-fatigue? Is this all due to the eye?

Surely our author has been extravagant in his statements or else we have misunderstood them. And we confess that his use of the word "functional" has been a little confusing to us at times. Astigmatism is not, we believe, the source of all these ills, nor is the wearing of glasses a panacea. Let the multitudes of those who have worn them, carefully fitted, for headache but with no help, bear witness. Let the thousands of sufferers from migraine, an excellent example of heredity, an influence at which our author rather casts slurs—testify who have tried glasses in vain.

The results of uncorrected astigmatism are undoubtedly often serious and should be attended to. This book does good in forcibly calling attention to this fact, and is, as we have said, a most interesting and delightful discussion of a borderland topic. But while admitting that the causal relation of eye-strain to the physical ills of these five men is made highly probable by the proof advanced, we can not accept the broad conclusions and extravagant statements that are scattered here and there throughout the book making the bulk of the medical profession little short of criminals in their supposed neglect of the eye as the cause of a large share of human suffering.

In spite of these criticisms, in spite of the overly-enthusiastic claims of the author, we heartily commend this book to every practitioner. Eye-strain is a cause of many troubles, there is no doubt of it, and every physician should be made to realize it.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS, AND PHARMACOLOGY. By George F. Butler, Ph.G., M.D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth Edition, Thoroughly Revised. Handsome Octavo Volume of 896 Pages, Illustrated. Cloth, $4.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

In this fourth edition within the last six years the author has added to his valuable treatise considerable new and important matter, and it seems to be brought up to date as well as carefully revised. Some changes have been made in his expressions of opinion in regard to certain drugs and some of the newer ones that have not yet obtained pharmacopeial rank are included. The book seems likely to keep the good reputation that it has held in the past as one of the best recent text-books on materia medica and therapeutics.

THE MATTISON METHOD IN MORPHINISM. A Modern and Humane Treatment of the Morphin Disease. By J. B. Mattison, M.D., Medical Director, Brooklyn Home for Narcotic Inebriates. Cloth. Pp. 40. Price, $1.00. Published by the Author. New York: E. B. Treat & Co. 1902.

This little volume gives the method and treatment of one who is certainly experienced in handling a difficult class of patients, the morphin habitués. The author's method is largely sedation with bromids supplemented by other measures, and the gradual discontinuance of the morphin habit, not so very long drawn out either, for the whole treatment does not seem to usually exceed four or five weeks at the outside. It seems to be a very satisfactory little monograph.

Deaths.

Charles F. Ulrich, M.D. University of Louisville, Ky., 1870, a member of the American Medical Association, surgeon of volunteers during the Civil War; some-time president of the Wheeling and Ohio County Medical Society and Medical Society of the State of West Virginia; vice-president of the American Congress of Tuberculosis and member of the American Academy of Medicine, died from paralysis at his home in Wheeling, W. Va., February 18, aged 75.

Franklin B. Galbraith, M.D. University of Michigan, Ann Arbor, 1861, a member of the American Medical Association, surgeon to the Fourth Michigan Volunteer Cavalry in the

Civil War, and thrice mayor of Pontiac, Mich., died at his home in that city, February 21, from angina pectoris, after an illness of only ten hours, aged 63. At a special meeting of the Pontiac Medical Society, February 23, resolutions of sorrow and sympathy were adopted.

Martin Rockwell Gage, M.D. Geneva (N. Y.) Medical College, 1852, who retired from practice in 1892, died from consumption at his home in Sparta, Wis., February 25, aged 78. He was a pioneer physician and surgeon of western Wisconsin, and served as surgeon of the Twenty-fifth Wisconsin Volunteer Infantry during the Civil War. He was a number of the Wisconsin State Medical Society and of the American Medical Association.

Willard I. H. Mathews, M.D. Iowa College of Physicians and Surgeons, 1886, county physician of Polk County, major and brigade surgeon U. S. V., in the Spanish-American War, for a time surgeon-in-charge of the U. S. General Hospital, Presidio, San Francisco, and for several months on duty in the Philippine Islands, died at his home in Des Moines, Iowa, February 24, from pneumonia, after an illness of four weeks, aged 38.

George E. McPherson, M.D. Jefferson Medical College, Philadelphia, 1855, died at his home in San Francisco, February 20, aged 73. He was a surgeon in the United States service in the Civil War, and then located in Chicago, but moved to California in 1872. In 1896 he fell from his carriage, fracturing his hip, and two years ago had another fall, from the effects of which he never recovered.

Lemuel G. Goode, M.D. New York University, 1887, died at his home in Jersey City, N. J., from pleuro-pneumonia, February 24, after an illness of four days. Dr. Goode was one of the first medical men to be the subject of operation under spinal anesthesia. In December, 1901, his leg was amputated, and during the operation he made notes of his sensations.

John Gerdine, M.D. Tulane University, New Orleans, 1861, a member of the American Medical Association; president Clark County Medical Society; ex-vice-president Georgia Medical Association, and one of the most prominent and beloved citizens of Athens, Ga., died at his home in that city, February 18, from pneumonia, after an illness of two days, aged 63.

James Calvin Hall, M.D. College of Physicians and Surgeons, Baltimore, 1879, died suddenly from heart disease, while attending a lecture in Millerstown, Pa., February 11, aged 48. At a meeting of the physicians of Perry, Juniata and Snyder counties, held February 16, memorial resolutions were adopted.

Pumphrey H. Hood, M.D. Jefferson Medical College, Philadelphia, 1851, for half a century a resident of Litchfield, Ill., died at his home in that place, February 20, aged 79. He was a surgeon in the United States service during the Civil War, and represented Montgomery County in the legislature in 1895.

Frank Brownlie Newton, M.D. University of Vermont, Burlington, 1899, died at his home in Stafford Springs, Conn., February 19, from pneumonia, after an illness of eleven days, aged 28. He was a member of the Connecticut Medical Society.

Richard Jordan Gatling, M.D. Medical College of Ohio, Cincinnati, for some time a practitioner of Indianapolis, but better known as the inventor of the Gatling gun, died suddenly in New York, February 26, from heart disease, aged 84.

George C. Gage, M.D. College of Physicians and Surgeons, New York, 1872, a specialist in diseases of the nose and throat, died at his home in New York City, February 22, three weeks after an operation for appendicitis, aged 52.

George White Sloan, M.D. Indiana Medical College, Indianapolis, president of the American Pharmaceutical Society, died at his home in Indianapolis, from apoplexy, February 15, after an illness of four months, aged 67.

Joseph A. Jackson, M.D. McGill University, Montreal, 1879, a member of the New Hampshire Medical Society, died at his home in Manchester, N. H., from la grippe, February 20, after an illness of two weeks, aged 68.

Henry McQuiston, M.D. Western Reserve University, Cleveland, 1868, died at his home in Pasadena, Cal., from consumption, February 13, after an illness of four years, aged 65.

Robert Hamilton Ramage, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1872, Carnegie, Pa., died at a hospital in Pittsburg, from consumption, February 15, aged 61.

George Young, M.D., retired, of Pioneer, Ohio, died at St. Mary's Hospital, Detroit, February 15, from injuries received four days previously in a street-car accident, aged 64.

William T. Riddlemoser, M.D. College of Physicians and Surgeons, Baltimore, 1884, died at his home in Smithsburg, Md., February 18, from tubercular meningitis, after an illness of several weeks, aged 43.

John B. Liddell, M.D. Atlanta (Ga.) Medical College, 1880, died from pneumonia, February 22, at his home in Gadsden, Ala., after an illness of three days.

Cyrenius D. Spencer, M.D. Berkshire Medical College, Pittsfield, Mass., 1849, died from apoplexy at his home in Binghamton, N. Y., February 22, aged 77.

Edward H. Luckett, M.D. Kentucky School of Medicine, Louisville, 1854, died at his home in Owensboro, Ky., February 24, from heart disease, aged 70.

James I. Scollard, M.D. Albany (N. Y.) Medical College, 1874, died suddenly in his office in Clinton, N. Y., February 20, from heart disease, aged 75.

Ruel M. Rogers, M.D. University of Missouri, St. Louis, 1854, died at his home in Pleasant Grove, Utah, February 6, from pneumonia, aged 70.

Robert M. Means, M.D. Jefferson Medical College, Philadelphia, 1893, died at his home in De Haven, Pa., February 14, from pneumonia, aged 35.

David H. West, M.D. Eclectic Medical Institute, Cincinnati, 1874, was found dead in bed at his home in Calvert, Texas, January 12.

Association News.

NEW ENGLAND RATES TO NEW ORLEANS.

The New England Passenger Association has authorized the rate of a fare and a third to the eastern gateways of the Trunk Line Association. The rate from these points to Washington or western termini (such as Cincinnati) is the usual reduced rate for regular season excursion and approximates a fare and a third. The rest of the way to New Orleans the rate is one fare for the round trip. All these rates and regulations will be given in the New Orleans number of THE JOURNAL, April 11.

THE NEW ORLEANS PROSPECT.

A Quotation from the Memphis Medical Monthly Concerning the Annual Meeting.

"All physicians who contemplate being present—and what Southern medical man will not attempt to get there?—will be looking forward to this occasion with keen anticipation, and will be planning that nothing shall interfere with their arrangements to be in New Orleans for at least the four days of the meeting.

"New Orleans is always a pleasant city to visit, and conditions for pleasure and profit will be exceedingly propitious at this time. The medical profession of New Orleans are going to do everything conceivable to render this meeting the largest and most enjoyable that the Association has ever held, and the arrangements that they have practically consummated for the accommodation and entertainment of visiting physicians are noteworthy for their completeness. The business and scientific sessions of the Association and its various sections will be interspersed with a number of entertainments which promise to be most delightful, and the visitor from the North will have every opportunity to judge of the quality of the vaunted Southern hospitality, while the Southerner will be completely overwhelmed by the prodigality of this hospitality as lavished in New Orleans."

INDIANA'S PROSPECTS FOR NEW ORLEANS.

An Extract from an Advance Copy of the Indiana Medical Journal for March.

"New Orleans presents notable features. To the ordinary tourist the yearly carnival and the French opera are signal attractions. There are other matters of local color: The French market, the great river explored by Lasalle and its picturesque levees, the French and Spanish creole quarters, and the gastronomic privileges which rival those of Baltimore—the paradise of good things to eat of all the world.

"The Crescent City is the second in exports and twelfth in population. The invention of the cotton gin by Whitney and the successful granulation of sugar by deBore one hundred years ago, gave a vast impetus to the state and city, which was further increased by the Louisiana purchase in 1803. Five miles below the city is the battlefield of Chalmette, where, Jan. 8, 1815, after the treaty of peace had been signed, Jackson repulsed the 5,000 British regulars fresh from the Napoleonic battlefields, with a disparity of losses not excelled in history.

"The city has a tropical climate; the great magnolia, the palm, the banana, the fig, the orange tree are in evidence. Between the lake and the river the atmosphere is moist and equalized in temperature, the lowest 27 F. and the highest 94. In May the city is in its greatest beauty, and the health conditions the best of the year. For a spring vacation for the physician and his family the time and place is ideal, and we make bold to say that not less than 200 members of the Indiana profession and their families will take advantage of this opportunity to visit or to revisit the city of carnivals, creoles, market baskets, tropical vegetation and quaint people."

Medical Organization.

The Duty of the Hour.

That the enthusiasm in favor of organization is growing rapidly must be evident to all who come in contact with medical men in every section of the country. Of course there are scoffers and doubting Thomases, but all respectable members of the profession are heartily tired of the antagonistic spirit which has so influenced our personal, professional and educational affairs in the past. This spirit has so lowered us in our own and in the public estimation that many had come to believe it inseparable from our calling, but the profession as a whole is ready to give reasonable trial to any plan which promises even a hope of relief.

How to take this widespread sentiment at the tide and crystalize it into a permanent reform is the problem and duty of the hour. This is being admirably done in a few states, and in many counties in other states, and should be at once undertaken by the officials and members of existing societies everywhere. The magnitude of the work will be understood when it is authoritatively stated that there are over 70,000 licensed practitioners in this country who are not members of any kind of society, county, district, state or national.

In an experience extending into many states, and where nearly every possible condition was to be met, it has been found that the physicians of nearly any county would promptly respond to a kind and plainly expressed invitation from any recognized outside authority to meet and organize. If the preliminary discussion was frank as to existing evils, to the difficulties of maintaining local societies, and the certain reward, scientific, social and material, which would follow success, such organizations were easily made permanent. Some counties in several states are already reporting every physician within their boundaries as already members of the county and state society and of the American Medical Association.

Such results as these have not come spontaneously or by accident, but from the patient, systematic and self-sacrificing labors of some zealous member of the Association. With similar effort they are possible in all but a few sparsely settled counties of the Union. Officers of state societies and members of the Association everywhere are earnestly requested to consider the possibilities to the profession from such missionary work, and to feel free to apply to the organization department for literature and any other assistance at its command.

Southwestern Minnesota District and County Medical Society.

At its meeting, January 29, in Worthington, the organization of this society was perfected in accordance with the rules of the American Medical Association. Dr. Emil King, Fulda, was elected president and Dr. Herbert D. Jencks, Pipestone, secretary.

Hardin County (Ky.) Medical Society.

At the regular meeting, held at Elizabethtown, March 5, Dr. C. Z. Aud was elected president; Dr. James W. O'Conner, vice-president, and Dr. James C. Mobley, secretary and treasurer. The society adopted the constitution and by-laws prepared by the committee on organization of the American Medical Association.

Monroe County (N. Y.) Medical Association.

The members of the Fourth District branch of the New York State Medical Association, residing in Monroe County, met in Rochester, February 27, and organized this association by the election of the following officers: President, Dr. Thomas A. O'Hare; vice-president, Dr. Edward Mott Moore, and secretary and treasurer, Dr. James C. Davis, all of Rochester.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

Medical Society of the Missouri Valley, Council Bluffs, Iowa, March 19-20.
Florida Medical Association, St. Augustine, April 8.
Western Ophthalmological and Oto-Laryngological Association, Indianapolis, April 9-11.
Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Mississippi State Medical Association, Greenville, April 21-23.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.

New York Academy of Medicine.—Dr. Lewis A. Conner has been elected chairman, and Dr. Ernest E. Smith, secretary, of the section on Medicine.

Redlands (Cal.) Medical Society.—At the annual meeting, January 21, Dr. Thomas M. Blythe was elected president; Dr. Christopher A. Sanborn, vice-president, and Dr. C. E. Ide, secretary and treasurer.

Red River Valley (Minn.) District and County Medical Society.—The first quarterly meeting was held at Crookston, January 27. Dr. Charles E. Dampier, Crookston, presided, and a banquet was tendered the society by Dr. George A. Morley.

St. Joseph (Mo.) Academy of Medicine.—Local physicians organized under this name, January 17, and elected Dr. James W. Heddens president; Dr. John B. Reynolds, vice-president, and Dr. William L. Kenney, secretary and treasurer.

Orange County (N. Y.) Medical Association.—The annual meeting was held in Middletown, January 21. Dr. Willis I. Purdy was elected president; Dr. William E. Douglas, vice-president, and Dr. Charles I. Redfield, secretary and treasurer, all of Middletown.

Rockland County (N. Y.) Medical Association.—At the annual meeting, held in Nyack, January 21, Dr. D. Burr Van Wagenen, Suffern, was elected president; Dr. George A. Leitner, Piermont, vice-president, and Dr. Norman B. Bayley, Haverstraw, secretary and treasurer.

Stark County (Ohio) Medical Society.—The annual meeting was held in Canton, January 17, when Dr. William C. Steele, New Berlin, was elected president; Dr. Frank W. Gavin, Canton, secretary and treasurer, and Dr. Frank E. Hart, Canton, corresponding secretary.

Quarter-Century Medical Club, Detroit.—The sixth annual banquet was held January 29. Dr. Henry A. Cleland was master of ceremonies; Drs. Justin E. Emerson and Albert E. Carrier were toastmasters, and Drs. Ernest L. Shurly, Leartus Connor and Justin E. Emerson were in charge of the arrangements.

Teller County District (Colo.) Medical Association.—The annual election, held recently, resulted as follows: Dr.

Marion A. Lattimer, Victor, president; Drs. William E. Driscoll, Goldfield, John A. Dunwoody, Cripple Creek, and J. S. Manley, Cripple Creek, vice-presidents; Dr. W. W. King, Cripple Creek, secretary, and Dr. John B. Polly, Elkton, treasurer.

Lavaca County Texas Medical Association.—The physicians of Lavaca County met, February 23, at Hallettsville, and organized a county association, electing the following officers: Dr. Walter Shropshire, Yoakum, president; Dr. James E. Lay, Hallettsville, vice-president; Dr. William E. Drisdale, Yoakum, secretary, and Dr. J. G. Guenther, Moulton, treasurer.

Richardson County (Neb.) Medical Society.—In accordance with the plan of the Nebraska State Medical Society, a county medical society was organized at Falls City, January 28, with the following officers: Dr. J. A. Waggener, Dawson, president; Dr. Anthony Keller, Falls City, vice-president, and Dr. Frank C. Wiser, Falls City, secretary and treasurer.

Southwestern Iowa Medical Association.—At the semi-annual meeting, held in Creston, February 19, the following officers were elected: President, Dr. J. E. Howe, Greenfield; vice-presidents, Drs. Charles H. DeWitt, Glenwood, and J. Frank Aldrich, Murray; secretary, Dr. Benjamin F. Gillmor, Creston, and treasurer, Dr. Joseph P. Claybaugh, Creston.

Hospital of the University of Pennsylvania Alumni Association.—On February 28 fifty former resident physicians of the hospital assembled at the University Club for their second annual banquet. Toasts were responded to by Drs. Barton Cooke Hirst, William E. Hughes, Charles H. Frazier, Edward Martin and John Carpenter. Dr. George E. de Schweinitz was elected president.

Ramsey County (Minn.) Medical Society.—At the annaul meeting in St. Paul, January 26, Dr. Angus MacDonald was elected president; Dr. H. Longstreet, vice-president; Dr. Ethelbert F. Geer, secretary; Dr. Frederick Leavitt, treasurer, and Dr. Alvah F. Whitman, necrologist. The constitution and by-laws were so amended as to permit any legal practitioner of non-sectarian medicine to become a member.

St. Clair County (Mich.) Medical Society.—The Port Huron Academy of Medicine changed its name to the St. Clair County Medical Society at its meeting, January 20, in order to become an integral part of the Michigan State Medical Society. Dr. Charles C. Clancy, Port Huron, was elected president; Dr. W. P. Derck, Marysville, vice-president, and Dr. A. Henri Cote, Port Huron, secretary and treasurer.

Sullivan County (N. H.) Medical and Surgical Society.—Physicians of Sullivan County met at Newport, January 28, and organized a county society to be in affiliation with the New Hampshire State Medical Society. Dr. Henry L. Stickney, Newport, was elected president; Dr. David P. Goodhue, West Springfield, vice-president; Dr. Fred P. Claggett, Newport, secretary, and Dr. Howard A. Hannaford, Grantham, treasurer.

Tuscola County (Mich.) Medical Society.—The physicians of the county met at Caro, January 19, and organized this society in conformity with the requirements of the American Medical Association and the Michigan State Medical Society. The following officers were elected: Dr. Arthur L. Seeley, Mayville, president; Dr. John E. Handy, Watrousville, vice-president; Dr. Wynee C. Garvin, Millington, secretary, and Dr. Frank D. La Valley, Vassar, treasurer.

Olmsted County (Minn.) Medical Society.—At the annual meeting, January 21, in Rochester, the following officers were elected: Dr. Arthur F. Kilbourne, Rochester, president; Drs. Charles L. Chapple, Rochester, and Charles E. Fawcett, Stewartville, vice-presidents, and Dr. Hugo Speier, Rochester, secretary and treasurer. The reorganization under the rules of the State Medical Society was voted, and a committee appointed to revise the constitution in conformity therewith.

Upper Mississippi Medical Association.—At a meeting in Brainerd, January 19, the physicians of that section of the state perfected an organization to be affiliated with the Minnesota State Medical Society, embracing the counties of Morrison, Crow Wing, Aitkin, Cass, Beltrami, Wadena and Hubbard. The following officers were elected: Dr. Walter Courtney, Brainerd, president; Dr. John J. McKinnon, Wadena, vice-president; Dr. John A. Thabes, Brainerd, secretary, and Dr. J. G. Millspaugh, Little Falls, treasurer.

Boston City Hospital Alumni Association.—The annual meeting was held recently. For the first time the associate members, who include past and present members of the visiting staff, were present. The club now numbers nearly 300. Ninety more were voted in at this meeting. The officers for the coming year are: President, Dr. Charles P. Bancroft, Concord, N. H.; vice-president, Dr. Chauncey C. Sheldon, Lynn, Mass.; secretary, Dr. William H. Robey, Jr., Boston, Mass., and treasurer, Dr. William H. Prescott, Boston, Mass.

Union Medical Association of Northeastern Ohio.—The one hundred and twenty-sixth quarterly meeting was held in Akron, February 10. The membership of the association is 140, distributed over the 15 northeastern counties of the state. The following officers were elected: President, Dr. Charles E. Norris, Akron; vice-presidents, Drs. Edward Lauder, Cleveland, and Frank C. Reed, Akron; secretary, Dr. John H. Seiler, Akron; corresponding secretary, Dr. Charles W. Milliken, Akron, and treasurer, Dr. Harold H. Jacobs, Akron.

THE PHYSICIANS' CLUB OF CHICAGO.

Regular Meeting, held Feb. 23, 1903.

Dr. Henry B. Favill in the Chair.

The general subject was "The Prevention of Tuberculosis."

The Reasons for a Special Effort to Prevent the Spread of Tuberculosis.

Dr. William A. Evans was the first speaker, and gave the following reasons for prophylactic effort: First, the subject is worthy of consideration by this or any other body; second, there is no special reason for efforts at prevention unless there is some hope that that effort can be made successful; third, there is reason for special effort, in view of the fact that it will not prove unavailing.

Discussing the first of these reasons, he said that tuberculosis still remains the chief source of death, and the subject of prime consideration. In the ten principal cities of this country tuberculosis is responsible for 18,763 deaths, or 10.8 per cent. of the total death rate each year. Compared with other infectious diseases, which receive greater attention in the matter of prevention than tuberculosis, the relation in Chicago to diphtheria is 4 to 1; scarlet fever, 7 to 1; typhoid fever, 7 to 1. Kohler's statistics show that between the ages of 15 and 60, one-third of the people die from tuberculosis. According to Biggs and Prudden, there are in the City of New York at any given moment twenty thousand people who are rendered unproductive by reason of this disease.

Can tuberculosis be cured? According to the statistics compiled by Dr. Appel, U. S. A., in charge of Ford Bayard Sanitarium, 7.4 per cent. of cases are clinically cured, 11.6 convalescent, 34.9 improved, 25.2 unimproved, and 20.9 per cent. die. Dr. Evans quoted the statistics of other writers.

The question of prevention of tuberculosis resolves itself into hygiene, general hygiene and ventilation. Prevention must be effected, not only by the medical profession, but by the laity, who are most directly concerned and largely responsible for the spread of this disease. Laws are the result of public action; public action is slower than public conscience, and public conscience lags far behind public intelligence.

In What Way Can the General Practitioner Assist in the Purposes of the Crusade?

Dr. N. S. Davis, Jr., said that the position of the general practitioner in this movement is educative, but his influence should not be limited to educating patients only. It is essential to educate those who must be associated with them. Patients should live in light rooms, where there is good ventilation, and where the surroundings are clean and hygienic.

There is also a need for places where patients can be educated to care for themselves; where they can be taught by object lessons, seeing others who have improved under proper hygienic surroundings. To-day there is scarcely a hospital in Chicago which is willing to take these cases, because they are not prepared for them.

There is another advantage to be gained by admitting tuberculous patients to general hospitals. Every trained nurse should have experience in the care of cases of pulmonary tuberculosis.

The Committee on the Prevention of Tuberculosis of the Visiting Nurses' Association, Chicago.

Dr. Arnold C. Klebs read a paper with this title. The outline of the work as approved by the committee is as follows:

In general, considering the fact that the family members of a consumptive and those living in unhealthy conditions are the ones most threatened by the disease, education on the subject and eventually proper material aid have to be furnished to them primarily. The distribution of instructive pamphlets alone usually proves insufficient. It is, therefore, necessary to enhance the value of such printed instructions by personal interviews and repeated visits. For this purpose the co-operation of specially trained physicians and nurses, with the assistance of charity organizations, is deemed of importance. To facilitate such co-operation and to insure the uniformity of the measures to be employed, it is planned to establish a central office. From this office the general work is to be directed and carried out in district offices in the different parts of the city.

The work in the central office (1) is to be done by an executive committee of six, to be elected from (2) the general committee of forty, of which twelve are to be physicians. (3) A special tuberculosis fund may be established, if necessary. (4) Work to be done in the central office.

1. To collect and file all information. To ascertain the causes for the greater prevalence of the disease in certain districts. To examine the conditions of life in those districts, especially the condition of dwellings. To start a collection of literature on tuberculosis, especially in its socio-economic aspect. To maintain correspondence with other organizations.

2. To prepare instructive reading matter for distribution among (1) the public, (2) nurses, and (3) physicians.

3. To make arrangements for public lectures.

4. To co-operate with health authorities.

5. To disinfect houses.

6. To procure information about healthful occupations, eventually furnishing positions.

7. To decide on the advisability of transferring persons to other climates, eventually providing them with positions abroad.

8. To plan, found and eventually maintain health farms.

9. To advance the introduction of modern methods in existing institutions.

10. To test new ideas which promise results.

11. To supply the needy with food, medicines, disinfectants, spit cups, etc.

12. To extend aid to all efforts at organization.

13. To examine all cases applying for help and treatment.

14. To found district offices, each to have physicians and nurses in charge.

The essayist stated that as long as sanatoria can not be had, sanatorium methods must be used in the houses of the consumptives. To make the movement successful, every physician and layman ought to learn about it and help it in every possible way.

Discussion.

DR. ROBERT H. BABCOCK said that whenever tuberculosis has been diminished, it has been through the intelligent efforts of the medical profession. The first step in this educational movement should be the education of the medical profession. Many physicians are entirely oblivious to the necessity of preserving proper hygienic measures.

DR. WALTER M. FITCH called attention to the fact that a well-developed active chest is not so susceptible to infection, and much can be done to overcome this susceptibility to the disease.

DR. GEORGE W. WEBSTER emphasized the importance of institutional treatment; each patient, when he returns home, becomes an educated center, from which accurate information is disseminated. In the schools and universities more time should be devoted to the teaching of public hygiene, and less time to music and other studies of less value. Dr. Webster offered the following resolution, which was adopted:

Resolved, That it is the sense of the Physicians' Club that its members heartily approve and endorse the plan proposed by Dr. Klebs for preventing the spread of pulmonary tuberculosis.

DR. L. HARRISON METTLER suggested that properly guarded articles be given to the public press. The public can be reached better through the daily paper than through any other medium.

DR. A. M. CORWIN referred to the poor architecture, from the standpoint of hygiene, of the modern building, saying that the atmosphere in most of them is foul, because of insufficient ventilation and poor lighting facilities.

DR. ARNOLD C. KLEBS believes that the public would resent any intrusion by public officers in a disease which affects the victims rather slightly. He thinks a private movement would be more successful than one instituted by legislation. The poor people appeal for physicians, for nurses, and to charity organizations, and through these channels they can be instructed and educated.

DR. JOHN A. ROBISON said much can be done if pressure is brought to bear on the city officials, so that they will give the local board of health more power to carry out proper sanitary measures.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting of the Section on Pediatrics, Jan. 8, 1903.

Henry Heiman, M.D., in the Chair.

Ulcero-Membranous Stomatitis of Vincent.

DR. W. N. BERKELEY presented a boy of six years whose tonsil presented on the upper margin a deeply-excavated ulcer. Smears from this showed the spirillæ and elongated bacilli described by Vincent as characteristic of this form of stomatitis. As yet but little was known concerning the relation of the spirillæ to the bacilli.

DR. CHARLES HERRMAN said he would predict that future bacteriologic study would show that this same ulcerative process occurred in other parts of the body than the throat.

A Case of Malnutrition Apparently Dependent on Hyperplasia of the Blood Vessels and a Small Heart.

DR. SARA WELT-KAKELS presented a little girl who was evidently badly nourished and very anemic. The speaker said that although the child was born at full term she had always been delicate and more backward than her sisters. Since last June she had suffered from severe and constant headache, associated with constipation and loss of appetite. A hypermetropia in both eyes had been corrected by glasses without relieving the headache. Examination showed the cardiac impulse to be in the fourth intercostal space and the peripheral arteries so small that it was frequent in counting the pulse to feel the brachial instead of the radial artery. There was some cyanosis at times. The gastric contents had been examined after a test breakfast with negative result except that there was some deficiency in the hydrochloric acid. The daily quantity of urine was between 350 and 500 c.c. instead of the normal quantity, 1,140 c.c., and the daily quantity of urea was only 6.25 gm. whereas it should be 18 gm. The blood pressure had been determined by means of the Gärtner tonometer to be 69 mm., the normal varying between 100 and 120 mm. Even the microscopic examination of the blood was negative. An *x*-ray examination of the chest in conjunction with the fluoroscope had given a remarkably clear view of the thoracic organs, and showed plainly the diminutive size of the heart. Dr. Welt-Kakels was of the opinion that the child's condition was mainly dependent on a hyperplasia of the blood vessels.

Report of a Case of Paroxysmal Hemoglobinuria.

DR. CHARLES HERRMAN reported this interesting case, which occurred in a boy of four years, of apparently healthy parentage. In infancy he had presented evidences of congenital syphilis and had been treated for this disease for about twelve months. He was anemic and below the average size of a boy of his age. The heart and lungs were normal, and the spleen was not enlarged. Malaria was excluded by the failure to find the plasmodia in the blood. The attacks of hemoglobinuria came on every few days when the boy first came under observation last fall, the attack usually beginning about 10 o'clock in the morning by irritability and peevishness, which was speedily followed by a sense of weariness, a chill and finally by the passage of dark, bloody urine. It was remarkable how quickly he would recover even from a severe attack; it was no unusual thing to see him playing around again within an hour

after the subsidence of the attack. The urine was found to be acid and albuminous, but it contained no sugar, and the microscope showed no red blood corpuscles. Hemin crystals could be readily demonstrated by the usual means. The speaker said that only about 20 cases of this disease had been placed on record, and of this number about one-half gave a history of congenital syphilis. Physical exertion and emotional excitement were determining causes of the attacks, and they could be brought on by baths or the immersion of an extremity in cold water. When there was a history of syphilis, antisyphilitic medication would effect rapid improvement. The attacks were most frequent in winter, and from the action of chilling in determining the attack it was obvious that these patients should be warmly clad and kept indoors in cold weather.

Otitis Purulenta Neonatorum et Infantum.

Dr. Max Toeplitz read this paper. He said that the high fever, often associated with stupor or convulsions, occurring in connection with otitis in early life not infrequently led to an erroneous diagnosis of cerebral disease. A positive diagnosis of meningitis could only be made by means of a lumbar puncture. Fortunately otoscopy was not very difficult in children; it was, however, very difficult in very young infants. When meningitis occurred it was the result of an extension of the inflammation through the mastoid-squamous fissure. Primary inflammation of the labyrinth in children was characterized by fever, convulsions, vomiting, dulness of the sensorium, stiffness of the neck and an irregular pulse. Acute otitis was the result of bacterial infection, usually with the *Diplococcus pneumoniæ*, the *Streptococcus pyogenes* or the *Staphylococcus pyogenes*. They gained entrance through the eustachian tube in connection with sneezing or blowing of the nose, or the use of the douche. A child with otitis should be kept quiet in bed, and in the early stages steam and the application of hot water bags were useful, but as soon as there was evidence of pus, the drum of the ear should be freely incised, having first carefully sterilized the ear. The opening in the drum should be in the posterior inferior quadrant. Spontaneous perforation often occurred, but it made an irregular perforation, and the resulting scars were apt to impair the hearing in time. The wiping out of the secretions, followed by dusting with a thin layer of antiseptic powder and the closure of the canal by sterile cotton constituted, in his opinion, the ideal treatment for these cases, but the method was only applicable to cases in which it could be done by the physician himself or by an unusually intelligent and capable attendant. For other cases it would be better to trust to syringing, using irrigations at first every hour, the solution having a temperature of 108 or 110 F.

DISCUSSION.

Dr. E. Gruening said that whoever expected to find on inspecting the ear of a child suffering from acute otitis the circumscribed or the general bulging of the tympanic membrane described in the books, would be disappointed, for, more commonly there would only be a general thickening and obscuring of the usual landmarks. The latter condition was, however, a sufficient indication for paracentesis. This winter he had seen a number of cases of otitis complicated with bronchitis, and he had been impressed with the rapidity of the subsidence of the cough after puncture of the ear drum. For children he favored syringing the ear, using a fountain syringe with the bag only a few inches above the patient's head; for adults, the dry method, already described in the paper, was preferable.

Dr. E. Fridenberg said that he had seen many cases of otitis media in children which had simulated gastroenteric disease. In several instances they had been at first diagnosticated as typhoid fever.

Dr. Charles G. Kerley said that if those who practiced much among children would familiarize themselves with the appearance of the ear in both health and disease they would be less apt to experience the mortification of seeing a case, diagnosed as pneumonia, suddenly lose all of its urgent symptoms on the appearance of a discharge from the ear. For irrigation of the ear he preferred to use a 1 to 10,000 solution of bichlorid of mercury, as often as every three hours for the first day or two. The nasal douche was a prolific source of ear affections.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pneumonia.

Hooker, in *Med. Summary*, recommends the jacket of absorbent cotton, mustard paste locally for the pain of any accompanying pleurisy, not allowing blistering to take place. This may be followed by a local application of vaselin. In treating a child two years of age he advises the following:

℞.	Quininæ sulph.	gr. xxiv	1.65
	Pulv. opii	gr. ss	0.3
	Ol. theobrom. q. s.		

M. Ft. suppos. No. viii. Sig.: Insert one into the rectum every three hours until the fever abates somewhat, then repeat it three times a day and finally one at night only.

When the foregoing seem to disturb the bowels the following is prescribed:

℞.	Acidi sulph. dil.	gtt. xxx	2
	Quininæ sulph.	gr. xxx	2
	Syr. zingiberis	ʒss	15
	Aquæ q. s. ad	ʒii	60

M. Sig.: One teaspoonful every three hours, diminishing the dose as the child improves, or increasing it if the fever increases.

The following is of value in reducing the fever:

℞.	Ammon. chlor.	gr. viii	0.50
	Tinct. aconiti rad.	m. iv	0.25
	Tinct. opii camph.	m. xv	1
	Syrupi tolutani q. s. ad	ʒii	60

M. Sig.: One teaspoonful every hour for three hours, then every three hours. When the fever is under control the time may be lengthened to once in four hours.

In cases late in the disease if the heart needs stimulation the following is given:

℞.	Ammon. carb.	gr. iv	0.25
	Tinct. digitalis	m. xv	1
	Spts. frumenti	ʒi	30
	Syr. tolutani q. s. ad	ʒiv	120

M. Sig.: One teaspoonful every three hours; or:

℞.	Strychninæ sulph.	gr. i	0.06
	Syr. tolutani q. s. ad	ʒi	30

M. Sig.: Five drops after meals.

As a sequel a lingering cough may be present and under such circumstances the following may be given:

℞.	Creosoti	m. ii	0.12
	Spts. vini gallici	ʒss	15
	Glycerini	ʒii	8
	Syr. tolutani q. s. ad	ʒii	60

M. Sig.: One teaspoonful three times a day to a child one or two years of age.

Insomnia.

The following is an outline of treatment of insomnia due to the various causes as suggested by the *Month. Encyc. of Pract. Med.:* In insomnia from pain, morphin, the coal tar products or large doses of chloral are indicated. Insomnia from reflex irritability, chloral, trional, sulphonal, are the best. When it is due to delirium or chronic insanity, hyoscyamin combined with morphin. And when there is loss of sleep from nervousness and worry the bromids should be given in doses of twenty to thirty grains (1.30-2.00) three or four times daily. One must bear in mind that chloral depresses the medulla and is at times dangerous to the heart, lung, kidneys and stomach.

Internal Hemorrhoids.

Ross, in *Virg. Med. Semi-Monthly*, states that in the treatment of hemorrhoids which protrude at stool and can be pushed back by manual effort, he administers a heaping teaspoonful of

compound senna powder the night before the treatment, to be followed by a glass of bitter water or a tablespoonful of epsom salts before breakfast the next morning. Supplement this by a high enema of normal saline solution before the operation; then cleanse the rectal region under antiseptic precautions. The following solution is then injected into the center of each tumor beginning with the tumor highest up:

℞.	Acidi carbol. (95 per cent.)	℥ii	8
	Glycerini	℥ss	15
	Aquæ destil. q. s. ad	℥ii	60

M. Sig.: Inject as directed.

When each tumor has thus been treated coat the mass with carbolized vaselin and gently push them well up into the bowel.

If much pain is present some opiate may be given. Rest, a light diet and unmoved bowels are enjoined for two days. Then the compound senna powder may be given again at night, followed by the salts in the morning and instruct the patient to avoid straining. The following ointment should then be given night and morning.

℞.	Nosophen	℥i	4
	Cocainæ hyd.	gr. vi	35
	Ext. belladonnæ	gr. iv	25
	Ung. simplicis	℥vii	28

M. Sig.: Apply locally on an applicator introduced well up into the bowel.

The author states that one treatment is generally all that is required.

RECTAL ULCER.

M. G. Price, according to the *Med. Standard*, recommends the following in the treatment of rectal ulcer from whatever cause:

℞.	Ext. hydrastis aqueous	℥iiss	10
	Acidi carbolici	m. xxx	2
	Glycerini	℥ix	36
	Ext. hamamelidis flu.	℥viss	195

M. Sig.: Add to one half a teaspoonful of this mixture an equal quantity of starch and two tablespoonfuls of warm water. Inject into the rectum and advise the patient to retain it over night.

Bedsores.

Palmer, in *Merck's Archives*, recommends a method in the treatment of bedsores due to pressure and atrophic changes aggravated by urine undergoing ammoniacal decomposition: A bag of soft linen is made sufficiently large to extend down the thighs and along the patient's spine. This bag is then filled with bran previously moistened with dilute sulphuric acid. Sufficient bran is used to make an easy cushion. By this method the urine which is constantly dribbling from the patient is absorbed by the bran and the sulphuric acid present neutralizes the ammonia. The proportions advised are about two ounces of sulphuric acid to a quart of bran. This should be renewed every second day. It only makes the bran slightly moist.

Diet in Chronic Endocarditis of Children.

Thompson, in *Pract. Dietetics*, states that children who have chronic valvular disease or enlargement of the heart, but who are not strictly confined to bed, should have their habits of eating closely guarded. They should eat slowly and moderately and at regular intervals, the heavy meal should be at noon, and a light supper two hours before retiring. Animal food is as a rule better for them than vegetables, but they may be allowed fresh vegetables, such as spinach, tomatoes or stewed celery. Rice and macaroni may be given. Bread should be eaten only when dry or toasted. Sweets should be omitted from the list, except very rarely jam or preserves may be given. Sweets are liable to cause flatulency and palpitation and excite the heart's action and produce unnecessary strain.

Aspirin in Diabetes.

R. T. Williamson, according to an article in *Med. Age.*, recommends the use of aspirin in the treatment of glycosuria and diabetes mellitus. This preparation seems to have the most influence in the less severe forms and is less serviceable in the acute forms in young individuals. In order to produce any reduction in the milder forms it should be given in doses of fifteen grains each four or five times a day. The patient should be watched for the appearance of toxic symptoms. It is best to begin with a small dose, ten grains two or three times a day and gradually increase the dose.

Acute Gout.

The following outline of treatment is recommended by the *Cleveland Med. Gazette* in the treatment of acute gout:

℞.	Vini colchici sem.	℥iii	12
	Spts. ammon. arom. q. s. ad	℥ii	60

M. Sig.: One teaspoonful every three hours in water; or:

℞.	Tinct. colchici sem.	m. xx	1 30
	Potass. bicarb.	gr. x	65
	Aq. menth. pip. q. s. ad	℥i	30

M. Sig.: At one dose, to be repeated every three hours; or:

℞.	Ext. colchici rad.	gr. vi	35
	Pulv. ipecac. et opii	gr. xii	70
	Ext. colocynth. co.	gr. xii	70

M. Ft. pilulæ No. xii. Sig.: One pill night and morning; or:

℞.	Ext. colchici rad.	gr. x	65
	Pulv. digitalis		
	Ext. colocynth. co., āā	gr. xx	1 30

M. Ft. pil. No. xx. Sig.: One or two pills to be taken three times a day.

Yeo recommends the following as a remedy in acute gout:

℞.	Tinct. aconiti rad.	℥i	4
	Morphinæ sulph.	gr. ii	12
	Antimonii tartarati	gr. i	06
	Syr. zingiberis	℥ss	15
	Aquæ q. s. ad	℥ii	60

M. Ft. mistura. Sig.: One teaspoonful every three hours in water; or:

℞.	Vini colchici	℥ss	2
	Mag. carb.	gr. xv	1
	Aq. cinnamomi	℥i	30

M. Ft. haustus. Sig.: To be taken at bedtime.

Pericarditis.

The following combination, as noted in *N. Y. Med. Jour.*, is recommended as a local application in relieving the cardiac pain occurring in pericarditis:

℞.	Methyl salicylatis	℥iiss	10
	Menthol	gr. lxxv	5
	Essent. lavendulæ	gtt. xv	1
	Petrolati	℥iiss	10
	Lanolini	℥i	30

M. Sig.: Apply locally.

Earache.

The following combination was first recommended by G. L. Richards in 1898 in the treatment of earache in children. A full presentation of the subject is given in THE JOURNAL, Jan. 24, 1903, page 222:

℞.	Acidi carbol.	m. vii	50
	Ext. opii fluidi	m. vi	35
	Cocainæ		
	Atropinæ sulph., āā	gr. iii	20
	Aquæ	m. lii	3 40
	Gelatin	gr. xviii	1 20
	Glycerin	℥iiss	10

M. Ft. Bougies No. xlii. Sig.: One to be moistened and inserted into the ear.

OTITIS MEDIA PURULENTA.

The following is recommended by N. G. Ward in *Amer. Ther.*:

℞.	Formalin	gtt. v	30
	Alcoholis	℥ii	8
	Aquæ q. s. ad	℥i	30

M. Sig.: To be dropped into ears as occasion demands.

Tinnitus Aurium.

Lewis, in the *Phila. Med. Jour.*, states that the administration of nitroglycerin or the inhalation of amyl nitrite will lessen the ringing in the ears due to anemia and increases that due to hyperemia. In the latter affection the general health should be improved and sedatives given. Hydrobromic acid is of the greatest service and should be administered in fifteen minim doses three times a day, well diluted in water. If the labyrinth is congested pilocarpin is of most value. When the tinnitus is unaccompanied by deafness a solution of strychnia,

gr. 1 to the ounce, should be introduced through the eustachian catheter into the tympanic cavity.

The following combination is advised by Gleason in the catarrhal forms:

℞. Argenti nitratis	gr. 1/4	015·
Ext. hyoscyami	gr. 1/3	020
Strych. sulph.	gr. 1/30	0020

M. Ft. pilula No. i. Sig.: One such after each meal.

Ammonium muriate is recommended in tinnitus of nervous origin. Conium hydrobromate, gr. 1/60 three times a day and tincture of arnica in fifteen minim doses have also been used with success.

Diarrhea in Puerperal Infection.

According to the *Rivista Medica* the following is of service in checking the diarrhea in puerperal infection:

℞. Calcii chloridi	℥ss	2 |
Tinct. opii	gtt. xx	1 | 30
Syr. morphinæ	℥v	20 |
Aquæ lactucarii	℥viii	240 |

M Sig.: One tablespoonful as required.

Medicolegal.

Ten Thousand Dollars for Fracture of Thigh.—In the case of Waldie vs. the Brooklyn Heights Railroad Company, a licensed Sandy Hook pilot met an accident which resulted in a fracture of the thigh, with permanent disablement, and the loss of his occupation, involving the diminution of income to the extent of $125 a month. Under these circumstances, and in view of other recoveries which have been upheld, the Second Appellate Division of the Supreme Court of New York holds that an award of $10,000 damages could not be considered excessive.

Liability of Hospital for Assault on Patient.—The case of Galesburg Sanitarium vs. Jacobson, as it is entitled in the Appellate Court of Illinois, Second District, was brought by the latter party to recover damages from the former, a corporation conducting a hospital, in which he was a patient for some two months, and, he alleged, was assaulted, beaten, mistreated and injured by the servants and employes of the institution. He was ill, the court says, and was a patient residing at the hospital for treatment, and was paying for the services he received, and he was entitled to reasonably kind treatment, so far as the nature of his malady would allow. No assault on him was justifiable, except so far as it was necessary to control him at times when he was insane or delirious. On the occasion in question the servants unnecessarily abused him, and inflicted on him injuries for which the jury were warranted in holding the master responsible. There was no claim that this was a charitable institution, nor any question as to its liability for the negligence of its employes on that account. The fact that the jury awarded but $100 as damages indicated they were not governed by passion or prejudice.

Good Consideration to Support Action for Services.—Several weeks after his daughter, without his knowledge, went to a hospital for medical treatment a father, on learning, through the physician who treated her, about her condition and what the bill for her treatment and board in the pay department was, promised to pay it, but died without doing it. The physician sued the administrator of the father's estate for the amount of the medical services rendered the daughter, and obtained judgment therefor, which the Supreme Court of Mississippi affirms, in the case of Biglane vs. Hicks. It says that there was no evidence on which it could be said that the debt sued for was charged originally to the daughter, so as to bring into the decision of it the question of the statute of frauds, which requires a promise to answer for the debt of another to be in writing. And it holds that if the father was not liable for the services sued for, because they were rendered to a helpless member of his family, who sorely needed them, yet continued service and treatment of the daughter for several weeks by the physician, at the special request of the father, on his promise to pay for the services sued for, as well as for future services, constituted a consideration to support this action.

When "Totally Disabled and Confined to the House."—In Mutual Benefit Association vs. Nancarrow, where the former insured the latter and, it was alleged, promised to pay him a certain sum per week if, from certain causes, he should be totally disabled and confined to the house, the Court of Appeals of Colorado holds that the words "totally disabled," as well as the words "confined to the house," must receive a reasonable interpretation. The purpose of the policy was to indemnify the insured against loss occasioned by inability to attend to his work or business on account of sickness. The total disability contemplated by the instrument did not mean a state of absolute helplessness. The insured might have been able to walk—he might have been able to ride on the car to his physician's office—and still have been entirely incapacitated for work or business. In view of the object of the contract, if he was so incapacitated, he was, the court thinks, totally disabled, within the meaning of the policy. Nor, applying the same rule, does the court think that the words "confined to the house" were intended to mean a constant restraint within doors. One may be sick, it says, and still able to move about and, on occasion, temporarily to pass to the outside. A complete and enforced withdrawal from business or work was undoubtedly necessary, under the policy; but exceptional and temporary absences from the house were not inconsistent with the idea of a general confinement within it. The complaint said that the insured was confined to the house, except at intervals, when he rode on the cars from his house to his physician's office; and, the court thinks, a sufficient confinement was alleged, to answer the requirements of the policy.

Fixing Compensation for Attending Smallpox Patients.—Section 5 of chapter 123 of the Laws of Maine of 1887 provides that the municipal officers "shall regulate and audit all fees and charges of persons employed by each board of health, in the execution of the health laws and of their regulations." In the case of Clement vs. the City of Lewiston, an action brought by a physician to recover for professional services rendered in attending smallpox patients, no specific sum was agreed on for his compensation. He was employed by the secretary of the board of health of the city. The city claimed that it was a condition precedent to the physician's right to maintain the action that the municipal officers had discharged the duty imposed by said section 5, or to show an attempt on his part to have them do so. The presiding justice instructed the jury that if the municipal officers failed to make any regulation or auditing of his account at the time, and there being, when these services were performed, no regulation touching the fees and charges to which he might be entitled, then he was entitled to recover a reasonable compensation. The Supreme Judicial Court of Maine holds that this ruling was correct. It says that the municipal officers could have fixed the fees before the services were rendered, and if they had done so, and it was known to the physician, his rendition of services after that would be regarded as an acceptance of the terms made by the municipal officers, and his right to recover would be limited to that. In the absence of such action by them for any services rendered by the physician under a legal employment the city impliedly promised payment therefor of a reasonable sum. The right to "regulate" fees should be exercised, if at all, before the services are rendered. To "audit" charges in bills rendered does not mean to determine their amount in the sense of binding the other party. To audit is "an examination in general"; "an examination of accounts"; "compare the charges with the vouchers." Webster. On such auditing the bill would be approved or rejected. If rejected, it would not preclude recovery if the physician had a meritorious cause of action. Such auditing can not be regarded as a condition precedent to recovery. The physician's rights did not depend on approval of the municipal officers. This statute gives certain authority to municipal officers and imposes a duty on them, but it is directory. It does not make it the duty of the physician to procure their action before enforcing his claim. Offered evidence of the action of the municipal officers after the physi-

cian's services were rendered, in attempting to fix the amount of his compensation, was rightly excluded. One party to a contract, after performance by the other, can not determine the amount of compensation without the consent of the latter. An offer to prove amounts paid by the city for similar services in previous years was also rightly refused. Such payments might have been on express contracts, or been the result of a controversy or compromise, or have been for services rendered by physicians of small experience or limited skill or reputation, or under peculiar and exceptional conditions. It would be unsafe, and might be unjust, to adopt them as a criterion for the compensation to which the physician suing was entitled.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

February 28.

1 *Notes on Plague as Observed by the Health Authorities of Sydney, New South Wales. G. Frank Lydston.
2 Cases of Intestinal Reaction, with End-to-End Union. C. S. Hamilton and W. D. Hamilton.
3 *The Diagnosis and Treatment of Contracted Pelvis. Warren R. Gilman.
4 *Hypodermoclysis; Experiments, Technic and Clinical Uses. Robert C. Kemp.
5 Medical Organization and the Present Status of the Code of Ethics of the American Medical Association. Charles A. L. Reed.

1. **Plague in Sydney.**—Lydston gives a very interesting account, calling attention to the absence of contagion by fomites, the method of infection through insects and the part borne by rats, which is strongly confirmed by the Sydney experience, the non-contagious character of the bubonic and septicemic forms, and the possible contagion of the pneumococcic type. It is apparently difficult to determine just what ships have brought the plague to port, as rats carry the disease for a considerable period. One animal affects another during the voyage, so that fresh cultures are brought to port. The interesting points are the cerebral toxemia, decline in mortality after the seventh day, speedy death, which is attributed either to the relatively large doses of multiple "bite" inoculations or to individual susceptibility, or to both together, and the trivial nature of the buboes, which seem to be only casual phenomena. Prevention seems to be reduced to simply the prevention of rats from going ashore, frequent fumigation of ships, knowledge of the health of rats in the exposed cities, and the keeping down of their numbers, isolation, general cleaning up, fumigation of infected and suspected premises and the clearing up of plague infection. The prophylaxis of plague is an expensive matter. Sydney has expended as high as $6,000 or more a month in the extermination of rats alone.

3. **Contracted Pelvis.**—Gilman calls attention to the importance of the condition, and gives the generally known facts in regard to the viability of the fetus within certain diameters. In case of slight or moderate contraction, he thinks it is best to leave the patient alone as long as progress is being made. He insists on the practical value of pelvimetry and the low mortality of cesarian section, which is less than 5 per cent. under proper conditions. It should never be performed, however, on an exhausted patient or one exposed to infection.

4. **Hypodermoclysis.**—Kemp has experimented on animals to test the rapidity of absorption and the specific action of normal saline solution on the kidneys, finding that it promotes renal secretion and reduces renal congestion. The technic and indications are given at length. It will be of value in the following conditions:

In diarrheas with excessive loss of fluid, as in dysentery, cholera, cholera morbus, cholera infantum, typhoid and allied diseases; pneumonia, septicemia, pyemia, peritonitis, pyelitis, septic endocarditis, puerperal sepsis, purpura hemorrhagica, severe burns, toxemia due to colon bacillus, tetanus, jaundice, plague, yellow fever, scarlatina, measles, typhus, diabetes, shock; hemorrhage from any cause; as an eliminant in diphtheria, following antitoxin injection; in toxemia of diphtheria, or from any cause; in any coma due to toxemia; in puerperal eclampsia—preceded by venesection; in oliguria, uremia, suppression of urine, renal congestion; in pulmonary edema, pleurisy with effusion, or ascites due to oliguria; in poisoning, as an eliminant, as from carbolic acid, alcohol, opium, carbonic acid gas, and especially in belladonna poisoning. In the last condition frequent catheterization should be employed.

He notices the possible use of hypodermoclysis with sodium salicylate as a diuretic, and the assertion in France that incipient tuberculosis can be diagnosed by means of reactions which occur from this agency. Kemp does not, however, consider this assertion confirmed by his own observations. He thinks it might be useful in toxemias and the high temperature of tuberculosis, but not likely to have any specific effect on the disease. Dr. J. L. Barton has conducted some clinical experiments, as yet unpublished, in which these views are confirmed, and it will probably be worthy of further trial in selected cases as an adjunct to other treatment.

American Medicine, Philadelphia.

February 28.

6 *Are Antiseptics of Any Value in Hand Disinfection? Edgar R. McGuire.
7 *Chronic Sphenoid Abscess. Lewis S. Somers.
8 Chronic Diarrhea. Edwin Zugsmith.
9 *Cancer Statistics in the Twelfth Census of the United States. Harris Moak.
10 *An Interesting Modification of Technic in Penrose's Operation for Nephropexy. Frank Donaldson.
11 *Briefs on Physical Training. G. Frank Lydston.
12 The Use of Truth and Falsehood in Medicine: An Experimental Study. Richard C. Cabot.

6. **Hand Disinfection.**—McGuire concludes that:

1. Absolute sterility of the hands is impossible by any method.
2. There is no royal road to sterilizing the skin—nothing takes the place of long and vigorous mechanical scrubbing.
3. The longer the hands are scrubbed under aseptic precautions the nearer the approach to sterility.
4. The use of antiseptics on the skin is, at least, questionable; under the usual conditions, it is distinctly harmful.
5. When the true value of antiseptics is understood we will have cleaner hands, due to more conscientious scrubbing.
6. The use of rubber gloves, while not ideal, is the nearest approach to it.
7. The operator whose hands perspire freely ought to wear gloves in every case, regardless of all objections to them.

7. **Chronic Sphenoidal Abscess.**—Somers holds that this condition is not infrequent, but not usually diagnosed. He gives the anatomic data as to the parts involved and the symptoms, noticing particularly the constant nasal and pharyngeal symptoms, pain, ophthalmic symptoms when present, and reports a case. The treatment is outlined, embracing free drainage of the sinus and cleansing of the parts.

9. **Cancer.**—Moak analyzes the Twelfth Census statistics as regards cancer, and finds that cancer and tumor have not increased in any great proportion over several other diseases common in adult life and old age. The geographical distributions correspond almost exactly to that of people of greatest age, and cancer and tumor are, therefore, most frequent in those sections where old people are more numerous.

10. **Nephropexy.**—The method of technic here described by Donaldson is that of Dr. Milbank Johnson of Los Angeles, which is the same as that of the Penrose-Beyea operation until the quadratus is opened, the perirenal fat exposed, the space of Gerotta entered and the kidney separated by blunt dissection from its fatty capsule. Johnson's procedure from this point is:

He makes an incision the length of the kidney through the fatty capsule, the latter being dissected from the kidney but not removed. He then makes four openings about 15 mm. on either side of the main incision. These incisions of course go through skin, fascia, and muscle. The catheter is then passed through the opening, on through the fatty capsule a few millimeters to the side of the main incision in the same, around the kidney proper about 1 cm. from and above the ureter and renal vessels and out through the fatty capsule and the opening on the opposite side. Similarly, a second catheter is introduced through the third opening and brought around below the ureter and vessels of the kidney and out through the fourth opening. The incision in the fatty capsule is then closed and the main muscular incision brought together with continued sutures of catgut and a subcuticular silkworm-gut stitch for the skin. The operator is now ready to manipulate the catheters. There is of course absolute freedom of movement and taking one end in either hand the kidney may be placed in relatively any position toward the abdominal wall which the operator sees fit; in other words, he can get the exact tension on the kidney he desires. Having satisfied himself that the organ is properly placed, the ends of the catheters are clamped together. Emerging as they do from the side of, instead of through the original wound, they tend to draw together the sides of the same instead of forcing them apart as is the case in Penrose's method.

His method of bringing out and fixing the ends of the catheters greatly facilitates the healing and dressing of the wound and comes nearer to the ideal of what the operation of nephropexy should be.

11. **Physical Training.**—Lydston calls attention to the individual equation. Each person should be studied by himself. He notices the differences in the chest form and capacity, the short and thick and the long and shorter muscles and tendons and the different methods of treatment which they require. The evils of athletics are noticed; over-development of muscles and organs often leads them to degenerate from disuse when change in occupation that inevitably follows in many cases is taken up. He thinks the training habit is hard to break; it is as bad as the alcoholic habit in many cases and, while in many instances no particular disaster occurs, there are numerous cases where serious consequences result.

Medical News, New York.

February 28.

13 *A New Use for Thyroid Extract; A Cure, or at Least a Complete Control of Hemophilia Through Its Administration; Its Effect Also on Another Form of Hemorrhage. Eugene Fuller.
14 *Cortical Hemianopsia and Sector Defects of the Visual Field. Edward Jackson.
15 *Ossiculectomy. Edward B. Dench.
16 *The Discrepancy between Clinical Manifestations and Pathological Findings in Appendicitis. Nathan Jacobson.
17 *The Treatment of Typhoid Fever. G. Wythe Cook.
18 Aseptic Surgery on the Niger Delta. Frederic Griffith.
19 *Remarks upon Adherent Pericardium. Geo. M. Swift.
20 *Hyoscin in the Treatment of Morphinism; Its Office and Value. George E. Pettey.
21 *The Scope of Vaginal Section. Egbert H. Grandin.

13. **Hemophilia and Thyroid Extract.**—Fuller reports a case of hemophilia in a boy treated unsuccessfully by other remedies and relieved by 2½ gr. of thyroid extract three times a day. The second case was in a man about 55 years of age, who had hematuria almost constantly from the prostatic sinus, which was also similarly relieved with good results, using 5 gr. doses three times a day.

14. **Hemianopsia.**—Several cases of hemianopsia are reported and discussed by Jackson. Two of them seemed to support the view of Hun, Wilbrand and Henschen, that the upper lip of the calcarine fissure is connected with the upper part of the retina, having to do with the lower quadrants of the field.

15. **Ossiculectomy.**—Dench finds the indications for ossiculectomy in three classes of cases: 1. Those in which the patient is suffering from what is commonly known as chronic non-suppurative otitis media with intact drum membrane, and where operation is undertaken either for the improvement of the function of the organ or for the improvement of certain symptoms, such as subjective noises and vertigo. 2. Those cases in which operation is undertaken primarily for the relief of chronic suppuration, the removal of all dead bone, etc., the main object being to cure the otorrhea. 3. Cases where there has been previous suppuration, but it was so slight as to cause no inconvenience, but the results of the suppurating processes remain, binding down the ossicular chain by adhesions and impairment of function. The paper gives a lengthy discussion on operations.

16. **Appendicitis.**—Jacobson reports cases showing the occasional obscurity of symptoms in appendicitis and emphasizes the fact that we must not depend too much on the so-called nervous symptoms, or be misled by apparently mild constitutional manifestations. Local signs are to be regarded as more significant and reliable. The persistence and aggravation of any manifestation is to be viewed with alarm and suggests progress of the disease. The diagnosis of catarrhal appendicitis, because of the apparently mild symptoms presented, is often unwarranted. The restriction of the inflammatory process to the mucous surface of the appendix without ulcerative destruction is probably rare. True conservatism, if by that we mean the conservation of life, is along surgical and not medical lines in every case of progressing appendicitis. Lastly, every case in which the diagnosis of appendicitis can be made, demands surgical rather than medical care. The question is simply as to when a surgical operation should be performed, and the earlier the better the results.

17. **Typhoid Fever.**—Cook's article gives the general treatment of typhoid. He would keep the patient on a liquid diet. He thoroughly believes in hydrotherapy and that the greatest care should be exercised in returning to the solid diet. Constipation is, he finds, more frequent than the opposite condition. An enema is generally sufficient to relieve it.

19. **Adherent Pericardium.**—Swift thinks that we should be aware that such a condition is not rare, that the great irregularity of action, the patient not appearing as ill as the great irregularity of heart action would indicate, the indraw of intercostal spaces with systole, the marked dyspnea and consequent apprehension, and the great enlargement of the liver, with or without ascites, are important diagnostic signs. In hospital cases the prognosis is bad, but in private practice he has known cases where life has been continued many years. He thinks with proper treatment, abundance of nitrogenous food; arrest of the rheumatic poisoning, we might give a fairly good prognosis.

20. **Hyoscin in Morphinism.**—Pettey advocates the use of hyoscin and criticises Crothers and Mattison, who condemn it. He thinks no remedy is better indicated. It is as important in the treatment of morphinism as chloroform and ether in the practice of surgery. Its office is very similar. It saves the patient from indescribable suffering, and renders the unsafe, impracticable and difficult, safe, practicable and easy.

21. **Vaginal Section.**—Grandin thinks vaginal incision commends itself for diagnosis, palliative treatment and for curative purposes. It is specially indicated in tumors that can be removed through the pelvic brim, but in cases of salpingitis of the right side, with ovarian abscess, especially with adhesions or involvement of the appendages, it is contraindicated. Unruptured and non-adherent ectopic gestation falls within the scope of vaginal section. He does not favor it generally in uterine displacement, which he thinks falls rather outside its scope.

Boston Medical and Surgical Journal.

February 26.

22 *A Few Remarks on Blood Pressure. James M. Jackson.
23 *Intestinal Obstruction Below the Ileocecal Junction. (To be continued.) Thomas H. Manley.
24 *The Treatment of Hemorrhoids. John O'Conor.
25 The Use of Cargile Membrane in the Nose in Order to Prevent Adhesions. Harris P. Mosher.
26 Gonorrheal Urethritis without Symptoms. Arthur L. Chute.

22. **Blood Pressure.**—The means of ascertaining blood pressure are described by Jackson, who thinks that anyone who wishes to take the blood pressure should be equipped with a mercury manometer, in the first place, and then have the Riva Rocci armlet and the Gaertner finger ring. With the Riva Rocci the blood pressure should be taken with the patient in the recumbent position, and with the Gaertner method the patient may either lie down or sit up, but the finger should always be on a level with the heart. The patient should be under no mental excitement, which would cause elevation of tension. Two readings at least should always be taken. If they agree, the observation may be considered correct; if there is a marked difference, there has been some mistake, and the test should be repeated. He has used it in testing the effects of bromid of quinin in exophthalmic goiter without seeing any variation of the blood pressure of any account. He has found it of decided value in cases of nephritis and arteriosclerosis as an aid to diagnosis. The blood pressure is normally higher in males than in females. While a pressure of 140 to 150 may be normal for a man, it is abnormal for a woman. Elderly people generally have an elevated pressure, owing to arterial rigidity. Low pressures are not common. It is high pressure we have to deal with principally. A pressure of 200 or more may be considered more or less dangerous, while that of 250 or over is very dangerous, and only seen in grave cases. Higher than these are recorded, but are rare and probably only occur in bad head injuries. He urges all who are teaching or doing clinical work to try this new method of testing the blood tension.

23. **Obstruction of the Large Intestine.**—Manley describes the various forms and sites of the strictures that may occur, such as from malignant disease, syphilis, gonorrhea, etc. Stricture of the large intestine is rarely if ever impermeable,

and it is never sudden or acute in its etiology. It is different from that of the small intestine, as a general rule, depending on intrinsic instead of extrinsic influences. The treatment should not be too radical. There is seldom extreme urgency, as in case of obstruction of the small intestine. He uses measures that will not jeopardize life. Sedatives, local and constitutional, are important. Quicksilver has been employed with success in some cases; hot stupes, kneading the abdominal walls, massage, electrization, etc., in proper cases are valuable. Rectal enemata and instrumental dilatation are the most helpful means of relief in nearly every case, but they should be used with discrimination. A long, stiff rectal tube should be employed, with caution lest serious harm may result. Dilatation of any segment of the large intestine, excepting the rectum, by bougies or sounds is a reckless proceeding, especially in malignant growths, but it may be of value in rectal strictures. Still, he has seen mortal shock follow an attempt at canalization of a scirrhus in a firmly strictured rectum.

24. **Hemorrhoids.**—O'Conor advocates the Whitehead operation, and describes its technic as performed by him.

Medical Record, New York.

February 28.

27 *Remarks on Achylia Gastrica and Pernicious Anemia. Max Einhorn.
28 *Recent Researches on the Voice. E. W. Scripture.
29 *Doctrine of Survivorship in Case of Two or More Deaths in a Common Disaster. Theodore Sutro.
30 *The Etiology and Prevention of Senile Cataract. J. Wilkinson Jervey.

27. **Achylia Gastrica in Pernicious Anemia.**—Einhorn gives his experience on the possibility of achylia returning to the normal condition, and reports several cases, and on the abrupt development of the condition in pronounced cases of hyperchlorhydria and, after many years' persistence, spontaneous return to the normal state. He gives a tabulated statement of the blood examinations in some 15 cases, several of which have a close resemblance to pernicious anemia, and he discusses the latter condition. His experience is against the assumption that pernicious anemia is caused by atrophy of the stomach, for the following reasons:

1. In most cases of achylia gastrica a nearly normal condition of the blood is found.

2. We occasionally observe the presence of gastric juice in cases of pernicious anemia, sometimes even in an increased amount. If pernicious anemia were caused by an atrophy of the gastric mucous membrane, the achylia would have to be well marked, as soon as the symptoms of the blood disease are apparent.

We can not deny that achylia and pernicious anemia may occur together. These cases are, however, in the minority, and would probably point to the fact that there is a common cause for both affections, or that pernicious anemia finds a ready soil in cases of achylia.

28. **The Voice.**—Scripture describes the methods of taking graphic voice curves and the bearing of the results on the production of tones.

29. **Survivorship.**—The legal question of survivorship is discussed by Sutro, president of the New York Society of Medical Jurisprudence. It was suggested by the recent Fair case in France, which has been before the French and California courts. He holds the presumptions of the Roman law, based as they are entirely on age and sex, and likewise the statutory presumptions in vogue in some countries of simultaneous death, appear neither of them to rest on any logical foundation. The most reasonable and logical rule, he says, would seem to be one which has been most generally adopted in our law, namely, that when it is necessary or important to ascertain or consider which of several persons survived, and there is no evidence, no presumption whatever will be indulged in, but the conclusion adopted that all perished simultaneously.

30. **Senile Cataract.**—Jervey discusses the prophylaxis of senile cataract, and sums up that:

Many cases of cataract, especially of the senile form, are started and aggravated in their progress by the friction of a ceaselessly moving iris, which has been roughened, hardened, stiffened, thickened, by disease. Many of these cases can be arrested, or their advance indefinitely postponed or prolonged, chiefly by the careful performance of the simple little operation of sphincterectomy.

Philadelphia Medical Journal.

February 28.

31 *Tropical Diseases; Abscess of the Liver. (Continued.) C. F. Kieffer.
32 *Surgical Affections of the Biliary Tracts. (To be continued.) John B. Deaver.
33 Rupture of the Uretha; Pyosalpinx; Excision of Tumors of the Neck. Thomas H. Manley.
34 *Is Nephroptosis Hereditary? John G. Sheldon.
35 A Case of Trigeminal Neuralgia Complicating Typhoid Fever. Charles J. Aldrich.
36 *The Toxemia of Pregnancy. William H. Wells.

31. **Tropical Diseases.**—This sixth lecture by Kieffer deals with the prophylaxis and treatment of tropical dysentery. The first indication is removal of the etiologic factor, destruction of the ameba and elimination of intestinal bacteria by the remedies mentioned, such as silver nitrate, etc. He adds protargol to the list. Next comes the relief of the chronic liver congestion, and here he advises draining by purgation, noticing the saline sulphates as useful. Alcohol should be prohibited, and the meat diet restricted. Counter-irritation by dry heat or poultice may be employed for the liver engorgement and in severe cases hepatic phlebotomy is indicated. When active dysentery is present the use of ipecac as in acute dysentery may have a marked effect, as well as quinin where malaria is present. Explorations for suspected pus must be frequent and searching, and the details are described, as well as that of the operation by incision. Rigid asepsis, of course, must be employed. Kieffer disagrees with the advice to scrape the abscess wall and, ordinarily, would not wash out the abscess. If the sac be very large, making a counter opening necessary, then washing of the sac is safe. If, after operation, amelioration of symptoms does not ensue, the conclusion is forced on us that another focus has formed that must be searched for. Similarly in cases where rupture has taken place, into the lung or bowel, and the symptoms continue, an attempt must be made to evacuate the cavity through the skin.

32. **Surgery of the Biliary Passages.**—Deaver's article is a general description and discussion of the conditions of biliary surgical disease.

34. **Nephroptosis.**—The question whether nephroptosis is inherited is raised by Sheldon. He gives an account of a family in which five members were thus affected, all females. None of the other members of the family were examined. He thinks the condition occurs more often in children than is suspected, and reports a case where it was found, producing unfavorable symptoms, relieved by operation.

36. **Toxemia of Pregnancy.**—Wells' article is concluded in this issue. He discusses the diagnosis, which is made from the symptoms and the amount of solids and urea excreted. Albumin alone is not sufficient for the diagnosis. The symptoms may somewhat resemble hysteria, and hysteria may be caused by toxemia. Occasionally they may simulate acute indigestion and sometimes miscarriage. In the majority of cases the prognosis is good provided the patient is under a physician's care and disease of the liver and kidneys is absent. He would say that the prognosis for a pregnant woman whose excretions were faulty, was only good in so far as she followed out the advice of the attending physician. The most important point in treatment is to increase the elimination by the bowels, kidneys, liver and skin. He would cut off the meat diet in most patients, giving a moderate amount of nutritious food; fruits, vegetables rich in starch may be allowed, but sandwiches and stimulating diet, coffee and tea are prohibited as a rule. Malt liquors are bad; the least harmful, if alcoholic beverages are insisted on, are the dry Rhine wines. The clothing should be such as to increase elimination by the skin. A suitable amount of outdoor exercise, taken short of fatigue, and the free ingestion of water, to increase the action of the kidneys, are advised. The patient should take at least a full glass of Buffalo or Londonderry lithia or apollinaris or some carbonated water before each meal, at bedtime and on rising in the morning. The laxative waters serve a double purpose, but their taste is objectionable to many persons. Sweet spirits of niter may be given, and in severe cases of toxemia with high pulse tension, he would give some cardiac depressant like veratrum viride, or if syncope or cardiac irritability is present, digitalis either alone or with small doses of nitroglycerin, will give good results. He

speaks particularly of calomel as an eliminative and the use of a cathartic, preferably the salines, keeping up the laxative for a number of days until the patient has had a sufficient number of profuse watery stools. Bowel irrigations and lavage are also required in some cases.

Cincinnati Lancet-Clinic.

February 28.

37 *Aprosexia in Relation to the Eye, Ear, Nose and Throat, Especially in Child Growth. Derrick T. Vail.
38 Medical Squibs. Brose S. Horne.
39 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Surgery of the Pancreas.) (Continued.) B. Merrill Ricketts.

37. **Aprosexia.**—This condition, first described by Guye in 1887, is specially emphasized, as it has occurred in Vail's experience. He thinks it may cause various impairments of the mental development as well as ocular defects. The storm center, of course, is in the nasopharynx. He says we should not wait for nature to "outgrow" the defect or disease. The results of proper treatment are brilliant.

St. Louis Medical Review.

February 21.

40 Why Condensed Milk and the Proprietary Foods Are Imperfect Foods for Infants. John Zahorsky.
41 Criminal Abortion. L. E. Newman.

February 28.

42 *Radical Relief of Chronic Deafness, with Aural Vertigo or Headnoises, by Resection of the Auditory Conducting Mechanism. Robert Barclay.
43 A High Degree of Convergent Squint in a Patient Thirty-eight Years Old—Operation and Result. J. E. Jennings.

42. **Ossiculectomy.**—The practical lesson which Barclay wishes to convey in this article is that clinical experience seems to confirm the opinion that resection of the auditory conducting mechanism, properly done, will radically relieve deafness—no matter of how long standing, nor however treated heretofore—proportionately to the distinctness of the following characteristic symptoms when found together, namely, speaking habitually in an abnormally moderated or low tone of voice, with better hearing in a noise.

Medical Age, Detroit, Mich.

February 10.

44 *Chronic Proctitis. J. A. MacMillan.
45 Acetozone in Typhoid. John F. Bennett.
46 *Some Habits of Malaria not Controlled by the Mosquito. Charles Hicks.

44. **Chronic Proctitis.**—MacMillan thinks that in many cases of constipation or diarrhea where the cause is not readily found, a thorough rectal examination should be made. Acrid or drastic cathartics produce much irritation and congestion of the rectal mucous membrane, especially in cases of chronic proctitis, and should be restricted in their use and saline cathartics substituted. Physical exercise in certain cases of constipation is harmful. Straining at stool is particularly injurious where there is hypertrophy of the rectal membrane. A temporary prolapsus is produced and this causes occlusion.

46. **Malaria.**—This article of Hicks is an interesting study of medical geography. He points out that a certain region over the cretaceous formation in Georgia is the special home of hemoglobinuria, which is absent from the surrounding country. He attributes this hypothetically to the bad drinking water in this region. The estivo-autumnal parasite is found in both sections. He suggests also a certain connection between the diet and malaria.

Journal of Tuberculosis, Asheville, N.C.

January.

47 *On the Relations between Human and Bovine Tuberculosis. P. von Baumgarten.
48 *The Cinnamic Acid (Hetol) Treatment of Tuberculosis. A. Landerer.
49 The Urinary Calcium Excretion in Tuberculosis. Alfred C. Croftan.
50 *The Early Diagnosis of Tuberculous Laryngitis. Richmond McKinney.
51 *Methylene Blue in Consumption. Henry Herbert.
52 *Tuberculosis of the Cervical Lymph Glands. Daniel Eisendrath.

47. **Human and Bovine Tuberculosis.**—Professor von Baumgarten agrees with Koch in the non-identity of these two conditions in all respects. He is convinced that the tuberculous human subject is the principal if not the sole source of infection of others. He does not, however, fully agree with Koch that the sputum is the sole source of infection, and thinks the ingestion of tuberculous food has more or less to do with it. He lays special stress on heredity.

48. **Cinnamic Acid in the Treatment of Tuberculosis.**—Landerer, the originator of this method of treatment, gives his views and experience. He finds in the early cases about 90 per cent. of cures. In the more advanced cases, the weaker the patient the smaller the dose that should be given, continued over long periods. Cases are reported. In no other form than pulmonary tuberculosis does the method yield such good results. Laryngeal tuberculosis, so long as it is isolated, that is, not associated with extensive changes in the lungs, offers a good prognosis, but is unfavorable if it occurs late in connection with extensive pulmonary involvement. Patients with laryngeal tuberculosis require large doses, 20 to 25 mg. Intestinal tuberculosis is a favorable field, even if fever is present. It must be remembered, however, that during treatment signs of intestinal stenosis may appear. In renal tuberculosis the tubercles undergo cicatricial changes, but no effect is seen on co-existing purulent catarrh; therefore the clinical results are negative. Simple tuberculosis of the bladder yields a somewhat better prognosis, and very good results and permanent cures have been obtained in tuberculosis of the epididymis and vas deferens. The glands and scrofulous processes yield mostly favorable results, though sometimes they are tedious and require long treatment. The suppurating gland should be curetted and dusted with hetokresol (cinnamyl metakresol) and be drained. Surgical tuberculosis also gives a good prognosis. The suppuration is not influenced, however. Tuberculous wounds heal rapidly when dusted with hetokresol. Skin tuberculosis yields nicely to cutaneous injections of an alcohol solution of cinnamic acid, 1 part in 19. Treatment, however, is tedious. No good results have been obtained in brain tuberculosis.

50. **Tuberculous Laryngitis.**—A safe general rule, according to McKinney, is that when there is a persistent laryngeal catarrh with evidence of hoarseness not yielding to the ordinary measures, it should be regarded with suspicion and the case closely investigated and the lungs minutely examined. A peculiar sticking sensation in the region of the larynx is another constant symptom in the early stage. There are, of course, other conditions that may have identical symptoms, and syphilitic infection should be borne in mind and potassium iodid administered.

51. **Methylene Blue in Consumption.**—Herbert finds methylene blue of no special advantage in consumption; but it may relieve the cough and reduce expectoration. It is contraindicated in sensitive or hectic cases.

52. **Tuberculous Glands.**—Eisendrath points out the special diagnostic features of conditions that may be confounded with tuberculosis, such as Hodgkin's disease, syphilis, epithelioma, etc. He thinks the treatment should be a radical one. The only exceptions are in children and in others where operation is not proper on account of slight gland involvement, and where family inheritance shows a strong tuberculous tendency and there are suspicious signs in the lungs. It is also inadvisable in much debilitated anemic children, especially if complicated with chronic bronchitis. External applications, especially iodin, do more harm than good.

Interstate Medical Journal, St. Louis.

February.

53 *Experiments with the Formalin Treatment for Streptococcus Infection in Rabbits. Oscar H. Elbrecht and C. A. Snodgrass.
54 *Operations for Cancer of the Mouth and Neck. G. W. Crile.
55 A New Surgical Table. Bransford Lewis.
56 Address of Welcome to Professor Lorenz. H. Augustus Wilson.

53. **Formalin in Septicemia.**—Elbrecht and Snodgrass have experimented on the effects of formalin in the blood on the metabolism of normal animals, and also of those in which septic infection exists. They have found that normal rabbits can bear formalin dilution of 1 to 500 when given in doses porportional to a liter in man, but in later experiments they have used a weaker dilution, 1 to 2000 to 1 to 5000, which is

safer. Thus far they have had two apparent recoveries as a result of this treatment. One rabbit, however, died later when, according to temperature records, he had become convalescent. The other has since become normal. Thus far they have injected 13 rabbits with formalin ranging in strength from 1 to 5000 to 1 to 500. With the exception of 3 which were killed for examination and 1 that died, the other 9 are living and in apparently normal condition. Four streptococcus infected rabbits were treated with normal saline solution, 2 died, 1 is apparently passing into a state of recovery, the other, being immune, was not treated. Two streptococcus rabbits were treated with 1/5000 dilution of formalin in normal saline solution; both died. Two rabbits similarly infected were allowed to go untreated, and both died on the second day, showing the culture to have been intensely virulent. Three streptococcus rabbits were treated with a 1/2000 dilation of formalin in water, and 2 recovered, 1 died. The third was allowed to go untreated and died in thirty-six hours. They do not attempt to draw conclusions from this limited number of experiments, but simply offer them for what they are worth.

54.—See abstract in THE JOURNAL, xxxix, p. 1131.

Archives of Pediatrics, New York.

February.

57 *The Prognosis of Tuberculous Peritonitis in Children. G. A. Sutherland.
58 *The Effects of Tight Diapers. A. C. Cotton.
59 Two Instructive Cases of Cerebral Pneumonia and Their Treatment. Louis Fischer.
60 *Pilocarpin in the Treatment of Scarlet Fever. E. W. Saunders.
61 A Case of Paroxysmal Hemoglobinuria in a Boy Four Years Old. Charles Herrman.

57. Tuberculous Peritonitis.—Sutherland finds that uncomplicated tuberculous peritonitis generally has a good prognosis, even when tuberculous pleurisy is present. It is less favorable when there is a strong family history of tuberculosis; an infancy passed under bad hygienic and dietetic conditions; a constitution of feeble resistant power or a history of severe infective illness in early life. Certain conditions or symptoms render it less favorable, such as continued pyrexia, rapid wasting, persistent diarrhea, rapid pulse, or recurrent acute exacerbations. It is also rendered less favorable in the presence of one or more of the following local complications: Tuberculous ulceration of the bowel; extensive caseation of the mesenteric lymph nodes, or of tuberculous masses; localized suppuration from infection through the lymph nodes or the intestine; obstructive symptoms from bands or matting of the intestine. It is bad in cases of rupture of the suppurating lymph node, or the perforation of an intestinal ulcer into the peritoneal cavity, in tuberculous meningitis and general miliary tuberculosis. In tuberculous peritonitis the prognosis is not appreciably affected by simple laparotomy.

58. Tight Diapers.—Cotton thinks the use of tight diapers on infants is likely to produce the justo-minor pelvis in the adult and that much of this prevalent deformity is due to just this cause. He suggests some care as to this point and better hygienic clothing. The ideal protection would seem to be afforded by a large blanket of light, flexible, non-conducting material enveloping loosely the entire infant below the neck, but it is hard to keep him inside such a garment as this. He mentions a bag-like garment that is now in use in some of the hospitals of Chicago and other cities.

60. Pilocarpin in Scarlet Fever.—The use of this remedy in scarlet fever is advocated by Saunders, who finds its benefit is due to its effect on the salivary and muciparous glands, with the absence of all tendency to myocardial or neural degeneration and of pulmonary complications. In hyperpyrexia hydrotherapeutic measures are the first to be used, followed by the administration of pilocarpin; even at ordinary temperatures, such as 104, it is better to precede each dose by a thermolytic bath. The first dose should be watched for idiosyncrasy, and if this is present a hypodermic of atropin will prevent disagreeable consequences. Subsequent doses should be graduated according to the effect of the first and the height of the temperature. Toleration is rapidly established. A parched mouth, however, should never be allowed during the disease.

The Alienist and Neurologist, St. Louis.

February.

62 *Hemorrhagic Internal Pachymeningitis in the Insane. J. E. Courtney.
63 *The Neural and Psycho-neural Aspects of Surgical Practice. Charles H. Hughes.
64 Simulation of Tabes Dorsalis. V. Krafft-Ebing.
65 Outlines of Psychiatry in Clinical Lectures. C. Wernicke.
66 The Erotopath in Society. Charles H. Hughes.
67 The Suggestive Treatment of Hysteria Gravis. V. Krafft-Ebing.
68 The Evolution of the Neuraxis. Charles H. Hughes.

62. Hemorrhagic Internal Pachymeningitis in the Insane.—Courtney finds this condition more or less pronounced in nearly 10 per cent. of all cases, and concludes that it is peculiarly associated with insanity, especially with paresis, alcoholism and dementia. It is twice as common in men as in women. It consists in hemorrhage and partial absorption and organization of the effused blood, forming a membrane.

63. Neurology and Surgery.—Hughes emphasizes the relations that exist between neurology and surgery, the actions of the neurons and attention to nutrition and conservation of these organs, also the psychiatric element in surgery. He thinks the surgeon should avoid all sources of psychic depression and consider the nervous symptoms of his patient before and after operation to ensure success. The possibilities of post-operative insanity are noted.

Journal of Cutaneous Diseases, New York.

February.

69 *The Histogenesis of Scales and Crusts. R. Sabouraud.
70 *Note on the Histology of Herpes Zoster. S. Pollitzer.
71 *The Value of Radiotherapy in Cutaneous and Other Cancers. Charles W. Allen.

69. Scales and Crusts.—In this article Sabouraud analyzes the origin of scales and crusts, which he finds is not exactly in accordance with popular notions, but he wishes to show that among the processes which go to make the scale of the usual histologic type, that is, the scale-crust, the process of hyperkeratosis is a reactional phenomenon of the second order. The two processes which form this scale and this crust are the exhalation at the surface of the skin of a serous "tide" and of a leucocytic "scum." These are the first two phenomena. As to the hyperkeratosis which covers the scale-crust with a corneous layer, it is a secondary reaction of the epidermis to the exoserosis and exocytosis, once they are produced. These two phenomena of exoserosis and of exocytosis dominate the formation of the scale in general as well as all crusts, excepting only the simple pityriasis capitis and of ichthyosis, which are exclusively produced by hyperkeratosis.

70. Herpes Zoster.—Pollitzer's article gives an instance which proves the occurrence of a variety of herpes affecting the rete Malpighii or hair follicles exclusively, a type that has not been heretofore described.

71. Radiotherapy.—While recognizing that the *x*-ray as a therapeutic measure is not a passing fad, Allen points out that its effect is at times to produce severe harmful symptoms referable to the heart, lungs and other internal organs, and absorption of disintegration products. Metastases may be encouraged and cancer itself may be produced in predisposed individuals. The method is not to be solely relied on in all cases of cancer. In the nodular, wart-like and dry growths on the skin, other means of removal, preferably by arsenical paste, should first be employed and the rays may then be applied. The indiscriminate application of the ray to all forms of disease as practiced by unscrupulous advertisers and quacks and the deceit practiced by calling other rays by this name, are likely to bring discredit on a method really useful whose effect is at times almost magical but often most disappointing.

Cleveland Medical Journal.

February.

72 A Study of Tuberculosis in Cleveland. William T. Howard, Jr.
73 *The Frequency, Site and Course of Tuberculosis in Cleveland. John C. Darby and Henry P. Parker.
74 *On the Nativity of Decedents from Tuberculosis in Cleveland for the Years 1895 to 1901. Cullen F. Welty.
75 *On the Relation of Age, Sex and Conjugal Condition to Deaths from Tuberculosis. George W. Moorehouse.
76 *The Distribution of Tuberculosis in Cleveland. Wm. O. Osborn and Frederick C. Herrick.
77 Municipal Prophylaxis. Martin Friedrich.

73. **Tuberculosis in Cleveland.**—The statistics of the prevalence of tuberculosis in Cleveland, as shown by a record of 658 autopsies, are discussed by Darby and Parker, who conclude that their figures of 29.6 per cent. of definite tuberculosis at autopsy falls considerably below the true figure, and would include their 5¾ per cent. of cases of apical adhesions, making a total of 35.5 per cent., or one-third of all autopsies showing tuberculous change. This they consider a very conservative estimate. Active tuberculous processes were found in practically one-half of all cases showing definite tuberculosis. In half of these cases it was the cause of death. Under 20 years of age active tuberculosis is almost always fatal, but later steadily decreases, so that death from tuberculosis is comparatively rare in persons over 60 years of age. The relative frequency of tuberculosis of the principal organs is, in order, as follows: lungs, bronchial glands, spleen, intestines, kidneys, liver and nervous system. The other portions of the body are rarely affected. The primary focus is almost invariably the lungs and occasionally the bronchial glands.

74. **Nativity of Tuberculosis Cases in Cleveland.**—Welty has analyzed over 3,000 deaths from this cause in Cleveland, and finds that only 730 of the individuals were born there; 1,203 were born elsewhere in the United States, and 1,306 foreign born. This gives 119 deaths to each 100,000 of the native-born population and 151 deaths to 100,000 of the foreign-born population, with a general mortality of 130 to each 100,000 of the total living population. He gives a comparative table from other sources of the deaths from tuberculosis in the various European countries, showing that the mortality from tuberculosis in those mentioned is in all cases higher than that of the Cleveland residents born in those countries. The Irish seem to have profited the least by change of residence and the Hungarians most.

75. **Age, Sex and Conjugal Condition in Tuberculosis.**—From a study of the Cleveland statistics in regard to these points, Moorehouse finds that the city furnished during the seven years from 1895 to 1901, inclusive, 8.7 per cent. of its total deaths from tuberculosis. It was the cause of 1.4 per cent. of deaths between the ages of 20 and 25 years and 2.6 per cent. of deaths between 20 and 30 years; 15.5 per cent. were from tuberculosis between 20 and 25; 30.3 per cent. between 20 and 30 years, and 50 per cent. between 23½ and 44 years; 4.9 per cent. of all male deaths were from this cause. The male deaths dominated over the female, in whom over 3.8 per cent. of all deaths were from tuberculosis. The greatest number of male deaths was found between the ages of 25 and 29, of females between 20 and 24. In proportion to the living population the greatest number of deaths occurred between 55 and 64 years. He does not find it easy to settle on the actual relations of marriage with liability to death from tuberculosis. The real relation that he finds exists between tuberculosis and marriage is that the condition under consideration has a very marked tendency to postpone or prevent individuals so affected from marrying.

76. **Distribution of Tuberculosis.**—The localities specially affected by tuberculosis in Cleveland are noted by Osborn and Herrick, who find that certain districts show much greater mortality than others, these occurring mostly in the older parts of the city, near the manufacturing and railroad districts and in those occupied by the laboring classes. They think it is due to the unsanitary conditions in which these people work and live; their ignorance or indifference to minor ailments, especially the early signs of tuberculosis. They do not find any considerable number of house infections.

Physician and Surgeon, Detroit, Mich.

November, 1902.

77½ *The Iliac Segment of the Ureter. Byron Robinson.
78 *Joys and Sorrows of an X-ray Worker. Henry Hulst.
79 *The Therapeutic Value of Echinacea in Septic Conditions. Frank D. Walsh.

77½. **The Anatomy of the Ureter.**—Robinson's article is an elaborately detailed anatomic description.

78. **The X-Ray.**—Hulst gives his experience with the use of the *x*-rays. He has found the induction coil most satisfactory to him for instantaneous work, and he points out the importance of the operator doing all his work, even to the development of his plates, to get the best results.

79. **Echinacea.**—This drug is recommended by Walsh as a valuable remedy for blood deprivation and an active antagonist to septic changes. He has found it of value in puerperal septicemia and other septic conditions, in gangrene of the lung, etc. There are two preparations, the normal tincture and the "echafolta," the latter being the name given to a purified form of echinacea of a definite strength.

Proceedings of the Philadelphia County Medical Society.

January 31.

SYMPOSIUM ON LEPROSY.

80 A Case of Tubercular Leprosy. J. V. Shoemaker.
81 The Lepra Bacillus in the Circulating Blood. L. Napoleon Boston.
82 Observations on Leprosy occurring in Japan, Iceland and Norway. Judson Daland.
83 *Mouth Infection Due to Natural Teeth. D. D. Smith.

83. **Mouth Infection.**—Smith notices the particular increase of dental disease, which, he thinks, has much to do with the general health. The kidneys, he holds, are specially affected in pyorrhea, and he says that every mouth with teeth in the natural state untreated is constantly breathing out infection. The contention, therefore, over the surgeon's beard seems puerile. It would be better for antiseptic purposes if it was an absolutely complete mouth mask. He finds from his experimental work that caries is the result of environmental conditions. His method of treatment is complete removal of all concretions, calcic deposits, semisolids, bacterial placques or inspissations of the teeth between them and the gum margin, and frequent polishing of the teeth by hand methods; not alone the more exposed labial and buccal surfaces, but the lingual, palatal and proximal surfaces, as well, of the mouth are thus treated. With this "mouthly prophylaxis" he has been able to stop decay and finds decided benefit in many conditions, such as general malaise, nervousness, nervous prostration, nervous dyspepsia, etc.

Colorado Medical Journal, Denver.

November, 1902.

84 *Delusions; Insane and Sane. Bernard Oettinger.
85 Fibroid of Right Broad Ligament. Edwin B. Shaw.
86 *The Influence of Biliary Acids on Surface Tension. C. D. Spivak.
87 The Cesarean Section, with Report of Three Cases. T. Mitchell Burns.

84.—See abstract in THE JOURNAL, xxxix, p. 329.

86. **Biliary Acids.**—Spivak discusses the Hay test for bile acids in the urine, giving its history. He has applied this test to the study of bile acids in the feces and stomach contents. The more he studies it the more striking it seems. A pinch of flowers of sulphur thrown on water or bile-free urine will float for weeks on the surface. On the addition, however, of one drop of bile to a quart of water, it will at once sink to the bottom. The test is so different in its nature from all other known means of analysis and so extreme in its sensitiveness that it is almost miraculous. Acetic acid, alcohol, ether, chloroform, essence of turpentine, benzoin and its derivatives, phenol and its derivatives, and anilin also cause the sulphur to precipitate. All fluids with a surface tension above 50 dynes per centimeter do not allow sulphur to fall, and in all fluids with a tension less than 50 dynes the sulphur rapidly settles. Lycopodium has the same relation to fluids with a tension of 30 dynes as flowers of sulphur to fluids with a tension of 50 dynes. In his own experiments he has noted that the specific gravity of the fluid has no influence on the accuracy of the test, nor has the reaction of the fluid any effect on the test. The fluid must be clear for correct results and the urine free from bubbles. Urine examined immediately after it is voided gives, invariably, the reaction for bile. This annoyed him until he found that heat reduced surface tension, and it must, therefore, be cooled off. His experiments have not yet warranted him to make positive assertions, but he wishes to call attention to this test for bile acids, which, with its simplicity, accuracy, and sensitiveness, should have universal application.

Medical Fortnightly, St. Louis.

February 10.

88 Enucleation of an Atrophic Eye, with Implantation of a Glass Globe into the Orbital Cavity—Reattachment of the Recti Muscles in Original Positions. J. E. Jennings.
89 Report of Cases Treated with Roentgen Rays. (Continued.) Wm. Allen Pusey.
90 Diseases of the Lungs and Pleura. (Gangrene of the Lungs.) Albert Abrams.

Virginia Medical Semi-Monthly, Richmond.

February 13.

91 Morbid Processes Compared with Sanitary Measures. J. McFadden Gaston.
92 The Causes and Treatment of Hydronephrosis. J. Wesley Bovee.

American Practitioner and News, Louisville.

December 1, 1902.

93 On the Prevention of Infectious Diseases. (Concluded.) E. J. Kemp.
94 The Most Practical Organization for the Medical Department of the United States Army in Active Service. (Continued.) Thomas Page Grant.
95 Hay Fever, Its Etiology and Treatment. Benjamin L. W. Floyd.

Medical Mirror, St. Louis.

February.

96 Medicine. D. B. St. John Roosa.
97 Scabies. Thomas C. Leitch.
98 A Case of Exhibitionism. William L. Robins.
99 A Successful Treatment of Rheumatism. H. H. Fletcher.
100 Memorial Address on Abel Mix Phelps. F. Van Fleet.
101 Some Points in Ligation of Arteries. Robert H. M. Dawbarn.
102 The Unclean Cigar-Cutter. C. L. Steenson.

Fort Wayne Medical Journal-Magazine.

February.

103 Diseases Produced through the Rectal Reflexes. L. R. Fast.
104 The Pathology and Treatment of Senile Pneumonia. E. W. Knepper.

Western Medical Review, Lincoln, Neb.

February 16.

105 Circulatory Changes a Factor in Kidney Disease. W. R. Lavender.
106 Suggestion and Autosuggestion. G. W. Shilder.
107 Inanition Fever in the Newly-born Child. F. A. Butler.
108 Management of the Lying-in Room. A. J. Clark.
109 Intranasal Sarcoma—Report of Three Cases. G. H. Bicknell.
110 The Best Suture in the Repair of Hernia. H. P. Hamilton.
111 My First Year's Work in Abdominal Surgery. H. H. Everett.
112 Operations on the Kidneys and for Ovarian Cyst. William F. Conwell.

Journal of Eye, Ear and Throat Diseases, Baltimore.

January-February.

113 Complete Aniridia with Posterior Polar Cataracts, Complicated by High Myopia and Buphthalmos. Report of a Case. H. O. Reik.

Oklahoma Medical News-Journal, Oklahoma City.

February.

114 Acute Appendicitis and Its Treatment. (To be continued.) John B. Deaver.
115 Some of the Principles which Should Govern Us in Fracture Therapy. Thomas H. Manley.
116 Vaselin Versus Hard Paraffin in Plastic Surgery. Dexter D. Ashley.
117 Infant Feeding. C. R. Day.
118 Cerebrospinal Meningitis. Harry A. Reese.
119 Dysentery. Walter Penquite.

Medical and Surgical Monitor, Indianapolis.

February 15.

120 Report of a Case of Operation for Chronic Bright's Disease by Decapsulation of the Kidney. J. A. Sutcliffe.
121 Stab-Wound of the Chest—Operation for "Posterior Vertebral Disease." Joseph R. Eastman.
122 The Drug Treatment of Articular Rheumatism in the Adult. A. S. Jaeger.
123 Some Elements to be Considered in Urinalysis—Color, Specific Gravity, Reaction, Odor. (To be continued.) J. W. Crismond.
124 Hydrotherapy and Its Rational Basis. J. H. Nehrbas.
125 A Case of Syphilis Precox. N. E. Aronstam.
126 Luxatio Erecta—Case Report. William Osenbach.

Dominion Medical Monthly, Toronto.

February.

127 Some Scientific and Practical Aspects of Vaccination. P. H. Bryce.
128 Hepatic Ballottement in Physical Diagnosis. A. L. Benedict.
129 Gynecologic Cases Operated on at the Samaritan and Western Hospitals. A. Lapthorn Smith.
130 Section of the Eye: A Substitute for Enucleation. Ernest A. Hall.
131 Brief Notes on Some Interesting Cases of Skin Disease. Graham Chambers.

Vermont Medical Monthly, Burlington.

January 25.

132 Etiology and Pathology of Lobar Pneumonia. F. E. Clark.
133 The Symptoms and Diagnosis of Pneumonia. W. G. Church.
134 Complications and Sequelæ of Pneumonia. Geo. D. Parkhurst.
135 Active Principles in the Treatment of Disease. E. S. Weston.

Pacific Medical Journal, San Francisco.

February.

136 A Case of Complete Absence of the Vagina. Winslow Anderson.
137 The Nature and Treatment of Obstinate Vomiting. Alfred W. Perry.
138 Hip-joint Amputation under Medullary Narcosis. A. W. Morton.
139 Masturbation in the Female. E. H. Smith.
140 The Ideals of Preventive Medicine. (To be continued.) Victor G. Vecki.

Medical Examiner and Practitioner, New York.

February.

141 Some Observations on Medical Examinations. Daniel R. Brower.
142 Cutaneous Affections in Relation to Life Insurance Examinations. Joseph Zeisler.
143 Life Insurance Urinalysis, Its Importance, Its Present Extent, and How Its Scope Can Best Be Broadened. J. Allen Patton.
144 Symptomatology, Diagnosis and Prognosis in Stenotic Obstruction of the Large Intestine. Thomas H. Manley.
145 The Importance of Hyaline Casts in the Diagnosis and Prognosis of Renal Diseases. A. R. Defendorf.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

February 21.

1 *Adenoma and Adeno-carcinoma of the Rectum. Charles B. Ball.
2 The Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment. H. Radcliffe Crocker.
3 *The Bacteriologic Diagnosis of Sewage Pollution of Shellfish. E. Klein.
4 A Note on Bossi's Dilator in Eclampsia. J. W. Ballantyne.
5 *Is Rupture of the Aortic Valve an Accident Under the Workmen's Compensation Act? Theodore Fisher.
6 A Note on the Therapeutic Value of Adrenalin. J. Gray Duncanson.
7 *A Note on Some Further Uses for Picric Acid. F. Victor Milward.
8 Manson's Trocar and Cannula for the Treatment of Liver Abscess. Alexander Turnbull.

1. **Adenoids of the Rectum.**—Ball's first lecture describes simple, multiple and congenital adenoma. By the word adenoma, we understand a tumor largely composed of epithelial tissue such as found in the gland structure. If it is a simple surface development, we speak of it as simple adenoma. If it grows through the basement membrane, invades the submucosa and infiltrates the tissue outside, the case is one of infiltrated adenoma or adenocarcinoma, the true form of intestinal cancer. This penetration of the submucosa is a characteristic distinction between the malignant and benign forms of the growth. First the adenoma appears as a wart-like congestion on the mucous membrane, which soon becomes more and more prominent while its base is narrowed to a peduncle, which tends to elongate so that it may project into the anus. These are sometimes single, but often multiple, and they cover extensive tracts of the mucous membrane. In this connection Ball mentions the congenital type, for which he favors the theory of its origin as failure of complete obliteration in one or other of the neurenteric canal or post-anal gut. The surgical treatment of these cases of embryonic adenomata, except when very small and extrapelvic, is not satisfactory. Symptoms of simple adenoma of the rectum are trivial unless the growth becomes protruded through the anus and becomes congested, causing bleeding. Another symptom is the discharge of glairy mucus, causing considerable discomfort and showing that the tissue still remains functional. Sometimes they undergo spontaneous cure, the pedicle sloughing off. The treatment consists in removal of the pedunculated forms after ligature of the pedicle and, when this is at all broad and strap-like, it is a good plan to transfix and ligature it in sections; the sessile varieties, especially if there is any tendency to infiltration, are best excised. When a considerable area is covered by villous growths they may be removed by the curette as are venereal warts.

3. **Shellfish Pollution.**—Klein describes at length the different types of bacterial pollution of shellfish, and he thinks that the mere chance of pollution may be considered unimportant,

but when the oysters are laid down where they are actually flooded by crude sewage in their immediate neighborhood, the danger is considerable. Oysters, moreover, even when they imbibe the *Bacillus typhosus*, discard it again when placed in clean sea water after ten or fourteen days, while cockles retain it, and even become a culture ground for it. The three forms especially noted are the *Bacillus coli*, the *Bacillus enteritidis*, and the *Bacillus typhosus*. The characteristic distinctions of the three groups are noted. Though there are many other of the colon group which may appear, their relation to sewage and pollution is not sufficiently known and, therefore, they can not be used for diagnostic purposes as can the *Bacillus coli*. The tests of the colon or the Gärtner or the typhosus group must be made to prove that they are characteristic of one or the other of these. When a microbe can only be described as a coli-like microbe, it is of indeterminate value in making a definite diagnosis of sewage and other pollution. The presence of *Bacillus coli communis* in any material quantity is highly suggestive of sewage or excremental pollution. The typical *Bacillus coli* is not a natural inhabitant of the oyster. The methods of the tests are described. Klein also holds that the presence of spores of the *Bacillus (enteritidis) sporogenes* alone, without the simultaneous presence of *Bacillus coli communis*, can not be held as sufficient proof that the oysters have been subjected to recent sewage pollution, but when they are found together the evidence is strong.

5. **Rupture of the Aortic Valves.**—The question as to whether rupture of an aortic valve is an accident coming under the English workmen's compensation act is discussed by Fisher, who notices the facts as shown in the pathologic literature and concludes that disease of the aortic valves may be the result of untreated syphilis or some other infection, but, of whatever cause, it seems clear that rupture of the aortic valve segment is, in the majority of cases, the result of the same disease as that which produces aneurism of the aorta.

7. **Picric Acid.**—Milward finds picric acid specially useful in some minor conditions other than burns. In slight eczematous conditions with "weeping" surface and in slight traumatic abrasions it may be useful. It is not advisable to use it in active inflammation, as it may confine micro-organisms under the protective coating it produces. He mentions, among the affections where it is useful, paronychia affecting the roots of the nails, common in surgeons and practitioners, ingrowing toe nails, soft corns, intertrigo, etc. It is better than starch and zinc oxid for those conditions, as these latter are likely to form crusts in which pus may form. It does not seem to cause irritation of the tissues like other antiseptics.

The Lancet, London.

February 21.

9 *The Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment. H. Radcliffe Crocker.
10 *Fibroids of the Uterus and Its Ligaments Considered from a Clinical and Surgical Standpoint. Alban H. G. Doran.
11 *Some Thoughts and Observations Regarding Appendicitis, Especially When Appearing in Its Acutest Forms. J. A. MacDougall.
12 *The History of the Discovery of Trypanosomes in Man. Robert W. Boyce, Ronald Ross and Charles S. Sherrington.
13 On the Permanent Care of the Feeble-Minded. Mrs. Ellen F. Pinsent.
14 Aneurism of the Ascending Arch of the Aorta in a Small Boy: A Postmortem Surprise. Alfred C. Jordan.
15 A Case of Hemophilia Illustrating the Value of Calcium Chlorid as a Local Styptic. T. Wilson Parry.

9. **Skin Inflammations.**—Crocker notices the various forms of dermatitis, those from irritation, various trade eczemas, etc. As to the question whether eczema is parasitic, a blood dyscrasia or a neurosis, no absolute answer can be given. But when the process is started, pus cocci, either staphylococcic or streptococcic, are present and do modify the form of inflammation and, in a large number of these cases, we should realize this fact, and consider whether we must not attack these organisms to successfully treat the condition. He mentions pemphigus—especially neonatorum, fungating papillary growths, and considers seborrhea at considerable length. In conclusion, he mentions the local origin of certain general eruptions, especially pityriasis rosea, which is not infrequent, but is not usually known except by the dermatologist. It generally consists first in a single patch, followed later by a widespread asymmetrical outbreak, which, after lasting for three or four weeks, gradually disappears. He has also seen similar local originations of psoriasis. The most feasible explanation is the invasion of the micro-organism from without and the local multiplication or, perhaps, the formation of toxins internally, with absorption into the circulation and generalization from within outward. We should attempt to treat the diseases in their beginnings, to prevent their later extension.

10. **Fibroids.**—In this third lecture, Doran begins with the management of capsules. Usually there is little need for trimming, as the tissue usually shrinks. Vessels have to be secured on the inner or parametric surface. As to the question whether they can be let alone or drained, there is some difference of opinion. He is inclined to hold that drainage is oftener necessary than some authorities would recognize when the capsule is deep. There are objections, but the practice is underrated at the present time, as it was formerly overrated and abused. He is not an enthusiast for it, but simply wishes to speak of its advisability in certain cases. Adhesions are rare in uterine fibroids, and seem to be sometimes connected with previous operative interference. He says it is important, however, to remember their infrequency. Small uterine adhesions in case of large ovarian cyst are a distinct source of danger. In case of dense adhesion of the ileum it is often better to resect an adherent piece of the intestine. Intestinal adhesions to malignant ovarian tumors are especially perilous, but they are rare in uterine fibroid disease. This fact should be considered in estimating the risks of hysterectomy. There is the possibility of adhesion of the extraperitoneal part of the large intestine to the surface of the tumor, which burrows under and behind the pelvic peritoneum, as in case of rectal adhesions. This is not always easy to recognize, and longitudinal bands may be taken for the ureter or may be taken for strands of fibrous tissue belonging to the tumor. After dividing the pelvic peritoneum, too rapid or rough use of the sponge or the finger may result in damage to the rectum, and that portion of the intestine has been known to be torn by too energetic pulling up of the tumor out of the pelvis. Parietal adhesions are very rare, for what appears to be such are more likely to be a direct connection between the abdominal parietes and the tumor. The fibroid burrows under the anterior layer of the mesometrium. Adhesions of fat omentum associated with a big omental epiplocele are very dangerous. The possibility of post-operative ileus and of rupture or hernia of the abdominal wound are considered and instances given. He thinks there are no reliable statistics on this subject, but that the more experienced operators have the least trouble. Still, no one can be sure of avoiding it. The possibility of cancer of the stump and the management of it is discussed at length. He notices, particularly, the discussion in the American Gynecological Society on the advantages of complete and partial hysterectomy as regards the retention of more or less of the stump of the cervix. He asks, may not any method of operating devised to maintain the nutrition of the stump favor the development of cancer, such, for example, as preservation of the ovaries, etc.; but admits we have not facts to answer this question. In conclusion he speaks of the danger of pushing a fibroid out of the pelvis, which is especially dangerous during pregnancy.

11. **Appendicitis.**—MacDougall first notices the comparative rarity of appendicitis in former years and its frequency at the present time, and gives statistical data in support of this latter assumption. He is inclined to consider the disease an increasing one, and its severity is becoming greater. The increased frequency of relapse is another point of interest. As a rule the acuter the initial symptoms the greater the gravity of the case. He lays special stress on the character of the pulse rather than its rapidity. A quick small pulse, with a high, or worse still, with a low temperature, should attract immediate attention and the pulse and the temperature should be closely watched. Sometimes a normal temperature with

quickening pulse may tell the true story. A pulse of 120 should be regarded as a very ominous sign. He also cautions against regarding the "period of repose" which may occur and may lead to serious error. It is possible to misread the phenomena that indicate lethal appendicitis, striking as they are. Colic of the appendix is one confusing condition, and he gives an instance. Renal and hepatic colic have proven sources of error, and intestinal obstruction may appear to be the condition when real ultra-acute appendicitis exists. Disease of the right adnexa is also noted here. The cecum itself may give cause to symptoms which we may credit to the appendix. He has no present knowledge of the simulation of lethal appendicitis by gastric or duodenal ulcer or twisting of the pedicle of an ovarian cyst, but records show how strong the counterfeit may be. Text-books say little about the difficulty of differentiating between appendicitis and typhoid fever, though it is a notable problem. A condition difficult of explanation yet not of recognition, occurring in many abdominal troubles, may, when appearing with the appendix as its exciting cause, lead us astray, that is peritonism. It is extraordinarily like peritonitis, and yet the importance and the gravity of the one are occasionally only mimicked by the other. The lack of tenderness of the swollen abdomen is one differentiating point, and often there is a certain quickness of pulse and rise of temperature; the freedom with which the patient moves and breathes and the expression of the face also suggest deception. A basal pleurisy or pneumonia involving, as they are apt to do, the pleural surface of the diaphragm, may lead to symptoms that suggest acute peritoneal inflammation. As regards treatment, he has not much to say. He thinks opium should be avoided, but it may be absolutely necessary. It is better given by suppository or rectal injection than as morphin subcutaneously. Enemas rather than aperients by the mouth should be used if needed. Early operation is safest. He would make an incision closer to the anterior superior spine of the ileum than is usually advised. It is quite possible to display and remove the appendix without any protrusion of the small intestine, and in cleansing and drainage of the inflammatory area and its surroundings he has more belief in the use of sponges and swabs than in irrigation, and in large sized drainage tubes with gauze wicks than in gauze packing. He bears testimony to the extreme value of normal saline solution subcutaneously in septic conditions.

12. **Trypanosoma in Man.**—Priority in the discovery of trypanosoma in man is discussed by Boyce, Ross and Sherrington, who conclude that, whatever the claims of others may be, it was certainly Dr. J. S. Dutton (Thompson-Yates Laboratory Reports, 1902) who first established the existence of trypanosomes in human beings in a thoroughly scientific manner.

Australasian Medical Gazette, Sydney.

January 20.

16 An Examination of Morphia Tablets—Are They Reliable? C. Reissmann.
17 The Incidence, Symptoms and Treatment of Strangulated Hernia in the Aged. Charles MacLaurin.
18 Hydroperitoneum in Pelvic Disease. Fourness Barrington.
19 A Case of Ruptured Uterus. W. B. Vance.
20 Notes on Anesthesia in Abdominal Surgery. F. J. T. Sawkins.
21 Notes on Two Cases of Death from Ether Anesthesia. Sydney Jamieson.
22 Anglo-sarcoma of Thigh, Simulating Hip Disease. Leonard W. Bickle.

Intercolonial Medical Journal of Australasia, Melbourne.

January 20.

23 Presidential Address, Medical Society of Victoria. J. P. Ryan.
24 Achondroplasia. A. Jeffreys Wood and H. M. Hewlett.
25 Ulcer of the Stomach Near the Pylorus—Pylorectomy—Recovery. R. A. Stirling.

Annales de Dermatologie et de Syph., Paris.

26 (III, 12.) *Le traitement intense et précoce de la syphilis par les injections intraveineuses de sublimé. Tommasoli.
27 *Les purpuras et leurs modalités cliniques d'après leur formule sanguine. E. Lenoble.
28 Traitement local des syphilides ulcéreuses par l'application permanente de compresses imprégnées d'une solution de sublimé au 1/5000. Hallopeau.
29 *Le technique de la photothérapie à Copenhague. L'appareil de Finsen-Reyn. Leredde.
30 (IV, 1.) *Etude cytologique du liquide céphalo-rachidien (cerebrospinal fluid) chez les syphilitiques. P. Ravaut.
31 Porokératose papillomateuse palmaire et plantaire. C. Mantoux.
32 *Le traitement mercuriel intensif. Suppression des frictions mercurielles dans le traitement des syphilis graves. Leredde.

26. **Abortion of Syphilis by Intravenous Mercurial Injections.**—Tommasoli has been using the intravenous route during the last seven years for the abortion of syphilis, instead of using it as others have recommended, merely as a last resort. He has thus treated 44 patients, restricting this method of treatment to cases in which the initial syphiloma was diagnosed beyond question, and in which the infection had been contracted less than forty-five days previously. The longer the interval since infection the more energetic the treatment required. He commences with 6 to 8 mg. of sublimate and pushes it rapidly to 14, 16 or 18 mg., repeating the injections nearly every day, and supplementing them with the usual frictions, intramuscular injections of sublimate, calomel or pills of protoiodid, with brief intervals of suspension of all specific treatment or change to potassium iodid. The strictest hygiene of the mouth and frequent use of potassium chlorate, sodium borate and alum was always successful in curing the slight tendency to salivation observed in a few instances after the first injections. General weakness was occasionally noticed during the course of treatment, and this he combated by hygienic measures and administration of a tonic containing iron, arsenic, phosphorus, manganese and strychnin. Out of the total of 44 30 were completely cured of their syphilis, not a trace of secondary manifestations having been observed since. In 6 others he was equally successful, but was not able to follow the cases as long as he wished and consequently does not include them in his 30 cases of complete cure. The drawbacks of the method are the occasional painful lumps at the point of the injection, or slight suffusion of blood, phlebitis, subcutaneous edema or erythem. None of these local inconveniences were serious, and they were all due to imperfect technic, not to the method, and are easily avoided. Another drawback is the metallic taste in the mouth and the salivation. Both were rare and not severe. No stomatitis was observed in any instance. Other drawbacks are a slight degree of general muscular weakness, slight headache, slight fever, very rarely, a general malaise and stomach troubles. None of these inconveniences were serious enough to require suspension of the treatment, and all soon vanished under appropriate accessory measures. No thrombosis, embolism or coagulation was noticed after any of the intravenous injections. His experience justifies the conclusions that intravenous injection of sublimate is harmless, even with the dose of 2 cg. Commenced promptly in the primary period and continued as energetically as possible, followed by a course of the ordinary mercurial treatment during several months, it will positively abort syphilis in a proportion of 80 per cent. of all cases. He describes the details of his 44 cases. Some received 15 injections, others 20, 23 in 37 days, or 32 in 43 days. The total of sublimate injected ranged from a few cg. to 17; 28.1 and 31.6 cg. The cases in which this intensive treatment failed illustrate the time limits for its effectiveness. In a young man of 19 the injections were commenced 31 days after infection. Twenty-five injections were made in 29 days, and then 8 more after a brief interval. The total injected was 210 mg. with an average of 6 mg. at each injection. Larger doses induced headache. No secondary manifestations have developed, although several years have elapsed, and no supplementary mercurial treatment was attempted in this case. The syphiloma usually vanished with the sixth to eighth injection.

27. **The Blood in Purpura.**—Lenoble asserts that purpura is a myeloid affection, distinguished by the absence of retraction of the clot and of transudation of serum, by the constant myeloid reaction, sometimes intense, characterized by the profound changes in the hematoblasts, which are diminished in number but increased in size, with a more or less complete loss of specific spontaneous alterability, and of their tendency to cling together. The majority are precipitated. Thus is explained the absence of retraction of the clot, the special anemia and the profuse hemorrhages characteristic of this affection, which he calls the disease of the bone marrow *par excellence*. It resembles myelogenic leukemia and also pernicious anemia,

but differs from them as all the blood-forming organs are involved in them. Every petechial eruption, with or without hemorrhagic manifestations, is true purpura when the formula of the blood is of the above character. Every purpuric exanthem, with or without hemorrhagic manifestations, but with normally constituted blood, is an affection extraneous to the blood-forming organs. The attenuated myelocytic reaction is not alone specific, but becomes so when accompanied by a normoblastic reaction, however slight.

29. **Technic of Phototherapy.**—Leredde extols the exalted scientific conscientiousness which distinguishes all of Finsen's writings. He has recently visited Copenhagen and announces that Finsen has now thoroughly established that the intensity of the superficial reactions is no criterion of the deep reactions. Comparative tests of the penetrating power of the various lamps employed in phototherapy, show that all are far inferior to Finsen's apparatus, although theoretically improvements on it. The tests are made with a plate of photographic paper on which are placed the superposed ears of rabbits. Through two rabbit ears the Finsen apparatus affects the paper in 5 seconds, the Lortet and Genoud apparatus in 20, while the Bang lamp requires 5 minutes to produce the same effect. Through 3 rabbit ears the Finsen requires 20 seconds and the Lortet apparatus 4 minutes. Through 4 ears the Finsen requires 2 minutes, while the Lortet apparatus fails to affect the paper at any time. The consequences of these tests are extremely important. They show that phototherapy requires foci concentrating on a limited spot a large quantity of violet rays, that is, great luminous intensity. Finsen and Reyn have constructed a lamp for application of the light treatment to a single patient. The lamp regulates itself automatically; has a force of 20 amperes and 55 volts and requires a direct and continuous 100-volt current.

30. **Cytodiagnostic of Syphilis.**—Ravaut has found that the cerebrospinal fluid is liable to contain cellular elements, reflecting the intensity of the reactions in the meninges which have been noted in syphilitic affections of the nervous system. In many cases the cerebrospinal fluid disclosed the presence of the cellular elements long before any clinical manifestations were apparent. This allowed energetic mercurial treatment to be instituted, which warded off the impending serious complication. They are more numerous in the fluid when the lesion is in its early stage, and become attenuated as they become cicatrized.

32. **Intensive Mercurial Treatment.**—Leredde proclaims that we have no reason for continuing to cling to mercurial frictions in the treatment of syphilis. Before the introduction of insoluble injections they were the best means known and were generally more active than mercury by the gastric route. But now they should be abandoned without regret. The only means of knowing the exact amount of mercury we are introducing into the system is by injecting it. Injections are to-day the only mode of mercurial treatment which allows us to realize what may be called an intensive mercurial treatment. There need be no fear of stomatitis if the mouth has been put in perfect order. The dose for an adult man, free from any special susceptibility to mercury or renal trouble, may be .02 to .035 of mercury daily, in the form of the benzoate or biniodid. By careful supervision of temperature, weight, digestive tract and the urine, it is soon possible to determine the largest dose that can be taken without disturbance. The dose of .02 was always well tolerated by his adult patients, and he accepts this as the minimum amount for intensive treatment, but it must be individualized for each patient.

Berliner Klin. Wochenschrift, Berlin.

33 (XL, 1.) Operation ohne directen Gebrauch der Finger (without direct use of fingers). König.
34 Untersuchungen über die Durchgangigkeit der jugendlichen Magen-Darmwand (permeability of wall of youthful gastro-intestinal canal). Disse.
35 *Ueber Syphilis-Immunität, besonders in Hinsicht auf die sogen. Profeta'schen Gesetz (law). Von Düring.
36 Tuberculöse Kehlkopfgeschwülste (laryngeal tumors). L. Neufeld.
37 Zur Symptomatologie und Therapie der perforativen Peritonitis bei Ulcus ventriculi. F. Weber.
38 *Ueber Antistreptokokken-Serum bei Scharlach (in scarlet fever). P. Moser.
39 *Ibid. A. Baginsky.
40 *Ibid. H. Aronson.
41 (No. 2.) *Ueber die Wirkung des Sauerstoffs (action of oxygen) auf die osmotische Spannung (tension) des Blutes. A. Loewy.
42 *Untersuchungen über die im Rachen befindlichen Eingangspforten (research in regard to portals of entry in throat) der Tuberculose. S. Ito.
43 Ueber den Milch-Sterilisirungs-Apparat von Dr. E. Kobrak (Disadvantages of). L. Natanson.
44 (No. 3.) Familiäres Vorkommen congen. Herzfehler (heart defects), zugleich ein Beitrag zur Diagnose der Persistenz des Ductus arteriosus Botalli. de la Camp.
45 Ueber Quecksilber-Bindung (binding of mercury) im Urin. A. Laqueur.
46 Ueber Harnröhrenfistel und Krebs (urethral fistula and cancer). L. Lipman-Wulf.
47 (No. 4.) Zur Etiologie osteoarthropathischer Veränderungen (changes). W. Berent.
48 *Ueber den Alcohol als Arzneimittel (in therapeutics) gemäss den Ergebnissen der Forschungen des letzten Jahrzehnts (by light of latest researches). C. Binz. (Commenced in No. 3.)
49 Zur Kenntniss der Cobra-Gift (venom) activirenden Substanzen. P. Kyes and H. Sachs.
50 (No. 5.) *Ueber den Werth der otitischen Symptome zur Diagnose von Kopfverletzungen (injuries of head), bezw. Basis-Fractur. Stenger.
51 Casuistische Beiträge zur Kenntniss der "Tabes incipiens." G. Flatau.
52 Der Kampf gegen die Tuberculose als Volkskrankheit (campaign against Tub. as a disease of the masses). J. Katz.
53 Ueber atypische Typhen (typhoid). C. A. Ewald. (Commenced in No. 4.)
54 (No. 6.) Rigiditas dorsalis myopathica. H. Senator.
55 Ueber Akkomodations-Lähmungen (paralyses). J. Heibron.
56 Beiträge zur conservat. Chirurgie. M. Katzenstein.
57 *Theoretisches und Praktisches über lokale Wärmeapplication. H. Davidsohn.

35. **Non-Existence of Inherited Immunity to Syphilis.**—In his extensive experience in Asia Minor, where syphilis is almost endemic, Von Düring has become more and more firmly convinced that the descendants of syphilitics are entirely lacking in any special resistance to fresh infection, but acquire it like other persons free from any hereditary taint. He mentions as an instance that in a certain secluded village 110 of the 160 inhabitants had syphilis, and 30 children, including 25 between 7 and 12 years old, bore evidences of recently-acquired syphilis. The disease was introduced into this region early in the last century, and as 30 to 200 on an average in each village are syphilitic, the third and fourth generation would certainly exhibit some degree of immunity if such a thing as an inherited immunity were possible. But the children in these families acquire syphilis the same as the children in other families free from syphilitic antecedents.

38-40. **Serum Treatment of Scarlet Fever.**—These articles are claims for priority in certain discoveries in regard to serum treatment of scarlet fever, Baginsky maintaining Aronson's claims against Moser.

41. **Action of Oxygen on Osmotic Tension.**—Loewy found in his tests that the freezing-point of the blood has a tendency to rise on inhalation of oxygen. This he establishes is not due directly to the oxygen, but is merely the result of the deeper breathing induced by the inhalations. The better ventilation of the lungs, therefore, is the main factor in the benefit derived from inhalation of oxygen, in his opinion.

42. **Entering Points for Tuberculosis in the Throat.**—Ito examined under the microscope the tonsils, uvula, etc., of 104 cadavers. Not a single case of certain primary tuberculosis was found among them, and secondary lesions were noted in only 6.

48. **Alcohol in Therapeutics.**—Binz asserts that the growing tendency to refrain from the use of alcohol in therapeutics costs the life of many a patient who might have been saved by the judicious administration of some good alcoholicum in threatening collapse or inanition. Clinical experience harmonizes in every point with the results of the later scientific researches on the subject.

50. **Otitic Symptoms in Case of Injuries of Head.**—Stenger's experience has demonstrated that if functional tests of the hearing result positively, they afford reliable evidence as to the severity of the traumatic injury and exclude simulation. A peripheral trauma may affect the cerebrum, but the symptoms differ from those observed in case of concussion of the brain with simultaneous injury of the organ of hearing.

57. **Local Application of Heat.**—Davidsohn reiterates his former announcements as to the extreme practical value of his method of applying constant heat. It is free from the disadvantages of other methods; the appliance is light, convenient and answers every requirement. The principle of the appliance is merely a coil of narrow, rather stiff rubber tubing through which a constant stream of hot water is passed from a receptacle over a spirit lamp. When the tubes are once full the faucet is turned so that only a drop flows out at a time, thus economizing the hot water. One convenient form is a square cloth on which the rubber tubing winds back and forth two or three times, one end of the tube extending to the receptacle and the other reaching down to a vessel under the bed. When heat is to be applied to the entire body the tubing winds back and forth a number of times in the outline of a human body. The two tubes entering from the boiler separate into two branches each, thus equalizing the heat for the four members and trunk.

Deutsches Archiv f. Klin. Medicin, Leipsic.

58 (LXXV, 1-2.) *Ueber Blutveränderungen durch Syphilis und Quecksilber (blood changes in syphilis), mit bes. Berücksichtigung ihrer diagnostischen Verwerthung. J. Justus.
59 *Blutuntersuchungen (study of blood) bei ulcerösen und gummösen Formen der Syphilis mit bes. Berücksichtigung des Eisengehaltes (proportion of iron). G. Löwenbach and M. Oppenheim.
60 *Ueber aquirirte combinirte Strangsclerosis (sclerosis of tracts of white matter in cord). W. Kattwinkel.
61 *Zur Kenntniss der Streptothrix-Pyaemie. G. Engelhardt and M. Löhlein.
62 Ueber artificielle Haut- (skin) Gangrän. A. Gross.

58. **Blood Changes in Syphilis.**—In this article Justus reviews the various communications that have been published on the "Justus blood test" and states that his own experience now includes 22 cases. In his latest series of 10 cases in which the syphilis was dubious, the characteristic decline in the hemoglobin after administration of mercury, which is the essence of his test, was confirmed by the rapid recovery under specific treatment. In all the publications on the subject he knows of only two experimenters, Brown and Dale, who obtained negative results in undoubted syphilis. But he points out that these writers administered only 20 grains of mercury, which is too small a dose to induce the characteristic reaction. It subsides the second to fourth day after adequate mercurial treatment has been instituted.

59. **The Blood in Late Syphilis.**—These writers establish that both hemoglobin and the proportion of iron are materially diminished in the later phases of syphilis and also in the maligna precox form. The findings of both ferrometer and hemamometer harmonize. The red corpuscles range within normal limits.

60. **Sclerosis of Tracts of White Matter.**—Kattwinkel describes the clinical history and autopsy findings in 8 cases of acquired sclerosis of these various tracts combined. In most cases there was a paralytic enfeeblement of the lower and in one instance also of the upper limbs, besides the ataxia. It amounted to complete paraplegia in 2. Nothing abnormal was noted in the brain except possibly a slight tendency to thickening of the meninges and edema, with a scarcely appreciable atrophy of the cortex. Externally the cord appeared to be intact, but transverse sections revealed extensive degeneration of both the longitudinal and the endogenic fibers. In the upper portion of the cord the degeneration involved the posterior columns, the lateral pyramidal fasciculus, and the cerebellar and Gowers' columns with small scattered foci in the anterior columns. The degeneration could be traced with the Weigert to the medulla oblongata and with the Marchi into the pons. The lesions were most pronounced in the dorsal region, and diminished below until the pyramidal tracts were the only ones affected in the lumbar region. Close study of the findings under the microscope clearly demonstrates that the lesions originated in some affection of the local lymphatic system. In every case signs of a morbid process in the lymphatics were prominent. The lymph-spaces were much dilated, the central canal enlarged and choked with cellular elements. Thickening of the adventitia of the vessels was frequently observed, with obliteration of the lymph-clefts in the adventitia and occlusion of the epispinal lymph-spaces from the almost invariable thickening of the pia and its adhesion to the spinal cord. The lymph stream had evidently been checked and stagnation ensued.

61. **Streptothrix Pyemia.**—In the case described peculiar fungous filamentous threads were disclosed by the Gram in the pus of abscesses in all the organs examined as well as in the single vessels. No other micro-organisms were discovered. The patient was a previously healthy young man. Four months before entering the hospital he complained of loss of vitality and appetite, with fever. During the last week there had been pain in the right side, with cough and expectoration. He died a month later and metastatic abscesses were found in all the vital organs, containing the fungous growths above mentioned.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

63 (No. 5.) Fall von echte (genuine) Hermaphroditismus. Garré.
64 Mechanismus der Strangulation des Darmes (of intestine). Wilms.
65 Weitere Untersuchungen über Mitigation des Epithelioma contagiosum des Geflügels (of fowls). E. Marx and A. Sticker.
66 *Ueber ein für menschliche (human) Placenta specifisches Serum. W. Liepmann.
67 Zur Symptomatologie der akuten Entzündungs- (inflammation) Prozesse des Gehör (hearing) Organs. A. Eitelberg.
68 Die Thränenschlaucheiterungen (suppuration in lachrymal duct) Neonatorum. E. A. Helmann.
69 Discussion of Suggestion of "Cancer Stations." L. Hirsch and I. Boas.
70 (No. 6.) Erfahrungen (experiences) mit der Perkussion der Lungen-Spitzen (apices) nach Krönig. A. Wolff.
71 *Zur Aetiologie der Dysenterie. L. Rosenthal.
72 Ueber eine bei Syphilitischen vorkommenden Quecksilber- (mercury) Reaction. Rille.
73 *Diabetes mellitus und gynäkologische Operationen. H. Füth. (Commenced in No. 4.)
74 Ueber den Einfluss (influence) der Rachenmandel- (tonsil) Hyperplasie auf die körperliche und geistige Entwickelung der Kinder (on development of children). Wilbert.
75 *Zur Kasuistik der intravenösen Collargol-Behandlung septischer Prozesse. Jaenicke.
76 Fall von Lymph-Extravasat nach subkutaner Contusion des Oberschenkels (of thigh). C. Schindler.
77 *Zur Etymologie des Wortes Gelbsucht (jaundice) und der dafür gebräuchlichen Synonyme. W. Ebstein.
78 *Der Schutz (prophylaxis) vor Lungentuberkulose in Kurorten (health resorts) und in offenen Kuranstalten (public sanatoria). T. Büdingen.
79 *Die Behandlung der progressiven Paralyse sowie toxischer und infektiöser Psychosen mit Salz-Infusion. J. Donath.
80 Behandlung des nachfolgenden Kopfes (of following head). Rühl.

66. **Specific Serum for Human Placenta.**—Liepmann's success in producing a biologic serum by injection of scraps of human placentæ, was proclaimed in No. 51 of the *Wochenschrift*, last December. He now announces that it is possible by this means to determine the presence of particles of the placenta in the blood of pregnant women as well as in the serum from the umbilical cord of the fetus. The reaction is the same as in the biologic blood test. No reaction was observed in blood from male subjects or from non-pregnant women.

71. **Etiology of Dysentery.**—Rosenthal's communication describes an epidemic of 85 cases of dysentery at Moscow induced by the Shiga-Kruse dysentery bacillus. In one case the bacilli had caused general septicemia. Pure cultures were derived from the spleen and mesenteric glands and in the excreta these bacilli were in the overwhelming majority. The bacilli remained alive in the stools for eight days at room temperature and for eleven at the freezing point. On fruits and vegetables they also remained alive for seven or eight days, and on water melon for eleven.

73. **Diabetes Mellitus and Gynecologic Operations.**—Füth has witnessed three deaths in diabetic coma, the seventh, eighth and fifth day in 3 cases of operation for cancer of the uterus in diabetics. Becker has also warned of the dangers of narcosis in diabetics and collected 9 fatal cases. Füth concludes that surgical intervention on diabetics must be surrounded with exceptional precautions. In the first place, the sugar must be banished from the urine before attempting to operate. Strict diabetic diet may be enforced, with prophylactic administration of sodium bicarbonate (Naunyn) or sodium citrate (Rumpf). The patient must also be brought into a tranquil state of mind. Purges and enemata must be avoided for fear of inducing weakness, and the supply of fluids must not be allowed to fall below the average. One enema should be

given the night before the operation, and the latter should be done in the early forenoon in the period of physiologic hunger and thirst. The entire operation should be done without general narcosis. A laparotomy should be commenced with local anesthesia and continued without narcosis as long as possible, as suggested by Veit. Spinal cocainization may find its most useful application in these cases. As soon as the intervention is completed, fluids should be supplied as abundantly as possible by the rectum. As soon as any way practicable the patient should be given easily-digested solid food, with prophylactic administration of sodium citrate. When the recovery is progressing normally the physical exercise, so indispensable for diabetics, should be substituted by massage. In 6 or 47 per cent. of the 14 gynecologic operations on record, the patients died in diabetic coma after a period of well-being. Hirschberg also lost a patient from the same cause after a brief operation on a cataract under cocain. In his second similar case the patient finally recovered. Füth's article is an elaborate review of all experiences in Germany to date.

75. **Collargol in Septic Processes.**—Jaenicke remarks that it requires considerable courage to inject into the veins of an emaciated, fever-ridden, extremely sick woman, the inky, turbid fluid of a 1 per cent. sterilized solution of Credé's collargol. But in the case of septic parametritis which he describes the effect was most remarkable. In thirty-six hours the patient was entirely free from fever, and would undoubtedly have had no further temperature had it not been for the development of venous thrombosis in the left leg, which threatened trouble, but soon vanished harmlessly. An exudate producing a tumor as large as the head of a child subsided spontaneously in four and one-half days. The dose injected in the vein at the elbow was only 8 c.c., but the arm was painful and helpless for a few days.

77. **Origin of Terms Icterus, Jaundice, Etc.**—Ebstein quotes from ancient and medieval writings to show that it has been a custom from time immemorial to treat the "yellows," icterus, jaundice, etc., with yellow objects. The very word icterus denotes a yellow bird, which was tied to the bedside of the patient. This practice is mentioned in the Atharva Veda. The German word for bile, Galle, is derived from the Latin giallus, yellow. Jaundice originated in the French term for yellow, Jaune. Yellow roots, vegetables, saffron, etc., have been used in treatment and especially yellow birds.

78. **Prevention of Tuberculous Infection at Health Resorts.**—Büdingen emphasizes the danger of promiscuous intercourse and change of lodgings between consumptives and persons suffering from other affections of the upper air passages. He proposes several measures which he thinks would counteract this evil and might easily be enforced by the municipality at health resorts. In the first place, each householder should be visited and required to state whether he wishes to take tuberculous guests under his roof. If he replies in the affirmative then the house should be inspected by the authorities and a certificate delivered as to its suitability for persons suffering from tuberculosis. If passed on favorably, then the householder is entitled to receive tuberculous guests, but must reject those who are non-tuberculous. If a tuberculous person stops in a non-certified house, the attending physician must advise removal and notify the authorities in case of refusal, and the latter must attend to moving the patient within two days. Neglect to notify or to compel the removal of a tuberculous patient from a non-certified house or of a non-tuberculous patient from a house given up to tuberculous guests, should entail a fine on the physician or suspension of his practice. This latter point is important, as it relieves the physician of the responsibility of resisting the importunity of persons who may dislike some of the measures. If these precautions were enforced in health resorts there would be no danger of a non-tuberculous person occupying a room just vacated by a consumptive. The consumptives would be housed in rooms suitable for them, and non-resident physicians would feel much safer in sending their patients to a place where such regulations were enforced and could direct them to certain hotels, sanatoria or private houses. Guests at such places who cough or are otherwise suspicious of tuberculosis should be noticed by the physicians and urged to submit to an examination. In Baden there is already a decree compelling the attending physician to notify the authorities whenever a person in advanced tuberculosis changes his lodgings or is deemed a menace to his surroundings from any cause. Disinfection of rooms vacated by consumptives is also obligatory.

79. **Treatment of Toxic and Infectious Psychoses with Saline Infusion.**—Donath uses what he calls an artificial blood-salts solution, absolutely isotonic for the blood, and reports astonishingly favorable results from its infusion. One of his patients with progressive paralysis who had long been obliged to give up his business as a traveling man, was enabled to return to it, completely restored. In 4 others the improvement was also marked and permanent, but one of the 6 cases was not improved. He found it very effective also in a case each of cerebral syphilis, tetany and melancholia. The earlier the stage in which it is applied the better the results. Gaspero has recently reported the great benefits derived from saline infusion in various psychoses at Anton's clinic, in catatonia, amentia, stupor, delirium acutum, melancholia agitata, etc. The patients increased in weight and the mental disturbances were very favorably influenced. Donath's formula corresponds to the total ash of the blood, omitting the calcium and magnesium, which would be precipitated in such a solution. The blood corpuscles are not affected, even when left in it for twenty-four hours. It contains in 1000 gm. of distilled water, .25 gm. of potassium sulphate; 1 gm. of potassium chlorid; 6.75 gm. of sodium chlorid; .4 gm. of potassium carbonate, and 3.1 gm. of cryst. sodium phosph. The jar in which the mixture is kept is of glass and has three holes in the rubber stopper. In one of these holes a thermometer fits which reaches close to the bottom of the jar. In another hole fits a glass tube which also reaches close to the bottom of the jar and is bent at an acute angle, where it projects above the stopper. The rubber tube conveying the fluid is attached to its end. A short glass tube fits into the third hole. It reaches only a short distance above and below the stopper. The upper end is plugged with cotton, tied on with a piece of gauze and a rubber band. This supplies filtered air to the jar. The fluid is injected through a Dieulafoy aspirator, 500 to 1000 c.c. at a time, every three or four days. The jar is sterilized by being boiled in another vessel.

Therapeutische Monatshefte, Berlin.

81 (XVI, 1.) Luys' Urine-Separator. Garré.
82 *Zur Behandlung akuter Infektions-Krankheiten. J. Wernitz.
83 Serum-Behandlung bei Diphtherie. P. Heiberg.
84 Ibid. Kassowitz.
85 Information in Regard to the Resort, Bad Brückenau. H. Neumann.—Einiges über Bad Brückenau, insb. die Wernazer Quelle (spring).
86 Die gemeinschaftliche (common) Basis der verschiedenen Behandlungsweisen (modes of treating) der Lungen-Tuberculose. H. Weber.
87 Perdynamin. G. Siefert.
88 *Zur Verwendung von Arzneimitteln (application of medicines) im gäs-formigen Aggregatzustände für Inhalations und Desinfections-Zwecke. M. Saenger.
89 Zur vaginalen Mastdarmausschneidung (extirpation of rectum). J. Prochnow.
90 Pyranum als Antineuralgicum. E. Schlesinger.
91 Helmitol, ein neues Harn-Desinficiens. Ibid.

82. **Treatment of Acute Infectious Diseases.**—In Wernitz's experience at Odessa he has derived inestimable benefit from copious rinsing out of the body with a saline solution. He does not introduce it subcutaneously on account of the inconveniences of this route, but merely keeps up an almost continual irrigation of the lower intestines according to the method suggested by Hegar. The effect is even more pronounced than that of subcutaneous injections. Diuresis is remarkably promoted, while the patient does not experience thirst. The fluid is supplied in abundance, and the system can absorb as much or as little as it requires. In saline infusion the system has to take the amount that is introduced, irrespective of its actual needs. By the intestinal route the heart is never over-burdened. He uses a tepid 1 per cent. salt solution, with a moderately long rectal tube. The receptacle for the water is placed beside the bed and raised sufficiently to allow the water to flow in very gently. If there is a desire for defecation the receptacle is lowered and the diluted alvine discharge flows

into it. The receptacle is then rinsed and filled with fresh saline fluid and the irrigation resumed. The injection must not disturb the patient in any way. The urine frequently amounts to 5 or 6 quarts in the twenty-four hours. He allows a quart of the saline solution to each injection, and prolongs the time to about an hour, interrupting the flow occasionally to avoid inducing peristalsis or desires. The injection is repeated every hour or two. If a peristaltic movement does occur it is not felt as a desire after the first. The fluid in the receptacle merely rises a little, showing that the pressure in the intestine is a little augmented. He describes some typical examples to illustrate the great benefit derived from the procedure, which he recommends as a notable improvement over infusion or any other method of supplying the necessary fluid to the organism in acute infectious diseases. He usually makes about ten injections in all.

88. **Inhalation and Disinfecting Apparatus.**—Saenger's apparatus is described and illustrated. Its chief advantage is that the spray is directed in a very powerful jet, which much facilitates the action of the disinfectant.

Zeitschrift f. Orthopaedische Chirurgie, Stuttgart.

92 (XI, 2.) *Ueber die unblutige operative Epiphyseolyse zur Behandlung des Genu valgum adolescentium. C. Reiner.
93 Ueber die statische Verhältnisse des Oberschenkelknochens (static relations of femur). C. Ghillini and S. Canevazzi.
94 Noch einmal die Zuppinger'sche Skoliosentheorie. H. Zuppinger.
95 *Zur orthopadisch-chirurgischen Behandlung der schlaffen Lähmungen (lax paralysis) der unteren Extremitäten (legs). A. Möller.
96 Ueber Unterschiede (variations) in der Form der Skoliosen bei Männlichen und Weiblichen individuen (in male and female individuals). A. Sutter.
97 *Zur Casuistik der beiderseitigen (bilateral) congenit. Schulterblatt-hochstandes (elevation of scapula). H. Mohr.
98 *Study of Anatomic Processes in Healing of Congenital Hip Dislocation After Bloodless Reposition. E. Müller.—Anat. Vorgänge bei der Heilung der angeb. Hüftluxation durch unblutige Reposition. Meine Resultate dieser Behandlung.
99 Zur Kenntniss der Skoliose bei Thieren (in animals). E. Schmidt.
100 *Troubles of the Middle and Front Portion of Foot and Their Treatment. K. Hasebroek.—Ueber Mittel-Vorderfussbeschwerden und deren Behandlung.
101 Zur Pathogenese der kindlichen Skoliose. C. Deutschländer.
102 Report of Orthopedic Institute at Dresden. A. Schanz.—Anstaltsbericht.
103 Fall von congenitaler Skoliose. H. Maass.
104 Ueber den "congenitalen" Schiefhals (torticollis). Ibid.
105 Fall von multiplen congenitalen Contracturen mit Muskel-Defecten. F. Magnus.

92. **Bloodless Epiphyseolysis for Genu Valgum.**—Reiner is assistant at Lorenz's Universitäts-Ambulatorium for orthopedic surgery at Vienna. He reviews the history and experiences of epiphyseolysis in the treatment of genu valgum adolescentium, and proclaims that it is by far the simplest, easiest and most rational method of overcoming this deformity. The epiphysis heals smoothly almost without exception, and without inflicting any permanent injury. Quite recently Codivilla published a series of 1,031 cases thus treated at Milan and Bologna, and the only complication observed in any case was paralysis of the peroneus nerve, which occurred in 34, but proved briefly transient in 32. It was permanent in only 2 instances, and was probably due to defective technic in applying the cast. The epiphysis had been detached smoothly as the radiograms showed, with or without circumscribed fracture of the diaphysis. The functions of the epiphysis were not disturbed in any way. Reiner restricts the intervention to subjects over 8 and under 17. Within these age limits he has been invariably successful. The apparatus which he uses screws like a vise to the operating table and holds the limb firm, while he works the leg as a lever. The resistance to be overcome is least at the epiphysis, and especially at the knee. The operation is done in profound narcosis. The construction of the apparatus can be seen from the cuts. An important point is the slope of 20 degrees from the horizontal, and also the groove large enough to admit the finger of the operator. The epiphysis is found 1 to 1.5 cm. above the greatest prominence of the inner condyle, and it is placed exactly on the groove. The forefinger of the left hand is kept in the groove during the entire intervention, with the middle finger on the median surface of the knee. The right hand holds the other side of the knee joint. The operator stands with the leg on his right. The force applied must be rapid and regularly increasing, not jerky. It is unnecessary and unwise to attempt to complete the operation at the first attempt. After exerting the regular force with hands, forearms and elbows, the operator should give up and start afresh, but never removing his hands or the fingers from their places. The slightest displacement of the thigh on the block should be corrected at once. The maneuver

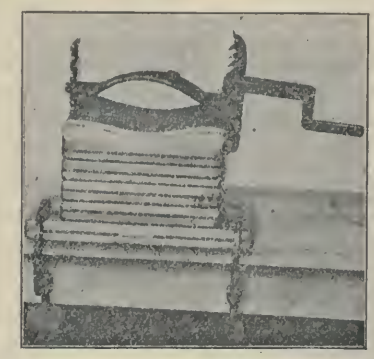


Figure 1.

is repeated as often as necessary until the desired result is attained. In many cases it is accomplished at the first attempt. It is indispensable that the condition of the epiphysis should be determined by radiography in persons approaching the age limit. Some of his patients were able to flex the knee without pain as early as three to five days after the intervention.

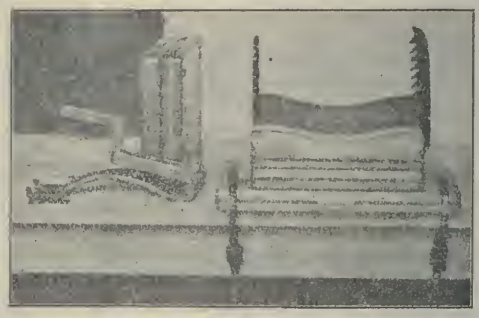


Figure 2.

The subcutaneous hematoma and the pains are always trivial. The cast applied is worn for five to seven weeks. Epiphyseolysis attacks the deformity at its culminating point and reduces the functional shortening to the least possible minimum. The after-treatment is shorter than after other interventions for correction of this deformity. It does not interfere with



Figure 3.

the later development of the extremity. He gives radiographs of several typical cases, and describes the anatomic findings in his experiments on the cadaver.

95. **Treatment of Lax Paralysis of the Legs.**—Möller recommends a walking cast, such as Krause applies in cases of fracture of the leg. The limb is placed in it in over-

correction. The child can begin to walk in it after two days. The cast is taken off in four to six weeks, the position of the leg corrected, and a cast applied again, while a supporting apparatus is made. It answers the purpose merely of retention and substitution. As the child has already been walking in its cast, the supporting Hessing apparatus causes no disturbance. If the physician wishes to dispense with an apparatus by transplantation of tendons, the conditions are the most favorable possible at this stage. The muscles have been strengthened by use in the cast, and even arthrodesis is more readily done. Four children, treated on these principles, were able to walk with a chair or cane two to five days after application of the cast, while before that the extensive paralysis of both legs had rendered any attempt to walk or stand impossible. Two other children with almost total paralysis, and two others with paralytic clubfoot were treated in the same way, and the results have been surprisingly satisfactory.

98. **Anatomic Conditions After Bloodless Reduction of Congenital Dislocation of Hip.**—Müller gives illustrations of lengthwise sections of two hip joints from children whom he had treated by bloodless reduction a few months and two years before. One had died from meningitis and one from pneumonia. The conditions in the hip treated two years before were almost ideally physiologic. The head of the femur rested in a cavity resembling the normal acetabulum, and enclosing more than two-fifths of a circle. The roof was broad and thick, but, as it consisted almost entirely of cartilage, in radioscopic examinations the conditions did not appear as perfect as they were in reality. The two cases emphasize the importance of the conditions in the capsule in regard to the ultimate outcome. The large recess in the capsule, in which the head formerly rested, is empty after reposition, but, on account of its elasticity, the capsule retracts and, by the pressure of the surrounding parts, folds down on the head of the femur, clinging closely to the latter and holding it in its new place. The capsule continues to shrink and the folds gradually become smoothed out until, in time, the capsule stretches smoothly and normally from its attachment to the acetabulum to its insertion in the neck. This must occur very early, as in one of the joints described, examined only six and one-half weeks after reposition, the capsule was stretched so taut that even after removal of the bandages the head remained in the acetabulum, at least while the child lay in bed and was carried. If weight had been borne on the limb and adduction had occurred, the capsule would probably not have been strong enough to stand the pressure. This can be counted on after three or four months, which, therefore, Müller accepts as the minimum interval before removing the cast. The capsule now holds the head in place and, by exercising its functions, the joint gradually builds up the bony and cartilaginous formations, which restore conditions in the joint to the nearly normal state seen in the first of the specimens he illustrates. These formations certainly have some beginning while the limb is in the cast, especially at the cartilaginous rim of the acetabulum on its anterior and upper margin. The constant pressure of the capsule transforms, even at this early date, the shape of the cavity from a plate more to that of a cup. The strong tension of the anterior wall of the capsule obtained by the vigorous abduction has a twofold purpose: it tilts the edge of the acetabulum, and also presses the head into its cavity, neither of which could be accomplished by the cast alone. Atony of the capsule from long disuse excludes this important factor in the cure and, hence, it is advisable to wait patiently quite a long time if treatment fails, before renewing the attempt. His experience includes 40 cases of unilateral luxation, and 70 per cent. have been completely cured. He attributes his success to his practice of applying the cast down to the ankle in pronounced abduction and outward rotation, with the knee stretched. This best insures the retention of the head in the acetabulum. In several cases the cavity was so shallow that success seemed absolutely impossible, but treatment on these lines has resulted in permanent correction of the luxation. The results in bilateral luxation have not been so favorable. Only 5 of the children have been permanently cured. He ascribes the failures to the fact that at first he included subjects really too old for this method of treatment, and also to his former practice of treating both joints at one sitting, by which he lost the beneficial effect of functional use of the joint. No time is gained in the end, and many advantages are thrown away by attempting to treat both hips at once. Massage or other after-treatment is not necessary for young children. He concludes with the remark that many of the failures in the unsuccessful cases were due to the lack of intelligence on the part of the parents, or else the cases date from the earliest days of the method. He thinks he can safely say that in by far the largest majority of cases it is possible to obtain complete cure by bloodless reposition.

100. **Treatment of Subjective Troubles of the Middle and Front Foot.**—Hasebroek refers to the pains and other disturbances in the articulation between the astragalus and calcaneus and the navicular and cuboid bones, and between the navicular and the three cuneiform bones. Also in the articulation between the cuboid and cuneiform bones and the metatarsal bones. He considers the pains in these joints, with the bones intact, an affection *sui generis*. The disturbances in the first articulation resemble the pains of flat-foot, but they are undoubtedly due to some slight and forgotten traumatic injury, to some local rheumatic or gouty process, or to an actual neurosis of the joint. Many cases of supposed flat-foot unmistakably belong in this category, especially those that do better without the flat-foot support. Treatment should be massage and gymnastics of the joint, with treatment of the underlying cause, if possible. A support for the joint may also be necessary, a celluloid insole. He recommends his patients to buy their shoes ready-made at a large establishment, instead of having them made to order, subject to the whims of some conceited shoemaker. Mild rheumatic affections recover most rapidly; the gouty or senile cases are more obstinate, and the neuroses are sometimes rebellious. In prophylaxis, a supporting insole will be found effective in preventing the tendency of the foot to turn over. Children whose ankles turn and who, thus, are unable to skate, will sometimes be completely cured by the supporting insole. This turning over of the foot is liable to cause injury of the joint and the wearing of the insoles may prevent the above disturbances later. The disturbances in the other articulation, the "Lisfranc joint," include stiffness, with a tendency to plantar flexion and turning in of the front portion of the foot. The pains are localized more between the great and second toes and are accompanied by callous growths under the ball of the great, second and third toes. Hasebroek thinks that the anatomic structure of the forefoot in relation to the middle foot and arch is responsible for the development of corns and callosities more than the footgear. Treatment of disturbances in this point should include massage and gymnastics, supplemented by raising the forefoot by an appropriate insole. It should rise gently and supply a slight flat expanse for the front part of the foot. The relief is immediate. The footgear should be long enough and allow plenty of room. These insoles should be used whenever a tendency to callous growths at these points is observed. They may avert trouble later.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Diseases of the Skin: Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of 15,000 Cases of Skin Disease. By H. Radcliffe-Crocker, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital. Third Edition, Revised and Enlarged. With Four Plates and 112 Illustrations. Cloth. Pp. 1466. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1903.

Harrington's Hygiene. A Manual of Practical Hygiene for Students, Physicians and Health Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Second Edition. Revised and Enlarged. With

113 Engravings and 12 Full-page Plates in Colors and Monochrome. Cloth. Pp. 755. Price, $4.25 net. Philadelphia and New York: Lea Brothers & Co.

THE DIAGNOSIS AND MODERN TREATMENT OF PULMONARY CONSUMPTION, with Special Reference to the Early Recognition and the Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D. Oxon., M.A., Cantab., Author of the Prize Essay on the Erection of His Majesty's Sanatorium. Cloth. Pp. 215. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

DISEASES OF WOMEN. A Clinical Guide to Their Diagnosis and Treatment. By George Ernest Herman, M.B. Lond., F.R.C.P., Obstetric Physician to and Lecturer on Midwifery at the London Hospital. With Upwards of 250 Illustrations. Revised Edition. Cloth. Pp. 884. Price, $5.00 net. New York: Wm. Wood & Co. 1903.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. Part 2. (Authors: B to Buxton.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist of Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Acting Assistant Zoologist of Bureau of Animal Industry. Paper. Pp. 198. Washington: Government Printing Office. 1903.

A TEXT-BOOK OF PRACTICAL MEDICINE. For the Use of Students and Practitioners. By William Gilman Thompson, M.D., Professor of Medicine in Cornell University Medical College. Second Edition, Thoroughly Revised. With 62 Illustrations. Cloth. Pp. 1104. Price, $5.00. Philadelphia and New York: Lea Brothers & Co.

THE INTERNAL SECRETIONS AND THE PRINCIPLES OF MEDICINE. By Charles E. de M. Sajous, M.D., Fellow of the College of Physicians of Philadelphia. Volume I. With 42 Illustrations. Cloth. Pp. 800. Price, $6.00. Philadelphia: F. A. Davis Co. 1903.

QUARTERLY PUBLICATIONS OF THE AMERICAN STATISTICAL ASSOCIATION. I. The Vital Statistics of the Census of 1900. By Frederick L. Hoffman. Paper. Pp. 202. Boston: J. P. Shults. 1902.

REPORT OF MINISTER OF AGRICULTURE for the Dominion of Canada for the Year Ended Oct. 31, 1902. Printed by Order of Parliament. Paper. Pp. 284. Ottawa: S. E. Dawson. 1903.

PUBLICATIONS OF THE MISSISSIPPI HISTORICAL SOCIETY. Edited by Franklin L. Riley, Secretary. Vol. VI. Cloth. Pp. 567. Oxford, Miss.: Printed for the Society. 1902.

REPORT OF THE COMMISSIONER OF EDUCATION for the Year 1900-1901. Volume I. Cloth. Pp. 1216. Washington: Government Printing Office. 1902.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from Feb. 7 to 20, 1903:

Brown, Justus M., colonel and assistant surgeon-general, U. S. A., at his own request, under the provisions of the Act of Congress approved June 30, 1882, has been retired by the President from active service, Feb. 13, 1903, he having served more than forty years.

McCallum, Francis M., contract surgeon, U. S. A., in addition to his present duties at Indianapolis Arsenal, is assigned to duty as examiner of recruits at Indianapolis, and will report in person accordingly to Major James E. Macklin, Eleventh Infantry, recruiting officer at that place.

Agramonte, Aristides, contract surgeon, now at Havana, Cuba, will report in person to the commanding officer, Cabana Barracks, for temporary duty and by letter to the commanding general, Department of the East.

De Shon, George D., captain and asst.-surgeon, having reported his arrival at San Francisco, in compliance with orders heretofore issued, will proceed to Boston and assume the duties of attending surgeon and examiner of recruits in that city. Captain De Shon will report by letter to the commanding general, Department of the East.

O'Neill, Joseph A., contract surgeon, U. S. A., is ordered to report in person not later than Feb. 16, 1903, to the commanding officer First Battalion, Fourteenth Infantry, at Fort Brady, Mich., for duty to accompany that battalion to the Philippine Islands, and on arrival at Manila to report in person to the commanding general, Division of the Philippines, for assignment to duty.

Winn, Robert N., first lieut. and asst.-surgeon, U. S. A., is relieved from further duty at Fort Riley, Kan., and will proceed to Fort Grant, Ariz., and report in person to the commanding officer of the latter post for duty and by letter to the commanding general, Department of the Colorado.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending Feb. 28, 1903:

Surgeon J. G. Field, detached from duty with recruiting party, and ordered to the *Bennington*.

A. A. Surgeon G. G. Hart, ordered to duty with recruiting party.

Surgeon J. W. Ross, appointed medical director from Feb. 5, 1903.

A. A. Surgeon J. C. DeVries, appointed acting asst.-surgeon, Feb. 16, 1903.

Surgeon E. H. Marsteller, ordered to the *Panther* via the *Raleigh*.

Medical Director A. F. Price, detached from the Naval Hospital, Washington, D. C., and ordered to the navy yard, New York.

Surgeon G. B. Wilson, detached from the *Panther* and ordered to the Naval Hospital, Chelsea, Mass.

Surgeon C. F. Stokes, detached from the *Oregon* and ordered home to wait orders.

Asst.-Surgeon B. L. Wright, detached from treatment at the Army General Hospital, Fort Bayard, N. M., and ordered to the Naval Hospital, Pensacola, Fla., for treatment.

A. A. Surgeon L. H. Schwerin, ordered to duty with recruiting party No. 4.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 26, 1903:

Asst.-Surgeon J. W. Kerr, to report at Bureau for special temporary duty.

Asst.-Surgeon B. S. Warren, granted extension of leave of absence, on account of sickness, for thirty days from March 1.

A. A. Surgeon M. H. Ross, relieved from duty at Cairo, Ill., and directed to proceed to Los Angeles, Cal., and report to medical officer in command for duty.

A. A. Surgeon F. F. Sams, granted extension of leave of absence, on account of sickness, for thirty days from February 17.

Pharmacist S. W. Richardson, granted leave of absence for seven days from Feb. 21, 1903, under provisions of Paragraph 210 of the regulations.

Pharmacist E. J. Thurston, to report to chairman of board for physical examination to determine fitness for promotion to the grade of pharmacist of the first class.

Pharmacist G. A. Morris, granted extension of leave of absence for seven days from February 18.

BOARD CONVENED.

Board convened at the Bureau, Washington, D. C., Feb. 25, 1903, for the physical examination of Pharmacist E. J. Thurston, of the second class, to determine his fitness for promotion to the grade of pharmacist of the first class. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

REINSTATEMENT.

E. J. Thurston, reinstated and appointed pharmacist of the second class.

CASUALTY.

A. A. Surgeon C. F. Ulrich, died Feb. 17, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 28, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, Feb. 7-14, 3 cases; Sacramento, Feb. 7-14, 2 cases; San Francisco, Feb. 8-15, 2 cases.
Florida: Jacksonville, Feb. 14-21, 3 cases.
Georgia: Atlanta, Dec. 31-Feb. 18, 64 cases, 4 deaths.
Indiana: Elwood, Feb. 15-22, 6 cases; Evansville, Feb. 14-21, 6 cases; South Bend, Feb. 14-21, 2 cases.
Iowa: Des Moines, Jan. 1-31, 10 cases.
Kansas: Wichita, Feb. 7-14, 1 case.
Kentucky: Lexington, Feb. 14-21, 3 cases.
Maine: Biddeford, Feb. 14-21, 4 cases.
Maryland: Baltimore, Feb. 14-21, 1 case.
Massachusetts: Boston, Feb. 14-21, 10 cases; New Bedford, Feb. 24, 1 case.
Michigan: Detroit, Feb. 14-21, 20 cases; Grand Rapids, Feb. 14-21, 14 cases; Marquette, Feb. 7-21, 10 cases; Menominee, Feb. 7-14, 1 case; Port Huron, Feb. 14-21, 8 cases.
Missouri: St. Louis, Feb. 8-22, 26 cases.
Nebraska: Omaha, Feb. 7-14, 3 cases.
New Hampshire: Manchester, Feb. 14-21, 2 cases.
New Jersey: Camden, Feb. 14-21, 9 cases.
New York: Feb. 14-21, Buffalo, 1 case; New York, 3 cases.
Ohio: Cincinnati, Feb. 13-20, 20 cases; Cleveland, Feb. 14-21, 6 cases, 2 deaths; Dayton, Feb. 14-21, 7 cases.
Pennsylvania: Erie, Feb. 14-21, 7 cases; Johnstown, Feb. 14-21, 1 case; McKeesport, Feb. 14-21, 2 cases; Philadelphia, Feb. 14-21, 25 cases, 6 deaths; Pittsburg, Feb. 7-14, 12 cases, 3 deaths; Reading, Feb. 16-23, 1 case.
South Carolina: Charleston, Feb. 14-21, 3 cases; Greenville, Feb. 7-14, 2 cases.
Tennessee: Feb. 14-21, Memphis, 2 cases; Nashville, 1 case.
Utah: Salt Lake City, Feb. 7-14, 20 cases.
Washington: Tacoma, Feb. 9-16, 1 case.
Wisconsin: Green Bay, Feb. 15-22, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 24-31, 5 cases.
Belgium: Jan. 24-31, Antwerp, 8 cases, 1 death; Brussels, 4 deaths.
Germany: Hamburg, Jan. 31-Feb. 7, 3 cases.
Great Britain: Birmingham, Jan. 24-Feb. 7, 14 cases, 1 death; Dublin, Jan. 31-Feb. 7, 2 cases; Leith, Jan. 24-31, 2 cases; Liverpool, to Jan. 31, 176 cases, 13 deaths; London, Jan. 31-Feb. 7, 4 cases; Manchester, Jan. 31-Feb. 7, 36 cases; Nottingham, Jan. 31-Feb. 7, 4 cases; Sheffield, Jan. 24-Feb. 7, 5 cases, 1 death; Sunderland, Jan. 17-24, 1 death.
India: Bombay, Jan. 20-27, 14 deaths; Calcutta, Jan. 17-24, 2 deaths.
Russia: Odessa, Jan. 11-18, 2 cases; St. Petersburg, Jan. 24-31, 88 cases, 20 deaths; Warsaw, Jan. 3-17, 7 deaths; Warsaw, Jan. 24-31, 2 deaths.
Spain: Corunna, Jan. 31-Feb. 7, 1 death.
Uruguay: Montevideo, Dec. 1, 1902-Jan. 7, 1903, 9 cases, 2 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, Feb. 7-14, 4 cases.

PLAGUE—INSULAR.

Hawaii: Honolulu, Feb. 12, 1 death.

PLAGUE—FOREIGN.

India: Bombay, Jan. 20-27, 455 deaths; Calcutta, Jan. 17-24, 76 deaths; Karachi, Jan. 11-26, 54 cases, 41 deaths.
Mexico: Mazatlan, Jan. 17-24, 51 cases, 27 deaths.

CHOLERA—FOREIGN.

India: Bombay, Jan. 20-27, 1 death; Calcutta, Jan. 17-24, 48 deaths.

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Original Articles.

OBSERVATIONS ON THE MECHANICS OF DIGESTION.*

WALTER BRADFORD CANNON, M.D.

INSTRUCTOR IN PHYSIOLOGY, HARVARD MEDICAL SCHOOL.

BOSTON.

The results which are to be presented in outline in this paper have been obtained in researches carried on in 1897-98 and in 1901 in the Laboratory of Physiology of the Harvard Medical School, and they are part of an extensive investigation into the mechanical factors of digestion to be carried on during the next few years. The method thus far pursued has been that of mixing with the food subnitrate of bismuth, a harmless, almost inert, powder, opaque to the *x*-rays, and then with the fluorescent screen observing the changes in the shadows of the alimentary contents as they are worked on by the muscles of the digestive organs. The clearness with which masses of food can be seen is indicated in Figure 1, a radiograph of a cat. Observations have been made chiefly on cats, but many of these observations have been confirmed on dogs, rats and guinea-pigs, as well as on the human subject. The results of the work on the movement of food in the esophagus,[1] on the movements of the stomach[2] and on the movements of the intestines[3] have already appeared. In this paper I shall review briefly some of the results already published on the activities of the stomach and intestines and report certain new observations.

The mechanical factors in digestion perform three functions: the propulsion of the food through the alimentary canal, the mixing of the food with the digestive juices and the exposure of the digested food to the absorbing mucous membrane. These functions are performed in different ways in different parts of the alimentary tract. For the sake of clearness, the methods and results of the activities of the stomach will first be considered, and later those of the large and small intestines.

When the stomach is observed according to the method above mentioned, it is seen to consist of two physiologically distinct parts, divided about half way between the cardia and the beginning of the antrum (Fig. 2). To the left of this division lies the cardiac portion or fundus of the stomach; to the right is the pyloric portion. The distinction between these two portions arises from a difference in muscular activity. Over the food in the pyloric portion waves of constriction are repeatedly passing. These waves start at the beginning of this division of the stomach and pass as deepening contraction rings to the pylorus. In the cat six of these waves pass a given point in a minute, in the white rat, also, about six waves per minute, in the dog between four and five, and in the guinea-pig seven. The fundus is characterized by a total absence of peristalsis; as the food is pressed out of the pyloric portion, however, by the repeated constrictions, the muscles of the fundus slowly contract and squeeze the contents into the more active division. Since the stomach is an organ more devoted to digestion than to absorption, the mechanical processes of mixing the food with the digestive juices and of propelling the food into the intestines are here of first importance.

The efficiency of the gastric peristalsis as a means of mixing the food with the gastric secretions depends on the contraction of the pyloric sphincter. Careful observation reveals that the pylorus does not open for every wave of constriction which approaches it, but only at irregular intervals. So long as the sphincter holds tightly, each ring of constriction as it courses from the middle to the end of the stomach presses the food into a blind pouch; the food, unable to escape through the pyloric opening, has as its only outlet the opening in the advancing ring. Thus each peristaltic constriction in moving toward the pylorus has all the contents of the pyloric portion streaming back through the contracted ring. Beaumont, in his famous researches on Alexis St. Martin, declared that the gastric contents circulated first along the greater curvature from cardia to pylorus, then back along the lesser curvature. He gave, however, very meager evidence to support this statement. Brinton, for theoretical reasons, believed that the food must move forward along the sides of the stomach and backward through the middle. The value of the circulation of the food, as described by these men, lay in the supposition that the food was thus brought near to the secreting gastric wall and that the gastric secretion could thereby more readily exert its action. Observations made with the *x*-rays do not support these theories of mixing currents running throughout the stomach, but nevertheless they show that the pyloric portion is an admirable device for bringing all the food under the influence of the glandular secretions of that region.

Little paste pellets of bismuth subnitrate with starch enough to keep the form may be distinguished from the remainder of the stomach contents by the darker shadows which they cast. Several times I have been fortunate in seeing two of these pellets about a centimeter apart in the axis of the stomach. As a constriction wave ap-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Winfield S. Hall.

1. Cannon and Moser: American Journal of Physiology, 1898, I, p. 435.
2. Cannon: Ibid., 1898, I, p. 359.
3. Cannon: Ibid., 1901, vi, p. 251.

proached them, both moved forward, but not so rapidly as the wave. When the constriction overtook the first ball, the ball moved backward through the constricted ring in the direction of least resistance. The wave then overtook the second ball and this also passed backward to join its fellow. At the approach of the next wave they were both pushed forward once more, only to be again forced backward, one at a time, through the narrow orifice. As the waves recurred in their persistent rhythm the balls were seen to be making progress, an oscillating progress, toward the pylorus; for they went forward each time a little farther than they returned. Sometimes twelve minutes elapsed before the balls had advanced to the pylorus from the place where they were first



Fig. 1.—Radiograph of a cat's abdomen, taken 5¾ hours after eating. Spinal column in middle line with pelvis below. On right, above, the pyloric end of stomach; on left, dimly outlined by gas, the ascending colon, and the cecum containing small amount of food. Loops of small intestine containing food in various parts of the abdomen.

affected by the waves; since the waves were running at the rate of six per minute, these little pieces of food were moved back and forth on their way to the pylorus more than seventy times.

The significance of the motions of these food particles is made clear when the conditions attending the formation and passing of a peristaltic wave are considered. As a constriction occurs, the secreting surface enclosed by the narrowed muscular ring is brought close around the food lying within the ring. As this constriction passes on fresh areas of glandular tissue are continuously pressed inward about the narrow orifice; and, furthermore, as this constriction passes on, a thin stream of food is continually forced back through the orifice and thus past the mouths of the glands—a food stream sweeping in one direction past an ever-refreshed mucous surface moving in the opposite direction. The result of this ingenious mechanism is that every part of the secreting surface of the pyloric portion is brought near to every bit of food before the latter leaves the stomach, it may be seventy times or more, as shown by the moving balls.

The propelling function in the stomach is subserved by these same waves of constriction whenever the pylorus relaxes. Relaxation of the pylorus occurs at irregular intervals and is due to factors as yet little understood. Curiously, it allows carbohydrate food, on which the stomach does not act, to pass onward into the intestine much sooner than it releases a proteid food which the stomach can digest. Hard particles, when brought by the peristaltic waves to the pyloric sphincter, act as a mechanical stimulus and greatly prolong the periods of its contraction. Under these circumstances over and

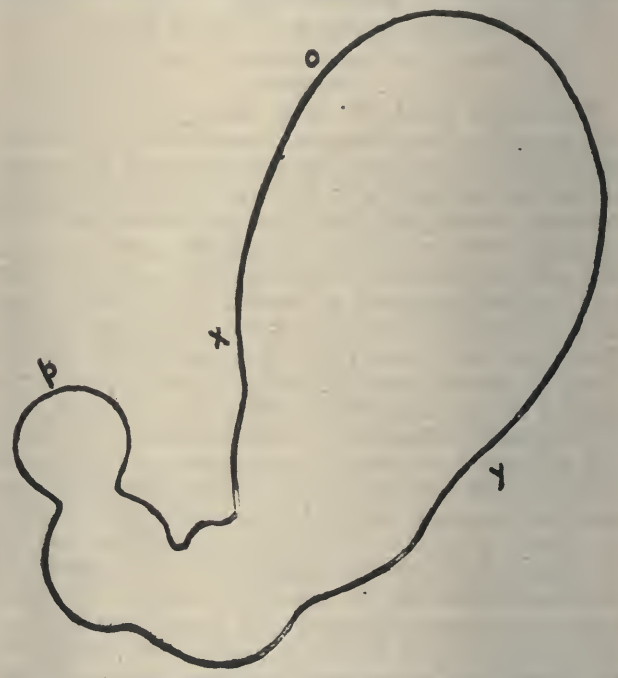


Fig. 2.—Outline tracing from radiograph of cat's stomach. *x-y*, Line of division between cardiac and pyloric portions; cardiac portion, with even contour, pyloric portion with waves of constriction passing to the pylorus (*p*); *o*, position of the œsophageal opening.

over again the hard particle is swept up to the pylorus, only to shoot back through the advancing ring of constriction. By this repeated rubbing the peristaltic waves of the stomach serve to break up the more solid parts of the food, a function which the teeth perform with manifestly greater efficiency. It may be that the prevalence of pathologic conditions in the pyloric part of the stomach rather than in the fundus is due to injuries which the greater activity of the pyloric part must bring on itself.

The fundus of the stomach, as stated above, is characterized by a slow tonic constriction of its musculature, which forces its contents into the more active pyloric portion. Pellets of subnitrate of bismuth in this part of the stomach contents retain their relative positions for an hour or more after the food is ingested. In 1898 I presented evidence that the absence of mixing currents in the fundus results in the food there retaining its original reaction for a considerable period, so that salivary digestion may readily take place in that part of the stomach without interference by the acid gastric secre-

tion. These results have recently been confirmed by Heyde[4] working in Grützner's laboratory in Tübingen.

The value of the stomach as a place for holding the bulk of the food and serving it out a little at a time so that the intestines may not become congested during their digestive and absorptive processes has been pointed out by Moritz. All the advantages secured thus to the intestines may be claimed also for the stomach itself, for, as has been shown, the active portion of the stomach is the pyloric portion, and the fundus serves as its reservoir—an active reservoir pressing out its contents a little at a time as the pyloric peristaltic mechanism is ready to receive them.



Fig. 3.—Radiograph showing region of persistent rings of contraction (descending colon), and region of antiperistalsis (cecum, ascending and transverse colon). The slight indentation above the cecum marks the position of the ileocolic valve.

I have described in detail the effects of peristaltic waves in bringing the food into intimate contact with the mucous surface of the stomach, because the action is similar to that in the cecum and in the ascending and transverse colon, where the normal activity is an antiperistalsis. Constriction waves start in the transverse colon and pass backward toward the cecum. These waves, unlike those of the stomach, do not run in continuous rhythm; they occur usually in periods lasting about five minutes and recur every fifteen or twenty minutes.

The antiperistalsis in this part of the large intestine seems indeed to give a reason for the presence of a valvular structure at the entrance of the small intestine into the large. Hundreds of antiperistaltic waves have been seen coursing toward the cecum, and only twice has food been observed to be pressed back into the ileum through the ileocolic valve. Inasmuch as the valve is competent for the food which has gone from the small into the large intestine, the antiperistaltic waves have the same effect here as the peristaltic waves have in the stomach when the pylorus remains closed. For, when a constriction occurs, some of the mucous surface of the colon becomes enclosed by the narrowed muscular ring; and, as this constriction passes on, fresh areas of this surface are continually pressed inward around the narrow orifice, while a thin stream of food is passing by it in the opposite direction. As waves recur about five times a minute, twenty-five waves or more affect every particle of food in the cecum and in the ascending colon in this churning manner during each normal period of antiperistalsis. The result must be again a thorough mixing of the contents with the digestive secretions brought from the small intestine and an exposure of the digested food to the absorbing wall.

Immediately after food passes from the ileum into the large intestine a strong tonic contraction of the cecum and the ascending colon is commonly observed, which serves to press onward toward the rectum the contents of these parts. Antiperistaltic waves follow at once the general contraction, so that much of the food which has been pressed onward is returned into the cecum. With the repetition of this process, however, more and more material appears at the end of the transverse colon, and on its appearance there a persistent ring of contraction cuts it off from the region of antiperistalsis; as still more food appears in the large intestine this ring moves slowly onward toward the rectum, pressing a mass before it, and is followed by other similar rings carrying onward similar masses by very slow peristalsis (Fig. 3).

Thus, in the large intestine the function of mixing the food with the digestive secretions and of exposing this food to the absorbing walls is performed by an antiperistalsis at the beginning of the large intestine. It is here that the last valuable constituents of the food are worked over and taken into the body. The remnant of unused material is propelled onward by occasional strong contractions of the whole region of antiperistalsis. These contractions squeeze the material toward the end of the transverse colon where slowly-moving peristaltic waves force it to the rectum.

The manner in which the food is mixed with the digestive secretions, exposed to the absorbing wall, and carried forward in the small intestine is considerably different from the processes observed in the large intestine and in the stomach. To the admirable process by which these functions are performed in the small intestine I have given the name "rhythmic segmentation." This activity of the muscular wall is first seen in the duodenum when a mass of food has accumulated there after repeated relaxations of the pylorus. The mass of food is observed at first to be wholly quiet (Fig. 4). Suddenly irregular movements take place about it, and then at regular intervals along its length constrictions of the circular musculature separate the mass into a number of segments of equal size. Hardly have the constrictions thus taken place when similar constrictions begin to appear

4. Grützner: Deutsche Medizinal-Zeitung, 1902, No. 28.

about the middle of each segment. As these new constrictions deepen, the first constrictions begin to relax. Finally, when the new constrictions have completely divided the segments, the first constrictions have entirely relaxed and the neighboring halves of the divided segments unite to form new segments in the region of the first constriction. Now these new segments are again divided by circular constrictions about their middle, and neighboring halves of these divided segments unite to make a third series, and so on. This process of rhythmic segmentation of the food may go on for several minutes in the duodenum (at the rate of thirty divisions per minute in the cat) so that the food, coming from the stomach, becomes thoroughly mixed with the outpouring secretions of the liver and the pancreas. It is usual for the process to be brought to an abrupt end in the duodenum by active peristalsis. A peristaltic wave forms behind the mass of food and sweeps it swiftly forward through several coils of the intestine.

When an animal has received a meal of bread and milk or salmon the characteristic appearance of the alimentary organs is as follows: over the pyloric end of the stomach constriction waves are continually passing.

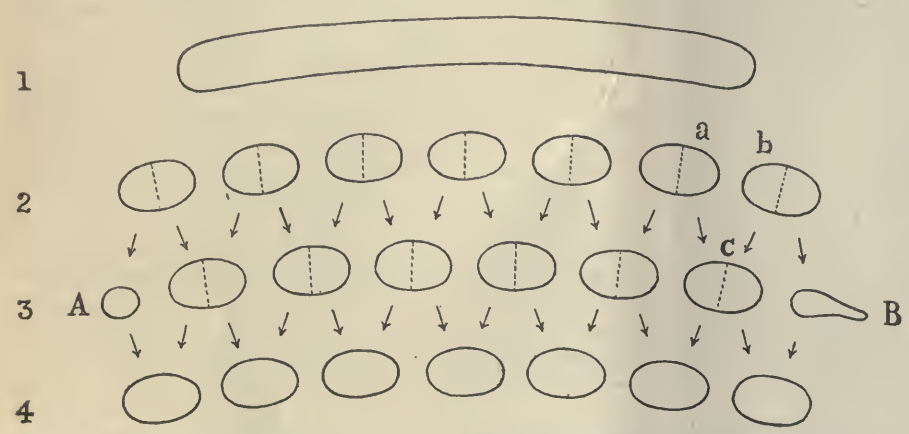


Fig. 4.—Diagram representing the process of rhythmic segmentation of the contents of the small intestine. Constrictions cut the mass into a series of uniform ovoid segments; a moment later each segment is divided into two parts, and immediately after the division neighboring parts, as *a* and *b*, line 2, rush together and merge to form new segments, as *c*. The next moment these new segments are divided to form a third series, and so on for a thousand times or more.

Along the cecum and the ascending colon an occasional series of antiperistaltic waves is to be seen, and in the small intestine a mass of food here and there is undergoing rhythmic kneading. The quiescence of the food in the intestines is in marked contrast to the continuous churning which it is receiving in the stomach. The food lies in scattered, long, slender masses in the ileum; only a few of these masses show any signs of muscular activity affecting them. When segmentation begins on one of these masses it follows the same course as that described for the duodenum. The only variations from this type are divisions of the segments into thirds instead of halves when the masses are large, or a division into two parts and the subdivision of each part before the mass is united again to undergo a repetition of the process. In the cat, as already stated, segmentation of the food occurs about thirty times in a minute. These constrictions may continue for half or three-quarters of an hour without moving the food perceptibly along the canal. The food is thus divided and redivided over and over again a thousand times or more with no advance. This same operation has been observed in the dog at the rate of from 18 to 22 segmentations per minute and in the white rat at the rate of about 44 to 48 segmentations per minute—a most remarkable activity for smooth muscle.

The result of the process of rhythmic segmentation must be a thorough mixing of the food with the digestive secretions brought from the stomach and the duodenum and with the secretions of the intestine itself, and a thorough exposure of the digested food to the absorbing walls—since, with each constriction, the absorbing mucous membrane is plunged directly into the midst of the little masses of food. Not only are the processes of digestion and absorption favored by these movements, for Mall has shown that contraction of the intestinal wall has the effect of forcing the venous blood from the submucous plexus into the radicles of the superior mesenteric vein, and has noted that it must have a similar effect on the flow of the lymph. Thus by this single mechanism of segmentation the food and digestive fluids are churned together, the absorbing mucosa is brought in most intimate contact with the digested food, and the blood and lymph, carrying the absorbed material, are sent away through veins and lacteals.

A review of the activities of the small intestine shows that the functions of mixing the food with the digestive juices and exposing the food to the absorbing structures is performed by the process of rhythmic segmentation. The function of propelling the food along the canal may also be performed to a very slight extent by this same process; it is performed typically, however, by the well-known peristaltic wave which has so long been regarded as the chief activity of the intestinal muscles.

There are two matters of practical importance which remain to be mentioned: the effect of antiperistalsis of the colon on rectal injections, and the effect of emotional states on the activities of the alimentary canal. About eight years ago Grützner[5] reported observations which indicated that materials injected into the rectum might be carried back into the small intestine even as far as the stomach. Since that time some observers have confirmed Grützner's results; others, failing to confirm them, have affirmed that such results were due to carelessly allowing the test materials to become mixed with the food which the animal took normally by mouth. The presence of antiperistalsis in the colon led me to believe that there exists here an activity which would fully account for Grützner's results. Accordingly, I injected into the large intestine enemata of different amounts and of different consistencies. The experiments showed that, when a small amount of the nutrient material was introduced, it lay first in the descending colon. In every instance antiperistaltic waves were set going by the injected mass and the material was thereby carried in considerable amount to the cecum. Never in my experience have these small enemata been carried back through the ileocolic valve. When large injections are given, i. e., amounts nearly filling the colon and cecum, the antiperistaltic waves are effective in forcing the food from the large intestine into the ileum. The ileocolic valve,

5. Grützner: Deutsche medicinische Wochenschrift, 1894, xx, p. 897.

which is competent for food coming normally from the small intestine into the large, is curiously incompetent for this injected substance, even when the substance is of the consistency of thick cream. Radiographs taken at intervals after the injection show that, as time passes, the antiperistaltic waves almost completely empty the transverse and ascending portions of the colon and that the small intestine gradually receives more and more food. After a short time the typical segmenting movements can be seen in the loops, busily separating the food into small masses and again and again dividing and redividing them. It is evident that as far as the mechanical activities of the small intestine are concerned this portion of the alimentary canal is bipolar. Food material may enter it at either end; injected food and the nutriment which has come through the stomach in the normal manner are exposed to the same mixing and absorbing activities.

Observations on the stomach of the cat, made in 1898, showed that the peristalsis is stopped whenever the animal manifests signs of anxiety, rage or distress. The extrinsic innervation of a large part of the intestinal tract is the same as that of the stomach, and it is of interest to note that emotional states have the same effect on the movements of the intestines as they have on the movements of the stomach. Any signs of emotion, such as violent rage or even the restlessness and continued whining which indicate anxiety and distress, are accompanied by a total cessation of the segmenting movements in the small intestine and the antiperistalsis of the colon, as well as the total quiescence of the gastric mechanism.

DISCUSSION.

Dr. A. C. Croftan, Chicago—To what extent did the presence of bismuth in large quantities influence these movements? I believe that some investigators deny the existence of antiperistaltic movements. I would like to ask if bismuth, which would act as a foreign body in the intestine, would modify the intestinal movements?

Dr. J. E. O'Brien, Scranton, Pa.—I have thought for a long time that many cases of appendicitis were due to loading of the cecum, and this brilliant illustration of the antiperistaltic movements of the ascending colon should shed some light on the subject. Some cases of appendicitis, I believe, begin as congestion of the cecum and extend to the appendix.

Dr. W. B. Cannon, Boston—As regards the antiperistalsis of the colon, the animals on which these experiments were performed were kept without food for a day, and I have no means of knowing what takes place except in the food containing bismuth. When food enters the colon, antiperistaltic waves may be seen coursing along the food. This may continue for about five minutes, then there will be an interval of fifteen minutes—the antiperistalsis has been seen starting from the first of the constrictions which you see in one of these photographs of the large intestine. These waves start from the end of the food as it is gradually accumulating in the cecum or the first of the tonic constrictions which occur after the food has come to the further end of the transverse colon. Nothnagel has denied antiperistalsis, but his investigations have only referred to the small intestines, and I agree with him to this extent. In the large intestine, however, there is no doubt that it takes place, for I have seen it in animals whose abdomens have been opened under salt solution. I have also seen it in the dog, and think it probably bears a relation to animals having large ceca. The bismuth does not seem to have any effect on these waves, but this is a critical matter, on which I am working at the present time. I intend adding to the food other substances which are not readily soluble, and which have a sufficient molecular weight to cast a shadow on fluoroscopic examinations.

THE CLINICAL MANIFESTATIONS OF HYDROPHOBIA.*

D. J. McCarthy, M.D., and M. P. Ravenel, M.D.
From the William Pepper Clinical Laboratory (Phoebe A. Hearst Foundation), and the Laboratory of the Pennsylvania Live Stock Sanitary Board.
Philadelphia.

The usual text-book descriptions of hydrophobia give a clinical course of the disease divided into three stages. It is, however, difficult in practice to separate the clinical manifestations by any fixed rule.

The incubation period is usually about six weeks. In both the cases reported in this paper it was about that length. The onset of the disease is marked by several days of malaise, with slight fever, anxiety and, in a large number of cases, irritation at the seat of the infecting wound. The temperature at this stage is usually elevated one or two degrees, although it may remain at normal. This stage of irritation soon passes over to the convulsive stage. In some cases there is no convulsion or spasm, and the premonitory stage is followed by the paralytic symptoms. The symptoms of the second stage begin with more or less difficulty in the act of swallowing. Anything that excites the swallowing reflex mechanism causes an overflow spasm to the glottis, the muscles of the neck and sometimes to the jaw muscles. As the disease progresses the local spasm is replaced by a general convulsion. The mental state is one of increasing anxiety, both as to the outcome and as to other conditions, until a maniacal condition supervenes, or much more frequently the mental state of a hallucinatory delirium.

The patient may die in the convulsive stage from exhaustion and heart failure or a paralytic group of symptoms supervenes. This so-called paralytic stage may occur in cases where there is very little spasm of the muscles. In these cases it is spoken of as dumb or paralytic rabies. The paralysis is usually one beginning in the lower extremities and later affecting the other extremities. In the delirium there may be passing of the urine and stools in the bed. Some authors include among the paralytic group of symptoms the evidence of cardiac and respiratory failure.

ILLUSTRATIVE CASES.

The following two cases give a picture of the disease as it is met in private and hospital practice.

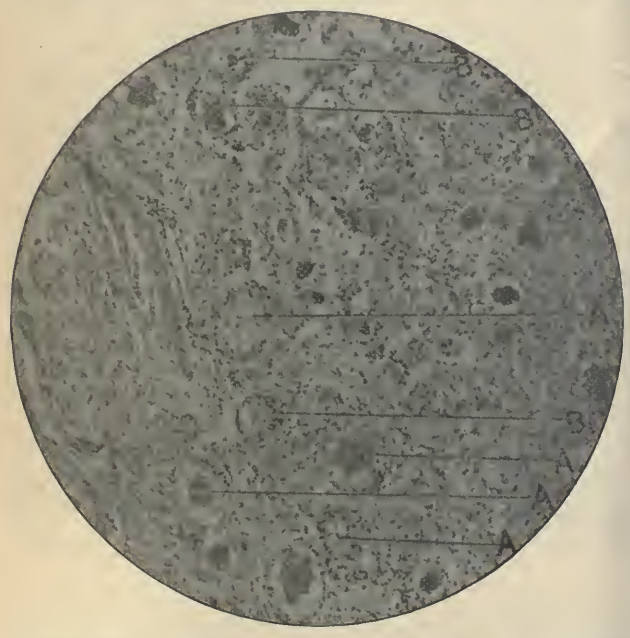
Case 1.—W. M., male, aged 5, had been perfectly well up to May 13, 1901. At that time he was bitten on the cheek by a stray dog. The wound healed and he appeared to be in good health until Saturday, June 15. During that night he cried during his sleep. The following day he was up and about, but did not appear to be well. He ate very little during the day. Citrate of potassium was administered by the mother; free purgation resulted. Sunday evening he did not appear to be able to drink, as he asked for water and then told them to take it away after attempting to drink it. Monday he was admitted to St. Joseph's Hospital, with a temperature of 101. He was very much frightened, according to notes of the case, evidently the irritative stage of the disease. He was tested as to his ability to drink, and every time he attempted to swallow there resulted a spasm of the glottis and the muscles of the neck and face. He refused to repeat the first attempt. After reassuring him, he again attempted to swallow a mouthful of water, but it came out through the nose by the spasm of the neck, throat and face muscles as in the first attempt. Later the nurse succeeded in getting him to swallow a portion of an apple. In attempt-

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. A. Stengel, Winfield S. Hall and Frank B. Wynn.

ing to wash him, he became nervous when his face was washed, but was still very nervous from the tests at swallowing. At 7:30 p. m. he succeded, with much difficulty and after much persuading, in drinking 6 ounces of weak coffee. Marked spasms occurred with each mouthful of the fluid swallowed. Shortly after this general tonic convulsions ensued, the contractions of the legs being most marked. At 11 p. m. the pulse became very rapid, the patient became very restless, and in a short time delirium ensued. He imagined he saw his father under a sheet, with holes in it for eyes. The expression, which from the beginning was very anxious, now assumed a terrified aspect. At 11:15 he was pulseless, did not react to stimuli, and died at 12 m.

Autopsy.—The examination of the viscera showed nothing abnormal. The pons and medulla were markedly congested, and in some areas had the appearance as if some small hemorrhages were present.

The microscopic examination of the pons, medulla and cerebral crura showed a diffuse advanced degeneration of the ganglion cells by the Nissl method. Some of the nerve cells had entirely disappeared and in their place accummulations of deeply staining nuclei could be seen. These nuclei of Babes were more frequent in the medulla than elsewhere. Around the blood vessels of the pons and medulla large accumulations of these same nuclei were present. Capillary hemorrhages were found in the upper portion of the medulla, or under the floor of the fourth ventricle.



Section of intervertebral ganglia of the cow (Case No. 1), showing the lesions of rabies. A. Marked vacuolation and degeneration of ganglion cells. B. Advanced capsular proliferation filling up the ganglion cell capsule with the proliferated capsule cells.

The intervertebral ganglia showed marked changes. The cells were in a state of advanced diffuse chromatolysis. The capsules of all the cells showed more or less cell proliferation. Some of the capsules were entirely filled with the proliferated capsular cells. The peripheral nerves showed no degeneration.

This case is of special interest on account of its fulminating character. The patient was only sick three days. In reality only one day intervened between the development of the irritative group of symptoms and the boy's death. There were no paralytic symptoms noted. The intensity of the bulbar lesions could easily account for the rapid course of the disease. The perivascular lesions were in their extent and character more like those observed in the lower animals than those of the human being, where all the lesions, as a rule, are less in degree.

We take this opportunity of putting the following case on record:

CASE 2.—The patient was a girl, 8 years of age, who came under the care of Dr. Frederick Krauss on Aug. 12, 1900, by whom diagnosis of rabies was made, and to whom we are indebted for the history. Six weeks before, the child had been bitten on the right ear by a stray dog which she was petting because it seemed to be sick. The dog was put out of the house and lost sight of. The wound was cauterized with nitrate of silver by a druggist, and healed without suppuration. On August 11 the child complained of lassitude, but was restless, and on account of these symptoms her mother gave her a dose of castor oil. The next morning inability to swallow was observed, being attributed to "sore throat," and soon after her mother noticed that, on being touched with a wet towel or exposed to slight draughts of air, she was frightened and startled. Dr. Krauss was called in on this day. The temperature was 100, pulse 120. On giving her a glass of water, she would look at it with dilated pupils for a moment, then suddenly grasp it and quickly attempt to swallow a mouthful. Every trial was followed by severe tonic convulsive contraction of the pharyngeal constrictors and the more external muscles of the neck, lasting about fifteen seconds. Repeated attempts were made, always with the same result. In reply to a question, she said that she was not afraid of the water, but it hurt her throat very much when she swallowed it. She shrank from the slightest current of air. Large doses of bromid of potassium and chloral with morphin were given, but without effect, and the symptoms grew more marked. She passed a sleepless night. On the morning of the thirteenth her temperature was 101.5, pulse rapid. Later in the day she developed a state of intense excitement. She would lie quiet and apparently conscious for a time, then without warning suddenly spring up to her mother, crouch down with short cries of fear, looking at the wall with an expression of great dread, and seemingly unconscious of her surroundings. After about two minutes she would wake as from a dream. Repeated hypodermic injections of morphin had no effect, and she was sent to St. Christopher's Hospital. After a short remission the convulsive seizures became so frequent that almost constant inhalation of chloroform became necessary. When this was left off, she would utter short and loud cries of fear, which might well have been mistaken for the bark of a dog, and attempt to spring out of the bed. Death took place on the morning of the fourteenth, at 6 o'clock.

Autopsy.—The examination revealed congestion of the brain and meninges and minute hemorrhages, while the severity of the convulsions was proven by rupture of the pleura. The train of symptoms left no doubt in the mind of the attending physician that the case was one of hydrophobia, and the diagnosis has been abundantly confirmed by the inoculation of rabbits, as well as by microscopic examination of the bulb and plexiform ganglia of these animals. The inoculations were carried through four generations, the rabbits all dying with typical symptoms of rabies, with the exception of one of the first generation, which died thirty-six hours after inoculation from septicemia. Besides the microscopic examination mentioned, full series of cultures were made, with the object of detecting any accidental infection during inoculation or after. These cultures remained sterile in every instance, so that we are able to exclude with certainty any known bacterial disease.

The clinical and microscopic evidences so far presented in connection with hydrophobia (human being) gives us as much right to regard it as a distinct clinical entity with a distinctive pathology as we have to regard syphilis or tuberculosis as distinct diseases.

EXAMINATION OF ANIMALS WITH RABIES.

We have had submitted to us for examination 105 animals suspected or known to be rabid, including 28 cases reported to the Pathological Society of Philadelphia Jan. 10, 1901. Of these 75 were dogs, 11 cows, 2 horses, 2 cats and 15 rabbits (experimental).

One of the cows and all of the rabbits were experimentally infected. In 83 cases the clinical symptoms

and history were positive of rabies. Many of the dogs were sent to the Veterinary Hospital of the University of Pennsylvania and were under observation from one to three days before death. Forty cases were controlled by the inoculation of rabbits, a few being carried through four generations. In 60 both the medulla and the intervertebral ganglia were examined. In 36 cases only the ganglia were examined, in 7 cases only the medulla. In 2 cases neither could be examined.

In only two cases have we failed to find the lesion of Babes in the medulla when the changes in the ganglia were marked, but in several the bulbar lesion was slight. The vascular tubercle of Babes is much more often found than the one having the nerve cells as a starting point. While the vascular tubercle is frequently found accompanied by very slight changes in or about the nerve cells, we have not seen a case in which the reverse was true.

Of the 75 dogs examined 22 were killed and 53 died. In 44 the type of the disease was furious, in 9 paralytic and in 22 mixed or not reported. We have examined those animals which were killed with especial interest, since in practice we are asked to give a rapid diagnosis in a large number of such cases. The studies of Cuillee and Vallee in France have shown that in dogs experimentally inoculated, then killed at various times after symptoms of rabies have appeared, the changes in the ganglia may not be found, hence the advice is given to allow the disease to run its course, ending in death. Of the 22 dogs which were killed, in 7 we could give no opinion. In 3 of the 7 both the medulla and ganglia were examined. The importance of allowing the animal to die is manifest from this, since in at least one-third of the cases where the animal is killed prematurely no diagnosis can be made except by inoculation with the attendant delay.

The value of the microscopic method is shown in the fact that in 87 of our 105 cases we were able to give a prompt diagnosis by examination of the ganglia alone, and in 94 by the ganglia or medulla.

In view of the fact that changes in the ganglia somewhat similar to those found in rabies have been described in other processes—endothelioma (Speller), diphtheria (Crocq), chronic alcoholism (Burr and McCarthy), forage poisoning (McCarthy and Ravenel)—the clinical history should always be taken into consideration in making the diagnosis. We know of no acute disease in dogs presenting the proliferation of the capsular cells and the tubercle of Babes, and would consider them as diagnostic of rabies in conjunction with a history of an acute clinical course of the disease.

DISCUSSION

ON THE PAPER OF DRS. M'CARTHY AND RAVENEL.

Dr. Louis C. Ager, Brooklyn—I had a case in the winter, a man bitten by a dog supposed to be mad. The dog was sent to the Pasteur Institute and the diagnosis of hydrophobia confirmed. After treatment at the institute the man came home, on a Friday, and on the following Sunday he was taken sick with nervous symptoms and finally developed a double facial paralysis. Sensation was not affected. He finally recovered, and is now a well man. I have always been curious to know whether this was due to the treatment.

Dr. Leo Loeb, Chicago—Lesions have been found in other diseases similar to the ones described in rabies. To judge from our experience with other toxins we would not expect a certain histologic change to be absolutely characteristic for the action of one poison. But for practical purposes, if all circumstances are taken into account, this method seems to be sufficient.

Dr. M. P. Ravenel, Philadelphia—Among our control cases have been a considerable number of animals which had been used in testing diphtheria and tetanus antitoxins. Many of these animals had lived for a considerable time after showing the symptoms characteristic of the poisons. Animals poisoned by diphtheria toxin were selected because Crocq has found in one case of membranous croup in a child changes similar to those described by Van Gehuchten and Nélis. In none of the animals examined did we find any lesions at all like those seen in rabies. We have also examined a number of cases of distemper in dogs, a disease in which there is often a slow paralysis of the hinder extremities, and several cases of chorea, also in dogs. In none of these have we found similar changes. While we do not hold that these lesions are pathognomonic of rabies, we feel assured that, taken in connection with the clinical history, they are absolutely diagnostic.

In man some four cases have been reported in which changes similar to these have been found, but none of them could possibly have been mistaken for rabies. In the lower animals, in spite of the large number of examinations made by others, as well as by ourselves, I know of but two instances in which changes which could have been mistaken for those of rabies have been found. Both of these were in animals which died of forage poisoning; one a calf, in which the changes were very slight, and the other a horse, which showed well-marked lesions. The lesion is, however, not at all constant in this disease, for we have found it only twice, though many cases have been examined.

As far as dogs go—and this is the animal in which we are most interested in this connection—we have yet to meet with the first case in which there is the slightest reason to suspect that the microscopic findings have led us astray. The experience of two years, amounting to 105 cases, controlled by a large proportion of inoculations, as well as the study of clinical histories and the examination of animals dead of various other diseases, has convinced us of the great diagnostic value of the gangliar lesion discovered by Van Gehuchten and Nélis.

Dr. W. Becker, Milwaukee, Wis.—Three months ago I performed an autopsy of this kind and made an examination of the spinal cord and ganglia. The only change I noted in the spinal ganglia was a slight tendency toward washing away of the border of the nucleus, and the nucleolus was not as distinct as in normal spinal ganglia. Nessl's bodies were not much affected except the outlines, which were a little indistinct. All I found was a hyperemia, which is hard to diagnose in the spinal cord, this hyperemia extending upward from the dorsal region to the beginning of the cervical enlargement. There was little cellular proliferation around the blood vessels. The changes were not identical with the specimens shown here. I have performed many experiments with diphtheria toxin, and have gotten results similar to those obtained with tetanus toxin, and in neither of these cases was there anything characteristic of the lesions shown here.

Dr. E. R. LeCount, Chicago—How long would it be safe to let dogs live when you wish to make a diagnosis of rabies? Are there any cases of dogs recovering? I would remind the section that last year at St. Paul Dr. Ohlmacher showed some beautiful specimens illustrating the processes described.

Dr. M. P. Ravenel, Philadelphia—I have never seen a dog live more than three days after the diagnosis is wished for, and usually the time is not so long, so that we can afford to let the dog die of the disease. I have sometimes allowed persons to kill a dog in the last stages of the disease after the paralysis was well marked, and had no trouble in making the diagnosis thereby. There are on record only three or four cases of recovery from rabies in the lower animals. It is an extremely rare thing. If a dog is killed prematurely we may fail to find the characteristic lesions of rabies, and yet we can not exclude rabies, since sufficient time for the production of the changes was not allowed. In such a case it is impossible to say whether the dog was mad or not. The great point is that when these lesions are found we can say with absolute confidence that the dog was rabid, but their absence in a dog killed prematurely does not justify us in saying that the animal was not rabid. In all cases it is well to allow the dog to die of the disease when a rapid diagnosis is demanded.

Dr. D. J. McCarthy, Philadelphia—In reference to the case which suffered with nervous symptoms and took the Pasteur treatment, I have nothing to offer. I should suppose that it was due to the antitoxin or the treatment itself, but I confess that in a case like this I would not like to offer a positive opinion. As to the matter of these lesions occurring in other conditions, I merely did the microscopic work relative to the neuropathology. But I can say that we have never come across lesions in the intervertebral ganglia in other conditions exactly similar to those of hydrophobia. I reported a case of multiple neuritis with Dr. Burr, in which these capsule cells had proliferated and there was a multiple neuritis, but the lesions were not the same and were without round cell infiltration. The grouping of the cells was in the interstitial tissue rather than in the capsule itself. From *a priori* reasoning we expected to find these lesions in other acute conditions, but as yet we have not found them, except in the isolated cases of epidemic forage poisoning in horses and in the case of diphtheria reported by Crocq.

THE PLANTAR REFLEX IN EPILEPSY, WITH SPECIAL REFERENCE TO THE BABINSKI PHENOMENON.*

J. M. KENISTON, M.D.
MIDDLETOWN, CONN.

There is a wide diversity of opinion among writers and observers as to the nature and variety of the reflexes in epilepsy with brief, if any, allusion to the plantar reflex, which apparently either escaped observation or was not recorded until within a comparatively recent period. I find no reference to the subject by Gray or Dercum. Dana[1] says: "Immediately after the attack there is a temporary exhaustive paralysis with loss of knee-jerk." Hare[2] says: "Reflexes are decreased or lost in epilepsy immediately after an attack." Osler[3] states that "after the attack the reflexes are sometimes absent; more frequently they are increased and the ankle clonus can generally be obtained." Strümpell[4] says: "The cutaneous reflexes are still suspended directly after an attack; but the tendon reflexes are generally somewhat exaggerated, although sometimes they are diminished or absent."

Gowers[5] states that "for a few seconds after a severe fit reflex action in the limbs remains absent. Tickling the sole no longer causes a movement of the leg, and the loss may involve the muscle-reflex action, so that the knee-jerk can no longer be obtained, as Westphal first showed. But this stage of loss is succeeded by temporary increase of myotatic irritability, so that the knee-jerk is excessive and the foot clonus may be obtained. In most cases this increase is alone to be detected. It may be present only on the side on which the convulsion was most severe, i. e., on the side toward which the head is turned. It lasts a few minutes and then passes away. These phenomena are probably the result of temporary exhaustion of the centers concerned—of the muscle-reflex center in the case of loss; of the controlling structures (the terminations of the pyramidal fibers) in the case of excess." Bevan Lewis[6] says that "certain seizures are invariably followed by exalted knee-jerk and well-marked ankle clonus, the latter immediately succeeding or following a few minutes after the fit. In contrast there are instances where the knee-jerk is completely lost after a severe fit, reappearing slowly in the course of four or five minutes." He does not mention the plantar reflex.

Collier[7] in 40 epileptics found the extensor reflex present in 38 cases and absent in 2 cases. After every fit of severe convulsions, lasting any length of time, the extensor response was found and lasted for some time. In a patient who had fourteen severe fits in forty hours the extensor response was always present, persisting for seven hours after the last attack, when the flexor response returned. Walton and Paul[8] found the plantar reflex absent in 7 out of 18 cases tested. Eskridge[9] in 100 cases of epilepsy found the "plantar reflex present in 93 and absent in 7. In 21 cases subsequently observed the flexor response was present in 18 cases and irregular in 3. In reply to a letter of inquiry in regard to the "irregular" response, Dr. Eskridge writes:* "The irregularity consisted in the plantar reflex being neither distinct extension nor flexion. In neither was there a distinct extensor reflex, or Babinski sign, but there was a flexion of the outer toe generally, and in some, one or two, the smaller toes only would flex. The cases were not observed directly after a seizure, but during the interval, when the patient had resumed his normal condition. I have not had an opportunity since I have been observing the plantar reflex to investigate for the presence or absence of the Babinski sign immediately after the convulsions. In most cases of epilepsy where plantar reflex has been present it has been flexion in character; in many cases of epilepsy plantar reflex has been absent. When the patients have been on full doses of bromids the plantar reflex has been invariably absent and usually the knee-jerks also."

Oppenheim[10] does not allude to the plantar reflex in epilepsy, but says "the reflexes are abolished during the attack, and the loss of reflex excitability may last somewhat longer than the attack." It is interesting to quote in full his description of the plantar reflex. "By this term we understand the phenomenon in which excitation of the sole of the foot produces a movement in which the foot is suddenly drawn back. Naturally every form of excitation may produce this movement—touch, hot or cold applications, tickling, etc. The stronger the stimulation the stronger the reflex. The common form is a dorsal flexion (extension?) of the foot and toes; a plantar flexion occurs rarely. A contraction of the tensor fasciæ latæ may be produced by excitation of the sole. In extreme cases not only the foot, but the whole limb may be drawn back by flexion at the hip and knee. The intensity of the reflex varies. Many persons show a response only to very strong excitation, as deep pricking with a needle. Considerable variation exists among individuals as to their sensitiveness to tickling and the reflex produced thereby. We can increase the intensity of a reflex by prolongation of the stimulus or rapid repetitions of single excitations."

L. Pierce Clark[11] says: "Since the discovery of the cortical motor area and the pyramidal tracts it has been generally admitted that without the cortex there can be no epilepsy, and the impulses from the cortex must travel to the peripheral nerves along the pyramidal paths, but beyond this nearly everything is still in dispute, and the investigations of different workers are so variant as to make it impossible to harmonize their conflicting views and researches. Cestan and Le Sourd discuss at length the clinical value of the "toe phenomenon" of Babinski, and give the result, among other diseases of the nervous system, of examination of a number of cases of epilepsy. Babinski maintained that there was a close clinical connection between the toe

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Richard Dewey and H. A. Tomlinson.

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phenomenon and "spinal epilepsy," mainly because the toe phenomenon showed as the first symptom of pyramidal involvement in disease of the nervous system. Cestan and Le Sourd therefore hold with Babinski that in partial epilepsies dependent upon organic changes in the pyramids the toe phenomenon is of great importance in diagnosis. This is especially valuable when we remember that even now may organic lesions upon which the so-called idiopathic epilepsies really depend go unrecognized because of the great difficulties which surround their detection."

Beevor[12] states that "the plantar reflex was absent immediately after the clonic stage, but returned in from three to thirteen minutes, the average lapse of time before its return being five minutes. Observations were made on 70 in 31 different cases, 47 immediately after the paroxysm and 23 shortly after."

Since October, 1899, the writer has examined the plantar reflex in 35 insane male epileptics under his care, making in all 1,088 tests directly after a seizure, as soon as clonus had ceased, and an equal number one hour later. In 6 cases epilepsy was congenital; in 3 it had lasted for from one to five years; in 2, from five to ten years; in 7 from ten to fifteen years; in 7 from fifteen to twenty years, and in the remainder over twenty years. Cases of grand mal only were tested.

Numerous examinations on each patient were first made at long intervals—one to three days—after a seizure, in order to establish the form for each individual as a basis for comparison. During the tests no bromids or other drugs were used, and a reasonable period was allowed for elimination when they had previously been taken. My chief aim in making these investigations was to ascertain how often the Babinski phenomenon was present; first, in the intervals; second, directly after a seizure, and third, one hour later. Attendants were carefully trained, and no test was accepted until I was absolutely sure that they were competent to observe and record exactly what happened—no more and no less. The interest they displayed and their proficiency are here gratefully acknowledged. Many of the tests were made by the writer personally and many more under his direct supervision.

Certain precautions were insisted upon. The feet must be dry and warm, and shoes and stockings removed before the clonus had ceased, in order to avoid delay. The patient's muscles must be perfectly relaxed and mental repose complete. A smooth stick with a blunt end was used and a deliberate and even stroke, made with moderate pressure from heel to ball of foot, along the outer part of the sole.

Morton Prince[13] says: "One cause of the discrepancies in reported observations is that there may be two distinct plantar reflexes, one of which is probably cerebral and one spinal. The normal cerebral reflex is generally, if not always, extension of the toes with the same movements (i. e., extension) of the foot. If precautions are not taken the cerebral reflex may mask the spinal reflex and give erroneous results; that is, override the spinal flexion (normal plantar reflex) and produce an extension." It is needless to say that the cerebral reflex, which also includes the withdrawal of the foot and active movements of the leg, was always excluded from my tests.

In the cases where the extension response is recorded there was a deliberate extension of the great toe, more or less marked, usually with separation of the four outer toes. Occasionally only the two outer toes were separated, the other two (second and middle) not moving. In a very few cases there was no response in any of the four outer toes. In no case was there flexion of any of the outer toes with extension of the big toe. In all cases where the extensor response was present there was dorsiflexion of the ankle, usually of moderate extent, and occasionally a temporary increase of the plantar arch. In two cases it was very difficult to secure mental repose and consequent complete muscular relaxation, thereby inhibiting the cerebral reflex. Hence, all observations where these conditions were not completely fulfilled were rigidly excluded.

Here follows a brief abstract of the thirty-five cases, with reports of two autopsies.

CASE 1.—Farmer, aged 41, epilepsy congenital; type, grand mal. Has occasional stupor lasting from four to fourteen days. Intervallary reflex; both feet flexor,* with an occasional extensor response in left foot. Knee-jerks very active; 32 tests. Results after fits: both feet negative, 9; both feet extensor, 4; right negative, left extensor, 2; both feet flexor, 3; right flexor, left negative, 5; right flexor, left extensor, 9. One hour after: both feet negative, 1; both feet extensor, 2; both feet flexor, 17; right flexor, left negative, 2; right flexor, left extensor, 10.

Here there was complete abolition of plantar reflex in 28 per cent. of tests after a seizure, and in only 3 per cent. one hour later. The intervallary reflex (in this case the normal one) was present in 9.4 per cent. after seizures, and in 53 per cent. one hour later.

CASE 2.—No occupation. Age 23; epilepsy at 19, after a fall. Type, grand mal. Has had occasional dreamy states, and during past three months has been in a stupor, with spastic gait and rather rigid muscles. 65 tests. Intervallary reflex is flexor in right foot; extensor in left; knee-jerks exaggerated. Results after fits: both feet negative, 35; both feet extensor, 19; right extensor, left negative, 3; right negative, left extensor, 4; both feet flexor, 2; right flexor, left extensor, 2. One hour after: both feet negative, 13; both feet extensor, 11; both feet flexor, 14; right flexor, left negative, 8; right flexor, left extensor, 16; right negative, left extensor, 3. In four tests stroking of left foot produced extension of big toe on right foot (crossed plantar).

Here there was complete abolition of plantar reflex in 53.8 per cent. of tests after a seizure, and in 20 per cent. one hour later. The intervallary reflex (right foot flexor, left extensor) was present in only 30 per cent. after a seizure, and in 24.6 per cent. one hour later.

CASE 3.—Age 23; no occupation; father died insane. Traumatic epilepsy, due to blow on head in left temporal region at 10. Quiet dementia. Seizures very infrequent; grand mal. Intervallary reflex is flexor, both feet, rather slow, with absent knee-jerks. Only three tests made. Results after seizures: both feet extensor, 1; both feet flexor, 2. One hour after; both feet extensor, 1; both flexor, 1; both negative, 1.

In this case there was some kind of reflex after each seizure, and abolition in one foot only one hour later, or 33.3 per cent.

CASE 4.—Age 19; no occupation. Epilepsy began at 13; grand mal; 24 tests. Intervallary reflex: both feet flexor; knee-jerks very active. Results after fits: both feet negative, 23; right negative, left extensor, 1. One hour later: both feet negative, 1; both feet extensor, 6; both flexor, 9; right flexor, left extensor, 8.

Here there was complete abolition of plantar reflex in 96 per cent. of tests after a seizure, and in only 4 per cent. one hour later. The intervallary reflex was present in no case after a seizure, and in 37.5 per cent. one hour later.

CASE 5.—Barber, aged 68; alcoholic epilepsy; onset at 48; seizures very infrequent; grand mal; 3 tests. Intervallary reflex, mixed form, extension predominating. Knee-jerks active. Results after fits: both feet extensor, 1; both feet flexor, 2. One hour later; both feet negative, 1; both extensor, 1; both flexor, 1.

* In all the cases, as well as in the table, etc., it should be understood that the words "feet" or "foot flexor, extensor," etc., mean a flexion or extension of the *toes*; negative—no response.

CASE 6.—Farmer, aged 38. Epilepsy developed between five and ten years of age; grand mal; 75 tests. Intervallary reflex, mixed form—sometimes flexor, sometimes extensor in either or both feet.

Results after fits: both feet negative, 37; both feet extensor, 10; right extensor, left negative, 3; right negative, left extensor, 8; right flexor, left negative, 3; right negative, left flexor, 7; right extensor, left flexor, 2; right flexor, left extensor, 5. One hour later: both feet negative, 31; both feet extensor, 11; right extensor, left negative, 2; right negative, left extensor, 2; both feet flexor, 2; right flexor, left negative, 2; right negative, left flexor, 1; right flexor, left extensor, 24.

Here there was complete abolition of the plantar reflex in 49.3 per cent. of tests after seizures, and in 41.33 per cent. one hour later. The intervallary reflex occurred in 50.7 per cent. of tests after seizures, and in 55.67 per cent. one hour later.

CASE 7.—Farmer, aged 50; epilepsy at 25; grand mal; seizures very infrequent. Has occasional furor and equivalents; 11 tests made. In the intervals there is complete absence of plantar reflex and knee-jerks. Results after fits: both feet negative, 10; right foot flexor, left negative, 1. One hour later: both feet negative, 4; both feet flexor, 3; right flexor, left negative, 3; right flexor, left extensor, 1.

Here there was complete abolition of plantar reflex in 90 per cent. of tests after seizures, and in 36 per cent. one hour later.

CASE 8.—Age 26; no occupation. Epilepsy began at age of five months. Patient is practically an imbecile. Seizures very frequent; grand mal; 14 tests. Intervallary reflex: flexor in one foot, usually the right; absent in the other; knee-jerks moderate. Results after fits: both feet negative, 6; both feet flexor, 3; right flexor, left negative, 1; right flexor, left extensor, 4. One hour later: both feet negative, 8; both feet flexor, 5; right flexor, left negative, 1.

Here there was complete abolition of plantar reflex in 43 per cent. after fits, and in 57 per cent. one hour later.

CASE 9.—Factory employe, aged 33. Epilepsy appeared at 22; has occasional stupor; 39 tests. Intervallary reflex: usually right foot extensor, left flexor; occasionally extensor in both feet; knee-jerks moderate. Results after fits: both feet negative, 22; both extensor, 9; right extensor, left negative, 3; right negative, left extensor, 3; right flexor, left extensor, 2. One hour later: both feet negative, 5; both feet extensor, 8; right extensor, left negative, 1; both feet flexor, 7; right flexor, left negative, 2; right flexor, left extensor, 16.

Here there was complete abolition of plantar reflex in 56.4 per cent. after seizures, and in 12 per cent. one hour later. The usual intervallary reflex was found in no case after seizures or one hour later.

CASE 10.—Mechanic, aged 34; epilepsy developed at 21; grand mal; 102 tests. Intervallary plantar reflex: flexor in one or both feet; knee-jerks moderate. Results after fits: both feet negative, 78; both feet extensor, 1; right extensor, left negative, 3; right negative, left extensor, 2; both feet flexor, 2; right flexor, left negative, 11; right negative, left flexor, 2; right flexor, left extensor, 3. One hour later: both feet negative, 34; both feet extensor, 7; right extensor, left negative, 6; right negative, left extensor, 5; both feet flexor, 4; right flexor, left negative, 37; right negative, left flexor, 2; right flexor, left extensor, 7.

Here there was complete abolition of plantar reflex in 76 per cent. of tests after seizures, and in 33 per cent. one hour later. The intervallary reflex was present in 14.7 per cent. after seizures, and in 42 per cent. one hour later.

CASE 11.—Plumber, aged 48; onset of epilepsy at 20 following left hemiplegia. Measurements of limbs as follows:

	Right.	Left.
Arm—length	37.5 c.m.	38.3 c.m.
Arm—circumference	33.7 c.m.	28.6 c.m.
Forearm—length	25.4 c.m.	23.4 c.m.
Forearm—circumference	29.9 c.m.	26.0 c.m.
Hand—circumference	21.0 c.m.	19.7 c.m.
Thigh—length	53.5 c.m.	53.5 c.m.
Thigh—circumference	57.8 c.m.	50.8 c.m.
Leg—length	38.8 c.m.	38.2 c.m.
Leg—circumference (calf)	36.2 c.m.	31.2 c.m.
Ankle—circumference	24.7 c.m.	24.7 c.m.
Foot—circumference (arch)	24.7 c.m.	24.7 c.m.

Patient has no use of left hand, which shows marked wrist drop with flaccid contractures of fingers, but can swing arm from shoulder. Left foot shows marked pes cavus. Patient swings and partially rotates left foot in walking, bringing it to the floor with a sudden flap. Character of seizures, grand mal, very severe, and average 1-1.8 days; 29 tests made. Aura; dazzling of eyes, and everything seems to be in motion, and a chill comes over left side of body. Convulsions begin by a shaking of the right hand; then a wild cry is uttered and he falls to the floor; convulsions pass rapidly down right side to foot, causing it to turn inward, and then pass over to left side, where they are most severe. Clonus lasts about three minutes, is followed by stupor for about five to ten minutes, when he arises, and resumes his seat as if nothing had happened. Intervallary plantar reflex; right foot flexor, left (paralyzed) foot, a marked extensor. Results after seizures: both feet negative, 13; right flexor, left negative, 9; right flexor, left extensor, 4; right absent, left extensor, 3. One hour later: both feet negative. 15; right flexor, left extensor, 5; right flexor, left negative, 4; both feet extensor, 1; both feet flexor, 1; right negative, left flexor, 3.

Here there was complete abolition of plantar reflex in 45 per cent. of seizures after fits, and in 51.7 per cent. one hour later. It is interesting to note that the usual intervallary reflex—right flexor, left extensor—was present in four tests out of twenty-nine, after fits, and in five one hour later. There was an extensor response in left foot only in three other tests after fits, and one hour later an extensor response in both feet. There was never any flexor response in left foot after seizures, but it occurred in four tests one hour later. Why there should be a flexor response in the paralyzed foot I am unable to explain.

CASE 12.—Age 32; no occupation. Onset of epilepsy during first dentition. Seizures have continued ever since at pretty regular intervals, with steadily progressive mental deterioration. Has periodical excitements when he stutters and repeats phrases, etc. (word clonus). Seizures usually nocturnal; only seven day-seizures in past three years; 74 tests. Intervallary plantar reflex; flexor response in both feet; knee-jerks absent. Results after fits: both feet negative, 64; both feet extensor, 1; both feet flexor, 1; right flexor, left negative, 6; right negative, left flexor, 1; right flexor, left extensor, 1. One hour after: both feet negative, 22; both flexor, 19; right flexor, left negative, 29; right negative, left flexor, 3; right flexor, left extensor, 1.

Here there was complete abolition of plantar reflex in 89 per cent. of tests after seizures, and in 30 per cent. one hour later. The intervallary reflex was present only once after seizures, and in 26 per cent. one hour later.

CASE 13.—Factory employe, aged 49; alcoholic epilepsy; onset at 36; seizures infrequent; grand mal; 42 tests. Intervallary reflex: right foot flexor, left negative; knee-jerks moderate. Results after fits: both feet negative, 23; right flexor, left extensor, 5; both feet extensor, 7; right flexor, left negative, 1; right negative, left flexor, 3; right flexor, left extensor, 3. One hour later: both feet negative, 20; both extensor, 3; right extensor, left negative, 1; right negative, left extensor, 3; right flexor, left negative, 7; right negative, left flexor, 4; right flexor, left extensor, 4.

Here there was complete abolition of plantar reflex in 55 per cent. of tests after seizures, and in 48 per cent. one hour later. The intervallary reflex was present only once after a seizure, and in 16.6 per cent. one hour later.

CASE 14.—Age 34; no occupation; epilepsy began at four. Has had repeated furors in former years, in one of which he killed a man with a blow of his fist. Now displays fluctuations chiefly in the emotional sphere, having periodical depressions when he reproaches himself, weeps, fears death is imminent, and begs piteously for a priest and his brother. Seizures severe but infrequent; 16 tests. Intervallary plantar reflex: extensor in one or both feet. Results after fits: both feet negative, 12; right negative, left extensor, 3; right flexor, left negative, 1. One hour later: both feet negative, 10; both extensor, 1; right extensor, left negative, 1; right negative,

left extensor, 1; both flexor, 1; right negative, left flexor, 1; right flexor, left extensor, 1.

Here there was complete abolition of plantar reflex in 75 per cent. of tests after seizures, and in 62 per cent. one hour later. The intervallary reflex was present in 18 per cent. of tests after fits, and in 25 per cent. one hour later. This patient once had status epilepticus—12 severe seizures, each lasting from ten to fifteen minutes with intervals varying from ten to twenty minutes. Consciousness was totally abolished, not only in the intervals, but for four hours after the last fit, and during this whole period the plantar reflex was absent in each foot.

CASE 15.—Age 28; no occupation; onset of epilepsy in "childhood." Patient is pompous and affected; writes absurd poetry; and has had several attacks of status which were always aborted by compression of the carotids. Seizures very frequent and severe; 14 tests made. Intervallary plantar reflex: both feet an active flexor, with very active knee-jerks. Results after fits: both feet negative, 5; both extensor, 1; right negative, left extensor, 1; both flexor, 1; right flexor, left negative, 2; right flexor, left extensor, 4. One hour later: both negative, 7; both extensor, 3; both flexor, 3; right flexor, left extensor, 1.

Here there was complete abolition of plantar reflex in 36 per cent. of tests after fits, and in 50 per cent. one hour later. The intervallary reflex was present only once after a seizure, and in 21 per cent. one hour later.

CASE 16.—Laborer, aged 36. Had syphilis in 1894-5, epilepsy developing soon after. No focal symptoms. Has occasional dreamy states; seizures very infrequent; only 7 tests made. Intervallary plantar reflex; usually flexor in one or both feet; occasionally an extensor response in left foot, none in right; knee-jerks moderate. Results after fits: both feet negative, 3; both extensor, 1; both flexor, 2; right extensor, left flexor, 1. One hour later: both feet negative, 4; both extensor, 1; both flexor, 1; right flexor, left extensor, 1.

CASE 17.—Farmer, aged 51; heredity denied; cause unknown. Epilepsy appeared at 36; seizures occur in groups of four to eight, usually in one night, with intervals of about four weeks, and are very severe, being followed by profound stupor lasting from one to two days; 18 tests. In one group of four fits there was some kind of response after each; in another group of five there was a response after the second, third and fifth fit, and none after the other two. During the post-epileptic stupor the reflexes were absent in 33 per cent. of tests, and present in some form in the remainder. Intervallary reflex: extensor response in both feet usually, sometimes in right only. Results after fits: both feet negative, 15; right extensor, left negative, 2; right negative, left extensor, 1. One hour later: both feet negative, 6; both extensor, 3; right extensor, left negative, 4; right negative, left extensor, 2; right flexor, left negative, 1; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 83 per cent. of tests after seizures, and in 28 per cent. one hour later. There was an extensor response in either right or left foot in two tests after fits; and the usual intervallary response in 39 per cent. one hour later.

CASE 18.—Age 27; no occupation; grandfather insane; paternal great-uncle an epileptic. At age of 14 had whooping cough, and shortly after began to have epileptic seizures, which at first were nocturnal, and are so now for the most part. At times very religious, with periods of violence. Is a confirmed masturbator. Presents stigmata of degeneration—ogival palate, irregular rodent teeth, and asymmetry of skull and face. Averages 3.46 seizures daily, without bromid, the use of which, while diminishing the number of fits, makes him very irritable and unmanageable. He recovers rapidly from seizures and in the intervals is bright, alert, and keen, showing no perceptible deterioration for the past fourteen years; 84 tests. Intervallary reflex: extensor response in both feet; knee-jerks very active. Results after fits: negative, 38; both feet extensor, 9; right absent, left extensor, 5; both feet flexor, 9; right flexor, left negative, 9; right flexor, left extensor, 14. One hour later: negative, 20; both feet extensor, 3; right negative, left extensor, 1; both flexor, 31; right flexor, left negative, 22; right negative, left flexor, 1; right flexor, left extensor, 6.

In this patient we find his usual plantar reflex—an extensor response—present in only 9 out of 84 tests after seizures, and in only 3 one hour later; there was a flexor response in one or both feet in 18 and 53 cases, respectively, while the reflex was abolished in 38 and 20 cases.

CASE 19.—Laborer, aged 48; alcoholic epilepsy at 36, seizures very infrequent and usually nocturnal; 15 tests. Intervallary plantar reflex; flexion, with an occasional extensor response in left foot; knee-jerks very active. Results after fits: both feet negative, 11; both flexor, 2; right negative, left extensor, 2. One hour later: both negative, 3; both flexor, 8; right flexor, left negative, 1; right flexor, left extensor, 3.

Here there was complete abolition of plantar reflex in 73 per cent. of tests after seizures, and in 20 per cent. one hour later. The intervallary reflex was present in 13 per cent. and 60 per cent., respectively.

CASE 20.—Laborer, aged 42; epilepsy at 4. There is simple but pronounced deterioration, with infrequent transitory distempers; seizures of moderate frequency, but severe; 23 tests. Intervallary plantar reflex; an active extensor response in each foot; knee-jerks variable. Results after fits: both feet negative, 4; both extensor, 8; right extensor, left negative, 1; right negative, left extensor, 7; both flexor, 1; right negative, left flexor, 1; right flexor, left extensor, 1. One hour later; both feet negative, 5; both extensor, 8; right extensor, left negative, 3; both flexor, 4; right flexor, left negative, 1; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 17 per cent. of tests after seizures, and in 22 per cent. one hour later. The intervallary response (both feet extensor) was present in 35 per cent. after fits, and in 35 per cent. one hour later.

CASE 21.—Cigar maker, aged 26; onset of epilepsy at 11; has periodical transitory distempers; 44 tests. Intervallary plantar reflex; both feet flexor; very active knee-jerks. Results after fits: both feet negative, 30; both extensor, 3; right extensor, left negative, 1; right flexor, left negative, 2; right flexor, left extensor, 6; right negative, left extensor, 2. One hour later: both feet negative, 6; both extensor, 2; right extensor, left negative, 1; right negative, left extensor, 1; both feet flexor, 25; right flexor, left negative, 3; right flexor, left extensor, 6.

Here there was complete abolition of the plantar reflex in 68 per cent. of tests after seizures, and in 14 per cent. one hour later. The intervallary reflex was absent in all tests after seizures, but present in 57 per cent. one hour later.

CASE 22.—Farmer, aged 47; onset of epilepsy in childhood; has periodical transitory distemper; 16 tests made. Intervallary plantar reflex: variable, usually flexor in one or both feet, rather seldom extensor in both feet; knee-jerks moderate. Results after fits: both feet negative, 13; both extensor, 1; right extensor, left negative, 1; right flexor, left extensor, 1. One hour later: both feet negative, 3; both flexor, 13.

Here there was complete abolition of plantar reflex in 81 per cent. of tests after seizures, and in 19 per cent. one hour later. The intervallary reflex was absent after seizures, but present in 31 per cent. of tests one hour later.

CASE 23.—Farmer, aged 25; father intemperate; onset of epilepsy at 13. Besides typical grand mal he has peculiar attacks which warrant a full description. He also presents psychic equivalents in the form of brief periods of bewilderment, and occasional conscious delirium with a marked religious coloring. In October, 1898, he attacked without provocation a fellow patient, saying, "I want to kill you." Regular seizures: no aura; head and eyes draw slowly backward and to the right and then he would fall. Tonus lasted a few seconds, then the left shoulder would be elevated, the arms would lie close to side, hands clenched with thumbs between index and middle fingers, and a general clonus ensue. Clonus would be followed by a heavy sleep for two or three hours from which he could not be aroused.

In January, 1900, he averaged eight of these seizures daily for one week, when he became so exhausted that it was necessary to confine him to bed, where he remained quietly, rarely changing his position and apparently indifferent to the external world. Four days later he became very restless and exceedingly noisy at night. During the ten days that he remained in bed he had only four fits, but as soon as he was allowed to be in the ward he began to have a very peculiar kind of attack. At the beginning he would walk in a circle with diameter of about six feet, gradually going faster and faster until he fell to the floor, generally striking on his left side, with head flexed. As soon as he fell he would begin kicking with both feet and striking with his hands, or catching hold of anyone near him with a tenacious grip. During these attacks his muscles become rigid but there is no clonus. Consciousness is deeply clouded, although the eyes move as if recognizing objects. As he emerges from the attack he begins to laugh heartily, and in a few minutes gets up and has complete amnesia of all that has occurred. When the attacks occur at night he kicks around in bed for awhile and finally rolls (it is not a fall) to the floor, where he kicks very little, gets up and rattles the doorknob or raps on the door. This sort of attack was present for two months without any typical grand mal intervening, and has been noticed occasionally since. There was scarcely a day when he did not have at least one, and on some days he had four or five. In a few, consciousness was not wholly clouded and he would respond to a loud, sharp order.

Intervallary plantar reflex: right foot flexor, left extensor; reflex occasionally absent; knee-jerks moderate; 38 tests. Results after fits: both feet negative, 21; both extensor, 1; both flexor, 5; right flexor, left negative, 8; right negative, left flexor, 1; right flexor, left extensor, 1. One hour later: both feet negative, 16; both extensor, 1; both flexor, 8; right flexor, left negative, 8; right negative, left flexor, 5.

Here there was complete abolition of plantar reflex in 55 per cent. of tests after seizures, and in 42 per cent. one hour later.

All the above results were in cases of grand mal only; tests made during the peculiar attacks described above furnished variable results corresponding pretty closely to those found in the former.

CASE 24.—No occupation; age 28; onset of epilepsy at 10; occasional dreamy states; 29 tests. Intervallary plantar reflex: both feet a very active extensor; knee-jerks very active. Results after fits: both feet negative, 11; both extensor, 6; right negative, left extensor, 6; both flexor, 3; right flexor, left extensor, 3. One hour later: both negative, 9; both extensor, 13; both flexor, 3; right negative, left flexor, 2; right extensor, left flexor, 1; right flexor, left extensor. 1.

Here there was complete abolition of plantar reflex in 38 per cent. of tests after seizures, and in 31 per cent. one hour later. The intervallary reflex was present in 21 per cent. of tests after seizures and in 45 per cent. one hour later.

CASE 25.—Musician, aged 43; alcoholic epilepsy with marked deterioration, especially in memory and judgment. Seizures very infrequent and often light; 11 tests. Intervallary plantar reflex: both feet very active extensor; knee-jerks very active. Results after fits: both feet negative, 8; both extensor, 1; right negative, left extensor, 2. One hour later: both negative, 6; both extensor, 4; right flexor, left extensor, 1.

Here there was complete abolition of plantar reflex in 73 per cent. of tests after seizures, and in 55 per cent. one hour later. The intervallary reflex was present only once after a seizure, and in 36 per cent. one hour later.

CASE 26.—Laborer, aged 33; alcoholic epilepsy; seizures very infrequent, but numerous attacks of petit mal; 4 tests. Intervallary plantar reflex; mixed type; sometimes flexor or extensor in both feet, and sometimes flexor in right and extensor in left. Results after fits: both feet extensor, 2; right negative, left extensor, 1; both flexor, 1. One hour later: both feet flexor, 2; right extensor, left flexor, 1; right flexor, left extensor, 1.

CASE 27.—No occupation; age 40; had scarlet fever at 7, followed by paralysis of left side, with shortening and marked atrophy of limbs; left arm absolutely helpless. Convulsions began some time later, commencing in left side and rapidly becoming general; 16 tests. Intervallary plantar reflex; right foot flexor, with an active extensor response in left foot; knee-jerks exaggerated, more so on left side. Results after fits: both feet negative, 10; right negative, left extensor, 1; both feet flexor, 3; right flexor, left negative, 2. One hour later: both feet negative, 3; both flexor, 7; right flexor, left negative, 4; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 62 per cent. of tests after seizures, and in 19 per cent. one hour later. The intervallary response was absent after each seizure but present in 13 per cent. one hour later. The appearance of a flexor response in the left toes in three tests after seizures and in seven tests one hour later is interesting. The writer has, however, found similar anomalies in the reflex in several hemiplegics—not epileptic—at different times, i. e., sometimes an extensor response, sometimes a flexor and sometimes no response whatever in the paralyzed foot.

CASE 28.—Age 17; onset of epilepsy in infancy; has periodical distempers; seizures very infrequent but severe, and followed by several hours of stupor; 23 tests. Intervallary plantar reflex: right flexor, left extensor; occasionally extensor in both feet; knee-jerks very active. Results after fits: both feet negative, 21; right extensor, left negative, 2. One hour later: both feet negative, 4; right extensor, left negative, 2; both feet flexor, 11; right flexor, left negative, 3; right negative, left flexor, 1; right extensor, left flexor, 2.

Here there was complete abolition of plantar reflex in 95 per cent. of tests after seizures, and in 14 per cent. one hour later. The intervallary reflex was absent not only after seizures but also one hour later.

CASE 29.—Epileptic imbecile, aged 40; onset in infancy; seizures infrequent; 27 tests. Intervallary plantar reflex: right foot flexor, left negative; knee-jerks moderate. Results after fits: both feet negative, 25; right negative, left flexor, 1; right flexor, left extensor, 1. One hour later: both feet negative, 10; both flexor, 6; right flexor, left negative, 9; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 92 per cent. of tests after seizures, and in 37 per cent. one hour later. The intervallary response was absent after all seizures, and present in 33 per cent. of tests one hour later.

CASE 30.—Laborer, aged 64; alcoholic epilepsy; onset in middle life; seizures infrequent; 4 tests. Intervallary plantar reflex: flexor in one foot, the other negative; knee-jerks moderate. Results after fits: both feet negative, 3; right flexor, left extensor, 1. One hour later: both feet negative, 1; both flexor, 1; right flexor, left extensor, 2.

CASE 31.—No occupation; aged 41; a moderate drinker; epilepsy began at 23 after a severe attack of measles; seizures very frequent, averaging 1.69 daily. The bromids made him very irritable, and are seldom given; 84 tests. Intervallary plantar reflex: right foot extensor, left flexor not very marked; knee-jerks fairly active. Results after fits: both feet negative, 48; both extensor, 7; right extensor, left negative, 14; right flexor, left negative, 12; right flexor, left extensor, 3. One hour later: negative 37; both feet extensor, 5; right extensor, left negative, 7; right negative, left extensor, 3; both flexor, 8; right flexor, left negative, 16; right negative, left flexor, 6; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 57 per cent. of tests after seizures, and in 44 per cent. one hour later. The intervallary reflex was absent, not only after the seizures but also one hour later.

CASE 32.—Carriage maker, aged 54 (?); onset of epilepsy in 1883; had syphilis at age of 25-30. Has dreamy states, in one of which he lacerated his throat with a small piece of scrap-iron which he had picked up while out walking. Seizures infrequent; 26 tests. In the intervals the plantar reflex is absent; in only one out of numerous tests an extensor response was found in right foot; knee-jerks very sluggish and slight.

Results after fits: both feet negative, 19; right flexor, left negative, 3; right negative, left flexor, 2; right flexor, left extensor, 2. One hour later: both feet negative, 16; both flexor, 1. right flexor, left negative, 6; right negative, left flexor, 3.

Here there was complete abolition of the plantar reflex in 73 per cent. of tests after seizures and in 62 per cent. one hour later. It is interesting to note that in this case, where there is practically no plantar reflex in the intervals, some kind of response was found in 27 per cent. of cases after seizures and in 38 per cent. one hour later.

CASE 33.—No occupation; age 39; no history of case obtained; 37 tests. Intervallary plantar reflex: variable, with flexor response predominating; knee-jerks very active. Results after fits: both feet negative, 19; both extensor, 5; right negative, left extensor, 3; both flexor, 5; right flexor, left negative, 2; right flexor, left extensor, 3. One hour later: both feet negative, 11; both extensor, 7; both flexor, 7; right flexor, left negative, 4; right flexor, left extensor, 8.

Here there was complete abolition of the plantar reflex in 51 per cent. of tests after seizures, and in 30 per cent. one hour later. The intervallary reflex was present in 19 per cent. of tests after seizures and in 30 per cent. one hour later.

CASE 34.—Age 39; heredity unascertained; onset of epilepsy in childhood. Stigmata: ill-shaped and flaring ears, asymmetry of skull and face; narrow and high palate, and prognathism. Patient very religious, loquacious, with great tendency to detail and noisy. He had frequent attacks of moderate furor, usually following fits, but sometimes as equivalents. Seizures averaged one in two days, and were very severe; clonus began in right side of face—the eyes rolling in the same direction—and rapidly extended to right arm and leg, and then to left side. As clonus abated he would rub his right side, leg, and head. About five minutes later he would regain his feet and rush violently around the ward, screaming and resisting violently but automatically all attempts at restraint. Ofter he would whine in a peculiar manner. Consciousness was fully restored in about twenty minutes. He reacted poorly to bromids; 21 tests made. The intervallary plantar reflex was a flexor response in both feet; knee-jerks sluggish. Results after fits: both feet negative, 7; both extensor, 4; right extensor, left negative, 1; right negative, left extensor, 2; right flexor, left negative, 2; right flexor, left extensor, 5. One hour later: both feet negative, 3; both extensor, 7; right extensor, left negative, 1; right negative, left extensor, 1; both flexor, 1; right flexor, left negative, 6; right flexor, left extensor, 2.

Here there was complete abolition of plantar reflex in 33 per cent. of tests after seizures, and in 13 per cent. one hour later. The intervallary response was never present immediately after seizures, and but once only, one hour later.

Autopsy 13 hours after death. The specimens from the cerebral cortex and spinal cord were placed in the fixing and hardening solutions fourteen hours after postmortem. The cord specimens were fixed and hardened in Mueller's fluid, and those of the brain in a 95 per cent. alcohol (Nissl method) and Zenker's (eosin-methylene stain), and also in Mueller's fluid (Cox-Golgi method). The cord specimens were stained according to the Kulschitzky-Wolters method with Van Gieson's picric acid and fuchsin stain. The sections examined in the cord were taken from the first and eighth dorsal, the third lumbar, and fourth sacral segments. All of these sections presented a normal appearance. The brain weighed 1235 grams, but in all respects appeared normal from the microscopic examination. The microscopic examination of the cortex, including specimens from the right and left paracentral lobules, and from the first frontal convolution on each side, failed to disclose any apparent abnormality, except the great congestion of the blood-vessels. The cortex was not reduced in thickness, and the ganglion cells were well arranged and of normal number.

CASE 35.—No occupation; age 37; onset of epilepsy at 15; cause unascertained. About five years before death patient developed periods of stupor, lasting from three to ten days, during which his muscles were spastic, and there was complete incoördination, with static ataxia. He was usually kept in bed at these periods, but when up sat with head flexed to the limit; his hands were clenched with thumbs turned in, and arms drawn up, while one leg was crossed over the other, and swung rhythmically to and fro in an automatic manner. This swinging motion of legs was partly volitional, to all appearances. Occasionally he would walk in a zig-zag manner for a short distance, always stepping on the ball of the foot and toes, with the heel well elevated about two inches from the floor. One year before death this spastic condition became permanent, and often one could lift him as if he were a log. He always swallowed well, even to the very last. He had been completely demented for several years.

A marked ankle clonus was always present, and also a clonus of arms and legs on exertion. His knee-jerks were exaggerated to the most extreme degree, as well as the cutaneous reflexes, the plantar reflex presenting marked extension of all the toes on both sides, with separation of the four outer (a pure Babinski). The pupils were usually dilated but presented no inequalities. Seizures infrequent, but severe; 16 tests. Results after seizures: both feet negative, 15; both flexor, 1. One hour later: both feet negative, 5; both extensor, 3; right negative, left extensor, 2; right flexor, left extensor, 6.

Here there was complete abolition of the plantar reflex in 94 per cent. of tests after seizures, and in 31 per cent. one hour later. The usual intervallary response—extensor in each foot—was never present immediately after a seizure, and in only 19 per cent. of tests one hour later.

Autopsy thirteen hours after death. The technic employed in the preparation of the specimens from the spinal cord and cerebral cortex was similar to that used in the preceding case (34), except that a segment from the medulla and all of the cortical specimens were in addition stained according to the Marchi method; and the cord specimens were hardened in Zenker's and stained by the eosin-methylene blue method. After hardening in Mueller's fluid the entire cord was sectioned in gross at intervals of 1 cm. Macroscopically, these gross sections gave no evidences of patches of sclerosis. Microscopically, sections were examined from the first and sixth cervical, third dorsal, and fifth lumbar segments. None of these sections gave evidence of sclerosis in any of the columns of the cord. The anterior horn cells were normal throughout the cord; and the posterior horn cells appeared normal in the cervical and dorsal regions. In Clarke's columns the ganglion cells showed more or less marked chromatolysis, with displacement of the nucleus to the periphery of the cell body. The brain weighed 1200 grams. The pia was somewhat edematous over the vertex. Specimens of the cerebral cortex, taken from the right and left paracentral lobules and from the first frontal convolutions on each side, showed a slight leptomeningitis, a slight increase of glia cells in the superficial layer, and an alteration of the cytoplasm of the ganglion cells, which corresponds to the cell shrinkage described by Hoch. The cortex was not shrunken and the ganglion cells were of good number and arrangement. The blood vessels of the cortex were much congested.

Both autopsies were made by Dr. A. R. Defendorf.

SUMMARY.

Tests for the plantar reflex were made on thirty-five insane male epileptics and include: 1, 700 observations at varying intervals between seizures in order to establish a norm for each individual; 2, 1,088 tests made immediately after seizures, as soon as clonus had ceased, and 3, a similar number of tests made an hour later. In these 35 patients we found the individual intervallary reflex to be of the normal type—flexion of toes on both sides—in 10 cases; there was a marked extensor response (Babinski) in 7; no response whatever in 2; and in the remaining 16 cases a mixed response, i. e., right flexor, left extensor, 5; right flexor, left negative, 5; right extensor, left flexor, 2, and in 4 cases an irregular response, sometimes flexor, sometimes extensor, or

varying mixtures of flexor, extensor and negative in one or other foot, with no predominant type. The percentages were: flexor response, 28.57 per cent.; extensor response (Babinski), 20 per cent.; mixed response, 45.71 per cent., and entire absence of response in 5.71 per cent.

The plantar reflex presented even more variations from the normal type in tests immediately after cessation of clonus and one hour later, as seen in the following table, which shows nine variations.

Table showing type of plantar reflex in 35 insane epileptics:

Type.	Intervallary.	After Clonus.	Per cent.	1 hour later.	Per cent.
Extensor response on each side..	7	103	9.56	112	10.29
Right extensor, left negative....	0	33	3.04	29	2.66
Right negative, left extensor....	0	66	6.07	24	2.20
Flexor response on each side....	10	45	4.04	226	20.78
Right flexor, left negative.....	5	81	7.44	179	16.46
Right negative, left flexor.....	0	18	1.66	32	2.94
Right extensor, left flexor.....	2	3	0.27	4	0.36
Right flexor, left extensor.....	5	79	7.26	143	13.15
Irregular	4	...	....	....	....
No response in either side.....	2	660	60.66	339	31.16
Totals.....	35	1088	100.00	1088	100.00

From this table we see that there was an extensor response on the right side in 12.87 per cent. and on the left side in 22.89 per cent. of tests immediately after seizures; while one hour later the results were respectively 13.31 per cent. and 25.65 per cent. This predominance, nearly two to one, of the extensor response on the left over the right side, is interesting and noteworthy. When an extensor response was found on one side only it was more frequent in the left foot. Including all the tests we find a right extensor response 69 times, and a left extensor 312 times.

We also see that some kind of plantar reflex—flexor extensor or mixed—was found in 40 per cent. of tests made as soon as clonus had ceased and in 68 per cent. one hour later. In Case 14, as well as in two other cases where status epilepticus occurred, but not included in these observations, the reflexes were totally abolished in the intervals, and for periods after the last seizure varying from four to eight hours. In only one case (No. 7) was there complete absence of an extensor response in all tests immediately after fits. It is somewhat difficult to compare my tests, made at exact periods, with those reported by others, who leave the exact time in doubt, except Collier, who states that "after every fit of severe convulsions lasting any length of time the extensor response was found present and lasting some time." Some writers, as Eskridge, tested epileptics only in the intervals.

The appearance of a flexor response on the paralyzed side several times in two cases of post-hemiplegic epileptics (Cases 11 and 27) is interesting. If the Babinski phenomenon is never present except in pyramidal lesions, are we to assume that such lesions occur in epilepsy, or may the extensor response in the latter be due to a temporary disturbance in the pyramidal tracts on one side only or on both sides? It is certain that as far as my tests go the Babinski sign does appear on both sides at once, or on right and left side only, after some seizures, and after others we find a normal, mixed or negative response in the same patient.

In conclusion, the results of 2,176 tests of the plantar reflex in epileptics within one hour after seizure, plus 700 tests made in the intervallary periods to establish the norm for each individual, show that in any given patient the plantar reflex displays marked variations, although in each case some one type is more or less predominant. The explanation is not easy and the variations are hard to understand, but perhaps no more so than epilepsy itself.

BIBLIOGRAPHY.

1. Text-Book of Nervous Diseases.
2. Practical Diagnosis.
3. Practice of Medicine.
4. Text-Book of Medicine.
5. Diseases of the Nervous System.
6. Text-Book of Mental Diseases.
7. Brain, vol. xxii, p. 71.
8. Journal of Nervous and Mental Diseases, June, 1900.
9. JOURNAL A. M. A., Jan. 19 and 26, 1901.
10. Diseases of the Nervous System, 1900.
11. Journal of Nervous and Mental Diseases, vol. xxvii, pp. 331 and 344.
12. Quotation from Hare, "Epilepsy, Its Pathology and Treatment."
13. Boston Medical and Surgical Journal, Jan. 24, 1901.

REMARKS CONCERNING THE MANAGEMENT AND TREATMENT OF RHINOPHARYNGEAL TONSILS BY THE GENERAL PRACTITIONER.*

ROBERT C. MYLES, M.D.
NEW YORK CITY.

As teachers in the graduate schools of general medicine we should endeavor to give that instruction which our matriculants can safely make use of after returning to their homes. I know that they receive no more enthusiastic nor more frequent instruction than that concerning adenoids. I wish to address you in behalf of those children who live in the country districts, far from the larger towns, from whence it is either impossible or inexpedient for them to be taken in order that a specialist may treat them according to some of the many vaunted methods.

It is possible to teach the general practitioner to perform the various operations suggested for the removal of adenoids, but the time required for the proper instruction in the delicate practical manipulative technic of certain methods of procedure makes many of them unfeasible. Operations with the Lowenberg's forceps or some of its modifications should not be attempted by one who does not fully appreciate the amount of harm that can be done to the rhinopharyngeal tissues.

On the other hand, any general practitioner with little or no practical skill can be readily and easily taught to operate safely with the Gottstein curette or some of its modifications. When considering the subject of rhinopharyngeal tonsillotomy one must weigh the merits of the respective methods, first as to the safety to life and the prevention of injury to the other tissues; second, approximately complete removal of all the offending lymphoid masses; third, hemorrhage; fourth, the humanitarian side. The serious death rate among the cases of general anesthesia should be more carefully investigated as to the cause and percentage. The destruction of tissue, other than lymphoid, can never be determined unless we are permitted to examine macroscopically and microscopically the masses that have been removed.

In regard to complete removal, it has been demonstrated that recurrence and new growths occur after all methods of extirpation, but far less frequently after general anesthesia and the use of forceps than the other methods. As to frequency of harmful hemorrhage the curette, by its sharp-cutting edge, is more liable to cause alarming bleeding than the forceps constructed after

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

the original idea of Lowenberg. When we consider the horrible suffocating struggles of a resisting child as it is being put under ether, in some cases, it would seem a mercy to remove the growths under cocain; of course, this is all done away with where nitrous oxid gas is previously administered. But it is concerning the management of the rhinopharyngeal tonsils by the general practitioner that we wish to speak.

In certain cases the general practitioner may successfully use the adenoid forceps, the snare or the finger nail, but these methods can not be so universally and favorably adopted by him as procedure by the curette. It has been my custom to urge the general physicians whom I have had the honor of teaching to use the curette after thorough cocainizing for at least half an hour; the cocain is passed on a curved cotton carrier behind the soft palate to the uppermost part of the adenoid; this is done at intervals of from five to ten minutes; the solution of cocain employed varies from 10 to 100 per cent. A 0.1 per cent. solution of cocain should be sprayed through the nose and then stronger solutions should be used on cotton carriers or through canulas passed through the nose. The child is wrapped with a sheet, which should pass around his body several times, with the hands down by the sides in soldier position; the sheet is then tightly and securely pinned from top to bottom, the child is then placed on the right knee of assistant or attendant, who embraces him firmly with arms and legs and the head is securely held by the nurse. For general use a medium-sized semi-circular shaped curette which has been well sharpened is passed upward behind the soft palate until it strikes the posterior border of the septum, then it is firmly driven upward until it strikes the vault and presses on the rostrum of the vomer. The cutting surface of the curette must be kept at right angles to a perpendicular line through the center of the head, a quick, firm movement is made directly backward and downward; usually the large mass removed consists of nearly all of the adenoid tonsil proper. The curette is reintroduced, rapid and moderately firm scrapings are made in both of Rosenmüller's fossæ and over the posterior pharyngeal wall, then the finger is introduced and any remaining masses are broken up and smoothed down.

The after-treatment consists of an immediate insufflation of a powder composed of equal parts of aristol and boric acid. The patient should be denied active exercise and should not be allowed to go where he can not be seen quickly by the operator or his assistant in case of serious bleeding.

Every student should be carefully and practically instructed in the details of tamponage of the rhinopharynx. The author has found the smallest sized urethral catheter, from which the stylet has been removed, to be the best instrument for passing the strings through the nose and mouth. The tampon should be from three-quarters to one and one-quarter inches in diameter, the age of the child determining the size, should be aseptic and antiseptic and remain in position from twelve to thirty-six hours. The earlier it is removed, other things being equal, the less the liability to an attack of otitis media acuta.

DISCUSSION.

Dr. C. R. Holmes, Cincinnati—I scarcely feel like criticising anything that Dr. Myles says. I have great admiration, as we all have, for everything he does and for his ability. But I can not quite agree with the sentiments of his paper. It has been my experience to let internes in the hospitals and my assistants operate, and I often notice they make very bunglesome efforts at operations, and if these men, who have been with specialists and have helped in operations, will leave a large part of the posterior mucous membrane hanging down as a flap, because they carry the curette too far downward and backward (and that occurs once in a while with operators who are fairly expert), if the general impression gets out that the general practitioner should do this operation there would be many unfortunate results. There are many general practitioners who can do this operation, but it is generally the one who is least competent who thinks he can do it, and it is for that reason I can not subscribe to the Doctor's idea that the general practitioner should be taught to do the surgical operation. I have made nothing like the number of operations Dr. Myles has, but I have made a few hundred, and I always make them under chloroform or nitrous oxid. I do not regard it as such a simple operation, if you do a thorough and clean operation. If it is not so easy in the hands of a man who has made several hundred operations, it is probably less so, and complications are more likely to occur, in the hands of one not accustomed to use instruments so much.

Dr. J. E. Brown, Columbus, Ohio—I have been much interested in this subject of adenoids for the past fourteen years, and have performed a large number of operations for the disease. As I look back to those operations I did ten years ago I believe I did not do as thorough work then as now. I say this to bring out the point that this operation rightly performed is not so simple a one that the general practitioner without experience can do it thoroughly. I now and then attempt an operation on young children under cocain, and frequently in these operations done in this manner I have had later to give a general anesthetic and do the more thorough operation. Dr. Richards' paper, it seems to me, brought out the point that a general anesthetic is necessary for the proper treatment of these cases. Our general practitioners should be taught that it is a procedure demanding a general anesthetic. If then they wish to attempt it without general anesthesia, all well and good, but this should not be our teaching.

We hear it stated that naso-pharyngeal adenoids should be removed when symptoms of obstruction are present. I have been much surprised in some of the cases that have come to me with symptoms of middle ear trouble, in which adenoids were present, at the immense size of the adenoid masses removed, yet in which cases there had been absolutely free nasal breathing.

Dr. Edwin Pynchon, Chicago—I have been doing this operation as often as possible without an anesthetic. I believe the fear of the child while struggling over the anesthetic is often worse than the pain of the operation. As regards the use of cocain to reduce the pain in this operation, I think its value is more fanciful than real. The use of cocain often causes almost as much annoyance as the operation itself. I find, though, that by introducing two cotton applicators, one through either nostril, and then having the patient or somebody else press them against the pharyngeal wall, I probably get as much effect therefrom as in any other way. When the forceps are used, I think it is wise to use the curette afterward. One of the disadvantages in using the curette is that a fragment drops down back of the uvula every once in a while, as suggested by Dr. Holmes. Now, why does this occur? It is because the curettes most often used, when introduced into the vault, have the cutting blade at such an angle that it is the side instead of the edge of the blade that first does the curetting, while lower down the cutting edge cuts too deeply, so a piece is permitted to fall down behind the uvula. I have had a curette so made that it cuts at the highest point and also has side cutting blades, with which the fossa of Rosenmüller on either side can be curetted.

Dr. Robert C. Myles, New York City—The paper referred especially to that class of cases that could not be seen by a specialist, and I do not know how many such cases there are. The general practitioner can remove with one movement of the curette most of the adenoid tissue. These cases are improved, even by an imperfect operation. Many of the general practitioners do the operation when they could send the case to a specialist, but I am pleading for the remote districts.

When the general practitioner attempts to use the forceps, he may do harm, but in the operation I have described he is not likely to do any damage to the adjacent tissues.

THE DEGENERATE TONSIL.*

EDWIN PYNCHON, M.D.
Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat College.
CHICAGO.

Ablation of hypertrophied tonsils is a procedure which has become generally indorsed by the profession of medicine, though in earlier years its advocates were less numerous and many sturdy opponents contended that the proper course to pursue was to patiently await Nature's cure by absorption or, as most often worded, until the patient would outgrow the trouble.

It is not strange, when even physicians indorsed such practice, that patients easily became converted thereto, particularly as the natural tendency is toward procrastination in matters pertaining to health. Eventually some of the more pronounced evil results due to enlarged tonsils became so patent that procrastination was forced to give way to operative treatment, though many of the lesser evils due to this cause, not being thus recognized, were neglected, and the patient later became a serious sufferer thereby.

Through the so-called process of absorption different results and structural formations follow in different cases, and hence in later years different forms of tonsillar mal-condition are met with. I have therefore employed the term "degenerate" to cover all of the ordinary or commonly-met chronic conditions of tonsillar disease, which classification would seem warranted by the fact that the same treatment, total tonsillectomy, is equally applicable to all and offers the only absolute and permanent cure obtainable.

One characteristic feature observed in the process of degeneration is that the protrusion becomes less and less pronounced, though, when the examination is properly made, it will be found that the diminished protrusion is largely due to a transformation into submersion. In other words, the bulk of tonsillar tissue has not been so materially lessened, though through the submersion the faucial space has become enlarged, hence a superficial examination can easily give the impression that Nature's cure has been effective.

During the process of submersion there is a gradual absorption of the hyperplastic or lymphoid element, and consequently a relative hypertrophy of the follicular element of the tonsil, and this evolution, which may progress for many years, is constantly accompanied by and undoubtedly produced through a low grade of chronic inflammation generally manifested by the discharge of a cheesy secretion from the crypts which is continuously taking place, and which, when most noticeable, is known as chronic lacunar tonsillitis.

While in early life the greatest bulk of the enlarged tonsil protrudes above the plane of the faucial pillars, and in rare cases is entirely above this plane, it is a fact in a very large majority of cases, in even the youngest patients seen, that as much of the tonsil is concealed by submersion and pillar attachment as is apparent through protrusion. This fact is often revealed after an ordinary tonsillotomy, when the remaining base is clearly visible, and through the eventual enlargement of this base we can easily account for the many reported cases of reproduction of the tonsil after a tonsillotomy.

In combination with the condition of tonsillar submersion there is generally present an adhesion of the anterior pillar thereto, which pillar is often hypertrophied and extends backward so as to constitute a covering over the tonsil to which has been given the name plica triangularis, but which I am inclined to regard as an anatomic name applied to a pathologic product, it being simply a hypertrophy of the mucous membrane of the pillar. The posterior pillar is also at times hypertrophied and adherent to the tonsil, and in some cases degenerated into a tissue having the same appearance and texture as the tonsil itself.

One of the earliest writers who called attention to the deleterious effects of the enlarged tonsil when not protruding was Yearsley, who, in a brochure on "The Enlarged Tonsil and Elongated Uvula,"[1] published in London over a half century ago, emphasized the pathologic importance of and the urgent necessity for thoroughly removing such tonsils, largely on account of their bulk, and therefore their mechanical effect on the eustachian tubes, thereby being a cause for ear disease. He says: "Sometimes when only a small amount of tonsillar disease exists it will occasion thickening of the contiguous mucous membrane of the eustachian tubes" (p. 41), and "in some instances when nothing morbid was visible in the throat the upper part of the tonsils has been of such magnitude as to produce deafness" (p. 38).

It will be apropos to quote his description of the nonprotruding tonsil, which reads as follows: "There is another variety of enlargement which I am not aware has ever before been noticed; it is where the diseased growth is confined to the upper margin of the tonsil, and which, from being hidden behind the veil of the palate and the anterior palatine arch, is quite out of sight when the throat is merely examined by the eye (p. 38). . . . In many instances the induration is altogether absent and the diseased glands are so soft as to break down repeatedly if grasped by a forceps (p. 17). . . . In adults a general thickening of the mucous membrane of the throat without any particular implication of the tonsils is often observed" (p. 10). Yearsley, in place of the tonsillotome, employed an angular bistoury, bent on the flat, whereby he claimed the entire tonsil could be cleanly dissected out.

After Yearsley for many years but little attention was given to the tonsil beyond the ordinary tonsillotomy for simple enlargement. Shortly prior to 1890 Bosworth,[2] Harrison Allen,[3] Maxwell,[4] Lennox Browne[5] and Roe[6] have all described various pathologic manifestations associated with diseased tonsils when "unattended by hypertrophy," and since 1890 many medical writers have dealt with the several mal-conditions of all of the tonsillar tissues and have suggested various methods of treatment, ranging from the expectant to the aggressive.

The pathologic importance of the supratonsillar fossa as a hotbed of pyogenic organisms, and of the so-called plica triangularis, so often adherent to the tonsil, whereby follicular debris is imprisoned, has been particularly described by Paterson[7] and Hartz,[8] who, through report of cases and otherwise, have given ample proof of their instrumentality in the production of various local and systemic infections. Among American writers Winslow,[9] Emil Mayer[10] and Packard[11] have all added their evidence to this proposition, combined with arguments which should be convincing, and Ullman,[12] in an elaborate paper in which the literature of the subject is

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critically considered and 68 references cited, finds that the tonsil, being often diseased, is the "nidus for the growth and distribution of pathogenic organisms and their poisonous products in the system, and that many grave and fatal general infections have their origin therein."

It may be said, *en passant,* that the more submerged or deeply buried the base of the degenerate tonsil is the more diseased it will often be found to be. In the removal of such tonsils small, latent abscesses are frequently found at the deeper points, and their presence would naturally suggest the possible erosion of adjacent small vessels whereby infection might be drawn into the circulation and thus affect distant organs. Systemic infection also occurs through the course of the lymphatics.

Retained secretions in the supratonsillar fossa may, at any time, develop either a follicular tonsillitis, or a peritonsillar abscess, the form taken being influenced by the structural formation of the parts, or the direction of least resistance in any given case, and as the cellular tissue of the fossa often continues downward to varying distances in different subjects, a quinsy may develop at any point thus reached. In fact, the graver phlegmonous anginas are probably thus produced.

As the fossa becomes a cesspool for discharges from the superior tonsillar crypts it should, during a tonsillectomy, be thoroughly exposed and eradicated in order that the operation shall give perfect results.

Susceptibility to recurrent attacks of acute tonsillitis is probably the most annoying feature associated with chronically diseased tonsils, though a simple irritation or rawness of the throat, which goes no further, is more often observed. In fact, in a large majority of cases the patient is thoroughly unconscious of the presence of any tonsillar trouble.

The injurious effect on digestion due to the swallowing of diseased tonsillar secretions was observed by Yearsley (p. 35), and that such gastric disturbance is due to direct infection from germs in the naso-pharyngeal secretions has latterly been demonstrated by Turck.[13] Chronic bronchial catarrh as a result of drawing into the lung tubes morbific secretions from above was also noted by Yearsley (p. 35), whose teachings have been for many years apparently forgotten, though the same conclusion has, in recent years, been arrived at by others, and most notably by Ballenger,[14] who finds that catarrhal irritation of the lung tubes extends to the air vesicles and causes a thickening in the walls thereof which obstructs the osmotic action whereby the blood is both oxygenated and purified. In this way we see an explanation for impaired general health as well as for cough or asthma, should either be complained of.

As the fetid caseous tonsillar secretions, both by physical and microscopic examination, are richer in morbid material than is the usual post-nasal discharge, it seems warranted to give credit to the tonsillar secretions for the bulk of damage done the system through either the pulmonary or intestinal tracts.

Another result of the degenerate tonsil not infrequently observed is tenderness or swelling of the cervical glands. This latter symptom is regarded by McBride[15] as an urgent indication for a thorough tonsillectomy on account of the possibility of tubercular infection.

Submerged tonsillar tissue, whether the result of absorption or the aftermath of a tonsillotomy, occupies a material space, which may be roughly estimated at one cubic inch on either side, and is therefore a mechanical obstruction to vocalization, particularly as by binding together the faucial pillars free mobility of the soft palate is impaired so as to limit the maximum size of the posterior passage to the nasal chamber. Yearsley, at his early day, remarked that "when the morbid growth extends upwards and interferes with the motion of the soft palate, or encroaches on the cavities of the nose, the voice becomes nasal" (p. 23), and, furthermore, that with public speakers who are troubled with dysphonia "in nine cases out of ten the tonsils or uvula are the cause of the malady" (p. 22).

While many of the chronic diseased conditions of the tonsil possess individual characteristics under microscopic examination, the importance of differentiating the several varieties which have been described is much diminished by the fact that any and all of the simple chronic forms of tonsillar disease are equally amenable to the same treatment, viz., that of thorough eradication, and in my experience nothing less than this radical step is to be advised, as no patent argument can be advanced for the partial retention of a diseased gland, and the invariable beneficial after-results following a thorough tonsillectomy demonstrate the fact that the total loss of the faucial tonsils does not, in any way, impair the integrity of the economy.

In the examination of a throat wherein degenerate tonsils are present, a heightened color or increased redness of the fauces is first noticed, and an arched line leading downward on either side from the base of the uvula is invariably observed. This line curves downward on either side near the vertical center of the more or less hypertrophied anterior pillars, and quite clearly outlines the top and anterior edge of the submerged tonsils. The forward ends of the arched line are made more distinct by causing the patient to gag, at which time the line of demarcation between the red within and the pink outside thereof becomes more clearly visible.

While the patient is gagging the outlines of the submerged tonsil can be easily recognized through or beneath the anterior pillar, and by traction on the tonsil when grasped by a suitable forceps it can often be made to move about beneath the anterior pillar so its outlines can be seen to change. Pressure on the tonsil at this time with the finger, or with a suitable blunt instrument, will generally cause the escape of a muco-purulent secretion, or of "cheese balls," which, when flattened by pressure between the thumb nails, emit a fetid odor. Frothy saliva often covers the parts and with the new patient the fauces are generally hypersensitive, though the sensitiveness can usually be overcome by the frequent practice of a drill in faucial manipulations so that after a few days a sufficient tolerance is attained to permit of operative treatment.

As no tonsillotome yet made is efficient in completely removing the tonsil as usually met, and particularly in case of the submerged or degenerate tonsil with which this paper deals, other methods of operating have been practiced, as the use of the bistoury or the shears. It is not to be denied that a complete removal of the tonsil can be attained by either of these methods, though the unavoidable feature of hemorrhage necessarily interferes to a material degree with the thorough removal of all abnormal tonsillar tissue on account of its obscuring the field work. Additionally with the hemorrhage the anesthesia soon passes away when a local anesthetic has been employed. As the necessity for removing all of the follicular element is imperative in order to obtain the maximum benefit of the operation, I have for the past twelve years been using the electrocautery as the dissecting instrument instead of the bis-

toury, and I, in this way, obtain the following advantages, viz.:

1. A practically bloodless field so all of the diseased tonsillar tissue can be cleanly removed.

2. Owing to lack of hemorrhage no loss of the local anesthetic.

3. By the cauterization a destruction thereof should any portion of the follicular element escape the line of dissection.

The time limit will not permit of my describing in this paper the steps of the operation which has been elsewhere described at different times (see Bibliography, Nos. 16, 17, 18, 19 and 20), and which I have employed on more than a thousand occasions.

By this method of operating the tonsil generally peels out with facility, and often bloodlessly, the incisions being as though cutting through cheese, though in some cases sclerotic tissue is encountered which gives a sensation more like that of cutting leather. I might add that in the removal of an enlarged fibrous tonsil, the form of tonsil in which fatalities from hemorrhage after an ordinary tonsillotomy have been most often reported, this method of operating by "electro-cautery dissection" gives the greatest promise of immunity from that complication as the line of incision is outside of the area of sclerosis.

My results have been ideal and have generally yielded a throat with fauces pink instead of red, a throat with mobile and approximating pillars, which with vocalists has enhanced the high register by two or three notes, and a throat the tonsillar region of which is never afterward the source of pain or discomfort to the patient. Furthermore, there has generally been an improvement in the nasopharyngitis, and in the tubal catarrh should such conditions have previously existed, and the same may be said concerning gastrointestinal disturbance or chronic bronchial catarrh, and lastly with singers there has followed a diminished tendency to recurrent laryngitis. It will, of course, be understood that all deformities or troubles of the nose or nasopharynx, when such were present, were also corrected.

BIBLIOGRAPHY.

1. James Yearsley: London, 1842.
2. "Compte-Rendu," Copenhagen, vol. iv, p. 54.
3. Medical News, vol. xii, p. 31.
4. Med. and Surg. Reporter, Feb. 16, 1889.
5. The Throat and Its Diseases, London, 1887, 2d Ed., p. 335.
6. The N. Y. Med. Jour., Oct. 26, 1889.
7. The Laryngoscope, July, 1898.
8. American Medicine, April 19, 1902.
9. Maryland Med. Jour., May 13, 1899.
10. THE JOURNAL A. M. A., Dec. 2, 1899.
11. Phila. Med. Jour., April, 1900.
12. The Medical News, Jan. 26, 1901.
13. N. Y. Med. Jour., Nov. 23, 1895.
14. Medicine, November, 1897.
15. Diseases of the Throat, Nose and Ear, Edinburgh, 1900, 3d Edition, p. 60.
16. THE JOURNAL A. M. A., Nov. 22, 1890.
17. The Laryngoscope, February, 1897.
18. International Jour. of Surgery, June, 1898.
19. Chicago Med. Recorder, August, 1898.
20. Annals Otol., Rhinol. and Laryngol., November, 1898.

103 State Street.

DISCUSSION.

DR. J. F. BARNHILL, Indianapolis—Until recently a large per cent. of the tonsillotomies, even by men in the specialty, were imperfectly done for the reason that the instruments used were nearly all some kinds of tonsillotomes. The class of cases which Dr. Pynchon described in his paper is one in which the tonsillotome can not be successfully used. If one attempts to use this instrument in such a case, he simply cuts off the top of the tonsil. I have been in the habit of classifying tonsils into two very broad divisions: one in which we remove the glands for the reason that they produce obstruction to breathing, and the second in which we remove them because they have infected pockets and are, therefore, the source of periodic or possibly constant inflammation.

Coulter removes part of a tonsil at a time, with electricity, dissecting it away. These tonsils are always adherent, and my method has been to dissect them away from the pillars, by electricity, so they can be lifted out easily, and then snare them away en masse. It is to me much easier and quicker; possibly to Dr. Pynchon it might not be. I have never followed the method of removing a part at a time and thus extending the operation over some thirty or forty days, as has been described by Dr. Coulter. I have always removed them at once and I have never had occasion to regret doing the entire operation at one sitting. I believe the value of the method described here comes not only from removing the tonsil crypts but also from the fact that we free the pillars of the fauces, which are muscular organs, and thereby we give greater freedom to the organs of voice.

DR. ALBERT H. ANDREWS, Chicago—Dr. Pynchon is the originator of this plan of operation. Dr. Coulter's description and use of the method was several years later than Dr. Pynchon's first publication of it. In the classification of chronically-diseased tonsils three divisions is all that seems necessary: first, simply inflamed tonsils; second, hypertrophic tonsils; and third, atrophic tonsils. This classification is in accord with the well-known pathologic changes resulting from chronic inflammation in other parts of the body. In the first division, the simple inflammation, the blood-vessels are congested and the tissues engorged, but there is no structural change in the tissue. In the second division there is a proliferative change in the tissue, and in the third division the connective tissue is contracted and the lumen of the vessels is lessened, and with the lessening of the blood-supply there comes atrophy. The third division is the degenerate tonsils Dr. Pynchon mentions. In removal of the tonsils I have not used the method Dr. Pynchon describes because I have not as yet had occasion to find any fault with the method I have been using. If I believed Dr. Pynchon's method better, taking all things into consideration, the pain produced and the time it is necessary to subject the patient to the discomfort of that operation, I would use his method. To my mind, however, it is not justifiable. My method is first to liberate the tonsil from the anterior and posterior pillars. I pass an angular knife down first between the tonsil and the anterior pillar. Adhesions between the tonsil and anterior pillar are usually more pronounced than between the tonsil and the posterior pillar. After the tonsil has been liberated from the pillars, I care not how deeply submerged it may appear to be, if it is caught by a double tenaculum forcep, it can be pulled outward from between the pillars and cut off. I sometimes use scissors and sometimes a tonsilotome for this purpose. As regards pain and hemorrhage, if pledgets of cotton saturated with a solution of cocain are pushed into the crypts of the tonsil and around behind the tonsil for a few moments, and then pledgets of cotton introduced into the crypts saturated with adrenalin, the hemorrhage will be exceedingly slight and the pain hardly worth mentioning. I wish to speak against the method which I would call "tonsil snatching." There is no necessity for hurry in these cases. If the patient is a child and will not hold still so you can do the right kind of operation, give him an anesthetic and operate with care. Thorough removal of the tonsil will be followed by satisfactory results, whether the removal is accomplished by scissors, tonsilotome or the galvanocautery. I was struck with one statement Dr. Pynchon made, that if portions of the tonsils were accidentally left the cautery would destroy them. If the cautery will destroy the base of a tonsil accidentally left why will it not destroy adjacent normal tissues when the entire tonsil has been removed?

DR. D. A. KUYK, Richmond, Va.—Those of us who have read Dr. Jonathan Wright's articles on the effect of the electrocautery on the nasal mucous membrane, for he says the effect of the cauterization is so great, extending so far beyond the point cauterized, entirely beyond our power to limit it to any given surface or area, would hesitate before ablating the tonsil with the electro-cautery. The large area cauterized might cause subsequent cicatricial contraction with no means in our

power to limit it, involving perhaps the palatine pillars causing perhaps alteration in vocalization that might be most unfortunate in singers, elocutionists, public speakers, etc. I have a case in point in which this very effect resulted.

Cicatrization caused contraction between the anterior and posterior pillars; they were twice severed, but recurred, the patient declined any further treatment and left with considerable impairment of the voice. This result may have been my fault, but every possible precaution was used, everything was done to stay the cicatricial contraction, but nothing availed.

Dr. William L. Ballenger, Chicago—I have seen probably 25 per cent. of Dr. Pynchon's cases, in all stages of operation, and I have seen him operate. I have seen a number five, six or seven years old, and I will say I have never seen any results that compared with those obtained by Dr. Pynchon. He gets the most beautifully clean-looking throat I have had the pleasure of looking into. There is no evidence of undue cicatricial formation. Judged by its results, it is certainly an ideal method. But I have not felt inclined to use it extensively because it requires from four to six sittings to remove two tonsils, and there is considerable inflammatory reaction in some cases; in others there is very little. If one should, in the course of the operation, burn the muscular fibers of the anterior or posterior pillars, there might be some serious complications interfering with the use of the voice. It seems to me that accident would result only from the lack of experience in the use of the method. In none of the cases I have seen has that resulted. My own method for the complete removal of the tonsils, which I prefer in adult cases and in the cases which Dr. Pynchon has denominated the submerged cases, is to dissect them out with the knife. If the adhesions are not extensive this is an easy matter. Often I find the adhesions very extensive, not only in the region of the posterior and anterior pillars but in the pharyngeal aponeurosis as well, and in some of those cases it requires considerable care to separate the adhesions. But it can be done and the tonsil removed very completely. If there are no adhesions, then the tonsil can be enucleated practically with a dull instrument, such as the handle of the knife, for instance. Dr. Beck was present when I removed a tonsil in this way. It leaves a smooth pocket and probably would give results as good as Dr. Pynchon has secured. By this method I can remove two tonsils at a sitting and save my patients and myself considerable work and some pain. I have used cocain anesthesia in this operation, the strength of the cocain solution ranging from 10 to 20 per cent. With the 20 per cent. solution, however, I have had in a few cases considerable cocain poisoning. Usually I do not use a solution stronger than 10 per cent. As a rule the patients say it does not hurt or that it hurts very little.

Tonsils are removed for other purposes than because they are degenerated or adherent or for the purpose of improving the voice. The posterior pillar is the palato-pharyngeus muscle, that is, it contains this muscle, the fibers of which extend up to the mouth of the eustachian tube and control more or less the patency of the tube, and so we may remove the tonsils to improve tubal and middle-ear disease as well as to improve the voice. Mackenzie and Curtis have said that they never observed anything but improvement of the voice from removal of the tonsils. I certainly have not, and some of Dr. Pynchon's patients who were singers, declare that they have only secured a good effect in this way. I would only say of his method that it probably requires more skill than some of the other methods, but nobody could get better results than Dr. Pynchon obtains.

Dr. J. C. Beck, Chicago—Dr. Pynchon and I work almost side by side, and have worked for two years in the same clinic. I see his cases often and know his results. I am asked by the students often about his operation, and in order to be able to answer intelligently I have done his operation a number of times. After he has operated—and he has operated on a considerable number of physicians—his patients come back and say that they have been benefited very much. That is a good while after the operation. For the first week the patients, including the physicians he has operated on, complained bitterly of the pain from the operation, whether it was done in one sitting or two. The reaction following the use of the cautery is very marked. There are symptoms of sapremia that make the patients very ill. The results from the operation, nevertheless, are good.

The Doctor removes the pillar. He says part of the pillar is degenerated with the tonsil and should be removed. I have satisfied myself that this part of the pillar has some use, and I do not remove it. It has muscular fibers in it, and I am opposed to its removal. I have seen cases the Doctor has operated on, in which the posterior pillar was very much hypertrophied, probably from taking on some of the action of the anterior pillar. Sometimes a layer of the pillar comes over the anterior surface of the tonsil and may be mistaken for the pillar, it is the plica tonsiluris, and its removal, aside from that, is a tedious, unnecessary operation. Dr. Pynchon teaches his pupils to do the operation very easily, but it requires considerable teaching of the patient so that he may hold the tongue depressor, and the constant holding and the fight they make in doing the operation sometimes is very annoying. I treat these degenerated tonsils by slitting the ducts. By this I often do not succeed, but sometimes there is very great amelioration of the symptoms. For the removal of them I use punch forceps much similar to Dr. Myles' punch, only it is square, and I excise the tonsils with knife or scissors. One thing in favor of cauterization is the prevention of bleeding. It has been said that the bleeding is not much, and that the adrenalin, etc., will stop it, but sometimes it is considerable, and if the use of the cautery will avoid this danger it is something in its favor.

Dr. G. Hudson Makuen, Philadelphia—One of the speakers has said that Dr. Pynchon advises an operation extending to the removal of a portion of the anterior pillar, but I have not understood this from his paper nor from his previous writings. The opercular fold is not a part of the pillar, although it has muscular fibers in it. It is a part of the tonsil rather than of the pillar. The removal of any portion of the anterior palatoglossi muscles would be bad surgery, for it would change their length and thus interfere with their natural functions. I would like to ask Dr. Pynchon what he does with the opercular fold, which sometimes forms a mass larger than the tonsil itself. I have sometimes removed it. It is very vascular and it contains muscular tissue.

Dr. P. J. Gibbons, Syracuse, N. Y.—Tonsils that often are removed may be treated conservatively by stripping them from adhesions to the pillars and then treating with iodin, camphor menthol or nitrate of silver. Bosworth has told us that the tonsils never will bleed too much, therefore let them bleed. Later Bosworth got up a snare for the removal of the tonsils, evidently he must have thought there was reason for it. I tried chopping everything off. But I saw some hemorrhages that were rather alarming. Then I used a tonsillotome, which I first dulled. If you are going to take out the tonsil by piecemeal, you can do it with the snare, and still better with the cautery. If you want to remove the entire tonsil with the cautery there is everything in knowing how to use the electrocautery. Of course, an inexperienced man might do a great deal of harm in this way. I would encourage a little conservatism in removing the tonsil. Sometimes it is sufficient to remove it only partially. I refer now to the small tonsil that we may retain. There is a function for everything in the body, even the appendix, more than for the surgeon to operate on.

Dr. George F. Keiper, Lafayette, Ind.—We ought always to remember, in removing the tonsil, no matter what method we use, if we get the bottom of the crypts we will accomplish everything desired in its removal. I have been doubtful in the cases of alleged total removal of the tonsil that I have seen as to whether the tonsil has been entirely ablated. I have, however, never seen any of Dr. Pynchon's results.

Dr. Edwin Pynchon, Chicago—Owing to the time limit I did not attempt to describe the operation in my paper or touch on the technic thereof. I have, however, brought with me the instruments I use, which it may interest you to see. In the

cautery handle I have the contact arranged on the outside so that it may be readily kept clean. I have had the ends of the electrodes made large so that the electrode is held more firmly in the handle. Platinum is not so good, I have found, as iridoplatinum, which you may heat red hot and it will still retain its shape. These electrodes and the handle are made by F. A. Birtman & Co. of Chicago. I have here also a tongue depressor which enables the patient to hold down his own tongue. And here are some forceps I find very convenient for grasping the tonsil. Several of the objections made by the gentlemen were already met in the paper which they did not hear, as they came in too late. Dr. Myles, this morning, mentioned the inefficiency of the tonsillotome in removing the tonsils. If any of you desire to become familiar with this operation, I will take great pleasure in sending you a description thereof in a reprint. It was not the purpose of the paper to deal with the enlarged tonsil, which is of annoyance chiefly as an obstruction. Its follicles are very small, and it is simply an obstruction, and that is all. Follicular hypertrophy is found in the degenerated condition of which my paper treats. As to Coulter and myself, I reported the operation in 1890, and Dr. Coulter, I believe, began doing the operation about five years later and has become quite enthusiastic over his results. He has done good work. One of the physicians thought it was a septic inflammation which follows the removal of the tonsil in this way; it is not a septic condition, but a burn; an eschar made to keep out sepsis. After the operation I apply a 20 per cent. solution of nitrate of silver and thus make a coating over the wound. I originally took out the entire tonsil at one sitting and sometimes had hemorrhage therefrom. Now, since dividing the operation in two steps, I do not have much hemorrhage. Anybody who does radical work on the tonsil will have an occasional hemorrhage. The hemorrhage I got was chiefly a capillary hemorrhage. There was no point of spurting. I found the motion of the tongue assisted somewhat in the production of hemorrhage, so I took out one half of the tonsil at a time. The greatest amount of expertness is required in removing the upper half. There is hardly any hemorrhage from removing the lower half, nor is there much pain. Nowadays, when I see a little bleeding point, I cauterize that point and apply nitrate of silver. In this manner I can do a practically bloodless operation. Most of the bleeding is where the forceps take hold of the tonsil, to pull it out of its bed, but this amounts to only a few drops. The after-effect of the cocain may cause some secondary hemorrhage, but now I generally avoid that. The time required for the operation depends largely on the dexterity of the operator. I have taken out an entire tonsil in two and a half minutes. I have frequently taken out the upper half in from one and a half to two minutes. I usually work for half a minute and then rest a minute, and then work again for half a minute. In these cases the follicular element is hypertrophied. Dr. Kuyk mentioned something entirely apropos, and that is the matter of cicatricial contraction. I have once in a while had slight cicatricial contraction. I have found if before I operate the anterior pillar is adherent to the tongue that it becomes reattached later on. If the anterior pillar is not attached at the start it does not become attached after the operation. If you make the incision longitudinally in the muscle you will not get contration; but if you make the incision across the muscle, you may get contraction. In regard to the cases sent to Dr. Ballenger for inspection they were not picked cases. I sent him several cases operated on from three or four to as long as ten years ago. In regard to the use of the angular knife of Yearsley I do not think that the tonsil can be entirely removed with the knife, because bleeding obscures the field so one can not get all the follicular element in that way. I learned that the submerged tonsil was very much buried beneath the anterior pillar so after its removal there was left a hole which would retain secretions, therefore I began to take away more and more of the pillar. You see, gentlemen, this operation is the outgrowth of experience and trial. What I take away is principally mucous membrane of the pillar. After the wound is healed one can not see that any of the anterior pillar has been sacrificed. The part of the pillar I remove is the posterior edge of the anterior pillar. As to cocain, I have never had a prostration from the application of cocain to the fauces when applied with the cotton applicator. I always add from 5 to 10 per cent. of phenol to my cocain solution, and that may have something to do with it. I formerly used stronger solutions of cocain, but now I frequently get good results from a 10 per cent. solution. I have sometimes used hypodermatic injections of cocain in the pillars. It does not do any good to inject cocain into the tonsil, but it must be injected into the pillars, and preferably under the mucous membrane, so as to produce a bleb, but I have had some intoxication from so doing. By making applications of a 10 per cent. solution and taking plenty of time, I generally get good anesthesia, and I have fancied that the tendency to hemorrhage has been less than when stronger solutions were used. As to the line of demarcation, you will at first find a general redness of the fauces, but if you make the patient gag it will lighten up the anterior part and darken the posterior part, so the line of demarcation shows up clear and distinct, it being directly over the anterior edge of the diseased tonsil. In practice I find the burn causes no harm to the pillar at all, and I make the incision while the patient is on the gag. I remove all of the diseased tissue, and with the after-treatment the wound heals up properly. During the time of healing I insist on the patient returning regularly so I can massage the wound. There is a tendency for connective tissue to form in the wound so it fills up irregularly, therefore I massage it so as to make it heal up solid from the bottom. I fully agree with Dr. Gibbons as to the desirability of getting rid of a diseased tonsil. The total loss of a tonsil does the economy no harm. It is bad surgery to partially remove a diseased tonsil.

DR. BARNHILL—If you could dissect the tonsil loose and remove it as completely with the snare, would you still prefer your method?

DR. PYNCHON—I want to do the operation in a bloodless manner, if possible, and I can do that better with the hot point. After dissecting the tonsil loose so that it is ready to come out, which would be the better to do: to put on the snare or to simply complete the removal with the hot point? What is the use of changing then to the snare? In a very sensitive patient or a child I may use a tonsillotome to clip off the partially loosened piece, but that is the only time.

OTITIC BRAIN ABSCESS.

REPORT OF TWO CASES: APHASIA IN ONE, RECOVERY.*

GEORGE F. KEIPER, A.M., M.D.

Eye and Ear Surgeon to St. Elizabeth Hospital, St. Joseph Orphan Asylum, Indiana State Soldiers' Home, Children's Home; Lecturer on Eye, Ear, Nose and Throat to Training Schools for Nurses at St. Elizabeth Hospital and Indiana State Soldiers' Home.

LAFAYETTE, IND.

CASE 1.—May 7, 1900, through the kindness of Dr. A. B. Westfall, I was called to see John S., aged 18, who had been taken to St. Elizabeth Hospital. He had suffered with the left side of his head for a month. His condition was as follows: His temperature was 102; pulse, 124; extreme prostration was manifest and his general appearance indicated extreme pyemia. The left ear was discharging. The mastoid was tender to the touch. His tongue was covered with a brown fur and his teeth with sordes. The patient was perfectly rational and answered questions intelligently; no examination was made for aphasia because of the patient's extreme condition. Because of this an immediate operation was agreed on.

At 11 a. m., with the assistance of Drs. Westfall, Throckmorton, White, Morrison, Lee, Hillis and Hopper, the operation was begun in the usual way. The periosteum was scraped aside. When the trephine was applied over the site of the mastoid antrum and given two turns it suddenly sank into the bone. Removing it with the button of bone we saw the whole bone necrosed and filled with granulations and with the most

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

offensive pus of a greenish hue. The bone was so rotten that all debris was removed by a sharp spoon only. The tegmen between antrum and brain cavity was also necrosed. This was removed and the dura opened. After cleansing the cavity in dura and bone the wound was packed, drained and dressed.

May 7.

At 1:30 p. m. the temperature dropped to 98, and pulse to 94.
At 3:30 p. m. it was 101.4 F., and pulse 92.

At 5:00 p. m., 101.2 F., P. 96. At 9:30 p. m., 103.6 F., P. 120.
At 6:30 p. m., 103.4 F., P. 105. At 11:00 p. m., 104 F., P. 106.
At 8:30 p. m., 104 F., P. 124.

May 8.

At 1:45 a. m., 102 F., P. 104. At 10:50 a. m., 103.6 F., P. 130.
At 5:00 a. m., 102 F., P. 106. At 12:15 p. m., 103 F., P. 94.
At 7:00 a. m., 103.2 F., P. 102. At 2:00 p. m., 104 F., P. 100.
At 8:45 a. m., 103.8 F., P. 104. At 4:45 p. m., 103 F., P. 94.
At 9:45 a. m., 104.2 F., P. 130. At 7:25 p. m., 104.6 F., P. 104.

Because of the pulse and temperature it was felt that a further exploration of the brain cavity should be made. At 8:30 p. m., with the same physicians assisting, the wound was reopened and the skin incision was continued upward and the bone beneath skin and periosteum was removed by rongeur to the extent of a square inch. The dura was black and necrotic. This was opened after ascertaining that it was loose as far around as a probe could be passed between dura and bone. The temporosphenoidal lobe was necrotic. The pus was as offensive as ever. The lateral sinus and jugular were free. After cleansing the brain cavity as carefully as possible it was drained with gauze and the wound dressed. The patient was put to bed at 9:25 p. m., when the temperature was 102 and pulse 98.

May 9.

At 12:30 a. m., 102 F., P. 98. At 12:30 p. m., 102 F., P. 101.
At 3:10 a. m., 101 F., P. 98. At 3:30 p. m., 101.8 F., P. 100.
At 5:00 a. m., 100.6 F., P. 96. At 6:00 p. m., 103.6 F., P. 112.
At 7:45 a. m., 100.8 F., P. 94. At 9:30 p. m., 102.4 F., P. 110.
At 10:00 a. m., 104.4 F., P. 113. At 12:00 m., 102 F., P. 106.

May 10.

At 3:00 a. m., 102.4 F., P. 110. At 3:00 p. m., 99.2 F., P. 100.
At 5:30 a. m., 103.4 F., P. 112. At 7:00 p. m., 99.2 F., P. 100.
At 9:00 a. m., 102.6 F., P. 114. At 11:00 p. m., 98 F., P. 118.
At 12:00 m., 100.8 F., P. 114.

May 11.

At 2:00 a. m., 101 F., P. 124. At 1:45 p. m., 99.2 F., P. 124.
At 6:00 a. m., 101 F., P. 120. At 5:30 p. m., 101.6 F., P. 135.
At 8:00 a. m., 100.4 F., P. 116. At 9:00 p. m., 103 F., P. 125.
At 10:00 a. m., 100.8 F., P. 116.

May 12.

At 1:00 a. m., 104.6 F., P. 144. At 2:00 p. m., 102.6 F., P. 140.
At 5:00 a. m., 103.4 F., P. 140. At 5:35 p. m., 101.4 F., P. 140.
At 8:15 a. m., 103.6 F., P. 150. At 9:35 p. m. 102.8 F., P. 130.
At 11:00 a. m., 104.4 F., P. 140.

May 13.

At 1:00 a. m., 103.4 F., P. 132. At 12:00 m., 105 F., P. 150.
At 4:00 a. m., 103 F., P. 132. At 6:00 p. m., 104.4 F., P. 158.
At 6:00 a. m., 103 F., P. 132. At 10:35 p. m., 102 F., P. 145.

May 14.

At 1:30 a. m., 103.2 F., P. 145. At 1:30 p. m., 104.4 F., P. 158.
At 6:00 a. m., 103 F., P. 145. At 4:30 p. m., 103 F., P. 165.
At 9:00 a. m., 104.2 F., P. 144.

The patient died shortly after this. The respirations were hurried in proportion. Several injections of anti-streptococcic serum were of no avail. Nuclein was also tried with a similar result. The patient could not retain food either by mouth or rectum. Normal saline injections per rectum were rejected. Then they were tried subcutaneously. Wherever introduced the skin sloughed markedly. The odor was so frightful that in dressing the wound every three or four hours it was necessary to stop one's nostrils until we used equal parts of oil of eucalyptus and menthol in the wound, which was suggested by Dr. McMahon, who received it from Dr. Ida Levering of Secundrabad, India. This controlled the odor beautifully and removed the disagreeableness of dressing the wound so frequently.

The remarkable feature of this case was the fact that his mental faculties were unimpaired to the very last, notwithstanding the extensive destruction of brain tissue.

Case 2.—July 26, 1901, through the courtesy of Drs. Hillis and Thompson, I was asked to see F. M., aged 37, a traveling salesman, who had a running ear, which had troubled him for a month, together with a tenderness over the mastoid. Before coming to Drs. Hillis and Thompson an icebag had been applied continuously in the hope of curing the trouble. The left ear was discharging profusely, but the mastoid was not tender, except slightly over the supposed seat of the antrum. The patient's general condition was poor. He suffered much frontal headache, chilliness with flashes of heat and mental hebetude. The temperature as in intermittent fever. The pulse was slow. The ear was immediately cleansed, dryed and filled with dry boric acid powder. A Japanese pocket stove was applied over the mastoid. The general treatment consisted of calomel purge and quinin sulphate grs. 3 every three hours. He was impressed with the gravity of his condition. July 27 found him no better. July 28 the symptoms of mastoiditis were still present, with marked headache, mental dulness, vomiting and rigors.

Operation on the mastoid was proposed and the patient accepted the advice. All the usual preparations were made, and with the assistance of Drs. Hillis, Beasley, Throckmorton and Bartholomew the mastoid process was opened in the usual way. However, we found the antrum located one-half inch above the place where we usually expect to find it. It was filled with pus and cholesteatomatous masses, and the detritus of dead bone. The tegmen was eroded. The bone was thoroughly cleaned out. Then the brain cavity was explored, but no evidences of pus were found. It may be that at the time the abscess was small or the needle of the aspirator did not penetrate it or the needle may have gone clear through it. However, no further efforts were made to find the abscess. The wound was dressed and the patient put to bed at 10:40 a. m.

He did fairly well until August 15. However, in the meantime he still complained of headache. Kenyon's neuralgic tablets gave only a partial relief. In the afternoon of the above date he lapsed mentally, and when I reached his bedside he could only say: "I hope I'll be better, doctor." He thus continued until evening, when he lapsed into unconsciousness. In this condition he was taken to the operating room at 9:40 p. m.

The wound was reopened, and with the assistance of Drs. Thompson, Davidson, Throckmorton and Bartholomew, the wound in the bone was enlarged by the removal of a square inch over the temporosphenoidal lobe. The dura bulged. Inserting a small trocar and attaching the aspirator, we were rewarded by finding pus. This was evacuated to the extent of two ounces. The dura was opened, the cavity cleaned and dried and a drainage tube inserted. The wound was then closed and dressed.

At 11:30 he was put to bed, and at 12:30 a. m. he awoke partially conscious. At 3 a. m. he asked for a drink and was rational at times. When visited in the morning he was partially rational, but his memory for a great many things was gone. He could not remember my name, and could not call the names of close friends or things about the room. He realized his deficiency, and remarked that it was strange that he could not recall the name of things which he saw. Still the burden of his conversation was that he hoped to be better soon. His temperature was normal and his pulse was 74. He complained of no pain in his head. By the 17th he was able to write my name, though he could not call it.

On the 18th his pulse slowed down to 64, with a temperature of 101.6 F. at 11:15 p. m. It continued thus on the 19th. He was dull mentally. At 8 p. m. we concluded to put him on the table again. Examination of the wound showed drainage to be somewhat indirect. The wound was reopened and some more bone removed posteriorly. Then the drainage tube drained directly outward. He was returned to his room at 9:40, with a temperature of 98 F. and a pulse of 80. Since then his recovery has been gradual, but perfect.

The patient manifested marked aphasia. In making up the description of his case I will follow the plan of Bastian, as given in the report of a case similar to mine by Drs. Jack and Walton[1] of Boston.

A.—Preliminary qualifications.

1. Patient is right-handed.
2. No paralysis of face or limbs.
3. He is a traveling salesman, well informed.

1. Boston Med. and Surg. Jour., Dec. 26, 1901.

B.—Activity of auditory word center and glossokinesthetic center, with afferent commissural and emissive fibers.

4. Patient deaf on left side only.
5. Recognizes and appreciates ordinary sounds and noises.
6. Comprehends simple speech; obeys orders, but does not know names of objects previously familiar.
7. Spontaneous speech impaired. Uses word "business" when he can not remember real name of object.
8. Can not name days of week and months of year without coaching.
9. Can repeat short sentences uttered to him fairly well only.
10. Has no musical ability.
11. Has no musical ability to carry a tune.

C.—Activity of visual word center and cheirokinesthetic center with their afferent commissural and emissive fibers.

12. Sight good.
13. Recognizes simple printed words.
14. Recognizes individual letters and numerals.
15 and 16. He can read his own writing after making it.
17. Recognizes common objects but can not call their names. Calls all alike "business."
18. Does not recognize gestures.
19. Writes only fairly well.

Symptoms.	Mastoiditis.	Brain Abscess.	Lepto- and Pachy-meningitis.	Sinus Thrombosis.
Pain in ear	Mark'd with swelling of posterior-superior wall of auditory canal.	Usually severe		
Pain in head	Mastoid tender to pressure and percussion.	Often frontal and very severe	Rarely absent; early and severe	Tenderness over mastoid and sigmoid sinus.
Temperature	Normal or but slightly elevat'd	Rarely elevated except in extremis	Elevated; flushing of face	Very high; fluctuating markedly.
Pulse	Normal	Slow	Rapid	Rapid; fluctuating.
Respiration	"	"	Cheyne-Stokes	" "
Vomiting	None	Often present in first stages	Rarely absent	In early stages.
Digestive system	Constipated; tongue may be coated.	Constipation; tongue coated; breath offensive.	Great thirst; loss of appetite; abdomen retracted.	Diarrhea; severe abdominal pain; tongue dry and coated; may simulate typhoid.
Mentality	Normal	Cerebration may be slow	Delirium; irritability; extreme restlessness.	Normal.
Drowsiness	None	After week of pain		None.
Shivering	"	Usual	Generally present, but not so marked as in sinus thrombosis.	Rigors are very frequent.
Giddiness	"	Often, especially in cerebellar abscess.	In early stages	Sometimes observed.
Local rigidities	"	None; retraction of head in cerebellar abscess.	Often observed; retraction of head	Convulsions may be local or general
Aphasia	"	Sometimes present	None	Not observed.
Coma	"	In last stages	In last stages	In last stages.
Ocular apparatus.	Normal	Photophobia; pupils contracted; optic neuritis; blindness with dilated pupils in cerebellar abscess.	Pupils sluggish; optic neuritis	
Discharge from ear.	Usually purulent	Often present		Often present.
Emaciation	None	Marked; rapid and progressive	None	May be present.
Pulmonary symptoms.	"	None	"	Often present; due to infarcts; prune-juice expectoration; jugular vein may be involved.

20. Can write his own name, the name of his physician (though he can not call it aloud). Knows location of a physician's office, but can not call his name, though acquainted with him.
21. Copies well, though he uses word "are" for "or."
22 and 23. Copies numerals and can make calculations.
24, 25 and 26. No tests in reading and writing music.

D.—The associated activity of three centers with commissures between auditory and visual word centers or other sets of afferent and emissive fibers.

28. Reads perfectly simple words, but not difficult ones.
29. Can name at sight letters and numerals.
30. Can not name at sight many common things, such as his victuals.
31. Can point to common objects whose name he hears.
32. In writing "A, B, C" he makes "1, 1, 1."
33. As above.
34. Can not play musical instruments.

The patient has made a good recovery. The last defect in writing to disappear was the substitution of the word "are" for "or."

VARIETIES OF APHASIA.

This brings us to a brief study of aphasia. As Dana well says: "Aphasia is a disorder of the faculty of language; and it has a number of varieties, in accordance with the particular part of the brain involved and the particular portion of the mechanism of this faculty that is destroyed." Memory, of course, is involved in this process. Nordau in his work on "Degeneration" has beautifully given us the idea that memory is nothing but stored up nerve-cell action. The forms of aphasia are:

1. Word blindness (alexia). The patient can see and spell the letters of a word but can not read.

2. Sign blindness (apraxia), when the subject can not understand the meaning of signs as he once did.

3. Both of these combined make mind blindness, because the patient can not understand what he sees.

4. Word deafness. What the patient hears is, as it were, in a foreign language.

5. Motor aphasia, which is manifested under aphemia, i. e., where the patient knows what he sees but can not express by the organs of articulation what he sees. Our patient had to learn again after a painful process to pronounce the names of common objects around him. Motor aphasia is also manifested under agraphia, i. e., where the patient can not use his muscular apparatus in writing what he sees, though again he knows the names of what he sees.

6. Conduction aphasia. The patient can write or speak but is confused in his expression.

7. Then the patient may manifest a combination of the above, and this is called mixed aphasia.

The parts involved in aphasia are:

1. Conductive aphasia—island of Reil.
2. True motor aphasia—Broca's convolution.
4. Word deafness—first temporal convolution of left side.
5. Word blindness—occipital lobes.

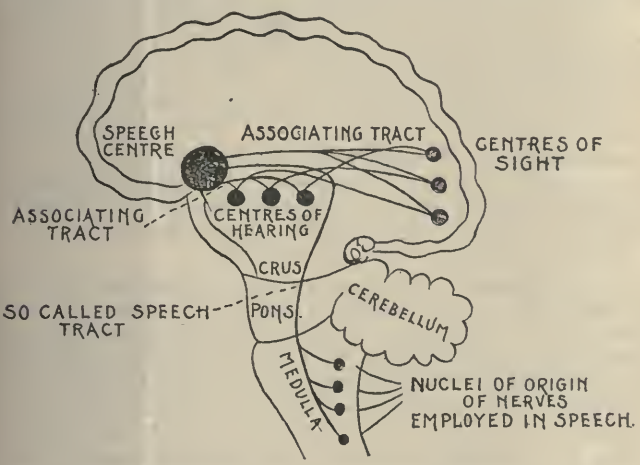
ETIOLOGY.

Consideration of the etiology of brain abscess involves consideration of the anatomy of the temporal bone in its relation to the middle cranial fossa and to the lateral sinus. The plate of bone between the mastoid antrum and cranial fossa is very thin, quite translucent in fact. The plate between the sigmoid sinus and antrum is but a little thicker. Neither is as thick as the external plate of bone. Pus traveling in the direction of

the least resistance, when the aditus ad antrum is closed, or partially so, must involve the brain tissue or lateral sinus before it can erode through the external wall of the antrum, though in several instances the writer has found sinuses from the outside leading into the bone at or near the foramen for the emissary mastoid vein. The tegmen may be in a living state and yet the blood vessels running through it may spread infection to the brain itself. In the involvement of the lateral sinus the purulent matter may erode the bone and infect the sinus thus; the slowness of the blood current in the sinus facilitating the process. When the sinus becomes thrombosed in its whole extent the infection naturally spreads to cerebellum.

PROGNOSIS.

Before the appearance of that classic of MacEwen on "Pyogenic Diseases of the Brain and Spinal Cord" but little was attempted except in a medical way. Patients usually died. MacEwen's experience with cerebral abscess shows that of nineteen cases operated on, eighteen recovered. In thrombosis of the sigmoid sinus of seventeen cases operated on, thirteen recovered and four died. In extradural abscess he lost none of the five cases on which he operated. In the report of seventy-four operations he had deaths only in the following: five from pyogenic cerebrospinal leptomeningitis, one from abscess of the frontal lobe, one from meningo-encephalitis of the frontal lobe, one from total necrosis of the temporosphenoidal lobe and four from thrombosis of the sigmoid sinus, making only twelve deaths in a disease hitherto regarded fatal. If the surgeon can get the case before the process has extended to the adjacent structures of the mastoid antrum, the operation of opening and cleaning out the mastoid is almost universally successful.



In my own experience it has been my good fortune to have saved all my uncomplicated mastoid cases. In addition to the death above described, the writer has had only three others: two in which the lateral sinus was badly involved and one where the patient died five weeks after the operation with what the consultants and myself agreed to be tubercular meningitis. The patient was a negro with tubercular tendencies.

SYMPTOMS.

The table herewith subjoined gives at a glance comparatively the symptoms of mastoiditis, brain abscess, lepto- and pachy-meningitis and sinus thrombosis. It also gives at a glance the differential diagnosis between the different diseases.

TREATMENT.

This is resolved into preventive and operative treatment.

Preventative treatment consists in treating carefully every case of otitis media which comes under observation. It is for our encouragement that acute purulent otitis media seldom causes mastoiditis. The primary cause of mastoiditis and brain abscess in almost every instance is chronic purulent otitis media, which the patient is too often left to outgrow. This form is dangerous, and, as MacEwen says, "one may just as well go around with a charge of dynamite in his head as with a chronic purulent otitis media."

Operative treatment consists first, in opening and cleaning out the mastoid, and, second, in opening and cleaning out diseased foci in brain and lateral sinus. Dench, in a recent article in The Journal of the American Medical Association, takes the ground that in a case of doubt an exploratory operation is justifiable. He probably has had the largest experience of any operator in the country. If the tegmen is involved it should be removed, and if the pulse has been slow, with pain in the head and vomiting, a large aspirator needle should be introduced into the brain in various directions. If pus is present the wound is to be enlarged with a bistoury, which may be sufficient, as in a recent case reported by Jack of Boston.

If the lateral sinus be involved, and the symptoms will usually tell, this must be opened and cleaned out, and if the internal jugular be involved, too, it should be ligated.

The after-treatment consists in keeping the patient quiet and on a milk diet. He should stay in bed from four to six weeks and not rise until the brain wound is healed.

Concerning the renewal of dressings, they should not be disturbed oftener than necessary.

THE CHOICE OF A GENERAL ANESTHETIC IN NOSE, THROAT AND EAR OPERATIONS.*

THOS. J. GALLAHER, A.M., M.D.
LARYNGOLOGIST, ST. LUKE'S HOSPITAL.
DENVER.

The choice of a general anesthetic in nose, throat and ear operative cases will depend on the general condition of the patient, the age and the extent of the surgical work required. The anesthetics employed in this line of work are: chloroform, alone or with oxygen, ether, nitrous oxid, alone or combined with oxygen, and ethyl bromid. The systemic conditions which must be considered in using these anesthetics are the same as in other surgical procedures, viz., the condition of the heart, the kidneys, the blood vessels and, locally, conditions in the upper respiratory tract, stenosis of larynx and pulmonary tuberculosis.

In all cases requiring a prolonged narcosis, such as in mastoid operations, operations on the middle ear, certain operations in the nose and nasopharynx, ether is certainly safer and is to be preferred, unless it produces too much irritation in the upper respiratory tract. My experience with chloroform among children has been very satisfactory, they taking the anesthetic easily and quickly. I have found it rarely necessary to employ ether among children. The use of nitrous oxid in children from 3 to 10 years of age, is attended with considerable difficulty, owing to the impossibility of holding the child still and preventing the admixture of air with the gas. It requires from one to two minutes to produce complete anesthesia, which lasts about one minute; when this gas can be administered to the child or adult in cases not requiring

* Read before the Denver and Arapahoe County Medical Society.

over a minute of anesthesia, this anesthetic is most excellent. It may be combined with oxygen to insure greater safety. I frequently use nitrous oxid in operating on the tonsils, incising the ear drum and in perforating the antrum through the nose, the canine fossa or through the alveolus.

The most convenient—and apparently as safe as any of the other anesthetics—is bromid of ethyl. This anesthetic should not be used in prolonged administration; it produces anesthesia in about one minute, lasting from two to five minutes, the patient awakening and almost at once regaining his normal condition. The amount required is from 3i to 3iv, according to age. A proper amount being measured, the whole quantity is thrown on a towel, lint or gauze, or in an inhaler, and placed over the patient's nose and mouth, and only in case of necessity or danger of asphyxiation should air be admitted. When the breathing becomes stertorous, usually about one minute, anesthesia becomes complete. It does not produce spasm of the glottis, resembling chloroform. In adults it requires a larger dose and more time to produce anesthesia. A temporary vasomotor dilatation occurs with this anesthetic, possibly producing more hemorrhage for a few seconds only, but as the effect of the drug is so short, slight hemorrhage is no contraindication to its use.

Vomiting frequently follows the use of bromid of ethyl, and it should be administered when the stomach is empty. In conclusion, bromid of ethyl must be regarded as a safe anesthetic; the German Surgical Congress, 1897, reports one death in 5,228 narcoses. From the confusing of bromid of ethyl with bromid of ethylene three fatalities are recorded. Bromid of ethylene is highly poisonous and resembles bromid of ethyl very much. Deaths have been reported from the use of impure bromid of ethyl and from asphyxia, syncope and prolonged administration.

The following excellent points are given by A. Brown Kelly,[1] surgeon Victoria Infirmary, Glasgow:

Precautions:

1. Use of pure bromid of ethyl.
2. Attention to patient's respiration.
3. Never prolong narcosis by repeating dose more than two or three times.

Advantages:

No special apparatus required.
Narcosis rapidly produced.
No irritation to respiratory mucous membrane.
Upright position of patient permissible.
Rapid regaining of consciousness.
Invaluable in dispensary work.

In regard to the position of the anesthetized patient, my rule is invariably to operate, placing them on the back, lowering the head so that the level of the pharynx is below the level of the larynx, unless from the nature of the case it is impossible to place them in this position. This position is preferred in our work because there is less danger of blood or severed growths entering the larynx, and it is a safeguard against syncope. Where it is necessary to have the patient in the upright position, or modified upright position, bromid of ethyl is to be preferred as the anesthetic; second choice is given to nitrous oxid, according to the length of anesthesia required.

The advantages of the bromid of ethyl are not generally appreciated by the profession. There are many minor surgical cases which can be operated on by the general surgeon with great satisfaction to himself and little inconvenience to the patient.

1. British Med. Jour., August, 1902.

More "Embalmed" Meat.—A short time ago an Owosso pharmacist ordered 25 pounds of saltpeter from his jobber in Detroit, and received it immediately by fast freight. It was sold to farmers of the neighborhood, who used it in curing meat. Recently so many complaints came in of the aperient properties of the meat that the wholesaler was asked to look into the matter, and it was found that a careless packer had sent epsom salts.—*Pharmaceutical Era.*

THE GIANT MAGNET IN OPHTHALMIC SURGERY.

REPORT OF TWO CASES—REMARKS.*

LEARTUS CONNOR, A.B., M.D.
DETROIT.

The extraction of foreign bodies from the interior of the eyeball presents an infinite variety of problems. These bodies are magnetic or non-magnetic—in this age of steel the magnetic are the rule. Before the use of the magnet extraction was by hooks or forceps and but few eyes were saved, especially if the foreign body was in the vitreous chamber.

The advent of the small magnet rendered extraction of magnetic splinters from the anterior chamber both easier and safer and some pieces were extracted from the vitreous without loss of the eye. The use of magnets or electromagnets as large as possible, introduced by Haab, marked a distinct advance, making it possible to save still more eyes. The usefulness of both small and large magnets has been enlarged by the localizing power of the *x*-ray and sideroscope.

Haab's paper, read before the Ophthalmic Section of the American Medical Association last June, just ten years after his first publication on the subject, awoke renewed interest in the subject, and showed that his followers in America were both numerous and enthusiastic.

I here report two illustrative cases:

CASE 1.—July 2, 1892, I. D., a vigorous blacksmith, aged 45, applied for treatment of an injury to his right eye received one hour before. This occurred while holding a piece of metal on an anvil, as a fellow workman, with blows from a heavy hammer, molded it into the required shape. He was conscious that something had hit his right eye, stunning him for a moment, and that he could not see as before.

Examination showed vision reduced to the counting of fingers by hemorrhage into the vitreous; the anterior chamber full and clear; a horizontal wound in the cornea extending from the right sclerocorneal junction, one-third the distance to the left. Directly behind was a similar wound in the iris, through which a bit of red reflex could be seen with the ophthalmoscope. The visual field was obscured by a cloudy vitreous so that nothing could be determined in this way as to the location of the steel splinter; nor could any damage to the lens be observed. Looking at these facts in the light of the rule in these cases, it was believed that the splinter had entered the eyeball, through cornea, iris, suspensory ligament and vitreous, thence dropping to the floor of the eyeball. A small magnet of considerable power applied through the route of entrance, gave no indication of the location of the splinter. Regarding the case as suitable for the giant magnet, I availed myself of the courtesy of Dr. Frothingham to use his instrument at Harper Hospital. His aid and that of Dr. Ray Connor at the operation contributed much to its favorable result.

Having anesthetized the cornea with cocain, and placed the patient and magnet so that the point of the latter could be easily approached to the center of the cornea, the instrument was placed in contact with the corneal wound, and the current very slowly turned on till its full power was secured. The result was negative, either as to pain or the appearance of the splinter, though the magnet was kept in contact with the eye for a considerable period.

After a few moments with the full current, the eye was slowly brought toward the point of the instrument, when suddenly a bulging was seen at the lowest part of the iris; a continuance of the current was followed by the rise of the splinter between the lens and iris to near the point of entrance. Here its jagged edges caught in the iris, and though the current was changed in many directions, it failed to effect a disentanglement. A small strabismus hook was introduced through the

* Read before the Detroit Ophthalmic Club.

wound so as to touch the splinter and connected with the magnet, but failed to dislodge it. A large hook was substituted, made to touch the splinter, its point being so directed as to draw the splinter inward and backward. Connecting this with the magnet, and slowly turning on the current, the splinter was seen to attach itself to the point of the hook, leave the iris, and so was readily drawn through the wounds. The splinter measured 3x2x½mm., with very sharp prongs on the end, caught in the iris.

Thus the giant magnet located the splinter on the floor of the vitreous chamber, drew it to the lens, around its lower edge, through the suspensory ligament, up the posterior chamber between the posterior surface of the iris and anterior surface of the lens to near the point of entrance, where it became entangled in the iris. Its release and final delivery through the original point of entrance was effected by the aid of a strabismus hook in properly directing the force of the current.

In all this there was practically no pain or hemorrhage into the anterior chamber.

The after-treatment was atropin, surgical asepsis, hot water applied locally to the eye, and rest. The bruised quadrant of the iris did not dilate for many days, though finally the pupil became nearly round, and the iris normally mobile.

July 4, there was slight circumcorneal injection, a yellowish-white color of the wound, clear lens, dark vitreous chamber; the fingers are easily counted.

The after course of the case was uneventful; no evidence of infection presented, and on July 28 he returned to work. At that time his vision was 8/200; lens still clear; upper and inner part of the fundus showed a red reflex, but the portion of the vitreous chamber through which the splinter traveled still remained opaque though retinal separation was not apparent.

The final result has not been reached, as on September 2 vision was 12/200, and lens clear.

October 7, vision is 12/200, lens with some striated lines, opaque spot in outer part, choroid at place of entrance of splinter.

The operation saved the eyeball in perfectly normal appearance with some sight. The size, location and patency of the wounds made it possible to extract the splinter without making fresh ones and rendered unnecessary the drawing of the splinter over the lens to the pupil in order to pass from the posterior to the anterior chamber, so reducing the peril to capsule and iris.

While exact locating of the splinter by *x*-ray and sideroscope would have rendered the diagnosis more certain, it is not clear that it would have conduced to a better result. The giant magnet both confirmed the diagnosis of a foreign body in the vitreous chamber and located it on the floor of the same—more could not be desired. It is not denied that it might have been extracted by a small magnet, had it been located by the *x*-ray, through an opening of the sclerotic, but the damage to the choroid and retina, with increased risk of infection, would have further imperiled the eye.

After the splinter appeared behind the iris it might have been extracted by the small magnet through a new opening of the cornea and iris. This also would have added to existing traumatism of the eye without practical advantage. Clearly from start to finish the giant magnet was the instrument most favorable to the securing of best results.

Case 2.—A. S., a healthy boy, aged 18; an apprentice in a machine shop, was referred to me on September 27 by Dr. Charles Stockwell of Port Huron. While working, a piece of metal from a hammer hit his right eye, causing a severe shock and instant loss of sight. As the accident occurred but a few hours previous to his visit to me, the wound was fresh.

Examination showed anterior chamber clear; the cornea cut horizontally more than half across, beginning at outer sclero-corneal junction and ending in an upward curve to near the superior corneal margin; the iris was fully divided beneath; the lens smashed so that it was impossible to see through it, and the patient could only distinguish light from darkness.

Time being limited, he was at once taken to Harper Hospital and operated on by the giant magnet, kindly loaned by Dr. Frothingham, assisted by Dr. Guy L. Connor and the house staff.

The point of the magnet was placed in contact with the inner end of the corneal wound, and the current turned on slowly. After some moments the patient complained of pain; the iris and lens mass at inferior portion of anterior chamber were seen to bulge forward and upward. The splinter had engaged sidewise rather than endwise and was held from advancing by the lens capsule. A change in the direction of the magnetic force freed the splinter, when it flew to the point of the magnet. Meantime the anterior chamber had filled with blood from the damage done by the splinter. The edges of the wound were cleaned, atropin dropped into the conjunctival cul-de-sac, the eye bandaged and the patient returned to his home.

The route of the splinter was clearly through cornea, iris and lens, dropping to floor of vitreous chamber. Thence the magnetic force drew it forward to the lens debris, then upward and outward through openings of iris and cornea. Clearly the giant magnet confirmed the diagnosis and extracted the splinter with least additional injury to the eye.

The splinter measured 6x3x1 mm., thus explaining the extensive traumatism.

October 6, Dr. Stockwell reported the patient was doing well; had suffered no pain, except on the evening of the 2d, which was easily controlled by the local use of atropin, and an anodyne; the rent in the cornea and iris closed; opaque lens showing in the inner portion of the pupil; tenderness of eyeball, and congestion of conjunctiva disappearing. As nine days have passed since the injury, it may be assumed that danger of infection has vanished, and that we have to deal with the traumatism of the lens and vitreous chamber. The first will either disappear by absorption, or can be removed by operation—the second is still an unknown quantity. It is quite certain that the eye will be retained, and look practically as well as the uninjured eye; it is possible that useful vision may be secured.

From a careful study of these cases the writer is convinced that, without the giant magnet, enucleation would have been imperative in both. With the giant magnet a safe eye is retained in each case, some vision in the first and possibly in the second—a distinct gain over former resources.

The great cost of Haab's magnet has restricted its use, but cheaper substitutes by different operators have multiplied, which, if not equally good, are far better than the small magnets. With an increased demand because of lessened cost, it will not be long ere they will be in the hands of most doing much eye work. With such multiplication will come enlarged experience and greater skill, so that finally they may take the place of the small magnet in all cases that can be brought to hospital or office. Haab says that one magnet suffices for all his cases, and that it is as rational to have a large and small hole for a cat and her kittens as two magnets for different cases.

The technic of extraction of splinters from the vitreous chamber is far from being as simple as might appear. The most experienced are still learning, and beginners do well to heed their suggestions. The great power of the giant magnet renders it capable of irreparable harm if wrongly directed, or infinite good if rightly.

The experimental work, added to the clinical evidence of numerous observers, combines to show that at contact and up to two mm. the power of the small magnet equals, if not surpasses, the giant, but from this distance to 10 mm. the power of the giant increases in almost geometric ratio. From this fact it

is clear that the small magnet is suited only to such cases as admit of its point being brought in direct contact with the splinter, while the remaining cases are clearly within the domain of the giant magnet. Under this view of the case most, if not all, splinters in the vitreous should be extracted with the giant magnet, and not a few in the aqueous chamber.

Experiment and observation show that the farther the magnet is from the splinter the more uniform the action of its force, and the nearer the more jerky such force—the stronger the magnet the more marked this law. It follows that in practice it is wise to either (1) bring the eye close to the magnet point ere starting the current and increase its power very slowly, or (2) bring the eye from a considerable distance toward the point of the magnet with full current very gradually. The jerky force is liable to draw the splinter into the ciliary body, whence it is removed with difficulty, if at all, or it may draw it into some other undesirable location. To rectify this state of the splinter Dr. Kipp has shown us how to utilize the other tip of the magnet to repel the splinter from its misadventure; of course, this calls for a double-ended magnet. In his case the splinter fixed itself firmly in the ciliary body, and no change in direction of the magnetic force would dislodge it. He reversed the pole, when the splinter was released and readily removed. Possibly had this fact been known many failures would have been avoided, as even Haab reports failure from this cause.

When the splinter is caught in the iris one method of its release is given in the first case. Another is the use of the repelling power of the opposite pole. Still another is given by Haab thus: make an opening in the cornea directly over the site of the splinter, then enter with an iris forceps and grasp the iris just beyond the inner edge of the splinter, and gently push it inward till a rent is made in the iris over the splinter. The magnet is now applied at the artificial opening and the fragment extracted. The tear soon heals and the iris regains its normal motility—a far preferable plan to an iridectomy.

Haab so places his magnet that the force shall pass directly through the center of the cornea, expecting the splinter to approach the posterior pole of the lens, curve around its posterior surface, penetrate the suspensory ligament, enter the aqueous chamber, pass between the posterior surface of the iris and anterior surface of lens to the pupillary opening, whence it is extracted by a conveniently located corneal incision. In cases like those reported, where the wound in the cornea is large and freshly made, a new corneal incision is superfluous and the placing of the magnetic current over the fresh wound more desirable. Doubtless other cases will make it desirable to depart from Haab's rule.

A comparison of Haab's results with the small magnet and those with the giant are suggestive. The former are given by Adolph Hurzler, in Morris and Oliver's System of Ophthalmology. Of 18 cases operated on before 1892 by the small magnet, the foreign body was in the vitreous chamber; the splinter was not found in 5 cases; was extracted in 13; vision of 1/7 was secured in one case; the counting of fingers in 8; most had detachment of the retina; and in 7 the eyes had to be sacrificed. In commenting on this Knapp says that his experience was not quite so bad, as he had obtained perfect sight in a few cases where the foreign body could be seen and extracted soon after entrance.

Since 1892 to June, 1902, Haab reports 165 operations with the giant magnet. Of these 23 failed; 39 eyes were enucleated; 9 had lingering cyclitis; 19 were saved from inflammation, but were sightless. Of 71 cataracts extracted 51 had good vision.

His failure to extract the foreign body he lays to four causes: 1, A firm fixation of the splinter in the posterior wall of the eyeball (emphasis to be placed on the "firm," as in other cases the splinter was extracted from the same location); 2, firm fixation of the splinter in the ciliary body; 3, splinter held by a fibrinous exudate; 4, a splinter healed over in the lapse of months. These are some of the limitations of the giant magnet.

As elsewhere, infection by the penetration of a splinter is fatal to the eye and always a source of anxiety after the removal of the foreign body. Haab, to guard against this, introduces into the eyeball a specially prepared plug of iodoform, as both protective and curative. Most operators content themselves with placing the eye at rest with atropin and the general health in such condition as to best resist infection and promote repair of the damage done thereby.

Since the introduction of the giant magnet the *x*-ray and sideroscope have increased our power of localization, so making it possible to accomplish far more with the small magnet. They have also advantaged the use of the giant magnet; but it is clear that the latter enables us to do many successful extractions of foreign bodies from the vitreous chamber hitherto impossible.

103 Cass Street.

SOME NEW AND UNUSUAL THERAPEUTIC APPLICATIONS OF ERGOT.*

ALFRED T. LIVINGSTON, M.D.
JAMESTOWN, N. Y.

In Wood's Reference Handbook it is stated that ergot "appears to have been used by the peasantry in some parts of Europe in childbirth as much as three hundred years ago—but its formal introduction into modern medicine is due to the efforts of Dr. Stearns of New York in the early part of the present (nineteenth) century." I quote again from the same source: "The greatest value of ergot in therapeutics depends on its action on the uterus," and "Ergot is also to be recommended in all forms of capillary hemorrhages." This is essentially the ergot-therapy of the books, as well as of general practice to-day, but you will invariably find long dissertations on its poisonous effects, ergotism.

THE AUTHOR'S EARLY EXPERIENCE.

It is almost thirty years since, as assistant physician in the State Lunatic Asylum of Utica, N. Y., I began to use ergot to modify the hyperemia of the brain in insanity, especially in the melancholic class. We there used the drug almost wholly in the form of the fluid extract administered by the mouth, but I remember that I experimented, during my service there, with various preparations which I made to use hypodermically. I can not now recall the other uses to which I put the drug while at Utica; but there must have been others, for I distinctly recollect that one of the first preparations which I made for the practice of my profession in Philadelphia, to which city I removed in the autumn of 1878, was the making of a solution of the Bonjean ergotin for hypodermic use to carry in my pocket.

* Read before the New York County Med. Assn., March 16, 1903.

THE USE OF ERGOT IN CONGESTION OF THE HEAD.

It was thus that I was prepared to meet the demands of a very striking case, which I will relate, because it is from that hour I date my appreciation, which but gradually developed through many years, of the broad therapeutic application of ergot.

I had been in Philadelphia but a few weeks when an emergency call took me to a house on Sansom street, above Tenth, now, I believe, a part of the Jefferson College property. I found a very plethoric old man sitting in a large arm chair, retching violently. I had never before, nor have I since, seen such retching. It appeared that, after a usual supper, he had gone out on the street, but soon returned and began to vomit and from that time until I was called, at 11 o'clock, he had been continuously vomiting or retching. He was so completely exhausted that he did not lean forward or even hold up his head, which lay against the back of the chair. I did not attempt to question him, for he was too much occupied to reply, and, as his housekeeper could give me no further light on the case, I was obliged to draw my conclusions from what I saw; as I learned to do in dealing with the insane. The frontal vein was not a whit less in size than my little finger, and the general engorgement of head and neck I have never seen equaled. His pulse was rapid, full, bounding and hard. Between retchings he murmured but one word, "pain"! From the moment I first saw him I feared there would be a rupture of a blood vessel of the brain before I could relieve the terrible straining. I concluded that whatever the fundamental cause of this tremendous disturbance of the circulation, the present retching and pain were due to vascular engorgement within the head and that the immediate indication was to contract the dilated blood vessels. With this conclusion came the recollection of my ergot, which I began at once to administer hypodermically. I gave it slowly, as I had learned that it was not desirable to inject a syringeful of ergot as suddenly as a hypodermic of morphia is frequently given. As I progressed with the injection, I observed a gradual change in his symptoms, a lessening both of the vascular tension and of the retching. In acute disturbances of the circulation the rapidity of action of ergot is simply astounding. By the time I had emptied the syringe the suffusion had disappeared, the retching had ceased, the pulse was soft and but little accelerated, the patient was quiet and appeared comfortable. The cyclone which had been raging for four hours had passed and there was calm.

The excitement in the household had drawn many people into his room, and I detailed several of the men to undress him and put him in bed. Although there was then no indication for it, as a precaution against being called to him in the night, I gave him another hypodermic of the ergot and left him. The next morning I learned that a few minutes after I left him he fell asleep and slept continuously for six hours.

Two weeks later I was hurriedly called to him in the early morning, and found him in as great mental excitement as his previous physical excitement had been. He had just discovered that his escritoire had been pried open and a wallet containing nearly a thousand dollars had been stolen. He was practically in acute melancholia, wringing his hands, weeping and exclaiming: "Oh, God! oh, God!" in most pitiful fashion. I again applied my ergot as before, and, although it was not magical enough to restore the money, it did, as promptly as before, restore his calm.

EXPLANATION OF ITS SPECIFIC ACTION ON VASCULAR DILATATION.

I had now, within a fortnight, two impressive object lessons on the therapy of ergot, which have remained vivid through these twenty-five years. The first demonstrated that ergot contracts dilated blood vessels; the second demonstrated that ergot subdues an intense nervous excitement and causes it to disappear, although the cause of the excitement remains. My reflections on the latter and my observations of the action of ergot on many and varied disorders which are usually regarded and treated from the purely nervous standpoint, have led me to conclude that the primary disorder in the mass of nervous conditions is in the circulation in and about those nervous structures whose functional derangements are noted and that therefore the primary indication is not so much nerve foods, nerve tonics, nerve stimulants, nerve sedatives and rest, as it is an equable circulation, a circulation that is in tone in all its parts. The more I deal with nervous conditions the less use I have for phosphorus, nux or strychnia, iron, quinia, opium, the bromids or other depressant salts, and the more use I have for anything and everything that tends to equalize and tone the circulation; a proper activity of the bowels and glands generally, electricity in stimulating the vaso-motor centers and in storing the nervous batteries with the force which is like the nervous force, shock, massage, dry-cupping, exercise, and, above all, ergot, for its specific tonic effect on the circulation, especially on those vessels which are relaxed from lack of sufficient nervous impulse on them, or paralyzed from over-distension and incapable of contracting against this pressure from nervous impulse alone. While ergot contracts the unstriped muscular fiber it certainly acts on those fibers most which most need its aid; otherwise it would not tend to produce equilibrium of the circulation.

I have often observed, when applying galvanism over the cervical sympathetics, that the ears, face and neck, which before treatment were more or less suffused, gradually paled until no vestige of suffusion remained and sometimes pallor supervened. I have frequently produced the same disappearance of suffusion with ergot, but not pallor. The galvanism, stimulating the vaso-motor centers of the head, produced anemia of the vessels of that region if over-supplied; but the ergot produced only general equilibrium because it acts on all dilated vessels wherever they may be. The objection made to ergot, that it raises blood pressure, seems to me unfounded within the limit of rational dosage. If it raises blood pressure in the arteries it is diminished in the veins and capillaries, and when you have secured in any given case an ideal or approximate equilibrium of the circulation, what better result can you desire in that case? In one given case the general blood pressure may be much higher than in another given case, but in any given case, to demand something better than general equilibrium, a proper proportion in each part, seems as superfluous as to request the artist to improve the hue of the lily. Of course, normally, physiologically, there is disturbance of equilibrium of the circulation. Whatever organ or set of organs is now supreme in functional action is receiving more than its usual supply of blood and the rest have a diminished supply. Pathologic activity is quite another thing. If the circulation in the brain is not in good tone functional action is continuously excessive and not well performed. Thoughts are abundant, but not orderly. A confused mass of ideas comes before the perception and it is difficult or impossible to arrange them. If expressed, there is incoherence. Or, inflammation develops, exudation takes place and function ceases. If the circulation in the digestive tract is not in tone, secretion is abnormal in quantity or quality, or both, and the objects of its function are not obtained. If the circulation in a wounded part is not in tone repair is slow or does not occur, or inflammation supervenes with its serious or fatal consequences. All these conditions occur because

of lack of tone in the circulation. Ergot is the one powerful, effective therapeutic measure to secure both equilibrium and tone in the circulation, and this is surely "the great value of ergot in therapeutics" rather than "its action on the uterus." In this respect it has a thousand or ten thousand applications to one demand for it on the womb.

If you ask me how ergot produces its effect on the relaxed unstriped fibers, I must confess that I do not know. I have made no experiments on animals. Every new use which I have made of ergot in my practice was made on analogical reasoning on previous conditions and effects in other subjects. If, in a case of headache, I use galvanism over the cervical sympathetic ganglia, I relieve the headache by stimulating those nervous batteries to a greater activity, which creates more force, which is then distributed over their wires, the vaso-motor nerves, to the muscular tissue of the blood vessels, which then contract. If I give to the same patient with the same sort of headache a hypodermic of ergot, I also relieve the headache with more certainty and more promptly; but there are other effects of a more general character, all-over effects, that are not produced by the galvanism along the neck. Hands and feet become warm, glands are stimulated and their functions better performed; the pulse, if too full, becomes smaller and softer, if too small it becomes fuller; the heart action is slowed and irritability disappears, a general sense of comfort and well-being prevails, the whole system is normalized. I can hardly believe that all this is developed in the brief time solely by the action of ergot on the vaso-motor centers; and I do not hesitate to say that I believe that ergot acts directly from the circulation in which it is being carried. Even the improved activity of the nerve centers themselves may be due to the like correcting of their own blood vessels, for I am convinced that disturbed function in any organ is chiefly due to hyperemia, dilated blood vessels. However, the manner of action of ergot is not to be compared in importance with what it does, and of that I feel more competent to assert.

INSOMNIA.

Associated with many nervous affections, especially insanity and its ally neurasthenia, is insomnia, ordinarily one of the mose difficult conditions to meet therapeutically. I believe it is generally accepted that in natural sleep there is a diminished blood supply to the brain, which theory is in harmony with my observations of the action of ergot in insomnia. Ergot is not only the most effective agent in insomnia, but the sleep which follows its administration is the most natural sleep that is produced by any drug. I think this is because it produces most nearly the condition of the circulation which belongs with natural sleep. There is sometimes such irritability of the nervous tissues, as from organic changes, that it is desirable to associate with it some one of the more purely hypnotic class to dull the abnormal sensibility, which reminds me of an incident that occurred many years ago.

HEADACHE.

I was telling the late Dr. Hodge of Philadelphia, a famous obstetrician of his day, my treatment of a case of insanity which he had commended to my care. I said that I was giving her chloral and ergot to help her to sleep. With manifest sarcasm he inquired, "Do you call ergot an hypnotic, Doctor?" "No!" I replied, "I don't call it an hypnotic, but I do call it a mighty efficient aid to an hypnotic." It is probable that the doctor had never thought of ergot except as related to his specialty. Scores of times patients have fallen asleep in my office after having a hypodermic of ergot to relieve a headache. This also suggests the relation of sleep to a diminished blood supply to the head, for headaches are undoubtedly congestive in the large majority of instances. Indeed, I think an anemia headache very rare, and if I diagnosed such an one I might then give ergot, for there would likely be some part of the circulation hyperemic, the correcting of which would bring a fuller supply of blood to the head. Headache is probably the most common complaint of humanity, and in itself comprises an extensive field for the application of ergot, not only for immediate relief, but to give tone to the cerebral vessels that will prevent recurrences. Chronic and recurrent headaches can be cured by a course of ergot, though in such cases I prefer to use galvanism over the cervical sympathetics in conjunction with hypodermic injections of ergot.

EYE AND EAR DISORDERS.

A common associate symptom with chronic or recurrent headaches is a disordered function of sight, which often leads to the use of glasses, which are frequently changed because the varying conditions of the circulation produce varying states, not only of the retina, but of muscular action on lenses and in iris. In such cases headache is, I think, too frequently attributed to the eye condition, when both are more likely related to a common cause, disordered circulation. Such patients whom I have been treating with ergot to relieve the headache have often remarked on an improvement in vision and a greater comfort in the use of the eyes in sewing, reading, etc. Sometimes, also, a similar relief has occurred from deafness associated with chronic headache. I will relate a case which I treated in Philadelphia seventeen years ago.

A young woman had come to me from Connecticut with a history of eighteen months continuous headache, which, after a few weeks' treatment with ergot and galvanism, was permanently cured. She had a friend at Bryn Mawr, who also suffered from continuous headache, whom she commended to my treatment. This woman was so deaf that I had to yell my questions into her ear and then was not always understood. She never smiled, but had that serious, anxious and constrained expression characteristic of suffering and isolation. After treating her awhile I had noticed that I did not have to speak so loudly to her, but had not mentioned the fact. One day, about a fortnight after I began treatment, she came in smiling and jubilant and exclaimed, "Do you know, Doctor, I heard my sister play on the piano yesterday?" It then appeared that she was passionately fond of music, and her sister a fine pianist, but for more than three years she had not heard the tones of the piano. She had been treated three years by a celebrated ear specialist of Philadelphia without benefit and, during the same time, by a neurologist, also without relief. Later, she heard my conversation in ordinary tone and was free from headache between treatments. Because of my removal from Philadelphia I was obliged to discontinue my treatment of this case before complete recovery, but there had been such remarkable improvement within a few weeks, both as to headache and the deafness, that recovery seemed only a matter of further treatment.

I can not say all that I desire to say and relate illustrative cases; otherwise I would be glad to detail other cases of deafness in which ergot relieved by contracting blood vessels, and also to relate other eye cases as iritis, retinitis and optic atrophy, in which ergot or ergot and galvanism effected what eye specialists had not only not accomplished, but had declared could not be accomplished. The relief of pain in iritis has been astonish-

ingly prompt and lasting. I will be very glad if some ophthalmologist will give ergot a thorough trial in that painful, serious and so largely intractable affection, glaucoma; not simply as to the relief of pain, for I believe it will be found a valuable curative measure.

PAIN IN GENERAL.

For the relief of pain in general, from toothache to heartache, you will find ergot surprisingly effectual. The man who exclaimed, "Pain is the cry of a nerve for food!" may have recognized his obligation to poetic license, but, so far as it is figuratively true, it depends on a disordered state of the circulation as the cause of the nerve starvation. A more literally correct dictum as to causation of pain would be: "Pain is the cry of a nerve because big bellied blood vessels are squeezing it too harshly." When a sufficient dose of ergot has brought them to a proper respect for the space they should occupy in the economy the nerve will be comfortable and pain will have departed.

I can not help relating, in this connection, another case which later developed two new and important uses for ergot.

A confrère in my town related the case, seeking my advice as to treatment. He had been called to a young man who was suffering intensely from pain between the eyes. He could find no cause for it, and concluded it was neuralgic and gave morphia hypodermically, but without relief, and finally had to resort to anesthetics, as the fellow was frantic from the pain. I recalled the continuous mucous tract from the nose to the frontal sinuses, and thought the pain might be due to extreme congestion of that membrane in the narrow and confined tract, and advised ergot hypodermically should he have another attack. The doctor smiled incredulously, but, as he did not know what else to do, promised to try it. It was not long before another attack did occur, and when I next met the doctor he remarked, "Well, it was very queer, but the ergot did relieve him at once."

MORPHIN POISONING.

To those who have not used ergot broadly its effect in many cases will seem "very queer" until the rationale of its action is appreciated. I do not pretend to claim that my diagnosis in this case was correct, but I do claim that, in some way, that young man's pain depended on dilated blood vessels.

Later, this subject had another of his peculiar attacks, and his physician not being accessible, another was called, who had not heard the ergot story as related to this case and, as it was a matter of pain, he began giving morphia hypodermically, ineffectually and repeatedly until he had given three and a half grains, when its poisonous effects appeared and the patient was relieved of pain, also of perceptible pulse and pretty nearly of respiration. The family physician was then found, and sometime later I was sent for to bring my battery. I took with me a large Kidder coil and an extra cell. I found the patient on the floor, limp, cold, cyanosed, pulseless, even the heart action not discoverable, and respiration but two per minute. It was a long time before there was any evidence of sensation from even the full strength of the coil and a couple of hours before there was any demonstration of pain. At that time, when the application was suspended, he lapsed into the deep stupor from which no other means used to rouse him brought any response. While continuing to apply the faradism, the question occurred to me, "What is the cause of this universal paralysis?" which I expressed aloud, and, having no response, answered myself: "It must be the great vascular engorgement of the brain." With this thought came the idea of using ergot, which I immediately proposed, and this was assented to by the doctor who had given the morphia, but the family physician objected that, as the patient would die in any case, if we gave him a hypodermic the family would be sure we had killed him. I argued, but in vain. Fortunately the family physician soon after remembered an obstetric appointment, and as soon as he left I gave a hypodermic of ergot, with the result that in a brief time the patient, without other means being used to rouse him, sat up awake and clear and conversed with us and did not again relapse.

APPENDICITIS.

A few months after the morphia incident I was called to this same subject, and found him in a high fever, with extremely rapid pulse and the local symptoms of appendicitis. The local pain was so great that he screamed in his agony. The pulse was so rapid that I could only estimate it as about 180. Recognizing the congestive element, I gave him ergot hypodermically, which relieved the pain in a few minutes, and the pulse dropped to 120. When the pain returned the same treatment had the same result. Thinking the case might demand surgical interference, and preferring to share the responsibility, I called Dr. Roswell Park, of Buffalo, who diagnosed appendicitis, but not yet at the stage for operating. The day that Dr. Park was called the patient and his friends believed him to be dying. A clergyman was called from his pulpit, the good-bys were said by the family, and the patient directed as to the postmortem rites. I continued, however, with my ergot, the patient recovered within a fortnight, and I have not known of his having any illness during the nearly eleven years that have intervened.

OPIUM POISONING.

Here are three utterly distinct conditions, all extreme, in the same subject, having but one common element, vascular dilatation, in the relief of which one drug, ergot, was clearly the effective factor. I have not had an opportunity since the case related to test ergot in opium poisoning, but it would certainly be my first resort were I called to such a case, and I would be grateful to anyone who may have opportunity, if he will try it. I would give one syringeful after another of the solution which I shall describe, giving each one slowly (or, as there is usually a multiplicity of doctors, two might be given at the same time, which would hasten absorption) until there was marked improvement in the circulation, even if it required half a dozen or more syringefuls to accomplish it. I am confident that you may safely rely on this measure alone, except that if the drug was swallowed the stomach should be cleansed.

DRUG HABITS.

I have used ergot for nearly twenty-five years in the treatment of the habit cases, both opiate and alcoholic, and believe it to be by all odds the best treatment, not even excepting the "gold cure." I always immediately and wholly discontinue the habit drug and substitute no other. It may possibly be easier, both for doctor and patient, to gradually reduce the quantity for a few days, giving ergot four to six times a day as a preparation for the final total discontinuance; but I have preferred, as a desirable moral element, to demonstrate to the habitué that neither his habit-narcotic nor any other is necessary to him in any degree. If, in the case of opium addiction, the drug is immediately and wholly discontinued without previous preparation by the ergot, the reaction that occurs during the twenty-four hours following the first twenty-four or thirty-six hours of abstinence is sometimes so appalling that it requires as much moral force on the part of the physician to do his duty as any other situation in which he is placed. He is quite likely to think more of the condition which confronts him than the theory he started to demonstrate; yet, I assure him, he may hold to his theory if he does not forget his hypodermic and his solution of ergot. After that critical twenty-four hours the treatment is easy.

DELIRIUM TREMENS.

In delirium tremens ergot is *the* remedy to calm the mental and physical excitement. A man was brought into my office in such physical and mental agitation that it was with difficulty that I gave the first hypodermic of ergot, and he left the office within an hour as calm and rational as anyone before me. No other drug will so promptly set a man on his feet after a debauch, or so thoroughly clear the head and put one "in condition" after a night's dissipation; and, in the graver sequels of prolonged alcoholic hyperemia of nerve centers, such as paralysis and coma from the pressure of exudates, you will be most agreeably surprised, to put it mildly, at the results of a few hypodermics of ergot. Indeed, to correct the conditions which produce exudation in general and to secure the absorption of the exudates, from simple edema of the feet to serious apoplexy, you can not do better than to give ergot by hypodermic injection. Please treat your next case of edema of the larynx in this manner.

ASTHMA AND OTHER SPASMS.

Since reading the Chautauqua paper, I have been asked as to the danger of producing spasm of sphincters or bladder. In an experience of more than 25,000 hypodermic injections of ergot, in some instances having given ten ordinary syringefuls in twenty-four hours (the equivalent of one-half dram of Squibbs' solid extract, or two and one-half drams of the powdered ergot), I have never observed any such effect; and not more than half a dozen times have I produced spasm of the womb from giving a little too much ergot during the menstrual activity. Considering the cause of spasm in general, which is either irritation from dilated blood vessels in motor centers or peripheral irritation of sensory terminals from the same cause, reflected through motor centers to the muscles involved, ergot would appear to be indicated rather than contra-indicated in spasm. I know that in many spasmodic or convulsion conditions ergot is beautifully effectual in relieving. Asthma has yielded in a few minutes to ergot, even when the attack has been extreme and prolonged; and many cases of uremic convulsions have been as promptly relieved by ergot. When I speak of using ergot, I always mean hypodermically, as I have no confidence in its desired action when administered by the mouth, which is often, also, offensive to the stomach. The two methods are not to be compared as to their desirable results.

PUERPERAL ECLAMPSIA.

Obstetrics is out of my sphere of practice, and I have had no opportunity to demonstrate the applicability of ergot to puerperal eclampsia, but, considering its essentially-like causation to that of uremic convulsions from toxins, which disturb the circulation in nerve centers as well as the probable inefficient glandular activity in eliminating those poisons, I do not hesitate to commend its trial in that affection, believing that happy results will be obtained. Doubtless many will hestitate to give ergot to the pregnant woman, but I have frequently so used it without ill results, and I have had the assurance of a celebrated gynecologist that he would use it in pregnancy if indicated. In the convulsions occurring before or during labor, I would use it cautiously, but after the womb is emptied, I would use it freely and would expect to see brilliant results.

HYSTERO-EPILEPSY, CHOREA, ETC.

Had I time, I would relate a striking case of hystero-epilepsy of considerable duration who, during the convulsions, required half a dozen men to hold him in bed and who was practically cured from the first hypodermic, no further convulsions occurring. In the same way, I have relieved ordinary hysterical convulsions in a few minutes. The cataleptic hysteric is a typical case for the administration of ergot. With ergot you will cure the acute choreic promptly instead of waiting weeks and months, perhaps vainly, for the action of tonics and nerve sedatives. The old chronic choreic as well as the chronic sufferer from paralysis agitans you will not promptly cure, but you will promptly benefit and accomplish more with ergot than with any other drug. In infantile convulsions and paralyses and in the night terrors of children I earnestly commend to you the use of ergot, but I also commend the careful inspection of prepuce and clitoris and the correcting of their abnormalities. Indeed, in all convulsive and nervous conditions not clearly related to toxic influence examine carefully the sexual and pelvic organs for primary causative irritation, after which consider the digestive tract.

In epilepsy you will have all the advantages from the use of ergot that you have had from the bromids, without the latter's tremendous disadvantages.

BULBAR PARALYSIS, PARESIS, ETC.

As illustrative of the successful use of ergot in a condition regarded as incurable, I will relate another case.

Ten years ago a man came to me to have the galvano-eautery used on the back of his neck. He said, in effect, that he had consulted neurologists in Buffalo and New York, who had agreed that he had a fatal disorder, bulbar paralysis. The New York specialist exhibited great interest in his case as a rarity, and assured him that his was a beautiful case, but that all such cases progressed to fatality, though, possibly, cauterization might give him some temporary relief or extenuation of life. I saw that the poor fellow was frightened almost to death and, while he was not there to consult me, humanity led me to attempt to modify the influence of the unfavorable prognoses and to say that I thought that some other treatment would be much more beneficial than what he came for. He was in a state of mind to grasp at straws and requested me to treat him. I do not answer for the diagnoses, but they were made by those whom I regarded as more competent than myself. My own judgment was rather that he was developing general paresis. However, I treated him thoroughly with ergot and galvanism and he had no other treatment except buckthorn as a laxative. He made a rapid recovery, and has been in good health since and active as a public speaker.

I have had well-established cases of general paresis so improved by ergot that I questioned the correctness of my diagnosis, and I believe that if paresis could be so treated in the early stage it might be cured.

ACUTE INFLAMMATIONS.

Another class of diseases should be considered in relation to ergot, the acute inflammatory. It is surely rational to assume that ergot is indicated here, for the central element is dilated blood vessels, and ergot does contract the dilated blood vessels. But, better than theory is demonstration, and I have repeatedly demonstrated its value in meningitis, pneumonia, peritonitis, appendicitis, metritis, tonsilitis, erysipelas, erythema and inflammation of veins and arteries. The nearer to the initiation of inflammatory states you apply ergot, the more beautiful will be the demonstration of its effective action. I have also used it largely in the zymotic diseases to control or modify local hyperemia, which give pain and discomfort. I know that it is possible to make even the very sick comfortable, and there is some satisfaction in being comfortably sick. The sequellæ of influenza, the most serious part of that disease, local passive

congestion in one or more vital organs from paresis of vaso-motor centers, are relieved by ergot, though often slowly, as the influenzic poison has a peculiarly persistent depressing action on the sympathetic ganglia, but persistent use of ergot will overcome this.

TYPHOID FEVER.

I will be very grateful if some of you gentlemen who frequently treat typhoid fever will use ergot from the beginning. I am sure that by it you will accomplish several desirable results; limiting the local inflammation that so often leads to hemorrhages and perforation, the fatal elements of the disease, securing better elimination of the septic contents of the bowel by stimulating its muscular coat, preventing the head symptoms by holding the circulation there in tone and, by its effect on the general circulation, relieving the work of the heart.

ANGINA PECTORIS AND OTHER HEART AFFECTIONS.

There is still another class of disorders in which ergot stands pre-eminent as a means of relief—I refer to all those conditions, whether in kidneys, liver, lungs, brain or digestive tract, which produce functional and sometimes, later, organic trouble in the heart. It appears to me that quite too much attention is given to the heart in many cases and not enough to the conditions that have produced and are producing the symptoms in the heart. In general, the heart symptoms themselves and the remote states of disturbed circulation which produce them will be more effectually corrected by ergot than by any other drug of the materia medica. To use a pertinent slang expression, "It makes me tired," as the practice makes the poor hearts of the subjects so treated, when I think of the prodding and spurring of that overwrought organ by all the heart tonics and heart stimulants the doctors can think of, or, in other cases, lowering its force by sedatives and depressants, when the real indication is to remove the conditions which are overworking it or the conditions which are irritating its motor center; in other words, securing as promptly as possible approximate equilibrium of the circulation, to which end ergot is the desideratum. To this end I declare ergot to be tenfold more valuable and efficient than all the heart tonics, heart stimulants and heart sedatives combined. Do not understand me as condemning these classes of medicaments. I am only condemning their improper use. A disorder associated with what I have been saying is angina pectoris, in which I have used ergot with the happiest results. I recently heard a paper on that subject by a prominent practitioner personally known to many of you. I was asked to take a part in the discussion, and commended ergot. The physician promptly replied that "of all drugs, that one was most contraindicated." I will only say that if in angina pectoris or any other affection you deem it undesirable to make the labor of the heart as easy as possible by removing barriers that it can not surmount and lifting loads that have fatigued it, or undesirable to calm excited nerve centers that have made its action tumultuous and straining, then do not give ergot, for it is surely then contraindicated.

PRELIMINARY TO OPERATION.

I will detain you with but one more suggestion as to the therapy of ergot, which leads me into a field whose workers are not much given to the use of medicaments. And yet I am convinced that this one drug will be found by the surgeon who fairly tests it in his practice as valuable and necessary for the purposes which I shall point out as anesthetics or antiseptics for their especial purposes, and more valuable to him than any other drug outside of those classes.

The present era of surgery is the most brilliant of all history, so brilliant that the mind that contemplates it is dazzled as the eyes are dazzled by looking at the sun. The foundation on which this grand superstructure has been builded is antisepsis, the destruction of those microscopic organisms whose presence in wounds produces inflammation, which has always been the Waterloo of surgery. It is no disparagement to modern surgery to recall that before the day of antiseptics the surgeon was not always defeated; that, indeed, his victories were counted by the thousands and tens of thousands; and why? We surely can not assume that the bacterium did not then exist, any more than we can assume that the mass of mankind who do not develop tuberculosis are never exposed to its bacterium. There was in those successful cases a condition that prevented the fatal activity of the bacteria. I believe that the explanation is to be found in the state of the circulation. Inflammation can only follow congestion, and congestion can only occur when the walls of the blood vessels in the injured or wounded part have not sufficient tone. Where there is not that sufficient tone ergot will develop it, and this is the function and province of ergot in surgery. In all cases where there is time and opportunity to prepare a subject for operation by a preliminary course of ergot it should be done as carefully and conscientiously as you would secure the most perfect antisepsis during and following the operation. When the subject can not be so prepared in advance, the administration of ergot should be made hypodermically before and during anesthesia and operation and afterward until the healing is complete. You will find that the subject who has had a proper preliminary preparation by ergot for operation will have little or none of those distressing and often seriously objectionable accompaniments and sequellæ of anesthesia, nausea, retching, vomiting and delirium; and fluid nutriment may be safely given, as a rule, within a couple of hours after operation and at intervals thereafter.

SHOCK.

That great immediate dread of the surgeon, shock, will also be wholly prevented or greatly modified; and in those cases in which shock has preceded the surgeon's relation, ergot will quickly prepare the subject for prompt and safe operation, when delay or the imposing of operative shock on the previously shocked nervous centers would be fatal. Pain, for which the surgeon is accustomed to administer morphia, a drug that congests and disturbs every vital function, will be prevented by keeping the circulation under the influence of ergot, for it is congestion which determines the pain. Thus morphia may be avoided, which is always desirable; but if it must be administered, combine it with plenty of ergot to prevent its undesirable effects. After operation the thing desired is repair, and the sooner it is accomplished the better for the surgeon's reputation and the patient's satisfaction and future usefulness.

When you read in the evening paper: "Mr. John Jones was operated on to-day at the Blank Hospital by the famous Dr. Blank. The operation was successful." And, a few days later, you discover Mr. John Jones' name in the obituary column, it means that there is something more to be desired than surgical skill and the bacterial destroyer. That desirable thing is a proper activity of the circulation in general and, in particular, in the region of the operation. That proper activity is only

secured by a certain caliber of the vessels which carry to and from that region the nutritive fluid, and I feel that the most important message which I bear to you tonight is that ergot will, more surely and effectually than any other means, determine that proper caliber; whether for repair of a wound after operation or for aborting or minimizing an acute inflammation, or for raising the blockade that has wearied or exhausted the heart, or for relieving a coma or paralysis or convulsion, or for promoting the absorption of exudates, or for restoring normal function in an organ, or for calming an excited nerve center, or for relieving pain, or for simply restoring that general equilibrium of the circulation which warms the cold hands and feet, cools the hot brain and brings to an unhappy mortal, calm, comfort and peace.

Now, as a stranger to you, and without the weight of that bubble, reputation, to impress my words on you, I will confess that I do not expect you to accept now, nor until you have made the demonstrations for yourselves, all the claims I have made for ergot. I know that much of what I have said is novel to the mass of the medical profession and, in the developing of the application of ergot to disease, I have often scarcely credited my own senses, so astonishing was its action. I know, too, that a widespread prejudice exists against ergot; that it is regarded by many as a criminal among drugs. Patients of mine traveling abroad have been unable to purchase it in some countries of Europe, being told that it was a rank poison, and many physicians in this country have expressed the same view. At the sacrifice of conventional form in medical literature, I have endeavored to impress on you more strikingly the facts I had to present, the theories I wished to express. If I have so far succeeded in awakening your interest in ergot as to lead you to a wide and widening practical application of this efficient and remarkable drug, my mission tonight will have been attained. How you may regard me, concerns few beside ourselves. How you may regard ergot, vastly concerns thousands whose lives and futures will be placed in your hands in the years to come. You may have been impressed that I have a kaleidoscopic view of ergot or that it is to me like a musical instrument, a harp of a thousand strings, on which I play many tunes. If you will analyze all that I have said, you will find but one chord, one string, that makes, like Paganini's, many tones; which, unlike Paganini's, are harsh and inharmonious, unhealthful. All that is novel in the broad therapeutic application of ergot is the recognition of the varied, unhealthful tones of that one chord in all the diseases I have mentioned. That chord is *abnormally dilated blood vessels*. Ergot is the master hand whose magical touch vibrates them to harmony and health.

THE MODE OF PREPARATION AND OF USE.

Since the publication of the Chautauqua paper I have had so many inquiries as to the preparation I use, dose, method of administering, etc., that I will anticipate such inquiries in relation to this paper. I have experimented with a great many solutions which I have made, the object of which was to find that antiseptic which would best preserve a watery solution from bacterial development, toward which there is a great tendency in ergot, and to avoid the pain in introducing it hypodermically, and to prevent local congestion or inflammation at the region of application. I discarded three classes of antiseptics, the mercurial, from the great irritation; the iodin group, because of their tendency to set free the iodin, and the carbolic acid group, because of the tendency to produce a turbid state, a suspension of a fine precipitate which filtration would not correct. I have also experimented with every preparation of ergot to which my attention has been called, only to discard all except the preparation of aseptic ergot, which is put up in tiny bottles, hermetically sealed, each containing one ordinary dose. This solution is the most satisfactory of all the preparations I have experimented with except my own solution, and I do not hesitate to recommend it. However, I prefer this solution:

> Squibbs' extract of ergot 1 drachm, dissolved in solution formalin (1/3000) one ounce. Mix.

The distilled water should be boiled to sterilize, and, after cooling, the formalin added before the ergot is dissolved. The solution should then be filtered. You should not allow yourself to get out of this solution, for, curiously, a solution that has been made a few days is more satisfactory to the patient, giving less hurt, than one freshly made. Until the last two years I purchased the ounce or 25 gram jars of Squibbs' extract, but I much prefer, as being less troublesome and being always surely aseptic, the drachm packages wrapped in tinfoil, which my friend, Dr. E. H. Squibb, has been preparing for me. In making the solution great care should be taken to have everything used in the process thoroughly sterilized. It is better to keep in a cool place and protected what you do not carry with you. I regard the syringe used and the care of the needles as important. The best syringe is a glass one with asbestos plunger. As avoiding trouble in refilling, I prefer a syringe that holds a drachm or more. I always scour the needles, after each use, with sapolio, having filled the syringe with distilled water, which I throw through the needle slowly and continuously while drawing it from base to point between thumb and finger, which holds some powdered sapolio, then rinse well and dry with tissue paper outside and the inside as well by screwing the needle on a cone of the tissue paper, afterwards wrapping each needle in a bit of tissue paper, which sufficiently protects it.

A minimum effective dose, for an adult, of this solution, I would regard as 15 minims, but I seldom give less than an ordinary hypodermic syringeful, 25 or 30 minims, and often two such syringefuls. In extreme cases, as uremic convulsions, I have given four such syringefuls. One syringeful will generally relieve even a bad headache, but if not relieved in half an hour, repeat the dose.

It is always well to continue to use ergot, where there is a congestive tendency, for some time after symptoms have disappeared. The largest quantity of ergot that I have given in twenty-four hours is ten ordinary syringefuls.

As to the place of application, I prefer the deltoid of the left arm. It seems better to inject into muscle, but the space between the scapullæ is a good one to inject under the skin. Unless there is good tone in the blood vessels where it is injected, ergot will cause some congestion and sense of soreness until a few doses have improved the tone of the circulation, after which the patient will not mind the injections. Sometimes it would be a good precaution and never out of place to especially cleanse the skin where the needle is to be inserted.

I have never had an abscess purely from ergot, not a half dozen in all my experience, and those clearly explicable, as from an associated irritant. Always inject ergot slowly, keeping the finger on the stem of the

plunger and against the base of the syringe, to avoid suddenly throwing in too rapidly because of irregularities in the bore of the syringe or inequalities of pressure.

Finally, as to ill effects in general and, in particular, that dreadful sequence, ergotism, I am reminded of a celebrated chapter, whose title and text I will quote:

"On Snakes in Ireland.
There are no snakes in Ireland."

I have had a large experience with ergot, and I have never seen a suggestion of ergotism, nor any other effect that I could denominate ill. If you are looking for "snakes" in ergot, you must search elsewhere than in Squibbs' tinfoiled lozenges, and I think you will fail to find them lurking in the tiny bottles of aseptic ergot.

With a proper solution and the syringe and needle sterile, use ergot freely until you have secured the desired effects, and do not lie awake at night in dread of "snakes" in ergot.

DISCUSSION.

Dr. F. H. Wiggin, New York, said he could corroborate many of the statements made in the paper. His first trial of ergot was in a case of very dangerous intestinal paresis following a difficult laparotomy. The patient received ten syringefuls in 24 hours and was greatly benefited thereby. Administration continued on signs of relapse and recovery was uneventful thereafter. The drug was also useful in controlling nausea following anesthetic. The pain of acute articular rheumatism and also the morphin habit were controlled by it.

Dr. O. W. S. Toms, Nyack, N. Y., described a severe case of acute pulmonary edema which had yielded most satisfactorily to two syringefuls of Squibb's ergot solution. The attack had been brought on by disturbed compensation of the heart. Another interesting case reported in detail was one of severe purpura associated with rheumatoid and neuralgic pains and hemorrhages from the bowel. There were recurrences of eruption each time the patient came out of the influence of morphin. Finally ergot was given hypodermically with remarkably good results. Two injections were given daily for a few days. After each administration the rash became dark and was quite pale by the next day.

Dr. Charles Phelps, New York, had found ergot very useful in arteriosclerosis, and believed it should prove of value in cases of cerebral contusion.

Dr. Willis E. Ford, Utica, N. Y., said that even though some of the claims made in the paper seemed hard to believe they should be accepted with confidence, for he could personally vouch for Dr. Livingston's experience and diagnostic ability in the field of neurology. He had found ergot useful in subinvolution and chronic metritis responsible for failure of lactation. It was difficult to believe that this drug could take the place of well-known heart tonics and stimulants, but if it were so ergot would certainly assume a new prominence.

Dr. Alexander Lambert, New York, said he had recently made an extensive trial of ergot. The first case was a desperate one of angina pectoris, in which the usual remedies had utterly failed. In 10 minutes after the first injection of ergot he was completely relieved, and this experience was duplicated in several subsequent attacks. In a case of opium poisoning the use of ergot had permanently restored the patient to consciousness. A most interesting experience had been with 10 cases of alcoholic wet brain in Bellevue Hospital. Formerly under the most approved treatment this class of cases had yielded a mortality of 95 per cent., but in the present series, treated by ergot in doses of 15 minims every 2 hours, 7 cases out of 10 recovered. Ergot was also of greatest value in relieving the depression and tremor of ordinary acute alcoholisms. He had used ergot also in several cases of severe alcoholic pneumonia and in pulmonary congestion and edema with the most satisfactory results. One case of surgical shock was reported in which ergot had controlled severe shock promptly and had enabled an urgent operation to be done successfully.

Dr. Edward W. Lee, New York, said that for many years he had used ergot with apparent benefit in chronic hypertrophy of prostate and in acute inflammation of this gland.

Dr. Livingston, in closing the discussion, said he had used ergot in cases of concussion of brain with decided benefit.

Special Article.

THE TYPHOID EPIDEMIC AT ITHACA.*

(By Our Special Commissioner.)

I.

The city of Ithaca is most attractively situated in central New York at the upper end of Lake Cayuga, about one thousand feet above the sea level. The location and surroundings suggest unusual healthfulness, and, with a single exception, to be noted presently, there has been, up to the present year, no markedly excessive prevalence of disease. According to the United States Census for 1900 the death rate for that year was only 16.3. The town is reported as having 194 manufacturing establishments with an aggregate capital of $3,000,000, but it is chiefly celebrated for being the seat of Cornell University, and is pre-eminently a college community. During the college year the student population constitutes nearly one-fifth of the total number of inhabitants.[1]

In the matter of general cleanliness and attention to garbage disposal and other sanitary details, Ithaca does not impress one as being any more lax than scores of similar communities. Indeed, it is probably considerably superior to most non-college towns of its size and surroundings, and so far as appears, there has been only a single indication that Ithaca was not an unusually healthful community.

PREVALENCE OF TYPHOID FEVER IN FORMER YEARS.

For many years prior to the present outbreak typhoid fever, or a disease closely resembling it, so far from being an uncommon disease in Ithaca, has been rarely absent. A low type of fever, deemed by some so peculiar to the town that it has been honored by the designation of "Ithaca fever" (save the mark!) has occurred with varying severity for years. In the year preceding the present epidemic, cases of "Ithaca fever" and kindred illnesses appear to have been especially numerous. According to the official record of the university infirmary, "eighteen cases of typhoid and enteric fever, some of them very severe," were cared for in that institution during the year 1901-02. I have found that not infrequent mention of cases of typhoid fever occur in the files of a local newspaper during the months of January and February, 1902, and it is well known among the Ithaca physicians and some of the townspeople that a considerable number of cases of "fever" occurred at that time. In

* It is to be understood that the matter appearing last week was merely a preliminary statement based on information then obtainable.

1. Population, U. S. Census, 1900, 13,136. The number of students recorded in the University Register at the beginning of the year 1902-03 was 2,686, but 165 of these were residents of Ithaca and are probably included in the census enumeration.

the opinion of some who have investigated the matter, the number of such cases should be placed as high as one hundred. In one of the earliest notices of the present epidemic[2] a comparison was drawn between "the epidemic of this year and last."

BEGINNING OF PRESENT EPIDEMIC.

As far as the facts can be obtained regarding the time of onset of the present outbreak, it appears that about fourteen cases of a low fever, possibly typhoid, occurred between Nov. 17, 1902, and Jan. 15, 1903. Then, on January 1, some five or six cases of fever developed, and during the following week several cases each day were reported. After January 25 the number of cases reported daily seems to have increased very materially, and the existence of a serious epidemic began to be admitted, although most unwillingly. Some general uneasiness, however, seems to have been felt as early as January 22. On that date one of the Ithaca papers[3] contained the following editorial note:

Boil the drinking water. Reports from physicians show that there are several cases of typhoid fever in the city. Impure drinking water is one of the most fruitful sources of typhoid infection. If you would take no risk, carefully prepare every drop of water you drink.

On the day preceding this statement, the same paper contained a note on typhoid fever in Philadelphia with the following somewhat pragmatical comment, which, in the light of subsequent events, reads rather curiously:

The cause of the epidemic in Philadelphia is attributed to a poor water supply, and Ithacans who visit the Pennsylvania metropolis should be careful about what they drink. It is a safe rule never to drink water at any time unless perfectly sure of its purity.

By February 2 the gravity of the situation in Ithaca had become clearly manifest. On that day the following statement was made in the local press:

The epidemic of typhoid fever is spreading with terrible rapidity throughout the city. The physicians are over-worked, the hospitals are over-crowded, nurses are lacking to care for the sick, and two deaths have been caused by the disease, one Saturday and one to-day.

DIMENSIONS OF EPIDEMIC, NUMBER OF CASES AND DEATHS.

It is unfortunately impossible to obtain precise information regarding the time of beginning of the outbreak, the sequence of the cases and the dimensions of the whole epidemic. The records of the local health board are in a confessedly fragmentary and imperfect condition, and the actual number of cases occurring in Ithaca during the early months of 1903 will probably never be known. I am informed by Dr. G. H. Soper, the representative of the New York State Board of Health, that he had secured a record of 770 cases that had developed prior to March 12. This, however, is generally believed by Dr. Soper and others, who have firsthand knowledge of the epidemic, to fall somewhat below the truth. Just how far below is a matter for conjecture. Some observers would place the number of cases at over one thousand, and lay great stress on the existence of a large number of ambulant cases, but it must be remembered that a number of such cases occur during every typhoid epidemic, and there seems to be nothing to indicate that the Ithaca infection has given rise to a disproportionately large number of cases escaping the notice of physicians.

Among the students in Cornell University the epidemic has found many victims. The university authorities had, on March 12, a record of 119 cases with 12 deaths, that had occurred among the students remaining in Ithaca; and of 46 cases and 10 deaths reported from among those students who had gone from Ithaca to their respective homes. It is estimated that at least one-third of the total number of students left Ithaca after the outbreak of the fever, so that the 46 cases reported to the university authorities constitute only a fraction of the number in whom the disease developed outside of the city. The writer has obtained, in fact, the names of eighteen students not on the university lists who are reported as ill at their homes from typhoid fever contracted in Ithaca. From the files of local newspapers have also been obtained the names of seventeen persons who are believed on strong grounds to have contracted typhoid fever in Ithaca, but who developed the disease outside the town, for the most part in neighboring villages. One case, however, presumably contracted in Ithaca, has appeared as far away as Wheatland, South Dakota. From the best information obtainable, therefore, the number of cases that can fairly be attributed to infection in Ithaca, between January 1 and March 12 is as follows:

	Students.	Citizens.	Total.
Cases in Ithaca	119	651	770
Cases outside of Ithaca	64	17	81
Totals	183	668	851

The record of deaths, although doubtless incomplete, probably presents a narrower margin of error than the cases.

TABLE I.

DEATHS FROM TYPHOID FEVER ATTRIBUTABLE TO INFECTION IN ITHACA.[4]

Jan. 23.... 1	Feb. 14.... 1	Feb. 28... 3
Feb. 1.... 1	Feb. 15.... 4	March 2. 3
Feb. 2.... 2	Feb. 17.... 3	March 3. 1
Feb. 4.... 1	Feb. 18.... 1	March 4. 1
Feb. 6.... 1	Feb. 20.... 1	March 7. 2
Feb. 7.... 1	Feb. 21.... 1	March 11. 2
Feb. 8.... 1	Feb. 22.... 5	March 12. 1
Feb. 10.... 1	Feb. 23.... 2	March 13. 2
Feb. 12.... 2	Feb. 25.... 2	March 14. 1
Feb. 13.... 2	Feb. 27.... 2	Total ..51

SAME RECORD, BY WEEKS.

Jan. 23 to Jan. 29	1
Jan. 30 to Feb. 5	4
Feb. 6 to Feb. 12	6
Feb. 13 to Feb. 19	11
Feb. 20 to Feb. 26	11
Feb. 26 to March 5	10
March 6 to March 12	5

For reasons already stated definite information can not be obtained regarding the sequence of cases in the whole population. The facts are at hand, however, concerning the dates at which some 97 Cornell students were admitted to the university infirmary and its annexes, and these afford probably as reliable information as can be secured regarding sequence.

2. Ithaca Daily News, Jan. 26, 1903.
3. Daily News, Jan. 22, 1903.
4. Including 12 students who contracted the disease in Ithaca, but died at their homes.

TABLE II.[5]

CASES OF TYPHOID FEVER OCCURRING AMONG CORNELL STUDENTS IN ITHACA, THE DATE OF INCEPTION OF WHICH IS APPROXIMATELY KNOWN.

Jan. 23.. 1		Feb. 4.. 5		Feb. 16.. 1		Feb. 28.. 1	
Jan. 24.. 2	6	Feb. 5.. 5	21	Feb. 17.. 2	4	Mch. 1. 0	3
Jan. 25.. 3		Feb. 6..11		Feb. 18.. 1		Mch. 2. 2	
Jan. 26.. 2		Feb. 7.. 3		Feb. 19.. 0		Mch. 3. 0	
Jan. 27.. 1	6	Feb. 8.. 1	8	Feb. 20.. 1	3	Mch. 4. 0	0
Jan. 28.. 3		Feb. 9.. 4		Feb. 21.. 2		Mch. 5. 0	
Jan. 29.. 4		Feb. 10.. 4		Feb. 22.. 2		Mch. 6. 0	
Jan. 30.. 1	10	Feb. 11.. 4	8	Feb. 23.. 1	4	Mch. 7. 0	0
Jan. 31.. 5		Feb. 12.. 0		Feb. 24.. 1		Mch. 8. 0	
Feb. 1.. 5		Feb. 13.. 2		Feb. 25.. 4		Mch. 9. 0	
Feb. 2.. 3	11	Feb. 14.. 0	3	Feb. 26.. 0	5	Mch. 10. 4	5
Feb. 3.. 3		Feb. 15.. 1		Feb. 27.. 1		Mch. 11. 1	

In addition to this number, 22 students have been ill in lodgings or in the city hospitals, the date of the beginning of their cases being apparently unknown. So far as can be learned, the sequence of cases in the town followed closely the sequence of cases among the students, but owing to the laxity of report and record, already referred to, even the approximate dates of the beginning of the disease can not be ascertained.

There seems at first to have been much doubt as to whether the fever was really typhoid fever or the familiar "Ithaca fever." The latter disease, apparently, did not seem so formidable to many citizens.

Throughout the epidemic the situation has been singularly befogged by a tendency on the part of certain of the Ithaca physicians to deny the prevalence of "genuine" typhoid fever, and to ascribe the prevailing illness to "paracolon infection." The evidence on which this view is based appears to be that a negative result with the Widal reaction has been obtained in a considerable proportion of the cases that have been tested. There is no instance where any paracolon or paratyphoid organism has been isolated from any case of the disease. Even if it were conclusively proven that half, or even all, of the cases of "fever" in Ithaca were true "paracolon" infections, it is difficult to see why that fact should materially influence the general situation. It must still have been admitted that a disease of serious character which can not as yet be clinically differentiated from typhoid fever, and which, so far as is known, does not demand essentially different treatment, prevailed excessively in the town. Whatever the nature of the microorganism, the probable mode of infection and the sources of the infection remained the same, as did the necessity for taking vigorous measures for preventing its spread. There was not a single particular in which the practical handling of the outbreak could have been affected, even if convincing evidence had been secured that all the cases in Ithaca were paracolon cases. The insistence on a distinction, which, under the circumstances, could possess only an academic value and did not facilitate immediate and aggressive action was not a fortunate policy.

(To be continued.)

5. The several dates refer to the day of admission to the infirmary and can be taken as only an approximate indication of the day of inception of the disease.

Gail Borden, inventor of the system of condensing milk, died at San Francisco, Cal., November 26, from poisoning, "after eating a duck that had been kept in cold storage."

Suicides in American Cities.—If we may rely on the statistics quoted by the *New Orleans Times-Democrat*, there are some strange facts as to the relative rate of suicides in the different American cities. San Francisco has the largest ratio, 39.1 per 100,000 of population. Next comes Los Angeles, 29.8. Chicago is the third in order with a ratio of 24.0, followed by the neighboring city of Milwaukee, whose ratio is 22.2, and then New Orleans, 21.8, and Cincinnati following close with 21.2. New Haven is next with 20.9, and then comes the Borough of Manhattan with 20.0, though Greater New York, as a whole, is well down the list with a ratio of only 13.6. This is less than Rochester, Indianapolis, Philadelphia, Pittsburg, Baltimore, Boston, Detroit, Omaha and Louisville, besides all of those specifically enumerated above. As to the foreign cities, Paris leads the list with a ratio of 42, followed by Berlin, 36; Vienna, 28, and London, 23. There were more suicides in Saxony than in any other country, 31.1 per 100,000. In Denmark the ratio was 25.8, in Austria 21.2, in France 15.7, in the German empire 14.3, and Sweden, Norway, Belgium, Great Britain, Italy, the United States and Spain followed in the order given. Can any of our social philosophers explain why the San Francisco and Los Angeles rates are higher than Chicago? The "foreign element" in Chicago, Milwaukee and Cincinnati can not explain why their rates are so much higher than New York City, where there are also large foreign populations. Does New Haven, in fact, have a higher rate than all other New England cities? And why is the rate in Minneapolis almost double what it is in St. Paul? Will the *Times-Democrat* tell us where it got its figures?—*American Medicine.*

National Charters.—Those interested in securing a National charter for the American Medical Association will be interested in Senator Elkins' bill, which has received the approval of the district commissioners; to incorporate the National Hay Association of the District of Columbia:

Be it Enacted by the Senate and House of Representatives of America in Congress Assembled: That [then follows the names of the incorporators] their associates and successors are hereby created in the District of Columbia a body corporate and politic by the name "The National Hay Association," for the purpose of advancement of the commercial interests of those engaged in the handling of hay and straw, inculcating just and equitable principles in trade: acquiring, preserving and disseminating valuable business information; establishing and maintaining grades of hay and straw and securing their adoption in different markets of the country and facilitating business intercourse. Said association is authorized to have an official emblem and hold real and personal estate in the District of Columbia so far only as may be necessary to its lawful ends in amount not exceeding $5,000, to adopt a constitution and make by-laws, not inconsistent with law. Said association shall have its principal office within the United States as it may determine and may hold its annual meetings at such places as the said corporators may determine.

The following is the National charter of the American Historical Association, known as public No. 10, and reads as follows:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress Assembled: That [then follows the names of the incorporators] their associates and successors, are hereby created in the District of Columbia a body corporate and politic, by the name of the American Historical Association, for the promotion of historical studies, the collection and preservation of historical manuscripts, and for kindred purposes in the interest of American history and of history in America. Said association is authorized to hold real and personal estate in the District of Columbia so far only as may be necessary to its lawful ends to an amount not exceeding $5,000, to adopt a constitution, and to make by-laws not inconsistent with law. Said association shall have its principal office in the District of Columbia, and may hold its annual meetings in such places as the said incorporators shall determine. Said association shall report annually to the secretary of the Smithsonian Institution concerning its proceedings and the condition of historical study in America. Said secretary shall communicate to Congress the whole of such reports or such portion thereof as he shall see fit. The regents of the Smithsonian Institution are authorized to permit said association to deposit its collections, manuscripts, books, pamphlets, and other material for history in the Smithsonian Institution or in the National Museum, at their discretion, on such conditions and under such rules as they shall prescribe.

The general impression is that the Elkins bill will not become a law.

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TROPICAL MEDICINE.

The problems of tropical medicine are becoming of more importance each year with both the profession and the public. The world is filling up, population is spreading over the known habitable regions and the call is ever for more territory for civilized man to conquer. Even on this continent the land hunger is no longer appeased except by encroaching on the semi-arid regions of the west or the sub-arctic territories to the north. The improved means of communication have brought all countries nearer together and the tropical regions of the world are thus made our immediate neighbors and common resorts for vacation excursions. Nearly every civilized country, too, has now its tropical dependencies or is seeking for such. Our own country is no exception, the problem comes home to us now and will be of still more importance as the years go by.

The two chief questions are, 1, the habitability of the tropics by the white race, and 2, the introduction of parasitic tropical disorders into the temperate regions by means of the increasing intercourse and facilities of communication. As regards the first of these, it was maintained in 1898 by such experts as Sambon and Manson that the acclimatization of the white races in the warmer regions of the earth was a practicable possibility. There was, they held, no adequate reason why white men might not live comfortable and useful lives in tropical countries; and the special disorders that have been considered as preventing this were themselves almost universally parasitic and preventable. Any special racial immunity to them was really an acquired one, and there was no reason why, with our increasing knowledge of these disorders, they might not be met and overcome by proper sanitary measures, and why the individual might not also acquire a like immunity. Race deterioration, according to Sambon, is a far more serious question in the crowded urban population of our great centers of civilization than in the tropics, and we have abundant instances of the ability of right-living whites to exist and prosper by their labor under a tropical sun.

Sambon could hardly have fully foreseen how completely his anticipations have been realized, in the phenomenal increase of our knowledge of tropical diseases and of the means to prevent them since 1898. Within that five years or less we have learned in a great measure how to meet and conquer malaria, the chief of the captains of death in tropical regions; yellow fever, which in its more limited scope was even a worse scourge than malaria, has been shown to be preventable; the causes of tropical dysentery and tropical anemia have been elucidated and the acquisition of the successful methods of their prophylaxis and treatment seems only a matter of time. The success of sanitation in Havana, formerly a typical tropical city in its unhealthfulness and now with a mortality rate below that of many northern cities, is an object lesson of what may be done elsewhere, and almost in itself an answer to our first question, "are the tropics habitable by civilized man?"

The second question is one that directly affects us at our homes. With the yearly increasing intercourse with all parts of the globe, it is becoming impossible to absolutely shut out disease from other regions, even with the strictest quarantine. More and more of our people are residing temporarily or traveling in tropical countries and returning, bringing with them the diseases they may have contracted. Moreover, not all the disorders that we call tropical are strictly such. We find that Shiga's bacillus is the cause of much of our prevailing or locally epidemic bowel disorders in our own climate; uncinariasis, with its attendant anemia, is prevalent in our southern states, and malaria even in its pernicious estivo-autumnal type, may occur almost anywhere within our own borders. American physicians will from this time on have more experience with these disorders and greater need of knowledge for their recognition altogether apart from the possibility of their having to deal with them in actual tropical practice. Admitting that the data already obtained will make them comparatively manageable, there is the constant possibility of new problems arising. We can not bring at once all parts of the world under good sanitary conditions, and there will always be reckless individuals neglectful of hygiene, therefore the worst possibilities are always to be considered. Eternal vigilance is the price of public health as well as of our liberties, and we will do well to consider this fact, even as regards the disorders (so-called) of the tropics in our temperate climate.

With all these facts the importance of the study of these disorders is obvious. Whether they should be kept apart from diseases generally met or be reserved as a subject for special study is a question that might have been raised, but one that to a certain extent has been already answered in England where schools of tropical medicine have been in successful existence for some years. In this country little has been done, so far as treating the subject as a specialty is concerned, though we owe some of the best conducted and most fruitful investigations to our own countrymen. In one or two medical schools chairs of tropical medicine have been arranged for and others will probably follow the example. The subject is one that could appropriately occupy the attention of the American Medical Association at the coming meeting, occurring as it does in the subtropical section of the United States. Whether a special section

on tropical medicine should be constituted or whether the subject should be assigned to a subsection of one of those already organized is a matter for discussion and future settlement. For several reasons we believe that it would be unwise to create a new section, but that it should be made a subsection of that on hygiene and sanitary science. Tropical medicine, however, can not well be overlooked in any future program of the Association.

THE IMPROVEMENT OF THE MEDICAL AND SCIENTIFIC WORK IN OUR HOSPITALS FOR THE INSANE.

There seems to be a general desire among those interested directly in the medical work in the hospitals for insane to raise the standard of that work, to do something to prevent the physicians from falling into mechanical routine, which is the bane of institutional life as ordinarily lived. For some time there has been apparent a general effort to introduce into state hospitals for the insane systematic pathologic work. Pathologic laboratories have been equipped and special pathologists appointed to make postmortem examinations and microscopic and other studies of the accumulating material.

This is certainly a gratifying step in advance. The introduction of any form of scientific activity into these institutions can not but produce a stimulating effect on the medical staffs in general. But it is quite evident that the renaissance of the medical and scientific work of the hospitals for insane can not be accomplished by this movement alone. Indeed, mutterings are heard to the effect that purely pathologic work is not yielding all that was hoped from it; and the reason assigned for this disappointment is that the clinical work as generally done is wholly inadequate to furnish any satisfactory foundation for truly valuable pathologic studies. What is the use of making postmortems and cutting sections of nervous tissue so long as there are no systematic, reliable clinical observations with which the results of pathologic inquiry may be correlated? The reasons usually given for the shortcomings of the clinical work in its various aspects are that the medical officers of the hospitals lack proper training in neurologic and psychiatric methods and that their duties are so varied and onerous that time and energy do not suffice for anything more than the veriest routine. In the present organization of the staffs of the hospitals for the insane there is placed at the head of the whole a superintendent who, though a medical man, is held strictly responsible for every detail in the management. His prime object soon becomes to so conduct his institution that there is a reasonable freedom from gross scandal. Even with the very best of intentions he can not personally direct and train his assistants. These are left to their own devices and assigned to fixed, independent services without time or equipment to make real, systematic, unprejudiced studies of the cases placed under their care.

Evidently there is need for a reorganization of the medical staffs. More physicians must be employed, provisions must be made for their special training, and the medical services must be placed under competent heads with regularly subordinated assistants. Much of the work now done by hospital physicians is not of so strictly medical a character but that it can be done just as well by intelligent persons without medical training. Reforms along these lines might help to bring into the institutions something of that scientific spirit which is needed to overcome the benumbing influences of institutionalism and the tendency routine has to arrest intellectual development. We believe that these suggestions find a sympathetic ear in the conscientious hospital physician and in the public-spirited hospital trustee. In order to secure for the physicians special training in neurology and psychiatry, a training that the medical schools can not furnish at the present time, the most that can be expected being a general preparation for it by thorough schooling in the fundamentals of medicine, each state should organize special institutes manned by specially qualified teachers and thoroughly equipped for scientific clinical and laboratory work. In each of the larger, older states there are now two, three, and even more large hospitals for the insane. At present there is a growing tendency to centralize the administrative management of the state institutions, and the next step in the evolution of the state care for insane should be in the direction of centralization of the medical and scientific work in the manner outlined by the establishment of special psychopathic hospitals and institutes for the proper training of the physicians for all the hospitals in the state. The United States Army maintains an Army Medical School at Washington where the medical officers are given special training and to which they are detailed from time to time for instruction by special courses.

It is something on this plan that we have in mind for the men in the service of the state hospitals for insane. There is no reason except ancient custom why the assistants in the state hospitals should remain so fixedly attached to one institution as is the vogue now. It would seem practicable to place the entire personnel of the various medical staffs of the hospitals of a state under a central management that could distribute the physicians among the different institutions according as the good of the service and the special requirements sure to arise from time to time would indicate. The introduction of this principle would give to the hospital services a feature of elasticity that probably would prove beneficial alike to the hospitals and to the individual physicians. Then again, as men with special aptitudes were discovered and developed, their work could be encouraged by leaves of absence from regular duty, but with pay, for the purpose of special study at suitable places at home or abroad. Certainly the state could do much to raise the standard of the medical work in its hospitals for insane by careful organization of the medical services as a whole with a central institute at the head and by reorganization of the services in the single

hospitals along lines that tend to lift up the more purely clinical side as well as the pathologic. Conditions would then be established that would favor directly the growth of scientific work in the hospitals.

THE DEADLY HEADACHE POWDER.

Powders containing acetanilid, sold indiscriminately by the drug stores and used universally, possess dangers other than those due to their depressing effect on the heart, which in several instances has led to sudden collapse and even death. Acetanilid, and other substances of similar nature, have a marked hemolytic effect which is of great importance when this sort of medication is long continued. Stengel and White[1] have published a most instructive case-report, illustrating the very serious results that may follow drug taking of this kind. A young woman who had been suffering for four years from infradental neuralgia, developed severe symptoms that seemed of cardiac origin. She became extremely cyanosed; her lips, fingernails and toenails were dark blue or almost black. The heart's action was rapid and very weak, but in spite of all the cyanosis there was no dyspnea or edema, suggesting that cardiac incompetence was not the fundamental difficulty. Examination of the blood showed at one time but 2,092,300 erythrocytes, and 35 per cent. hemoglobin. There were 71,400 nucleated cells, of which no less than 32,323 were nucleated red corpuscles. Of course, all sorts of abnormal forms of erythrocytes accompanied this picture. Hemoglobin and hematin were present in the urine. For some time it was impossible to prove the origin of this severe anemia in drug taking, for not only did the patient deny the use of remedies, but her brother, who was a physician, was certain that the cyanosis was not due to a drug. At last, however, a box of capsules containing the familiar "headache and neuralgia" compound, acetanilid, caffein and bicarbonate of soda, was received by the patient, and eventually she confessed that for four or five years she had taken such compounds.

The secret way in which the headache powders had been taken, deluding even the patient's physician-brother, is very interesting, indicating that the victim of such a habit is not far removed from the morphin fiend. It suggests the possibility of similar cases existing in larger numbers than we appreciate, for in this case it is certain that the origin would not have been detected but for the careful blood examination and the deductions from its results. The changes in the blood were so characteristic of the action of a hemolytic agent, and so resembled those seen in the few accurately reported cases of poisoning by anilin derivatives, that the denials of both the patient and her brother were unable to draw the observers from the right track.

The effects of acetanilid, phenacetin, nitrobenzol and other poisons of the same nature are well known. Among the symptoms described are cyanosis, profound depression or collapse and unconsciousness; but, as a rule, dyspnea and subjective symptoms have been slight or wanting. There have been few chronic cases, similar to that of Stengel and White, reported as yet, but we suspect that they are not uncommon. In those so far studied the characteristic changes have been in the blood, including the presence of all sorts of altered red corpuscles, with great numbers of nucleated erythrocytes. In one case the proportion of the nucleated forms was as high as one to fifty-six of the non-nucleated.

1. Univ. of Penn. Medical Bulletin, 1903, xv, 462.

THE BUSY PRACTITIONER AND HIS OPPORTUNITIES.

We called attention some months ago[1] to the emptiness of the excuse given by a class of busy practitioners for their failure to interest themselves in what concerns the general good of the medical profession, such as society work, medical legislation and the like. They are, forsooth, too busy with their practice. For such men, as well as for the busy physician who faithfully tries to fulfill his duties to the profession and feels all the responsibilities of his professional work, a reference to some things that have been accomplished for clinical medicine by physicians in active practice may prove an inspiration. The "busy" man is apt to think that he should be exempt from the obligation of trying to extend the bounds of medical knowledge. His occupation, he may claim, is a practical application of the discoveries of others. Active practice absorbs so much energy and time as to leave none for anything beyond his patients and their immediate needs, and certainly no opportunity for original work. It used to be the excuse of the medical college professor that he had to devote so much time to teaching and practice that he could not be expected to do any investigating. Now it is recognized that only he can teach well who is himself doing original work.

Only the physician who so carefully examines his cases that he sometimes makes observations not to be found in the text-books, is doing his patients justice and keeping himself up to date. It is the men who thus impress their personality on medicine that receive the highest rewards of the profession, the confidence of their fellow practitioners—and frequent calls in consultation. Most of the great advances in medicine have come, not from ambitious theorists, but from the carefully recorded observations of the general practitioner.

The great principle of the conservation of energy was discovered by Robert Meyer while ship surgeon on a vessel in the Dutch East Indies. He observed during the practice of venesection that the venous blood drawn in the tropics was much redder than that he had seen in colder climates. He argued that this was due to the fact that less oxidation took place in the blood in tropical countries, because less work was demanded of it in keeping up the heat of the body. The surrounding air accomplished the purpose of heat production and so saved oxydizing processes in the blood. From this simple observation to the magnificent generalization of the con-

1. The Journal A. M. A., July 12, 1902, p. 84.

servation of energy seems a far cry, yet the basic principle of modern physics lies in the simple problem whose solution the young German physician grasped so clearly. Morgagni, whom Virchow greeted as the Father of Modern Pathology, was first of all a clinical observer, a careful student of the cases that came under his observation. His pathologic studies were always directed to the better understanding of his clinical cases, and that is what makes his great work of such practical value. Auenbrugger, the discoverer of percussion in the investigation of thoracic disease, was a simple practitioner of medicine all his life. While Auenbrugger was doing his great work in Austria Jenner was preparing for his in England. Jenner was just a country practitioner, but, in spite of all the *laissez aller* that term is supposed to imply, he was one of the keenest of observers. When he told the famous John Hunter of the popular belief in Gloucestershire that cowpox protected against smallpox, and that the subject seemed worth thinking about, Hunter blurted out, "Don't think, investigate." Laennec, his illustrious contemporary, the discoverer of auscultation, the greatest physician of the nineteenth century and one of the four or five greatest geniuses in the history of medicine, was just a medical practitioner with a hospital service. He took for the motto of his immortal work on auscultation the Greek maxim, "The most important part of an art is to know how to see things." Bright and Graves and Addison were busy physicians in the best sense of the term, yet were faithful observers who paid proper interest on the medical knowledge lent them, by handing it on notably increased in value to their successors. And there is yet, and ever will be, a place in the footsteps of such men for the earnest busy practitioners of this and every generation.

A TRAVELING POST-GRADUATE SCHOOL.

The German newspapers have recently announced the preliminary preparations for a migrating post-graduate school under the special auspices of the German government, which shall go from town to town away from the medical centers, carrying with it a museum and sufficient material to be of advantage for instruction and to include among its lecturers some of the leading lights in medicine and surgery in Germany. The idea of this seems to be the better education of the local physicians, who for various obvious reasons can not take a post-graduate course at the university. The mountain will go to Mahomet in this case. The project has the support of the emperor and is to perpetuate the name of the Empress Frederick and to be largely supported by government aid. As we understand it, the instruction is to be gratuitous for such physicians as attend. There is much that seems admirable in this plan, and it is to be hoped that it will develop into all that its well-wishers can desire. The German physicians will have the university brought to their very doors. It is, in fact, a special adaptation of the university extension idea applied to medicine and medical instruction; a proposition that can be carried out in this country by the profession itself when a little better organized.

AN EXTENSIVE BUSINESS IN PROPRIETARY MEDICINES.

The extent of the proprietary medicine trade is well illustrated by a recent statement in the *New York Commercial,* in its Indianapolis dispatches, that the latter city can, when running its manufactories at full capacity, supply annually over 21,000,000 ordinary barrels of remedies—of all kinds, we presume. It claimed in the dispatch that Indianapolis is the great medicine manufacturing city of the country and supplies not only the adjoining states, but more remote regions and even foreign countries. How much the popularity of patent medicines is due to the alcoholic contents of many of the nostrums it would be hard to say, but undoubtedly they go a long way in satisfying the appetite that for conventional, social or legal reasons can not be fully gratified otherwise. If the statements are true as regards this one city, what can we calculate as the drug output of the country as a whole? Making all due allowances for exaggeration the reality must be a sufficiently formidable one to give rise to some serious consideration.

THE MICHIGAN STUDENTS' PROTEST.

The proposed medical practice act for Michigan, which is intended to put the law there on the same plane as it is in other progressive states, is receiving opposition from the students of certain medical colleges of that state. These students object to passing an examination after obtaining a diploma, holding that the state, by the incorporation of these institutions, entered into an agreement with them by which they should have in their diploma the necessary qualifications for a license to practice without having to undergo an examination. Being graduates of Michigan colleges they think they ought to be favored above those who obtain their diplomas elsewhere. As far as we have been able to learn, they do not claim that their colleges are better than those in other states, or that they themselves are better educated. It certainly can not be possible that they are willing to let it be thought that they have a lack of confidence in themselves and in their medical scholarship or that they wish to cast any reflection on their alma mater by this plea for exemption from the state examination. And yet this is what one would naturally surmise. These students, it is said, are sending delegations to Lansing to lobby against the act. What influence they may have is more than can be foretold, but it is to be hoped that they may soon see the folly of this exhibition of selfishness, not to use a stronger term. These students seem to ignore the fact that this same fight has been made under similar conditions, and with like arguments, in other states, and without success. A funny condition would soon prevail if graduates of a medical college in a given state were to be exempt from the laws that applied to graduates from outside colleges. We hope the students of the Michigan medical colleges will see the unwisdom of their action and assist, rather than oppose, those who are fighting for the elevation of the standard of the profession which they are about to enter.

Medical News.

CALIFORNIA.

Jury Disagrees.—The jury to which was committed the case of Mrs. Julia Tickel, known as Mrs. "Dr." Jones of Fresno, charged with causing abortion, was unable to agree and was discharged.

Physician Wins.—In the case of Dr. Jacob H. Parseghian, Fresno, against H. Azhderian, for medical attendance furnished the son of the latter, the decision was in favor of the plaintiff for $400.

Indicted Optician Escapes.—A warrant was recently issued in Bakersfield for the arrest of C. Belmont, an optician, who, it was alleged, had practiced medicine without first registering his diploma. On attempting to serve the warrant, the constable discovered that the accused had gone to Los Angeles.

San Francisco Deaths.—During February 633 deaths were reported, which, after the deduction of 57 due to violence, leaves 576, equivalent to an annual death rate of 16.84 per 1,000. In February, 1902, the rate was 18.79 per 1,000. The principal causes of death were: Tuberculosis, 95; heart disease, 94; pneumonia, 61; Bright's disease, 42; cancer, 28; accident, 36; diphtheria, 14; suicide, 15; homicide, 6.

To Restrict Practice of State Employes.—The resolutions recently adopted by the San Joaquin Medical Society, directed against private practice by the physicians at the state hospitals, have been crystallized into a bill which has the following provisions:

> The medical superintendents and assistant physicians of the several state hospitals for insane persons must not engage in the private practice of medicine, but must devote their whole time to the performance of their duties, unless granted leave of absence by the board of directors. If any of such physicians shall engage in the private practice of medicine his office shall thereon become vacant, and the board of directors, or other appointing power, shall immediately appoint some qualified person, other than the officer whose office shall have become so vacant, to fill such vacancy.

COLORADO.

New County Hospital Staff.—The new staff of the Arapahoe County Hospital is made up as follows: Medicine, 9; surgery, 8; obstetrics, 3; gynecology, 3; eye and ear, 4; nose and throat, 1; nervous and mental disease, 3; orthopedics, 1; dermatology, 2, and pathology, 2.

Denver Health and Deaths.—The deaths during January numbered 235, equivalent to an annual death rate of 17.09 per 1,000. Tuberculosis caused 58 deaths; pneumonia, 30; inanition, 10, and violence, 9. Infectious and contagious diseases were reported as follows: Scarlet fever, 85; diphtheria, 69, and smallpox, 34.

State Vital Statistics.—The total deaths for January were 856, equivalent to an annual death-rate of 17.47 per 1,000. Typhoid fever caused 23 deaths, diphtheria 12 and scarlet fever 7. During the month, 379 cases of smallpox were reported, 78 of which were from Yuma County, 48 from Rio Blanco County, 47 from Otero County and 60 from Arapahoe County; 206 of scarlet fever, and 135 each of diphtheria and typhoid fever. Compared with December, 1902, January shows a decrease of 43 cases of diphtheria, an increase of 49 cases of scarlet fever and 153 cases of smallpox, and a decrease of 107 cases of typhoid fever.

DISTRICT OF COLUMBIA.

Health of the District.—The report of the health officer for the week ended February 28 shows the total number of deaths to have been 161, of which 91 were white and 70 colored; births, 116; number of cases of typhoid fever, 91; scarlet fever, 10; diphtheria, 6, and smallpox, 10.

Appropriation for Hospitals.—Congress has made an appropriation of $100,000 for the Providence Hospital, and $1.000 for the Garfield Memorial Hospital; $15,000 for the Washington Asylum Hospital, and $99,000 for the Government Hospital for the Insane, with $11,500 for a subway connecting the various buildings.

ILLINOIS.

Chicago.

Augustana Addition.—The long-planned addition to Augustana Hospital is to be erected this spring at a cost of $100,000. It will be fireproof, six stories high, and 110 by 130 feet.

Two Hospitals Fined.—Fines of $50 each were imposed on the Chicago Hospital and the Norwegian (Tabitha) Hospital, for violations of the city ordinance regarding elevators and elevator shafts.

Smallpox.—During the week seven new cases were reported. Only one patient, an adult, had been vaccinated, and he in infancy. No case of smallpox in a revaccinated person has been found in Chicago for years, says the department of health.

Deaths of the Week.—During the week ended March 14 631 deaths were reported, an increase of 6 per cent. over the mortality rate of the preceding week, and of nearly 10 per cent. over that of the corresponding week of 1902. Pneumonia led with 133 deaths, and consumption followed, with 60. Violence caused 20 deaths and suicide 17.

Vacuum Cleaning.—The department of health advocates the vacuum method of cleaning sick-rooms, saying that "consumption, pneumonia, influenza, scarlet fever and similar diseases are known to be spread by infected dust of the sick room, so the distinct and recognized purpose of the operation shall be to remove and not simply to stir up the ever-gathering dust.

Scarlet Fever Closes Lake Forest University.—Because of the continuation of the epidemic of scarlet fever at Lake Forest, the university will be closed for two weeks. The quarantine on the university grounds has prevented an extension of the disease among the students, but it is spreading in the town. No public meetings will be held. Most of the new cases have been in families where the disease already existed. No new case has occurred among the university students for about eight weeks.

IOWA.

Verdict for Defendants.—In the suit for $5,000 damages brought against Drs. Thomas J. and John R. Maxwell, Keokuk, by Mrs. Theresa Winkler, who alleged that the defendants removed a portion of her husband's brain during an autopsy and did not return it, the plaintiff was non-suited.

Resignations.—Dr. Lewis Schooler, Des Moines, for 19 years dean of Drake University medical department, has resigned, and Dr. A. Raymond Amos, now secretary, has been elected to succeed him. Dr. Schooler will retain the chair of surgery in the college.——Dr. Francis M. Powell, superintendent of the Iowa Institution for Feeble-Minded Children, at Glenwood for more than 20 years, has resigned on account of failing health.

Commendable Fraternity.—All but four of the physicians of Hardin County have joined in a petition with the object of aiding Dr. William E. Marsh of Eldora, who has become nearly blind. The petition asks the appointment of Dr. Marsh as the county physician employed each year to treat the poor of the county. In asking this appointment, the physicians agree to give their services whenever called on by the county, that is, to do Dr. Marsha's work for him. The salary is $800 a year. Four physicians declined to join in the petition and filed individual bids seeking the appointment as county physician for themselves.

Itinerants Must Leave State.—The State Board of Medical Examiners is announced to be about to undertake a crusade against the itinerant practitioners who infest the state.——R. D. Rea, recently fined at Emmetsburg for practicing medicine without an itinerant doctor's license, has combined with about 75 other specialists of his kind, retained an attorney and proposes to carry the case to the Supreme Court of Iowa, or if necessary to the United States Supreme Court.——G. H. Heath, a magnetic specialist who travels with his wife, a clairvoyant and another woman, a complexion specialist, was arrested at Poone, on the charge of being an itinerant practitioner without a license, and was bound over to await the action of the grand jury.

KANSAS.

Personal.—Dr. George C. Purdue and family, Wichita, are taking a trip to the south and Cuba.

Hospital Fire.—A fire at the Pittsburg City Hospital, February 21, damaged the building to the extent of about $1,000, but caused no casualties.

Patent Medicine Bill Dead.—This bill, which turns up at every session of the legislature, has been referred by the senate committee on hygiene and public health to its introducer, Senator Gabriel, for revision, and the senator declares that he will not reintroduce it.

To Prevent Marriage of Defectives.—The O'Donnell marriage bill passed the house, February 23, by little more than a majority. The bill in full is as follows:

> Section 1. No woman under the age of 45 years or man of any age, except he marry a woman over the age of 45 years, either of whom is epileptic, imbecile, feeble-minded, or afflicted with insanity,

shall hereafter intermarry or marry any other person within this state. It is also hereby made unlawful for any person to marry any such feeble-minded, imbecile or epileptic person or any one afflicted with insanity, or any person who has ever been so afflicted. Children born after a parent was insane shall not marry except under the above named conditions.

Section 2. No officer authorized by law to issue marriage licenses in this state shall hereafter issue such a license to any persons either of whom is afflicted with any of the diseases mentioned in Section 1 of this act, knowing them to be so afflicted, unless the female party to such marriage is over the age of 45 years.

Section 3. No clergyman or officer authorized by law to solemnize marriages within this state shall hereafter perform a marriage ceremony, uniting persons in matrimony, either of whom is afflicted with epilepsy, imbecility, feeble-mindedness, or insanity, knowing them to be so afflicted, unless the female party to such marriage is over the age of 45 years.

Section 4. Any person violating any of the provisions of this act shall on conviction thereof be punished by a fine of not more than one thousand dollars or by imprisonment in the state's prison for not more than three years, or by both such fine and imprisonment.

MARYLAND.

Smallpox.—There have been 5 cases of smallpox at Aberdeen, Harford County, and the public school and churches have been closed. The first case was imported from Delaware, and was so mild as to be unrecognized. A case has also appeared at Havre-de-Grace in the same county.

Hospital Reports.—According to the annual report of the Cambridge Hospital 529 patients, 397 white and 132 colored, were treated during the year. Fourteen deaths occurred and 265 surgical operations were performed.——There are 484 patients in Maryland Hospital for the Insane, No. 2. The new cottage for epileptics will be commenced early in April.

Baltimore.

Personal.—Dr. Joseph E. Clagett was stricken with apoplexy on March 9.——Dr. Annie G. Lyle, a graduate of Johns Hopkins, 1902, has been appointed assistant to Dr. Esrech at the University of Vienna.——Dr. Martha T. Tinker, assistant resident physician at the Johns Hopkins Hospital has resigned.

Anti-Tuberculosis Crusade.—A large meeting of physicians and others interested in the anti-tuberculosis crusade, was held, March 10, under the auspices of the State Tuberculosis Commission. The city is to be divided into 8 or 10 districts, and agents will visit houses in which there are cases of consumption. Dr. Fulton emphasized the influence of infected houses. Dr. H. W. Buckler spoke of the need of a state institution and said the dispensaries should not treat cases of consumption as it is spread thereby.

Mortality and Smallpox.—The mortality was unusually large last week, being 231, corivalent to an annual death rate of 21.95 per 1,000. Among the deaths were 41 from pneumonia, 11 from bronchitis, 7 from measles and 9 from la grippe. Five new cases of smallpox were reported. The earlier cases were treated as chickenpox by a colored practitioner and there was free intercourse between the patients and a large number of persons who frequented the house. There is considerable likelihood of an epidemic, and the health department is taking extreme precautions.

MASSACHUSETTS.

Tribute to Dr. Gage.—On the resignation of Dr. Thomas H. Gage from the board of trustees of the Worcester Insane Hospital, after a continuous service of 27 years, the board passed resolutions testifying to the faithful, intelligent and valuable service rendered by Dr. Gage to the institution.

Illness at Harvard.—Dr. Marshall H. Bailey, Cambridge, medical visitor to Harvard, reports 5,388 cases of illness during 1902. Nearly a third of the patients merely reported themselves ill and did not wait for any examination or treatment. There were very few serious diseases, throat disorders leading with 307 cases of laryngitis and 185 of tonsillitis.

State Manufacture of Antitoxin and Vaccine.—Two bills are before the public health committee regulating the manufacture of antitoxin and vaccine by the state. The former has been furnished to physicians free by the State Board of Health and has been highly efficient. A movement to have the product put in charge of the State Board of Agriculture is opposed by physicians and druggists alike. It seems probable that a bill will be reported which will put both of them under the control of the State Board of Health.

One Lesson Not Enough.—Dr. Immanuel Pfeiffer, Boston, who so narrowly escaped death from smallpox last year as a result of his obstinate opposition to vaccination, has appeared before the Massachusetts Legislation Committee on Judiciary with a petition that no person shall inject into the body of another person any poison or poisonous substance without the consent of the person operated on. His appeal to lawyers instead of physicians on a matter which concerns public health, shows how few are the medical men who support Dr. Pfeiffer's views in Boston.

MICHIGAN.

Personal.—Dr. Charles G. Jennings, Detroit, has been appointed a member of the State Board of Health.——Dr. Howard A. Grube, major and surgeon, U. S. V., who has served for five years in the Philippines, has returned to Coldwater.

In Trouble.—A. W. Van Bysterveld, Grand Rapids, fined $100 and costs at Grand Rapids for practicing medicine without a certificate, has, it is said, evaded the law by associating with him Dr. George R. Adkin, who, being a legal practitioner, writes prescriptions, the "miracle-worker" keeping officially in the background.——Henry Salisbury, Belding, charged with practicing medicine without a license, pleaded guilty, and was fined $10 and costs.

"Mail Cure" Healers Convicted.—Drs. James M. Peebles, Walter T. Bobo and Charles M. Green, of the "People's Institute of Health," Battle Creek, have been convicted by a jury in the United States District Court, Detroit, of violating the postal laws, by advertising mental cure by mail for all manner of ills. One of the defendants admitted that if a patient at a distance managed to procure Dr. Peebles' signed instructions and followed them faithfully the cure would not be effective if the patients had not paid the fee of $1. A thirty-day stay of proceedings was granted.

Prevalence of Disease.—For February, 1903, compared with the average for February in the 10 years, 1893-1902, scarlet fever, measles, smallpox and whooping cough were more than usually prevalent; and consumption, intermittent fever and remittent fever were less than usually prevalent. For the first time this season, influenza headed the list of those diseases which usually cause the most sickness in Michigan, but was 14 per cent. less prevalent than the average for February in the preceding ten years. Bronchitis, rheumatism, neuralgia and pneumonia were also less prevalent than usual.

The Most Dangerous Communicable Diseases.—Meningitis was reported in Michigan during February, at 9 places; whooping cough at 46 places; diphtheria at 77 places; typhoid fever at 89 places; measles at 105 places; scarlet fever at 179 places; consumption at 193 places, and smallpox at 201 places. Meningitis was reported at 2 places more; whooping cough at 9 places more; diphtheria at 3 places less; typhoid fever at 6 places less; measles at 2 places more; scarlet fever at 6 places less; consumption at 76 places less, and smallpox at 15 places less, in February, 1903, than in the preceding month.

Smallpox Suits.—Seron Bartow has entered suit against Dr. Robert B. Bennett, Grant, for $5,000, alleging that he "falsely and wickedly" gave it out on two occasions that members of the plaintiff's family had smallpox, thereby causing the family to be quarantined for 71 days, preventing him from attending to his duties as a farmer and depriving him of the companionship of his friends and neighbors. The value of this he estimates at a little more than seventy dollars a day. ——Dr. Curtis T. Wolford, Grand Rapids, has been charged by Dr. Thomas M. Koon, health officer, with having failed to report to the health office a case of smallpox.

The Nottingham Bill.—The bill—which we have editorially mentioned—in amendment of medical registration, introduced by Dr. D. M. Nottingham, Lansing, is designed by its author to raise the standard of examination and require all graduates to pass an examination before the medical board, irrespective of what college they come from. It will also favor reciprocity with other states. It is also designed to make the standard of entrance to medical colleges higher, as it requires that the candidate for entrance to such college shall have at least a high school diploma or its equivalent, according to the idea of the board of registration. A vigorous protest has been entered against the bill by the students of the three medical colleges of Detroit, who sent a delegation to Lansing, February 16, to present their protest before the Committee on Public Health of the legislature.

February Mortality.—The total number of deaths reported for February was 2,756, or 100 fewer than the number of deaths in the preceding month. The death rate was 14.4 per 1,000 population, as compared with 13.5 in January. The mortality was slightly higher than that for February of the preceding year. There were 559 deaths of infants under 1 year, 175 deaths of children aged 1 to 4 years, and 874 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 217; pneumonia, 372; typhoid

fever, 34; diphtheria and croup, 52; scarlet fever, 16; measles, 17; whooping cough, 31; influenza, 73; cancer, 126; accidents and violence, 134; smallpox, 5. There was a decrease in the number of deaths from typhoid fever and scarlet fever, while the number reported from influenza was nearly double the number in January. The death rate from this cause, however, was not as high as during the same time last year.

NEW YORK.

Dr. Scollard's Estate.—The will of the late Dr. James I. Scollard, Clinton, was admitted to probate, March 7. The estate, valued at $210,000, is left to the family.

Personal.—Drs. Henry A. Gates, Delhi; Grant C. Madill, Ogdensburg, and Frank W. Sears, Binghamton, have been appointed consulting surgeons to the New York State Hospital for the Care of Crippled and Deformed Children, Tarrytown.

Polluted City Ice.—So much polluted ice is brought to New York City from the Hudson River that a bill has been introduced in the legislature prohibiting the cutting of ice for domestic use between Waterford and Coxsackie on that river, or within 3,000 feet below any town of more than 10,000 inhabitants on said river.

To Protect Buffalo.—State Commissioner of Health Daniel Lewis has appointed Drs. Walter D. Green and Edward Clark health commissioner and assistant health commissioner of Buffalo respectively. This action was taken in order that proper authority might be given to the Buffalo health authorities to protect Buffalo from the source of typhoid fever infection in West Seneca just outside the city limits of Buffalo and outside the jurisdiction of the Buffalo health authorities unless especially vested with power.

New York City.

Enforce Sanitary Crusade.—On March 11, about fifty policemen of Brooklyn were kept busy arresting those who violated the law against expectorating in public places. Up to noon, 14 offenders were arrested, admonished, and paroled until April 2.

Physicians in Insurance Frauds.—In connection with the unearthing of extensive frauds against life insurance companies two physicians, practicing in this city have been indicted: Albrecht Loewit, of 1,833 Lexington avenue, who is out on $5,000 bail, and Francesco Nucci, of 2,072 First avenue, who has furnished $2,500 bail.

Glanders in the City.—According to United States officials there are many cases of glanders in this city, though the records of the health department do not support this contention. Strict quarantine is placed on all infected stables, and every horse in the stable is tested with mallein and his temperature observed for two days before the quarantine is raised. Special attention is given to stables where the horses of milk dealers are kept.

Society Protects Members.—The first case in which the New York State Medical Association assumed the defense of a member sued for malpractice was tried in the Sixth District Municipal Court, March 10. The plaintiff, husband of a patient of Dr. Joseph E. Janvrin, sued the latter for malpractice, alleging the discovery of some error in treatment. This suit followed hard after one in which the physician was the plaintiff and the cause was the non-payment of his bill. Dr. Janvrin won this suit, and the suit for alleged malpractice was also decided in his favor.

Betterment of the Consumptive.—A new sun parlor, costing $10,000, is to be erected on Blackwell's Island for the use of the consumptives there. It will be a one-story structure enclosed in glass on all four sides, and furnished with reclining chairs and sofas. The Tuberculosis Committee of the Charity Organization Society has planned a country sanatorium on a large scale, which shall have permanent buildings, farms and a tent encampment, and shall accommodate 500 patients. Out-door occupation is to be provided for the men on the farm, and for women in horticultural pursuits. It is estimated that the cost will be $530,000, which is thought to be reasonable enough in view of the fact that it has been computed that the total annual loss to the city from tuberculous diseases is at least 23 million. The health department says that an appropriation of only $40,000 will be asked for to begin with, and that it is hoped that the sanatorium may be ready by the middle of June. The society favors some location in Westchester county, while the health authorities are disposed to select a site in Orange County a short distance west of Tuxedo. For a year past the House of Rest for Consumptives has been engaged in remodeling a mansion in that part of the city known as Inwood, for a tuberculosis hospital. This has developed a strong opposition among the wealthy residents in that vicinity, and a physician is aiding this opposition by calling attention to the danger of spreading tuberculosis among the residents near the proposed hospital.

Buffalo.

Personal.—Dr. Burt C. Johnson and Dr. Harry Meade sail for Europe to-day.

Unsanitary Barbers.—Several Italian barbers have been convicted for violation of the ordinances in conducting unsanitary barber shops.

Fatal House-to-House Distribution of Samples.—A three-year-old girl died from the effects of eating sugar-coated pills that were distributed from house to house. The health commissioner is making a thorough investigation of the case.

OHIO.

Scholarship for Physicians' Daughters.—Dr. Elizabeth L. McMahon, Marion, in her will, which has recently been filed for probate, left $8,000 to found a scholarship in Vassar College for daughters of deceased physicians.

Much Typhoid.—Cleveland had more cases of typhoid reported in the week ended February 28 than in any similar period in her history. In the corresponding week of 1902 there were 8 cases; in 1903, 109 cases. The mortality from typhoid for the week was 6.

Abortionist Sentenced.—Dr. H. Negley Teeters, Steubenville, charged with having caused the death of Miss Grace Goodlin of Empire, by a criminal operation, pleaded guilty and was sentenced on March 3 to imprisonment for four years in the penitentiary.

The State Board's Report.—The annual report of the State Board of Medical Registration and Examination shows that certificates were issued during the year as follows: To Ohio matriculates, 323; to graduates on examination, 62; to midwives, 3; to osteopaths, without examination, 120; to osteopaths, with examination, 1. Nineteen applications were rejected, and 13 applications of osteopaths. Two certificates, those of Dr. A. E. Hoskinson and Dr. C. F. Crookes, both of Columbus, were revoked during the year. There were 18 prosecutions under the medical law.

Personal.—Dr. Raymond E. Whelan, who has been serving as captain and assistant surgeon of volunteers in the Philippines, has retired from the Army and will resume practice in Youngstown.——Dr. William A. Burns, Dayton, has been appointed captain and assistant surgeon, O. N. G., and assigned to the Ninth Battalion.——Dr. James Wilson McMurray, Marion, has been appointed inspecting physician for the State Board of Health.——Dr. Henry M. Taylor, Columbus, has returned from California, but will not resume practice on account of continued ill-health.——Dr. Robert E. Swigart, Tiffin, has accepted the position of physician for a large fruit company at Bocas Del Toro, Columbia.

PENNSYLVANIA.

Abortionists Convicted.—Drs. Edwin S. Cooper and J. P. Haun, New Castle, were recently convicted of conspiracy in connection with criminal treatment which led to the death of Mabel Williams of Johnstown.

To Make Barbers Clean.—A bill for the sanitary regulation of barbering and providing for the better instruction of those engaged in the trade has been passed by the legislature. The law applies to first, second and third class cities only.

Child Labor.—A bill has been introduced into the legislature making it unlawful to employ any child under 14 at any labor during public school hours, and working hours for children are limited to 10 hours a day and 55 hours a week.

To Regulate Sale of Poisons and Spirits.—A bill has been introduced into the legislature which provides that it shall be unlawful to sell any medicines, drugs, chemicals, mixtures, anodynes, or any preparation or combination of the same which shall contain any opium or its alkaloids, coca or its alkaloids, or any whisky, brandy, wine or other intoxicating liquors, unless the same is so sold or furnished on the written prescription or order of a physician.

Appropriations for Hospitals.—Bills appropriating the following amounts for various hospitals have passed the house of the legislature: Jefferson Hospital, $260,000; University of Pennsylvania Hospital, $120,000; Medico-Chirurgical Hospital, $290,000, all of Philadelphia; Chester County Hospital, $14,000; Good Samaritan Hospital, Lebanon; Allentown

Hospital, Pittston Hospital, each $15,000, and Homeopathic State Hospital for the Insane, $4,000,000.

Hospital for Poor Consumptives.—The treasurer's report of the Free Hospital for Poor Consumptives shows that the receipts for the year ended February 28 were $70,757.74. The sum of $3,897.99 was collected in glass globes placed in stores and public offices. Within the year 561 patients were cared for, 481 at White Haven Sanitarium, and 80 in other institutions, by payment of their board. Of the patients at White Haven, 33 remained from the preceding year, 258 new cases were admitted, 86 left, 108 were discharged, and 5 died. There are now 100 patients at White Haven. Among the newly elected officers are Dr. Lawrence F. Flick, president, and Dr. Henry M. Fisher, one of the managers.

Philadelphia.

Expectoration Ordinance.—A city ordinance has been passed making it a misdemeanor to spit on the sidewalk, on floors of cars and other public places, the offense punishable by a fine of $1 and costs. Director English has instructed policemen to enforce the ordinance.

Good Water Filtration Secured.—The chief of the bureau of water filtration is much pleased with the city's new filtration system, claiming that the standard for the number of bacteria and for turbidity have both been lowered, and that the work here is better than the best results obtained in other cities. Provision has so far been made for filtration of only a part of the city's supply.

Held as Accessory to Murder.—George Horsey, a negro, a so-called "herb doctor," is held without bail on the charge of being accessory to the crime of murder. He is believed to have sold poison to Mrs. Catherine Danze for the murder of her husband. In the preliminary hearing it appeared probable that Horsey was not only accessory to this crime, but that he has for years furnished "slow poison" in many similar cases of murder. The case is being vigorously and thoroughly investigated.

Contagious Disease Report.—The health record shows that 458 new cases of grave contagious diseases were reported to the authorities for the week ended March 14. Of typhoid fever there were 272 cases, of smallpox 44, of scarlatina 101, and of diphtheria 41. The total number of deaths were 577, as compared with 528 for the same week last year. The records show that about 4,300 cases of such contagious diseases are now under treatment in Philadelphia. The number of new cases of smallpox since January 1 is over 300.

Physicians Endorse Medical Bill.—A mass meeting of many prominent physicians was held on the evening of March 7 in support of the Ray bill introduced into the legislature. The purpose of the bill is to raise the standard of education preliminary to a medical course. The following was adopted as the sense of the meeting:

Resolved, By this mass meeting of the physicians of Philadelphia, believing that the welfare of our citizens will be thereby advanced, that we hereby endorse the original bill of Mr. Ray, and ask for its enactment into a law by our authorities.

GENERAL.

The Ecuador Quarantine against San Francisco has been removed, beginning with vessels leaving that port March 12.

Reception to Dr. Osler.—The Medical Club of Philadelphia will give a reception to Dr. William Osler of Baltimore at the Hotel Bellevue, March 27.

Suspected Cholera Ship at New York.—The Anchor line steamer *Karamania* arrived March 10 at New York from Marseilles, Palermo and Naples. Seven of the steerage passengers and crew had died of an unknown disease. Sixteen had been sick. The symptoms were uniform, and resembled those of Asiatic cholera. No decision could be reached, the bodies having been buried at sea and there not being sufficient data to warrant a definite statement. The ship was fumigated and unloaded and the passengers detained in quarantine for ten days. No other case has developed. It is suggested that the deaths were from ptomain poisoning or from noxious gases from the hold. The matter has excited much discussion.

Mexico and Texas Plague Quarantine.—A quarantine has been declared by Mexico against San Francisco, applying to all Mexican ports, on the ground that the plague at Mazatlan came from San Francisco, and that it had also existed in the latter city as late as January. It will be remembered that this latter allegation is contrary to the advices from competent officials concerning San Francisco. Cuba has placed a quarantine against certain Mexican ports, because of fear of the plague. The State of Texas has quarantined Torreon, Mexico, alleging the existence of plague there. This action has aroused a vigorous protest from Torreon and from the Mexican capital. It is stated that no plague exists in Torreon, but that several Chinamen came there from San Francisco and, as ten days had not elapsed since they left the latter city, they were isolated for observation, and all measures taken in accordance with the sanitary code. El Paso, Texas, has instigated a quarantine against Durango, Mexico. The United States government ordered an investigation of the rumors concerning Torreon and Durango and Texas, by one of its state health officers, ordered a precautionary ten days' quarantine until the cases could be investigated. The physicians at Torreon have declared that no plague exists there and have requested that the quarantine be raised. The authorities of Texas state that this will be done as soon as they are sure that there is no reason for its continuance. The report that plague exists at Villa Union, Mexico, is confirmed. This point is on the route to the interior and has been vigorously quarantined. The infection was doubtless brought from Mazatlan by some of those escaping from that city and, therefore, eluded the quarantine guard. The situation in Mazatlan continues to improve slowly. Over a hundred people are isolated and thirty or forty are in the lazaretto, most of whom are recovering. United States Consul Kaiser at Mazatlan is conducting his affairs in the suburbs of that city, the consulate headquarters being in quarantine. He describes the situation there as follows:

While the plague is still with us, yet it is the general opinion that the worst has passed, and that the plague will soon be a thing of the past. We have had one or two new cases daily, but not any new cases for the last three days. The authorities are doing everything in their power to stamp the fever out, and have burned about 500 houses, with all their contents.

The United States Public Health and Marine-Hospital Service reports that the total number of cases from the beginning of the outbreak to March 6 was 302 and the deaths 250.

FOREIGN.

Monument to Dr. Holub.—The Vienna scientific societies are collecting subscriptions for a monument to the physician and African explorer, Dr. Holub, who died Feb. 21, 1902.

The Medical Study Tour in Germany.—The tour this year will commence September 8 at Wiesbaden, and the party will disband at Cassel, September 20. The watering-places to be visited are those in the Rhine and Taunus provinces.

Berlin Medical School Inspectors.—The "Socialist Democratic" party at Berlin demands a separate medical inspector for each of the 260 public schools. The city council has not the funds for such a number, and has decided that 36 are sufficient for the present, with a salary of $500.

Gold Medal for Pawlow.—The University of Halle has conferred a gold medal on Prof. J. P. Pawlow of St. Petersburg for his research on digestion. His name is pronounced as if spelt Pavloff, which is also the pronunciation of the German form, Pawlow, by which he is best known to science.

Circulars for Prophylaxis Against Typhoid and Dysentery.—The German Council of Health has issued two more pamphlets like those it has distributed, which treat of tuberculosis. Koch, Kirchner and Krieger wrote the text. They describe the disease, its cause, treatment, modes of contagion, disinfection, etc.

A traveling post-graduate medical school, to visit all the cities of sufficient size and have clinics and lectures by eminent men is proposed in Germany. The practitioners in the surrounding territory would thus gather for a week or two once a year in their nearest large town. Museums, etc., would be carried.

Prizes for Milk Hygiene.—The Hamburg Exposition of Milk Hygiene offers thirty-one prizes for the best method of cleaning bottles, for the best contribution on the subject of modifying milk for infants, of keeping milk, sterilizing, etc. Also for popularly worded pamphlets on these subjects. The prizes range from $125 downward.

Compulsory Notification of Diseases in France.—By a decree, signed February 10, the president of the French Republic officially proclaimed the list of diseases for which notification is compulsory, adopting without change the list recommended by the Académie de Médecine. It was given in The Journal of February 28, p. 612.

Sale of a Medical Practice.—In a recent suit in France and another in Germany, the courts decided that the plaintiff suing for payment for the sale of a medical practice had no

case, as a medical practice can not be bought and sold. In one of the suits the sale of the furnishings and practice had been made by the widow of a physician.

French Congress of Alienists and Neurologists.—The thirteenth annual congress of French alienists and neurologists will be held at Brussels, Aug. 1 to 8, 1903. The subjects announced for discussion are "Catatonia and Stupor," "Histology of General Paralysis," and "Treatment of Agitation and Insomnia in Mental and Nervous Disease."

The Esmarch Medal.—A gold medal was presented to von Esmarch on the occasion of his recent birthday. It is now proposed to give a bronze replica of the medal to persons or societies that have distinguished themselves in the first aid or, Samaritan movement, as it is called in Germany. The first medal to be thus bestowed was presented to Prince Henry of Prussia, February 14.

The Social Medical Congress in Austria.—Dissatisfied with the efforts of the existing national medical organizations on behalf of their material interests, the physicians of Austria are organizing a national "*Sozial-ärztlichen* Congress," to discuss in general conclave the important questions of the day. The *Klin. Therap. Wochenschrift* quotes figures to the effect that 130 local medical associations are sending delegates.

Campaign Against Charlatans in Germany.—The last week brings the account of the condemnation of a faker at Plauen to a fine of $25 for assuming a pseudo-medical title. At Hochlausen a faith-healer was condemned to ten days' imprisonment, and at Carlsruhe the director of a so-called hydropathic institute was fined $75 for having treated a cancer subject with cold water alone. The authorities are discussing more stringent regulations against charlatans.

Charlatan Examinations.—A public examination of students trained in two Berlin "nature-healing" establishments was recently held there, the proceedings modeled on those of medical colleges. The report in the "*Nature-Healers' Gazette*" stated, among other items, that the students "passed a successful examination in the gynecologic examination of twelve male and twelve female patients, the latter suffering from gynecologic affections."

The Bulletin de l'Association Gen. des Medecins de France.—The newly created organ of the French Medical Association starts out with the intention, we are told, to fill in France the place occupied by the *British Med. Journal* in England and THE JOURNAL in this country. The French medical press is inclined to look askance at the newcomer, and the *Gazette Medicale de Paris* remarks that there is little chance of its realizing its ambition "unless it gets an American or English brain to take charge of it."

Correspondence.

The Biographic Clinics of Dr. Gould.

CHICAGO, March 14, 1903.

To the Editor:—The medical profession is under many obligations to Dr. George M. Gould, the vigorous editor of *American Medicine*. The last product of his fertile brain and productive pen is the "Biographic Clinics," a book of 233 pages. In writing this wonderful book he has done pioneer work in a most important department of medicine. He has shown conclusively that five of the greatest men in history were the subjects of eyestrain, which was responsible for all the agonies that made the busiest and most useful epochs in their lives a constant misery. The analysis of the symptoms related by themselves or their biographers is so logical that no doubt can be left in the minds of the careful reader concerning the correctness of the author's conclusions. There can be no doubt that thousands are affected in a similar manner to-day, and as any competent oculist can secure the necessary relief this class of patients should be reached by the profession. This little book should be in the hands of every physician and teacher, as it treats of a subject of a medical affection which, when overlooked or neglected, will bring ailments that will make life a constant misery, if not a total failure. N. SENN.

The Identity of Nerve Force and Electricity.

WASHINGTON, D.C., March 9, 1903.

To the Editor:—Referring to the paper of Dr. J. Emmet O'Brien, page 630 et seq. of THE JOURNAL, March 7, in which he claims priority as to the identity of electricity and nerve force, etc., I very respectfully suggest that on reference to the Transactions of the Medical Society of the District of Columbia, of Dec. 5, 1883, it will be found that the general principles of his paper have been long since anticipated by one on "Electricity and Nerve Force" presented by,

Very respectfully yours, JOSEPH T. HOWARD, M.D.

Maternal Impressions.

AIKIN, MICH., March 14, 1903.

To the Editor:—Baby S., a healthy seven-pound female baby, was born at full term on March 1, 1903. She has a prominent birthmark covering the left thumb and upper part of the arm, over the shoulder and slightly down the back. The mother had an accident three months before delivery. She was wearing an outing-flannel gown, the left sleeve of which was lighted from a match, and in a flash an area of the sleeve corresponding to the baby's birthmark was burned.

A. G. BELSHEIM, M.D.

Family Care of the Insane.

LEXINGTON, KY., March 16, 1903.

To the Editor:—Your editorial in the last number of THE JOURNAL, on family care of the harmless insane, leads me to suppose that you do not know that it has been continuously in use in Massachusetts since 1885. It was due, I believe, to the efforts of Dr. Henry R. Stedman of Boston, who wrote a most exhaustive paper on the subject. The matter was reviewed at the last meeting of the American Medico-Psychological Association. GEO. P. SPRAGUE.

Book Notices.

THE MALARIAL FEVERS OF BRITISH MALAYA. Studies from Institute for Medical Research, Federated Malay States. By Hamilton Wright, M.D. (McGill), Director of the Institute for Medical Research, Federated Malay States. Paper. Price 3 shillings net. Philadelphia: P. Blakiston's Son & Co. 1902.

This report, as stated by the author, does not represent an extensive study of malarial fevers of the British portion of the Malay peninsula, but he offers it as a first step, hoping it will call attention to the value of the field to European students of malaria. So far as the existing forms of malaria are concerned, they seem to be largely those met elsewhere. There is a predominance of the malignant tertian type, the mild tertian being only second in frequency. It appears that Europeans seldom contract malaria within their own quarters within the larger centers of population. They can nearly always date their infection to some out-station or jungle work in a specially malarial region. It is noticed as a remarkable fact that in a large prison where one species of anopheles abounds, malaria is almost unknown. The greatest sufferers seem to be the coolies and natives; among them are found the chief figures of morbidity and mortality. The tin mines of the Malay peninsula are ideal fever spots. The natives who live in large centers and neglect the hygienic measures followed by Europeans also suffer to a certain extent, and the native police are to a large extent agents of the transmission of the disorder from one section to another. A policeman breaks down in health in one place and is sent to another locality, which he also infects. This is a point to which Dr. Wright very properly calls the attention of authorities, as it is avoidable. The species of mosquitoes have been studied and the work contains valuable data in regard to prophylaxis and treatment, which he says is needed in these parts of British India. The first essentials are sanitary precautions, hydraulic drainage, clean surroundings and a well-regulated passion for quinin. The larger part of the work is a narration of cases and it concludes with accounts of the aspects of malaria in the different sections, contributed by government surgeons. In the very conclusion of the work an interesting statement is made by one of these that so far as known no case of blackwater fever has ever occurred in the Malay peninsula, notwithstanding the large doses of quinin that are habitually employed. This would seem

to contradict the quinin theory of the production of this disorder.

Lehrbuch der Ohrenheilkunde. Für Aerzte und Studirende, von Prof. Dr. L. Jacobson und Dr. L. Blau, Ohrenaerzten in Berlin. Dritte, neu beurbeitete Auflage des Jacobson-schen Lehrbuches, mit 345 Abbildungen auf 19 Tafeln. Leipzig: Verlag von Georg Thieme. 1902.

Professor Jacobson, whose work for sixteen years at the Ear Clinic of the University of Berlin gave him a wide acquaintance, and whose contributions to Schwartze's "*Archiv*" gave him a name in the otologic world, addresses a larger medical audience in this volume of more than 500 pages. It is intended for both students and general practitioners, and the details of more interest to the specialist are in smaller type. There are 345 illustrations, of which there are a number of new ones in this, third, edition (showing the radical operation, the recent plastic methods following the former, the method of exposing the middle cranial fossa and the transverse sinus, ligation of the jugular vein, and lumbar puncture).

The report of the complete literature is brought up to the end of the year 1901. Dr. Blau's command of this part of the work is apparent. It is to be expected, because of his being chief editor of the *Encyclopædie der Ohrenheilkunde*. The rapid progress of the specialty, the authors state, caused them to make additions to every department. The greatest changes are to be found in the chapters on normal hearing; the methods of examination; the differential diagnosis between diseases of the sound conducting and perceiving apparatus; on pneumatic massage of the middle ear; on chronic middle ear suppuration; on the "dry chronic middle ear catarrh"; on trephining the mastoid process, and on the radical operation; on deaf-mutism; on otitic diseases of the brain, meninges and sinuses; on otitic pyemia and septicemia; on aural complications in scarlet fever, diphtheria, locomotor ataxia, and tuberculosis. Therapeutics is freely discussed. The chapter on the value of the various methods of testing the hearing and of making exact differential diagnoses between diseases of the sound perceiving and conducting apparatus is written by Professor Jacobson alone. His exceedingly critical review of this important subject is of the greatest interest.

The Mind of Man. A Text-Book of Psychology. By Gustav Spiller. Cloth. Pp. 552. Price, $2.75 net. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Co. 1902.

The study of psychology is a profitable side-issue for the physician to take up for many reasons. The present volume is a contribution that most medical readers will find intelligible and interesting. Its treatment of the subject is that of the sensational school and there are probably many of us who will disagree with the author in some of his views and conclusions. The rejection of the noumenal ego will be to some of us a little hard to accept and his argument for it from the facts of insanity appear fallacious, but it seems to be the outcome of the line of reasoning of a large number of psychologic thinkers. Some subjects are very rapidly touched on and the treatment seems to us unsatisfactory, for instance, his few remarks on the subject of character. The characteristic of the author is self-confidence, which is very noticeable throughout in his assertiveness and his comments on other authors. He, however, ably handles his subject and some portions of the work are very interesting reading. His study of Shakespeare, for example, will be to some a novel treatment of the subject. The style of the book is interesting and it is throughout intelligible. It is certainly not the heavy reading which some works on psychology are found to be.

Disinfection and Disinfectants. A Practical Guide for Sanitarians, Health and Quarantine Officers. By M. J. Rosenau, M.D., Director of the Hygienic Laboratory and Passed Assistant-Surgeon U. S. Public Health and Marine-Hospital Service, Washington, D. C. Illustrated. Cloth. Pp. 353. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Dr. Rosenau has furnished a convenient manual of disinfection which can not fail to be of use to physicians, health officers and others, in fact, to everyone who has occasionally the need of such a work. He says he has made mistakes like everyone else in learning what, how and when to disinfect, and the book is written to aid others who have to battle with infection and communicable diseases. It is based on experience as well as knowledge gained otherwise and has, therefore, its special value as a work of a practical expert. It is a book the substance of which ought to be familiar to every physician and especially to every local health officer in the country.

Practical Obstetrics. A Text-Book for Practitioners and Students. By Edward Reynolds, M.D., Visiting Surgeon to the Free Hospital for Women, and Franklin S. Newell, M.D., Assistant in Obstetrics and Gynecology in Harvard University. Illustrated with 252 Engravings and 8 Colored Plates. Cloth. Pp. 553. Price, $3.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

This volume is the result of the practical success of an earlier work by one of the authors, which did not attempt to go so extensively into the subject as does the present. It is a convenient, reasonably condensed, and a practical handbook on the subject. It is thoroughly illustrated and has an excellent index. While not so full and complete as many other works on the subject, we believe, to a large class, it will be found even more popular because of its conciseness. The authors say, if it appears to settle most points of practice dogmatically, the fault has been intentionally committed on the belief that the description of one justifiable plan of treatment is more likely to be of advantage to the student than the extended discussion of the advantages and disadvantages of many methods. This explains the standpoint from which the book has been written. It is practical, and elegantly gotten up.

A Handbook of Materia Medica, Pharmacy and Therapeutics, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P. Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco. Ninth Edition, Revised and Enlarged. Cloth. Pp. 951. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1902.

The author has added many things to what appeared in previous editions, some from his experience in the tropics while serving with the Eighth Army Corps and at general headquarters in the Philippines. In this respect it has an advantage over some other works that have recently appeared. A number of articles in the work have been rewritten and others expanded by incorporation of new items. The work, as a whole, has been, as the author says, critically revised.

Marriages.

Thomas J. Reid, M.D., to Miss Caroline Wolcott, both of Chicago.

Philip Newmark, M.D., to Miss Marie C. Fleck, both of Los Angeles, Cal., March 15.

Edward Lee Beatie, M.D., Kansas City, Mo., to Miss Emma Gertrude Rockwell of Chicago, March 10.

Samuel A. Huffman, M.D., Chesterfield, Ill., to Miss Clyde McQuerry of Greenfield, Ill., February 26.

Robert J. Heavenridge, M.D., to Miss Cora McClenning, both of Hannibal, Mo., at New London, Mo., March 2.

John R. McDill, M.D., Manila, P. I., formerly of Milwaukee, Wis., to Miss Anna Josephine Neale of San Diego, Cal., at Manila, January 27.

Deaths.

William Phipps Munn, M.D. University of Michigan, Ann Arbor, 1886, died at his home in Denver, March 12, from hemorrhage of the lungs, aged 38. He was born in Pittsburg, and after his graduation in medicine practiced for four years in Allegheny. He was then compelled on account of ill-health to go to Colorado, and settled in Denver. He entered immediately into college work and was given the chair of histology and pathology in Gross Medical College. In 1892 he was made professor of genito-urinary diseases and clinical surgery in the University of Denver, and occupied this chair until 1897. He was a member of the American Medical Association; president of the Colorado State Medical Society in 1900-1901; member and some-time president of the Denver and Arapahoe Medical Society; health commissioner of Denver 1895 to 1899; for ten years a member of the board of health, and recently its president. He was always active in all that pertained to the good of the medical profession and was one of the leaders in the work of reorganization in Colorado.

Arthur Vallee, M.D. Laval University, Quebec, 1875, who filled in turn the chairs of toxicology and legal medicine, obstetrics, deontology, history of medicine and mental diseases; a member of the Psychologic Society of Paris, and the Society of Mental Medicine of Belgium; vice-president of the Provincial Medical Council and for a long time superintendent of the Beauport Insane Asylum, Quebec, died at his home, January 23, after an illness of four months, aged 54.

Charles Henry Ohr, M.D. University of Maryland, Baltimore, 1834, mayor of Cumberland, Md., for seven years; acting assistant surgeon U. S. Army during the Civil War; member of state senate; vice-president and president of the Medical and Chirurgical Faculty of Maryland, died at his home in Cumberland, March 3, aged 92. He retired from practice several years ago.

George W. Bishop, M.D. Jefferson Medical College, Philadelphia, 1848, a practitioner of medicine until 1865, afterward state senator from Worcester County, Md., assistant treasurer of the United States at Baltimore, and later treasurer of Worcester County, died suddenly from heart disease at his home in Snow Hill, Md., March 6, aged 76.

Joseph Christopher Shepard, M.D. New York University, 1860, who afterward studied in France and then served throughout the Civil War on the Confederate side, one of the most prominent physicians of Wilmington, N. C., died at his home in that city, March 5, from heart disease, after an illness of ten days, aged 63.

Henry R. Porter, M.D. University of Georgetown, Washington, D. C., 1872, of Bismarck, N. D., died at Agra, India, March 3, from heart disease, while making a trip around the world, aged 55. He was an acting assistant surgeon in the Army, and served with Reno in the campaign in which Custer was killed.

John R. Casey, M.D. St. Louis Medical College, 1857, for nearly half a century a practitioner of Joliet, Ill., for ten years surgeon to the state penitentiary, a member and once president of the Will County Medical Society, died at his home in Joliet, March 1, from diabetes, after a long illness, aged 68.

James J. Larkin, M.D. Chicago Medical College, 1880, died suddenly at his home in South Chicago, from apoplexy, March 12, aged 49. He was a member of the Chicago Medical Society and Physicians' Club, and was surgeon to the South Chicago Hospital.

William Campbell Goodlett, M.D. University of Pennsylvania, Philadelphia, 1849, formerly a surgeon in the United States Army and in the Confederate service, died at his home in St. Louis, March 1, after an illness of one year, aged 80.

Ashley A. Webber, M.D. New York University, 1888, an authority on gunshot wounds and an expert of national repute with the rifle and revolver, died from Bright's disease at his home in Brooklyn, February 19, aged 39.

Enoch P. Jones, M.D. Eclectic Medical Institute, Cincinnati, 1854, died at his home in Marion, Ind., from paralysis, after an illness of two months, February 26, aged 75. He retired from practice in 1900.

Levi B. Ward, M.D. Kentucky School of Medicine, Louisville, 1896, member of the Colorado State and Fremont County medical societies, died at his home in Canon City, Colo., February 24, aged 37.

James Henry Dugan, M.D. College of Physicians and Surgeons, Chicago, 1899, of La Salle, Ill., died March 2, after an operation for appendicitis, at Mercy Hospital, Chicago, aged 30.

David F. Rupp, M.D. Kansas City Medical College, 1879, health officer of San Diego, Cal., died at his home in that city, February 25, from pneumonia, after an illness of ten days, aged 53.

James C. Patton, M.D. Medical College of Evansville, Ind., 1850, a veteran of the Civil War, died at his home in Francisco, Ind., where he had practiced for 53 years, February 19, aged 76.

Charles F. Patterson, M.D. Jefferson Medical College, Philadelphia, 1878, died at his home near Coal Grove, Ohio, February 10, from consumption, after an illness of many months.

George W. Smith, M.D. Rush Medical College, Chicago, 1894, of Monongah, W. Va., died at the Cook Hospital, Fairmont, W. Va., February 26, after an extended illness, aged 28.

Alexander Stanley Hancock, M.D., died at his home in New York City, February 28, from starvation due to a cancer of the throat, aged 65. He retired from active practice in 1893.

Charles F. Rideout, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1884, died at his home in Bath, Maine, February 28, from pneumonia, after a brief illness, aged 45.

Henry Edward Newell, M.D. Long Island College Hospital, Brooklyn, 1873, died at his home in West Derry, N. H., February 24, after a long and painful illness, aged 51.

Edwin E. McCall, M.D. Baltimore Medical College, 1894, health officer of Lima, Ohio, died at his home in that place from uremia, after a short illness, March 23, aged 37.

John N. Kendig, M.D. University of Maryland, Baltimore, 1898, of Akron, Ohio, died at a hospital in Cincinnati, Ohio, February 26, from cerebrospinal meningitis, aged 28.

Theodore A. Grover, M.D. Starling Medical College, Columbus, 1869, formerly of Pittsburg, Pa., died suddenly at Wilmington, Del., March 6, from paralysis, aged 63.

John Graham, M.D. Eclectic Medical Institute, Cincinnati, 1878, died at his home in Plainville, Ill., February 23, from kidney disease of long standing, aged 65.

Francis Rourk, M.D. University of Maryland, Baltimore, 1865, died suddenly at his home in Detroit, Mich., February 22, aged 61. He was a veteran of the Civil War.

A. D. Griffin, M.D., who practiced medicine in Keokuk and Benton counties, Iowa, for more than half a century, died at his home in Vinton, Iowa, February 25.

J. R. Simms, M.D. Medical School of the Valley of Virginia, Winchester, 1849, died suddenly, February 27, at his home in Linden, Cal., aged 82.

William H. Baird, M.D. Tulane University, New Orleans, 1869, of Oxford, Miss., died at Jackson, Tenn., March 5, after an invalidism of four months.

Alexander C. Peters, M.D., for more than forty years a practitioner of Newark, N. J., died from paralysis at his home in that city, March 1, aged 63.

T. W. Wright, M.D. Keokuk (Iowa) Medical College, died at his home in Farmington, Iowa, from typhoid fever, March 1, after an illness of two weeks.

Daniel C. Dickinson, M.D. Medical College of Virginia, Richmond, 1878, died at his home in Union Hall, Va., March 6, after a brief illness, aged 45.

Henry W. Richter, M.D. New York University, 1861, died at his home in Brooklyn, N. Y., March 4, from paralysis, after a year's illness, aged 63.

William F. G. Noetling, M.D. University of Heidelberg, Germany, 1842, died at his home in East Hampton, Conn., February 28, aged 83.

Richard D. Greene, M.D. Bellevue Hospital Medical College, New York, 1867, died at his home in Lexington, Ky., February 25, aged 63.

Lester Joslin, M.D. Cleveland Medical College, 1867, died at his home in Ionia, Mich., February 26, from a carbuncle, after a short illness.

William J. Enders. M.D. Miami Medical College, Cincinnati, died at his home in Hamilton, Ohio, March 7, from pneumonia, aged 26.

Rutherford R. Price, M.D. Western Pennsylvania Medical College, Pittsburg, 1900, of Toronto, Ohio, died at Phoenix, Ariz., February 26.

Elliott W. Leech, M.D. Kentucky School of Medicine, Louisville, 1891, died at his home in Shelbyville, Ind., March 5, aged 70.

L. W. Bishop, M.D. Medical College of Ohio, Cincinnati, 1870, died at his home in Batavia, Ohio, February 27, from paralysis.

John N. Davis, M.D. Eclectic Medical Institute, Cincinnati, 1880, of Boulder, Colo., died at the Denver Hospital, February 22.

Samuel C. Hanford, M.D. New York University, 1845, died at his home in Hempstead, Long Island, N. Y., February 24, aged 80.

William Johnson, M.D. Rush Medical College, Chicago, 1880, of Grant City, Mo., died at Boulder, Colo., February 17.

Reginald H. Reid, M.D. Detroit College of Medicine, formerly of Detroit, died at Hils, Hawaii, recently, aged 28.

Edward R. Kittoe, M.D. Chicago Medical College, 1869, died suddenly at his home in Galena, February 18, aged 57.

William H. Koogler, M.D. University of Iowa, Iowa City, 1873, died at his home in What Cheer, Iowa, February 13.

James M. Gears, M.D. Fort Worth (Texas) University, 1901, of Poolville, Texas, died recently at Fort Worth.

James M. Glass, M.D. Fort Worth (Texas) University, 1901, of Poolville, Texas, died recently at Fort Worth.

Deaths Abroad.

Dr. Michaux, surgeon of the Messageries Maritimes steamer *Laos*, died at sea from the effects of atropin administered by accident, January 24.

Rafael Zoldivar, M.D. National University, Guatemala, statesman, and twice president of Salvador, and more recently minister of that republic in Washington, died in Paris, March 3.

F. Cramer, M.D., Würzburg, the well-known German surgeon, died from influenza-pneumonia at his home in Wiesbaden, in February, aged 56.——**A. J. A. Guimaraes, M.D.**, Bahia, assistant superintendent of the Federal Laboratory of Bacteriology, died at Rio Janeiro, February 12, aged 32.——**D. Cervesato, M.D.**, Padua, private docent and professor of pediatrics at Padua and later at Bologna, died at his home from appendicitis, January 24, aged 51. He is the author of numerous works on his specialty and other subjects.

Dr. M. Weiss died at Vienna, aged 74. He resided in Prague or its vicinity until 1897, and was prominent in all matters affecting the general welfare of the profession. He was also a frequent contributor to medical literature, and honorary member of several medical societies.——**Dr. Emil Gold**, director of the Model Hospital at Bielitz, which owes its preeminence to his efforts, died recently, aged 44, from the effects of a stroke of paralysis last year, due to overwork.——**C. Gallozzi, M.D.**, professor of surgery and dean of the medical department of the University of Naples, died there February 11, aged 84, from cerebral embolism.——**F. Loesch, M.D.**, professor of internal medicine at Kiev, aged 63, died from apoplexy. He has published numerous works in Russian and foreign medical literature.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE HORSELESS CARRIAGE.

SPOKANE, WASH., Feb. 24, 1903.

In THE JOURNAL of February 14 a communication is published from Dr. Oscar S. Gilbert, Boulder, Colo., requesting information on the use of the automobile by the physician, and I here give my experience.

Fifteen months ago I purchased a light runabout of a standard make, weighing about 850 pounds, having, as claimed by the maker, a 4½ horse-power gasoline engine, costing laid down here $750. I used this wagon eleven months (less one month during which it was laid up for repairs), running it during that period about 6,000 miles, most of it on gravelly roads, which were comparatively level, and muddy only two months.

Repairs alone during that period cost something over $25 a month, gasoline for the same period about $6 a month. After the first few months I had sufficiently mastered the art of navigation of a gasoline engine to enable me to feel reasonably sure that so far as my engine was concerned I would be able to return home from almost any trip I took.

While this horse-power is not sufficient to take a wagon of this weight up a grade to exceed 15 per cent. with any degree of rapidity, by careful usage and stopping occasionally to speed up the motor, a much heavier grade may be made.

Before the eleven months were out I had spent at least another $100 in replacing worn-out parts, such as chains, front and rear sprockets, tires, etc. With these parts, I expect to have another two summers' use simply as a pleasure rig for my wife, by avoiding hard and muddy trips.

Three months ago I purchased a phaeton of a standard make, weighing about 1,100 pounds, with three cylinders, and guaranteed ten horse-power, large, wooden wheels, top, and all the conveniences of an up-to-date doctor's rig, costing here $1,400. This wagon has been run through the severe muddy winter weather, but I have had considerable annoyance from break-downs of small parts, none serious enough to lay me up for more than a few hours, but serious enough to have left me stranded high and dry had I been making country trips instead of city runs, where, by the use of the telephone, the repair man can always be gotten quickly.

I had hoped when I purchased this wagon to be spared such small annoyances, but for some reason unknown to me the manufacturers have not yet sufficiently perfected their wagons to accomplish this, as has been proven to me both by my own experiences and those obtained from reading the physician's number of a late automobile journal.

There appear to be so many little break-down possibilities, that even now I would not feel safe to leave the city limits very far with either of my wagons. Pneumatic tires, even the best, are liable at any time to be punctured or perforated by pressure or nails, and it is no small matter to repair them outside of a well-regulated shop. The sun and planet transmission gear, the one generally in use, is a very complicated affair and often a source of trouble from breakage.

The lubrication requires constant care and is liable at any time to become a source of annoyance. The usual chain transmission is a delicate affair, and likely to break or stretch. The rear sprocket wheel, being a differential gear, may at any time cause trouble by breaking of pins or small parts. The matter of circulation of water in the small rig for cooling the engine is most important, the process being by centrifugal pump, which, with its connections, may at any time get out of repair, and where there is no water circulating, the packing in the cylinder head soon burns out, and it is laid up for a few hours, even if you are willing to stop on the road and pack your own engine. The sparking arrangement in either rig is at any time liable to give trouble.

I could go on for a half hour describing troubles that may be had by the automobilist, but think I have given a sufficient number to prove the necessity of keeping the wagon within a reasonable distance of a skilled mechanic and gasoline engineer, whose almost constant attention is required to get good service out of it.

There is no doubt that much time can be saved on the road and many more calls made with an automobile than with any form of horse and wagon, but to accomplish these results considerable experience, expense, and annoyance must be had. I have no doubt that there will be made in the near future a wagon free from many of the annoyances and dangers which I have outlined, but until then, my advice to physicians who expect to run their wagons at all times on all kinds of roads and places, would be not to buy an automobile.

Yet, to a man able and willing to pay for the extra expense mentioned above, I believe it will bring him more pleasure and exhilarating exercise than the same amount of money invested in any other way, but in buying one for use off of the paved road, get a gasoline rig in which there is at least a horse-power for each one hundred pounds weight of the wagon, and the entire weight of the wagon should not much exceed one thousand pounds. Get one with double detachable tires, with wooden wheels, and a two or three-cylinder gasoline engine, with a cylinder head which screws in, and does not require packing, avoid centrifugal pumps and vibrators also if possible, and expect to use it at least three months before a sufficient knowledge of the wagon has been gained to get much pleasure out of it. The electric and steam wagons are still more expensive and difficult to operate, the latter requiring too much time for starting and water and gasoline for running.

C. P. THOMAS.

State Boards of Registration.

The Modified Montana Medical Law.

Two bills bearing on the medical practice law of Montana have passed through the legislature of that state; one making provision for appeals, providing that all appeals against the decisions of the board of medical examiners shall be tried before a jury of six physicians, not less than two of whom shall be of the same school of medicine as the appellant. This act takes out of the hands of the lay judges and juries the decision of questions as to professional conduct, standing, etc., of those who have come under the penalties provided for by the law.

The other amendment provides for reciprocity. It changes the section of the law that lays down the conditions under which licenses can be granted by inserting after the provision for granting of said license the following:

Provided, however, that in all cases where an applicant for a certificate under this Section shall produce and exhibit to said board of examiners a certificate from a board of medical examiners, duly appointed and existing under the laws of any state of the United States and recognizing certificates or licenses from this state, certifying to the fact that the person presenting such certificate is duly and well qualified to practice medicine and surgery in the state issuing said certificate, and that said board issuing said certificate has subjected the applicant to a thorough examination to ascertain this fact, or certifying to the fact that the person presenting such certificate is duly and well qualified to practice medicine and surgery in the state issuing said certificate; and to the further fact, if such is the case, that said applicant was exempt from examination under the provisions of the law of said state, by reason of his residence in said state in the active practice of medicine and surgery at the time of the passage in said state of said law requiring the examination of applicants to practice medicine and surgery; he or she may, at the discretion of said board of examiners, on paying the fee required of applicants for examination under the provisions of Section 607 of this article, and otherwise complying with all the requirements of this article, receive from said board of examiners a certificate to practice medicine and surgery within this state, and on filing said certificate with the county clerk of the county in

which he resides, as is provided in Section 604 of this article, he shall be a legally qualified practitioner of medicine and surgery in this state.

Association News.

New Members.

New members for the month of February:

ALABAMA.
Gresham, W. A., Russellville.
Hargrove, R. J., Tuscaloosa.
Kernachan, W. J., Florence.
Lightfoot, P. M., Crosskeys.
Persons, H. S., Montgomery.
Robertson, J. W., Brundidge.
Oates, W. H., Yellow Pine.

ARKANSAS.
Barlow, E. E., Dermott.
Hipolite, W. W., DeVall's Bluff.
Hume, H. C., Paragould.
Pope, M. Y., Monticello.
Smith, R. N., Augusta.
Stanley, A. C., Tillar.
Murphey, N. E., Clarendon.
Hebert, G. A., Hot Springs.
Waldrop, J. G., Wheatley.

CALIFORNIA.
Goodfellow, G. E., San Francisco.
Brown, M. W., Alameda.
Key, J. W., Pinole.
Wilder, E. M., Sacrameto.

COLORADO.
Hoagland, H. W., Colorado Sprgs.
Sipe, W. P., Cripple Creek.

CONNECTICUT.
Covley, M. L., Waterbury.

DISTRICT OF COLUMBIA.
Baker, R. W., Washington.
Boyd, J. C., Washington.
Belt, E. O., Washington.
Mullins, J. B., Washington.
Muncey, E. B., Washington.
Thompson, E D., Washington.
Wagner, W. F., Washington.
Walsh, F. C., Washington.

FLORIDA.
Sutherland, Wm., High Springs.
Jenkins, E. E., Palatka.

ILLINOIS.
Behrendt, A. J., Chicago.
Decker, Adolph, Chicago.
Getz, Michael, Chicago.
Rawlings, I. D., Chicago.
Neff, J. M., Chicago.
Loewy, Arthur, Chicago.
Windell, U. G., Chicago.
Benson, Newton J., Vienna.
Rodefeld, H. H., Quincy.
Schreiter, J. B., Savanna.
McClanahan, V. A., Viola.
Weimer, E. A., Pekin.

INDIANA.
Schlicker, A. G., East Chicago.
Gemmill, H. C., Indianapolis.

INDIAN TERRITORY.
Berry, V., Wetumka.
Warterfield, F. E., Holdenville.

IOWA.
Doty, E. A., Oxford.
Harriman, J. W., Iowa City.
Kembel, C. L., Bloomfield.
Mullin, J. P., Iowa City.

KANSAS.
Brockett, E. M., Topeka.
Freeman, J. D., Topeka.
Jones, H. T., Lawrence.
Jones, G. W., Lawrence.
Williamson, H. E., Olathe.

KENTUCKY.
Foster, R. L., Cosky.
Hord, W. H., Orangeburg.
Harper, J. H., Ibex.
Kobert, C. B., Lebanon.
Ferguson, R. V., Hadensville.
McGary, J. R., St. Mary's.
Martin, J. G., Ashland.
Moss, M. McT., Franklin.
Brand, Leslie, Maysville.

LOUISIANA.
Boudreau, W. R., Washington.
Alexander, A. D., Mer Rouge.
Kearney, F. J., Plaquemine.
Paine, R. B., Mandeville.
Scales, J. L., Alden Bridge.
Miller, V. A., Lake Arthur.
Elliott, Jr., J. B., New Orleans.
Menage, H. E., New Orleans.
O'Kelley, J. P., New Orleans.

MARYLAND.
Allen, L. M., Baltimore.
Clewell, A. A., Baltimore.
Hadel, A. K., Baltimore.
Johnston, R. H., Baltimore.
Pearce, W. M., Baltimore.
Smith, R. P., Baltimore.
Mitchell, G. W., Baltimore.
Marshall, H. T., Baltimore.
Taylor, R. T., Baltimore.
Ohle, H. C., Baltimore.
Requardt, W. W., Baltimore.
Wolf, W. B., Baltimore.

MASSACHUSETTS.
Hammond, Philip, Boston.
Page, C. G., Boston.
Paul, L. G., Boston.
Redfearn, Jos., Hudson.
Swain, Howard T., Boston.
Wilson, H. E., Chester.

MICHIGAN.
Bursman, J., Altona.
Dusseau, S. V., Erie.
Eshleman, Lillian, Battle Creek.
Holdom, Isabella, Detroit.
Harris, Roland H., Battle Creek.
Leuschner, Richard, Mt. Clemens.
Scott, T. B., Owosso.
Morse, J. F., Battle Creek.
Tonkin, E. W., Edwardsburg.
Wilhelm, J. M., Traverse City.
Waldron, F. R., Ann Arbor.
Wilkinson, A. M., St. James.

MISSISSIPPI.
Butler, J. T., Brookhaven.
Catchings, C. E., Woodville.
Darrington, John, Yazoo City.
Eckford, J. W., Starkville.
Purser, Thos., McComb.
Scudder, W. H., Mayersville.
Saunders, J. S., Coffeeville.
Martin, Van Buren, Bogue Chitto.

MISSOURI.
Armstrong, G. L., St. Louis.
Burrill, C. W., Kansas City.
Burford, C. E., St. Louis.
Hopkins, T. A., St. Louis.
McVey, T. A., St. Louis.
Chamberlain, G. M. E., Rockport.

NEBRASKA.
Condon, A. P., Omaha.
Groti, Marie L., Ponca.
McKean, J. W., Omaha.
Upjohn, W. C., Omaha.

NEW JERSEY.
Eagleton, W. P., Newark.
Henry, Geo., Raritan.
Knowles, F. E., South Orange.

NEW YORK.
Boyd, A. S., New York City.
Culver, D. J., Harrisville.
Dennis, C. W., Goshen.
Fielder, F. S., New York City.
Lester, Elias, Seneca Falls.
Silverman, Maurice J., New York.
McKay, Jas., Potsdam.
Bacon, C. B., Waterloo.

NORTH CAROLINA.
Pate, W. T., Gibson.
Headen, W. E., Morehead City.
Stansill, J. M., Rockingham.

OHIO.
Casello, J. B., Cincinnati.
Moss, E. H., Cincinnati.
Warner, W. C., Cleveland.
Dempster, A. C., Uhrichsville.
Hughes, L. H., Dennison.
Wagner, P. M., Canal Dover.

OKLAHOMA.
Clutter, W. H., Oklahoma City.
Patchen, C. C., Chandler.

PENNSYLVANIA.
Alleman, K. M., Hanover.
Allison, T. B., Tarentum.
Bitler, B. E., Potts Grove.
Dolan, W. K., Scranton.
Snavely, H. B., Lancaster.
Rebuck, Chas. S., Harrisburg.
Sandblad, A. G., McKeesport.
Gardiner, F. G., Pittsburg.
Stuart, E. C., Pittsburg.
Christian, H. M., Philadelphia.
Shoemaker, W. T., Philadelphia.
Singer, B. L., Philadelphia.

SOUTH CAROLINA.
Campbell, J. W., Clover.

SOUTH DAKOTA.
Bobb, B. A., Mitchell.
Vaughn, Jas. B., Castlewood.

TEXAS.
Broadstreet, S. C., Mt. Pleasant.
Crouse, H. W., Victoria.
Collom, S. A., Kennard.
Dorbandt, J. D., Lampasas.
Dorris, T. B., Grape Vine.
Emery, F. D., Dallas.
Higginbotham, W. L., Howe.
Krueger, A. G., Caldwell.
Taylor, Holman, Marshall.
Vaughan, Z. E., Waskom.
Williams, T. A., Houston.
White, David, Honey Grove.

UTAH.
Hammond, E. D., Salt Lake City.

VERMONT.
Lyman, W. A., Burlington.

VIRGINIA.
Bindewald, O. C. A., Portsmouth.
Drewry, M. R., Cascade.

WASHINGTON.
Rust, H. H., Enumclaw.
Slater, H. H., Deer Park.
Scamell, J. W., Aberdeen.

WEST VIRGINIA.
Haught, F. T., Mona.

WISCONSIN.
Buchan, S. C., Racine.
Dearholt, H. E., Milwaukee.
Hopkinson, Lawrence, Milwaukee.
Smith, C. M., Evansville.
Scott, W. F., Port Washington.
McWain, H. A., Poy Sippi.
Myers, Albert W., Milwaukee.
Walbridge, F. E., Milwaukee.

WYOMING.
Hall, E. A., Rock Springs.

Medical Organization.

Hempstead County (Ark.) Medical Society.

This society was organized February 13 by Dr. J. S. Corn, Nashville, councilor of the Sixth District Arkansas Medical Society, and elected the following officers. Dr. Hosea J. F. Garrett, president; Dr. B. S. Rhea, vice-president, and Dr. J. H. Weaver, secretary and treasurer.

Box Butte County (Neb.) Medical Society.

In accordance with the suggestion of the American Medical Association and the Nebraska State Medical Society the physicians of the county met in Alliance, February 27, and organized this society, with Dr. Harvey H. Bellwood, Alliance, president; B. F. Bettleheim, vice-president, and Dr. J. E. Moore, Alliance, secretary and treasurer.

Coffee County (Tenn.) Medical Society.

Dr. James B. Murfree, Jr., Murfreesboro, met the physicians of Coffee County at Manchester and assisted them to reorganize the county society with the following officers: Dr. James B. Cowan, Tullahoma, president; Dr. A. F. Vincent, Manchester, vice-president; Dr. G. W. Taylor, Summitville, secretary and Dr. Erin P. Vaughan, Manchester, treasurer.

Lewis County (Ky.) Medical Society.

The physicians of Lewis County held a meeting at Vanceburg, March 11, and organized a county society, after a talk by Dr. Joseph E. Wells, Cynthiana, councilor for that district, adopting, without change, the plan of organization of the American Medical Association. Dr. Lewis A. Grimes, Concord, was elected president, and Dr. Aaron F. Hill, Vanceburg, secretary.

Greenup County (Ky.) Medical Society.

The physicians of Greenup County met at Greenup, March 12, and organized a county society, after an address from Dr. Joseph E. Wells, Cynthiana, district councilor. The plan of organization of the American Medical Association was adopted without change, and the following officers were elected: President, Dr. A. A. De Bard, and secretary, Dr. Romulus C. Biggs, both of Greenup.

Wayne County (N. Y.) Medical Association.

Physicians of the county met at Lyons, February 12, and organized a new county medical association to be in affiliation with the New York State Medical Association and the American Medical Association. The following officers were elected: Dr. James W. Putnam, Lyons, president; Dr. Mary A. Brownell, Newark, vice-president; Dr. George S. Allen, Clyde, secretary, and Dr. Darwin Colvin, Clyde, treasurer.

Bracken County (Ky.) Medical Society.

The physicians of Bracken County met at Brooksville, March 10, and after listening to an address by the councilor of the district Dr. Joseph E. Wells, Cynthiana, organized a county society, with Dr. David J. Wallin, Brooksville, president and Dr. Vannie E. Smith, Powersville, secretary. The

society adopted without change the constitution and by-laws prepared by the American Medical Association.

Caldwell County (Ky.) Medical Society.

The members of the medical profession of Caldwell County met at Princeton, March 12, and after a very interesting and instructive address by Dr. William W. Richmond, Clinton, president of the Kentucky State Medical Association, formed a county society, electing Dr. R. S. Coleman president and Dr. R. Woods Ogilvie secretary, both of Princeton. The constitution and by-laws of the American Medical Association were adopted without change.

Plaquemines Parish (La.) Medical Society.

The medical fraternity of Plaquemines Parish met at Pointé à la Hache on February 5, and organized a parish society, in affiliation with the Louisiana State Medical Association. Dr. John N. Thomas, Quarantine, was elected president; Dr. Valery O. Schayot, Pointé à la Hache, vice-president; Dr. J. F. Buquoi, Pointé à la Hache, secretary-treasurer. The society adopted the constitution and by-laws recommended by the American Medical Association for component societies.

Cincinnati Academy of Medicine.

The annual election, held March 2, resulted as follows: President, Dr. Byron Stanton; vice-presidents, Drs. John L. Cleveland and Burwell P. Goode; secretary, Dr. Stephen E. Cone; treasurer, Dr. Magnus A. Tate, and librarian, Dr. Arch I. Carson. At the previous meeting, held February 23, the academy so changed its constitution as to render it the County Medical Society of Hamilton County, to affiliate it with the state and national associations and to allow any non-sectarian practitioner of medicine to become a member.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

Florida Medical Association, St. Augustine, April 8.
Western Ophthalmological and Oto-Laryngological Association, Indianapolis, April 9-11.
Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Mississippi State Medical Association, Greenville, April 21-23.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.

Placer County (Cal.) Medical Society.—At the annual meeting held at Auburn, February 14, Dr. Charles H. Bulson, Lincoln, was elected president, and Dr. Robert F. Rooney, Auburn, secretary.

Platte County (Neb.) Medical Society.—At its annual meeting in Columbus, February 26, Dr. David T. Martyn, Columbus, was elected president and Dr. Jerome C. McKinley, Humphrey, secretary.

Chattanooga (Tenn.) Medical Society.—At the annual meeting, Dr. William L. Nolen was elected president; Dr. Robert H. Tatum, vice-president; Dr. Joseph W. Johnson, secretary, and Dr. Samuel I. Yarnell, treasurer.

Worth County (Iowa) Medical Society.—At the annual meeting, February 10, at Northwood, Dr. Samuel R. Rice, Northwood, was elected president; Dr. Norman W. Phillips, Manly, vice-president, and Dr. J. Herbert Darey, Northwood, secretary.

Yakima County (Wash.) Medical Society.—On February 24 the society held its annual meeting in North Yakima and elected Dr. B. A. Owens Adair, North Yakima, president; Dr. W. H. Carver, secretary, and Dr. H. R. Wells, North Yakima, treasurer.

Memphis and Shelby County (Tenn.) Medical Society.—At the annual meeting and banquet held in Memphis, March 3, Dr. Bennett G. Henning was elected president; Dr. Edwin Williams, vice-president, and Dr. James L. Barton, secretary, all of Memphis.

Medico-Chirurgical College (Philadelphia) Alumni Association.—At the annual meeting, January 10, in Philadelphia, Dr. George W. Pfromm was elected president; Dr. Stillwell C. Burns, secretary and Dr. Emanuel S. Gans, treasurer, all of Philadelphia.

Tri-County (Neb.) Medical Society.—Physicians of Dixon, Dakota and Thurston counties met at Emerson, February 25, and organized a society, with Dr. James M. O'Connell, Ponca, president; Dr. Charles H. Maxwell, Dakota City, vice-president, and Dr. Robert Q. Rowse, Wakefield, secretary and treasurer.

Franklin County (Ohio) Medical Society.—This society met, February 24, in Columbus, and elected the following officers: President, Dr. Sherman Leech; vice-presidents, Drs. Theodore G. Davidson and James F. Reynolds; treasurer, Dr. John C. Bishop, and secretary, Dr. Charles W. McGavran, all of Columbus.

Western Slope (Colo.) Medical Society.—The physicians of Garfield, Eagle and Pitkin counties, Colorado, met recently at Glenwood and organized the society, with Dr. Leman G. Clark, Glenwood, president; Dr. Wilmer G. Lockard, Newcastle, vice-president; Dr. William W. Crook, Glenwood, treasurer, and Dr. Albert L. Robinson, Glenwood, secretary.

Canadian Medical Association.—The thirty-sixth annual meeting of the association will be held in London, Ont., August 25, 26, 27 and possibly 28, under the presidency of Dr. Walter H. Moorhouse of that city. Dr. Matthew D. Mann, Buffalo, has been asked to deliver the address in gynecology, and Dr. Alexander Hugh Ferguson, Chicago, the address in surgery.

East Jackson County (Mo.) Medical Society.—A local society, made up of the physicians of eastern Jackson County, not including Independence, has been organized at Oak Grove, with the following officers: Dr. Fountain L. Cook, Blue Springs, president; Dr. Elmer E. Perry, Oak Grove, vice-president, and Dr. Noah D. Ravenscraft, Buckner, secretary and treasurer.

Genesee County (N. Y.) Medical Association.—At a meeting of this association, February 27, the following officers were elected: President, Dr. Albert P. Jackson, Oakfield; vice-president, Dr. Henry E. Ganiard, Stafford; secretary and treasurer, Dr. C. Louise Westlake, Le Roy; Fellow to the state association, Dr. William D. Johnson, Batavia, and alternate, Dr. A. F. G. Zurhorst, Oakfield.

Hardin County (Ky.) Medical Society.—The corrected list of the officers elected at the last meeting should read: Dr. Charles Z. Aud, Cecilian, president; Dr. W. H. Shother, Big Spring, vice-president; Dr. James C. Mobley, Elizabethtown, secretary and treasurer; board of censors, Drs. James R. Gray, James W. O'Connor and Frank P. Strickler, Elizabethtown, and delegate to the state society, Dr. Charles Z. Aud.

Tri-State Medical Society of the Carolinas and Virginia.—The fifth annual session of this society was held in Columbia, S. C., February 25 and 26. The following officers were elected: President, Dr. Davis Furman, Greenville, S. C.; vice-presidents, Drs. John H. Marsh, Fayetteville, N. C., William F. Drewry, Petersburg, Va., and Dr. Edward F. Parker, Charleston, S. C., and secretary, Dr. Rolfe E. Hughes, Laurens, S. C. The next session will be held at Danville, Va.

Carroll County (Ky.) Medical Society.—The physicians of the county met at Carrollton, March 9, and, after an address by Dr. Louis Frank, Louisville, councilor for the district, organized a county society, adopted the constitution and by-laws proposed by the American Medical Association, and elected the following officers: President, Dr. Francis H. Gaines, Carrollton;; vice-president, Dr. Percy V. Ellis, Ghent; secretary, Dr. Joseph S. Lehman, Carrollton; treasurer, Dr. J. H. Adcock, Carrollton, and board of censors, Drs. J. P. Wheeler, Prestonville, and W. O. Lindsay and J. Samuel Brown, Ghent.

Associated Health Authorities and Sanitarians of Pennsylvania.—The tenth annual meeting was held in Harrisburg, March 19 and 20. On the evening of March 19 the annual address was delivered by Dr. Lawrence F. Flick, on "The Duty of Boards of Health in the Prevention of Tuberculosis." The relation of boards of health to municipal councils, the working of the law authorizing boards of school directors to enforce sanitary laws of the state, the prevalence of smallpox, and the responsibility of boards of health for the prevention of consumption were among the subjects considered

NORTH BRANCH PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Feb. 8, 1903.

The President, Dr. H. Brooker Mills, in the Chair.

Headrest for Removal of Brain.

DR. ADDINELL HEWSON gave "An Exhibit of Dr. B. Stroud's Headrest for Removal of the Brain, Together with Remarks on Such Removal in a Private House." The instrument consisted of a horizontal flat piece of oak and an upright piece in which the head rests and is secured in place by two jaws, which clamps the head just above the mastoid process, thus holding the head absolutely horizontal and firm, the clamps being adjusted by means of thumb screws. With this instrument it is possible to remove the brain and the entire dura from the base of the skull, the dura being very easily removed in the case of a fresh body, while, of course, if the body has been dead for some time, very often the embalming fluids interfere with its removal, those containing zinc particularly having this effect.

DRS. T. TURNER THOMAS and JUDSON DALAND felt that the instrument would be particularly valuable for autopsies in private houses, and for very accurate work in medicolegal cases and where there is cerebrospinal disease.

The Diagnosis and Treatment of Bronchopneumonia.

DR. JUDSON DALAND read this paper and called attention to the fact that the disease has become very prevalent in the past ten years, occurring principally from November to March. There are a variety of causes, such as irritating gases, iron dust, silica and similar irritants, and in many of the constitutional infectious diseases bronchopneumonia is not an uncommon complication or sequela. Bronchopneumonia following influenza is prevalent during the winter, in which there occurs an inflammation of the bronchial tubes and alveoli, which is largely leucocytic, may involve only a few lobules or may involve many lobules in the same region, and not infrequently extends to both lungs. This is one of the peculiarities of bronchopneumonia and is more interesting because it bears on the question of diagnosis. The case may be of the most trifling character in the beginning and yet develop into bronchial pneumonia. The micro-organisms are usually the staphylococcus and streptococcus.

The author felt in the majority of cases the affection began primarily in bronchitis and later the alveoli became affected, mastoiditis also being a not uncommon complication. Thus this swelling of the bronchial tubes interferes with the passage of air through the lungs, and in the course of time produces a considerable area of collapse, which is very difficult to distinguish from bronchopneumonia, and also in association with these other conditions there is frequently spasm of the bronchial tubes. The author also believed that in certain cases of influenza there was an affection of the nerves that have to do with respiration, by which breathing is interfered with without mechanical obstruction. The author felt that, speaking broadly, it was practically impossible to clearly diagnose bronchopneumonia from the symptoms alone, excepting in those cases where the lobules invaded are so numerous that we have a condition analogous to that found in lobar pneumonia. The most important factors, therefore, in the diagnosis are physical examination and an examination of the sputum. In bronchopneumonia following influenza the area of dulness is usually found below the inferior angle of the scapula. The dulness may occur in either or both lungs and may involve the posterior-inferior lobes. In true lobar pneumonia it is impossible to diagnose the affection by the symptomatology or the physical signs, and the inference that it exists may be confirmed by the discovery of diplococci. Reference was made to the frequency with which the signs in this condition shift; an area of dulness being outlined one day, and on the occasion of the next visit the same area would probably be resonant on percussion, but the author felt this should be viewed rather as a corroboration than a doubt of the diagnosis. Attention was directed to the fact that too much stress in diagnosis should not be laid on the presence or absence of bronchial breathing, as frequently owing to the fact that the lungs are not completely areated, breath sounds may be either absent or very much diminished, even where there is resonance on percussion. In the treatment of these conditions, absolute cleanliness of the bronchial cavities and naso-pharynx by the use of boric acid solutions was recommended. In order to render the secretions less acid, and also to stimulate the action of the glands the use of one liter of imported vichy, daily, or when it can not be obtained a watery solution of bicarbonate of sodium, one to two teaspoonfuls to the pint of water, was recommended. Iodid of sodium and of strontium were thought to be the best drugs, the former being best employed in the form of a saturated solution, beginning with 2 or 3 drops four times a day and increasing one drop a day until the dose reached five to ten drops four times a day. Most cases are benefited by 20 to 40 drops of the tincture of nux vomica and 1/20 to 1/30 of a grain of nitrate of strychnia at four-hour intervals. In cases where the cough is particularly distressing, 1/24 of a grain of heroin or ⅛ of a grain of codein was recommended. Forced breathing at intervals of four hours was recommended in order to more thoroughly clean out the bronchial tubes of their contents, to secure complete oxygenation and to secure complete inflation of the lungs. Attention was also directed to the importance of absolute rest, stimulation and good food, during the progress of the disease.

DISCUSSION.

DR. JAMES H. MCKEE referred to the difficulty experienced in differentiating between broncho-pneumonias following influenza and some typhoid pneumonias, and reported a case to illustrate. It began with an initiative chill, followed by high fever and a very irregular temperature, and presented all the physical signs of bronchopneumonia. On the 10th day it proved to be typhoid.

The subdivision of the bronchopneumonias, as made by Holt, was thought to be of great value, particularly with reference to the bronchopneumonias in children, as the acute congestive form would often prove fatal in these cases before any consolidation could be detected in the lungs. The speaker felt the symptomatology to be particularly deceiving in cases of bronchopneumonia following influenza, which is usually characterized by great fluctuations in the temperature, pulse and respiration. Among the most valuable physical signs were mentioned tympany and impaired breathing at the base of the lungs. Treatment of a simple character, and directed more to keeping up the vitality of the patient than to the modification of the course of the disease was recommended.

DR. SAMUEL WOLFE felt that more often was it necessary to make a diagnosis from negative than positive signs, and that diminished respiratory sounds at the bases of the lungs should always excite suspicion of this condition. While bronchial breathing was considered an ideal symptom, if present, he felt that it would be found only in rare cases.

In regard to treatment he did not approve of the deep breathing exercises in the cases where inflammation had already set in, believing that better results would be obtained by frequently changing the position of the patient, thus allowing the infected portion of the lung to keep areation properly and avoid the injurious effects of gravitation. Where the inflammation had not already developed, he felt that these forced breathing exercises might be of value in aborting the pneumonia.

DR. HOWARD S. KINNE felt that forced breathing was inadvisable, as he believed that the lungs should be kept at rest as much as possible when there is acute inflammation. Bronchopneumonia, he stated, occurred more commonly in children, while lobar pneumonia is usually found in adults.

DR. JOHN B. TURNER felt that it was a great mistake to regard the pneumonia as being confined to the lungs entirely, as he believed it was a general disease. The importance of observation for sometime after recovery in order to prevent such sequelæ as phthisis was commented on.

DR. JUDSON DALAND stated that he had never been able to conclusively demonstrate to his own satisfaction bronchopneumonia in the adult. The change of the position of the patient is of value in many instances. Forced breathing,

he thought, would act as a preventive in many instances; and any harm that might result would be more than counterbalanced by the good done to the lung.

La grippe and pneumonia render the individual more susceptible to phthisis, and, in many instances, there is, primarily, a small latent tubercular area, which, under the influence of some such disease as influenza, will become constitutional, thus calling for careful after-treatment. Cotton jackets and poultices seem to be very little used to-day with adults. Moist air is one of the most valuable therapeutic agents in these conditions, and can generally be obtained by keeping the air in the room moist.

In cases where there has been a constitutional disease and pulmonary manifestations, the neurotic element soon arises and becomes prominent. Collapse of the lung following pneumonia was thought to be frequent.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Acne.

Dr. D. W. Montgomery, in *Jour. of Cutaneous Diseases*, states that sulphur is without question our most valuable single agent in the treatment of most cases of acne. He recommends the following combinations:

℞.	Sulph. precip.	3iss	6
	Spts. etheris	3vi	25
	Alcoholis	ʒiiiss	105
M.	Sig.: Apply locally; or:		
℞.	Potassii sulphuret.		
	Zinci sulph., āā	3i	4
	Aquæ rosæ	ʒiv	120
M.	Sig.: Apply locally; or:		
℞.	Sulph. precip.	gr. xx-xl	1.20-2 | 65
	Vaselini	ʒi	30
M.	Sig.: Apply locally; or:		
℞.	Sulph. precip.	gr. xl	2 | 65
	Spts. camphoræ	3ss	2
	Liquoris calcis	ʒiv	120
M.	Sig.: Apply locally; or:		
℞.	Sulph. precip.	3ii	8
	Etheris	3iii	12
	Tinct. camph.	ʒss	15
	Spts. myrciæ	ʒiii	90
M.	Sig.: As a local application.		

Dr. Sherwell recommends the following locally:

℞.	Potass. sulphuret.		
	Zinci sulph., āā	3i	4
	Alcoholis		
	Aq. camphoræ, āā	ʒi	30
	Aq. rosæ	ʒii	60
M.	Sig.: Apply locally.		

Internally he recommends the following on account of its beneficial effect on the pelvic viscera and on lithemic conditions which are commonly present in lithemic individuals:

℞.	Quininæ sulph.	gr. xxv	1 | 65
	Mag. sulph.	ʒi	30
	Acidi sulph. dil.	3ii	8
	Tinct. nucis vom.	3ss	2
	Vini colchici		
	Ext. ergotæ flu., āā	3iii-iv	12-15
	Glycerini		
	Aq. destil., āā, q. s. ad	ʒiv	120
M.	Sig.: One dessertspoonful in water in the morning on rising and one-half that amount at bedtime.		

F. H. Beadles, in *Indian Med. Record*, states that the cause of the acne must be discovered if possible and treated. Improvement follows the reduction of meats, while a diet of milk, fruit, fish, etc., will improve most cases. The entire surface of the body, except the face, should be sponged with cold water and followed by brisk rubbing with a coarse towel.

He claims that arsenic is both useless and harmful, as well as calcium sulphid. In treating the face after rendering it aseptic, a masseeing ball should be rolled freely over the surface and the inconspicuous comedones are brought into view and removed by an extractor. A ring curette may be drawn over the surface of the lesions and their contents extracted.

Bleeding may be encouraged by hot water and the face bathed thoroughly for ten minutes before retiring with tincture of green soap and hot water. It is then wiped dry and the following applied:

℞.	Zinci sulph.		
	Potass. sulphuret., āā	3i	4
	Aquæ rosæ q. s. ad	ʒiv	120
M.	Sig.: To be applied locally at night.		

Tape Worm.

Steinbach, in *Med. World*, recommends the following in the treatment of tape worm:

℞.	Oleoresinæ aspidii	3iss	6
	Olei ricini	3iv	16
	Pulv. acaciæ		
	Sach. albi, āā	3ii	8
	Extracti kamalæ	3iss	6
	Aq. menth. pip. q. s. ad	ʒii	60
M.	Sig.: Take in the morning after twenty-four hours' fasting.		

Dr. D. R. Brower recommends the following combination:

℞.	Oleores. aspidii	m. xl	2 | 65
	Olei terebinthinæ	m. xx	1 | 30
	Spts. chloroformi	m. xx	1 | 30
	Mucil. acaciæ	3ii	8
M.	Sig.: At one dose. The patient should be instructed to fast twenty-four hours previous to taking the teniafuge and to take a strong cathartic three or four hours after taking it.		

Shoemaker advises the following combination:

℞.	Oleoresinæ aspidii	3ss	2
	Olei peponis expressi	ʒss	15
	Olei terebinthinæ	m. xxx	2
M.	Sig.: At one dose, after fasting, to be followed by a purgative.		

Acute Coryza.

The treatment of acute coryza or acute nasal catarrh should be considered from a standpoint of prophylactic, general and local treatment, according to Yeo, in *Clin. Therapeutics*. As prophylactic measures a removal or diminution of hypersensitiveness of the skin and mucous membranes. The use of the cold shower bath throughout the year or cold water applied to the head and neck on rising in the morning, thus counteracting the tendency to vascular asthenia.

Residence in a dry climate is certainly advisable. Sea bathing and sea air are of great value, especially in the chronic forms of nasal catarrh.

The author regards diaphoretics as of most benefit. Opium combined with diaphoretics is preferable and will relieve the most distressing symptoms, as follows:

℞.	Liq. opii sed.	m. x-xv	.65-1 | 30
	Vini ipecac.	m. v	
	Spts. etheris nitrosi	3i	4
	Liq. am. acetat.	3iii	12
	Aq. camphoræ q. s. ad	ʒiss	45
M.	Ft. haustus. Sig.: To be taken at bedtime.		

When opium and morphin are not well borne in small doses even, the following combination is recommended:

℞.	Spts. etheris nitrosi	3iv	15
	Liq. ammon. acet.	ʒii	60
	Potass. bicarb.	gr. xl	2 | 65
	Vini ipecac.	m. xl	2 | 65
	Aquæ camphoræ q. s. ad.	ʒviii	240
M.	Ft. mistura. Sig.: One or two tablespoonfuls every four or five hours. For children the foregoing is well adapted, given in doses of two teaspoonfuls. A combination of camphor with small doses of morphin is well borne:		
℞.	Liq. morph. acet.	m. xv	1
	Spts. camphoræ	m. x	| 65
	mucilaginis	3i	4
	Aquæ q. s. ad.	ʒiss	45
M.	Sig.: To be taken at one dose at bedtime.		

Quinin should as a rule be given after the first twenty-four hours and sooner when there is a marked fever and a feeling of depression. It is best given according to the author in an effervescing saline mixture, as follows:

℞.	Potass. bicarb.		
	Sodii bicarb., āā	3i	4
	Ammon. carb.	3ss	2
	Syr. aurantii	℥ss	15
	Aquæ q. s. ad.....	℥viii	240
M.			
℞.	Quin. sulph.	gr. xii	75
	Pulv. acidi citrici	3ii	8
	Sacch. lactis	3i	4

M. Ft. chart. No. vi. Sig.: One powder dissolved in water and mixed with one and a half ounces of the mixture and taken three times a day.

When there is much aching and general discomfort in the limbs and other parts of the body the following containing salicin is recommended:

℞.	Salicin	gr. xv	1
	Potass. bicarb.	gr. xx	1 20
	Spts. etheris nit.	3ss	2
	Liq. ammon. acet.	3iii	12
	Aq. camphoræ q. s. ad.....	℥iss	45

M. Sig.: At one dose to be taken at bedtime.

In young children, if the throat is also involved, aconite in small doses gives the best results.

When belladonna is indicated the following combination serves the purpose:

℞.	Tinct. belladonnæ	m. xl	2 65
	Potassii chloratis	gr. xl	2 65
	Syr. limonis	3iii	12
	Aquæ q. s. ad.....	℥ii	60

M. Ft. mistura. Sig.: Two teaspoonfuls to be taken every hour until relieved.

For local treatment, the following combination is recommended:

℞.	Liq. am. fortioris	3i	4
	Spts. vini rect.	3ii	8
	Acidi carbol	3i	4
	Aquæ	3ii	8

M. Sig.: Drop this mixture on some absorbent substance and inhale the vapor. The following is also of service in the earliest stage of nasal catarrh:

℞.	Pinol	3ii	8
	Camphoræ	gr. xl	2 65
	Liq. am. fort.	3i	4
	Spts. rect.	℥i	30

M. Ft. inhalatio.

As a powder to be insufflated the following:

℞.	Aluminis pulv.		
	Sodii boratis, āā	3ss	2
	Menthol	gr. 1/3	02
	Zinci tannatis		
	Bismuthi tannatis, āā	gr. xlv	2 65
	Lycopodii	3ii	8
M.	Sig.: To be insufflated into the nares; or:		
℞.	Zinci salicylatis		
	Bismuthi tannatis, āā	3i	4
	Pulv. boraci	3ss	2
	Salol	gr. xx	1 30
	Talci	3ii	8

M. Sig.: As an insufflation into the nares.

Medicolegal.

Who Liable for Medical Attendance on Minor.—The case of Leach vs. Williams, as it is entitled in the Appellate Court of Indiana, Division No. 2, was brought by the latter party against the former, as guardian of a minor, to recover for medical services rendered the minor. The record was silent as to how and for what purpose the party sued was acting as guardian. The evidence also failed to show that the minor had any estate in the hands of the guardian. On the other hand, it showed that the guardian did not have any control or custody of the person of the minor, and did not, in any manner, contribute to his support. The minor was about 17 years old, and had always made his home with his parents, who furnished him with all the necessaries and comforts of life. Moreover, it appeared that the services sued for were procured by the authority of the father of the minor, and that the guardian sued knew nothing of it. It was also clear that the services were rendered on the credit of the father, for the account was originally charged to him, and the account rendered to him. Beside, the physician recognized the liability of the father by asking him, when he rendered his bill, to render an account he had against the physician, so that they might have a settlement, which some personal difficulties between them prevented them reaching. Under these circumstances, the physician obtained a judgment against the guardian in the Circuit Court, which is now reversed by the Appellate Court, which declares the evidence wholly insufficient to support the judgment. A father, the Appellate Court says, is chargeable with the care, support and maintenance of his minor child. It has been held that where a minor child lives in the family of a relative, and the father is alive and able to support it, the guardian of the child, in the absence of any contract on his part, can not be made liable for its support. The maintenance and care of a minor child include necessary medical attendance.

Employment of Surgeon to Attend Injured Servant.—In Lithgow Manufacturing Company vs. Samuel, the Court of Appeals of Kentucky affirms a judgment in favor of the latter party, a surgeon, who brought the action to recover for services rendered to one of the company's employes, who had been seriously injured in an accident in its foundry. The issue was made as to whether the surgeon had been employed by any one authorized to represent the company in that matter. The question was submitted to the jury. A number of witnesses was heard, and, the court says, while the evidence was not as clear and conclusive as was desirable, yet it presented about such a state of case as might not unreasonably be expected, under the circumstances attending a sudden and horrible accident, endangering, probably, the life of one to whom the corporation owed certain peculiar duties as master. At such a time it is not expected that parties should stop to negotiate a formal contract. Here there was evidence to the effect that the company's superintendent and general manager authorized the employment of the surgeon, and that, subsequently, with full knowledge of the fact that he had rendered the services to the injured man, and was continuing to do so, and was expected to continue, he ratified that employment. It was true, that was denied by the superintendent on the trial. Under these circumstances, the court holds that it was one of the cases that was peculiarly in the province of the jury to decide. Continuing, the court says that it still adheres to the doctrine that an unauthorized employment of a physician or surgeon to wait on an injured servant can not bind the master for payment of the surgeon's services, although the master may have been aware that the surgeon was rendering the services. In such case, ordinarily, the court says, the master is not bound to employ a surgeon to wait on one in his employment who may be injured while engaged in his work. However, if the cause of the injury is such that the master would be liable to the servant for damages, including medical bills, because of the master's negligence in any particular, and where the master recognizes this liability and does employ medical attention, or ratifies the employment made in his name, with full knowledge of the fact that it has been so made, the court perceives no sound reason why he should not pay for them.

Negligence of Surgeon of Mutual Benefit Hospital.—The California case of Brown vs. La Societe Francaise De Bienfaisance Mutuelle was brought to recover damages alleged to have been suffered by the party suing, while an inmate of the society's hospital, from the negligent and unskilful conduct of its surgeon in setting his fractured leg. The trial resulted in a judgment for $1,550, which is affirmed by the Supreme Court of California. On the appeal no question was made by the society as to the sufficiency of the evidence to

justify the verdict as to amount, or as to the negligence of the surgeon, but the sole question was as to the liability of the society therefor. The party suing was admitted to the society's hospital for surgical treatment on the terms of paying for the operation, $50, and for a separate room, if occupied by him, $3, or, if occupying the general ward, $2 per day. The operation was performed by the surgeon in chief of the society, who was paid by the month; the amounts received from the party suing going to the society. From this statement, it is said, it was clear that the contract of the party suing was with the society, and that the surgeon was merely its servant or agent. The society, therefore, unless excepted from the general rule of respondent superior (the superior or master must answer), was liable for his negligence. But the contention of the society was that it was a charitable institution, and that, as such, in the absence of allegation or proof of negligence in their selection, it was not liable for the negligence of its servants. In support of the legal proposition thus presented numerous authorities were cited, and, it is said that, though the proposition is not altogether undisputable, either on principle or authority, it might, for the purposes of the decision, be assumed to be correct. As to the remaining question, as to the alleged charitable character of the society, it appeared, from its by-laws, dated May 10, 1854, that it was originally organized as a voluntary association, but was afterwards incorporated by the filing of a certificate of election of trustees June 7, 1854, and on May 5, 1895, new by-laws were adopted. From these it appeared that "the society is established on the basis of mutuality for the treatment of sick members," or, as more specifically provided, for the purpose of securing to its members (without payment otherwise than of dues), medical and surgical treatment, including the services of its physicians, surgeons, apothecaries, dentists, nurses, etc., and also medicines. Nor was there found in it any provision for assistance to others except to paying patients, or sick persons, not members, admitted to treatment for agreed compensation. It was, therefore, it is held, merely an association for mutual profit or benefit, similar in its essential nature to other societies formed for such purposes. Assuming that it was within the powers of the society to adopt the new by-laws, the original by-laws must be regarded as superseded by the latter and, therefore, as immaterial to the question involved, which was as to the present character of the society, though it is stated that the conclusion would be in no way affected were the society still operating under its original by-laws. These, indeed, permitted, and even contemplated, the exercise of charity as one of the aims of the society; but there was nothing in them requiring the application of the funds of the society to such purposes; nor could the funds contributed by the members be regarded otherwise than as, beneficially, their own property. A contention that the surgeon was a sub-agent, appointed by the society as agent of the party suing and, therefore, the agent of the latter, is declared to be without merit.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

March 7.

1 *Tropical Diseases. Charles F. Kieffer.
2 *The Ductless Glands as Organs of the First Importance in Vital Functions, and Their Relationship as Such to Disease and Therapeutics. Charles E. de M. Sajous.
3 *Gangrenous Destruction of the Pituitary Body, with Disintegration of the Blood, following a Fracture of the Sphenoid Bone and Subsequent Infection. Eugene Wasdin.
4 *Surgical Affections of the Biliary Tracts. John B. Deaver.

1. **Tropical Diseases.**—The points noticed in this lecture by Kieffer are the parasites, *Trichuris trichuria (Tricocephalus dispar)*, which seems to be very common, though not ordinarily producing serious symptoms; ascaris, which is much more common in the tropics than in the temperate regions, and gives rise to considerable trouble there as here. The main part of his lecture, however, is on the distribution and the symptoms of uncinariasis, diagnosed by ova in the feces. He cautions against using solvents of thymol after giving this drug, as fatal cases of poisoning have occurred. Alcohol, ether, glycerin and most oils act as solvents and should be avoided. Castor oil is a purgative which should be avoided in these cases and saline purges used instead.

2. **Ductless Glands and Their Importance.**—This article by Sajous is one which has received considerable attention in the newspapers. He thinks the adrenals have a most important vital function in blood oxidation and that the anterior pituitary body governs their function, they being connected through the sympathetic system. All general symptoms witnessed in disorders in which the blood is invaded by a poison of any kind are, in reality, manifestations of overactivity insufficiency or inactivity of the adrenals. The thyroid gland is also functionally interdependent with the pituitary bodies and adrenals. Together they constitute what he calls the "adrenal system." The organic compound or oxidizing substance which forms in the lungs from loose combination of the internal secretion of the adrenals with oxygen, he calls adrenoxin. A considerable portion of his paper is given up to the discussion of the functions of the leucocytes, which he finds are chiefly active in this oxygenation of the blood, the red corpuscles simply being carriers. The general conclusions as to leucocytes are given in the following:

1. Neutrophile leukocytes form:
Peptones, which combine with adrenoxin to sustain general metabolism, i. e., the vital process.
Myosinogen, which combines with adrenoxin to supply contractile energy to muscles.
Fibrinogen, which combines with adrenoxin to supply heat energy to the blood.
2. Eosinophile leukocytes form:
Hemoglobin, which loosely combines with adrenoxin to insure its storage in erythrocytes.
3. Basophile leukocytes form:
Myelin, the active principle of which, lecithin, combines with adrenoxin to develop nervous energy.

He also has a theory as to pancreatic secretion and the action of the posterior pituitary body as the general center of the nervous system governing metabolism. The latter part of his article is given up to the application of these principles to the pathology of certain diseases, fevers, tuberculosis, etc.

3. **Gangrene of the Pituitary Body.**—Wasdin reports a case in which, after fracture of the inferior maxilla, there were severe general symptoms of jaundice, high temperature, blood disintegration, etc. On autopsy it was found that the trouble was confined largely to the base of the brain, particularly to the contents of the sella turcica, the pituitary body. He was unable to diagnose the condition during life, and discusses it in relation to Dr. Sajous' theories. He says the acceptance of the influence of this hitherto obscure ductless gland, through the cervico-sympathetic system, on the secretion of the more well-known adrenal glands, and of the value of the adrenal secretion in the preservation of the intergrity of the blood, readily explains the puzzling facts in this case without the necessity of seeking the source of a sufficiently virulent toxin to have caused them.

4. **Surgical Affections of the Biliary Tracts.**—Deaver reviews the various surgical disorders of the biliary tracts, calculus, chronic catarrh, etc., of the gall bladder.

Medical Record, New York.

March 7.

5 *Radio-praxis. Henry G. Piffard.
6 *Feeding in Early Infancy—Home Modification of Milk. Joseph E. Winters.
7 *Plastic Artificial Vitreous in Mules' Operation. E. L. Oatman.
8 *Clinical Results with Antistreptococcus Serum in Scarlet Fever. Louis Fischer.

5. **Radio-Praxis.**—Piffard first calls attention to the fact that he, twenty-five years ago, employed sunlight for therapeutic purposes, using the whole spectrum, in other words, simply burning out the lesions. He then notices the history of the Finsen treatment and the Roentgen discovery, and points out the differences between the *x*-ray and ultra-violet rays and describes the apparatus used, especially for the latter. He is inclined to think that much of the good effects reported of the *x*-rays on malignant tumors can be just as well, if not better, accomplished by curettage, incision, actual cautery,

caustics, etc. There are many cases where surgeons will hesitate to use the knife, and with these the *x*-ray apparatus should be tried. The action of blue-violet rays on tuberculosis seems to be a genuine one, according to Piffard's observations. A number of points still needing further elucidation as regards the action of ultra-violet rays on cutaneous disorders are as to whether they are as effective as the *x*-rays; the tension that is required for generating them; the relative value of a spark from a coil or static machine, etc. In conclusion, he notices, particularly, the effects of radioactive substances, such as pitchblende, which seems to have many of the bad effects of the *x*-rays, though it is by no means certain that they are exclusively of this character.

6. **Infant Feeding.**—Winter's article is a lengthy one. He insists on the importance of nursing early in the infant's life, both for the mother and the child, but holds it manifest that the protraction of lactation to eight to ten months is not according to nature. The poorer classes, he thinks, should not be counseled to wean at the end of the second month for economic reasons, owing to the difficulty of securing pure, fresh, sweet milk, but, even with them, nursing should not be extended beyond five to six months. A child born in the spring should be weaned in the autumn, and one born in the autumn should be weaned before the summer. He gives directions as to the preparation of milk as a substitute for mother's milk, and a full series of formulas for each period in the infant's life up to the end of the year, and also the home modification of bottled milk during the summer months.

7. **Paraffin in Ophthalmic Operations.**—Oatman describes the method of using paraffin employed by him in a case to make a proper stump after Mules' operation. He offers the following as his "immature" conclusions from three cases in his experience:

When fistula follows the Mules' operation it will close spontaneously if a sufficient quantity of the artificial vitreous can be removed. That which remains will form a good support for an artificial eye.

Paraffin used for this purpose is prone to produce fistula by softening and getting between the lips of the wound, or into the track of a suture. These accidents are to be avoided by using paraffin, or some modification thereof, that will not soften at body temperature; also by so suturing the scleral wound that no aperture remains through which paraffin can exude.

A plastic material like paraffin will adapt itself to any inequalities on the surface of the glass shell, and ulceration from pressure is not apt to occur.

Paraffin beads are easily prepared, and may be used in special cases in which glass beads of the required shape or size are not obtainable.

8. **Anti-Streptococcic Serum.**—Fischer gives the results of his observations of the Baginsky method of treating scarlet fever, reporting two cases. He thinks it is too soon to formulate definite conclusions based on such limited experience, but the clinical results were striking. The effect of the serum on the temperature shows that it did inhibit bacterial products and the disappearance—almost melting away—of necrotic membranes after the fourth day is another striking fact. The swollen glands of the neck also subsided. A vital point consisted in a strengthening diet in addition to strict hygiene.

Medical News, New York.

March 7.

9 *Periduodenal Abscess Secondary to Ulcer of the Duodenum. William S. Bainbridge.
10 Mosquito Extermination in New York City. George A. Soper.
11 Some Practical Suggestions on Mosquito Extermination in New Jersey. Henry C. Weeks.
12 The Sanitary Aspect of the Mosquito Question. John B. Smith.
13 *The Symptomatology of Tabes: An Analysis of 140 Cases of Locomotor Ataxia. Joseph Collins.

9. **Periduodenal Abscess.**—Bainbridge reports a case and gives an epitome of the literature of this rather rare condition. He finds that altogether, including the case here reported, twenty-six are on record; twenty-two died undiagnosed; in two operation was performed, and in one a cure was obtained. The duodenum, though a deeply seated and fixed organ, is really in greater danger in its close relationship to the spine and right kidney than some others more superficially placed. He shows from the anatomy of the parts how an ulcer perforating the walls may give rise to simulation of appendicitis by following down the ascending colon. The most frequent symptoms are vomiting, pain, tenderness and resistance in the epigastric and right hypochondriac regions, constipation or obstipation, and sudden onset or shock. Melena or hematemesis are not common. There is little elevation of temperature unless complications arise, such as peritonitis, pleurisy, cholecystitis, stomach perforation, etc. It occurs most frequently in the male. The following should be specially thought of in connection with this disease, empyema, pleurisy with effusion, cancer of the pylorus, of the liver, pyopneumothorax, hydatid cyst, liver abscess, intestinal obstruction, gall-bladder disease and appendicitis, the latter being the most frequent condition simulated. The diagnosis is always difficult. Leucocytosis may be of some value. If there has been an indication of ulcer, like pain in the stomach two to six hours after eating, tenderness to the right of the twelfth dorsal vertebra, vomiting, especially of blood, and if sudden severe pain with increasing vomiting and collapse appear, operation is imperative.

13. **Tabes.**—Collins describes the various types, including the neuralgic, the sympathetic nervous type with vesical symptoms, crises, and arthropathies, the type in which optic atrophy develops early, cervical or high tabes, the slow appearing and the rapid appearing type. He is not quite sure whether a cerebral type should be included, not paresis, and is inclined to think that it should be. Illustrations are given of each of these, and an analysis of the initial symptoms in 126 cases. Pain was not so frequent as generally supposed by other observers, though it occurred in about 40 per cent. of the cases, and during the course of the disease in about 90 per cent. Paresthesia is one of the commonest symptoms, nearly as constant as pain, and present in 73 per cent.; girdle sensation in 30 per cent., or 45 per cent. altogether. Tactile sensory disturbances appeared in about 67 per cent.

American Medicine, Philadelphia.

March 7.

14 *The Technic of the Operation of Celiotomy as Practiced at the Gynecean Hospital, with the Report of 93 Consecutive Celiotomies without a Death. Henry D. Beyea.
15 *The Treatment of Suppurative Inflammation of the Kidneys. Frank Warner.
16 *Direct Fixation in Fractures. George W. Guthrie.
17 Aneurism of the Descending Aorta Displacing the Heart. Charles F. Beeson.
18 *Communicated Insanity or Psychic Infection. J. W. Wherry.
19 *Briefs on Physical Training. G. Frank Lydston.
20 The Ill Health of Herbert Spencer. George M. Gould.

14. **Celiotomy.**—Beyea describes in full detail the methods employed by the Gynecean Hospital, Philadelphia, and their results in 94 consecutive unselected cases, including hysteromyomectomy, the various operations on the appendages, panhysterectomy, operations for appendicitis, uterine displacements, gastric derangements, tuberculous peritonitis, etc. There was but one death, and that the result of a far advanced sarcoma of the uterine parenchyma involving all tissues to the pelvic bone. In none, regardless of the character of the disease, was there any suppuration of the abdominal incision, or hemorrhage in the tissues or other complication. Intestinal injury was repaired in five cases and recto-abdominal fistula in one. With the one exception all the patients recovered completely.

15. **Kidney Suppuration.**—Warner gives his experience with kidney suppurations, and holds there are many cases in which a very mild grade of pyelitis exists, curable by the timely administration of urinary antiseptics and by a judicious tonic course. The diagnosis is not always clear, but operative treatment is indicated absolutely only in prolonged cases with emaciation, hectic, etc.

16. **Fixation in Fractures.**—Guthrie advocates the direct fastening of fractures, and quotes a limited number of cases where it has been successfully employed. He also reports a case of his own observation of fracture of the olecranon treated under the ordinary home conditions in this manner with success. He does not hesitate about treating cases where operation is imperative, in the homes of the patients, using the commonsense means of disinfecting and sterilizing, including the use of rubber gloves, and not always subjecting the patient to the inconveniences and suffering of rushing them off to the hospital in order to get clean surgery.

18. **Communicated Insanity.**—A number of cases are reported by Wherry where one patient has communicated his or her delusion to another, usually brothers and sisters, though there was one case where it was communicated from husband to wife. He calls attention to the peculiar religious character of the delusions in the cases reported, and thinks it is only a few steps from the ordinary beliefs of religious faith to insane delusions in morbidly constituted individuals. He considers that the factor of heredity is, perhaps, overestimated in these cases.

19. **Physical Training.**—Lydston describes the effect of physical over-strain by myocardial degeneration, renal disease, emphysema, aneurism, general myasthenia and hernia. He speaks of the bad effects of a tight belt, restricting the abdominal muscles at a time when all the other muscles are having full play, and the dangers of alcohol and tobacco to athletes. He would taboo competitive athletics as ordinarily understood, though he admits its impracticability.

New York Medical Journal.

March 7.

21 *Some Scientific and Practical Aspects of Vaccination. P. H. Bryce.
22 *The Present Method of Medical School Inspection in New York. Charles Herrman.
23 *Uterine Inertia: Its Causes and Treatment. James Moran.
24 *Incomplete Transverse Congenital Occlusion of the Vagina, and a Theory as to Its Origin. Samuel M. Brickner.
25 *Expression of the Lid Margin as a Therapeutic Measure in Blepharitis and Its Complications. Percy Fridenberg.
26 The Detection of Renal and Vesical Calculi by Means of the X-Rays. Henry P. Moseley.
27 A Case of Abnormal Temperature. Lucien Lofton.

21. **Vaccination.**—Bryce holds that the official opinion is crystallized into the following conclusions: 1. Either that official supervision of the products of vaccine establishments by either state or federal officers is imperatively demanded; 2, or that the production in state or federal vaccine establishments of adequate supplies of vaccine of established quality, to be sent out free, or at cost, to municipalities, has become a necessity. He remarks that the capital and competition of large commercial houses supply and maintain a standard of excellence which, perhaps, individual states could not reach, but he thinks that public vaccinators should be appointed, whose experience will lead them to accept only standard reliable vaccine material and prevent the accidents which have injured the credit of this prophylactic measure.

22. **School Inspection.**—Herrman describes the methods at New York. There are eighty school inspectors for the Borough of Manhattan, each with 4,000 to 5,000 scholars to inspect. The class rooms are visited and each pupil examined once a week. Lists of pupils who have been absent on account of sickness are obtained; they are visited, and the character of the disease determined. The pupils are taught to use separate pencils and penholders. Children presenting symptoms of a contagious disease are immediately attended to and are visited by the district medical inspector, who advises when they are ready to return to school.

23. **Uterine Inertia.**—The causes of this condition and the dangers to the mother and child are noticed by Moran, who gives the treatment of the various special conditions. If, from excessive uterine distension, the membranes should be punctured and the excess of water allowed to escape, he does not use ergot, but prefers instruments, considering them a less risk in primary inertia. In primary inertia, from rigidity of the cervix, he usually gives chloral and morphin hypodermically, which tends to relax the os and soothe the patient. In some cases he uses local cocain applications. When the os is well dilated, strychnia sulphate 1/40 to 1/30 of a grain hypodermically, repeated in two hours, if necessary, and a little alcoholic stimulation. In secondary uterine inertia, he advises rest, a few hours of sleep, after which the pains will usually return with sufficient frequency and force to complete labor within a reasonable time.

24. **Transverse Occlusion of the Vagina.**—The following are Brickner's conclusions:

1. Transverse septa of the vagina are rare, occurring in about one in 5,000 cases, about .002 per cent.
2. They are derived from an inclusion by Müller's ducts of cells from the Wolffian duct or ducts after the formation of the genital cord, and are, therefore, epiblastic in origin.
3. Their perforation is proof of the normal conduct of Müller's ducts in all other respects.
4. Transverse septa of the vagina, being normal in adult sheep, whales, dugongs, the manatee, and the chimpanzee, they represent in the human being a reversion, "a return to an ancestral type." Their function is purely speculative, but may have to do with the facilitation of conception; and when they appear in the human female may have a similar purpose, in harmony with other minor defects of development.
5. The treatment of this condition is excision of the septum with suturing of the cut edges. In unmarried women no treatment is necessary. If the septum is first seen early in pregnancy, it may be excised; if during labor, a crucial incision will be sufficient, with subsequent removal of the septum. The prognosis for the child is usually bad unless the septum is incised early or unless it is not too strong to be burst by the advancing head; for the mother, it may result in serious lacerations or fatal hemorrhage.

25. **Blepharitis.**—Fridenberg calls attention to the utility of expression of the lid margins in blepharitis as a method of treatment and prophylaxis, and reports cases. He does not think it has a specific action or urge its use to the exclusion or neglect of other methods, but thinks it is a valuable aid that has been too much neglected.

Boston Medical and Surgical Journal.

March 5.

28 *A Research into the Means of Controlling the Blood Pressure. George Crile.
29 *On Routine Determination of Arterial Tension in Operating Room and Clinic. Harvey Cushing.
30 *Cyto-diagnosis: A Study of the Cellular Elements in Serous Effusions—A Preliminary Report. Percy Musgrave.
31 *Intestinal Obstruction Below the Ileocecal Junction. (Concluded.) Thomas H. Manley.
32 Symptoms Simulating Appendicitis Caused by an Intra-abdominal Band. James A. Keown.

28. **Blood Pressure.**—Crile considers the conditions of diminished blood pressure, shock and collapse, points out the value of adrenalin in these cases, and summarizes as follows:

In many instances the control of the blood pressure is synonymous with the control of life itself. Surgical shock is an exhaustion of the vaso-motor center. Neither the heart muscle, nor the cardio-inhibitory center, nor the cardio-accelerator center, nor the respiratory center, are other than secondarily involved. Collapse is due to a suspension of the function of the cardiac or of the vaso-motor mechanism. In shock therapeutic doses of strychnin are inert; physiologic doses are dangerous or fatal. If not fatal, increased exhaustion follows. There is no practical distinction to be made between external stimulation of this center, as in injuries and operation, and internal stimulation by vaso-motor stimulants, as by strychnin. Each in sufficient amount produces shock, and each, with equal logic, might be used to treat the shock produced by the other. Stimulants of the vaso-motor center are contraindicated. In shock cardiac stimulants have but a limited range of possible usefulness, and may be injurious. In collapse, stimulants may be useful because the centers are not exhausted.

Saline infusion in shock has a limited range of usefulness. In collapse it may be effective. The blood tolerates but a limited dilution with saline solution. Elimination takes place through the channels of absorption. Its accumulation in the splanchnic area may be sufficient to fix the diaphragm and the movable ribs, causing death by respiratory failure. Saline infusion in shock raises, but can not sustain, the blood pressure.

Adrenalin acts on the heart and blood vessels. It raises the blood pressure in the normal animal; in every degree of shock; when the medulla is cocainized, and in the decapitated animal. It is rapidly oxidized by the solid tissue and by the blood. Its effects are fleeting; it should be given continuously. By this means the circulation of the decapitated dog was maintained ten and one-half hours. In excessive dosage there is a marked stimulation of the vagal mechanism. Due caution must be exercised.

The pneumatic rubber suit provides an artificial peripheral resistance without injurious side effects, and gives a control over the blood pressure within a range of from 25 to 60 mm. mercury. By the combined use of artificial respiration, rhythmic pressure on the thorax and adrenalin injected into the jugular vein, animals which were apparently dead as long as fifteen minutes were resuscitated.

The suit referred to is made of a double layer of specially constructed rubber and, when inflated, gives a uniform pressure on the surface, producing an artificial peripheral resistance, thus preventing "intravenous hemorrhage" in and exhaustion of the vaso-motor center.

29. **The Routine Determination of Arterial Tension.**—The value of blood-pressure observations, especially in conditions of shock and in operative procedures, is insisted on by Cushing. It is especially when the central nervous system is involved in operations that they are of most value. Also in abdominal surgery there is a great field for them owing to the importance of the sphlanchnic vascular territory.

30. **Cyto-Diagnosis.**—The technic of cyto-diagnosis in serum is described, the formulæ, and the methods in various conditions such as pleurisies are noted in detail. A number of cases is also reported. Musgrave says he can state without

hesitation that the descriptions given by Widal and other observers have been accurate so far as his knowledge is concerned. He thinks the procedure will be found of clinical value after more thorough observation and study.

31. **Intestinal Obstruction.**—In this concluding lecture Manley describes the operative treatment, formation of an artificial anus, resection with anastomosis, etc. He notices the dangers of various surgical procedures and the importance of early operation where possible. The male subject is notoriously less tolerant of intraperitoneal exposure and manipulation than the female. Resection with anastomosis is the ideal procedure when the condition of the patient and the character of the lesion justify it. The risk of peritoneal contamination and the need of precision of technic are especially emphasized. In the rectum, cancer and luetic strictures most frequently call for surgical relief. The first and safest method is an enterostomy of the sigmoid above the pubis. This side-tracks the fecal current, and relieves urgent symptoms. The second is sacral resection in the male, or vaginal in the female, both of these contemplating the removal of the growth and rectal anastomosis. The last method involves a laparotomy as well as a section from below, and then drawing the third segment of the sigmoid down into the hiatus as a substitute for the displaced rectum, or after the diseased rectum is removed, establishing a left flank anus by the free, open end of the sigmoid. The difficulties of this operation are mentioned. Some of the operations depicted in the illustrations we meet are not only, he says, impracticable on the living, but impossible on the cadaver. The artist is usually innocent of any knowledge of anatomy or pathology.

St. Louis Medical Review.

March 7.

33 Report of a Case of Retroflexion of the Gravid Uterus. E. W. Saunders.

Cincinnati, Lancet-Clinic.

March 7.

34 Materialism vs. Spiritualism. H. V. Sweringen.
35 Tuberculosis—Sanitation. H. H. Spiers.
36 Surgery of Prostate, Pancreas, Diaphragm and Spleen—Surgery of Pancreas. (Continued.) B. Merrill Ricketts.

Pennsylvania Medical Journal, Pittsburg.

February.

37 Address in Hygiene, Medical Society of the State of Pennsylvania. Edgar M. Green.
38 Address in Surgery. George D. Nutt.
39 *A Case of Gunshot Wounds of the Stomach, Liver, Lung and Head—Operation—Recovery. G. W. Wagoner.
40 The Treatment of Spina Bifida. Wm. V. Laws.
41 The Necessity of Prompt Interference in Strangulated Hernia. Edmund W. Holmes.
42 The Practical Side of Electro-thermic Hemostasis. A. J. Downes.
43 The Roentgen Treatment of Malignant Disease. Charles L. Leonard.
44 *The Treatment of the Insane in Private Practice. F. Savary Pearce.

39. **Gunshot Wounds.**—Wagoner reports a case in which a man was shot in the chest and head and it was found that the liver, lungs and stomach were involved. The special point of interest was the similarity of the abdominal wound to that of President McKinley, but it was more severe in that the liver and lungs were perforated and excessive hemorrhage occurred. In spite of embarrassment on account of religious prejudice, etc., and the very extensive operation and the incisions required, the patient recovered. Death seems to have been prevented at the critical point, by transfusion with normal salt solution. The stimulating and sustaining effects of the enemas of black coffee are also noted as of interest.

44.—See abstract in THE JOURNAL, xxxix, p. 857.

American Gynecology, New York.

January.

45 Report of a Case of Chorioma. H. S. Crossen. Pathologic Report. C. Fisch.
46 *The Surgical Treatment of Pancreatic Cysts, with Report of Two Cases. A. Morgan Cartledge.
47 *Uretero-ureteral Anastomosis. George Ben Johnston.
48 *Movable Right Kidney and Chronic Appendicitis. Walter P. Manton.
49 Presidential Address, Southern Surgical and Gynecological Association. W. E. B. Davis.
50 A Case of Cholecystectomy and Nephropexy. J. Shelton Horsley.
51 Atypical Cases of Ectopic Gestation, Illustrating the Difficulty in Diagnosis. Egbert H. Grandin.
52 The Early Diagnosis and Consecutive Treatment of Fibromyomatous Tumors of the Uterus. Leora G. Bowers.
53 A Critical Review of the Discussion on Hysterectomy for Puerperal Sepsis at the Fourth International Congress of Obstetrics and Gynecology in Rome, September, 1902. Hiram N. Vineberg.

46.—Ibid., p. 1338.

47. **Uretero-Ureteral Anastomosis.**—Johnston reports a case operated on by a modified Van Hook operation with good success.

48. **Movable Right Kidney and Appendicitis.**—The points emphasized by Manton are: 1. With obscure abdominal conditions, even without discoverable pelvic disorder, a diagnosis should not be attempted until movable kidney and appendicular disease can be excluded by careful abdominal palpation. 2. When nephroptosis and appendicitis are present, operations on the uterus and adnexa alone will not be followed by cure of the patient unless one or both of these conditions have also been removed. The conditions present will govern the question of anchoring the kidney and removal of the appendix together. In movable kidney of the first degree ablation of the appendix alone will generally be all that is necessary. In prolapse of the second degree both operations may be necessary according to the severity of the symptoms, and in the third degree both the appendix and the kidney should receive attention. If the appendicitis is of a mild type and the nephroptosis marked, generally the mere fixing of the kidney to the lumbar wall will, by restoring the circulation in the appendix, cause the latter to resume its normal position or at least will result in a cessation of symptoms.

Annals of Surgery, Philadelphia.

March.

54 *Neurofibromatosis of the Nerves of the Tongue (Macroglossia neurofibromatosa) and of Certain Other Nerves of the Head and Neck. Francis C. Abbott and Samuel G. Shattock.
55 *Report of Sixty Cases of Actinomycosis. R. von Baracz.
56 Extradural Hemorrhage from Rupture of the Middle Meningeal Artery. John H. Jopson.
57 New Instruments for the Treatment of Esophageal Stricture. Theodore Dunham.
58 Knife-Blade Removed from Lung. James F. Baldwin.
59 *Acute Yellow Atrophy of the Liver as a Sequela to Appendectomy. Max Ballin.
60 *Primary Retroperitoneal Solid Tumors. Richard Douglas.
61 *Closure by Suture of Intestinal Perforations Complicating Typhoid Fever. F. Tilden Brown.
62 *Note on the Frequent Great Disparity between Falls upon the Buttocks and the Subsequent Persistent Pain and Irremediable Helplessness in Persons in Advanced Years. Oscar H. Allis.
63 Hygroma and Fibroma of the Tuber Ischii Bursæ. Emanuel Friend.
64 Blank-Cartridge Wound Infected with Tetanus Bacilli; Prompt Excision; No Tetanus. John B. Bain.
65 *Dislocation of Individual Carpal Bones, with Report of a Case of Luxation of the Scaphoid and Semilunar. William Hessert.
66 *The Treatment of Infantile Spastic Paralysis. Robert Jones.

54. **Macroglossia Neurofibromatosa.**—The case reported by Abbott and Shattock, though put under the head of macroglossia in which it clinically falls, has nothing in common with the ordinary lymph or hemangiomatous form of the disease, and requires differentiation by such title as here given. The case is carefully reported and the literature briefly discussed.

55. **Actinomycosis.**—Von Baracz finds that actinomycosis is produced solely by the *Streptothrix actinomycotica*. He discredits the theory that the disease enters through decayed teeth. They favor the occurrence, however, by making softened and swollen gums an easy entrance. The fungus rarely develops in the mucous membrane of the mouth itself; it wanders toward the surface of the body, and develops either in the region of the angle of the lower jaw or lower in the neck. The bones are never primarily affected in actinomycosis of the jaws. The central bone forms of Poncet do not exist. His first cases were treated by operation, consisting of curettement and extraction of teeth. By hypodermic injections of irritants like tincture of iodin, and 20 per cent. solutions of silver nitrate, he was able to produce a connective tissue wall around the softening area, and in this manner he was able to cure his last 9 cases without any operative interference. When it attacks the thorax or the lungs the prognosis is unfavorable. In abdominal actinomycosis the fungus always enters the body

through the mucous membrane of the alimentary tract with vegetable bodies, which usually lodge in the region of the cecum or appendix. In these cases the prognosis is good only if the disease is limited; if, however, the prevertebral tissue, liver or the portal veins become involved, it is very bad. Von Baracz considers that only one form of fungus produces this condition. It is easily diagnosed microscopically and may be even possible to diagnose macroscopically with some degree of certainty.

59. **Acute Yellow Atrophy of the Liver.**—Ballin reports a case with favorable outcome and rather favors the theory that the disease is due to the action of chloroform rather than infection, though he points out that in all cases there was an inflammatory condition pre-existing. As a prophylactic he would advise against the prolonged use of chloroform whenever alcohol or some long chronic ailment has caused catarrh of the liver ducts, especially when we have to do with inflammatory visceral conditions. The narcosis may be begun with chloroform, but ether should soon be substituted. In the case of malignant jaundice, the chances are unfavorable. Success in his case he attributes to venesection and subsequent intravenous saline infusion.

60. **Primary Retroperitoneal Solid Tumors.**—The tumor in the case reported by Douglas was a lipomyxoma with a round-celled sarcomatous base, weighing fourteen and one-half pounds. The varieties, etiology, pathology, etc., are discussed. He remarks that the prognosis in the innocent forms is ultimately as grave as in sarcoma, the disturbances from pressure finally bringing about death from marasmus, and the change to malignancy should be considered. Operative results have been in some cases successful as in the one here reported. The contra-indications are pronounced cachexia, metastasis, and manifest universal attachments. After opening the abdomen the condition may be found inoperable. The dangers present, especially in removal of these encapsulated tumors, are hemorrhage and necrosis of the intestine or parietal peritoneum. If the intestinal circulation is impaired, resection of the gut may be required. Drainage must be provided, and is usually best obtained through the loins.

61. **Typhoid Perforation.**—In the one of the three cases here reported by Brown that recovered there was a faint omental agglutination occluding a very recent perforation, and this suggests to him the possibility of intestinal immobilization as advocated by Ochsner, rigorously observed, bringing about a natural instead of a surgical closure of the lesion. He does not wish, however, to be understood as opposing surgical measures, but where it is delayed or absolutely refused, the necessity of using every possible recourse to aid nature.

62. **Hip Injuries in the Aged.**—Allis calls attention to severe symptoms occasionally occurring from very slight falls on the buttocks. He notices the several theories to account for them, such as, 1, osteophytes springing up about the injured joints. He found this condition in one of his patients. 2. Concussion of the joint. 3. The sciatic nerve may be injured. He has no facts, however, to support this last theory nor another one as to tearing of the ligamentum teres. If the pain persists after one or two months, operation may be advisable and is warranted provided the age and strength of the patient permits.

65. **Carpal Dislocation.**—Hessert calls attention to the probably more frequent occurrence of these injuries than has been generally considered, and gives an analysis of the reported cases.

66. **Treatment of Infantile Spastic Paralysis.**—This gives in substance the same general ideas as the article abstracted by us in THE JOURNAL of March 7, p. 677, from the *Lancet*.

American Journal of the Medical Sciences, Philadelphia.

March.

67 *Metastatic Carcinoma of the Chorold, with Report of a Case and Review of the Literature. E. L. Oatman.
68 A Report of Cases of Anemia, with Observations upon Their Symptoms and Morphology of the Blood. J. Allson Scott.
69 *A Case of Banti's Disease, with Diffuse Productive Nephritis. Cyrus W. Field.
70 *Articular Rheumatism and Some Allied Conditions. Alfred Stengel.
71 Two Cases of Complete Bilateral Duplication of the Ureters. A. H. Gould.
72 Aphasia in Acute Disease, with Report of a Case Complicating Smallpox. Charles J. Aldrich.
73 *The Clinical Value of Blood Pressure Determinations as a Guide to Stimulation in Sick Children. Henry W. Cook.
74 *Malarial Fever in Texas: The Financial Loss Arising from the Disease, and Its Prevention. Albert Woldert.
75 *Upon the Association of Epilepsy and Heart Disease. T. L. Chadbourne.
76 *Hydatiform Mole: With a Report of Two Cases and Clinical Deductions from 210 Reported Cases. Palmer Findley.
77 *Entrance of Air into the Veins—A Reply to Dr. Hare. Malcolm Goodridge.

67. **Carcinoma of the Choroid.**—After a carefully reported case, Oatman discusses the general appearances of this condition, briefly reviewing the principal cases on record. He finds that the literature yields thirty cases which may be considered genuine. It usually occurs early in middle life. The primary growths are mainly in the breast, though other organs may be primarily involved. This excessive incidence of breast cancer is the cause of the greater number of females affected with choroidal carcinoma. The theory that the left eye is the most frequently invaded is not supported by his statistics, and both eyes have been involved in one-third of the cases. The deposit always occurs posteriorly, near the point where a short ciliary artery enters the globe, and appears in the corresponding region of the second eye when the latter is attacked, indicating that the second eye is not invaded by way of the lymph channels of the optic nerve and chiasm. The typical shape is a flat discoid thickening of the choroid with a central elevation, sloping off to the periphery. The eye symptoms rapidly progress until the destruction of vision in two to eight weeks due to the early and extensive retinal detachment. The tension is increased in about one-third of the cases and diminished or normal in over two-thirds. The average duration of life after eye symptoms appear is six and one-half months. He gives in parallel columns the distinctive points between sarcoma and carcinoma. The condition is hopeless. He does not advise operative interference as it may hasten the death.

69. **Banti's Disease.**—Field's article describes a case and discusses the condition, ending with the following conclusions:

1. There are four conditions, more or less closely related, which may be distinguished as follows: Enlargement of the spleen with anemia and the later development of a cirrhotic process in the liver may be separated from cirrhosis of the liver, with secondary enlargement of the spleen, by the fact that in the latter condition the spleen never attains the size that it does in the former. Both these conditions may be separated from splenic anemia and primary splenomegaly by the presence of the cirrhosis of the liver, while these two latter conditions may only be differentiated from one another after a microscopic examination of the spleen.
2. The case here reported should be placed among those cases termed "Banti's disease" for three reasons: (*a*) The very great enlargement of the spleen; (*b*) the presence of a cirrhotic process in the liver; (*c*) the fact that the enlargement of the spleen was due to a general hyperplasia, but more especially of the connective tissue.
3. The present case, exhibiting an advanced chronic productive nephritis, somewhat extends the scope of the pathologic anatomy of Banti's disease. Speculation as to the etiology of the disease seems at present premature, but the increasing recognition of the occurrence of transitional cases connecting together Banti's disease, splenic anemia, and diffuse cirrhosis of the liver suggests an origin from a common cause emanating from the gastrointestinal tract.

70. **Rheumatism.**—Three cases of mild acute rheumatism, one of subacute, one of neuritic affection of the peripheral nerves, together with one of rheumatic arthritis are described by Stengel. He considers the latter disease partly nervous and partly rheumatic. He thinks the history of the cases of this condition indicates deterioration of the nerve force and loss of vitality and is entirely compatible with the theory of primary changes in the nervous system as constituting its pathology. The microbic theory of rheumatism is thought by him not worth serious consideration.

73. **Blood Pressure Determination.**—Cook gives the results of blood pressure determination in sick children and calls attention to the importance of this method as an indication for stimulant treatment. There is no reason, he thinks, why a blood pressure chart should not be kept as well as one for the temperature or pulse where a trained nurse is employed. He does not make it take the place of other signs and symptoms, but simply insists that the accurate estimation of arterial tension furnishes additional aid to stimulant therapy.

74. **Malaria.**—Woldert reports the conditions in Texas favoring malaria. The anopheles are exceedingly numerous and he gives figures showing the financial burden which malaria is on the state. For destroying the larvæ of mosquitoes he finds a strong solution of tobacco and kerosene oil, one pound to ten gallons, most efficient.

75. **Epilepsy and Heart Disease.**—From a careful study of the subject, Chadbourne concludes that there is nothing to show to his satisfaction that there exists a direct connection between the vascular lesions and epilepsy. The administration of digitalis where it seemed indicated, did not apparently have any appreciable effect on the attacks. In no case was there any noteworthy improvement in the condition of the heart and the increasing severity of the heart disease did not seem to affect the attacks. It is, therefore, more than doubtful that the occurrence of heart lesions in epilepsy is anything more than a coincidence. At least the verdict of "not proven" must stand for the present. In senile cases, the evidence from the literature seems a little stronger, but his own observation is not supporting, and for satisfactory proof that the cardiovascular disease is the cause of epilepsy, we must adhere to the postulates of Stintzing: 1. That the heart disease must precede the epilepsy; 2, other causes must be excluded; 3, the coincidence must be frequent; 4, improvement in the heart disease must improve the epilepsy. The first condition is satisfied in many cases as is also the fourth, and a number of cases are recorded, though not in his own series. He does not find the coincidence frequent and the exclusion of other causes seems almost impossible.

76. **Hydatiform Mole.**—Findley summarizes in substance as follows: Nothing is known of the cause. It usually occurs between 20 and 30, and is more than twice as frequent in multiparæ. The weight of evidence is in favor of a maternal origin, and the vesicular degeneration of the chorionic villi resulting from a disturbed maternal circulation. There is no proof that cystic degeneration of the ovary has any influence. It is so common as compared with the latter that it is not likely they stand in relation of cause and effect. Malignant degeneration of hydatiform mole occurs in about 16 per cent. of all cases. No sharp line can be drawn between benign and malignant hydatiform moles and macroscopic and microscopic examination may not determine the character. The length of time the mole remains in the uterus does not influence its disposition to become malignant. The diagnosis can not be made with certainty without seeing the vesicles. They are seldom expelled spontaneously before the abortion is in progress, therefore, diagnosis is rarely established until expulsion. The most common clinical evidence is the rapid uterine development and hemorrhage, also the irregular shape and consistency of the uterus. In view of the tendency of hydatiform mole to undergo malignant degeneration, our only safeguard lies in early recognition and immediate removal, however limited the degeneration may be. Ergot and vaginal packs will control the hemorrhage and often excite the uterus to contract and expel the growth. The curette should not be used for fear of perforation of the overstretched uterine walls. After the mole is expelled always explore the uterus with the finger, irrigate, and pack with antiseptic gauze. Two weeks after expulsion of the mole it is well to curette the uterus and examine the scrapings for syncytial invasion, and if found in the act of proliferating, hysterectomy should be performed. About three years of watchful expectancy should follow the expulsion. In the event of uterine hemorrhage an exploratory curettage should be made for microscopic examination of the scrapings. All new growths in the vagina or lungs should be regarded with suspicion. He gives a detailed summary of the statistics from reports of 210 cases. He finds also that contrary to the usual statement that there is a tendency to development of two or more hydatid moles, it is found to be the great exception.

77. **Entrance of Air into the Veins.**—Goodridge combats Hare's statement as to the innocuousness of the introduction of air into the veins. He holds that the statement that entrance of small quantities of air into the veins need not be a source of anxiety is pernicious teaching and may lead to carelessness.

University of Pennsylvania Medical Bulletin, Philadelphia.

February.

78 *A Report of a Case of Chronic Acetanilid Poisoning, with Marked Alterations in the Blood. Alfred Stengel and C. Y. White.
79 *A Practical Clinical Method for Determining Blood Pressure in Man, with a Discussion of the Methods Hitherto Employed. William B. Stanton.
80 *The Elevation of the Stomach in Gastroptosis by Surgical Plication of the Gastrohepatic and Gastrophrenic Ligaments; an Original Operation. Henry D. Beyea.
81 *Traumatic Lesions of the Spinal Cord without Fracture of the Vertebræ. William G. Spiller.
82 Osteopsathyrosis: With the Review of a Case Having Sustained 22 Fractures in a Period of Ten Years. Montgomery H. Biggs.

78. **Chronic Acetanilid Poisoning.**—In the case described by Stengel and White, the patient had been taking for years sometimes as much as 15 or 20 three-grain acetanilid capsules per diem. Before using them she had taken antikamnia and other antipyretic anodynes. The appearance of the case was one of cyanosis due to complete disorganization, and bleeding was first resorted to. The drug habit had been denied, but was elucidated during the progress of the case. There was a very marked anemia with nucleated cells, some of them red corpuscles. It had been diagnosed by a physician as due to an intraventricular cardiac lesion, but the progress of the case proved that no such condition was present. There was a number of separate attacks of cyanosis during the treatment, which were afterwards found to be due to the drug. Pronounced enlargement of the spleen was an interesting feature.

79. **The Blood Pressure.**—Stanton describes the apparatus and methods and gives the history of the subject. He describes a new appliance; a modification of the Riva-Rocci apparatus, which he devised and which is employed in the Pennsylvania University Hospital.

80.—See abstract in THE JOURNAL, xxxix, p. 857.

81. **Spinal Concussion.**—Spiller describes a case without injury to the vertebra or any evidence of mechanical pressure. There was marked disorganization of the cervical cord finally ending in death, though there was marked improvement in the paralysis.

Maryland Medical Journal, Baltimore.

February.

83 *The Future Policy of Maryland in the Care of Her Insane. Henry M. Hurd.
84 A Case of Ruptured Uterus Successfully Treated by Laparotomy. Randolph Winslow.
85 Surgery in Diabetics. H. A. Fowler.

83. **State Care of the Insane.**—Hurd discusses the conditions in Maryland and calls attention to the advisability of thorough state care, though the richly-endowed institutions in that state make this need somewhat less than in some other states.

Journal of Advanced Therapeutics, New York.

February.

86 *Rheumatoid Arthritis. F. B. Bishop.
87 *Therapeutics of Dry Hot Air. Clarence E. Skinner.
88 A New Combined Electric Arc and Incandescent Radiant Light and Heat Bath. Sigismund Cohn.
89 The Rational Basis of Electricity in Gynecology. G. Betton Massey.

86. **Rheumatoid Arthritis.**—Bishop credits the disease to defective nutrition, too much use of starchy food, etc. He thinks that a properly-regulated diet and electricity, plenty of red meat, etc., are required. He gives illustrations of cases treated by electricity, which he claims increases the local nutritive functions of the joints, skin and muscles and also of the organs of excretion and secretion. The cases he reports seem to have been wonderfully benefited.

87. **Dry Hot Air.**—Skinner concludes that the advantages of dry hot air in local sepsis are: 1. Rapid relief of pain. 2. The induction of hyperleucocytosis, whereby the infective process is frequently abruptly arrested and nearly always prevented from spreading from structure to structure. 3. Relief of the nerve centers to a large extent from toxin depression, because of an increase in the process of elimination. 4. The avoidance of reaction from drug stimulation, because an amount of depression sufficient to demand the same does not

ordinarily obtain after the administration of hot air has been commenced.

Atlanta Journal-Record of Medicine.

February.

90 *Parotitis Following Typhoid Fever. E. Bates Block.
91 Typhoid Fever; Its Antiseptic Treatment in 25 Consecutive Cases. James Billingslea.

90. **Post-Typhoid Parotitis.**—Block describes a case and discusses the theories of its origin. Thus far no instance has to his knowledge been reported of the finding of the typhoid bacillus in parotitis, and he discusses at some length Paget's theory of reflex nervous influence in the case. To prove this all bacterial causes should be excluded by careful bacteriologic examination in a number of cases, but he thinks that the reflex nervous influence may render the parotid more susceptible to infection. The subject needs further study.

Ophthalmic Record, Chicago.

February.

92 *The Value of Salicylate of Sodium in Large Doses in Inflammatory Eye Diseases. H. Gradle.
93 Panophthalmitis from Infection with the Micrococcus Lanceolatus without a Perforating Wound of the Eyeball. John E. Weeks.
94 The Physical Aspects of a Theory of Color Vision. F. W. Edridge-Green.
95 *Report of Two Cases of Congenital Anomalies of the Eyes, Illustrating the Transmission of Such Defects from Mother to Daughter. Wm. C. Posey.
96 *Trichloracetic Acid Treatment of Infective Ulcers of the Cornea. Albert E. Bulson, Jr.
97 *Concerning the Disappearance of the Lesions in Circinate Retinitis. G. E. de Schweinitz.

92. **The Salicylates in Eye Diseases.**—Gradle reports his experience with the salicylates in the various forms of eye disease. He finds the salicylates advantageous in that form of apparent episcleritis, which he has elsewhere described as subconjunctival inflammation. He has used them in this as well as other types of episcleritis after other drugs have failed, with decided benefit. They have a striking effect on the minute superficial corneal infiltrates which occur after slight trauma. In the ordinary or syphilitic cases of keratitis, they have not been specially useful, excepting perhaps in the diffuse keratitis of scrofulous children or in gouty subjects. He gives an account of a case of nodular sclero-keratitis in which they were used with decided benefit. In the ordinary typical iritis they have been disappointing, and he has had only negative results in typical cyclitis. But in the atypical forms of uncertain duration and usually of protracted course, they have been almost specific. Other conditions in which he has found them of benefit are the sympathetic inflammations and the rare cases of non-traumatic and non-suppurative tenonitis. He has not seen much benefit in what has been called uveitis or acute inflammation of the retina or of the optic nerve. But in the chronic uveitis, of indefinite duration, they have a marked control over the intensity of the symptoms. He agrees with Gifford in the necessity for large doses. An adult requires 20 grains of sodium salicylate at least four to five times a day, while if 25 grains can be tolerated 5 to 6 times or even oftener a day, the quicker the results obtained, but when such large doses have no effect within forty-eight to sixty hours, it is no use continuing. By using 5-gr. tablets, coated over as desired, the stomach irritation is avoided. The limit to its use is generally indicated by tinnitus or a feeling of confusion.

95. **Congenital Ocular Anomalies.**—Posey reports two cases, mother and daughter, both possessing colobomatous appearing conditions suggesting imperfect closure in the fetal cleft.

96. **Trichloracetic Acid in Corneal Ulcer.**—Two cases thus treated are reported by Bulson. His experience leads him to believe that in purulent ulcer of the cornea no matter what the character of the infection, treatment with trichloracetic acid is superior to pure carbolic acid or any other caustic with which he is familiar and much safer than cautery or galvanocautery and more efficient than curettage.

97. **Circinate Retinitis.**—Three cases are briefly reported by de Schweinitz, in all three of which the white bodies of circinate retinitis had more or less disappeared. He discusses the condition and says the conclusion is that given a case of this type, a fatal prognosis as regards vision should not be immediately given and all reasonable therapeutic measures given a fair trial. It may be, he says, that the disease has not been long enough persistent or pronounced to bring about destruction of the areas involved or it may be that Gunn's explanation that the zone of white is a manifestation of long-standing edema is correct. He has some faith in the iodids in these cases, especially the iodid of sodium. Mercury bichlorid seems useful. He would also try subconjunctival saline injections and perhaps pilocarpin diaphoresis.

Therapeutic Gazette, Detroit.

February 15.

98 Treatment of Prostatic Hypertrophy. Edward Martin.
99 *Some Experience with the X-Ray as a Therapeutic Agent. George G. Ross and Martin I. Wilbert.
100 Some American Contributions to the History of Modern Therapy. Simon Baruch.
101 Ethyl Bromid as a General Anesthetic. O. E. Bloch.
102 Some Thoughts on Morphin, Cocain and Heroin. Samuel E. Earp.
103 Observations on Skin Cancer, with Remarks on Its Treatment by Cauterization and Excision. Levi J. Hammond.

99. **The X-Ray.**—Ross and Wilbert find the anesthetic effect of the *x*-ray of decided advantage, though they do not find it so valuable as a curative agent in all malignant growths. In lupus and skin epithelioma it seems to have a decided value.

Medical Fortnightly, St. Louis.

February 25.

104 *How Not to Be Nervous. Hugh T. Patrick.
105 What the State and the Municipality Can Do to Create an Environment Favorable to Health. M. V. Ball.
106 Hyperostosis Cranii (Cephalonmegaly). F. Savary Pearce.
107 The Resuscitation of the Newly-Born. Henry T. Duffield.
108 Remarks on the Treatment of Parasitic Diseases of the Skin. W. V. Loftus.

104.—See abstract in The Journal, xxxix, p. 1066.

Canadian Practitioner and Review, Toronto.

February.

109 *Rudolph Virchow—An Appreciation. Charles A. L. Reed.
110 The Treatment of Septic Abortion. K. C. McIlwraith.
111 Placenta Previa. Howard D. Livingstone.
112 Mirror Writing. Robert D. Rudolf.
113 Case in Practice. (Swallowed Coin.) S. McCallum.
114 Glimpses from the History of Medicine. H. S. Hutchison.
115 Herpes Gestationis. Helen MacMurchy.

109.—This article appeared elsewhere. See The Journal of February 28, title 30, p. 606.

Medical Age, Detroit, Mich.

February 25.

116 Tendon Grafting. Daniel La Ferté.
117 The Treatment of Chronic Diarrhea. Charles D. Aaron.
118 The Present Status of Mercurial Medication in Syphilis. Henry B. Hollen.

Quarterly Journal of Inebriety, Hartford.

January.

119 Patent and Proprietary Medicines as the Cause of the Alcohol and Opium Habit or Other Forms of Narcomania, with Some Suggestions as to How the Evil May be Remedied. Lewis D. Mason.
120 General Principles of Treatment. T. D. Crothers.
121 Note on the Higher Use of Hypnotism and Suggestion, with Special Reference to the Treatment of Inebriety. R. Osgood Mason.
122 Restraint and Moral Measures in the Treatment of Inebriety. S. B. Elliott.
123 The Treatment of Drug Addiction. J. H. Kellogg.
124 Alcoholism; Its Control and Cure in Sanatoriums. George H. McMichael.
125 Is Modern Pharmacy Inimical to Moral Health? N. Roe Bradner.
126 The Effect of Alcohol upon the Nervous System, the Mind and Heredity. Albert E. Sterne.
127 What Is the Cause of the Increased Number of Suicides, Homicides, and Murders? N. S. Davis.

Pediatrics, New York.

February.

128 Congenital Nystagmus (Hereditary). Wm. J. Greanellé.
129 Lumbar Puncture and Its Value, Especially in Cases of Meningitis. W. B. Warrington.
130 *The Treatment of Infantile Spastic Paralysis. Robert Jones.

130.—See also title 66 above.

St. Paul Medical Journal.

March.

131 Fractures in or Near the Joints. Arthur J. Gillette.
132 Head Injuries in Reference to Intracranial Tension. Frederic S. Dennis.
133 Gastric Ulcer: Etiology, Symptomatology and Diagnosis. M. C. Millet.
134 Fracture of the Long Bones. G. R. Curran.
135 Rural Water Supplies in Minnesota. H. C. Carel.
136 Anencephalus—Spina Bifida. Owen W. Parker.

137 Report of a Case of Carcinoma of the Uterus Treated with the X-Rays. Charles R. Ball.

Southern California Practitioner, Los Angeles.

February.

138 Louis Pasteur—A Character Study. J. H. Utley.
139 Radical Operative Treatment of Chronic Suppurative Otitis Media. B. F. Church.
140 Treatment of Bright's Disease. John C. King.
141 In Eastern Hospitals. A. S. Parker.
142 Health of Los Angeles. L. M. Powers.
143 An American Oculist in Berlin. A. C. Rogers.

New Orleans Medical and Surgical Journal.

March.

144 An Atypical Case of Cancer of the Stomach. Otto Lerch.

Clinical Review, Chicago.

March.

145 Floating Kidney—Inguinal Hernia. W. W. Keen.
146 Lecture on Gynecology. Franklin H. Martin.
147 A Surgical Clinic. (Tubercular Hydrops, etc.) N. Senn.
148 Treatment of Rickets. Isaac A. Abt.
149 Glimpses at European Gynecology and Obstetrics. Henry F. Lewis.

Kansas City Medical Record.

February.

150 Report of a Case of Interest at the Kansas City Hospital. R. M. Tinney.
151 "She Ate Her Own Hair." G. W. Main.

Medical Sentinel, Portland, Ore.

February.

152 The Pathology and Treatment of Major Epilepsy. William House.
153 The Prognosis of Ascending Gonorrhea in Women. L. C. McCalla.
154 Tetanus Traumaticus—A Case Report and Review of Subject. H. A. Castle.
155 Bacteriology from a Humorous Standpoint. J. Hood Owings.
156 The Medical Department of the U. S. Army. R. G. Ebert.

Journal of Medicine and Science, Portland, Me.

February.

157 Some Common Diseases of the Scalp and Face. G. A. Pudor.
158 Suprapubic Lithotomy. C. E. Williams.
159 Vaginal and Rectal Operations. S. C. Gordon.
160 The Druggist and the Prohibitory Law. C. B. Sylvester.
161 Report of Cases Treated at the Maine Eye and Ear Infirmary. E. E. Brown.

The Canada Lancet, Toronto.

March.

162 Expert Medical Testimony. Joseph E. McDougall.
163 Some Further Results in the Treatment of Pulmonary Tuberculosis. J. H. Elliott.
164 Vomiting of Pregnancy. John Hunter.
165 The Action of X-Rays on Diseased Structures. A. Groves.
166 A Résumé of the Recent Pathology of Insanity. F. E. Lawlor.
167 Some Indications for Treatment in the Mentally Diseased. J. A. Mackenzie.

Texas Medical News, Austin.

February.

168 Pneumonia and Its Treatment. A. G. Krueger.
169 Catarrhal Pneumonia. C. S. Lane.
170 Treatment of Pneumonia. J. L. Short.
171 Diphtheria. W. R. Hazlewood.

Colorado Medical Journal, Denver.

December, 1902.

172 The Scientific Aspect of Modern Medicine. Frederick S. Lee.
173 Address, Colorado School of Medicine. Luman M. Giffin.
173½ Chronic Gastric Catarrh. A. E. Engzelius.

Medical Bulletin, Philadelphia.

February.

174 A Case of Tubercular Leprosy, with Lepra Bacilli in the Circulating Blood. John V. Shoemaker.
175 The Lepra Bacillus in the Circulating Blood. L. Napoleon Boston.
176 Some Notes on the Bacillus Lepræ. Joseph McFarland.
177 Observations upon Leprosy Occurring in Japan, Iceland and Norway. Judson Daland.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Presse Medicale, Paris.

1 (No. 7.) L'enseignement (instruction) dermatologique à Paris. L. Brocq. Thirteen portraits.
2 *Recherches nouvelles sur la "sécrétine." Action sur le foie. E. Henriquez and L. Hallion.
3 Traitement de l'Iritis. R. Romme.
4 (No. 8.) Nosologie générale des atrophies musculaires progressives. F. Raymond.
5 Importance de la lécithine dans les fonctions de la capsule surrénale et sa sécrétion par cet organe. L. Bernard, Bigart and H. Labbé.
6 (No. 9.) Les origines de l'histologie. P. E. Launois.
7 *L'éphidrose dans la paralysie générale. E. M. de Montyel.
8 (No. 10.) *Sections multiples des nerfs craniens. Debove.
9 La phlébalgie chez les convalescents de phlébite, les variqueux et les névropathes. H. Hannequin.
10 *La myorrhaphie des levatores ani dans le traitement du prolapsus du rectum. C. Lenormant.
11 L'alcool en thérapeutique. A. Martinet.
12 (No. 11.) The Old Hospital at Tonnerre, Dating from 1293. H. Chaput. Un hôpital d'autrefois. Illustrated.
13 Le vulgaire tube à drainage pour fixer les sondes à demeure (permanent catheters), boucher les anus contre nature (plug artificial anus) et servir de canule à trachéotomie. P. Stolanoff.
14 (No. 12.) L'argent colloidal (collargol) et ses indications thérapeutiques. Netter and Salomon. See THE JOURNAL of March 7, p. 679.
15 Les injections de bilodure de mercure en solution aqueuse dans le traitement de la syphilis. E. Emery and M. Druelle.
16 (No. 13.) De certaines arythmies cardiaques en rapport avec (in relation to) les données nouvelles (new data) en physiologie. H. Vaquez.
17 Du traitement chirurgicale de l'ethmoidite purulente. J. Gulsez.
18 La radiographie stéréoscopique des calculs urinaires. A. Bécière.
19 (No. 14.) *Diagnostic de la valeur fonctionelle des reins au point de vue chirurgical. Tuffier and Mauté.
20 *Un nouveau syndrome bulbaire. P. Bonnier.
21 *Mobilisation des deux bouts de l'urèthre (of two ends of urethra) pour remédier à une perte de substance (loss of substance) de ce conduit. M. Savariaud.

2. Action of Secretine on Liver.—Secretine is the fluid obtained by acid maceration of the mucosa of the duodenum of a fasting mammal. It exerts a remarkable influence on the secretion of pancreatic juice when injected into other animals. The present article combats the notion that this action is specific for the pancreatic juice, as the writers' experiences demonstrated that it had a similar and possibly even more pronounced action on the secretion of bile.

7. Hyperidrosis in General Paralysis.—The particulars of 54 cases of general paralysis are given, followed from the incipiency of the affection to death. Hyperidrosis was marked in one out of every 9 male patients. It was never observed in syphilitics or hard drinkers and never after the age of 50. It was twice as frequent in winter as in summer, and was never noted in spring or fall. It was always excessive from the start and ceased with equal suddenness, lasting two months on an average, occasionally five. It was always noticed in the second stage of the affection, but there did not seem to be any relation between it and the other symptoms. It recurred later in one instance, but was limited to the brow.

8. Results of Multiple Sections of Cranial Nerves.—On account of a malignant tumor in the neck, the pneumogastric, hypoglossal and sympathetic nerves were cut in the case described. The patient has hemiparalysis and hemiatrophy of the tongue as the result of section of the hypoglossal. Section of the sympathetic has induced slight atrophy of that side of the face, but there is no paralysis. The eyeball is more sunken than normal, probably from paralysis of the tract of fibers in the capsule of Tenon, innervated from the sympathetic. Protrusion of the eyeball is probably due to some permanent irritation of these fibers, while section of the sympathetic induces the opposite effect. The palpebral fissure is wider than normal, and myosis is also marked owing to the lack of the antagonist action of the fibers innervated by the sympathetic. Section of the pneumogastric has caused paralysis of the vocal cord on that side, but no other symptom. The extirpation of the neoplasm required ligation of the carotid which did not cause any disturbance at the time, but complete hemiplegia gradually developed after twenty-four hours on the opposite side, with aphasia, and then gradually subsided to merely traces. Five months later an epileptiform seizure occurred, leaving transient hemiplegia. There were no antecedents of hysteria or epilepsy, and the seizure was evidently a tardy consequence of the ligature applied to the carotid.

10. Myorrhaphy of Levatores Ani for Prolapse of Rectum.—This procedure has been applied as a means of correcting prolapse of the uterus but the two cases reported are the first published in which prolapse of the rectum was treated in this way. A Russian surgeon suggested the method at the Moscow Congress but had practiced only on the cadaver. The first patient was a woman of 40, and the second a man of 65. The prolapse has not recurred in either. The muscles were exposed to the peritoneum, isolated and sutured together by the

inner surfaces or edges. In the female the intervention accomplishes both a myorrhaphy and vaginopexy at the same time.

19. **Functional Tests of the Kidneys.**—Tuffier remarks that the freezing-point, methylene blue, phloridzin and other functional tests of the kidney afford insight into the conditions of only a portion of the total urine for twenty-four hours, while it has always been considered extremely important to base all calculations on the total output. He has been studying the conditions in one of his patients who voided all the urine from one kidney through a lumbar fistula while that from the sound kidney was voided naturally through the bladder. He gives the details which establish beyond question that in this case at least, the proportions between the functional conditions of the two kidneys as determined by all the functional tests known, remained approximately the same at all times. Each kidney performed its share of the urinary task in the same proportion for each half hour as during the entire twenty-four hours. One kidney was affected with hydronephrosis, with slight sclerosis, while the other was sound, and the diseased organ did only half the work of the other. Study of this case confirms the value of the information to be derived from segregation of the urine from each kidney, even for brief, half-hour periods.

20. **A New Bulbar Syndrome.**—Bonnier shows how injury of the large bulbar nucleus, which he calls the nucleus of Deiters, may entail a syndrome distinguished by vertigo, with partial or complete loss of ability to stand, reflex oculomotor disturbances, a condition of nausea and distress, transient auditory phenomena and pains in certain regions of the trigeminal domain. The nucleus is large and may not be affected throughout its entire extent, consequently the complete syndrome is rarer than the partial. He compares these bulbo-protuberantial centers to the small keyboard of an organ. A slight touch to one of its keys sends vast waves of sound sweeping through its periphery, reverberating farther and farther. The symptomatology harmonizes into a coherent and progressive harmony which we can trace back to the bulbar notes played. The syndrome under discussion associates cerebellar phenomena with the reactions peculiar to the third, fourth, fifth, sixth, eighth, ninth and tenth cranial nerves, but the nucleus involved is predominantly a center for the labyrinth. In 97 out of 100 cases of tabes examined by Collet this nucleus was found affected.

21. **Mobilization of Urethra to Remedy Loss of Substance.**—Savariaud has followed the method of mobilization of the two stumps of the urethra suggested by Carl Beck and von Hacker, to unite them after extensive injury or resection of the canal. He describes a case in which he performed this operation with satisfactory results on a boy of 8. The conditions are more favorable for success in a traumatic case than in hypospadias for which the method was originally suggested, owing to the tendency to curvature and to the rudimentary condition of the urethra in the latter.

Revue de Chirurgie, Paris.

22 (XXIII, 2.) Note sur 2 cas de kystes mucoïdes du cou (of the neck) à epithélium cillé dérivés des restes du tractus thyréo-glosse. P. Fredet and M. Chevassu.
23 *Pharyngotomie pour ablation des tumeurs de la portion buccale du pharynx. L. V. Orlow.
24 *Un cas d'anastomose artério-veineuse longitudinale pour artérite oblitérante. Gallois and Pinatelle (Jaboulay's clinic).

23. **Pharyngotomy.**—Orlow points out that tumors developing in the upper, middle or lower portion of the pharynx require entirely different surgical intervention. About a dozen separate methods of treating those in the middle or buccal portion have been devised, but Orlow prefers his modification of Krönlein's method. The semicircular incision instead of starting at the juncture of the lips, commences at the middle of the lower lip, thus averting all danger of injury of the facial nerve. Among the advantages offered by this method is the wide opening up of the field of operation, allowing free access to the tumor and complete oversight of the upper end of the larynx, while it enables the ganglia in the region and extending down into the neck to be readily extirpated. Section of the lower jaw is indispensable in all these operations. A still further advantage is the lesser disfigurement that results from the semicircular incision in the shadow of the jaw, visible only as a symmetrical line on the chin. For benign growths free from glandular involvement, the Trendelenburg method is preferable, but for malignant tumors the method above described is superior to all others, he believes. In 8 of the 10 cases described the patients were in the horizontal decubitus. In case of extensive malignant growths preliminary ligation of the external carotid is required, and in particularly serious cases, also of the internal carotid. One of his patients succumbed to hemorrhage from the external carotid the eleventh day, from an erosion induced by infection of the wound. The other patients bore the operation well, and there were no evidences of broncho-pneumonia afterward. The age of the patients ranged from 36 to 62 years. The tumor was an endothelioma in 2 cases, in one of them shaped like an hour-glass; carcinoma in 3 and sarcoma in 4. It is impossible to maintain asepsis in this region, and the union of the jaw was not always regular. There have been recurrences in 3 and a suspicion of them in 2, but not in the cases of endothelioma. In 1 case the ultimate outcome is unknown. All the patients were in an advanced stage of the affection; the results will be better when intervention can be undertaken during an earlier phase.

24. **Arterio-Venous Anastomosis.**—This article describes the post-mortem findings in the case of arteritis obliterans mentioned in The Journal of February 7, p. 408. The first manifestations are sharp pains in the legs, exceptionally also in the arms, occurring in an adult free from syphilis or other infectious disease. The pain is mostly continuous with exacerbations. Then gangrene develops, limited at first to the toes it gradually encroaches on the leg with a slow and progressive course, usually without effusion. The arterial pulse vanishes far in advance of the gangrene. It is frequently almost impossible to find the arteries as there is no pulse, and they can not be palpated as hard cords as in arteriosclerosis. The arteries elsewhere are small and the pulse is weaker than normal. The leg was amputated at the thigh in the case described. The obliterating lesion consists in a thickening of the inner coat of the arteries, with connective tissue transformation reducing and finally occluding the lumen of the vessel. The process is usually confined to the medium-sized arteries, and is sometimes accompanied by endophlebitis, but the nerves have always been found sound. Courchet collected 13 cases with atheroma or endophlebitis in some, but no known dyscrasia, no infection. Twenty-one other cases have been published in the literature. Some of the patients were apparently cured by amputation, but as the cases were not followed the final termination is not known. Jaboulay's is the third operation on record in which an anastomosis was established between an artery and vein. The opening was found still permeable at the autopsy and the union was complete between the tissues of the two vessels. In the first case published the pains of the dry, spontaneous gangrene to the ankle vanished after anastomosis between the artery and vein had been established. But they recurred later and amputation was performed. In the second case the patient was a man of 72 with traumatic gangrene of three toes. The anastomosis was done at the same time as the toes were disarticulated. The gangrene was arrested and the patient recovered. These cases are described in full by the operator, San Martin y Satrustegui of Madrid in a pamphlet published by E. Teodoro, Madrid, 1902, entitled "Discurso leido en la solemne sesione inaugural en la Real Academia de Medicina, 1902." In all these three cases on man longitudinal anastomosis was established between the femoral artery and vein.

Semaine Medicale, Paris.

25 (XXIII, 4.) *Pathogénie péritonitique de la colique hépatique et des crises douloureuses épigastriques. R. Tripier and J. Paviot.
26 Letter from America. La diphthérie à Boston et à Philadelphie. F. Munch.
27 (No. 6.) *Pseudo-Heart Disease. E. Barié.—Les faux cardiaques.
28 Letter from America. Le traitement de l'appendicite en Amérique. F. Munch.
29 Traitement des plaies (wounds) infectées par l'acide phénique associé au camphre. V. Chlumsky.
30 Benefit of Lemons in Treatment of Dropsy. N. T. Tchigaieff. —Le citron comme antihydropique.

31 (No. 7.) Action of Suprarenal Extract. R. Lépine.—Sur l'action de l'extrait de capsules surrénales.
32 Letter from America. La douleur rénale provoquée dans le diagnostic, etc. F. Munch. (Kelly's method.)
33 Ibid. Le traitement des tumeurs malignes à New York.

25. Peritonitic Origin of Liver Colic, Etc.—Tripier's further experience has confirmed more and more the assumption which he has long been proclaiming in regard to appendicitis, that the pain in affections of the abdominal viscera is due solely to inflammatory processes in the surrounding peritoneum. He formulates the law that none of these affections are accompanied by attacks of pain unless the surrounding peritoneum is involved in some acute or subacute inflammatory process, and that the pain is more intense the smaller the quantity of the fluid exudate. The same law applies to all the serous membranes, the pleuræ, pericardium, etc. Certain pains manifestly due to a flare-up of peritonitis, when it is situated near the liver, may deceptively simulate liver colic. Perigastritis due to a prepyloric ulcer in one case was diagnosed as liver colic without icterus, and the patient took several courses at Vichy until the progressive character of the trouble compelled a laparotomy. In three-fourths of all the cadavers that came to autopsy there were evidences of healed subhepatic peritonitis with adhesions, and the gall-bladder showed signs of old inflammation in the majority of cases, the symptoms of which had generally passed unrecognized during life. Some contained a calculus and others no sign of lithiasis. Instead of the general tendency to incriminate the appendix and to regard other concomitant abdominal lesions as secondary to inflammation at this point, the autopsy findings in Tripier's researches indicate that the gall-bladder is generally responsible, and that the appendicitis is itself secondary. There can be no question that many cases of mild or subacute inflammation of the gall-bladder are overlooked in the clinic and yet they may be the starting-point for a neighborhood peritonitis and infections in the rest of the abdomen, near or remote, especially in the vicinity of the appendix and organs in the small pelvis, more rarely by contiguity in the pleuræ and pericardium. Instead of an "appendicular pleurisy," the facts observed in the cadavers examined speak for the reverse, a descending instead of an ascending infection. The adhesions left from these mild inflammations of the peritoneum around the gall-bladder have evidently been mistaken for physiologic anomalies in many cases. When noticed as pathologic no one seems to have thought of comparing them with the pathologic past of the subject. In looking for them the viscera must be examined *in situ* to note the relations and adhesions between them instead of taking them out singly for examination.

27. Pseudo-Heart Disease.—Barié describes four groups of what he calls "false cardiacs." They are usually adults or youths, all either dyspeptics, smokers, neuropaths or victims of incipient tuberculosis. Notwithstanding their palpitations, their pains in the heart region and other symptoms, the heart will be found sound. In the dyspeptics some irritation from the lining of the stomach is transmitted by the sympathetic and induces a reflex excitation of the capillaries of the lung, causing spasmodic contraction. This raises the pressure in the pulmonary artery system; the right heart becomes dilated and tricuspid insufficiency results. Experience has shown that this reflex action occurs exclusively with trivial digestive disturbances and is never observed in serious conditions. The same syndrome may also result from a small calculus in the biliary passages. This pseudo-heart disease is most frequent in neuro-arthritics. It is sometimes the initial manifestation of incipient tuberculosis. In this case the palpitations may be accompanied by tachycardia, or the latter may occur alone and may precede by six months or a year any appreciable symptoms on the part of the lungs. The heart symptoms may be due to a dyspeptic condition very common in incipient tuberculosis, or to compression by some glandular involvement or to actual tubercular involvement of the heart. There is also a symptomatic bradycardia observed in incipient tuberculosis, but it is very rare. The diagnosis in these tuberculous cases is difficult as the subject attributes his symptoms to heart disease. An aid in differentiation is the arterial pressure which is almost invariably low in uncomplicated incipient tuberculosis, and the phosphaturia, which is also common at this stage. Radioscopy may likewise reveal a lesser transparency of the apex of the lung, as well as the deficient excursion of the diaphragm on the side affected. The potassium iodid test proposed by Striker may also prove useful in the differentiation, and serum diagnosis. Barié also describes the attacks of pseudo-angina pectoris, and the pseudo-heart disease noticed at the time of puberty in girls and at the menopause as also in certain affections of the uterus and adnexa, in gout, diabetes, etc.

Centralblatt f. Gynaekologie, Leipsic.

34 (No. 6.) Die Drainage nach Laparotomie. A. Sippel.—Advocates rinsing with salt solution and draining.
35 Abortion by Silver Cauterization of Cervix. Piering.—Geschichtliche Bemerkung.
36 Ruptura cervicis centralis anterior sub abortu. O. Weiss.
37 Fall von Prolapsus uteri inversi. E. Funke.
38 Eine Modifikation des Hegar'schen Nadelhalters (needle holder). G. Burckhard.
39 (No. 7.) Ein einfacher (simple) Hysterophor und eine Bandage gegen Hängebauch (pendulous belly) und Prolaps. O. Piering.
40 *Zur Technik der Füllung des Kolpeurynter. A. Kurrer.
41 Trokarkornzange (combination of trocar and dressing forceps). L. Fraenkel.
42 Ueber ein modificiertes französiches (French) Dekapitations-Instrument. P. Bong.
43 (No. 8.) Für die Drainage. M. Hofmeier.
44 Indiziert eine Uterus-Ruptur den Kaiserschnitt (Cesarean section) bei wieder eintretender Schwangerschaft (by recurring pregnancy)? H. W. Freund.
45 Zur Kasuistik der Verkalkung (calcification) des Ovariums. J. Miländer.

40. Filling the Colpeurynter.—Kurrer attaches the colpeurynter to a fountain syringe, holding about a quart, hung two yards above the bed. The colpeurynter thus automatically fills itself as allowed by the contractions of the cervix.

Muenchener Med. Wochenschrift, Munich.

46 (L, 6.) *Ueber chirurgische Intervention bei Speiseröhrenverengerung (esophageal stricture). H. Lindner.
47 Centrale Aktinomykose des Unterkiefers (lower jaw). Von Bruns.
48 Fall von infantiler Pseudobulbarparalyse. F. Kaufmann.
49 Die Soxhletsche Nährzucker (sugar food) in der Ernährungs-Therapie kranker Säuglinge (in diet treatment of sick infants). O. Rommel.
50 Die Behandlung der Geburt bei engem Becken (treatment of childbirth with contracted pelvis) in der Privat-Praxis. A. Mueller.
51 Zur Frage der Häufigkeit (frequency) und Etiologie der Tubar-Gravidität. W. Hahn.
52 Ueber die Bestimmung der Schmerzempfindlichkeit (sensibility to pain) der Haut (of skin) mit dem Algesimeter. R. von Hoesslin.
53 Ueber eine Pipette zur Blutkörperchenzählung (pipette for automatic blood count) mit automatischer Einstellung. R. May (Munich).
54 *Aseptic Dressings for Immediate Use. G. Perthes.—Gebrauchsfertige aseptische Verbandstoffe für die Kriegschirurgie und für die chir. Thätigkeit des praktischen Arztes.
55 Fall von Kohlenoxydgasvergiftung (intoxication with carbonic acid gas). K. Wolf.
56 Ileus infolge (in consequence of) Thrombose der Vena mesenterica. A. Reitzenstein.
57 Atropin-Behandlung eines Falles von Darm-Paralyse mit Ileus-Erscheinungen im Verlaufe einer Meningo-myelitis luetica. A. Homburger.
58 (No. 7.) Hysterische Tachypnoe bei organischen Herzerkrankungen (heart affections). H. Curschmann. Two traumatic cases.
59 Neue Platfusseinlagen (flat-foot insole) aus Celluloid-Stahldraht (wire). F. Lange.
60 Fall von Bläserlahmung (wind instrument paralysis). E. Stadler.
61 Ueber eine Conjunctivitis-Schul-Epidemie nebst einigen allgemeinen Bemerkungen über ärztliche Anordnungen (medical instructions) bei Schul- (school) Epidemien. H. Zia.
62 Zur Aetiologie des Schulterblatthochstandes (elevation of scapula). O. Bender.
63 Zur Kasuistik der familiären amaurotischen Idiotie. C. Gessner.
64 Fall von traumatischer Hysterie unter psychischer Behandlung rasch in Heilung übergehend. R. Treugott.
65 Tritt Placenta previa auch ohne Blutung auf (without hemorrhage)? Burger.
66 *Die streikenden Geraer Kassen-Aerzte und der Vorstand des Leipziger wirtschaftlichen Verbandes (the Battle of the Clubs at Gera). Hartmann.

46. Surgical Treatment of Stricture of the Esophagus.—Lindner's experience has been no better with carcinomatous stricture than that of others. About 18 cases have been published; the patients died shortly after the operation in 5, but the remainder survived for a longer or shorter time, none for more than two years. He has operated on 3 but none survived more than a few days. He has used Frank's method of making a gastric fistula in 15 cases of benign stenosis of the esophagus

and the results for the first two or three months were ideal, but after this the fistula became incontinent and the patients wasted away. He has now abandoned it altogether. He has been very successful with von Hacker's method of "endless sounding," and has found that very few cases prove rebellious to it. In one recently, a boy of 7, the multiple strictures caused by drinking lye, proved impermeable to the sounds, and as a last resort the esophagus was exposed its entire length in the neck, and from this point the sound was finally successfully passed into the stomach and the strictures dilated. The stomach fistula healed in a week, and a week later the sound could be introduced from the mouth. The wound in the neck was simply coaptated with plaster. The lad was trained to keep up this endless sounding to prevent the stricture from closing up again. He soon learned to introduce the sound himself and was dismissed in good condition.

54. **Always Ready Aseptic Dressing for Wounds.**—The dressings are rolled up separately in an aseptic cover. Two strips of parchment are placed in each in such a way that by pulling on the parchment the dressings can be opened and spread out ready for application, without being touched by the hand. The cut shows how this is accomplished.

66. **The Strike at Gera.**—This article is by the president of the Union for the Protection of the Economic Interests of the Physicians of Germany, which has been sustaining the physicians at Gera in their resignation of their positions as medical officers to the great textile industries sick benefit company. He reviews the history of the battle of the clubs in Germany and extols the action of the Gera physicians as a brilliant example for the entire profession by their united stand for ethical principles and their brave perseverance in the course once decided on. He remarks that it is the first time in Germany that physicians have taken such a decided step as to refuse to attend the policy holders in the company, even as private patients. The responsibility for the conditions rests with the officers of the company and with the local authorities which have a right to compel the company to provide the medical attendance its charter calls for. Indirectly it rests on the policy holders, as they elect the officers and they should select men incapable of injustice. In regard to the lack of sympathy on the part of the general public, he remarks: "Since when have physicians ever received any sympathy from the public in their claims? Have the decisions of our medical chambers ever met with public sympathy? The stand of the profession in regard to the charlatan question raised a great hue and cry in the lay press in regard to our short-sighted and narrow-minded policy. Have we ever won any friends by our stand in regard to medical women, the technical schools, etc.? Any one who claims his rights may count on the hostility of the multitude, and we physicians will have to accustom ourselves to accomplish our just purposes in spite of the ill-will not only of the general public but also of the public authorities."

Bolletino della Soc. de Ost. e Gin., Florence.

67 (I, 8-9.) Two Cases of Extramedian Symphysiotomy. Pestalozza.—Due casi di taglio laterallizzato del pube.
68 Ibid. One Case. Scarlini.—Il primo caso di taglio lat. del pube nella Clinica di Siena.
69 Ibid. One Case. Saladino.—Il secondo caso di taglio lat., etc.
70 Endotelloma del collo dell' utero. Cova.
71 Isterectomia per corionepitelioma. Santi.
72 Case of Acute, Fatal, Yellow Atrophy of Liver in Second Day of Puerperium. Mascagni.—Un caso di atrofia giallo acuta del fegato in 2 giorno di puerperio.

Gazzetta degli Ospedali, Milan.

73 (No. 8.) *Psicopathie coreiche e significato etiogenico. S. Mircoli.
74 Contributo allo studio della gangrena nel corso della febbre tifoide. A. Lorenzoni. One fatal case.
75 Caso di mola idatiforme associata a degenerazione cistica delle ovale (ovary). G. Monzarde.
76 Toracentesi e vescicante (and blisters). V. Luzzatti.
77 Vescica artificiale ovvero drenaggio a permanenza per lo svuotamente dei versamenti sierosi (continuous drainage of serous effusions). B. Giovanni.
78 *Sull' impiego del calomelano nella cura della polmonite (calomel in pneumonia). C. Bertazzoli.
79 Dispragia intermittente angioscierotica ed embolismo della poplitea. N. Introna.
80 (No. 11.) *Serum Treatment of Leukemia. L. Lucatello and C. Malon (Padua).—Di un siero leucolitico antileucemico.
81 L'airol in oculistica, B. U. Arturo.
82 *Jez's Extract Treatment of Typhoid. M. Subaldi.—Breve cenni sull' estratto Jez nella terapia dell' ileo tifo.
83 Raccolte (accumulations) endotoraciche pulsanti. E. Maragliano.
84 (No. 14.) Le coree dal moderni punta di vista. S. Mircoli.
85 *Le manifestazioni cutanee da malaria. A. Vaccari.
86 Successful Use of Antidiphtheria Serum in Case of Cachectic Aphthous Fever. Del Monaco-Concezio.
87 *Novello contributo alla cura delle anemie colle inlezioni ipodermiche di soluzioni di arseniato di ferro. N. Fedeli.
88 Pleurite essudativa epidemica. A. Muratori. Six cases.

73. **Choreic Psychopathy.**—Mircoli describes a few typical cases to illustrate his idea that the various forms of chorea, if accompanied by mental disturbances or change of character, have each a special type of psychopathy. The degenerative form of chorea is accompanied by psychic disturbances such as are noted in degeneracy from any cause, hereditary or acquired. The rheumatic form is accompanied by caprices and a tendency to agitation. In the psycho-traumatic variety the mental phenomena observed are those of depression with a tendency to melancholia. It may be possible sometimes to trace back to the cause of the chorea by observing the character of the psychopathy accompanying it.

78. **Calomel in Pneumonia.**—Bertazzoli has long been proclaiming that calomel in infectious diseases is able to lower the temperature to a degree that amounts to a pseudo-crisis. It causes revulsion in the intestines, he asserts, diverting part of the blood from the inflamed organs and in pneumonia thus averting the danger of edema of the lungs, while regulating the circulation there. The calomel passages carry away from the organism a quantity of the toxins which otherwise would circulate in the blood and depress the nervous system, adding their dangerous effect to the intoxication with carbonic acid gas, so intense in this disease. The microbicidal action of calomel supplements its effect in other ways.

80. **Serum Treatment of Leukemia.**—Rabbits and sheep were inoculated with leucocytes derived from patients with leukemia. The blood withdrawn was set aside to settle spontaneously which allowed the leucocytes to be collected free from red corpuscles or serum. The rabbits thus received forty-seven endoperitoneal injections of 5 to 10 gm. of leucocytes in the course of thirty to forty-five days. The sheep received nine injections in the external jugular vein at intervals of two to twelve days. The serum of the animals thus treated displayed *in vitro* marked destructive action on human leucocytes, and 3 patients with leukemia were treated with it by subcutaneous injections of about 1 to 5 c.c. of this serum, usually on alternate days. One patient with 560,190 leucocytes before treatment, received twenty-six injections and the leucocytes then numbered 375,720 per mm. The enlarged spleen was also much reduced in size during the serum treatment. The second patient was in a very advanced stage of the disease and no benefit was apparent from the twenty-eight injections made. In the third case the leucocytes fell only by 7,660 from the original figure of 500,960 after eleven injections, a total of 42 c.c. of serum in thirteen days. The proportion of uric acid in the urine rose from .70 to .95 and the size of the spleen was very much reduced. The injections caused no by-effects in any instance and were perfectly tolerated.

82. **Jez's Extract in Treatment of Typhoid.**—The extract is made from the organs of animals injected two or three days before with typhoid bacilli. Sibaldi was much impressed with the rapid improvement that followed its use in two exceptionally severe cases of typhoid fever. As much as 200 c.c. can be injected without disturbances. The heart and pulse are favorably affected, as also the nervous symptoms. It induces copious urination and the temperature subsides. The extract is given by the spoonful every two hours. Its effect is manifest by the second day and by the third day two liters of urine were voided. In a third case the extract was given in hopes to abort or cure a prostatic abscess in the course of typhoid fever, but no appreciable benefit was derived. The patient succumbed.

85. **Cutaneous Manifestations of Malaria.**—Vaccari has observed a few cases of a dermatosis resembling urticaria, but free from pruritus, which accompanied attacks of malaria and vanished under exhibition of quinin. Other Italians have

reported an exanthem resembling that of scarlet fever or measles, with desquamation, occurring likewise associated with or as a manifestation of malarial infection. Vaccari observes that these cutaneous phenomena in malaria indicate a severe type of the disease, and thus have a certain value for the prognosis.

87. **Ferric Arseniate in Anemia.**—The soluble ferric arseniate used in Italy has been applied by Fedeli in twenty cases of anemia with exceptionally favorable results, as he shows by the clinical histories. The age of the patients ranged from 10 to 38. Zambeletti's citro-ammoniacal preparation was administered by subcutaneous injection for two or three months and all the patients gained several pounds in weight, while the composition of the blood and the general health returned to normal.

Riforma Medica, Palermo.

89 (Nos. 190-1.) Sopra un tumore ovarico di genesi dal corpo luteo. A. Michelazzi.
90 (Nos. 192-3.) Osservazioni sul potere (power) isoagglutinanti ed isolitico di sieri di sangue umani (of human blood serum). C. Bezzola.
91 (No. 194.) Appunti sulla malaria del mezzogiorno (malaria at midday) d'Italia. F. Martirano.
92 (Nos. 195-6.) Cranial Asymmetry as Studied in 434 Skulls. V. Nistino.—La plagiocefalea.
93 (Nos. 197-200.) Bullet Wound of Spine and Lumbar Enlargement—Instantaneous Paraplegia—Complete Recovery After Extraction of Bullet. A. Virdia.—Ferita d'arma da fuoco della colonna vertebrale e del rigonfiamento lombare, etc.
94 (No. 201.) Cerebellum Traversed by Pitchfork—Double Craniectomy—Recovery. A. Ghedini.—Craniectomia doppia per ferita del cervello.
95 (No. 202.) *Sulla formazione dei tossoidi (of toxoids) nelle coltore di bacilio del tetano. A. Bonome.
96 (Nos. 203-206.) *Degenerazioni chronici del miocardio en rapporto coilo aritmie (in relation to arrhythmia). B. Francesco.
97 (No. 207.) Great Benefits from Lime in 14 Cases of Epilepsy. A. Bonelli.—Azioni del calcio negli eppilettici.
98 (No. 208.) Glicosuria e levulosuria alimentare nelle malattie del fegato (in liver affections). L. Ferrannini.—See abstract in JOURNAL of January 31, p. 343.
99 (No. 209.) *La saccaromicetolisis. F. Sanfelice.
100 (No. 210.) Carcinoma medullare primitivo del polmone (of lung). A. Pitini and F. Mercadante.
101 (Nos. 211-12.) Diabete insipido trasformatosi poscia in melito e ipertrofia della prostata. G. P. Morano.

95. **Toxoids in Tetanus Cultures.**—Bonome announces that he found it possible to attenuate the tetanus toxin in cultures by addition of coli toxins.

96. **Arrhythmia in Relation to Chronic Degeneration of Myocardium.**—Francesco's experience indicates that arrhythmia is invariably pronounced when the musculature of the auricle is in a condition of fibrous degeneration, with or without the involvement of the musculature of the ventricle in the process. On the other hand, degeneration of the auricular appendage, even with advanced degeneration of the walls of the ventricle, is not accompanied by any arrhythmia.

99. **Saccharomycetolysis.**—Sanfelice states that the serum of animals treated with the proteins of blastomycetes contained antibodies which transformed the parasites into fuchsinophile bodies.

Medizinskoe Obozryenie, Moscow.

102 (Nos. 13-14.) *K etiologii ostrykh voskhodyashtchikh paralitchei (acute ascending paralysis). Staphylococcemia. V. Muraveff and V. Turutin.
103 Ryedkii slutchai traumatitcheskova paralysis alternans. A. A. Byelsky and I. T. Kaplan.
104 *O symptomatologii pri zlokatchestvennykh novoobrazovaniyakh plevry (malignant neoplasms in pleura). L. E. Golubinin.
105 *Review of Works on Diagnosis, Pathology and Therapy of Lungs and Pleura During 1901. Kotovshtchikoff.
106 *O lyetchenii Sydenham'ovoi chorei myshyakom (with arsenic). S. M. Timasheff.
107 (No. 15.) *Two Cases of Bullet Wounds of Skull. P. Tikhoff.—K kasuistikye ognestryelnykh povrezhdenii tcherepa.
108 *Restoration of Nasal Septum. P. I. Kuzmin.—Novye sposob vozstanovleniya razrushennoi nosovoi peregorodki.
109 *O lichen planus slizistykh obolotchek (of mucous membranes). M. A. Tchlenoff.
110 *Tuberculous Stricture of Intestine. A. V. Nikolsky.—O tub. suzhenii kishek.
111 Shto takoe sarcome angioplastique Malassez i Monod? G. V. Vlasoff.

102. **Etiology of Acute Ascending Paralysis.**—A man of 55, with no special antecedents except a family tendency to excessive hemorrhages from slight cuts, noticed slight fever and delirium, with pains and weakness in the legs and round red spots on the thighs, extending later over the body. Urination was difficult. By the eighth day the right arm became completely paralyzed, and later the left, and lesions developed in the buccal cavity. Except for the first few days the patient's mind was clear during the entire affection, which progressed to a fatal termination, with symptoms of edema of the lungs, ten days after entering the hospital and twenty-seven after the first manifestations of the trouble. Examination of the blood the twenty-second day revealed large numbers of the staphylococcus albus. Thoinot and Masselin have reported experimental research on rabbits, in which they induced paralysis by inoculation with the staphylococcus aureus. Strümpell was able to cultivate the staphylococcus from a case of acute transverse myelitis and pachymeningitis. Eisenlohr also found this micro-organism in the central nervous system in a case of Landry's paralysis, as also Wokenius in a case of multiple neuritis (St. albus). Sukhanoff has also published a case of multiple neuritis and abscesses in the skin and internal organs due to staphylococci, accompanied by melancholia and Korsakoff's psychosis. Dogliotti also derived staphylococci from the pus of an abscess in the medulla oblongata. In the case described in the present article the probabilities are in favor of the assumption that the acute ascending paralysis was the consequence of general infection with the staphylococcus albus, and that both the spinal cord and the peripheral nerves were affected, the former predominantly. Both cutaneous and tendon reflexes were abolished, and the paralysis was most marked in the upper extremities. The blood was examined again immediately after death, but this time the results were negative. The germs may, therefore, vanish from the blood during the course of staphylococcemia, which explains the rarity of its discovery.

104. **Differentiation of Malignant Tumors in Pleura.**—Golubinin relates in detail a case to illustrate the various points important for the diagnosis, the pain, the pleuritis, usually with effusion, but distinguished by the absence of fever. The effusion is seldom serous or purulent, more frequently it is hemorrhagic, sometimes chylous. It is not as abundant nor as diffuse as in case of ordinary pleuritis. The sputa become blood stained if the growth involves the lungs. The side of the thorax is also liable to become contracted from development of cicatricial tissue within. The most important signs are the rapidly developing anemia and cachexia, the presence of particles of the tumor in the pleural effusion and the discovery of enlarged glands and metastatic nodules in the skin and subcutaneous tissue, the protracted, non-febrile course, the irregular outline of the dullness and occasionally the severe pains.

105. **Review of Literature on Lungs and Pleura in 1901.**—Nearly a hundred pages are devoted to this review of 685 communications published in all quarters of the globe. American literature is extensively represented.

106. **Treatment of Sydenham's Chorea with Arsenic.**—Timasheff describes his experience with 26 cases of chorea. He found that an aqueous 1 per 1000 solution of arsenious acid afforded the best results. He deprecates the large doses recommended by Comby, and seldom gave more than three teaspoonfuls a day, finding that the desired results were attained fully as rapidly as with the larger doses. He thinks that more attention should be paid to the underlying cause of the affection. He was unable to detect any special relations between the duration of the disease and the length of treatment or the prevention of relapses.

107. **Bullet Wounds of Skull.**—Tikhoff describes two cases to support his plea of the necessity of trephining as a routine measure in bullet wounds of the skull, and the harm that may result from neglect of this measure.

108. **Restoration of Nasal Septum.**—Kuzmin makes two parallel incisions in the upper lip close to the median line, but not reaching to the extreme outer margin. A transverse incision close to the nose allows a rectangular flap to be raised, still connected at its base in the margin of the lip. The flap is then sutured to the nose in such a way as to give the aspect of the normal septum. After eight to ten days the flap is severed completely from the lip and the suturing to the

nose completed. The edges of the wound in the lip are brought together and sutured. The cosmetic effect is very satisfactory.

109. **Lichen Planus of Mucous Membranes.**—In Tchlenoff's case the patient exhibited typical lichen planus on face and neck, and the same lesions were also prominent in the mouth. He reviews the similar cases on record and observes that lichen planus has been noticed on the mucosa of mouth, throat, anus and urethra. It may develop at these points primarily and without appearing on the skin, but is usually secondary to cutaneous manifestations. The prognosis is generally favorable, especially under prolonged and energetic administration of arsenic.

110. **Tuberculous Stricture of Intestine.**—Nikolsky has been studying the records of 150 cases of tuberculous stenosis of the intestines, as published in the literature. They can be grouped as those with an acute sudden onset, those with a gradual development and those with a latent course. It is secondary in about 50 per cent. of all cases, and usually manifests itself between 20 and 40 years of age. Before 10 and after 60 it is extremely rare, although three cases are known before 9 and one case after 60. The stricture generally develops in the lower part of the ileum. Multiple strictures occur nearly as frequently as the single, and multiple strictures prove almost invariably to be of a tuberculous nature, as also all strictures whose etiology is not clear. Treatment is exclusively surgical, the sooner the better. The mortality after resection was 30 per cent., and after enteroanastomosis 17 per. cent.

Russki Vratch, St. Petersburg.

112 (I, No. 34.) Experimental Data in Regard to Tuberculosis of Joints and Trauma. N. N. Petroff.—Exp. dannya po voprosu bugortchakye sustavov v svyazi s povrezhdeniyami.
113 (No. 35.) K patologii Fallopi'evykh Trub. I. M. Lvoff.
114 Influence of Atropin and Eserin on Blood Supply in Head. A. M. Kalinin.—O vliyanii atropina i physostigmina na krovosnabzhenie golovy.
115 Critical Analysis of Pawlow's Theory in Regard to Digestion. L. B. Popelsky.—O tzyelecoobraznosti v rabotye podzheludotchnoi i zheludotchnykh zhelez.
116 *Treatment of Tetanus with Brain Emulsion. I. E. Tikanadze. K lyetcheni stolbnyaka vpryskivaniyami mozgovoi emulsii.
117 (Nos. 36-37.) Werlhof's Disease. S. V. Levashoff.—O raslytchnykh formakh W. bolyezni.
118 *Cutaneous Hyperalgesia in Relation to Affections of Internal Organs. B. Y. Gebstein.—O hyperalgesiakh kozhi i svyazi ikh s zabol. organov.
119 *O professionalnoi pollutzie i spermatorrheye. N. A. Bogoraz. (Commenced in No. 34.)
120 Influence of Artificial Light on Consciousness and Working Capacity. R. A. Katz.—O vliyanie iskusstbennova osveshtchniya na samotchubstvie i rabotosposobnost.
121 Malaria and Mosquitoes. V. V. Favre.—O zavisimosti mezhdu bolotnoiu likhoradkoi i komarami anopheles.
122 Conservative Treatment of Cord. V. A. Petroff.—Uproshtchennii sposob perevyazki i ukhoda za pupovinoi.
123 Clinical Study of Appendicitis. O. E. Hagen-Torn.—Nyekotorya klin. Yavleniya i ikh znatchenie pri appendicitye.
124 (No. 38.) Zamyetka o school-hygien. Photometrye. T. T. Petrushevsky.
125 1 Situtchai vrozhdennoi bronchiectasia u bolnova s situs inversus viscerum. A. K. Siewert.
126 *Treatment of Acute Pyemia. J. Wernitz.—K lyetcheniu ostrykh gnilostnykh zabolyevanii.
127 Profeta's Law. M. A. Tchlenoff.—O t. naz. "zakonye Profeta." (Commenced in No. 37.)
128 *K voprosu o lyetchenii Variioly usilennoi (repeated) vaccinatziei. P. I. Braslavsky.
129 (No. 39.) Serum Treatment of Cattle Plague. A. A. Yurgelunas.—O syvorototchnom lyetchenii sibirskoi yazvy.
130 Regulations in Regard to Lepers in Russia. K. K. Dehio.—Po povodu novyeishikh postanovlenii o prizryenii prokazhennykh v Rossii.
131 (No. 40.) *Reviving the Heart After Death. A. A. Kuliabko.—Novie opyty ozhivleniya serdtza. Ozhivlenie tchelovyetcheskova serdtza.
132 Effect of Resection of Liver on Gaseous Interchanges in Animals. Y. Y. Postoeff.—Resectio petcheni i vliyanie yevo na gazoobmyen u zhevotnykh.
133 (No. 41.) *Primary Tuberculosis of Spleen. T. I. Romanoff.—Pervitchnaya bugortchatka selezenki.
134 *New Method of Reviving in Case of Asphyxie Neonatorum. G. K. Minkevitch.—Novyi sposob ozhivlenie pri asphyxia neonatorum.
135 Ulcus Pharyngis Supposed Malarial. P. K. Haller.—Malarlinaya yazva glotki.

116. **Treatment of Tetanus With Brain Emulsion.**—Tikanadze reviews the four cases of tetanus treated with brain substance on the principle of "side chain immunity," which have been published by Krokiewicz, Schramon, Schuster and Rostovtzeff. All the patients recovered, and he describes a case personally observed in which the recovery was also rapid and complete. After the failure of chloral and other measures in a severe case of tetanus in a girl of 11, he commenced on the eighth day to treat her with brain emulsion. He obtained the head of a freshly slaughtered young pig and removed the brain and ground it in a sterilized porcelain mortar with sterilized physiologic salt solution, until a reddish fluid was obtained, which passed readily through the medium sized tip of the syringe. He thus injected subcutaneously 10 gm. of brain substance emulsified in 30 c.c. of the salt solution. Improvement was apparent by the next day. He repeated the injection again the next and the following days, and recovery was satisfactory. He adds his appeal to Rostovtzeff's that physicians should not fail to use the brain emulsion in cases of tetanus, especially when tetanus antitoxin is not obtainable.

118. **Cutaneous Hyperalgesia in Affections of Internal Organs.**—Gebstein urges further research in this line, as it may clear up the diagnosis in many dubious cases if the laws governing it can be determined. He describes and illustrates a dozen typical cases to show the variety in the location of the hyperalgesia. The region affected was sometimes, but by no means invariably, a girdle or zone, and it did not always correspond with Head's outlines. He found that hyperalgesia occurred regularly in certain regions, with an affection of any of the internal organs, but it was not an invariable accompaniment of an internal affection. The hyperalgesia observed in his cases always vanished on recovery from the internal affection.

119. **Professional Pollutions and Spermatorrhea.**—Bogoraz has examined hundreds of railway employes, and has found that pollutions and spermatorrhea are very common among them. Engineers are especial sufferers. The nervous strain of their profession and the constant jar of the engine causing friction between the sexual organs and the clothing, with the venous congestion in the lower part of the trunk and legs, cause constipation and frequent pollutions and spermatorrhea. He gives tables showing the comparative proportion affected among the various groups of railroad employes. He adds that they attribute the exaggeration of this pathogenic tendency to the introduction of the "American" system of long trips and sleeping on the cars.

126. **Treatment of Acute Pyemia.**—Wernitz gives the temperature curve and details of two severe cases of septic puerperal infection rapidly cured after application of the almost continuous rectal irrigation, which he described also in another article, of which an abstract was given in The Journal of March 14, p. 745.

128. **Treatment of Smallpox with Repeated Vaccinations.**—V. O. Hubert published in Russia, in 1886, an account of remarkably favorable results obtained by him in more than 200 cases of smallpox which he had treated by repeated vaccination, vaccinating the patients two or three times a day during the first six days of the disease. All recovered. Other Russian writers have published similarly favorable reports on a smaller scale, and Braslavsky now adds eight more cases to the list. The results were eminently good, although half of his cases were severe. He considers himself justified in recommending the method for wider adoption in the treatment of "natural" smallpox.

131. **Revival of Isolated Heart After Death.**—Kuliabko has continued his researches previously reported on the possibility of reviving and inducing spontaneous pulsation in the heart of warm-blooded animals two to four, and even five days after death of the animal. He announces that he has succeeded in accomplishing the same in the case of the heart of a three-months infant on the second day after the death of the child from pneumonia. A canula is inserted in the aorta, as suggested by Langendorff, and warm Locke's solution, saturated with oxygen, is forced through the heart. This is a solution of equal parts of $CaCl_2$, KCl and $NaHCO_3$, each .02 per cent.; NaCl, .9 per cent., and dextrose .1 per cent. After this fluid had coursed through the heart for about twenty minutes, almost imperceptible movements were noticed in the right auricle, spreading thence to the right ventricle, whereupon the entire heart commenced to beat. This spontaneous pulsation of the

heart continued for more than an hour. The more or less faintly rhythmical pulsation of the ventricles and auricles under the influence of artificial irrigation with the above fluid was a wierd sight, knowing that the owner of the heart had been dead thirty hours. It remains to be seen whether the facts thus learned will prove of any practical value, but they certainly suggest, he remarks, the possibility that, in exceptional cases, artificial irrigation of the heart with a warm salt solution might possibly be attempted as the very last resort.

133. **Primary Tuberculosis of Spleen.**—Romanoff's patient was a man of 80. It is the tenth case that has been published, he states. The lesion was of the "spleno-hepatic" type, described by Collet and Gallavardin. When admitted to the hospital (Tomsk), a few days before his death, the spleen formed a large tumor. He stated that he had been healthy except for a period of five months forty years previously, when he had expectorated blood and had more or less fever. The microscopic findings are described in full.

134. **Resuscitation in Asphyxia Neonatorum.**—Minkevitch seats the child on a flat surface and bends the trunk backward over a solid roll of cloth, which elevates the thorax while allowing the head to touch the flat surface of the table beyond. The trunk is then brought up and carried forward until the head is between the infant's knees. A few repetitions of the procedure are usually sufficient.

British Medical Journal, London.

February 28.

136 *Some Cases Simulating Acute Appendicitis. Arthur E. Barker.
137 *Pathology and Symptoms of Adenocarcinoma of the Rectum. Charles B. Ball.
138 Case of Dilatation of the Pylorus for Simple Stricture. Horatio P. Symonds.
139 A Simple Method of Operating on Piles. A. B. Mitchell.
140 Note on Intestinal Anastomosis: Special Forceps. T. Carwardine.
141 *The Presence of Diphtheria Bacilli in Atrophic Rhinitis. J. Odery Syms.
142 *The Bilberry. James Sawyer.
143 Case of Ruptured Urinary Bladder: Operation and Recovery. Hugh Lawrie.
144 *The Open-Air Treatment of Syphilis. E. H. Douty.

136. **Simulation of Appendicitis.**—Barker reports his experience with conditions simulating appendicitis among which are ruptured pyosalpinx, strangulated ovarian cyst with twisted pedicle, strangulated omentum, perforated gastric ulcer, retrocecal hernia, broken down caseating glands, ileocecal cancer with abscess, hematoma of broad ligament, reduction of hernia *en masse* and intussusception. Some of these are rare, while others such as ruptured pyosalpinx, broken down caseating glands, etc., are much more common. Intussusception ought never to be mistaken for appendicitis, yet it is. In some other conditions like gastric ulcer, the diagnosis may be very difficult.

137. **Adenocarcinoma of the Rectum.**—In this second lecture, Ball describes adenocarcinoma, which, while not exclusively the type of malignant disease occurring in this region, is still by far the predominant one. Hardly 5 per cent. of malignant growths there situated are of any other variety. It is met more frequently after middle age, but many cases are recorded in which it commenced in early life and he has seen it at the ages of 16 and 18 respectively. Both sexes appear to be affected alike. When met in young persons it is apt to be highly malignant and rapid in its course. He describes two forms, one commencing as a flat tubercle, ending in a sort of oval ulcer, spreading over the circumference of the bowel. The other, a slower type occurring in older persons without the exuberant edges, is a growth less in quantity and more atrophic, with a tendency to dense connective tissue formation around the ulcerated surface. The morbid histology is described at length and illustrated. The symptoms are, first, diarrhea, a good deal of mucus, etc., and later symptoms of obstruction and pain. Involvement of the other organs may occur if it progresses. He insists on the importance of an early diagnosis and of digital examination to detect the condition. This can be performed, if necessary, under anesthesia by the bimanual method. If the tumor is freely movable and no enlarged glands or metastatic growths can be felt, and the general condition of the patient is good, it is suitable for operation. If there is limited adhesion or lymphatic involvement, operation may be undertaken, but the prognosis is not so good, but if there is an extensive involvement of the adjoining organs and metastatic growths can be detected in the abdomen, operation is absolutely contraindicated.

141. **The Diphtheria Bacillus in Atrophic Rhinitis.**—Syms has investigated twenty-three cases of atrophic rhinitis for the diphtheria bacillus and found an organism closely resembling it in twenty of the cases. Control examinations were made on healthy noses, and in no instance was a similar microbe found. Culture experiments in one or two cases also proved the pathogenicity of the organism. There were certain slight differences observed, the bacillus was more curved and thinner and more highly metachromatic than the Klebs-Loeffler bacillus and rather closely resembled the tubercle bacillus. He offers the following conclusions:

If the foregoing facts can be sustained, and the identity of this bacillus with the Klebs-Loeffler bacillus can be established, then we may regard atrophic rhinitis as a chronic form of nasal diphtheria. In addition to the bacteriologic evidence the following points may be considered in support of this theory:

1. In diphtheria the accessory sinuses of the nose are constantly infected. Bacilli may remain in the sinuses for prolonged periods, exciting a purulent, sero-purulent, or serous discharge.

2. Chronic suppuration in the accessory sinuses is, in the opinion of many eminent rhinologists, the direct exciting cause of the conditions of ozena and atrophic rhinitis.

3. Multiple cases of atrophic rhinitis in the same household occur from time to time, as one would expect if the process were a true infection. Thus Terez records twelve instances in which there were two or more sufferers in the same family. This is a point I have not inquired into amongst my own series of cases.

4. An attack of diphtheria may be the starting point of atrophic rhinitis. Only two patients in the present series dated the onset of symptoms from an attack of diphtheria, but the history of all was not inquired into.

5. Atrophic rhinitis, like diphtheria, attacks females more than males; it is a disease of early life, and induces a pronounced anemia and leucocytosis.

6. Atrophic rhinitis has been successfully treated by diphtheria antitoxin. With regard to this point, my experience has been so limited that I do not feel justified in saying more than that if repeated moderate doses of antitoxin are administered regularly, amounting in all to 20,000 units, marked relief of symptoms results.

7. In atrophic rhinitis the type of diphtheria bacillus does not alter during the progress of the case, a fact which Woodhead has recently found to hold true in acute faucial or nasal diphtheria.

He says, apart from the theory that atrophic rhinitis is the chronic form of nasal diphtheria, a practical point is that cultures taken from these noses may cause isolation of patients

142. **The Bilberry.**—Sawyer notices the bilberry communication in a previously issued abstract in THE JOURNAL of February 28, ¶19, p, 610, and suggests further investigation of the subject.

144.—This article has appeared elsewhere. See THE JOURNAL of February 14, ¶18, p. 469.

The Lancet, London.

February 28.

145 Some Famous Medical Officers of the Army. Norman Moore.
146 *Gastroenterostomy and Its Uses, with a Description of the Operation as Performed by the Author. A. W. Mayo Robson.
147 Lunacy and the Lay. T. Outterson Wood.
148 *The Gelatin Treatment of Hemoptysis. H. M. Tickell.
149 *The Uses of X-Rays in Ophthalmic Surgery. M. S. Mayou.
150 *The Treatment of Epileptics. Fletcher Beach.
151 The Theory of Retinoscopy. E. Kenneth Campbell.
152 A New Method of Treating Fractures of the Shaft of the Femur. J. P. Lockhart Mummery.

146. **Gastroenterostomy.**—Robson reviews the methods and indications of this operation. He prefers the posterior operation, which is favored by his experience. The later results of operation have been much more favorable than the former. While only three or four years ago, from what he was enabled to collect from all sources, there was a mortality of 36.4 per cent., now he can point to a considerable series of cases with a mortality of only 5 per cent. He is not in favor of the Murphy button for this operation, though it is used almost exclusively by some German surgeons. He would employ it only when the greatest speed was imperative. Complications such as regurgitant vomiting, subsequent contraction of the new orifice, pneumonia or pleurisy, peptic ulcer, adhesions, causing intestinal obstruction, lack of union, passing of the small intestine through the loop, etc., are all noted. He gives a long series of conditions which indicate this operation:

Pyloric stenosis, from either simple or malignant disease, congenital forms, congenital pyloric atresia, chronic gastric ulcer, with doubtful tumor too extensive for removal, not necessarily associated with stenosis, duodenal cancer or tumor causing obstruction, and hour-glass stomach are indications for gastroenterostomy. In perigastritis, adhesions around the pyloric, causing obstructive symptoms, may be too extensive for gastroenterostomy. Dilatation of the stomach, depending on pressure outside the pylorus from inoperable tumor of the pancreas, liver, or gall bladder are imperative indications, as soon as the diagnosis is established. In the second series, cases in which it is indicated after failure of medical treatment, are included acute or chronic gastric ulcer, duodenal ulcer, hemorrhage from such ulcer, persistent spasm of the pylorus, or Reichmann's disease with gastric dilatation, hyperchlorhydria, persistent gastralgia, tetany of gastric origin, acute gastric dilatation not yielding to lavage and general treatment, pancreatitis secondary to gastric ulcer, certain cases of jaundice depending on gastric or duodenal ulcer, leading to thickening around the common bile duct and simple atonic dilatation of the stomach after failure of lavage and general treatment. In some of these cases operation is advisable simply to obtain physiologic rest and favor natural processes. The operation is here only a last resort when everything else has failed.

148. **The Gelatin Treatment of Hemoptysis.**—Tickell recommends the use of gelatin by the rectum in cases of hemoptysis, and reports a case. Since then he has applied the same method to other patients with the same favorable results. The solution is prepared as follows: 50 grams of gelatin are dissolved in one and one-quarter liters of boiling water and boiled very gently for an hour, when the volume is reduced by evaporation to one liter. This solution is then cooled down to body temperature, and one-quarter liter is slowly passed into the rectum from an ordinary irrigator at a height of two or three feet. The injection does not cause any action of the bowels, is entirely painless, and there is no danger of infection if properly managed, no rise of temperature and, of course, no necrosis. The treatment can be carried out in general practice. He would give it three times a day, until the sputum ceases to show any trace of blood.

149. **The X-Rays in Ocular Surgery.**—Mayou points out the uses of the *x*-rays in the location of metallic foreign bodies in the globe and gives a method of employing them. He also recommends them for rodent ulcer of the eyelid and trachoma. In the latter condition he does not use a mask, but just seats the patient about nine inches from the anode, with a moderately soft tube and a current of six amperes for a two minutes' exposure on four to six successive days, according to the case. If there is much injection, or the case is very acute, four will be sufficient. Later he employs it two or three times a week and has had excellent results.

150. **Epilepsy.**—Beach believes in the bromids for the drug treatment of epilepsy, and prefers the compound of bromid of sodium, ammonium and potassium. If only one is required he gives the bromid of ammonium, and, in some cases, has found the combination of antipyrin with bromid useful, giving it in doses of 10 gr. three times daily for adults and in a lesser quantity for children. Where the fits occur at night, he gives a double dose at bedtime and, if they are frequent, a single large dose only at that time. If they come in the early morning, he gives the dose before the patient rises and has him remain in bed an hour after taking it. He has not great faith in chlorid reduction in these cases, but would give tonics, such as cod liver oil, and keep the bowels well open and occasionally a high saline rectal douche should be given.

Journal of Tropical Medicine, London.

February 16.

153 Notes on Case of Omunono (Yaws). A. Yale Massey.
154 *Beri-Beri in Queensland. Edward B. Ormerod.
155 Malaria and Malignant Diseases in Hot Climates. James Cantlie.

154. **Beri-Beri in Queensland.**—Ormerod describes the conditions of life of the Queensland bushman, whose diet consists mainly of flour, salt meats, sometimes condiments and tea with every meal and between them. The water is very bad, and is often infected by dead animals, etc. Artesian wells are being introduced, which contain more or less magnesia, sometimes causing slight urethritis and general purging at first. Another source of infection is in the dust storms which occur. Rainwater is also used considerably. He has not met any cases of peripheral neuritis or beri-beri in those who only drank rainwater from tanks.

Indian Medical Gazette, Calcutta.

February.

156 *An Analysis of One Thousand Consecutive Cataract Extractions. (To be continued.) F. P. Maynard.
157 *Neurasthenia in Anglo-Indians. E. F. Gordon Tucker.
158 Notes on the Origin of the Presidency General Hospital, Calcutta. (Continued.) D. M. Moir.
159 *Note on the Bacteriology of Dysentery and the Value of the Serum Test in Its Differentiation. Leonard Rogers.
160 Glioma of the Retina. B. H. Nanavatty.

156. **Cataract Extractions.**—One thousand cases are here analyzed, including the 300 published in 1901. Maynard describes his methods of examination and his results, which were good in 89 per cent., indifferent in 5.7 per cent., and bad in 4.5 per cent. and unknown in eight cases. What he calls good is vision ranging from 6.36 to 6.6 with correcting glasses; indifferent results where the sight was bad, but sufficient to enable the patient to move about alone, and bad results where the sight was lost. He finds a family history in nearly 24 per cent. of his cases. The more intelligent the patient the more likely is the family history to be forthcoming. Of the other associated diseases, diabetes occurred in six cases, and the patients all did well. Fourteen patients had bronchitis and various other disorders occurred, but it does not appear that they affected the success of the operation very much.

157. **Neurasthenia in Anglo-Indians.**—Tucker recognizes two forms of neurasthenia, in men that from hepatic insufficiency, and in women a uterine derangement type, both of which are described at length, and the post-febrile group, which may occur in either sex. He thinks early and judicious treatment will prove successful in most cases. Many patients are allowed to go to the bad from neglect. The constant taking of alcoholic stimulants in small quantities to keep up brain energy is a very bad practice in male cases, as it accentuates the dangerous condition of the digestive organs. The patient's life should be carefully regulated, alcohol abstained from entirely or restricted to meals, amount of tobacco reduced, diet regulated, the use of Carlsbad salts in the early morning for a laxative, the teeth should be looked after, mild exercise taken once or twice a day to excite the action of the skin, but drafts should be carefully avoided after it and a flannel cholera belt should be worn at night, especially in the hot weather. Cold baths are injurious and should be prohibited. If the digestion is sluggish, a bitter, acid or some drug that will promote the functions of the intestinal canal is important, but the most important thing is mental rest. The patient should be told that he is suffering from no organic disease and should give up responsibilities. In women many cases are due to subinvolution, which is very largely overlooked, and the patients treated for anemia, dyspepsia, etc. The responsibilities of housekeeping and the care of the children should be removed. The patients should be advised to lay up for four weeks, passing the day on a couch and local treatment given for the uterus, hot vaginal douches in the horizontal position, massage of the limbs, etc.

159. **Dysentery.**—Rogers finds that in the cases which he has studied the organism resembles the Shiga bacillus. His observations point to the conclusion that the common form of India dysentery, prevalent in jails and other institutions, and not followed by the large tropical liver abscess, are produced by the Shiga bacillus or one very like it and can be differentiated from the much rarer and usually complicated cases of amebic dysentery by the positive serum reactions with the Shiga bacillus. His findings agree very closely with those of Flexner in this country.

New Patents.

Patents of interest to physicians, February 17 and 24:

720783. Antiseptic attachment for telephone mouthpieces. Charles W. Clough, Watsonville, Cal.
721032. Electromedical belt. Frank Farmer, Richmond, Ind.
720918. Disinfectant distributing device. Samuel Hesketh, Auckland, New Zealand.
720812. Vaccination shield. Robert W. Johnson, New Brunswick, N. J.
720599. X-Ray tracer. Friedrich Moritz, Munich, Germany.
720863. Atomizer. Jacob Waldman, New York.
720865. Pneumatic massage apparatus. Robert Watson, Washington, D. C.
720648. Syringe. Edward B. Wilder, St. Louis.
12084. Re-issue, Composition for disinfecting or other purposes. Henry S. Blackmore, Mount Vernon, N. Y.
721162. Hemostatic bandage. Eduard E. Denain, Paris, France.
721185. Apparatus for administering anesthetics. Wm. A. Heckard, Indianapolis.
721574. Ankle-supporting corset-shoe. John J. Lattermann, New York.
721575. Maternity corset. Mary E. Leighton, New York.
721587. Operating table. Charles Lyons, Columbus, Ohio.
721454. Prescription file. John H. Lytle, Delphi, Ind.
721603. Truss. Henry T. Prange, Kalamazoo, Mich.
721489. Making citrate soluble phosphates. Wilhelm Wolters, Magdeburg-Buckau, Germany.

The Public Service.

Army Changes.

Movements of officers of the Medical Department U. S. Army, under orders from the Adjutant General's office, Washington, D. C., from Feb. 21 to 28, 1903:

Ames, Roger P., contract surgeon, U. S. A., now at New Orleans, will proceed to Fort St. Philip, La., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East, to relieve Contract Surgeon Oliver H. Buford, U. S. A., who, on being thus relieved, will proceed to his home, Cartersville, Ga., and, on arrival, report by letter to the Surgeon-General of the Army for annulment of contract.

Mason, Charles F., major and surgeon, having complied with the requirements of Paragraph 1, Special Orders No. 26, Feb. 12, 1903, Department of Texas, will proceed not later than Feb. 28, 1903, to rejoin his proper station.

McAndrew, Patrick H., first lieutenant and asst.-surgeon, having reported his arrival at San Francisco, in compliance with orders heretofore issued, will proceed to Jefferson Barracks, Mo., and report in person to the commanding officer of that post for duty, and by letter to the commanding general, Department of the Missouri.

Tweedie, H. V., contract surgeon, U. S. A., is granted leave of absence for one month.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending March 7:

Surgeon C. Biddle, detached from the Naval Hospital, Philadelphia, and ordered to the Navy Yard, League Island.

Surgeon E. S. Bogert, detached from the Recruiting Rendezvous, Buffalo, and ordered to the Philadelphia Naval Hospital.

Surgeon J. C. Byrnes, detached from Navy Yard, New York, ordered home and granted three months' sick leave.

Surgeon O. Diehl, detached from Navy Yard, League Island, and ordered to the *Oregon*, sailing from San Francisco, March 19.

P. A. Surgeon F. C. Cook, detached from Naval Hospital, Newport, R. I., and ordered to the *Nevada*.

P. A. Surgeon R. C. Holcomb, detached from the Naval Hospital, New York, and ordered to the Naval Hospital, Newport, R. I.

Asst.-Surgeon F. W. S. Dean, ordered to the Naval Hospital, New York.

Asst.-Surgeon R. L. Sutton, ordered to the Naval Hospital, Washington, D. C.

A. A. Surgeon J. B. Mears, ordered to the Naval Recruiting Station, Buffalo, N. Y.

Asst.-Surgeon C. E. Riggs, ordered to the Naval Hospital, Philadelphia.

P. A. Surgeon R. T. Orvis, detached from the *Michigan*, and ordered to duty with Marine Detachment at Culebra.

A. A. Surgeon T. G. Foster, ordered to the *Michigan*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 5, 1903:

Surgeon H. R. Carter, to proceed to Morgantown, W. Va., for special temporary duty.

Surgeon G. M. Guiteras, to report at Washington, D. C., for special temporary duty, February 28. To proceed to Eagle Pass, Texas, for special temporary duty, March 2.

A. A. Surgeon C. P. Wertenbaker, to proceed to El Paso, Texas, for special temporary duty.

P. A. Surgeon M. J. Rosenau, detailed to represent Service at meeting of Special Committee on Diphtheria Antitoxin at Philadelphia.

P. A. Surgeon J. H. Oakley, granted leave of absence for seven days from March 1, 1903.

Asst.-Surgeon C. E. Decker, granted fourteen days' extension of leave of absence on account of sickness from Feb. 20, 1903.

Asst.-Surgeon L. L. Lumsden, relieved from duty at San Francisco Quarantine Station, and directed to proceed to Los Angeles, Cal., and Phœnix, Ariz., for special temporary duty.

Asst.-Surgeon J. W. Kerr, directed to assume temporary command of the Service at New Orleans, Feb. 28, 1903.

Pharmacist R. H. Gibson, granted leave of absence for seven days under the provisions of Paragraph 190 of the Regulations.

BOARDS CONVENED.

Board convened at Washington, D. C., March 2, for the physical re-examination of Chief Engineer Geo. Maher, Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened at Boston, March 9, for the physical re-examination of Lieut. B. H. Camden, Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

PROMOTIONS.

Asst.-Surgeon R. H. von Ezdorf, commissioned as passed asst.-surgeon, to rank as such from March 4.

Asst.-Surgeon J. F. Anderson, commissioned as passed asst.-surgeon, to rank as such from March 18.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 7, 1903:

SMALLPOX—UNITED STATES.

California: Berkeley, Feb. 18-25, 1 case; Los Angeles, Feb. 14-21, 3 cases; Sacramento, Jan. 25-Feb. 7, 4 cases; San Francisco, Feb. 15-22, 12 cases, 1 death.
Colorado: Denver, Feb. 7-21, 30 cases.
District of Columbia: Washington, Feb. 14-28, 6 cases, 1 death.
Illinois: Chicago, Feb. 21-28, 17 cases, 1 death.
Indiana: Elwood, Feb. 22-March 1, 3 cases; Evansville, Feb. 21-28, 4 cases; Indianapolis, Feb. 14-28, 57 cases, 16 deaths; Jeffersonville, Jan. 1-31, 1 case; Jeffersonville, Feb. 1-28, 5 cases.
Iowa: Davenport, Feb. 21-28, 4 cases.
Kansas: Douglas County, Jan. 1-31, 2 imported cases; Wichita, Feb. 21-28, 1 case, 1 death.
Kentucky: Lexington, Feb. 21-28, 1 case; Newport, Feb. 21-28, 1 case.
Louisiana: New Orleans, Feb. 21-28, 2 imported cases.
Maine: Biddeford, Feb. 21-28, 3 cases.
Massachusetts: Boston, Feb. 21-28, 2 cases; New Bedford, Feb. 21-28, 1 case; Newton, Feb. 21-28, 1 case.
Michigan: Grand Rapids, Feb. 21-28, 14 cases; Marquette, Feb. 21-28, 1 case; Menominee, Feb. 14-21, 1 case; Port Huron, Feb. 21-28, 5 cases.
Nebraska: Omaha, Feb. 21-28, 3 cases.
New Jersey: Camden, Feb. 21-28, 5 cases; Jersey City, Feb. 22-March 1, 3 cases.
New York: Buffalo, Feb. 21-28, 1 case; New York, Feb. 21-28, 4 cases; Yonkers, Feb. 20-27, 1 case.
Ohio: Cincinnati, Feb. 20-27, 11 cases, 1 death; Cleveland, Feb. 21-28, 7 cases, 2 deaths; Dayton, Feb. 21-28, 1 case; Hamilton, Feb. 21-28, 2 cases.
Pennsylvania: Altoona, Feb. 21-28, 6 cases imported; Dunmore, Feb. 21-28, 3 cases; Erie, Feb. 21-28, 5 cases; Johnstown, Feb. 21-28, 3 cases; McKeesport, Feb. 21-28, 2 cases; Norristown, Feb. 21-28, 1 case; Philadelphia, Feb. 21-28, 37 cases, 1 death; Pittsburg, Feb. 21-28, 19 cases, 6 deaths, 4 cases imported; Pottsville, Feb. 21-28, 4 cases.
South Carolina: Charleston, Feb. 21-28, 7 cases.
Tennessee: Johnson City, Feb. 21-28, 7 cases; Memphis, Feb. 21-28, 5 cases.
Utah: Salt Lake City, Feb. 14-28, 39 cases, 1 case imported.
Wisconsin: Green Bay, Feb. 22-March 1, 1 case; Milwaukee, Feb. 14-28, 11 cases.

SMALLPOX—FOREIGN.

Barbadoes: Jan. 31-Feb. 13, 9 cases, 1 death.
Belgium: Antwerp, Jan. 31-Feb. 7, 2 cases; Brussels, Jan. 31-Feb. 7, 6 deaths.
Canada: Winnipeg, Feb. 7-14, 1 case.
Canary Islands: Las Palmas, Jan. 24-Feb. 7, 69 cases, 2 deaths.
Ecuador: Guayaquil, Jan. 31-Feb. 7, 1 death.
France: Marseilles, Jan. 1-31, 37 deaths; Paris, Feb. 7-14, 1 death.
Great Britain: Birmingham, Feb. 7-14, 16 cases; Dublin, Feb. 7-14, 4 cases; Glasgow, Feb. 13-20, 1 case; Leeds, Feb. 7-14, 16 cases, 1 death; Leith, Jan. 31-Feb. 7, 1 case; Liverpool, Feb. 7-14, 6 deaths; London, Feb. 7-14, 1 case, 1 death; Nottingham, Feb. 7-14, 2 cases.
India: Bombay, Jan. 27-Feb. 3, 28 deaths; Calcutta, Jan. 24-31, 1 death.
Italy: Palermo, Jan. 31-Feb. 14, 11 cases.
Jamaica: Duan Vale, Feb. 1, present.
Japan: Kagawa Ken, Jan. 29, present; Yamaguchi Ken, Jan. 29, present.
Mexico: City of Mexico, Feb. 8-15, 6 cases, 2 deaths.
Netherlands: Amsterdam, Feb. 7-14, 3 cases.
Russia: Moscow, Jan. 24-Feb. 7, 9 cases, 3 deaths; Odessa, Jan. 18-25, 5 cases; St. Petersburg, Jan. 31-Feb. 7, 29 cases, 9 deaths; Warsaw, Jan. 31-Feb. 7, 1 death.
Turkey: Smyrna, Jan. 25-Feb. 1, 1 death.

YELLOW FEVER.

Colombia: Cartagena, Feb. 9-15, 2 deaths; Panama, Feb. 11-18, 2 cases.
Ecuador: Guayaquil, Jan. 31-Feb. 7, 21 deaths.
Cuba: Havana, Feb. 14-21, 1 case, 1 death, imported from steamship Esperanza from Progreso.
Mexico: Coatzacoalcos, Feb. 7-14, 1 case, 1 death.

CHOLERA.

India: Calcutta, Jan. 24-31, 53 cases.

PLAGUE—FOREIGN.

India: Bombay, Jan. 27-Feb. 3, 551 deaths; Calcutta, Jan. 24-31, 97 deaths; Karachi, Jan. 25-Feb. 1, 26 cases, 19 deaths.
Mexico: Mazatlan, Jan. 24-Feb. 7, 89 cases, 53 deaths.

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Original Articles.

IODIZED CATGUT.

NICHOLAS SENN, M.D., PH.D., LL.D.

PROFESSOR OF SURGERY, RUSH MEDICAL COLLEGE.

CHICAGO.

Absorbable suture and ligature material has held its place in surgery since Lister first introduced it into general practice. At times it has appeared as though it would become displaced by inabsorbable permanent material, but the general tendency at the present time seems to be in its favor. The improvements which have been made during the last decade in the sterilization of catgut and other absorbable animal sutures have contributed much in establishing and maintaining the confidence of surgeons in their use. There can be very little doubt that catgut will eventually render silk and metal obsolete as materials for buried sutures.

Nature abhors foreign material of all kinds in the living tissues. The ideal material for ligatures and sutures is one that is removable by absorption after it has accomplished the mechanical purposes for which it was employed. During my four months' tour through Europe and the Orient last summer I visited nearly a hundred hospitals and made special inquiries into the kind of suture material in use and the method of its preparation. Some surgeons relied on silk entirely, others used silk and catgut, and the smallest number relied on catgut exclusively. The methods of catgut sterilization were also found greatly at variance, as well as the manner of its preservation. The methods of Von Bergmann, Saul and Elsberg appeared to be most popular. The very fact that so many different methods of sterilization are still in vogue is the very best and most convincing proof that none of these have proved entirely satisfactory. The ideal sterilization of catgut consists in rendering the material not only absolutely sterile, but also mildly antiseptic without impairing its tensile strength and without destroying its durability on the one hand and interfering with its absorbability on the other.

The most recent method of catgut preparation is the one devised by Claudius.[1] The method consists in iodization of the raw material. The investigations made under the direction of his chief, Professor Bloch, were continued for more than a year, and every step taken was supervised by bacteriologic examinations. It was found that a 1 per cent. aqueous solution of iodin destroys the spores of the anthrax bacillus in eight days. The many experiments made by Claudius demonstrated that it requires seven days for the complete sterilization of catgut in this solution. He also ascertained that the iodized catgut is not only absolutely sterile, but at the same time strongly antiseptic. Imbedded in a solid nutrient medium infected with pyogenic microbes the iodin contained in the catgut inhibited the growth of germs some distance from the threads.

The following directions for the iodization are given: The commercial, raw catgut without any preliminary preparation is wound on a glass roll, two strings tied together to each roll. The disinfection is effected by immersion in a 1 per cent. solution of iodin. The solution is made by dissolving one part of iodin and one part of potassic iodid in one hundred parts of water. The solution is prepared by dissolving the potassic iodid in a small quantity of water, to which the iodin, finely powdered, is added and the concentrated solution is then diluted to 1 per cent. The solution and catgut are kept in a bottle with a wide mouth, which is closed with an accurately-fitting glass stopper. The date is written on the label of the bottle. After eight days the catgut is ready for use and is preserved in the same bottle and same solution. Before using the catgut it is immersed on the glass roll in a 3 per cent. solution of carbolic acid or an indifferent sterile fluid for the purpose of removing the iodin from the surface of the threads. The threads are cut in the carbolic acid solution as they are needed. The catgut not used during the operation is returned into the bottle, thus doing away with any unnecessary waste of material. Catgut thus prepared is pitch black, soft, pliable and almost as strong as silk. The knots are firm and not liable to slip.

According to the size of the catgut its removal by absorption takes place in from twelve to sixteen days, being a little more durable than alcohol catgut. It does not irritate the tissues, as the free iodin is soon converted into potassic and sodic iodid by chemical combinations formed with the salts of the tissue fluids.

The iodized catgut has been given an extensive practical test in the Frederick's Hospital, Copenhagen, and has been found eminently reliable. The ease of its preparation, the quality of the product, the results of bacteriologic investigations and what has been ascertained of its practical utility are sufficient inducements to give it a prompt and fair trial in practice. Since 1896 I have relied[2] exclusively on catgut sterilized by Hofmeister's method, but instead of preserving it in an alcoholic solution of bichlorid, I keep it ready for use in the following mixture: Absolute alcohol 950, glycerin 50, iodoform (finely pulverized) 100. The alcohol dissolves part of the iodoform. The catgut can be kept in this

1. M. Claudius: Eine Methode zur Sterilisirung und sterile Aufhebung von Katgut. Deutsche Zeitschrift für Chirurgie, Band lxiv, s. 489.

2. Ideal Catgut Sterilization. THE JOURNAL A. M. A., Dec. 12, 1896.

mixture for any length of time without losing its strength and without becoming brittle. In a very short time the color of the catgut becomes darker, and eventually pitch black. I always preferred old catgut to the recently prepared material, and have therefore been using iodized catgut for more than six years. I have used it to the exclusion of any other kind of catgut in the St. Joseph's Hospital, Presbyterian Hospital and the Surgical Clinic of Rush Medical College. Infection that could be traced to the catgut has been extremely rare. During the autumn quarter of Rush Medical College recently terminated only one case of deep-stitch abscess occurred. This was a case of large ventral hernia. Sutures of silver wire and catgut were employed in closing the parietal defect. It is more than probable that the catgut was contaminated after it was removed from the bottle.

With such uniform satisfactory results it was not without some hesitation that I abandoned the well-tried material for something new. I did so largely on account of the conviction I held that I had practically been using iodized catgut, and that I attributed the excellent results largely to the presence of iodoform and iodin in the material employed. In the paper in which I advocated sterilization of catgut by Hofmeister's method and its preservation in glycerin emulsion I stated:

Catgut to be safe should not only be absolutely sterile but should contain a sufficient quantity of an efficient antiseptic to render it unfit as a culture medium for pathogenic microbes. Most of the preserving solutions contain either corrosive sublimate or carbolic acid. Both of these antiseptics unduly irritate the tissues and increase the primary wound secretion, effects which can not fail in interfering, to a certain extent, with an ideal healing of a wound by primary intention.

The interesting experiments made by Lauenstein leave no doubt that it is almost next to impossible to render the field of operation absolutely aseptic by any of our present methods of disinfection. We are forced to admit that nearly every wound inflicted by the surgeon's knife contains some pathogenic microbes, notwithstanding that the strictest aseptic precautions may have been practiced. The experiments made by Ewald have also furnished positive proof that sterile catgut often contains a sufficient quantity of an unknown toxic substance which, by its destructive action upon the cells engaged in the reparative process, transforms them into pus corpuscles, resulting in the production of a limited aseptic suppuration and the formation of sterile pus. Undoubtedly many of the stitch abscesses which occur in the practice of painstaking aseptic surgeons have such an origin.

These experimental reseaches force on us the conclusion that catgut should not only be properly sterilized, but that it must be made sufficiently antiseptic to at least inhibit the growth, if not destroy the pyogenic microbes which enter the wound during the operation or which may reach it later through the circulation.

The investigations of Claudius have confirmed me in the belief that the iodin in the catgut is of far-reaching value in the prevention of stitch abscesses. The iodin suffices not only in effecting sterilization, but at the same time imparts to the catgut the necessary antiseptic qualities. The iodized catgut behaves in the living tissues like in the infected nutrient medium by inhibiting the growth of pyogenic microbes in its substance and immediate environment.

Iodin possesses marked antiseptic properties, as first shown by Liebig. Fibrin immersed in iodized water does not undergo putrefaction. Putrefaction in pus can be prevented and arrested by the addition of iodin. The addition of a few drops of iodin to fetid pus causes the odor to disappear promptly. The antiseptic properties of weak solutions of iodin in the treatment of suppurating wounds are very manifest. Iodin penetrates tissues, dead and living, quickly and deeply, its power of diffusion is great, qualities which, combined with its pronounced antiseptic properties, must entitle it to be considered the most desirable substance among the chemical agents employed for the sterilization and preservation of catgut.

We have used the iodized catgut prepared according to the directions of Claudius for a number of weeks in the surgical clinic of Rush Medical College, and the results so far have been entirely satisfactory. The raw material prepared in this country has been found more suitable for this method of sterilization than imported catgut from different sources. Some of the imported catgut was made brittle by immersion in the iodin solution the requisite length of time. If a large experience establishes the reliability of iodized catgut, then the method of catgut sterilization has been discovered which will recommend itself on account of its simplicity, more especially to the country practitioner and military surgeon. Experiments are now in progress in the surgical laboratory of Rush Medical College to determine the bactericidal power of iodin, and the results obtained will appear in a future communication.

THE ADMINISTRATION OF CALCIUM SALTS IN NEPHROLITHIASIS DUE TO URIC ACID CALCULI.

ALFRED C. CROFTAN, M.D.
PROFESSOR OF MEDICINE, POST-GRADUATE MEDICAL COLLEGE.
CHICAGO.

THE UNDERLYING FACTS AND PRINCIPLES.

Phosphoric acid forms three salts with sodium, as follows:

H_3PO_4, phosphoric acid.
NaH_2PO_4, mono-sodium-phosphate.
Na_2HPO_4, di-sodium-phosphate.
Na_3PO_4, tri-sodium-phosphate.

The mono- and the di-sodium phosphate normally occur in the urine. Uric acid is readily soluble in di-sodium phosphate, but it is not soluble in mono-sodium phosphate. The addition, in fact, of mono-sodium phosphate to a solution of uric acid in di-sodium phosphate will cause the precipitation of the uric acid.

It is clear, therefore, that the solubility of uric acid in the urine is enhanced by the presence of di-sodium phosphate and that the tendency to the formation of uric acid concretions increases in proportion to the amount of mono-sodium phosphate that is excreted through the kidneys.

It is also clear that any endeavor directed toward preventing the precipitation of uric acid in the urinary passages must be concerned with increasing the amount of di-sodium phosphate and decreasing the amount of mono-sodium phosphate.

The ideal would be to cause the complete disappearance from the urine of mono-phosphate and at the same time to produce the elimination through the kidneys of a quantity of di-phosphate sufficiently large to hold all the uric acid excreted in solution.

This can be done in two ways, viz., either, *First,* by decreasing the phosphoric acid in the blood entering the kidneys, or *Second,* by increasing the sodium in this blood; for the smaller the proportion of available acid to available base the greater the tendency to the formation of basic salts.

First. The decrease of phosphoric acid in the renal blood. The phosphoric acid of the blood is derived from three sources. First, phosphoric acid in the form of phosphates is ingested with the food. Second, phosphorus is contained in all albumins (chiefly the nucleins of the food); the oxidation processes going on in the organism convert this phosphorus into phosphoric acid. Third, phosphoric acid is similarly derived from the albumins (nucleins) of our own tissues. The phosphoric acid formed in the body is consequently derived both from the disassimilation of the food proteins and the catabolism of the proper tissues of the body.

The first two sources of phosphoric acid we can control directly by eliminating from the diet pabulum containing much phosphorus, as nuclein-containing foods, e. g., internal organs, young germinating plants, etc. (By limiting the ingestion of nuclein-containing foods we at the same time eliminate the chief source of uric acid.)

The third source of phosphoric acid we can only control indirectly, i. e., by removing from the blood and tissues, through other channels than the kidneys, the phosphoric acid that must inevitably be formed from the degradation of our own tissues.

Both the direct and indireet regulation of the phosphoric acid content of the blood can be achieved by the administration of calcium salts. For, in the first place, calcium forms insoluble salts with the alkaline phosphates contained in our normal food, and in this way prevents the absorption of this moiety into the blood. In the second place, calcium, owing to the great affinity it possesses for phosphoric acid, combines with the phosphoric acid encountered in the blood stream, and this proportion is subsequently eliminated in the form of calcium phosphate—not, however, through the kidneys, but in great part through the intestine. This is an important point, for in contradistinction to sodium, potassium and magnesium, all elements that are chiefly eliminated through the kidneys, calcium is principally (85 to 95 per cent.) eliminated through the bowel.

It will be seen, therefore, that calcium given by mouth can, first, prevent the entrance of preformed phosphoric acid (phosphates) from the food into the blood, and can, secondly, prevent the phosphoric acid formed in the organism from passing into the urine by causing its elimination through the intestine.

Second. The increase of the sodium in the renal blood. This object can be accomplished by the administration of sodium salts by mouth; but this is bad practice. It is dangerous for various reasons to render the urine continuously alkaline. And this occurs if doses of sodium salts are exhibited large enough to convert all the mono-phosphate of the urine into di-phosphate. Normal urine is faintly acid, and it should be kept so. Calcium salts given in very large doses never render the urine alkaline.

Whereas, therefore, the administration of large doses of sodium salts for long periods of time may be indicated on theoretical grounds, it is counter-indicated on empirical grounds. First, because it renders the urine alkaline and thus favors the deposit of concretions other than uric acid stones; second, because it exercises a deleterious effect on gastric digestion; third, because it is not without effect on the corpuscular elements of the blood; fourth, because it is superfluous, as calcium salts by decreasing the phosphoric acid of the urine thereby cause a relative increase of the sodium (and of the sodium di-phosphate) without at the same time rendering the urine alkaline.

To summarize, therefore:

1. The uric acid of the urine is held in solution by di-sodium phosphate and is precipitated (salted out) by mono-sodium phosphate.

2. For the prevention of uratic calculi the increase of di-phosphate and the decrease of mono-phosphate is, therefore, a desideratum. This object can be accomplished either by decreasing the phosphoric acid or by increasing the sodium of the urine.

3. Calcium salts produce the desired effect by decreasing the excretion of phosphoric acid through the kidneys.

a By binding the preformed phosphates of the food and preventing their absorption.

b By binding the phosphates of the blood and causing their elimination through the bowel.

4. The administration of sodium salts that can also produce an increase of the di-phosphate and a corresponding decrease of the mono-phosphate is to be condemned, chiefly because sufficiently large doses render the urine permanently alkaline. And this deleterious effect is not produced by the exhibition of calcium salts.

DOSE AND ADMINISTRATION.

The best calcium preparation is the carbonate; this may be given in doses of fifteen to twenty grains three times a day. More may be given with impunity. Von Noorden advises as much as fifteen grams a day, and claims never to have seen any bad effects even after months of this treatment. It is necessary to individualize—the smallest efficient quantity of any drug is always the best dose. The urinary calcium, phosphorus and uric acid excretion should be determined in the beginning (the patient being on a fairly constant, nuclein-free diet) and the dosage regulated accordingly.

A more convenient form of administering calcium and one that is preferred by most patients, particularly if the treatment is to be carried out indefinitely, is to give calcium in the form of natural mineral waters or as an addition to some pure water. Among the better known European mineral waters Contrexéville, Wildungen and Fachingen contain the largest proportion of calcium salts. Among domestic waters the choice is difficult. The exploiters of the majority of them make such blatant and extravagant claims in regard to wonder cures that it is not safe to place any reliance on this essentially commercial propaganda. Personally, I prefer adding the necessary amount of calcium salt or lime water to some pure water; for the "curative" value of most natural and artificial mineral waters depends more on the water than on the salts they incorporate. Abundant water drinking is in itself indicated in urolithiasis, as any dilution of the urine must needs counteract the tendency to urate concretions. That the diet should in addition be so regulated as to lead to the smallest possible excretion of uric acid need hardly be emphasized.[1]

THE DIAGNOSIS OF URIC ACID CALCULI.

It is important to determine that the calculi or the "gravel" passed are really composed of uric acid or urates and not of other possible substances. The following method is rapid and easy of execution.

The concretions are finely powdered. A portion is treated with dilute cold hydrochloric acid in a test tube; if effervescence occurs the concretion contains carbonates, and if it dissolves it is not a uric acid stone. If

1. See my article on "The Modern Basis of Dietetic Treatment in the Uric Acid Diathesis," N. Y. Med. Jour., Nov. 1, 1902.

nothing or only very little of the material goes into solution, the residue is treated with a large quantity of warm dilute HCl. Any residue is presumably uric acid for the sulphates and oxalates of lime, the phosphates, cystin and xanthin all go into solution. The residue is filtered off, dried and heated on a piece of platinum foil; a distinct odor of bitter almonds (HCN) speaks for uric acid. Finally, the murexid test may be performed as follows, in order to render the diagnosis certain. A small quantity of the material is dissolved in nitric acid and a few drops of the solution evaporated in a porcelain dish; the residue should be red—it should turn purple when touched with a drop of ammonia, and reddish-blue with a drop of potassium- or sodium-hydrate.

RESULTS.

I report four cases; they present no clinical features of sufficient intrinsic interest to merit chronicling in detail. The only noticeable fact is that all four were advised by me several years ago to use calcium salts continuously; that all four were lost sight of for periods varying from two and a half to four years, and that all four recently again came under observation for other causes without having suffered a recurrence of their attacks of renal colic during the whole intervening time. Several other cases I have lost track of, but hope to rediscover.

Von Noorden, who first advocated the use of calcium salts in nephrolithiasis, reports only two occurrences of renal colic among twenty-one cases; in one patient an attack occurred a few days after beginning the treatment; in another patient who had suffered from severe attacks every few weeks, an attack developed nine months after the treatment was begun, and not again thereafter.

The good results obtained in my four cases and the statistics of Von Noorden lead me to believe that the treatment of uratic nephrolithiasis by the continuous exhibition of calcium salts is efficacious and deserving of extended trial.

100 State Street.

GLIOMA RETINÆ WITH REPORT OF FIVE CASES.*

CHRISTIAN R. HOLMES, M.D.
CINCINNATI, OHIO.

Glioma is a disease limited to childhood, and we may consider it the only true neoplasm developing in the retina. Its synonyms are: "Neuro-epithelioma" (Wintersteiner), "gliosarcoma" (Virchow), "glio-angiosarcoma" and "tubular gliosarcoma" (De Gama Pinto).

H. Knapp, in 1867, appears to have been the first to give an accurate and thoroughly scientific description of this class of tumors. In 1868 appeared Hirschberg's classical work on this subject, with a report of 77 cases collected from different sources. Virchow believed the cells of this class of tumors to be derived from the supporting fibers of the retina (the glia), and hence gave it the name of glioma retinæ.

Iwanhoff, in 1869, described the structure of the glioma as follows: "The larger nodules are always very vascular, with a characteristic arrangement of the cells which are concentrically grouped around the blood vessels. On section the whole nodule appears to consist of closely arranged cell rings whose central spaces are filled with red blood corpuscles."

Wintersteiner has tabulated 500 cases from all sources, 31 of these being his own, which had been very thoroughly studied microscopically. The same author has tabulated the following cases, in which the origin of the gliomatous growth could positively be traced to one or more of the retinal layers with the following results:

(a)	Origin in layer of optic nerve fibers	5 cases
	Origin in inner nuclear layer	19 cases
	Origin in any of the inner layers of retina	12 cases
	Total	36 cases
(b)	Origin in outer nuclear layer	9 cases
	Origin in outer layers of retina	3 cases
	Total	12 cases

From this we will observe that the origin is three times more frequent in the inner than in the outer layers. We must remember that the origin is not limited to one layer of the retina, but may spring from several layers in the same case. It has been observed that gliomata have their origin four times more frequently from the posterior than from the anterior half of the globe. The same author accepts Cohnheim's theory that tumors have their origin in the masses of embryonic cells which are at times left over in the building of the normal structure, these cells remaining dormant in their embryonic state until at some later period they may take on an active and perverted growth. Prof. Schöbl, who has observed a very large number of this class of tumors, concludes that glioma may start from the supporting fibers of any of the layers of the retina, but mostly from the inner nuclear layer. In this layer Da Gama Pinto found that the nuclei were mostly in process of division with karyokinetic figures. That glioma is a form of tumor independent of and different from sarcoma, was first doubted by Cornil and Ranvier; later they were termed small round-celled sarcomata by Delafield, and Nagel agreed in this opinion. From Virchow's standpoint the supporting tissue of the retina can not be considered identical with common connective tissue, and from the standpoint of Klebs the gliomata are derived even from a different germinal layer than that from which the sarcomata arise. The clinical picture of glioma also is so well defined that to confound it with sarcoma is against good judgment.

Becker thinks that there is a sufficient number of mesoderm cells in the blood cells to give rise to sarcomata. To this it must be answered that their origin from the granules of the nuclear layer directly, especially of the inner one, can be observed, and that processes of division can be seen there, as Da Gama Pinto, Schöbl and others have witnessed, and that not a single observer has found a glioma starting from a retinal blood vessel, while with sarcomata this is nothing rare.

The most frequent mixed tumor of this kind is gliosarcoma (Virchow). When spreading into the choroid and sclera and beyond the eye, gliomata may sometimes change their character in that their cells grow larger, up to 15 microns, while their nuclei remain comparatively small—6 to 10 microns; that is, the protoplasm is increased, or, in other words, the cells assume the character of small round-celled sarcoma. Berthold was the first who asserted that gliomata may assume a sarcomatous character, after having spread into the choroid, and that this membrane, irritated by the entering of the glioma cells, furnishes the sarcomatous elements. In a reverse way it may occur that sarcomata of the choroid take on a gliomatous character. This, perhaps, explains Von Graefe's two observations of gliomas in adults.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

Prof. Schöbl's remarkable case of glio-fibro-sarco-myo-angioma confirms the statement that the character of the tumor often depends on whether or not it has invaded other tissues. In this case, the pure retinal glioma, when it spread into the sclera, produced proliferation with the formation of glio-fibroma; when the glioma cells spread into the orbital tissue they caused a proliferation in this locality, and sarcomatous (round and later spindle) cells were formed; and thus a glio-fibro-sarcoma resulted. The same process was repeated with the unstriped muscular tissue of the blood vessels, and thus the tumor formed a glio-fibro-sarco-myo-angioma.

Greef has examined fresh gliomata by the impregnation methods of Golgi and Cajal. By the latter method he succeeded in demonstrating the presence of differently shaped cells in retinal glioma. He found numerous oval and star-shaped cells with free offshoots which were undoubtedly true neuroglia cells and the original cells of the tumor. From Greef's investigations, it appears certain that gliomata are not neoplasms of sarcomatous nature, since impregnation of the cells after Cajal's method could not take place. It is believed by some authors that neuro-epithelioma of the retina is always congenital, or at least that a predisposition exists through some disturbance in the process of development.

Glioma spreads in the retinal structure: 1, by enlargement of a single or the confluence of several smaller nodules, and 2, by metastasis within the retina.

The growth of the primary nodules takes place through division and multiplication of the cells next to the blood-vessels, whereby the older cells are constantly crowded farther back toward the periphery and become necrotic for want of nutrition.

The growth spreads in three ways: 1, through the inter-lamellar spaces; 2, through the lymph channels, and 3, through the blood-vessels.

It is characteristic of the development of glioma that the growth not alone displaces other structures by pressure but replaces them by neoplastic tissue. With the destruction and transformation of the retina by the rapidly developing gliomatous tissue come retinal detachment and an extension of the process to other structures, the choroid being generally and naturally the first to be involved. Beyond the retina and the choroid the extension of the neuro-epithelioma takes place most readily along the optic nerve, the cancer tissue replacing the nerve bundles and finally extending to and involving the chiasm and surrounding structures. Secondary tumors have been found in nearly all of the organs and even the bony structures are frequently involved.

In the second and third stages the growth replaces the orbital tissue, extending to and destroying the periosteum and bone by erosion.

The diagnosis between gliomata and other tumors is easily made, but the differentiation of the pseudo-glioma is fraught with many difficulties, but only when the disease is well advanced. We must differentiate from: 1, detachment or cysts of the retina; 2, tumors of the choroid and ciliary region; 3, masses of inflammatory exudate in the vitreous (pseudo-glioma), and 4, the combination of true glioma with any of the above.

The greatest difficulty in making a correct diagnosis occurs when the cornea, aqueous or lens have undergone such changes as to prevent inspection of the interior of the globe, cataract being the most frequent condition encountered. As a rule, we may state that inflammatory exudates into the vitreous give a yellowish reflex, with a metallic luster and smooth surface, while the color of glioma may be a light yellow, reddish or greenish-yellow and the growth is nodular.

The diagnosis may be complicated further by the formation of a post-inflammatory membrane or exudate upon the hyaloid membrane directly behind the lens, by chronic inflammation and fibrinous exudate into the vitreous, or by acute suppurative hyalitis. From detachment of the retina it should be readily differentiated by a careful ophthalmoscopic examination, and from tumors of the choroid by the fact that they are nearly all pigmented. Leucosarcoma of the choroid is rare and its growth is dissimilar to that of gliomata. It develops as a solitary half-round mass over which the retina may be atrophied, but does not form reduplications and thickened masses.

That there is often great difficulty in making a differential diagnosis between the true and the pseudo-glioma, is proved by the fact that Raab found in the collection of Otto Becker of Heidelberg twenty eyes that had been enucleated by various expert diagnosticians, after the diagnosis of glioma retinæ had been made, and yet in 25 per cent. of these no gliomatous or cancerous tissue was present, but only inflammatory changes in the uveal tract. Treacher-Collins reports that out of 1020 eyes removed in Moorfield Hospital, London, from 1888 to 1892, the diagnosis of glioma had been made in 24 cases, and yet microscopic examination revealed that 7 of these were pseudo-glioma.

Fortunately, neuro-epithelioma of the retina is rare. Even in the largest clinics, six months to a year may pass without a child with glioma being presented. Twenty-two of the great clinics of the world reporting 498,057 patients, record 203 cases of glioma—one twenty-fifth of 1 per cent.—or one case of glioma out of every 2500 cases of diseases of the eye. But after reading the reports of Raab and Treacher-Collins, mentioned above, we are justified in concluding that no doubt many of these were cases of pseudo-glioma.

The disease is absolutely limited to childhood and is often well advanced at birth. The combined results of investigation by leading oculists of the world seem to prove conclusively that when glioma is reported as a primary growth in an individual over 16 years of age it is a mistaken diagnosis. Out of 467 cases, the growth was developed at birth in 34 cases to such an extent as to present the amaurotic cat's eye. Ophthalmoscopic examination would have shown a much larger number. Including these congenital cases, there developed during the first three years of life, 314 out of a total of 467 cases, or 67 per cent.

The percentage of involvement of both eyes is very large; out of 87 cases it occurred 16 times at birth, or in 18.4 per cent. Deducting these congenital cases from the 87 cases, it was found that both eyes were involved 65 times out of 71 cases during the first three years of life.

It is of interest to remember that the second eye appears never to have been found to become involved by an extension of the disease along the optic nerve and through the chiasm from the first eye. Where both eyes are affected, the disease always develops independently in each eye.

The disease may extend backward along the optic nerve to the chiasm, involving adjacent structures and causing death, but it has not been known to travel from the chiasm peripherally along the nerve of the sound eye; blindness of the non-affected eye due to atrophy may, however, result because of the destruction of the nerve fibers in the chiasm.

The influence of heredity has not been demonstrated; as yet we know of no case in which an individual who had an eye removed in childhood for glioma, has transmitted the disease to his offspring. There are, however, many cases on record where several members of one family have been affected, just as at times we find congenital cataract in some or all of the children of one family, where the parents are closely related. I have been unable to find whether there was consanguinity between the parents of the patients about to be cited.

Lerche, St. Petersburg, 1821, observed a family of 7 children, 4 of whom died from glioma; Sichel, in 1852, 4 cases in one family; Calderini, in 1867, 3 cases in one family; Knapp and Thompson, in 1874, 5 cases in one family; MacGregor, in 1885, 3 cases in one family, and Flexner, in 1871, 3 cases in one family. Wilson, in 1872, exhibited before the Pathological Society of Dublin, the photographs of 8 children of one family, four of whom had died from glioma and the remaining four being also afflicted with the same disease.

The disease may be divided into three stages of development:

1. Period of intra-ocular growth, without increased tension or inflammatory symptoms.
2. Glaucomatous or inflammatory period, which ends with rupture of the globe.
3. The period of extra-ocular growth and metastasis.

In some cases there is temporary arrest and even retrograde change, such as phthisis bulbi after rupture or violent inflammatory reaction of the globe, the temporary arrest being probably due to destruction of the vessels of nutrition with degeneration of the glioma cells as a result of the suppurative process.

Death may result from:

1. Involvement of the brain.
2. Cachexia.
3. Pressure of the growth on the medulla oblongata.
4. Suffocation from extension of growth into the pharynx and larynx.
5. Pyemia or septicemia, with metastatic abscesses.

The duration of life when there is no surgical interference varies greatly, but from a few months to three years is the average. A few cases have been reported where the first period lasted five years from the time the disease was first discovered. The average duration of the second stage is from 2 to 21 months, while the third stage from the rupture of the cornea to the fatal termination is the shortest, varying from two weeks to one year, with an average of three months.

If there is no return in two years after enucleation the case may be regarded as cured so far as that side is concerned, but we must remember that the disease may occur in the other eye a considerable period after the first eye becomes affected, and we must then regard it as an independent attack in the same patient and not a recurrence of the primary growth.

The only treatment that can be considered as offering any chance of saving life is removal of the affected eye, with as much as possible of the optic nerve, at the earliest possible moment during the first stage. In operations undertaken during the second stage, before the rupture of the cornea, the chances of success are very slight, since the infection has often extended outside of the globe through the veins or lymph channels. But even then it is our duty to operate, and exenteration of the orbit should be added to the enucleation of the eye, if we hope to arrest the disease. In this stage I regard the use of pastes far superior to the use of cutting instruments, because the liability of opening up new avenues of infection is much greater in the latter method.

When the case has once entered the third stage the rule is that, no matter how thoroughly exenteration is performed, there is always recurrence within a few weeks, and operation in this stage is only justifiable in order to afford temporary relief.

With the advent of serum-therapy it was hoped that this mode of treatment might be of service, and Nieden reported his observations upon this method at the meeting of the Ophthalmological Society at Heidelberg in 1896. The cancer serum was injected in a case of recurrent glioma. At first there appeared to be an arrest of the growth, but it soon broke forth with greater fury than before, and went on speedily to a fatal termination.

Shall we advise enucleation if both eyes are affected? Since cases of undoubted glioma—as proved by the microscope—have been cured after double enucleation, and as the disease springs from a separate and independent focus in each eye, we should answer this question in the affirmative, and urge the operation if the disease has not progressed beyond the first or second stage in either eye. For if life is saved, blindness to a child at this period is not a barrier to its acquiring an education and becoming a useful and independent citizen.

CASE 1.—Baby M., female, white, aged 2 years, was first seen by me Feb. 7, 1894. Child was well-nourished and its general health good. Left eye normal; right pupil dilated, which caused the mother to seek consultation. External appearance of globe normal. The pupil appeared the normal black color. Tension normal. Ophthalmoscopic examination revealed that the dioptric media was clear, but there was a flat, yellowish, nodular mass to the outer side of disc; retina was intact outside of the affected area. A diagnosis of glioma retinæ was made, immediate enucleation advised, and the danger of delay fully explained to the mother. The family physician was informed of my opinion. He examined the eye superficially and said he could see nothing wrong, advised against the operation, and gave the mother little sugar-pills for the child.

May 3, nearly three months later, the mother returned with the child. It was emaciated, exhausted and fretful, frequently crying out in pain. The case was now well advanced into the second stage. Globe injected, tension +2, anterior chamber obliterated, pupillary area filled with a yellowish mass, slightly irregular, with a few fine vessels seen upon the surface. The family physician had now withdrawn his objection to operation. Left eye was still normal.

In order to give the child its only chance, and to relieve the suffering caused by the glaucomatous eye, I enucleated the globe and also removed a considerable piece of the optic nerve. Under similar conditions I should now make exenteration of the orbit. The operation was followed by marked improvement in the child's general condition, but on October 8, about five months after the operation, the mother returned with the child stating that it had vomited frequently during the previous week. Its appetite was poor, but it slept well. No other general symptoms were present. The orbital cavity was filled with a hard mass which did not appear to be attached to the bony walls, but was movable; the new growth appeared to spring from the optic nerve-end, which formed its pedicle. The tumor was removed to the very apex of the orbit and, as surmised, it sprang from that part of the optic nerve which had not been removed at the first operation. As I considered the case beyond hope, I did not wish to cause the child additional and useless suffering by the use of cautery or pastes.

The growth promptly recurred and soon developed into a large protruding mass. The child suffered most terrible agonies unless kept under the influence of opiates, 1½ grs. of morphia being administered hypodermatically every 4 or 6 hours.

The child died on Feb. 26, 1895. (Figs. 1 and 2 are sketches made after death, showing the appearance of the growth.)

Postmortem Notes.—Child greatly emaciated. Tumor 12 inches in circumference at the base, projecting from the right orbit about 4 inches. In shape, the tumor had much the appearance of a small cocoanut, and it was of a dark reddish color. The projecting surface was broken down in places and covered with nodules. The growth involved the bony structure and extended from the roots of the hair almost to the alveolar process. The meninges at the base of the right side and a portion of the brain, together with the optic nerve, were extensively invaded by the cancerous tissue which was partly ne-



Fig. 1.—Case 1. Recurrent growth one year after neoplasm was first discovered ophthalmoscopically. Nine months after enucleation and five months after removing recurrent growth and all of optic nerve to apex of orbit.

crotic. The meninges and brain of the left side, together with the left eye, appeared normal.

Microscopic Report of Globe.—Dr. Louis Stricker reports as follows: Unfortunately, the eye was cut through the equatorial region; hence, no complete sections of the entire globe could be made. Both halves were filled with a new growth, showing on its surface minute red spots—large ves-



Fig. 2.—Side view of Fig. 1.

sels—and around these areas of a greenish color, whereas, at a distance from these the surface was white. The general contour of the globe was retained and at no point had the tumor perforated the sclera. The optic nerve, especially its nasal half, showed decided thickening. The anterior half of the globe was also filled with the tumor mass, and entirely hid from view the lens and ciliary body.

The specimen was carefully hardened in Mueller's fluid for 5 months, then washed out and gradually hardened in alcohol, finally imbedded in celloidin, and then cut in sections.

Without the use of a lens, the sections disclose that the optic nerve is infiltrated with the tumor up to the point of excision, necessarily having left behind some part of the new growth.

A general view of a section of the globe discloses a complete obliteration of the retina, not a vestige of its anatomic structure remaining, except here and there a few retinal pigment cells—a most widespread involvement of the choroid, which in many places is thickened to many times its normal size, and likewise, a complete involvement of the optic nerve, with total obliteration of nerve fibers.

All the sections disclosed a very marked involvement of the choroid. Anteriorly, for a very short distance, the choroid was found normal, but as it was followed around toward the optic nerve, its involvement in the tumor mass at once became apparent, and nodules begin to appear, until large areas are encountered completely infiltrated with round cells containing large nuclei. The stroma pigment cells of the choroid have entirely disappeared, but the vitreous lamella is in many places sharply outlined, giving the line of separation from the retina. In some places, however, the vitreous lamella has been eroded, and thus a point either of entrance or exit has been given for the tumor to invade this space between the choroid and the retinal layer of pigment cells which here and there exist and act as a barrier to invasion. At one point in the tumor the continuity of this vitreous lamella is broken, and here a distinct point of communication between choroid and interior of globe exists. In one section was found an enormous vessel extending directly from the choroid out into the tumor mass. The retinal detachment extended as far as the ora serrata, at this point the cystic degenerated retina can be followed forward for a short space, to be entirely obliterated in lobules of tumor.

The portions of the tumor confined strictly to the choroid are made up of round cells, which take the stain deeply, and to an equal degree, and though this is permeated by blood-vessels, they do not seem particularly more numerous or larger than usually encountered in the normal choroid. As soon, however, as the tumor is followed beyond the strict confines of the choroid, the vessels are much more numerous, widely dilated, some more than twice the size of the normal arteria centralis retinæ, and filled with blood cells. Around each one of the vessels the round cells of the tumor are closely pressed together, so that they often take on a polyhedral shape. They take the stain very deeply, whereas, at a distance, much less so, so that the tumor has a peculiar spotted or lobulated appearance. Nowhere did I find places where the tumor cells formed the walls of the vessels, but everywhere there are large vessels with thickened and distinctive vessel walls, showing the endothelial cells lining the vessel wall, the intima of the vessel, and around these grouped the cells of the tumor.

The choroid is distinctly and sharply demarcated from the optic nerve by connective tissue fibers. The fibers of the lamina cribrosa are especially sharply defined and pushed backward by the tumor, which has encroached on the nerve head, and finally invaded and thoroughly destroyed its fibers. Nevertheless, the line of demarcation between the choroid and nerve head is very sharply defined. The optic nerve itself is greatly thickened, its nerve fibers being entirely obliterated by the extreme infiltration. Both artery and vein intensely dilated and filled with blood cells. To the side of the artery this tissue is one mass of round cells, and all along the nerve sheath are new-formed and widely dilated blood-vessels. The lymph space is obliterated, due in part to the infiltration and swelling of the nerve and in part to the infiltration of the arachnoidal sheath and space, and also of the dural sheath (Figs. 3 and 4). The side nearest the vein is likewise infiltrated with round cells, as is also its dural sheath. These conditions exist to the very end of the nerve. In some of the sections the arteria centralis retinæ can be followed outward directly into the tumor mass, leaving no doubt that many of the large vessels permeating the tumor take their origin from the large central vessels.

The retina has been partly destroyed.

The sections of the anterior half of the globe (Fig. 5) show the retina detached to the ora serrata, from which point it was pushed anteriorly toward the lens, from both sides coming up close to the lens and then going backward toward the nerve head—a typical, total, umbrella detachment. In the triangular space between the lens and receding retinal framework are the connective tissue fibers of the vitreous. All the anterior sections of the choroid show this to be infiltrated. The ciliary body and its processes are atrophied, doubtless from pressure, and they likewise show slight infiltration.

The lens has not been affected and is perfectly normal, although the tumor mass with large blood-vessels is pressed

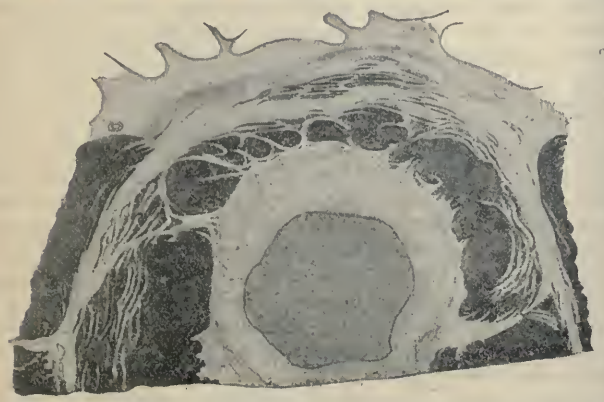


Fig. 3.—Section of optic nerve. The nerve fibers totally destroyed; also notice enormous thickening of the inner sheath, and infiltration of the subdural and subarachnoidal spaces with the tumor mass. (After Wintersteiner.)

up against its posterior surface. The lens shows the peculiar bulged edges always found in cases of tumor in the eyeball. On one side the tumor cells have worked their way through Petit's canal into the posterior chamber and forced the iris forward on that side, so as to produce a wide curvature, and a deepening of the posterior chamber. Some of the cells have found their way into the filtrating angle of the anterior chamber, which is not occluded.

The iris is atrophic, and near its insertion shows some widely dilated vessels. The cornea is normal. The sclera

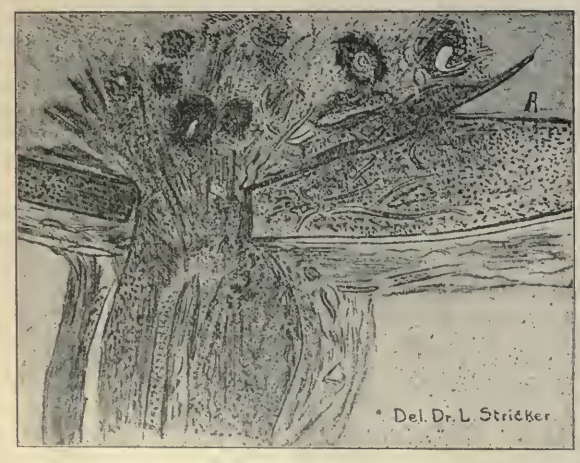


Fig. 4.—Case 1.—Showing new growth and infiltration of optic nerve.

is attenuated owing to long intra-ocular pressure. Posteriorly, near the optic nerve entrance, it is traversed by vessels showing a large increase of nuclei in their vicinity.

This tumor is exceedingly vascular, the large size of the vessels being a prominent factor. Part of the tumor seems to be strictly confined to the choroid, and by a pedicle extends inward into the vitreous space, which is completely filled by the tumor mass. The large mass occupying the vitreous space has a characteristic appearance on section of deeply-stained portions around the vessels, and is less stained at more remote points, this being a result of removal of portions of the tumor from nutrition derived from the vessels. The growth of the tumor is likewise dependent on the growth of the vessels, around which the cells of the tumor arrange themselves, thus producing the alveolar or tubular form of tumor. The cells forming the tumor are all of the round-celled, non-pigmented variety.

The entire retina has been obliterated, save the cystic framework close to the ora serrata. That which originally—taking into consideration the age of the patient, 3 years—may have been a glioma, on spreading to the choroid—either by continuity of tissue or by direct introduction of cells of the tumor through the venous circulation—aroused this to excessive cellular activity, and so introduced the sarcomatous element which has completely masked the original picture, thus producing the glio-sarcoma of Virchow.

From this report the question might arise, whether or not this was a case of glioma, but the age of the patient, the rapidity of the growth, and above all, the early clinical picture, leave not the slightest doubt that the tumor primarily was a glioma, eventually assuming the sarcomatous type.*

Dr. H. J. Whitacre reported as follows upon the recurrent growth springing from the optic nerve: The structure is that of small round cells in definite connection with a fibrous intercellular substance. The blood vessels are poorly formed and pigment granules are

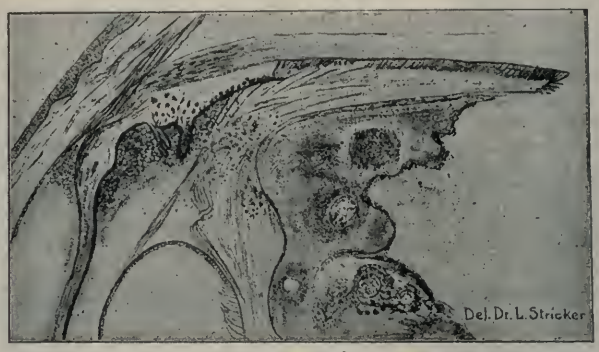


Fig. 5.—Section from anterior half of the globe, showing detached retina, atrophy of ciliary body and new growth pressing on the posterior surface of lens, which had remained perfectly transparent.

found in many parts. The tumor is a small round-celled sarcoma.

CASE 2.—Baby R. E., aged 5 months, was brought to me Dec. 29, 1897. The child was well developed and nourished. Three weeks ago the parents noticed that the pupil of the right eye was dilated, and had a "silvery appearance which made the eye look dull." Dr. W. F. Shepherd was consulted, and promptly referred the case for consultation. The globe was congested; T.=+I; cornea clear; anterior chamber obliterated; lens and iris in contact with cornea; pupillary space filled with a mass of a reddish gray color, the surface being unusually vascular, the disease having advanced to the second stage. The appearance of the growth when examined under a strong light, gives a peculiar reflex not unlike a fire opal. Ophthalmoscopic examination of the left eye under mydriasis was negative. The child was admitted to my hospital; the same day enucleation with extensive resection of the optic nerve performed, and the specimen given to Dr. H. J. Whitacre for microscopic examination. The following is his report:

The specimen received was a complete right eye, which was placed in a 4 per cent. solution of formol for four days, and the hardening completed in 95 per cent. alcohol.

* The report, however, shows how very important it is to pull the globe well forward when enucleating, and to cut the nerve at the very apex of the orbit so that if possible, we may extend beyond that part of the nerve which may be infiltrated with cancer cells. In this case I resected the nerve far back, but the disease had extended further. Still, by subjecting the nerve to extra stretching, I might have secured more.

A sagittal section of the hardened specimen presented the appearance shown by the photograph (Fig. 6), and demonstrates a globular tumor occupying mainly the temporal half of the vitreous chamber. Posteriorly, the nasal half shows a pedicle attached to the point of entrance of the optic nerve. Anteriorly, the tumor presses against the posterior surface of the lens, and on each side of the detached retina can be seen a thin membrane extending from the tumor to the choroid.

The tumor, when half hardened, was very soft, and must have been almost gelatinous in its fresh state. Sections of the tumor were made with difficulty because of the multiple

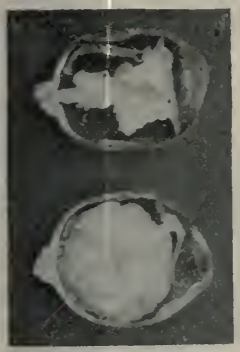


Fig. 6.—Case 2. Right eye, removed first. No recurrence three years and eight months afterwards.

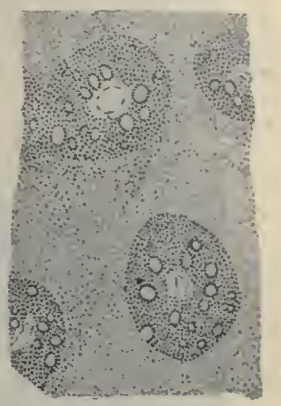


Fig. 7.—Neuroepithelial nests or "rosettes" surrounding a central blood vessel. (After Wintersteiner.)

points of calcareous degeneration which dulled the knife and tore the sections. In general arrangement the tumor is made up of bands and circles of cells arranged regularly about the central opening (Fig. 7). The appearance is that of a vascular tumor with the cells concentrically arranged around the central vessel.

By higher magnification the lumen of this central vessel looks like the acinus of a gland surrounded by high columnar



Fig. 8.—Photomicrograph showing the cells concentrically arranged around central vessels, forming "rosettes."

cells (Fig. 8); the other cells of the area have similar characteristics because of their origin by proliferation from these central cells. These central openings may be either lymph or blood-vessels, and it would be difficult to say which they are. Yet it would seem that they are blood-vessels because of the presence of blood cells within their lumen.

In Fig. 9 is shown a section of the optic nerve removed with the globe.

The manner in which the glioma developed from the inner-nuclear layer is beautifully demonstrated in Fig. 10, taken from Case 2; and also shown in Fig. 11, copied from Wintersteiner; the relative size and location of this nodule is shown in Fig. 12. In this illustration we see three distinct gliomatous nodules in the totally detached retina; the one shown in Fig. 11 is seen as a minute pin-head swelling near the posterior surface of the lens. The second growth is in the upper and posterior

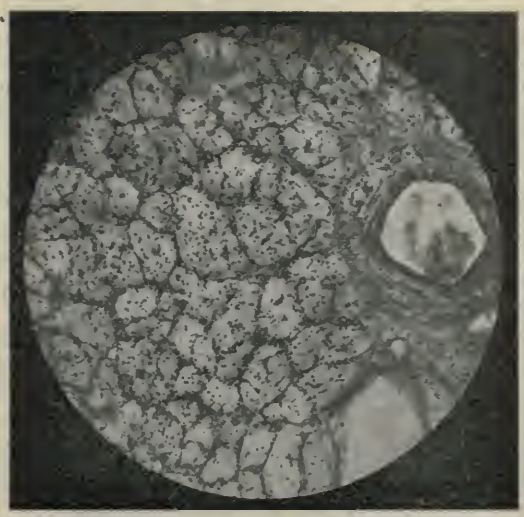


Fig. 9.—Case 2. Section of right optic nerve, removed with the globe. Nerve is normal, and there was no recurrence.

portion, in shape resembling the lens, but smaller. While nearly the whole lower half of the vitreous chamber is filled with the third nodule.

Re-examination.—April 26, 1898. The patient was re-examined and the following note is found in the record: "Right orbital cavity has healed perfectly; no evidence whatever of any return of the growth. Left Eye—Pupil, tension and general appearance, normal. Ophthalmoscopic examination negative." In January, 1900, I sent a communication to the

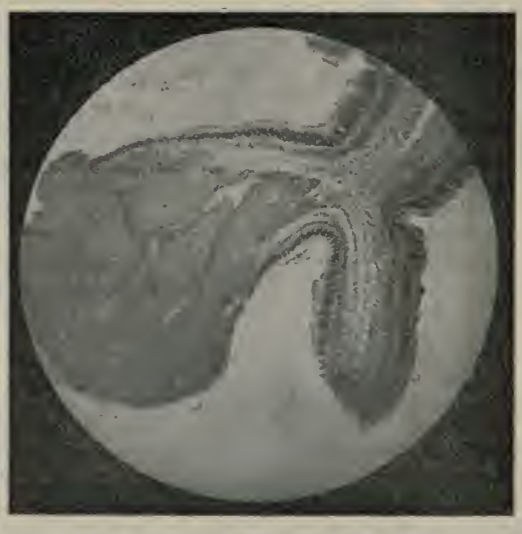


Fig. 10.—Glioma from right eye of Case 2, showing how the new growth sprang from the inner nuclear layer of retina.

parents asking if the child was still living and if so to bring it to the office, which they did February 7. Child in excellent physical condition; the right orbit from which the eye had been removed 2 years and 2 months before, was in perfect condition, the conjunctival sac smooth and pale. The left eye appeared normal; the pupil was dilated with a mydriatic, a careful ophthalmoscopic examination made, and the fundus found normal.

On March 7 the mother returned, bringing another child who had complained of its eyes, as she feared that a similar growth

might be developed in this child; this, however, proved not to be the case. I made another examination of the baby which she had brought with her and found to my great surprise that there was a small, whitish-yellow, irregular patch, appearing as a slight thickening of the retina, its edges not being sharply defined. It had an area of about one-half the diameter of the disc and was located outwards from the same about two diameters. The mother was told to bring the child again in one week, when it was found that the infiltration had



Fig. 11.—Miliary nodule (glioma) springing from the inner nuclear layer of retina, its location beautifully shown in Fig. 12, where a portion of the retina has been pressed against the posterior surface of the lens, the magnified growth shown here appearing as a minute nodule. (After Wintersteiner.)

spread, and near it could be detected a small fresh area of a similar nature.

There could now be no doubt about the diagnosis. The mother was informed that the eye was affected and was requested to return March 21 and bring the father, which she did. The areas of infiltration had increased both in area and thickness, and the parents were informed of the true

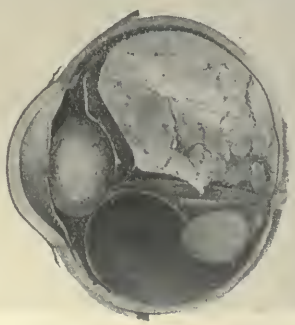


Fig. 12.—Section of globe, showing three gliomatous nodules in the totally detached retina, the third being very minute and seen near the posterior pole of the lens on which a part of the retina has been reflected. This nodule shown much magnified in Fig. 11. (After Wintersteiner.)

state of affairs. To save life enucleation was urged; that was refused, and the patient disappeared. Dr. S. C. Ayres was consulted and confirmed my diagnosis.

The child received no further professional attention till April 17, 1901, when the parents returned, asking that an operation be made, if only to relieve the sufferings of the child, as it now cried or moaned constantly, refused to eat, and was rapidly becoming emaciated. The globe was protruding and had ruptured (Fig. 13). The child was readmitted to the hospital the same day and under chloroform, exenteration of the orbit was performed solely to afford temporary relief from pain. The growth filled the orbit, the optic nerve having become enlarged so that its diameter was almost equal to that of the globe (Figs. 14 and 15). Caustics were not applied on account of the hopelessness of the case.

In three days the child had again become playful and free from pain. June 3 the cavity had healed. The child has gained in flesh and is very bright and happy.

In a recent communication the family physician, Dr. Sheppard, states that in September the patient began to suffer again and was seized with convulsions, which gradually increased in frequency and severity and could be controlled only by the administration of chloroform. The pain was never a "marked feature." The child died Nov. 7, 1901. No autopsy could be obtained..

CASE 3.—H. M., aged 2 years, was brought to me by her parents for a final opinion. I found it to be a typical case of



Fig. 13.—Baby Edwards.—Right eye removed three years before this picture was taken. No recurrence, nor was there any sign of it at the time of death, about eight months later. The left eye protruding and globe ruptured from extension of growth, beginning primarily in this eye.

neuro-epithelioma retinæ of the left eye at the end of the first stage, and advised immediate enucleation. They then informed me that this coincided with the opinion given by Drs. Ayres and Sattler. The operation was performed by them, and with their permission I merely state the condition of the patient as I saw her, and also her present condition as ascertained by a letter from the father, under date of Feb. 6, 1901, wherein he states that the child is in excellent health and attending school. A recent examination by an oculist showed the right eye to be perfect, excepting that it required a glass for correcting a moderate error of refraction, the vision becoming normal.

It is now 9 years since the operation, and as failure to recur after two years means a cure for the operated side, and the present age of the child (11 years) brings it almost absolutely beyond the period of development, we may consider the child's life saved.

CASE 4.—L. L., aged 18 months, was examined Jan. 18, 1897. His parents and grand-parents are all living and well;

no history of cancer, tuberculosis or consanguinity. He had chicken-pox at the age of six months, but no other diseases. About a month previous, the mother first noticed a glistening appearance of the left eye, at first toward the inner part, but it spread quickly, involving almost the whole of the pupil. On bandaging up the well eye, the child acted as if blind, and tried to remove the bandage. He sleeps well, has not lost



Fig. 14.—Baby Edwards. Left eye, showing also enormous infiltration of optic nerve.

any in weight, and apparently suffers no pain. The mother has three children older and in perfect health and has had one still-born.

This case was referred to me by Dr. F. G. Stueber, Lima, Ohio, for an opinion as to the character of the growth. As this was a typical case of glioma retinæ, in the latter part of



Fig. 15.—Baby Edwards. Section of left eye and portion of enormously infiltrated optic nerve. The lens was still clear.

the first stage, I could only confirm the Doctor's diagnosis, and urge, as he had done, the speedy removal of the eye, which was done Jan. 27, 1897, the examination after removal confirming the diagnosis. In answer to my letter of inquiry, sent Feb. 6, 1901, Dr. Stueber stated that the patient resided in an adjoining city. He last saw him June 25, 1897, when there was no evidence of return, and that he has since heard that he is still in perfect health.

In answer to a letter of inquiry, the mother answered, under date of Feb. 19, 1901, that the boy was in perfect health, with no evidence of a return of the growth, 4 years after the operation.

CASE 5.—H. W., aged 2 years. The following notes of this case I have taken from the record of my former associate, Dr. Joseph Aub: "About two weeks ago a yellowish-white reflex was first noticed in the right eye, which has been growing more perceptible daily, with deviation of the eye outwards. June 9, 1887.—The eye was examined to-day under chloroform. The entire inner and lower portion of the anterior half of the eye is taken up by a tumor, irregular in shape, and rich in blood vessels upon its surface. The entire outer half of the retina is detached; tension normal; deviation outwards well marked; no response to light. Dr. S. C. Ayres having been consulted, and agreeing in the diagnosis, assisted in the enucleation of the eye. Removed a liberal piece of optic nerve. Prompt healing."

I examined this patient in November, 1901, more than 14 years after the operation, and found the orbital cavity normal, both in size and appearance, and absolutely no asymmetry of the face, a point of interest in connection with the removal of the globe during infancy. The left eye was normal.

RESUME OF THE CASES.

Counting each eye as a case we have six operations. In speaking of a cure, I refer only to the operated eye.

Case 1.—Right. Third stage. Optic nerve affected beyond point of section. Recurrence and death.

Case 2.—Right. Beginning of second stage. Optic nerve normal beyond point of section. Three years and two months since operation. Cured.

Case 3.—Left. Beginning of third stage. Optic nerve affected beyond point of section. Recurrence and death.

Case 4.—Left. End of first stage. Nine years since operation. Cured.

Case 5.—Left. End of first stage. Four years since operation. Cured.

Case 6.—Right. End of first stage. Fourteen years since operation. Cured.

Three cases, or 50 per cent., were operated on during the first stage and all were cured; one case operated on in the second stage was cured. Two cases operated on in the third stage were fatal.

While the number of cases is very small, yet there can be no doubt that operations during the first stage with extensive resection of the optic nerve will give us a large percentage of recoveries for the operated side. We must also remember that in a great many of these cases the affection will involve the other eye sooner or later; by early removal of the second eye, however, the patient's life may be saved.

DISCUSSION.

DR. HERMAN KNAPP, New York—I had a case in which the eye was removed while still seeing. When I first saw the case the diagnosis was somewhat doubtful, but in three or four months I saw the case again, when the picture of glioma was very distinct and I advised enucleation. The mother consented, the operation was done without accident, and everything went on nicely, but the parents sued me for damages and gave me a great deal of trouble. I had to furnish proof that it was a glioma. I had the specimen and experts testified that it was cancer and that without operation death would have inevitably resulted. Then I had to prove that that specimen was the eye of the patient. Some of my colleagues had seen the patient before the operation and testified that it was his eye. Then I had to prove that this was the boy the witnesses had seen. Then they made the plea that the eye had been removed without knowledge of the parents, although it had been done with their consent, and some of the students who had been present at the examination testified to that fact. The question was raised of what

would have been the result if the boy had been let alone, and the experts all testified, inevitable death. Dr. Henry D. Noyes, as an expert, said that it was the unanimous verdict of the profession that no one with that disease can live without an operation and without an early operation. The judge asked Dr. Noyes: "Are you a friend of Dr. Knapp?" Dr. Noyes said: "We have been competitors in the same field of work, but we have always been on friendly terms." Then the judge said: "The case is clear; the Doctor did his duty: he sacrificed the limb to save life. The jury is dismissed."

DR. JOHN E. WEEKS, New York—I want to speak of one point: the involvement of mesoblastic tissue as these tumors advance. It is not unusual to find mingled with the cells that make up the glioma, cells that are distinctly of mesoblastic origin, so that the term glio-sarcoma is particularly applicable in these cases. Epitheliomata when they recur sometimes present the appearance of epitheliomatous tissue combined with sarcomatous tissue.

DR. S. C. AYRES, Cincinnati—In reference to one of the Doctor's cases, I am familiar with it and it is nine years now since the enucleation and she is in very good health.

DR. A. R. BAKER, Cleveland—Just a word in regard to the difficulties of diagnosis. I enucleated an eye two or three weeks ago in which I had diagnosed glioma and in which several local oculists made the same diagnosis and yet the pathologist says he does not think it is glioma. A few years since we had another case in Cleveland in which we made a diagnosis of glioma and enucleated the eye and when the pathologist opened it up it was a mere cyst with a very thin wall. The only other case in which I have diagnosed glioma was one I met in my first year of practice, in which I enucleated and the child died subsequently from recurrence.

DR. EDWARD JACKSON, Denver—Within a year I have seen and studied, ophthalmoscopically, an eye, regarding which, had it been in a child, I would certainly have made a diagnosis of glioma. It is a blind eye, in a woman nearly forty. It has been blind for many years. I think it is probably of the nature of a case reported by Dr. de Schweinitz last year at the American Ophthalmological Society, in which he enucleated the eye. There was a greatly thickened, degenerated, partially cystic retina. In my case there was a clear vitreous, and the retina markedly thickened and of irregular surface. Without the history of blindness for many years, and the patient being an adult, I think one would be justified in making a diagnosis of glioma.

DR. LUCIEN HOWE, Buffalo, N. Y.—I just want to say that I think we report our cases of pseudo-glioma more promptly now. On looking up the literature I find that there are very many more cases on record than I had any idea of. If such cases were reported oftener we would have less trouble about malpractice suits. When there is reasonable doubt, I am inclined to think the eye should be removed.

DR. WALTER L. PYLE, Philadelphia—I desire to cite a very unusual source of confusion in the diagnosis of retinal glioma, which has not been mentioned. Recently, we had at Wills' Hospital a case which, according to general consensus, was one of advanced retinal glioma, but which after enucleation proved to be subretinal cysticercus.

DR. S. D. RISLEY, Philadelphia—The differential diagnosis between true glioma and pseudo-glioma is in some cases very difficult. I recall one instance where, after consultation with several colleagues of the staff at the Wills' Hospital the consensus of opinion was in favor of pseudo-glioma. Operation was deferred and the child discharged from the hospital, but returned in two weeks with great pain and marked increase of tension. The ball was excised and the growth proved to be a true glioma. It would have been better to have erred on the side of safety and enucleated the eye at once. The disease speedily progressed in the orbit and the child died in a few weeks.

DR. MARK D. STEVENSON, Akron, Ohio—A few years ago I had a case in which a diagnosis of glioma retinæ was made. It was then very small and I advised enucleation; the parents refused an operation after other specialists had claimed it was not glioma. The eye was removed about a year later in another city, and the child has since died from an extension of the tumor to the brain. A blind eye presenting a typical glioma should be immediately removed, as there is little to gain and much to lose by delay.

DR. HOLMES, in closing—In two out of three in the first stage the tumor was quite small, one not filling up more than one-quarter of the globe, so that there was considerable sight left at the time of enucleation. In the double enucleation there was no recurrence in the other eye for two months after the first was removed. The mother brought the child in because she thought its sight was failing, as it was beginning to stumble, and on examination we found the very beginning of a glioma, so small that others who saw it thought it might be acute exudative choroiditis. They came back in one week when it had grown considerably and two weeks later enucleation was advised, but refused. They came back five or six months afterward to have the eye removed for relief of pain.

I think it is very important to secure witnesses and the absolute consent, preferably in writing, from the parents, if you are going to remove an eye that still has considerable sight left. I think the golden rule applies in these cases—when in doubt, take the side of safety. In one case called pseudo-glioma I had to remove the eye afterward on account of inflammatory condition and I deem it best to take the side of safety and remove an eye that you can not prove to be pseudo-glioma.

GASTROINTESTINAL PERFORATIONS AND THEIR DIAGNOSIS.*

F. GREGORY CONNELL, M.D.
SURGEON TO ST. VINCENT'S HOSPITAL.
LEADVILLE, COLO.

INTRODUCTION.

That the most urgent need of the surgeon, when called to a gunshot wound of the abdomen, at the end of the nineteenth century, should be exactly similar to that of the surgeon under the same circumstances during the closing days of the eighteenth century is truly a remarkable circumstance. This painful lack of ingenuity or resourcefulness is a sad commentary on the century, which in many respects has been so brilliant from a surgical point of view.

In support of the accuracy of the above statement, a glance at what might be called ancient history will reveal an instance in which exactly similar circumstances gave rise to exactly the same line of thought with the employment of almost the same methods and materials in an effort to arrive at an early diagnosis in a case of suspected or possible perforation of the gut. In "Hunter on the Blood and Inflammation and Gunshot Wounds"[1] we find the report of a gunshot wound of the abdomen. At that time, as in our own day, the all-important question was as to the perforation or nonperforation of the "tractus alimentarius." In this connection he tells us that "fumes of tobacco by clyster" were prepared, "but fearing that such a procedure would cause an increase of the disease" they were loathe to employ it, and finally decided not to do so, the patient dying in about thirty-six hours.

Here is a suspected perforation occurring over one hundred years ago, and it is worthy of note that practically parallel cases (if the words hydrogen gas or ether vapor be substituted for fumes of tobacco, and with the exception that fear of an increase of the disease did not prevent the later surgeons from carrying the idea into effect) may be found in the literature not far from the close of the last century. This striking similarity shows

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but a pitiful progress, and it is our earnest desire and sincere hope that the next few decades may present a better showing in this particularly and singularly neglected phase of abdominal surgery.

The sciences of medicine and surgery differ radically in many respects, but in none is the difference so striking as in the character of the advances made in these respective branches during the past few years. In medicine progress has been made in enormous and rapid strides, almost exclusively along the line of diagnosis, resulting in an almost absolute and early diagnosis in many of the more common diseases, such as typhoid, pneumonia or tuberculosis. But, comparatively speaking, medical treatment is far behind the methods of medical diagnosis, and in many instances, despite new modifications and suggestions, the treatment is substantially the same as that practiced years ago.

Osler[2] says, speaking of pneumonia, under diagnosis: "No disease is more readily recognized, in a large majority of cases"; and under treatment says: "Pneumonia is a self-limited disease and runs its course uninfluenced in any way by medicine, and can neither be aborted or cut short by any known means at our command."

William Pepper,[3] speaking of typhoid fever, says: "In this disease it is preëminently true that a good nurse without any doctor is better than the best doctor without a good nurse."

Osler[2] says: "The profession was long in learning that typhoid fever is not a disease to be treated by medicines; careful nursing and a regulated diet are the essentials in a majority of the cases." And speaking of the treatment of tuberculosis: "No medical agents have any special or peculiar action on the tuberculous process." On the other hand, we find wonderful advancement in the diagnosis of these same conditions which defy any specific treatment. Such measures as the diazo and the Widal reaction, while not absolute, are of great aid in doubtful cases of typhoid. The finding of the tubercle bacilli and the tuberculin test aid materially in making the diagnosis of tuberculosis a very simple matter.

Refinements of diagnostic measures, while of the greatest value in many cases and good things in themselves, are of little or no avail unless there is some method of efficient treatment which can be instituted as soon as this early and accurate diagnosis has been arrived at.

In the domain of surgery the most striking improvements have been in the line of treatment, and, exactly opposite to the subject of medicine, diagnosis has not kept apace. For example, carcinoma and other malignant neoplasms and peritonitis can be treated successfully if recognized early, but are rarely diagnosed before treatment is of little avail. This is a most deplorable condition of affairs and should be improved. Of what value is it to physician, patient or relatives to be able to diagnosticate correctly and soon after onset a case of pneumonia, if no remedy or line of treatment is at hand with which to cure the disease? On the other hand, of what value is it to be able to remove a carcinoma of the pylorus, or even to ablate successfully the entire stomach, if we are unable to make a diagnosis till very evident symptoms arise, by which time the size of the tumor or metastasis will have made the removal of the entire growth and ultimate recovery of the patient an absolute impossibility; or again, in perforation of the intestine, if repaired immediately after injury, the result almost invariably will be union of the gut and recovery of the patient. But of what value is this familiarity with the technic of the enterorrhaphy when one does not know whether or not there is present an injury of the gut?

In the coming century the indications to be fulfilled are: in medicine, advancement in treatment, so that the physician will not only know the pathologic condition present, but in addition will be able to initiate some line of treatment which will result in the recovery of the patient. In surgery, on the other hand, treatment has advanced as far as it is practicable, and shall have to progress more slowly while the attention of originators and investigators is devoted to improvements of diagnosis, so that the surgeon will not only be familar with the *modus operandi* of the various operative procedures, but will also be enabled to employ them at a time when he can, at least, hope for more than palliation as a result.

The past century, so productive of exceedingly valuable suggestions and discoveries in all branches of medicine and surgery, has passed by the diagnosis of the gastrointestinal perforation almost without a trace of improvement. To be sure, attempts at an early diagnosis have been made, but the methods employed have been so crude and unscientific that the wonder is, not that they have been relegated to the past, but that they had ever been proposed seriously, even by their originators.

OLDER METHODS OF DIAGNOSIS.

The different attempts in this line may be arranged in a chronologic way, as follows:

1. Hunter: Fumes of tobacco by clyster.
2. Senn: Hydrogen gas per rectum.
3. Sutton: Ether vapor per rectum.
4. Finney: Abdominal incision.
5. Lofton: Intestinal perforation searcher.
6. Exploratory needle and syringe.

The earliest suggestions along this line we find in "Hunter on the Blood and Inflammation and Gunshot Wounds," already referred to, where no other attempt is seen in the available literature till in 1888, when Senn[4] advocated the injection of hydrogen gas per rectum as an "infallible" method of determining whether or not the gastrointestinal tract was intact. If so, the gas made a harmless passage and escaped at mouth. If a perforation existed, then after causing tympanites the gas was found to escape at the abdominal wound, where it was recognized by its being ignited and burning with a characteristic blue flame.

And again in 1898, Senn[5] claimed: "The writer has shown by his experiments on animals, and later by his clinical experiments in the treatment of a number of cases of gunshot wounds of the abdomen, that the rectal insufflations of hydrogen gas can be relied on in demonstrating the existence of perforations of the gastrointestinal canal before opening the abdomen." But despite this claim, the fear of causing fecal extravasation and the unreliability of the method has prevented its adoption.

Floyd McRae[6] says: "As to the gas test of Senn, it is worse than useless; it is dangerous; it is only corroborative; it is not conclusive as to a nonperforation and it greatly enhances the difficulty of the subsequent operation and increases the danger to the patient, because it produces extravasation of the contents of the alimentary canal into the peritoneal cavity."

Thomas Manley[7] says: "Inflation of the alimentary canal, from either above or below, may perhaps aid in deciding upon the diagnosis, but it must be regarded as

an expedient attended with more danger than counterbalances the additional knowledge it may convey."

In 1898 E. M. Sutton[8] reports some experiments in which he injected air, impregnated with ether, into the rectum as an aid in diagnosing gastrointestinal perforations, claiming as advantages over hydrogen gas that the ingredients are always at hand and no special apparatus is necessary and there are no noxious properties. He[9] reports a case of gunshot wound of the abdomen in which the alimentary tract was possibly injured; vapor of ether injected into the rectum was soon belched from the stomach. On which the diagnosis of no perforation was made, which in all probability was correct, because the patient made an uneventful recovery. The objections preventing the adoption of the hydrogen gas method applies with equal force to both of the other methods similar in character, tobacco fumes and ether vapor.

In Keen's[10] article on "Surgical Treatment of Perforation of the Bowel in Typhoid Fever," we find he gives Finney credit for the suggestion "that in any case in which the diagnosis is obscure and there is reason to suspect the existence of a perforation, a small incision be made under cocain anesthesia and that cultures be taken from the abdominal cavity. This exploratory incision would be followed by very little disturbance to the patient and very slight risk. If the presence of a septic peritonitis is determined this incision can be enlarged and the operation for the relief of the perforation and peritonitis can be at once carried out."

The most obvious objection to any such method is that we must await the development of a peritonitis. A diagnosis so early that when reached, the treatment will concern the perforation alone and at a time when there will be present no peritonitis to complicate the prognosis and treatment, is the need, a fulfillment of which we are endeavoring to find.

If we are to rely on this method in cases in which "the diagnosis is obscure," which will be in the great majority of perforations, we must await the increase in growth of the bacteria after their escape from the lumen of the canal in order to find them after making a small abdominal incision; in fact, we must await the development of a peritonitis before we are sure of the diagnosis. Its negative value would certainly be questionable, for cases will occur in which the incision and cultures were made too soon, before the bacteria have had time to multiply, which, if examined later, would give a positive result. Such a method when positive would frequently be too late and when negative could not be relied on universally. A case warranting an opening of the abdomen for possible perforation would certainly warrant, in addition, an exploration of the intestinal tube; to stop short of that after having opened the abdominal cavity, either by a large or a small incision, is insufficient.

The use of the exploring needle as a diagnostic measure in cases of peritonitis, perforative or otherwise, has been recommended. Osler[2] relates a case of ruptured tubal pregnancy which closely simulated peritonitis, in which he withdrew a bloody fluid from the peritoneal cavity with an aspirating syringe. But the question is ably summed up by R. H. Fitz:[11] "With reference to the exploring needle, the needle thrust into the iliac region may draw out a fluid which looks like pus and smells like pus, but which in reality is intestinal contents, so that apparently positive results are not necessarily demonstrative of pus. On the other hand, negative results are so numerous that it is better to place no dependence on the use of the exploring needle."

In 1901 Lucien Lofton[12] described an intestinal perforation searcher, which consists of a smooth glass tube 24 inches long and half an inch in circumference with an enlarged funnel-shaped extremity at one end. After perfect sterilization a small, loosely-fitting piece of dry absorbent cotton is inserted into the enlarged end, and the smaller end now allowed to descend into the abdominal cavity. When by continued application of your nose to the funnel, should perforation exist, you will almost immediately get the aroma of escaping intestinal fluids.

Chemistry, electricity, the *x*-ray, the microscope, spectroscope and the polariscope have performed feats of diagnosis but little short of the miraculous in many branches of medicine and surgery, but in the case of the gastrointestinal perforations these exceedingly important adjuncts to diagnosis have not been called on to contribute to our information. As Chittenden[13] has said: "The time is at hand when the practice of medicine is becoming what it was long ago, but then unjustly called a true science and art. No continuing success can be built on the empiricism or on the proportion of guess-work which is inseparable from the dependence on the experienced eye. Diagnosis is now the pass word in medical science."

PRESENT ACCEPTED METHODS: A. TO WAIT FOR SYMPTOMS.

In the usual cases of penetrating wounds, in all cases of contused wounds of the abdomen, in many cases of typhoid and other ulcerations of the gastrointestinal tract, it is absolutely impossible to arrive at a diagnosis of perforation before: 1, the development of the characteristic signs and symptoms of peritonitis, or 2, unless an exploratory laparotomy is performed. In the unusual cases, such as those which the injured viscus presents at the abdominal wound or in which the contents escape, the diagnosis is, of course, self-evident, but unfortunately such cases are extremely rare, and as regards them sufficient will have been said in their mention.

Maurice Richardson:[14] "The truth is that no exact diagnosis is possible in the early hours of many acute abdominal emergencies."

E. D. Fenner:[15] "I am impressed by the fact that we can never tell from general symptoms, or external appearances, whether the viscera have been wounded or not."

Flagg:[16] "When a man receives a penetrating gunshot wound of the abdomen there is no immediate way of determining without operation if the abdominal viscera are wounded or hemorrhage is taking place."

N. Senn:[17] "A visceral injury of the stomach or intestine seldom gives rise to symptoms on which the surgeon could rely in making a positive diagnosis."

The chief objection to awaiting the development of a peritonitis in a case of suspected perforation (which will be characterized by pain, collapse, vomiting, abdominal tenderness and rigidity, resp. costal, rapid and superficial 30 to 40, temperature 100 to 103 F., or subnormal, pulse rapid, small and weak, 100 to 150 tongue dry and coated, free fluid in abdominal cavity, liver dulness absent, tympanites—and with all these the well-known facies, Hippocratic) is that, if such be the correct suspicion, the diagnosis will not be arrived at till the peritonitis will have become so far advanced that in the majority of cases with our present methods the treatment will be of little or no value. Instead of being called on to repair a simple intestinal perforation, we must treat a case of peritonitis, more or less virulent, complicated with a perforation of the intestinal tube.

Fitz[3] says: "Peritonitis from perforation of the stomach or free portion of the intestine into the normal peritoneal cavity is almost invariably fatal." If this be true it is therefore our plain duty to diagnose and repair the damaged gut before peritonitis has become established, if possible; if not possible, then before it has progressed very far. That leads us to the question: How soon after perforation does peritonitis set in? This, unfortunately, can not be answered directly, because it is dependent on many qualifying circumstances, such as the number and the caliber of the perforation, the locality of the same, the variety, character or virulency of the escaping intestinal contents and, of no little importance, the resistance of the individual against infection. Peritonitis following intestinal perforations is dependent for its characteristics on the bacterial flora of the canal at the site of traumatism.

Cushing[18] has shown that in the upper portion of the intestinal tract the bacterial flora is more scanty than in the lower portion, hence wounds of the duodenum and jejunum are less fatal than wounds of the lower portion of the ileum and large bowel, all other conditions being equal.

In Keen and Tinker's[10] table of 158 cases of typhoid perforations, the shortest space of time elapsing between perforation and operation was one and one-half hours, in which case there was "a marked general peritonitis" present at the time of the operation, and in another case, four hours after perforation, "seropurulent fluid in peritoneal cavity, serosa injected," is noted. In another, after same time, "Considerable cloudy serous fluid was noted in abdominal cavity with some serous flakes on intestine." In none of the 158 cases, the time varying one and one-half hours to several days, is the absence of peritonitis noted.

Briggs,[19] in reviewing six cases of typhoid perforation operated on 8, 5, 4, 3, 1, and an unknown number of hours after perforation, says: "There was a moderate degree of peritonitis at the time of operation in all these cases judging from the amount of free fluid in the abdominal cavity."

In Shattuck, Warren and Cobb's[20] series of 24 cases, at the operation general septic peritonitis was not evident to the eye in Cases 1, 3 or 7. 1. Operated on in 3 hours; death 5 days; internal hemorrhage. 3. Operated on in 2 hours; death in 3 days; general peritonitis. 7. Operated on in 8 hours after pain, 5 hours after collapse; no free fluid; no extensive sign of peritonitis.

Robinson[21] says, in speaking of gunshot wounds of abdomen in military practice: "Generally it is from six to twelve hours or more before these cases can be brought to the operating table, and at that time infection, if it is to occur, has already taken place, or if not the danger is passed."

In Oliver's[22] tables of gunshot wounds of abdomen we find a case operated on one and one-half hours after the accident, and at operation a wound of the stomach with "a beginning general peritonitis" was noted.

Richardson[14] says, in speaking of gastric ulcer perforations: "By the end of twelve hours, and often sooner, the infection of the first few moments has become a peritonitis under full headway."

In Tinker's[14] analysis of 75 cases of perforated gastric ulcers which were operated on, the shortest time elapsing between perforation and operation was two and three-fourths hours, and at operation "a turbid fluid with lymph flakes on omentum and liver" was found.

H. Gage[23] details four cases of traumatic rupture of intestine, the shortest time between accident and operation was twenty-six hours, and at that time peritonitis was fully established.

Cushing[24] says: "In Case 1: An early diagnosis and immediate operation *before peritonitis set in* (italics are ours) led to recovery." In describing the operation, he says: "On opening the peritoneal cavity a considerable amount (perhaps 200 c.c.) of the seropurulent fluid escaped, coming chiefly from the pelvis. Cultures were taken from the fluid and it was immediately examined in cover-slip preparations. It contained a great number of polymorphonuclear leucocytes, but no microörganisms could be found. The serosa of the intestine was everywhere greatly congested, but evidently the greatest reaction was in the right iliac fossa, where the ileum was especially injected and covered with a slight fibrinous deposit. . . . . A few fine, filmy adhesions held the omentum to this part of the bowel," and on page 215 he again repeats: "The picture was complete *before* the onset of peritonitis," and on page 216: "The perforation was closed *before* there was *any evidence* of peritoneal infection, the culture from the free fluid remaining sterile."

In this case there certainly was a peritonitis present at the time of the operation, which accounts for the "seropurulent fluid containing many polymorphonuclear leucocytes (pus), the injection of the serosa of the intestine, especially in the right iliac fossa, with the slight fibrinous deposit and the few fine, filmy adhesions holding the omentum at this part of the bowel," and which gives a picture of beginning peritonitis. The fact that bacteria were not found and cultures from the free fluid remained sterile, does in no way prevent this condition from being properly called an inflammation of the peritoneum—a peritonitis. Had the case not been operated on, in all probability an abscess would have formed, which might have remained circumscribed for a greater or less length of time, and finally ruptured into the free peritoneal cavity, into the bowel, or externally, or not ruptured but lost its virulence and remained as an abscess. The formation of a fecal fistula is a most convincing argument that such was the case.

From these cases it will be seen that there is no exact space of time between perforation and peritonitis; it is long in some and short in others; therefore, as we do not know which will be short and which will be long, we must act as though the time will be short in all. A second reason for not awaiting the appearance of peritonitis in such suspected cases is, that very frequently the complete symptom complex may not appear, one or more of the more important features may be absent, with a peritonitis progressing rapidly.

F. A. Dunham[2] has said: "The more virulent the infection the less marked are the local signs of peritonitis," so casting a shadow of doubt on the diagnosis, even after waiting, and as a result of the waiting nothing at all has been gained. For example, Alex McPhedran[25] cites a case of apyrexial typhoid, a man in fair physical condition, in which perforation occurred without any localizing adhesions and symptoms of only moderate severity, not sufficient to alarm either himself or his friends."

C. A. B. Horsford reported an interesting case of perforated gastric ulcer in which the gastric contents escaped and accumulated in the right iliac fossa, presenting all the symptoms of appendicitis. The patient did not have the physical symptoms accompanying perforation; the pain was not severe, the abdomen was not generally distended, and the symptoms giving rise to a diagnosis of appendicitis did not arise until several days

after the perforation took place. The patient was not operated on, but the condition was discovered postmortem. Again in typhoid, especially where the patient is in the typhoid state and unconscious, the symptoms of pain and tenderness may not be attainable, thus casting a legitimate doubt on the diagnosis.

Cushing[24] has described "a preperforated stage of typhoid ulceration," during which, usually occupying several days, we may notice abdominal pain, tenderness and leucocytosis, with a disappearance of the latter after perforation has actually occurred. This pain he attributes to involvement of the serosa, with possibly the formation of omental adhesions. He includes in this stage the whole period between the first involvement of the serosa with the formation of customary adhesions until these adhesions (which may for a time form the floor of the ulcer after the serosa has given away) have themselves broken down and general peritonitis has taken place.

But Monad and Van Verts,[26] after examining the histories of 27 cases, say that the formation of these adhesions in threatened perforation is exceedingly rare. They also claim that peritoneal infection is not always a rapid fulminating affair; that it may occur by the migration of the bacteria through the damaged and almost necrosed intestinal wall.

Cobb[20] says: "In mild cases of typhoid complaints of abdominal pain should lead to a strong suspicion of beginning peritoneal infection through a preperforative stage, or a slow peritoneal infection through a perforation with or without temporary adhesion, or a beginning infection from some other source than the intestine."

A. Berg,[27] in discussing the preperforative stage, says: "Even granting that the peritoneal symptoms are from an involvement of the serosa, which covers a deep ulceration of the Peyer's patch, does this mean necessarily that the serosa will always give way and permit of extravasation into the free peritoneal cavity? Certainly not. How, then, can we think of interfering surgically for a perforation that does not exist and which may never take place? When our diagnostic acumen will have reached a higher stage of development, so that we can differentiate the signs of local peritonitis as caused by an impending perforation from the peritonitis produced by other pathological conditions, and when we are able to foretell which serosa over a deep ulceration will give way, then the preperforative stage will be a reality."

Keen,[10] in speaking of this preperforative stage, says: "Should it ever prove possible to accurately diagnose the preperforative stage, that unquestionably will be the most favorable time for the operation." And in his conclusion: "If it be possible to determine the existence of a preperforative stage."

Another reason why it is an unsafe practice to await the symptoms of peritonitis in these cases is that such symptoms are in some instances absolutely unreliable; they may be present more or less completely and at operation no perforation, or even peritonitis, may be found.

Shattuck, Warren and Cobb, in their series of 24 cases of operations for perforation, report three cases in which the symptoms lead to operation, but no perforation nor peritonitis was found at the operation. Two of these cases recovered and one died.

Cushing, in eight cases, reports three operated on for perforation, in which no perforation existed; in one no lesion to account for the symptom was found at the operation; recovery was uneventful. In another the symptoms were caused by an iliac thrombosis; the patient subsequently died of pulmonary embolism; and in the third the symptoms of perforation were due to appendicular colic. No perforation was found, but a chronic adherent appendix was removed; recovery.

Briggs, in a series of six cases, reports one in which symptoms of perforation occurred, but the opening of the abdomen under local anesthesia revealed a peritoneal cavity apparently normal and no perforation to be found; convalescence slow; recovery.

G. G. Davis[28] reports three cases of typhoid operated on for perforation; there was no perforation found in one case; recovery.

At the last meeting of the Association of American Physicians, A. H. Smith presented a paper entitled "Two Cases of Supposed Gastric Perforation," in which no explanation of symptoms was found at operation.

So if mistakes are made by these experienced clinicians (1 in 6, 3 in 8, 3 in 24), surely if the less talented men are to follow in their footsteps more mistakes will result. To be sure, in these cases few deaths and little or no inconvenience have resulted, but in those less favored by surroundings and nature, who are to make their diagnosis on these symptoms, will they meet with as fortunate an outcome? Perhaps if all cases were reported we might discover that death will occur oftener than we find in these reports.

Among the many conditions which may resemble peritonitis so closely as to lead to the error, we call attention to acute entero-colitis, intestinal obstruction, acute hemorrhagic pancreatitis, hysterical peritonitis, embolism of mesenteric artery, ruptured tubal pregnancy, intestinal hemorrhage, cholecystitis, suppurative mesenteric glands, diaphragmatic pleurisy, iliac thrombosis, appendicular attacks, etc.

There is no pathognomonic sign or symptom or group of symptoms of doubtful perforation of the gastrointestinal tract, Stewart to the contrary notwithsanding, who says:[29] "Obliteration of dulness in a flat belly or resonance over the posterior and lateral areas of hepatic dulness, in the distended abdomen and cellular emphysema are the only pathognomonic signs of ruptured intestine. They are not due to infection, but are the rare signs of rupture, not ulcerative, perforation of the gut." He then adds: "The occurrence of any of the above signs should make us suspicious, and suspicion should in most cases be synonymous with exploration." Showing that the above signs are not pathognomonic for they should merely make us suspicious, as pathognomonic signs are unmistakable indications of a given disorder, the term suspicious rather than pathognomonic should have been used.

Those cases in which the intestinal contents escape from the abdominal wound, or in which the injured portion of the gut presents at the wound, are not doubtful cases, but instead are plainly evident and have been spoken of above.

In the doubtful or possible perforation the absence of the liver dulness was for a time looked on as a positive indication of this condition, but its value as such has been questioned, since it has been demonstrated that the liver dulness may be diminished or even obliterated by tympanites alone.[15] This is accounted for by a distended coil of intestine insinuating itself between the liver and the abdominal wall, or in the case of extreme distention of the intestine the liver, entire, may be pushed up.

Another fact showing the fallibility of the sign is that in many cases in which the liver dulness was normal, at operation perforations have been found, so rendering it worthless as either a positive or negative sign.

An uncommon symptom is "The Acoustic Phenomenon of Levaschoff." A rushing sound was heard with

the stethoscope synchronous with the descent of the diaphragm, caused by the air or gas passing through the perforation, owing to the increased pressure due to the descent of the diaphragm. But it is rarely noted and is not now generally accepted.

The presence of free fluid in the abdominal cavity, in connection with the other symptoms, may point strongly toward a perforation, but it must be remembered that hemorrhage alone may give rise to the same physical signs, also simple hydroperitoneum must be excluded. On the other hand, in very few cases of perforation is there an escape of sufficient fluid to be detected at an early physical examination, at a later date, when the symptom is of infinitely less value, it may, of course, be found in some cases.

Kinnecutt[30] has been able to detect, early in these cases, before abdominal respirations have ceased, a fine peritoneal crepitation very similar to that heard over an inflamed pleura; a very careful auscultation of the entire abdomen is necessary, and it has as yet not been generally adopted.

Hematemesis after probable perforation of the stomach has been looked on, and is still regarded by many, as a pathognomonic sign of perforation of the stomach, but Rodman[31] quotes a case of Mayo Robson as follows: "I explored the abdomen for a stab wound, and as the patient was vomiting blood I expected to find a wound of the stomach, but discovered no perforation of the stomach wall, though I had to ligate the superior mesenteric vein, the patient making a satisfactory recovery; the hemorrhage was undoubtedly due to the bruising of the mucous membrane without rupture of the peritoneal coat." Thus showing that hematemesis after abdominal injury can not be relied on as a positive sign of perforation. In injury of the intestine the passage of blood per anum might, of course, be explained as above, but usually would occur too late to be of any practical value.

Leucocytosis as an aid to the immediate diagnosis of perforation has not been dwelt on to any great extent except in typhoid perforations.

Bloodgood[32] says: "Examinations of the blood after abdominal contusion, to ascertain the existence of shock, hemorrhage or peritonitis, are not sufficient in number to allow of any conclusions."

Leucocytosis in acute peritonitis has attracted more attention, but in this connection it is not of so much value as the former, for it is our aim to arrive at the diagnosis before the establishment of a peritonitis, and when it is once established we can, as a rule, make a diagnosis without the aid of the leucocyte count.

As regards perforation and leucocytosis during typhoid, to explain the present status of affairs and to show the conflicting opinions among authorities, we may quote from Cabot: "A steadily increasing leucocytosis is always a bad sign and should never be disregarded, even when other bad symptoms are absent"; and from Cushing, who adds: "That a decreasing leucocytosis may be a much worse sign and should never be disregarded." This he explains very rationally as follows: "If there develops a localized peritonitis associated possibly with a preperforative stage of ulceration, or with a circumscribed slow-forming peritonitis, after perforation, it will usually be accompanied by an increase of leucocytes in the peripheral circulation; but if a general septic peritonitis develop the leucocytosis may be but transitory or overlooked, as it will disappear concomitantly with the great outpouring of the leucocytes into the general cavity."

So it seems that an increase of leucocytes signifies some inflammatory complications, such as phlebitis, otitis media, pneumonia, etc., among which may be localized peritonitis.

On the other hand, a fall of the leucocytes conveys to us the information that a diffuse septic peritonitis has already become established, the one thing we do not want to wait for. This drop in the leucocytosis does not occur at the time of the perforation, as we are led to believe, but, if the theory as to its cause is correct, it occurs at the time of the development of the diffuse septic peritonitis.

The so-called wave of leucocytosis, the gradual increase and then a sudden decrease, is considered by Cushing to be particularly characteristic of perforation, but Cabot, Blake and Hubbard[33] made frequent blood counts in normal individuals and patients suffering from typhoid, in which no perforation occurred, and found such a wave as described above, and they conclude: "That leucocytosis usually exists in typhoid perforations, but in order to be of diagnostic value such leucocytosis must be relatively steady and not of the type described by Cushing."

Leucocytosis in most cases must be considered as an ordinary symptom, subject to the various uncertain changes of any such symptom. It may at times be conspiciously prominent and again, for no visible or consistent reason, be entirely absent.

Such variations as perforation and even diffuse peritonitis with no leucocytosis, and in other cases characteristic leucocytosis with other symptoms, leading to an operation, which when performed shows no perforation or peritonitis, place it in the large category of unreliable symptoms.

Concerning the leucocytosis in conditions other than typhoid, most of the study has been in relation to appendicitis. A leucocyte count ranging between 10,000 to 15,000 or 17,000 can not be relied on to reflect the nature of the local lesion, since this degree of increase may be found in various conditions. But counts of 20,000 or more almost invariably indicate the presence of pus, gangrene or general peritonitis, one or all. But, on the other hand, again showing its uncertainty, in some cases of general peritonitis there will be no leucocytosis, because of the individuals being too weak to react against the infection.

J. M. Baldy[34] has recently written an article with the title of "The Examination of the Blood in Relation to Surgery, of Scientific but Often of no Practical Value and May Misguide the Surgeons."

(To be continued.)

The American Medical Association has prospered to such an extent during recent years that it now worthily represents the medical profession of the United States. That this was not the position of the society from ten to fifteen years ago is generally recognized in this country. We in Canada rejoice with the physicians of the American Republic in the growing prosperity of their great national medical association. The present happy condition is due largely to the increased harmony existing among medical men in all parts of the Union, the great executive ability shown by its officers, and the excellence of the official journal of the Association. The next meeting of the Association will be held in New Orleans, May 5 to 8, under the presidency of Dr. Frank Billings of Illinois. Special addresses—called orations—will be delivered as follows: Medicine, Dr. J. M. Anders of Philadelphia; Surgery, Dr. A F. Jonas of Omaha; State Medicine, Dr. Wm. H. Welch of Baltimore. It is quite needless to tell our readers that Canadians who attend this meeting will receive the same sort of kindly and hearty welcome which has invariably been extended to our countrymen in the past.—*Canadian Practitioner and Review.*

THE RESPIRATORY QUOTIENT AS INFLUENCED BY TUBERCULOSIS.*

T. M. ADERHOLD, M.D., AND W. S. HALL, M.D.
Department of Physiology, Northwestern University Medical School.
CHICAGO.

INTRODUCTION.

In 1777 Lavoissier showed that oxygen was absorbed from air during respiration and that it united with carbon in the body, forming carbon dioxid. This discovery caused many observers to determine the amount of oxygen consumed by normal animals and the amount of carbon dioxid given off by them. They also studied the relation of one to the other. When we consider the volume of carbon dioxid exhaled divided by the volume of oxygen consumed, this relation is known as the respiratory quotient. Generally more oxygen is consumed than carbon dioxid given off.

The object of these experiments was to determine the influence of tuberculosis on the respiratory quotient. A number of secondary facts have been established or confirmed, incidentally.

METHODS.

Some of the early experimenters (Black, Priestly and LaPlace) analyzed the air of a chamber before and after an animal had been confined in it. The objection to this method is that the animal is not in normal

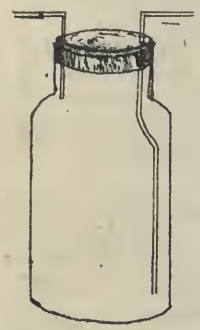


Fig. 1.—Animal cage. 1. A large mouth bottle large enough to hold a rabbit. 2. A piece of glass tubing 6 to 10 mm. in diameter which extends through the cork (air tight) to the bottom of the bottle. This is to secure perfect ventilation as the air which enters by (4) is liberated at the other end of the bottle. 3. The cork should be impregnated with paraffin and fit perfectly air tight. 4. Short piece of glass tubing 6 to 10 mm. in diameter which is connected to the tube extending to the outside of the room.

surroundings because: (1) The amount of oxygen is continually decreasing. (2) The amount of carbon dioxid is continually increasing. (3) The heat of the animal raises the temperature of the chamber. (4) The moisture in the chamber is continually increased by the animal. (5) The poisonous products exhaled by the animal may affect it.

Lavoissier first improved this method by absorbing the carbon dioxid as fast as it was formed and supplying fresh oxygen in its place and later by continually supplying fresh air to the cage and withdrawing the respired air. The majority of workers have followed this plan and have maintained a constant current of air by ventilating apparatus of some form.

Whatever general form of apparatus may be used, the carbon dioxid can be determined by (1) KOH or NaOH solution in an anthracometer (volumetric). (2) By KOH or NaOH solution in a Geissler bulb (gravimetric). (3) By passing the air over pumice stone saturated with the same solution. (4) By precipitation with $Ba(OH)_2$, and then by filtering, drying and weighing the precipitate, or by determining the amount of oxalic acid necessary to neutralize this solution.

The oxygen can be determined by: (1) Absorption with potassium pyrogallate and (a) by use of a large bulb (weighing before and after), (gravimetric), or (b) by taking samples of air in burettes and allowing the solution of potassium pyrogallate to run in from below (volumetric). (2) By exploding with electricity in an endiometer. (3) By oxidation of phosphorus in samples of air.

The moisture can be withdrawn from the air (1) by passing it through flasks or tubes containing concentrated H_2SO_4 or flasks containing pumice stone saturated with the same (weighing before and after). (2) By passing the air through these tubes containing desiccated $CaCl_2$ (weighing before and after).

The constant current of air through any form of apparatus is usually maintained by suction, either by use of water or mercury.

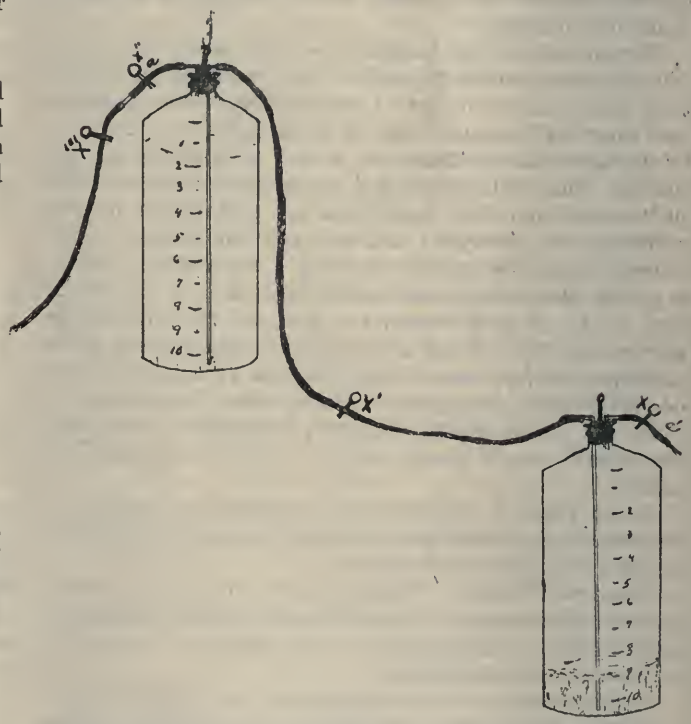


Fig. 2.—Showing the arrangement of the ventilating apparatus. The bottles equipped with air-tight corks and tubes as shown may be alternately raised and lowered by a strong cord running over a pulley attached to the ceiling. The siphon drawing off the water from the upper bottle lowers the pressure in it and draws a current of air through the apparatus. The amount of air supplied to the animal may be measured by noting the amount of water which traverses the siphon and may be varied by varying the height of the bottle. In alternating the position of the bottles one has only to lower the upper bottle and change the hook to the other bottle. The apparatus tube (*a*) should be changed to (*a'*) after clamping (*x'*) (*x''*) (*x'''*). In order to construct (*a*) (*a'*) so the clamps can be easily applied, it is necessary to connect a short piece of glass tubing to the glass tube which perforates the cork. This connection is made with a rubber tube on which the clamps are applied.

After performing a number of experiments we found the following method to be the most accurate and best suited for our work:

(*a*) For an animal cage we used a large mouthed glass jar, prepared for use as shown in Fig. 1.

(*b*) We maintained a constant stream of fresh air from outside of the room by a ventilating apparatus constructed as shown in Fig. 2.

(*c*) The water was collected by passing the air through tubes filled with desiccated $CaCl_2$ (weighing before and after). See Fig. 3.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publicaton by the Executive Committee.

(*d*) The CO_2 was determined by passing the air current through a Geissler bulb containing a strong solution of KOH, to which is attached a small $CaCl_2$ tube for catching the moisture derived from KOH by the air current. This Geissler bulb and its attached $CaCl_2$ tube is placed in the apparatus beyond the large $CaCl_2$ tubes which absorb the moisture from the animal cage. It is weighed before and after the experiment. See Fig. 3.

In order to be certain that all of the CO_2 was absorbed by the KOH a flask containing $Ba(OH)_2$ was attached to the $CaCl_2$ tube of the Geissler bulb so that the $Ba(OH)_2$ would at once show a precipitate should any CO_2 not be absorbed in the Geissler bulb. See Fig. 3.

(*e*) The oxygen is determined by a volumetric method, using two or more gas burettes and a solution of potassium pyrogallate. See Fig. 4.

To determine the amount of oxygen which the animal consumes, samples of air are analyzed from each bottle of air which passed through the animal cage. The amount of oxygen in normal air is determined by analyzing samples of air from the bottles which ventilate the normal air apparatus.

In performing these analyses the greatest caution is necessary. The solution which gives the most accurate results is composed of two parts of 25 per cent. of KOH and one part of 5 per cent. pyrogallic acid. These two constituents should be mixed in the pressure tube (B) Fig. 4, just before the analysis is made. To collect samples of air for analysis one first fills the gas burette with water by suction. Connection is then made, by a

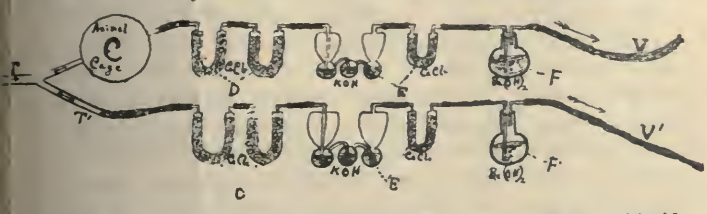


Fig. 3.—C. Animal cage explained in Fig. 1. D. Calcium chlorid tubes for collecting the moisture from animal cage. E. Geissler bulb, the bulbs of which are one-half full of 85 per cent. KOH, and to which is attached a small $CaCl_2$ tube for retaining the moisture derived from the KOH by the air current. F. Containing $Ba(OH)_2$ for detecting CO_2 which might not be absorbed in E. T. Tube which extends through the window to external air. T'. Tube which conducts part of the current to normal air apparatus. V. Connected with ventilating apparatus for animal cage. V'. Connected with ventilating apparatus for normal air.

rubber tube, with á from the top of the gas burette (A Fig. 4 to á Fig. 2). The stopcocks of the burette are turned so that the water in it escapes into the cup, as shown in Fig. 4, its place being taken by the respired air from the ventilating apparatus. The stopcocks are now turned so that no air can escape from the burette. The rubber tube of the pressure tube which has been filled with the potassium pyrogallate solution and previously freed from air is now connected to the lower end of the gas burette. See position 2, Fig. 4. If the three-way stopcock in the lower end of the gas burette (A) has been properly turned the solution from the pressure tube will escape from the end of the stopcock into the cup, as shown in position 2, Fig. 4. A small amount of the solution should be allowed to escape for the purpose of expelling bubbles of air which might have gained entrance to the lower end of the burette while connection was being made with the pressure tube. When all the air has escaped at the end of the three-way stopcock, it is turned one-half a revolution. If this has been properly done the solution will now run into the burette, coming in contact with the air to be analyzed. The pressure tube should now be elevated as high as the connecting rubber tube will admit and the potassium pyrogallate solution allowed to run into the burette (A). The clamp on the correcting tube should now be applied to it close to the lower end of the burette.

This operation made positive pressure in the burette, thereby causing a more rapid absorption of the oxygen. The burette should now be taken by the experimenter and its ends alternately raised and lowered. At frequent intervals he should loosen the clamp on the connecting rubber tube, and raise the pressure tube, thus permitting potassium pyrogallate solution to take the place of the oxygen as it is absorbed. This procedure should continue ten minutes, after which time the clamp on the connecting rubber tube should be loosened. The burette and its pressure tube should be allowed to remain ten minutes longer, at the end of which time the solution in the burette should be brought to a level with the solution in the pressure tube by elevating or lowering the tube. This causes the air in the burette to be under the atmospheric pressure existing at that time. The reading for the amount of oxygen is now taken.

To calculate the amount of oxygen consumed by the animal, one subtracts the amount of oxygen found in the

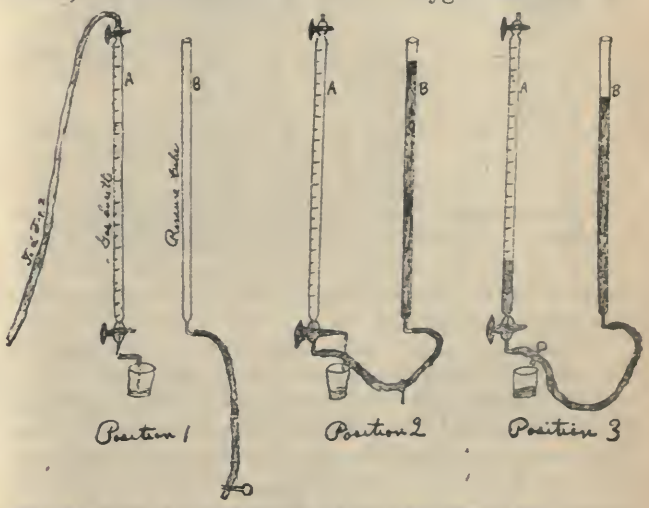


Fig. 4.—Position of gas burettes during analysis of air. Attach a tube from the top of the gas burette (A) to the ventilating apparatus at á (see Fig. 2) to catch air which has passed through the animal cage and which is escaping from á.

respired air from that found in normal air. At least two samples should be analyzed from each ten liters of respired air, the average being used to obtain the result.

In withdrawing samples of respired air, care must be taken not to release the clamp at á until positive pressure exists in that bottle.

In operating the ventilating apparatus care must be taken to clamp x, x', x'' when the position of the bottle is to be changed, so that the respired air will not be contaminated by normal air which would pass into it on account of negative pressure which exists in that bottle. It also prevents the KOH in the Geissler bulb from being forced back into the $CaCl_2$ tubes on account of a slight negative pressure existing in the apparatus between the Geissler bulb and the water in the elevated bottle of the respiratory apparatus. This likewise prevents the water from flowing from one bottle of the respiratory apparatus to the other, causing a change of pressure, which is not desired until all connections are made for the change of position of the bottles.

OBSERVATIONS.

On account of the size of our animal cage, small animals, guinea-pigs, mice, and small rabbits, were used

in the experiments. The guinea-pigs and mice were full grown and well nourished. The rabbits were not full grown, but were in good condition.

In comparing tubercular animals with normal animals care has been taken to secure animals as near as possible of the same age. In this case the rabbits were of the same litter. The guinea-pigs were adults and similar in weight at the time of inoculation. In all cases the most virulent sputum which could be obtained was used and postmortem examination performed on the animals

TABLE 1.—Showing the amount of oxygen consumed, CO_2 exhaled, respiratory quotient, and the influence of feeding on the same in normal animals.

Date. 1899	Animal.	Weight Grams.	Length of Experiments. hr. m.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	R. Q.	Time of Feeding.
June 9	Rabbit, 1	370	1	448	426	.970	Half hour before.
12	" 1	372	1	598	353	.887	One hour before.
13	" 1	380	1	501	406	.810	" " "
14	" 2	443	1 50	952	767	.805	Day before.
15	" 2	443	1 35	900	670	.744	" "
16	White mouse, 1	12	1 20	52	58	900	Access to food.
19	Rabbit, 3	293	1 30	522	484	.927	Two hours before.
20	White mouse, 1	11	2 10	74	72	.966	Access to food.
21	" " 1	10	3	133	114	.857	" "
24	Rabbit, 4	470	1 30	500	493	.986	Just before.
27	" 4	467	1 20	593	553	932	Half hour before.
28	" 5	249	1 10	329	270	843	Access to food.
29	" 5	233	1 20	305	285	934	Immediately before.
30	Guinea-pig, 1	611	1 15	586	470	802	Access to food.
July 1	" " 2	371	1	442	383	.866	" "
5	Puppy	375	50	288	240	.830	" "
26	Rabbit, 6	478	1	484	403	830	" "
27	" 6	480	1	459	418	910	One hour before.
Dec. 2	" 7	808	1	891	767	.847	Day before.
3	" 7	814	1	927	895	870	" "
4	" 7	851	1	1134	966	851	" "
4	" 8	703	1 30	585	514	878	Five hours before.
26	Guinea-pig, 3	616	1	765	571	.746	Day before.
27	" " 3	576	2	1564	1142	730	Two days before.
30	" " 3	527	1	623	570	.910	Half hour before.

showed that the progress and results of the infection were the usual ones.

Tubercular rabbit 3 was inoculated June 2 and died July 27. Tubercular rabbit 6 was inoculated July 1 and died August 2. Tubercular rabbit 7 was inoculated November 17 and died December 10. Tubercular guinea-pig 1 was inoculated December 11 and died January 17.

RESULTS.

1. If the reader will make a careful study of General Table 1, he will find, in the column marked R. Q., the

TABLE 2.—Showing the amount of oxygen consumed, CO_2 exhaled, respiratory quotient, and the influence of feeding on the same in tubercular animals.

Date, 1899	Animal.	Weight. Grams.	Length of Experiments. hr. m.	Oxygen Consumed c.c.	CO_2 Exhaled. c.c.	R. Q.	Time of Feeding.
July 7	Rabbit, 3	429	1 20	404	353	.972	Just before.
12	" 3	348	1 20	501	458	916	Half hour before.
13	" 3	327	1	340	330	.970	One hour before.
14	" 3	393	1	285	271	.948	Just before.
18	" 6	293	55	264	214	.811	Day before.
19	" 6	282	1	246	181	.735	" "
Dec. 1	" 7	832	1	765	637	.834	" "
1	" 7	789	1	608	566	.930	" "
26	Guinea-pig, 1	457	1	612	472	771	" "
27	" " 1	425	2	969	700	.722	Two days before.
30	" " 1	412	1	473	447	945	One and one-half hrs. before.

respiratory quotient for all normal animals experimented on. He will note that the range of variation of the respiratory quotient is very considerable, the lowest being .730 and the highest being .986, thus representing almost the complete recognized range of variation of normal animals as influenced by feeding. Note that the lowest respiratory quotient was shown by the animal experimented on December 27; note also that this animal had had nothing to eat for two days. This result is in harmony with the experiments of others upon fasting animals. A study of the table, with special reference to the time of feeding, will reveal the fact that the lower values of the respiratory quotients uniformly occur when the animal has been fed some time before the experiment. The highest value shown was in the rabbit experimented on June 24. This animal had eaten just before the experiment began, so that the one hour and thirty minutes devoted to the experiment represented the time during which the digestive process was most active. The other higher values shown will be found in those animals that had eaten just before the experiment or in those animals which had access to food constantly.

It is a matter of common knowledge that the character of the food has much to do with the value of the respiratory quotient. In herbivorous animals the respiratory quotient may reach one as its highest limit. The reason for this is evident, if we think of the chemical formula for any typical carbohydrate. The oxygen and hydrogen have to each other quantitive relations shown in water, and will require no further oxygen during the combustion or respiratory process. The carbon will form just as many molecules of carbon dioxid as there are molecules of oxygen required in the combustion or the respiration. It must be evident from this that the respiratory quotient arising from the oxidation of carbohydrate within the tissues of the living animal would be the same as the combustion quotient of the same substance when burned in a retort.

The similar study of typical foods will reveal the fact that the combustion quotient is equal to the respiratory quotient for fats but not for proteids. The reason for this is that fats undergo complete oxidation within the body, but proteids do not. The combustion quotient for proteids will then be higher than the respiratory quotient. The grams calorie represented in a proteid is 5,650 per gram of desiccated proteid. The animal body, however, is able to get from this proteid only about 4,000 grams calorie of energy. The difference (1,650) represents the relative difference between the combustion quotient and the respiratory quotient for proteids. The respiratory quotient in animals nourished wholly by proteids varies between .75 and .85. In fats the respiratory quotient is the same as the combustion quotient. The small proportion of oxygen, as compared with the carbon and hydrogen in the fat molecule, reduces the respiratory quotient for this foodstuff to about .7. It has usually been supposed by physiologists that the character of the nutriment, that is whether carbohydrate, proteid or fat predominated, would control very largely the value of the respiratory quotient.

The animals experimented on in this research were fed on carbohydrates exclusively, the rabbit eating cabbage leaves and carrots, while the guinea-pig and mice lived on cereals. The variation of the respiratory quotient noted in column R. Q., Table 1, depends, then, not on the character of the food, but on some other factor. The attention of the reader has been called above to the fact that this variable factor is nothing else than the variation of time of feeding. It may not be apparent at first how the difference in the time of feeding can thus modify the respiratory quotient, but we have only to remember that the animal begins, after a few hours of fasting, to consume his own fat and the circulating proteid of his blood to realize that within a few hours after each meal the herbivorous animal becomes, in a sense, a consumer of proteid and fat.

In a further examination of the observations it becomes necessary to reduce the data to common standards in order to compare with each other things which are strictly comparable. The first step is to express (Tables 3 and 4) the amount of gas exchange per gram animal per hour, Table 3 showing the normal and Table 4 the tubercular animals. Note that Table 3 gives the standardized data of Table 1, while Table 4 gives the standardized data of Table 2.

2. Relative to the amount of oxygen consumed and the carbon dioxid exhaled by animals under observation,

TABLE 3.—Showing the amount (cubic centimeters) per gram animal per hour, of oxygen consumed and CO_2 exhaled by normal animals.

Date. 1899	Animal.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	Time of Feeding.
June 9	Rabbit, 1	1.21	1.15	Half hour before.
12	" 1	1.07	.95	One hour before.
13	" 1	1.32	1.07	" "
14	" 2	1.17	.94	Day before.
15	" 2	1.05	.80	" "
16	White mouse, 1	3.25	3.54	Access to food.
19	Rabbit, 3	1.18	1.10	Two hours before.
20	White mouse, 1	3.10	3.02	Access to food.
21	" " 1	4.43	3.80	" "
24	Rabbit, 4	.71	.70	Just before.
27	" 4	.95	.888	One-half hour before.
28	" 5	1.142	.964	Access to food.
29	" 5	.981	.904	Just before.
30	Guinea-pig, 1	.766	.615	Access to food.
July 1	" " 2	1.19	1.03	" "
5	Puppy,	.94	.76	" "
26	Rabbit, 6	1.01	.83	" "
27	" 6	.95	.87	One hour before.
Dec. 2	" 7	1.12	.95	Day before.
3	" 7	1.14	.99	" "
4	" 7	1.33	1.13	" "
4	" 8	.83	.73	Five hours before.
26	Guinea-pig, 3	1.240	.920	Day before.
27	" 3	1.357	.991	Two days before.
30	" " 3	1.182	1.080	Half hour before.

it is interesting to note (see Tables 3 and 5) that the white mouse consumed nearly or quite three times as much oxygen and exhaled three times as much carbon dioxid as did the other animals. The reason for this seems to be that the small animals, and this is true as well of small birds as of small mammals, present larger surface to the atmosphere in comparison with the bulk of the animal than is the case with larger birds and animals. This seems to account for the fact

TABLE 4.—Showing the amount (cubic centimeters) per gram animal per hour, of oxygen consumed and CO_2 exhaled by tubercular animals.

Date. 1899	Animals.	Oxygen Consumed. c.c.	CO Exhaled. c.c.	Time of Feeding.
July 7	Rabbit, 3	.940	.820	Just before.
12	" 3	1.079	.980	One hour before.
13	" 3	1.030	1.000	" " "
18	" 6	.900	.730	Day before.
14	" 3	.970	.920	Just before.
19	" 6	.872	.680	Day before.
Dec. 1	" 7	.919	.766	" "
1	" 7	.770	.717	" "
16	Guinea-pig, 1	1.339	1.030	" "
27	" " 1	1.140	.882	Two days before.
30	" " 1	1.148	1.084	One and one-half hrs. before.

that the respiratory processes are more rapid in the small than in the larger ones.

Attention has been called above to the fact that the time of feeding is a most important element in determining the respiratory quotient. It becomes necessary, therefore, to eliminate the influence of this factor by comparing with each other only observations which represent practically constant conditions with respect to this factor. Table 5 shows in parallel columns the normal animals, divided into two classes, (1) those which had been fed immediately before the experiment, and (2) those which had been fed long before the experiment. Table 6 shows the same for tubercular animals. Note that the data of these tables represent simply the averages of strictly similar experiments on animals of the same species, as combined from Tables 3 and 4 respectively.

A study of Tables 5 and 6 makes it evident that the respiratory quotient of tubercular rabbits which had just been fed is greater than is the respiratory quotient of normal rabbits under the same conditions. The same is true when we consider the result with guinea-pigs. If we examine the respiratory quotient in those normal and tubercular animals which have been fed long before the experiment we must reach the same conclusion.

4. Let us now examine the result with reference to the amount of oxygen consumed and the amount of

TABLE 5.—Showing the influence of feeding on the amount of oxygen consumed and CO_2 exhaled, per gram animal, per hour, and the respiratory quotient in normal animals.

Animals Fed Two Hours or Less Before Experiments.					Animals Fed Twelve Hours or More Before Experiments.				
Animal.	Number of Experiments.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	R. Q.	Animal.	Number of Experiments.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	R. Q.
Rabbit	8	1.046	954	.917	Rabbit	5	1.162	.956	.823
Guinea-pig	1	1.182	1.080	.910	Guinea-pig	2	1.298	.995	.738

carbon dioxid exhaled, leaving out of consideration the respiratory quotient.

While fasting, the tubercular rabbit consumed 60 per cent. as much O and exhaled 71 per cent. as much CO_2 as the normal rabbit under the same circumstances. After the consumption of food it consumed 82 per cent. as much O and exhaled 85 per cent. as much CO_2 as the normal rabbit under the same circumstances. This shows:

(*a*) That during all circumstances as to feeding, the tubercular animal consumes relatively less O and exhales relatively more CO_2 than the normal animal under the same circumstances. Since tuberculosis is a disease in which the animal is continually losing weight, a part of the loss of weight will probably come from the lungs in the form of CO_2 and not so much oxygen will

TABLE 6.—Showing the influence of feeding on the amount of oxygen consumed and CO_2 exhaled, per gram animal, per hour, and respiratory quotient in tubercular animals.

Animals Fed Two Hours or Less Before Experiments.					Animals Fed Twelve Hours or More Before Experiments.				
Animal.	Number of Experiments.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	R. Q.	Animal.	Number of Experiments.	Oxygen Consumed. c.c.	CO_2 Exhaled. c.c.	R. Q.
Rabbit	4	1.002	.930	.926	Rabbit	4	.865	.723	.827
Guinea-pig	1	1.148	1.081	.945	Guinea-pig	2	1.239	.956	.716

be required to support the metabolism of an animal that consumes less food and is less active than a normal animal.

(*b*) During the periods of fasting the tubercular animal consumes less O than the normal animal under the same circumstances. This indicates that the metabolism in the tubercular animal is less than it is in the normal animal. This, from the nature of the effect of the disease, we believe to be true.

(*c*) The rate of consumption of oxygen by the tubercular animal is not as constant as it is by the normal animal.

SUMMARY.

1. Time of feeding causes the greatest fluctuation of the respiratory quotient. Under favorable physical conditions it may rise to nearly 100 after the consumption of food, and may fall to about 70 during periods of fasting.

2. The respiratory interchange of gases is very much greater per gram animal per hour for the very small animals than for the larger ones.

3. Tubercular animals consume relatively less oxygen and exhale relatively more carbon dioxid than do normal animals under similar circumstances.

4. The respiratory quotient is raised under the influence of tuberculosis.

DISCUSSION

ON THE PAPER OF DRS. ADERHOLD AND HALL.

DR. LOUIS C. AGER, Brooklyn, N. Y.—Could the decrease in the volume of oxygen absorbed by a tuberculous rabbit be accounted for by a decrease in the area of absorbing lung tissue? Would a rabbit in the early stages of pulmonary tuberculosis, or with tuberculosis of some other part of the body absorb less oxygen?

DR. CHARLES T. MCCLINTOCK, Detroit—Did Dr. Hall notice any difference in the absorption of oxygen according to the moisture in the air? It is well known that tuberculous patients breathe badly on moist days.

DR. LEO LOEB, Chicago—Did the temperature make any difference in the experiments performed?

DR. F. F. WESBROOK, Minneapolis—I should like to ask Dr. Hall if the infection of his animals was produced by subcutaneous inoculation of the tuberculous sputum and, if so, whether any steps were taken to eliminate possible variations which might result from pyogenic and other bacteria which were in association with the tubercle bacilli. This variation would, of course, be more marked in some cases than in others. For example, if streptococci were present in the sputum inoculated, the effect on rabbits and mice would be much more severe than on guinea-pigs. The site of inoculation might have an influence as well.

I should like to inquire, also, whether concurrent determinations of the nitrogen output were made and whether the loss of body weight mentioned could be accounted for by the changes in the operation of the respiratory mechanism.

I wish to congratulate the authors on their method of employing a second or control tube to gauge the amount of carbonic acid and moisture in the air supplied to the animal, whereby the objectionable feature involved in furnishing them with a perfectly dry air was done away with.

In 1895, in work along the same lines done in collaboration with Dr. Lorrain-Smith, we supplied our animals with air from which both moisture and carbonic acid had been removed. This always seemed to me too artificial and to be the source of possible errors in deductions.

DR. W. S. HALL, Chicago—First, in regard to the amount of oxygen consumed in relation to the amount of lung tissue: these animals only lived a few weeks, and the lungs did not seem to be particularly affected. It was a general tuberculosis, and there seemed to be no decrease in the amount of functional lung tissue.

Second, in answer to Dr. Loeb's question, the temperature was not taken throughout the whole period, but was taken on a number of occasions, and on all of these occasions it was slightly above normal in the tubercular animals.

Third, regarding the humidity: it is a part of the laboratory protocol furnished us weekly by the United States Weather Bureau (Auditorium station) and also determined by our air analysis, but we took no account of this in writing up our experiments. It has, however, not escaped our attention. Dr. Aderhold did not think, from a study of the laboratory notes, that the humidity was of sufficient importance to record it in the published tables. It might, however, add interest to these tables, in excluding humidity as an active factor, in modifying the respiratory quotient, if for no other reason.

Fourth, as to the difference in infection, as spoken of by Dr. Wesbrook: the injection was subcutaneous and, naturally, there was more or less mixed infection, but the little streptococcus infection that followed some of these injections was moderate and did not seem to be the cause of the death of any of the animals used in the series of observations. In these animals the disease seemed to run the usual course of tubercular infection, but in one or two cases Dr. Aderhold reported an animal dying in a shorter time, and evidently of mixed infection, and such animals were not included in the series of observations.

DR. LOUIS C. AGER, Brooklyn—As long as there was only slight destruction of lung tissue, did you form any conclusions as to the cause of lack of oxygen absorption? Was it due to decrease of hemoglobin?

DR. W. S. HALL, Chicago—The relation of the two conditions, loss of weight and decrease of consumption of oxygen, is the puzzling point of the problem. I wish I could answer this question as to how there can be a loss of tissue with a decreased oxygen consumption. If there was as much food taken in during the course of the tubercular infection an increase of oxygen consumption would be necessary to oxidize this food and carry it out of the body. I am inclined to think we could not get a loss of weight and wasting of the tissues, together with a decreased oxygen consumption, unless we had a decreased alimentation. We notice that in tubercular cases this is true, and an evident loss of appetite was observed in these animals. I think this is the only way we can account for it.

THE INTRACELLULAR TOXINS OF SOME OF THE PATHOGENIC BACTERIA.*

VICTOR C. VAUGHAN, M.D.
ANN ARBOR, MICH.

Two years ago, at a meeting of this Association at Atlantic City, and before this Section, I had the privilege of describing some experiments made by some of my students and myself on intracellular toxins. I desire in this paper to make some additional statements on this subject.

By means of the large incubating tanks which I described in a paper read before the Association of American Physicians in 1901, and which are figured in the transactions of that society, I have been able to obtain both pathogenic and non-pathogenic bacteria in large amounts absolutely free from the constituents of the culture medium on which the germs have been grown. In this way I have studied the cell substance of the colon bacillus, the bacilli of diphtheria and anthrax, the *Micrococcus prodigiosus,* and the lemon and orange sarcines. I have found that the cell substance of all of these organisms is more or less toxic to guinea-pigs and rabbits. The toxicity varies with the virulence of the culture employed. The cell substance of the colon bacillus after extraction with alcohol and ether and complete desiccation in vacuo kills guinea-pigs when injected into them either intraperitoneally or subcutaneously in proportions of 1 part of the poison to 45,000 parts of body weight. For rabbits this substance is somewhat more toxic. By heating the cell substance of the colon bacillus for a period not exceeding 30 minutes at a temperature of the water bath with a 1 per cent., by weight, solution of sulphuric acid in water we have been able to split off a soluble toxin which, when injected into animals, causes symptoms and lesions identical with those obtained after injection of the unbroken cell.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Frank B. Wynn.

The toxin thus split off seems to be of relatively simple composition compared with that of the whole cell substance, but so far I have not been able to obtain it in a sufficiently pure state to justify an ultimate analysis. The probabilities are that this split product which has this specific toxic action belongs to the class of protomins which were discovered by Miescher and which have been subsequently extensively investigated by Kossel and his students. However, I may note the fact that the toxins obtained in my laboratory by means of dilute sulphuric acid and heat do not give a satisfactory biuret reaction, while protomins of Miescher and Kossel respond promptly to this test. We have also found that the part of the cell substance which remains after hydrolysis with dilute sulphuric acid is still toxic, but much less so than the whole cell substance, or that part split off by the acid. Theoretically I infer from this that the molecule of the colon bacillus contains two or more toxic side chains, only one of which is split off by dilute sulphuric acid, while the other toxic side chain remains unaffected and gives to the residue after extraction with dilute sulphuric acid its poisonous properties.

Probably the most interesting piece of work done in my laboratory during the past two years is that on the toxin of the anthrax bacillus. We have obtained the cell substance of this organism in large quantity and have found that the dead germ substance, when mixed with water and thoroughly sterilized and injected intra-abdominally into guinea-pigs in amounts of from 200 to 300 mg., causes death, and that anthrax lesions are found. By heating the germ substance with 1 per cent., by weight, of sulphuric acid in the autoclave at 110 for 10 minutes, complete sterilization is secured and the acid splits off a substance which, after filtration, is precipitated by pouring the filtrate into three volumes of absolute alcohol. This precipitate when collected, thoroughly washed until every trace of acid has disappeared, dried in vacuo, and pulverized, forms a snow white powder, which is soluble in water rendered feebly alkaline with sodium bicarbonate. This powder, when thus dissolved and injected intra-abdominally into guinea-pigs of from 200 to 300 grams weight, in amounts of 50 mgs. or more, causes death with lesions similar to, if not identical with, those observed after death from typical anthrax. It seems to me that this must be considered the specific toxin of anthrax. All of the theories concerning the modus operandi of germs in causing disease have been applied to anthrax, inasmuch as this has been considered the typical infectious disease. Various attempts have been made to find the specific toxin of this disease.

A review of some of the work that has been done along this line may be of interest in this connection. As early as 1877 Pasteur filtered cultures of anthrax through porcelain and injected the germ-free filtrate into animals without effect, thus showing that this organism does not elaborate a soluble toxin. Some years later Hoffa reported that he had obtained from pure cultures of the anthrax bacillus small quantities of a ptomain which, when injected under the skin of animals, produced the symptoms of the disease and death. At first this substance caused increased respiration and action of the heart. Subsequently the respirations became deep, slow and irregular. The temperature fell below the normal, the pupils were dilated, and a bloody diarrhea set in. On section the heart was found to be contracted, the blood dark, and ecchymoses were observed on the pericardium and peritoneum. Hoffa called this poison anthracin, and later he reported that he had isolated it from the bodies of animals dead with anthrax. These results could not be considered satisfactory. Moreover, several investigators have repeated Hoffa's experiments with negative results.

In 1889 Hankin prepared from cultures of the *Bacillus anthracis* an albumose which, when employed in comparatively large amount, proved fatal to animals, and when used in very small quantity gave immunity against subsequent inoculations of the living germ. Subsequent investigations have failed to confirm Hankin's results. Brieger and Fraenkel reported that they had found a toxalbumin in animals dead from anthrax. In their experiments the liver, spleen, lungs, and kidneys of animals recently dead from this disease were finely divided and rubbed up with water. This emulsion was allowed to stand in a refrigerator for 12 hours, when it was passed through a Chamberland filter and the toxalbumin precipitated from the filtrate with absolute alcohol. Conradi has carefully repeated Brieger and Fraenkel's work with negative results.

Martin grew the anthrax bacillus for from 10 to 15 days in an alkaline albuminate from blood serum, then filtered through porcelain, and obtained from the filtrate the following products: 1. Protoalbumose and deuteroalbumose, and a trace of peptone, all of which substances behave like similar bodies prepared by peptic digestion. 2. An alkaloid. 3. Small quantities of leucin and tyrosin. The most characteristic property of the albumoses obtained by Martin is that their solutions are strongly alkaline, and the alkalinity is not removed by treatment with alcohol, benzol, chloroform, or ether, or by dialysis. The alkaloid was found to be soluble in water, alcohol and amylic alcohol, but insoluble in chloroform, ether and benzol. Its solutions were strongly alkaline and it formed with acids crystalline salts. The mixed albumoses were found to be poisonous only in considerable doses, 0.3 of a gram being required to kill a mouse of 22 grams weight when injected subcutaneously. Smaller doses caused local edema and a somnolent condition, from which the animal recovered. Larger doses produced more extensive edema and the somnolence deepened into coma and terminated in death. The alkaloidal body reported by Martin is apparently not identical with that obtained by Hoffa. Marmier grew the anthrax bacillus in a peptone culture medium and reported that he had obtained a toxin from sterilized cultures of these growths by precipitation with ammonium sulphate.

The most recent work on the anthrax toxin, before that done in my own laboratory, was reported in a very exhaustive paper in the *Zeitschrift für Hygiene* by Conradi. This investigator reviews extensively the literature of the subject, and adds experiments of his own. From all the evidence that he could obtain at that time, Conradi came to the conclusion that the anthrax bacillus does not produce either an extracellular or intracellular toxin. If the work in my laboratory be confirmed, it will show that the anthrax toxin is a constituent of the bacterial cell, from which it can not be removed except by certain chemical disintegrations of the cell substance. A few experiments made in my laboratory indicate that the part of the cell which remains after extracting the above mentioned toxin with dilute sulphuric acid is also toxic. However, the extent to which it is toxic has not yet been determined. Many interesting questions arise in connection with this work, and I am tempted to enter into the discussion of some of them, but will forbear until I have amplified my experimental researches.

Our work with the diphtheria intracellular toxin is exceedingly interesting. From the experiments that we have made we conclude that the intracellular toxin of diphtheria is not identical with the soluble toxin. Commercial diphtheria antitoxin protects animals against the soluble diphtheria toxin, but fails to protect against the intracellular toxin. This offers, apparently, a plausible explanation for the fact which has been observed by others that natural immunity to diphtheria toxin may be possessed by animals which are not immune to diphtheria infection.

The cell substance of the *Micrococcus prodigiosus* and of the lemon and yellow sarcines are toxic in varying amounts, depending largely on the extent to which the cells are purified from the mucilaginous substance surrounding them in the culture medium.

The full paper, of which this is an abstract, has been prepared for the Rockefeller Institute, and will doubtless be published in the reports of that organization.

ANGIOSARCOMA OF THE LIVER.

REPORT OF A CASE.*

J. C. COOK, M.D.
CHICAGO.

NARRATION OF CASE.

A child was presented at my clinic, Aug. 5, 1901, aged 3½ years; female. The first indication to the mother of any trouble was noted five weeks previous, when she observed a small tumor, or hard lump, in the right iliac region and a week later a similar growth was noticed in the corresponding location in the left side. Both grew until they met. About this time the child vomited some, but this did not persist. The bowels became constipated and the abdomen distended, and she began to lose weight.

Examination.—The following clinical findings were noted: temperature normal, pulse 110 to 120. Urinary examination revealed nothing. The child presented a markedly distended abdomen, measuring twenty-five inches at its greatest circumference, which increased to twenty-seven inches August 28. No blood had escaped from any of the cavities; no history of malignant disease could be obtained; white blood corpuscles 12,000, hemoglobin 50 per cent., red blood corpuscles 3,600,000. The child presented an emaciated appearance and wore an anxious expression.

Operation.—August 6 an exploratory incision was made by Dr. Allen B. Kanavel which revealed a tumor filling the entire abdominal cavity, grayish white in appearance, soft and friable, evidently malignant in character, that could not be separated from the ovaries, uterus or kidneys. The latter organ was believed to be its origin because of the relative frequency with which it is attacked. The laparotomy revealed the absence of fluid in the abdominal cavity. Further operative procedures were abandoned, as it was believed they would not increase the chances of recovery. The abdominal wound was closed and united rapidly.

Subsequent History.—The child was sent home, no change occurring worthy of note except that on August 20 the right leg became edematous. She died on August 28 under a diagnosis of inoperable sarcoma. The entire course from the first symptom to the end was two months.

Autopsy.—I am indebted to Drs. Kanavel, Richter and Springer for the following postmortem report: The body was greatly emaciated, the right leg markedly, and the left leg slightly, edematous. About two quarts of clear serous fluid escaped on opening the abdomen.

The tumor appeared to be both extraperitoneal and intraperitoneal, as if it had grown under the peritoneum to both sides, then had extended up through the mesenteric attachment in the median line and on the right side, for here the growth was restricted into a sort of neck. Once well up into the mesentery, it expanded and broke through into the peritoneal cavity, growing for the most part down into the pelvis so as to give on palpation early in the course the suggestion that it originated here, the irregularity of its growth leading the mother to find two nodules, one on each side. The two portions of this dumbbell-shaped mass are about the size of a ten-year-old child's head, and it is soft like a child's brain. On cut section pulpy, whitish or bloody areas arise above the surface, the latter being numerous and due to extravasated blood from the numerous newly-formed blood vessels present. Here and there bands of firmer tissue running in every direction serve to bind the mass together, while numerous peritoneal bands on the surface, stretched tight, increase the verrucosity of the lobulated mass. The aorta and vena cava lie behind. Between the two masses were found the kidneys, connected by a fibrinous band giving the appearance of a horseshoe kidney, connected inferiorly by an isthmus of flattened kidney tissue an inch and a half in width and from an eighth to a quarter of an inch in thickness, gradually thickening and widening at each end to unite imperceptibly with the lower pole of each kidney, coming up as high as the pelvis. The upper poles are free. The capsule of the kidney covers, both anteriorly and posteriorly, all of the left and the upper pole of the right, but inferiorly on this kidney it extends out to include the tumor growth which grows by a prolongation from the lower pole, a neck of kidney tissue changing into tumor tissue so gradually that at no place can one say, macroscopically at least, here is kidney tissue and there adjoining is tumor growth. This neck is about one-half inch in diameter and one-half inch long.

The arteries and veins come in from each side to the upper part of the kidney, the vein being superficial. They bifurcate to go dorsally and ventrally to the pelvis of the kidney; then ramify on the isthmus uniting with the corresponding vessels of the opposite side. The ureters are separate below, lying ventrally to the lower pole, and are connected by a communicating branch lying in the kidney tissue along the upper part of the isthmus. They run down between the intra- and extraperitoneal tumors. The kidneys are of normal size and the pelvis is not dilated.

The omentum was filled with metastatic growths varying in size from a pea to a walnut. The same may be said of the iliac mesentery. No other metastases were found either in the organs of the body or in the lymphatic system, bones not being examined. Spleen, heart, liver and pancreas were entirely negative; slight emphysema of lungs. The tumor mass, with kidneys attached, weighed seven pounds.

Says Ziegler: "A sarcoma is a connective tissue tumor in which cellular elements are much more prominent than the intercellular substance. A typical sarcoma, as the name implies from the Greek, is fleshlike in consistency. In appearance it is generally more or less rounded, often enclosed in a capsule, but may be irregular, infiltrating and unencapsulated. Their consistency is soft or hard, according to the number of cells and amount of intercellular substance composing them."

ETIOLOGY OF SARCOMA.

"The frequent occurrence of sarcomata in young persons," says Conheim, "is among the evidences pointing to a congenital origin." Traumatism and inflammation play some part, either in developing a lesion from which it may have an origin, or stimulating a new growth from a latent sarcoma.

No specific form of bacteria has been demonstrated, yet the parasitic theory has many adherents in recent years. Experiments with implantation of the disease in animals have been unsatisfactory. Some relationship has been traced between sarcoma and syphilis (Stengel). The seat of the sarcoma is from pre-existing connective

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

tissues and may arise in nearly any organ or structure of the body.

THE VARIETIES.

It is essentially malignant in character and tends to recur after removal. Metastasis occurs through the circulation. The degree of malignancy varies greatly. The small round cell and melanotic varieties are the most dangerous. The exact influence of sarcoma on metabolism is unknown, yet it is a well-established fact that sarcomatous growth is injurious to the general health, as is shown by the marked emaciation, anemia, leucocytosis and the sometimes existing irregular fever. The structure of sarcoma cells is round, cylindrical and spindle-shaped. The spindle-celled sarcomas are harder than the round cell. The round cell variety may be almost entirely composed of spherical cells, large or small in size. These enter into combinations in various ways and are modified by their combinations and the structure in which they are located.

Stengel, in discussing tumors of the kidneys, says that sarcoma is the most frequent malignant tumor. It may occur congenitally or in later life. The multiform character of sarcoma of the kidney suggests an embryonal origin and it is not unlikely that the primitive Wolffian bodies are the starting point of the disease.

The special variety of sarcoma to which the specimen from this case belongs is known as an angiosarcoma, or more correctly "hæmangio sarcoma." In this variety the sarcomatous proliferation begins in the adventitious coat of blood vessels. The tissue of the tumor in typical cases is almost wholly composed of a tangle of vessels whose walls are surrounded by heavy masses of cells which extend even as far as the endothelium. Such a tumor, therefore, is made up essentially of thick-walled cellular tubes which partly follow an independent course and partly unite with other tubes by an anastomosis which gives rise to a complicated mass of twisted and interwoven cords. However, it should be mentioned here that in both endothelium and angiosarcoma the alveolar and tubular structures may be wholly lost in places through the diffused manner in which proliferation takes place. Angiosarcoma occurs in the brain, kidney, testicles, lymphatic glands, breast, skin, bone, thyroid and liver, although it is a very rare occurrence in the two locations last mentioned.

THE RECOGNITION AND PROMPT REMOVAL OF POSTNASAL ADENOIDS IN CHILDREN.*

LOUIS J. LAUTENBACH, A.M., M.D., Ph.D.

Surgeon-in-Charge of the Philadelphia Eye, Ear, Nose and Throat Institute; Nose and Throat Physician to the Odd Fellows' Home.

PHILADELPHIA.

The importance of the consideration of our subject is evident when we observe the divergent views presented by different authors as to the instruments to be used in operations and the varying ideas as to anesthesia. That the subject is still uppermost in the mind of the specialist is evident from a consideration of this year's programs of the Section on Laryngology and Otology, where three papers out of a total of thirty-three are presented on the growths in the nasopharynx, and of this Section on Diseases of Children, in which three papers out of a total of thirty-nine are devoted to the same subject.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, Edwin Rosenthal and Samuel W. Kelley.

FREQUENCY AND CAUSES.

As to its frequency, opinions of authors are much at variance. Ingals of Chicago reports but 2 per cent. out of ten thousand private chest, throat and nose patients, while Frankenberg reports 59 per cent. in the 158 inmates of the Deaf and Mute Institute at Prague. Some writers incline to believe that adenoid enlargements are not more common in deaf mutes than in the more normal members of the community, and that when they are present they have no causative effect on the deafness. Yet Arslan and others report cases where they have succeeded in restoring the hearing by proper removal of the growths followed by appropriate after-treatment.

We all know that children are peculiarly prone to these growths; that they are apt to arise in the second, third and fourth years; that occasionally they seem to be congenital; that in adults the tendency to proliferation and closure of the lymphoid tissues appears less often, and the disease is much more rare, but yet exists more frequently than is popularly supposed.

I believe that most authors agree that it occurs more often in boys than in girls. I can not say that this has been impressed on me, but I do know that it is a very frequent disease in children, and while I have not thoroughly analyzed my cases, I am sure that in my work I have observed it in over 10 per cent. of all the children I have treated in my private practice, and during one week of May, 1902, I removed adenoids from five children, while there is rarely a week that I do not remove one or more of these growths in my private work.

In regard to constitutional predisposition, most authors agree that there is an hereditary tendency; there are some who do not concur that the lymphatic or scrofulous diathesis has any bearing on the case. There is no question that they are more frequent in the weak, the poorly nourished; those who give evidence of the strumous diathesis. Children who are the victims of scrofula, syphilis, tuberculosis, anemia, chlorosis and chronic malnutrition are most prone to develop these tumors. In addition a very moist climate is a powerful agency in precipitating the condition. In my own experience I can not say that I have ever found these adenoid growths in a child that, to me, seemed the picture of health. It is, however, to be considered that in some few cases it may have originated from some local disorder in the nasopharynx, the resulting ill health being subsequent to the growth.

A factor in proving that the enlargement is usually not a local condition is that in nine cases out of ten the faucial tonsils also are enlarged and diseased. This fact has been noted by numerous writers, among others William Meyer, Morell Mackenzie, H. Lennox Browne and Joseph Gruber. There appears to be a tendency to disease in various other lymphoid structures.

DIAGNOSIS.

As to the method of making the diagnosis, the symptoms observed are usually sufficient—the difficulty of breathing, the mouth breathing, the open lips, the vacant countenance, the loss of memory, the stammering, the poor hearing, the dead, flat, muffled voice, the cough, the pinched wing and flattened bridge of the nose, the flat chest, the general lack of health and vitality, and the enuresis and indigestion, and numerous nervous reflexes, all go to make up a picture which when present can not be mistaken. When the diagnosis is a probable one, but not certain, it can be made fixed and definite by examining the rhinopharyngeal space by means of the index finger of the right hand inserted through the

mouth back of the soft palate. The nature of these growths is simply that of hypertrophies of the normal lymphoid tissue, and containing varying amounts of fibrous and connective tissue. The masses are sometimes single, lobulated, clustered or stalactitic; sometimes soft, again hard or tough; sometimes very friable, again encapsulated; sometimes occupying the vault only, again extending far over to the sides involving the entire rhinopharynx and completely occupying the fossæ of Rosenmüller as well as the eustachian tube orifices. These growths seem to predispose their subjects to numerous diseases. They are constantly troubled with catarrh, always taking cold in the head; they usually develop tonsillar and other throat diseases. They are peculiarly liable to hay fever, bronchitis and pneumonia. They almost always have some insufficiency in the heart's action. They often develop nervous affections, such as enuresis and asthma and even chorea and epilepsy; paroxysmal sneezing is most common. They are very liable to all the acute fevers, such as diphtheria, scarlet fever, measles, etc.

Diseases of the ear follow in many cases; acute inflammation of the middle ear and mastoid is by no means uncommon, and deafness is often present. Friederich explains this as follows:

> Any and all diseases of the nose and post-nasal space which are followed by obstruction of the nasal passage lead to passive hyperemia in the mucous membrane, which in turn produces occlusion of the eustachian canal. . . .
>
> The obstructions may be situated in the post-nasal space, and may take the form of hypertrophied pharyngeal tonsils, tumors, syphilis, or tuberculosis occluding the posterior nares. Hence the recognition and removal of any obstacle to nasal respiration should constitute an integral part of every examination and treatment of the ears. There can be no hope of curing the ear affection before the causes which are responsible for the congestion of the mucous membrane have been removed and the permeability of the tube has been restored. If I have included hypertrophy of the pharyngeal tonsils or adenoid vegetations among the diseases which produce hyperemia and swelling of the mucous membrane, with occlusion of the tube by interfering with nasal respiration, it is because I believe the occlusion is due to a general "adenoid habit" of the nose and pharynx, rather than to the direct mechanical intrusion of the pharyngeal tonsil. The "adenoid habit" manifests itself in the rhinoscope image as a hyperplasia of the entire lymphatic ring of Waldeyer; the follicles in the posterior pharyngeal walls and in the longitudinal folds on each side of the pharynx are more numerous, and are intensely red and swollen. Hyperplasia of Rosenmüller's crypts and of the anterior fold of the tube may develop as the manifestation of a general hyperplasia of all the lymphatic elements entering into the formation of the so-called pharyngeal lymphatic ring; hyperplasia of these structures necessarily favors the occlusion of the tube by compressing the orifice.

Disorders of the digestive apparatus are quite the rule; the condition is precipitated by the usually profuse discharge which flows down the posterior wall of the pharynx, most of which finds its way, with children, into the stomach, where it sets up irritation through the processes of fermentation. Another factor seems to be the lack of the usual quantity and even the healthy quality of the buccal saliva. In addition such children are apt to bolt their food because of the lack of nasal breathing preventing thorough and comfortable mastication.

The rhinopharyngeal region is subject to much variation. The bones at the base of the skull which serve as the roof of this space vary much in their growth and development; in some the space is narrow and high, again it may be shallow and broad, or it may be flat or well rounded in either of these cases. Its usual appearance is somewhat like a section of a long cone, the apex of the cone being above and arched. Were this invariably so instrumental operations would be much simplified, and would be followed by more uniformly good results. As a matter of fact we never strike two of these cases exactly alike; there are constant variations.

The most serious and the most frequent of these variations is where you find the sides of the rhinopharyngeal walls separated from the central or posterior wall by hard, bony ridges, which in some cases extend up into the extreme upper and anterior terminus of the pharyngeal vault. I should say that in children this peculiarity is observable in perhaps two out of every ten cases, and its presence is a serious interference to instrumental operations, whether by the forceps or the curette, but especially to the former. Not infrequently do we find cases which have been thus operated on where parts of these bony ridges have been torn away, and yet where part of the growth lying down in the hollow between these ridges has not been removed; in other words, necrosis was going on simultaneously with enlargement of the adenoid growth after the operation had been performed and pronounced completed.

These bony ridges are apt to start just above the level of the soft palate and extend usually into the vault, dividing the bony walls into a central and two lateral sections. In other words, there are three sections of a cone arched above.

METHOD OF TREATMENT.

The old, passive, medicinal treatment is nowadays very rarely attempted, but in some measure, of course, it comes into play in every case in the preparation of the patient for operation. The use of cleansing alkaline, antiseptic and astringent washes, and the use of drying and astringent powders, as well as protective or medicinal oils and salves, are all necessary for this purpose, and they may in addition be useful in allaying the symptoms as well as in restoring any lack of confidence the little patient may have in his doctor. It gives each an opportunity to study the other. Such treatment may perhaps occasionally cure a case, but usually it will only improve the symptoms.

Formerly some advised that the only necessity in these cases was to keep the parts clean and give the growth a chance to atrophy and disappear. Now this dependence on faith and cleanliness is not to be advised. It is a relic pure and simple and has no place in present-day treatment. The only conclusion to be reached is to remove the growth at the earliest period practicable, and to do it thoroughly, and to avoid exposing the little patient to any unnecessary risk.

The removal of these growths by electricity has been advised by a number of writers, Burnett and others advising the cautery points, Sajous using the cautery loops or snare, on account of the supposed painlessness and convenience, as well as the almost uniform results. These methods, however, have not been followed by good results and are rarely used.

It is now understood that whatever method is employed it must give assurance of the entire removal of the growth and a reasonable certainty of its non-return.

ANESTHETICS.

Before considering the operations proper, which conform in the main to the foregoing proposition, we should consider for a moment the subject of anesthetics, local and general.

Local anesthetics, such as cocain, holocain and eucain, can be used by application through the nose and throat, and will do much to dull the sensibility of the parts if you can only have the child held perfectly steady; no doubt all the necessary operative procedures could be done without any very serious difficulties. Even the Meyer ring curette or the Gottstein curette, the guillotine, or any of the numerous forceps could be employed without subjecting the child to serious pain if nervous apprehension and fear were not a factor.

As a matter of fact, however, children can not hold well for such serious and menacing operations, and it is because of this lack of control on the part of the child that most of the operators have been driven to use general anesthesia. Now the operators in this field are by no means agreed as to the best and least dangerous anesthetic to use. Many advise chloroform, and as many condemn it. Numerous deaths among these cases have been reported from its use. Ether is advised and used by many, and then once in a while one of our little people takes the long sleep. Bishop uses bromid of ethyl; others find it dangerous. Nitrous oxid and nitrous oxid administered with oxygen is used, but while it is apparently the safest (13 deaths in a record of 750,000 administrations) it has the disadvantages that doctors can not readily administer it, and its effects are so evanescent. The A. C. E. mixture has been employed. It also has numbered its victims in our adenoid operations.

It is a matter of common knowledge that our adenoid tumor patients are peculiarly susceptible in the cardiac region; they are more liable to syncope and death without premonition. It is unfortunately true that while some of these cases are reported, and they are now not an inconsiderable number, yet by far the majority of these results are never put into print, and we have no means of knowing just how serious is the problem that confronts us. I venture to say that if accurate statistics could be obtained general anesthesia in these cases would be almost discarded. Henry Gradle says:

> Narcosis makes the operation more formidable and necessitates more assistance. It does not in any way permit a more thorough operation, as most of the relapses which the writer has seen had been operated previously by others, and by himself under anesthesia. The pain in well-arranged operations is not sufficient to necessitate the superfluous risk of an anesthetic. It is only in cases of unruly children from whom active resistance must be expected that narcosis becomes necessary. Narcosis is also preferable when the faucial tonsils are to be excised at the same sitting, as this triple operation is usually too severe a tax on a child's endurance.

METHODS OF OPERATION.

Coming now to consider the various methods of removing these growths, we have first the method of William Meyer, who worked through the nostril with a ring curette while the index finger of the other hand was in the rhinopharyngeal space, the jaws being kept apart by a gag. This has the advantage of an exploring finger constantly present during the operation, the disadvantage being the employment of a general anesthetic.

The operations by the various curettes, such as the Gottstein, Hartman, Beckman and numerous others, are performed under an anesthetic and have the disadvantage that you do not know exactly what you are doing and what you are not doing. You may take away too much or too little; you usually can not completely clean out the fossæ of Rosenmüller, nor can you easily clean out the vault; and again, you may damage the bone and soft structures, especially should the case be one of the anomalous formation of bony longitudinal lateral ridges. The Gottstein and other curettes are not infrequently broken in these cases. In the *Laryngoscope* (May, 1901) two such cases are reported in the personal work of C. R. Holmes and H. S. Garlick. Unless the parts are examined by the finger after this operation a surgeon can not be certain of having finished the work.

Guillotines, such as those of Schutz and Gradle, have the same disadvantages, except they are not so apt to cause injury, but in most cases they are as ineffective as the curettes, or more so.

Forceps, such as Loewenberg's lateral, or Schutz's anteroposterior, and their numerous modifications, have, in the main, the same objection as the pharyngeal curettes. They, however, have the decided advantage that one can rarely cause quite as much damage with the former. The amount of power which can be, and often is applied to these parts by means of the curette is practically limitless. As above observed, numerous cases are constantly occurring where the curette is broken during the operation. Outside of this advantage all the other disadvantages encountered with the curette pertain in using the various forceps.

THE FINGER NAIL METHOD.

There is another method of which I want to speak more at length; a method which can be used in connection with general anesthesia, or, as I prefer, with local anesthesia. Numerous operators, such as Dalby, Capart, Bezold, Lennox Browne, Guye, Kyle, Newcomb, J. L. Gibson, Beverly Robinson, Pritchard, Baber and others, have used and advised the finger nail, or modification of it, by attaching a sharp steel piece to the index finger, the nail or metal acting in each case as a curette. This method has, of course, the advantage that the operator knows all the time just what he is doing; he can explore all the recesses and remove all the enlarged tissues without injuring any of the normal structures. It has the additional advantage that there is no necessity for the administration of a general anesthetic, and thus the needless jeopardizing of human life is avoided.

According to Sir William Dalby, "The diagnosis of adenoid vegetations can only be made with certainty by digital examination, as this alone gives absolute certainty as to their localization, size, extent, form and resistance." As opposed to this I quote Emil Mayer: "Why should you put your finger up there and simply hurt the child for no reason whatever?" I take it as a self-evident truth that when we have a means of being certain of the presence of such growths and can so readily learn their exact location and their nature, it is wrong to neglect this knowedge and to operate with cutting instruments in the dark, where we can not see what we are doing, and using them with perhaps enough force to do positive damage.

How easy it is, on making this digital examination and learning the condition of this region, to at once, as soon as the pathologic condition is ascertained, to remove the enlarged thickened tissues.

Whenever I suspect the presence of these growths, and have obtained the confidence of my little patient sufficiently, I ask the child to open its mouth, saying that I want to feel something inside, and then, without any display of curettes, forceps, etc., I enter the index finger of the right hand with the nail hardened by dipping it into alcohol or reinforced by my jointed artificial finger nail into the child's mouth and feel the condition of the parts in the nasopharynx and remove at once all diseased and enlarged structures, in many cases finishing the entire operation at once.

METHOD OF OPERATION BY ARTIFICIAL OR NATURAL FINGER NAIL.

In order to indicate to you how quickly and yet how thorough the entire procedure is, I will try and detail to you the various steps in the treatment, examination and operation. Being suspicious of the presence of the thickened adenoid tissues I examine the nares and throat thoroughly but gently, and cleanse both cavities thoroughly with sprays, washes, gargles, etc. When these are thoroughly cleansed I seat the child in a revolving arm chair with a spittoon on patient's left hand, and having thoroughly cleansed my right index finger, and having dipped it in alcohol, I put two or three turns of a one-inch adhesive plaster over the first phalanx of my right index finger, and still further protect it by putting over it two or three turns of a doubled two-inch roller bandage, the end of which is secured by making one turn about the wrist, and as you are about to make a second turn pass the free end under the turn already in position. Standing on the right of the patient I lightly put my left arm about the child's head, holding his head against the lower part of my chest; tilting his head a little forward, I insert the right index finger on the right side of the jaw as far back as possible—not using any gag to keep the jaws apart—and quickly carry it back of the soft palate up into the nasopharyngeal cavity, clearing out all the thickened and overgrown tissues at the vault and posteriorly, in the fossæ of Rosenmüller and at the eustachian tube entrances. While doing this the left arm clasps the child's head more and more firmly while bending it forward over the spittoon. All the thickened tissues found are scraped out until the surfaces feel smooth and natural. In the eustachian region I especially press on the tissues in order to overcome any infiltration or congestion. I do not leave the cavity until I am convinced that all the diseased tissue has been removed, or I am convinced that my own finger nail is not strong enough to cope with the form of tissue present, or there is evidence that the blood and detritus are interfering markedly with the child's breathing—these two latter conditions are very unusual in their occurrence, and should they occur it means that either the same day or the next, if possible, I will again enter the cavity and, if necessary, with a steel finger nail remove every bit of diseased tissue discoverable. The entire operation rarely takes more than a minute, and is usually followed by very little hemorrhage.

AFTER-TREATMENT.

After the operation I clean out the throat and nose carefully, use some soothing ointment in the nose, and advise that liquid albolene or mentholized oil be used in the nose and throat at home. In a few days I examine the region, when, if healing has been perfect, the nasopharynx will feel smooth and soft, and there will be little or no danger of recurrence, and if everything is well I may, perhaps, re-examine after a further period of three or four days, if urged to do so by the parents or the physician, but I do not think this necessary unless there be untoward symptoms.

This operation avoids all dangerous procedures, it causes very little pain and it is done without the dangers of general anesthesia; it requires no gag and no display of instruments. While it is simple it is thorough; it is scientific, inasmuch as we verify each step of our proceedings; it is done with the usual antiseptic precautions, and it does not leave the irregular roughened edges usually present after most operations by other methods. In other words, it removes all the pieces and does not allow shreds to remain here and there.

As for a recurrence, it is comparatively rare when the method has been thoroughly carried out, as it more effectively removes the last vestige of affected tissues than can be done in any other way.

Personally, I have many times performed the operation by the above method where previously one of the other methods had been tried with general anesthetic, and in not a few have found considerable cicatricial obstructive tissue around the eustachian orifices and occasionally exposed bone, and often remnants of the lymphoid growth.

Whatever the operation employed, it is absolutely necessary in every case to know the exact condition of the rhinopharynx after the operation. I fear that too often this is neglected, and this is responsible for many of the cases that recur early after the operation. This digital examination should never be neglected.

The after-treatment of these cases is simply that of the catarrhal conditions invariably present plus the treatment of the open wound of the nasopharyngeal vault. Mentholized oil and camphor preparations with alkaline washes and antiseptics are the most important.

CONSTITUTIONAL TREATMENT.

As to the constitutional measures to be employed, it is my opinion that their use is never to be neglected. If syphilis, tuberculosis, scrofula, chlorosis, anemia or digestive or nervous disturbances exist in connection with this growth they must receive appropriate and constant attention.

Cod-liver oil and syrup of the iodid of iron will, on the whole, be most frequently employed. In rachitis and some other cases, phosphorus will be of special advantage, while the hypophosphites and arsenic and the chlorid of iron will frequently come into play. Many of our patients will need saline, alkaline and lithia waters. They will all require plenty of exercise and fresh dry air and sunshine. Their skin clothing should be pure wool but light in weight, the weight and thickness of the outer garments being regulated according to the weather. They should have frequent baths, warm or cold, or both, as the exigencies of the case require. The avoidance of all heart sedatives, such as coffee and tea, is a necessity. The food should be plain and nutritious and should be ample in quantity.

CONCLUSIONS.

Summing up the conclusions which we have reached we find:

1. That the disease is a very frequent one, especially among children.
2. That it is relatively much more common among the poorly nourished and those suffering from constitutional and nutritive disturbances, and is rarely observed among the apparently well.
3. That it is usually found in connection with enlarged pharyngeal tonsils.
4. That it is most frequent among deaf mutes.
5. That its presence is usually determined by the symptoms, but digital examination is both easy and certain.
6. That its presence causes most serious local and general derangements.
7. That its presence predisposes to numerous diseases.
8. That the treatment must be operative.
9. That the operation should be done without general anesthesia.

10. That the finger-nail operation is the most thorough, as well as the most safe.

11. That the rhinopharynx must be examined after every operation.

12. That the finger-nail operation is less likely to be followed by recurrence than the more serious operations.

13. That constitutional treatment must be thoroughly instituted in all these cases in order to overcome the predisposing cause of the growth.

1723 Walnut Street.

DISCUSSION.

Dr. W. C. Hollopeter, Philadelphia—I have always felt this was a subject which had been slighted by the pediatrist. The operation appears to be a cardinal necessity, especially when the sense of hearing is disturbed and the child sleeps with his mouth open, also when swallowing is followed by rapid and inefficient mastication. The author has covered the ground very admirably, and has simplified the surgical treatment. I think the majority of those following this special line of work are inclined to believe that the operation is more satisfactorily done without anesthesia and with the natural or artificial finger nail The artificial finger nail exhibited by the author seems to me rather large; indeed, it is often rather difficult to introduce one's own finger. I should like to have an expression of opinion concerning the use of bromid of ethyl, as Dr. Bishop uses it, as an anesthetic in these cases.

Dr. S. W. Kelley, Cleveland—I have been pleased with the terse statements of this paper. What has been said by him about the number of instruments being indicative of an operation being either very easy or rather difficult applies also to the question of posture during operation and the use of anesthetics. In one case you may choose one posture for the patient; in another, another. But posture may vary according to the fancy or the habit of the operator, or be determined by the question of anesthetics. You may find it convenient to have the patient held in the lap of an assistant, while another holds the head and, perhaps, the gag. You may lay the patient down, with the head hanging over the end of the table. You may take his head under your left arm, or you may simply stand him up against the wall, and so on, according to the case you have to deal with. With some patients a local anesthetic can be used, and there is no trouble, while others can be operated on easily without any anesthetic. In some cases it seems to be impossible to do this operation without general anesthesia, because of the temperament or lack of training of the child. He may be too unruly, or he may be too timid. In some cases a general anesthetic would be contraindicated. As a rule I do not like to use cocain in children. And, notwithstanding all that has been taught about the safety of chloroform in childhood, I have on four occasions met alarming symptoms from its use (not for this operation). So that I do not resort to chloroform unnecessarily I prefer to do this operation when possible without an anesthetic.

The curette with a handle is a powerful instrument, and I believe a great deal of harm is occasionally done with it. Some operators proceed to use this powerful instrument as if they were about to remove plaster from a wall. Whenever possible I use my finger, and I find it a great deal better than the use of an instrument. Of course there are growths that will yield only to a sharp edge. It is just like the question of using the finger or the curette when it becomes necessary to remove the secundines in a case of miscarriage. I like the artificial finger nail exhibited, but I think the steel blade is too long and must interfere with the turning of the instrument. I prefer to use a narrow artificial finger nail, which slips under the natural finger nail and is guided by the palmar surface of the finger. Any of these instruments will occasionally pull off the finger; hence, I feel safer when a turn of bandage is taken through the last ring of the instrument and is then wrapped a few times around the finger or hand. This also has the advantage of preventing the child from biting the operator's finger.

Dr. H. L. K. Shaw, Albany, N. Y.—I am in favor of general anesthesia for the adenoid operation, and I have witnessed the bloody operations done in England and some other places, to which reference has been made. I also believe that one can do very much better with the curette than with the finger nail. I use ether as often as chloroform, and just as soon as the operation has been done the head of the patient is held downward to allow of the escape of blood.

Dr H. J. Rock, Aberdeen, S. D.—Is it not a general principle that chloroform is the least objectionable anesthetic, particularly in the case of children? In a fairly extensive experience I have used chloroform, taking plenty of time to secure anesthesia by this means, and I have seen no harm from its use in this way. As soon as the operation is done the child is turned on the side, with the head low.

Dr. J. F. Klinedinst, York, Pa.—My work is limited to the treatment of eye, ear, nose and throat diseases, and, hence, I do many of these operations. When the child is so unruly that an anesthetic must be used, I prefer chloroform. My experience has been that of many others, i. e., that chloroform is more dangerous in this operation than in others, though we know, of course, that children stand chloroform well. I have not had any fatal cases, but in some the symptoms have been very alarming, so that I do not like to use it. I have used frequently a combination of cocain and adrenalin chlorid, and it seems to be a good one, because adrenalin is known to be a powerful heart stimulant and will counteract, to a great extent, the depressing action of the cocain. Moreover, the adrenalin, by its astringent hemostatic action, lessens the amount of hemorrhage. Why chloroform is dangerous I can not say, unless it may be that the chloroform is not given to the extent of abolishing all reflexes.

CYCLIC VOMITING IN CHILDREN,

WITH REPORT OF CASES.

THOMAS C. ELY, M.D.
PHILADELPHIA.

All neuroses necessitate an exclusion of organic disease, a most difficult task, and an appreciation of an unusual excitability of the nervous system. Of all the various gastric neuroses, secretory, sensory and motor, with their protean manifestations, none are subjects of greater interest than the motor and, though perhaps of less frequent occurrence, none of the motor of more interest than cyclic vomiting.

MECHANISM.

The mechanism of vomiting includes a vomiting center, situated in the medulla near the respiratory center, from which impulses are sent to the diaphragm by the phrenic nerves, to the stomach and esophagus by the pneumogastric and the abdominal muscles by the intercostal nerves. The complex act consists in an inspiration, the glottis closing, the diaphragm contracting the longitudinal fibers of the stomach opening its cardiac orifice, when contraction of the abdominal muscles completes the act, forcing out the stomach contents. The muscles of the diaphragm, of the abdominal walls of the stomach itself, require simultaneous contraction and must be co-ordinated by a relatively strong nerve center. The process is almost physiologic. Act of the will quite controls eructation, or belching of gas from the stomach and, in some instances, regurgitation or bringing up liquid or solid food from the stomach. Individuals have been able to vomit at will.[1]

In the condition known as merycism or rumination swallowed food is returned and chewed over again. Poorly masticated food may be returned and even enjoyed at will, says one writer.[2]

With these strange exceptions, however, unlike a physiologic process, the nervous and vascular systems are always reduced in power, probably not only by the act, but by the morbid process which produces the condition

acting on other parts of the nervous system than the vomiting center.

CAUSES.

The differentiation of the causes of vomiting in children frequently presents difficulties. The causes are varied; children give little or no history and the practitioner must grope his way much as the veterinarian. Called for the first time, or in the first attack, to a child with excessive vomiting, with little or no history, we wish to call attention to a class of cases to which such vomiting may belong, and the differentiation of such cases from other attacks of vomiting in children.

The attacks which are herein described occur in gouty and neurotic children and are due to toxins from faulty metabolism and faulty kidney elimination. The attacks are distinct neuroses, being due to the action of a toxin on the vomiting center in a predisposed subject.

Such neuroses have been described at length in literature by Holt,[3] Rotch,[4] Pepper,[5] Griffith,[6] Gee[7] and other writers. The distinctive features of this gastric neuroses (cyclic vomiting) is that it occurs in a certain type of children, gouty and neurotic.

SYMPTOMS.

Cyclic vomiting has been likened to migraine in its tendency to recurrence or periodicity. Prostration is extreme. Death has been reported in two instances.[8] One other case of death unreported has been brought to my notice by Dr. C. Seltzer, where all known remedies were of no avail.

The vomiting is excessive, severe, protracted, and nothing can be retained by the stomach. Thirst is likewise excessive and distressing. There is no connection in an attack with diet or indigestion. There is generally a fever of indefinite type.

Abdominal symptoms are quite immaterial and varied. The abdomen is generally about normal in appearance. There may or may not be constipation. The urine seems the most distinctive feature, being loaded with amorphous urates and uric acid crystals entirely out of proportion to the fever and other phenomena. Closer study of the urine in all cases may reveal the true cause, possibly blood examinations assisting.

ILLUSTRATIVE CASES.

The following case histories illustrate the condition:

CASE 1.—Boy of 6, well nourished, whose father is subject to arteriosclerosis, and whose mother suffers with recurrent attacks of migraine. The patient had been subject to attacks generally of no longer intervals than eight months.

The prodromes of the attacks were generally malaise, headache, and disgust for food and soreness of the abdomen, with some rise of temperature. The attacks of vomiting were sudden, severe, occurring every half or 2 or 3 hours, and lasting for several days, till the child was completely exhausted. The fever continued throughout the attack. Convalescence was rapid. The urine was always loaded with excessive amorphous urates and uric acid crystals.

The treatment consisted of calomel 1/10 (plain, i. e., dry) on tongue, 1 every hour till ten doses; cocain ½ gr. in 24 hourse, given in ¼-hour intervals. Later, phosphate soda. He was restored to health.

CASE 2.—Pale, round-shouldered and of sickly appearance. Both parents were near the age of fifty at her birth and both are of marked neuropathic type. Her diet is always carefully regulated. Cold has precipitated an attack.

There has never been a history of indigestion or constipation, no acid eructations, or foul breath, or coated tongue, or bad taste in the mouth preceding an attack. Skin, conjunctiva and stools are about normal, and there is generally no gaseous distension of the bowels. The prodromes were heavy eyes, with dark rings beneath, no disposition to play, but rather to rest, lying down most of the day.

Vomiting began suddenly. The child insisted on the basin constantly at hand, saying every few minutes, "I am going to vomit," and retched violently. The blood was not examined. The urine was loaded with uric acid crystals and amorphous urates.

Cocain, at first in larger doses and gradually decreasing, controlled the attacks with calomel in tenths as before, dry on the tongue. This was followed by phosphate of soda, and later syr. hypo-phosp. comp. established convalescence.

CASE 3.—Girl, aged 9, of gouty family. Attack precipitated by grief over death of her mother. Mother's death caused by chronic interstitial nephritis, revealed at the autopsy, urinary findings being negative till fatal uremia. Child was of very affectionate temperament, pupils filling the eyes, a highly developed and easily irritated sympathetic nervous system.

Attacks began with nausea and slight vomiting for a time, and then attacks which were violent and persistent occurring almost every hour. Temperature ranged from 99 to 101. Vomited material consisted of frothy mucus and serum, very acid. The blood was not examined. The urine was loaded with excessive uric acid crystals and amorphous urates.

At the end of the third day the face was pinched, heavy black rings under the eyes, eyes half closed, body drained of fluids and condition one of prostration and collapse. The pulse was 160 and very weak, requiring digitalis and strych. hypodermically. The tongue was singularly clear and red. The abdomen was neither distended nor flattened, but about normal, although auscultation revealed an absence of peristalsis. There was present distressing thirst and hurried and irregular respiration, though hurried respiration, particularly at the time of vomiting, should have little significance, owing to the proximity of the respiratory and the vomiting center.

The treatment consisted of high enemas of saline solution and a hypodermatic injection of morphin 1/18, and atropin 1/500. The duration of the acute attack was five days. The after-treatment was symptomatic, consisting of sedatives, eliminatives and tonics.

During convalescence itching skin and eczematous rash over the buttocks suggested a blood irritant of the uric acid series.

Thirteen weeks followed of irregular pulse and slightly elevated temperature—90 to 100—with no other explanation than a marked disturbance of metabolism.

This case seems to be properly classified as of the "cyclic vomiting" type, the causative factor in this instance being an emotion from an unusual cause.

DIFFERENTIATIONS FROM OTHER ATTACKS OF VOMITING.

A condition most likely to be confounded with these gastric neuroses is the more ordinary recurrent bilious vomiting.

The points of distinction are these:

IN BILIOUS VOMITING.	IN CYCLIC VOMITING.
1. History, improper feeding.	1. No such history; may occur with most careful diet, with no symptoms of indigestion.
2. Unloading the bowels relieves.	2. No such effect.
3. Tongue coated.	3. May be clean.
4. Breath heavy.	4. Breath late in attacks may have wine odor of acetone, but otherwise normal.
5. Abdomen bloated and distended.	5. Generally about normal.
6. Abdominal pain and colic.	6. As rule, none.
7. Abdominal peristalsis and with colic.	7. Auscultation of abdomen, especially later in the attack, reveals absence of peristalsis.
8. Stools often clayey.	8. Generally normal.

IN BILIOUS VOMITING.	IN CYCLIC VOMITING.
9. Ordinary febrile urine.	9. Urine scanty and loaded uric acid crystals and amorphous urates out of proportion to other symptoms.

In cyclic vomiting, in conclusion, the excessive thirst, cyclic character, severity and persistence of the vomiting are quite pathognomonic. A differentiation of other causes of vomiting requires an examination of all the organs.

1. Vomiting may be due to local disease, irritation of the walls of the stomach itself, as in cases of any irritation, as of medicine or of food in quantity or quality, overdistension with gas, congested mucous membrane, with irritating secretions, which cases reveal themselves by a study of the relation of vomiting to food and a study of the material vomited.

2. Vomiting may be due to intestinal causes of quite the same nature as above or to such other abdominal causes as obstruction, peritonitis, appendicitis, which soon present very distinct physical signs and symptoms of these conditions.

3. It may be, also, reflex from other disturbance, as of the cerebrospinal system or the special organs—from brain disease, from the pharynx, eye or ear, or almost any organ.

4. Vomiting may be central or toxic from an irritating state of the blood acting on the vomiting center, in the same manner as a hypodermatic of apomorphia.

This would include infectious diseases, which soon express themselves by well-known symptoms or rashes, and the vomiting is generally neither prolonged nor excessive, and very frequently consists of but one or two explosive effects.

Among other causes of central vomiting may be included the toxemia incident to kidney disease.

In the vomiting of children it is always wise to follow two rules—to examine carefully the throat, and not to be easily convinced that the cause is local—an irritated or diseased stomach. Very frequently it is not at all of gastric origin.

The stomach, organic brain disease and organic kidney disease may represent the most frequent causes.

G. R. Butler[9] says: "Vomiting is sometimes seen as the only marked symptom of an apparently slight nephritis. In such cases its onset is abrupt, its course intense and its outcome not infrequently fatal."

5. Simple or tuberculous meningitis may present greater difficulties, especially when we consider that vomiting may be rarely the only symptom of such a meningitis till a fatal issue by convulsions. The condition of the pupils, the eye ground, irregular pulse and respiration assist the differentiation.

In the periodical vomiting which occurs in cases of tabes dorsalis in adults, a possible history of syphilis, the symptoms of station and patellar reflex and ocular symptoms are so characteristic that they can not be confounded and are mentioned only because articles on "periodical vomiting" refer to such neuroses, which are in no way related to cases of periodical vomiting now considered.

Other attacks of periodical vomiting, with abdominal pain, in adults, have been described in literature, but have none of the marked features of these attacks. Still other conditions described as periodical attacks of vomiting in children are very plainly recurrent bilious attacks, in children careless of diet and hygiene, which have been described.

That the phenomena of cyclic vomiting is due to some toxic blood state seems certain, the exact nature of the toxin remaining in obscurity. It may be allied to the unknown toxin of uremia. It is probably of the xanthin series, one of the uric acid group. The attacks resemble the so-called "uric acid storms" described so graphically by Haig, in that the extremities are cold, glandular secretions decreased and scanty urine and large excretion of substances regarded as uric acid.

The attacks differ in the fact that there is no headache or mental depression, and in the character of the pulse, which is not usually of high tension, but weak and irritable like the pulse of toxin poisoning. It is a pulse which can in no way be explained by the tension caused by impeded capillary circulation, which a colloid state of uric acid may occasion. The symptoms are not so much of uricacidemia and the clogging of capillaries as of some toxin possibly of the uric acid series acting directly on the vomiting center.

The impressibility of certain nerve centers, and the difference of susceptibility of particular nerve centers in particular individuals help to explain the phenomena. It is well known that toxins of the alloxuric group irritate particularly nerve centers, and that uric acid products are particularly injurious to nerve tissues, and we may be warranted in the assumption that some of these chief products of waste metabolism irritate the vomiting center in these gastric neuroses, though we do not know the steps of the biochemic process or the exact toxin. In all three cases there is a neurotic or gouty, or a neurotic and gouty family history.

In all three cases the presence of amorphous urates and uric acid crystals in excessive proportion to the febrile disturbance point to a toxin of the uric acid series. In each instance the alimentary tract and accessory glands seemed fairly normal and the autointoxication seems not of intestinal origin, but cellular, with perhaps faulty kidneys.

When we consider how little we know of the toxin of uremia—a condition more pronounced, more serious and more frequently at hand for study—we may be less chagrined at our lack of knowledge of the toxin in this gastric neurosis.

TREATMENT.

The treatment is sedative and eliminative. The indications are: First, to lessen the irritability of the vomiting center; and second, to eliminate. The first has been attempted by bromids and chloral by the bowel, which is not satisfactory. Nothing is so effective as hypodermatics of morphin and atropin in severe cases. In less severe cases cocain and Fowler's solution lessen irritability both of the vomiting center and the peripheral nerve endings in the stomach wall.

Elimination is best accomplished by calomel, dry on the tongue in small and frequent doses, in conjunction with high saline enemas.

Gavage has effected good results in young children. No other diet than some of the liquid peptonoids in form should be attempted for several days. In the interval there is indicated abundant fresh air and careful skin activity, exercise short of fatigue, an avoidance of nervous strain and child worry, with an antiuric-acid diet.

CONCLUSIONS.

In conclusion I wish to emphasize:

1. The importance of being watchful, on one's guard for the vomiting of this gastric neurosis, distinguishing it particularly from bilious vomiting and the vomiting of kidney disease and reflex vomiting, as of brain disease.

2. In children of gouty and neurotic history the three cases reported point to a toxin allied to the uric acid series as the possible blood irritant causing the vomiting.

3. The importance in severe cases of hypodermic injection of morphia and atropia in conjunction with elimination, by high saline enema; by gavage; and in extreme cases, hypodermoclysis and even intravenous injections of saline solutions.

2041 Green Street.

REFERENCES.

1. John Marshall: Outlines of Physiology, 1868, p. 520. Berord: Cours de Physiologie, II, 275, note, Paris, 1849. Dunglison: Human Physiology, 1856, vol. I, p. 197.
2. Edition of Dr. Lys' Translation of Richerards' Physiology. Berord: Manual of Physiologie, p. 152, Paris, 1853.
3. Holt: Diseases, Infancy and Childhood, 1901, p. 287.
4. Rotch: Pediatrics, 841.
5. Pepper: Cyclopedia of the Diseases of Children (Keating), III, 22.
6. Griffith: American Journal of Medical Sciences, November, 1900.
7. Gee: St. Bartholomew's Hospital Reports, 1882, xviii, 1.
8. Griffith: "Cyclic Vomiting," American Journal of Medical Sciences, November, 1900.
9. Glentworth, Reeve, Butler: Diagnosis of Internal Medicine, 1901.

Special Article.

THE TYPHOID EPIDEMIC AT ITHACA.

(By Our Special Commissioner.)

II.

THE DIVISIONS OF ITHACA IN RELATION TO TYPHOID INCIDENCE.

Very early in the history of the outbreak it was suspected that the public water supply was in some way implicated. With respect to the sources of the water used for domestic purposes the town may be conveniently divided into five different districts: 1, Receiving water exclusively from Six Mile Creek;[1] 2, receiving a mixture of water from Six Mile Creek and Buttermilk Creek in the proportion of 1:1; 3, receiving mixed water from Six Mile and Buttermilk creeks with an excess of the former in the proportion of about 3:1 or 4:1; 4, receiving water from Fall Creek; 5, dependent on wells, springs or sources outside of the regularly pumped supply.

The distribution of the cases of typhoid fever in the town at once drew attention to the significant incidence of the infection. The main city water supply is derived in part from Six Mile Creek alone, and in part from mixture of this water with that of Buttermilk Creek. The water from these sources (Districts 1 to 3) is furnished by the Ithaca Water Company, a private corporation. The Fall Creek source, which is controlled and managed by the university authorities, supplies the university buildings, some fifty-two houses on or near the campus, including six fraternity houses and about seventeen houses at Cornell Heights to the west of Fall Creek. This section of the town has remained exempt from typhoid fever, except in the cases of a few individuals, who resided on the campus but boarded elsewhere, and one student in Sage College, who is known to have drunk water in other parts of the city. With the one exception noted, the women students of Sage College, numbering over 200, have not been affected. The same is true of the students in the several fraternity houses that are supplied with Fall Creek water. The larger part of the town, however, especially that furnished with water directly from Six Mile Creek, has suffered severely.

It appears from the meager facts that could be learned concerning the distribution of cases within the infected area, that the district receiving exclusively Six Mile Creek water was much more severely affected than the rest of the town. This section, the East Hill district (1), which is thickly dotted with student boarding houses, has borne the brunt of the epidemic. In the district supplied with the mixed water from Six Mile and Buttermilk creeks, the proportion of cases appears to be smaller than on East Hill. In the outlying parts of the town, supplied with well water, the number of cases is said to be relatively small, although it is extraordinarily difficult to obtain precise information on this and all other points that require the consulting of accurate records. I have also found it impossible to obtain definite information concerning the distribution of population within the specified areas. The population supplied from Fall Creek numbers probably at least six hundred; and that supplied with mixed water from Buttermilk and Six Mile creeks is considerably larger than that supplied from Six Mile Creek alone; but beyond these facts there is little to assist the investigator in determining the proportion of cases to population. In view of the compact character of the town, and the opportunities for using infected water throughout most of its territory, it is certainly rather surprising that there have not been more cases of incidental infection among the population supplied by Fall Creek. If the disease had been distributed evenly over the city in proportion to the population this district should have had at least 30 indigenous cases, whereas it is not known to have had one. The fact that the section receiving Six Mile Creek water but no water from Buttermilk Creek (1) has been



1. First pumped to a small reservoir containing less than a day's supply.

seriously attacked, and that the section supplied with the mixed water from these two sources has also suffered, points unmistakably to Six Mile Creek as the source of infection, although the possibility that Buttermilk Creek was simultaneously infected can not be excluded.

As regards the especially heavy incidence of the disease on District 1 there are several ways in which this might be explained. In the first place, the fact that in this district the Six Mile Creek water alone is used would seem to indicate both a more direct and a quantitatively greater infection. A second factor that has undoubtedly played a part is the age distribution of the population in this district. The large number of university students dwelling in the East Hill boarding houses constitutes an



age group possessed of maximum susceptibility to typhoid fever. It is well known that the greatest susceptibility to this disease is between the ages of 15 and 25, and that consequently a population of college students presents a mass of material of peculiarly inflammable nature. A third factor that may possibly be important is that the student population is not composed of permanent residents and hence had been relatively untried by typhoid infection. It is probable that many of the inhabitants of Ithaca, living in the lower town, had at one time or another suffered from mild or unrecognized cases of typhoid fever, the so-called "Ithaca fever," or "typhoidette," to use the term of some of the French epidemiologists (Lorain). There is a certain amount of evidence that exceedingly mild infections, often not recognized as specific, confer immunity to subsequent attacks of typhoid fever. On this ground, it would not be at all remarkable if the disease had raged more severely in the virgin soil of the student boarding houses than among the previously exposed and presumably somewhat seasoned inhabitants of Ithaca. Probably all of the factors mentioned have contributed somewhat to the extraordinary prevalence of the disease among the student population on East Hill.

CHARACTER OF THE WATER SHEDS.

The conditions surrounding the several sources of water supply are particularly significant. Six Mile Creek, which affords the major part of the town's supply, has a watershed with an area of about 48 square miles.



The watershed is slightly more than ten miles in length and is very narrow; the numerous small and rapid feeders of the main stream traverse for the most part short distances. The stream is not a large one; the average daily flow during January and February, 1903, is estimated at five to six million gallons, and during a large part of the year it is much less than this. Without a storage system, it does not alone suffice for the town supply (two to three million gallons daily). The population on this watershed may be roughly estimated at 2,300-2,500. Most of these inhabitants live in scattered farm houses, although two small village communities, Brookton and Slaterville, the latter a summer "health resort" with several small hotels, are within this area. Observation of the conditions prevailing on this water-

shed at the time of the writer's visit showed that many of the houses are situated on the very border of Six Mile Creek or its tributaries, and that, in many instances, there is abundant opportunity for fresh drainage from manure piles, pig pens and outhouses to pass directly into the stream. The accompanying illustrations[2] represent views taken along the banks of Six Mile Creek in the village of Brookton, four miles above the point at which the Ithaca supply is pumped. In certain places the slope of the ground is such that the drainage from outhouses and privies can pass freely into the stream. The current in Six Mile Creek and its tributaries is swift, and at those seasons of the year when the streams are full, it



is possible for drainage from almost any part of the watershed to arrive at the water intake within three or four hours after entering the stream.

Buttermilk Creek, which at present furnishes part of the public supply, was not visited by the writer, but is said to have a watershed of very similar character to that of Six Mile Creek. It is stated to be in somewhat better condition than that of Six Mile Creek, principally because the stream is not so long. A report on Buttermilk Creek, made Feb. 16, 1903, by official inspectors of the local board of health, contains the following suggestive items among many others of a similar character:

The next residence on the right bank of the stream is that of Mr. E., standing on a tributary. The closet is within ten feet of the tributary, and the hen house and hog pen stand about twenty feet from the tributary, with the slope toward the tributary. . . .

At the residence of J. McF. the closet is within fifteen feet of the stream, with the bank sloping steeply into the water; at this place there are five cases of scarlet fever, two of whom are recovering. The barn and pigsty stand on the bank of a short tributary to the stream, and drain directly into the main stream. . . .

At the residence of J. G. the closet is directly on the bank of the stream, with no vault underneath.

The watershed of Fall Creek, from which the water supply of the university campus and some closely con-



tiguous territory is derived, is, if anything, in a less satisfactory condition than that of Six Mile Creek. In proportion to the size of the watershed and length of the stream, the amount of pollution is greater than in either of the other sources. About one mile above the water intake is located the small hamlet of Forest Home, where the opportunities for direct and rapid drainage into the stream are even more conspicuous than at Brookton. If an unwatched or improperly-cared-for case of typhoid fever had developed at Forest Home, infectious material might conceivably have passed into the university supply with great promptitude. No greater safeguards appear to have been thrown around the Fall Creek supply than around that of Six Mile Creek. In fact the general surroundings of Fall Creek are apparently of a much more dangerous character.

2. These views were taken last week especially for THE JOURNAL and to accompany this report. They describe more graphically than words the true conditions. Other photographs were taken but the ones here reproduced are believed to be amply sufficient.

QUALITY OF THE WATER.

It has long been a matter of common knowledge in Ithaca that the town water supply was not above criticism. Many citizens have not used the public supply for years for drinking purposes. The use of boiled water or of spring or artesian well water has been general; such measures of protection have been often resorted to by the advice or on the warning of the Ithaca physicians, many of whom appear to have been alive to the situation. The writer has been told that the use of the raw water for drinking has been known in certain families to bring on attacks of "bowel complaint." These attacks ceased if a different water were used, only to reappear when the drinking of raw water was resumed. More than this,



analyses of the town supply have shown on several occasions that the water contained objectionable or suspicious constituents. A report was made to the Ithaca board of health, March 11, 1902, by Professor Chamot of Cornell University, in which, after a detailed report on the results of examination of the water, the water was pronounced "unfit for drinking purposes." It is stated that analyses of the Fall Creek water have in general shown somewhat greater pollution than the other sources.

Long before the present outbreak, therefore, the facts were at hand concerning (1) the excessive prevalence of typhoid fever in the town, (2) the character of the several watersheds draining into the streams which were the source of the town's supply, and (3) the quality of the water itself and the effect of its use on the health of citizens.

(To be continued.)

Careless Prescribing.—I have been astonished at the original prescriptions of men who, in all branches of their profession except therapeutics, were quite capable. They seemed to have no knowledge of the incompatibility of drugs. A few instances may suffice to illustrate this. Cocain and borax are often ordered in the same mixture, with the result of forming an insoluble precipitate of cocain borate. Ammonium carbonate is frequently ordered by physicians in the same cough mixture with syrup of squills, which contains acetic acid, with the result that a chemical reaction takes place liberating carbon dioxid, and the gas given off startles the patient by forcibly expelling the cork or even bursting the bottle. An acid and an alkali should only be mixed when a new product is desired. How frequently iron is ordered mixed with substances containing tannic acid, with the result of forming iron tannate or ink. —H. R. Purdy, before the N. Y. State Med. Assn.—"Amer. Druggist."

That Decreasing Birth Rate.—Statistics continue to appear on this subject in the press of the country. An editorial in THE JOURNAL, Feb. 21, 1903, page 521, expressed doubt as to the fact of an actually decreased birth rate Apropos are the statistics presented by the "Northwestern Christian Advocate," which seem decidedly at variance with some previously referred to in our columns. The "Advocate" says that the analysis of the statistics on births compiled by the twelfth census does not bear out the contention that the birth-rate in the United States is decreasing. At least the figures, based on what the compilers of part 1 of the vital statistics say are imperfect data, indicate that there was a slight increase in the birth-rate for the decennial period of 1890-1900 over that of 1880-1890. Not the least interesting feature is that the greatest increase occurred in the northeastern or New England group of states, which includes New York (compare with THE JOURNAL, March 14, page 722). In this division the increase was 1.7 per 1,000. An analysis of these figures, including the average annual excess of births over deaths for the period from 1890 to 1900, shows the following results.

	Birth-rate 1890.	Excess births over deaths.	Birth-rate 1900.
United States	26.9	17.7	27.2
Northeastern division	22.1	11.5	23.8
Central and northern division	26.8	18.4	25.9
Southern division	30.1	19.8	31.5
Western division	22.9	18.7	22.8

The Diabetic Flour Swindle.—According to a Massachusetts State Board of Health report, of thirteen samples of diabetic flour, or flour prepared for the use of diabetics and purporting to be free from starch, only three samples, the product of one manufacturer, were found to be free from starch; the other ten, or nearly 80 per cent. of the samples collected, were found not only to contain starch, but that in large quantities, seven being found with 60 per cent. or more of starch. These were in reality but little better than whole wheat flour, and were sold at prices varying from eleven to fifty cents per pound. There are probably few of the better informed of general physicians who would not say, "All the better for the patient, so far as his health is concerned," because bread that does not contain starch doubtless injures him more than the best-made, well-baked "crusty" wheat bread. There seems to be a deal of indefiniteness and a vast deal of difference of opinion among physicians as to these questions of bread and diet for diabetic patients. These differences do not show themselves so much in the text-books, where there is general uniformity of advice. But when it comes to getting his bread the poor diabetic finds that the physician knows little or nothing as to the chemic and digestive qualities of the breads he can buy. The matter is left without oversight to the bakers and commercial agents, precisely where it should not be left, and much to the perplexity of the patient. No wonder that the diabetic's health fails when he tries to digest some of the "bread" he is advised to get! After trying it he can but think, if he does not know that his disease is a modern one, that the origin of the scriptural injunction against giving a stone when bread is asked for arose from the experience of his poor ancient brethren in trying to live while conforming to the scientific diet-list of those days.—"American Medicine."

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THE RESPONSIBILITY AT ITHACA.

There was a time when the epidemic of typhoid fever at Ithaca would have been looked on as a visitation of God; at the present time it must be recognized as a failure on the part of some persons to do their duty. Sometimes there may be an excuse for not recognizing signs of danger; but not in this instance, for they were too apparent; even the pictures obtained by our commissioner and presented in this issue prove this. The situation as depicted in his report is of no uncertain character.

The Ithaca Water Company, which owns and controls the water pipes, pumping stations and their connections, and presumably also certain portions of the drainage area, can hardly be absolved from a share in the responsibility for the disaster. The condition of the watershed furnishing the main supply appears to have been so patently dangerous that the most superficial observation could detect the mischievous possibilities that flaunted themselves along the banks of the stream. A private corporation, although primarily organized, it is to be presumed, for purposes of private or corporate gain, nevertheless incurs certain responsibilities which can not be lightly disregarded in undertaking to distribute a commodity so indispensable as drinking water. It is possible that even if the banks of Six Mile Creek had been carefuly patrolled, and if all nuisances along its banks had been abated just as far as was practicable, the epidemic might still have occurred. The fact, however, that such obvious and elementary precautions appear to have been largely, if not altogether, neglected, throws a heavy weight of responsibility on the water company.

The city authorities of Ithaca must likewise not be surprised if they receive from the world at large their share of the blame for the outbreak. Although spasmodic efforts seem to have been made from time to time to cope with the water situation and plan for its betterment, there appears to have been no concerted and definite plan of action which could result in efficient treatment of the problem. There is unfortunately only too much reason to believe that many American municipalities are in a position very similar to that of Ithaca in respect to an unguarded supply of surface water, and are allowing themselves to drift along from year to year in the easy assurance that nothing serious will happen. In most cases nothing does happen other than an excessive tribute paid each year in the deaths of young men and young women from typhoid fever. Occasionally, however, some unusual occurrence, like the one at Ithaca, will cause an amount of illness and death so great as to focus the eyes of the whole country for a time on the afflicted community. It would perhaps be unjust to condemn too severely the negligence or indifference which has the supreme misfortune to be punished by a particularly violent outburst of disease, so long as it is known that a very large number of municipalities are taking similar risks, and, safe in the happy doctrine of chances, are likely to escape similar retribution.

In turning to the possible responsibility of the authorities of Cornell University, the matter assumes a somewhat serious aspect. The influence possessed by the University in the councils of the town, its financial and moral prestige and the fact that it possessed, or might easily have secured, expert evidence as to the character of the town water supply, are all factors that can not be ignored in forming a judgment. Not only was it notorious that the town water supply was bad, but it was known that typhoid fever had for some years prevailed excessively; and the dangers to a community largely composed of college students, from the deplorable situation portrayed by our commissioner, ought to have been clearly foreseen. The university housed within its own walls many men who would have informed it without ambiguity or hesitation as to the existing situation and the catastrophe which might some day not unreasonably be expected if nothing were done.

It has been urged in defense that Cornell University incurred no more responsibility by allowing such conditions to exist than Columbia University or the University of Pennsylvania assumes for the water supply of New York or Philadelphia. The cases, however, are by no means parallel. Apart from the fact that public opinion generally will hold that the universities named would be unquestionably to a large extent morally liable for an outbreak of typhoid fever among their students, unless the authorities do all in their power to provide a pure water supply, it can not be said that the responsibility of a university in a great city is at all in the same category with the responsibility of a university in a small town, which it can largely influence or even, if necessary, dominate. The apparent neglect by the Cornell authorities of their responsibilities is further shown by the facts given regarding the university's own water supply, which, although not incriminated in the present outbreak, does not appear to have been surrounded by any substantial protection. We are reluctantly forced to believe that the Ithaca epidemic will always be looked on as an instance of oversight and neglect on the part of those in control of a great educational institution. Instances of amazing indifference and ignorance on the part of private water companies and municipal officials are not as uncommon as they should be, but that the

authorities of a great university should fail to realize their responsibilities in such an important matter may well give rise to more than passing wonderment.

THE SANITARY PROBLEMS OF THE PANAMA CANAL.

There is no great enterprise which tends to revolutionize the commercial channels of the world that has not its important sanitary aspects. Just at this time the Panama Canal seems a reasonable certainty in the not very distant future and the water route to Eastern Asia will be largely diverted from its present channels. The possibilities of this fact as regards health and sanitary matters are really serious and important.

In a discussion at the London Epidemiological Society, February 25, Dr. Patrick Manson took up this subject, calling attention to the diffusion of disease by insects, especially the mosquito as the intermediary host of the specific hematozoa, with special reference to the question of yellow fever as it concerns the Panama Canal. At the present time yellow fever is a disease confined particularly to the east coast of America and a part of the west coast of Africa, occasionally, however, passing across the isthmus routes to the Pacific ports of Central America. Thus far the Orient has escaped. With the building of the canal there will be many thousands of oriental laborers employed. They will come by the shiploads from Japan and China and return with whatever infections and diseases they have acquired in their more or less prolonged residence along the unsanitary isthmus. Yellow fever is a disease which, while not constant or indigenous on the isthmus, is yet comparatively frequent there on both sides, and its prophylaxis will be hardly less important than that of malaria, which in its pernicious form has there cost so many lives in the construction of transportation works, railroads, etc., in years past. The stegomyia is almost a universally distributed mosquito throughout the tropical and subtropical regions of the earth; the means for the diffusibility of the disease, therefore, are supplied. This mosquito can live as long as 75 days, and a voyage of eight or ten weeks across the tropical Pacific would be no surety against its transmission. There have been cases reported where ships have carried yellow fever without having any cases of it aboard. The only security is in thorough fumigation of vessels and destruction of any mosquitoes that may be secreted in their recesses. Dr. Manson suggests an international commission of all the civilized powers to act on this matter. Inasmuch as this would imply a certain amount of police power, it is doubtful whether the proposition is a thoroughly digested one. But certainly something should be done to prevent the spreading of this pest into regions where it has not before existed. He also suggests a clearing and absolute drainage of the country within half a mile of the canal on each side as a necessary item of prophylaxis. It is doubtful whether all this could be done at once, but much can be done, and with wideawake port sanitary authorities it does not seem that transmission of the disease can not be prevented even without the complete and most thorough methods he suggests.

There is still another point to be considered in connection with the rapid and frequent transit between Asia and tropical America which the canal insures. There is an equal chance for the introduction of Asiatic pests and scourges to this continent. The plague is almost endemic in some of the eastern countries, and cholera is still more so. We know what plague can do on the west coast of Mexico from the little epidemic that occurred at Mazatlan and one or two other places. Any wholesale introduction of this disease, which is just as possible as the introduction of yellow fever into Asia, might produce consequences which would be worse than anything we have yet seen or imagined.

The building of the canal itself involves sanitary problems of a serious character. In some respects the Nicaragua route would seem to have been a less pestilential one, though its inconveniences in other respects seem to have decided the matter against it. The west coast of Central America at least is comparatively healthy. On the east coast the severer forms of malaria are more or less prevalent. The subject is a timely one for us to consider.

It is not out of place also to reiterate what we have said before in regard to having a well-qualified medical man among the commissioners, who shall have full and complete charge of all sanitary arrangements and work. There is no doubt that there will be a physician in charge of this branch, but unless special effort be made to have such full powers allowed him, this position will be a vexatious one, and his views will be carried out or not as it pleases those who may be above him. Now is the time for action, as those men who are to have charge of the work will soon be appointed by President Roosevelt.

CYTOTOXINS AND THE PATHOLOGY OF PREGNANCY.

Among the most interesting of the researches on cell toxins is that in which the exciting substance is placental tissue. It is of special interest, first, because there is a possibility that some features of the pathology of pregnancy may be explained by the results obtained, and, second, because the practical use of the serum so obtained seems nearer than is the case of many of the other cytotoxic serums. A reason for this hope lies in the fact that placental tissue is the tissue, par excellence, that can be obtained from human beings in fit condition for use in immunizing animals. With the exception of the blood the placenta is practically the only human substance available for this work. W. Liepmann[1] has already made a number of experiments showing that the serum of rabbits immunized with human placenta will produce a precipitate when added to clear human serum that has stood for a time in contact with placental tissue. As he was able to produce a similar precipitate with blood serum from the umbilical cord of infants, and also

1. Deutsche med. Wochenschr., 1903, xxix, No. 5.

with retroplacental blood serum, he concludes that certain constituents of the placenta enter the blood stream. The practical bearing of this lies in the possibility that here is discovered a new method for diagnosing pregnancy. It is well known that placental cells enter the blood of the mother during pregnancy, for they have been found as emboli in the lungs, kidney and elsewhere. Liepmann promises to investigate this subject further.

In connection with the pathology of pregnancy we have the old theory that eclampsia is due to products of placental disintegration, either soluble substances or the cellular emboli above mentioned. Some of the earlier investigators of placental toxins stated that they found injections of human placenta toxic to animals, but Liepmann, who carefully excluded bacteria, did not get any such results. Albuminuria had been noticed in many of the animals and considered of significance in relation to eclampsia, but he considers this a simple physiologic albuminuria, such as is found when foreign proteids are introduced in large amounts into the circulation. However, if there is any basis for the placental origin of eclampsia, the use of serum of animals immunized with placental tissue may prove of therapeutic benefit. Hence, a study of the effect of placental serum on pregnant animals will be of interest, but let us hope that a new abortifacient has not been discovered.

Ascoli[2] has studied particularly the relation of cytotoxins to eclampsia. Rabbits were immunized with guinea-pig placenta, and their serum, although not toxic to pregnant guinea-pigs when injected subcutaneously or into the veins, caused symptoms that seemed to him much like those of eclampsia when injected under the dura. Controls showed that normal serum had no such effect, and rabbits did not suffer any symptoms from such injections. He suggests that the placental cells that are swept into the circulation during pregnancy may cause the production of cytotoxins leading to eclampsia. This reasoning from animal experiment to human disease is open to the objection so often advanced in cytotoxic work, that the serum used in the guinea-pig was from the rabbit, and was shown to have no effect on rabbits. In the case of eclampsia there is no question of foreign serums, and there is a wide gap between "autocytotoxins" and "heterocytotoxins." Of course, we must bear in mind that in eclampsia it is not at all impossible that the fetus plays some part.

To us the most suggestive feature of all this work has yet to be pointed out; that is, the use of this particular serum in the treatment of tumors. The proposition that tumors might be influenced by cytotoxic serum was the first outcome of cytotoxic work, but the development of this very important application has been prevented by the impossibility of procuring sufficient tumor tissue with which to immunize the animals that should furnish the serum. With the placenta it is different, for, first, this tissue can be readily obtained, and secondly, tumors of placental tissue differ from ordinary tumors in resembling more the parasite as it attacks the host. Syncytioma malignum is fortunately rare, but extremely malignant. It is often diagnosed from scrapings or operation before great inroads have been made. The tumor develops from a tissue that is practically foreign to the host, and in this way resembles a parasite. The parent tissue is not of vital importance; if we could prepare a serum for hypernephroma, for example, we should fear its attacking the normal adrenal structure as well as the tumor, with disastrous results, but there could be no such difficulty in the case of the placenta. For these reasons it seems that placental cytotoxins offer a particularly practical field for study, and that syncytioma may be a good point at which to attack the problem of serum therapy of cancer.

2. Centralblatt f. Gynækol., 1902, xxvii, No. 49.

MEDICAL JOURNALS AND WEEKLY EDITIONS.

The *Allg. Med. Ct.-Ztg.* of Berlin is now in its seventy-first year, and has been published heretofore two or three times a week. It now announces that a single weekly edition will be issued henceforth. The *Archives Gén. de Médecine* has changed from a monthly to a weekly with the new year, the eightieth of its existence. The Italian *Riforma Medica* has long proudly boasted that it was the only medical daily published in the world. It, too, has fallen into line with the weeklies, and the nineteenth volume, commencing with the current year, brings it as an enlarged weekly journal. The *Bulletin Médical* of Paris is about the only one of our exchanges that still clings to two editions a week. The *Gazette Hebdomadaire,* which belied its title by publishing two numbers a week, ceased publication with the close of 1902, its forty-ninth year. One of its features will be much missed unless inaugurated in some other journal. We refer to the lists with abstracts which it published of the medical theses presented at the French universities. The Paris *Gazette des Hopitaux* has three editions a week, and also the Italian *Gazzetta degli Ospedali,* but in the latter the original communications are restricted to the Sunday issue, which appears with a colored cover. The journal is thus practically a weekly with two supplements for abstracts. One of the changes brought by 1903 in our exchanges is that the letter C is being tabooed to a certain extent in Germany. Our familiar friends, the weekly *Centralblatts,* are *Zentralblatts* now, *Medicin* is *Medizin,* and so on. This seems to be merely another evidence of the tendency displayed by the Germans to refrain from using the terms which are current in science the world over and which are gradually developing an international scientific language. The Germans are serene in their consciousness that no scientist can work without a knowledge of what is being done in Germany in his line, and consequently he is obliged to put up with whatever home terms they may choose to use. They care nothing for the expense of dictionaries and waste of time which they impose on the scientist with the word *Wurmfortsatz,* for example, where all the rest of the world says *appendix, angeboren* instead of *congenital,* or *Speiseroehre* for *esophagus,* etc. In fact, we suspect they are inclined to chuckle over the

difficulties they place in the path of the scientist of another nationality. It serves him right for not having been born a German.

CÆLUM, NON ANIMUM MUTAT.

Change of locality seems to have little effect on the ill luck of a noted biologist recently transferred from Chicago to California. He is, it is said, greatly troubled by the fact that his utterances are still picked up by reporters in the most sensational way from time to time. In fact, there is a very short interval between them. One day it is announced in the newspapers that the actual secret of life has been found in cyanid of potash, again it is calcium salts that have an importance which has never been before attributed to them in the vital processes. The last announcement is that the revelation of the nature of life itself is probably within our reach. All that we have to do to understand it completely—and he seems to think this will be done—is "to control it unequivocally by physical and chemical means, or to repeat it in all detail on inanimate matter." This is a large contract. There is a sort of wisdom which consists in appreciating our limitations. A wisdom that is lacked by the antivitalist who can not willingly believe that anything mysterious exists or that it is beyond his intellect. Our modern would-be Prometheus says:

> We can not allow, however, that there is any obstacle to our complete control, and, in consequence, to our knowledge, of life phenomena. Every one, I believe, who recognizes the control of life phenomena to be the greatest problem of scientific investigation will come to the same conclusion. Authors who have come to the opposite pessimistic view have placed too great faith in some hypothesis or have fallen victims to a poor or wrong interpretation of the facts. It is self-evident that the pessimistic view can only hinder, but never further, the progress of science.

What hindrance is it to research for one to believe that thus far nothing has been done to actually or satisfactorily solve the mystery of life and that it is possible that it is beyond our reach? There are such things as infinity and eternity which have to be considered—absolute ideas that can not be dispensed with, and yet absolutely ungraspable by the human intellect. The phenomena of life itself seem in some respects to be among those of which we may be unable to fully obtain the secret. It would be more discouraging to think that we can solve all questions and research thus come to an end, than to believe that there is always to be something ahead of us. The so-called optimism that claims that the whole universe is to be included within the horizon of our senses seems to us little less than irrational, and what is here called pessimism seems altogether more becoming to our limited intellect. It is not pessimism, however, to believe that with our better developed intellects of one thousand years from now there will be as much prospect of future discovery as at the present time.

HYDROPHOBIA.

The recent death of the eight-year-old child of a prominent physician in New York ought to be sufficient to convince the most rabid oppositionist of the existence of the disease that it is really a formidable entity. The case was seen by some of the best specialists in New York, the diagnosis confirmed and the history of the case thoroughly reviewed. Of course, those who believe that dogs should suffer no inconvenience though human beings may die, as we see in the tone of the antivivisectionist publications, would be satisfied with nothing, but at least such physicians as have criticised the views of those who believed in hydrophobia ought to accept this evidence. The important thing about it, however, is not the mere question of the existence of hydrophobia, but the increasing prevalence of the disorder. There seems good reason to believe that there are more cases in late years than there formerly were. This is not difficult to explain when we remember that hardly anything has been done to check it; that mad dogs have existed from year to year, biting others; that restrictive measures like muzzling are in most cases neglected, and that the public has been criminally indifferent on the subject. In England up to a year or two ago the dog-muzzling law was enforced, and as a consequence hydrophobia is almost unknown in that country. We have a larger territory to guard, and it would be more difficult to keep the disease out of any one single section than it is to keep it out of an island where all commercial routes are by water, through well-known channels, custom houses, ports, etc. But still much can be done, not only in our cities, but also in the rural districts, if the popular notions about dogs were only somewhat modified. They are not the friends of humanity in the long run that they are said to be, and there is a vastly greater number of them in existence than is justified by any requirement or good policy. The poorer the family the more dogs, as a rule, in the rural districts, and the greater the risk when rabies occurs among them. In the far north where dogs are useful domestic animals rabies or something so similar that it is practically identical, decimates the packs annually, and is recognized by the natives and duly feared. There are no records, of course, among the Eskimos, of any human beings having suffered there, but there is little doubt that such has been the case. In some countries, like Australia, it seems never to have been introduced. There is ample proof that it is a preventable disease and it would be well to bear in mind this fact, and insist on greater care in enforcing the taxing and muzzling of dogs, even to the extent of appreciably diminishing their number. The loss of a single human life from hydrophobia is of more importance than the death of thousands of canine quadrupeds.

Medical News.

CALIFORNIA.

Personal.—Dr. Elliott H. Woolsey, Oakland, and wife sailed on a trip to Japan, China and the Philippine Islands, March 11. He expects to return in about six months.

Quarantine Lifted.—As no new cases of scarlet fever had been reported at Marysville for ten days, the regulations prohibiting public gatherings were suspended March 11, and the schools reopened March 16.

Hospital Election.—The Sequoia Hospital Association (Eureka) has elected the following officers: President, Dr. Jay L. McLaren; vice-president, Dr. William H. Wallace; treasurer, Dr. Rae Felt, and secretary, Dr. Charles C. Falk.

Savage Amendment Fails.—The senate, by a vote of 18 to 17, defeated Senator Savage's bill to amend the medical practice act by taking the power of appointing the State Board of Medical Examiners from the state medical societies and vesting it in the governor.

"Divine Healer" Arrested.—John Miller, calling himself "Dr. Miller, the Divine Healer," of Bakersfield, was arrested, March 4, charged with practicing medicine without a license and released under a bond of $50. He failed to appear March 6, his bond was forfeited and he was arrested and placed in jail.

ILLINOIS.

Beverly Farm Improvements.—Dr. William H. C. Smith, superintendent of the Beverly Farm Home and School for Nervous and Backward Children at Godfrey, is building a log cabin as a rendezvous for his boys, and also a schoolhouse, gymnasium and dormitory for the children under ten, to cost about $4,000.

Keeley Company Sued.—The Memphis Keeley Institute has brought suit against the Leslie E. Keeley Company of Dwight, for $100,000 for violation of contract. The plaintiffs paid $50,000 for the sole and exclusive use of the so-called chlorid gold treatment in Tennessee, and was to be furnished the medicine at a discount of 40 per cent. The plaintiffs also allege that the defendant sold double chlorid of gold remedies, which were different in their constituent and component parts from chlorid of gold remedies. The drugs "are deleterious and dangerous to health of the patient," says the bill, "bringing about great physical weakness, dilation of the eyes, dryness of the throat, full feeling in the head, often confusion of ideas, impairment of memory and weakness of mental capacity."

Chicago.

Lorenz's Assistant to Locate.—Dr. Friedreich Mueller, former assistant to Dr. Lorenz, has returned to Chicago, and the daily press announces that he will locate permanently here and practice his specialty of orthopedic surgery.

The Worst Over.—Although eleven cases of smallpox were discovered during the week, the belief is expressed by the chief medical inspector, Dr. Heman Spalding, that the "worst is over for this season." The usual features of never vaccinated, disproportionate excess of colored and of children under the school age still obtain. Of the 24 fatal cases during the year, 19 were of children under 6 years of age, while there has not been a single fatal case for years among the vaccinated school population.

The Dead.—During the week ended March 31, 612 deaths were reported, 19 less than for the previous week and 75 more than for the corresponding week of 1902. The 19 fewer deaths are equivalent to a reduction of not quite 3 per cent (2.98) from the rate of the previous week, but the total, 612, represents an excess of 10 per cent. over that of the corresponding week of last year. Pneumonia heads the death-list with 133, and tuberculosis comes next with 62. Heart disease caused 44 deaths; Bright's disease, 34; typhoid fever, 13; influenza, 13, and violence, 40.

Improvement in Public Health.—Indications from the laboratory and reports from physicians and hospitals point to a general improvement of the public health. Influenza is still rampant and is largely responsible for the higher death rate of the winter. It continues to be reported as a fatal complication of consumption, Bright's disease, pneumonia and heart disease among the aged and of the acute contagious diseases of childhood. Measles and whooping cough are still very prevalent and of unusual malignancy, while diphtheria and scarlet fever are decreasing.

Increase in Pulmonary Disease Mortality.—In the report of the Department of Health for the week ended March 21, the following reference is made to the increase in mortality from pneumonia and tuberculosis:

> March 21, there had been registered a total of 679 deaths from consumption and of 1,455 deaths from pneumonia since the first of the year. During the corresponding period of 1902 the respective totals were 619 consumption and 1,095 pneumonia.
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> These figures show increases of 9.6 per cent. of consumption mortality and 32.8 per cent. of pneumonia mortality. And they also show that the excess of pneumonia mortality over consumption mortality—which was 76 per cent. in 1902—has risen to 114 per cent. this year.

INDIANA.

Alexander Again Indicted.—On March 13 the grand jury returned a new indictment against Dr. Joseph Alexander, at whose previous trial on the charge of grave-robbing, the jury disagreed.

School Children Must Be Vaccinated.—The decision of the Appellate Court, March 18, upholding the power of school boards to compel the vaccination of children, will be followed by rigid enforcement of vaccination throughout the state. Dr. Hurty, secretary of the State Board of Health, has detailed his reasons for the belief that the state will be scourged with smallpox unless radical measures are enforced.

The State Morbidity.—The regular monthly reports to the State Board of Health show that influenza prevailed very extensively in February. The type was severe and seemed most frequently to leave an impression on the nervous system. Smallpox was very slightly less prevalent than in the preceding month, there being 889 cases in 59 counties. Bronchitis and tonsillitis were widely spread, and diphtheria increased slightly.

License Revoked.—The State Board of Medical Examination and Registration has revoked the license of Daniel D. Weiser, Bourbon, who failed to appear and show cause why his license should not be revoked. Weiser had an old license, procured prior to the establishment of the present board, by displaying a diploma which he claimed was granted by a reputable college, when in fact it was bought from a diploma mill, and was not a result of study. He applied to the present board at the time of its establishment for a new license and was refused for these reasons. He then went to Michigan. He returned, recently, took the old license to the county clerk and received a new one.

Deaths in the State.—The total number of deaths was 2,677, an annual rate of 13.8 per 1,000. This is a decrease as compared with the same month of last year. Pneumonia caused 339 deaths; tuberculosis, 342; cancer, 92; influenza, 56; diphtheria, 53; smallpox, 50; and typhoid fever, 49. The city death rate was 17.3, which is 3.5 higher than the average rate for the whole state. Exactly the same rate existed in February, 1902. The country death rate was 11.9, which is 1.9 less than the state average, and 1.7 less than in the same month last year. Consumption prevailed more extensively in the cities than in the country, the rate being respectively 195.4 and 137.8 per 100,000. Pneumonia also prevailed more extensively in the cities, with rate of 236.4, and country 190.4. Of the smallpox deaths 43 occurred in the cities, 38 of which were in Indianapolis and 7 in the country. Of the 92 deaths from cancer 44 occurred in the cities and 48 in the country.

Laboratory Bill Vetoed.—The action of Governor Durbin, according to the newspapers, in vetoing the Ogborn state laboratory bill, is receiving severe criticism by members of the medical profession. Some charge, it is said, that personal matters influenced the action of the governor for there was no serious opposition to the bill from any quarter. The bill passed the house by a vote of 77 to 13 and the senate by a vote of 44 to 6. It had the endorsement of the Marion County Medical Society and the State Medical and the State Pharmaceutical Associations. The bill carried an annual appropriation of $10,000 for maintenance. The laboratory was to have been used to enforce the state's pure food law, which at present lies dead on the statute books, while the people of Indiana pay probably not less than $5,000,000 a year for adulterated foods. It was expected that the laboratory, which was to be conducted under the direction of the State Board of Health, would also be used in the early discovery of diphtheria, consumption and other similar diseases.

MARYLAND.

Baltimore.

Alumni Elect.—Mr. B. Howard Haman, LL.B., has been elected President of the General Alumni Association of the University of Maryland, and Dr. Eugene F. Cordell, secretary-treasurer.

Woman Gets High Mark.—At the recent examinations before the State Board of Medical Examiners, the highest honors were carried off for the second time by a graduate of the Woman's Medical College.

Left to Hospitals.—The will of the late Mrs. Lavinia E. Frey leaves $500 each to the Union Protestant Infirmary, the Nursery and Child's Hospital, and the Presbyterian Eye, Ear and Throat Charity Hospital.

Deaths of Last Week.—The number of deaths last week was lower than for several years past, being only 184, an annual mortality rate of 17.66 per 1,000, viz., for the white 14.87, and for the colored 32.97. Eight deaths were from grip, 28 from pneumonia, and 3 from measles.

Medical History.—At the Johns Hopkins Hospital Historical Club, Prof. Henry E. Shepherd delivered an address on "Medi-

cine in Shakespeare," and Dr. Julius Friedenwald brought out the fact that Dr. Philip Syng Physick of Philadelphia discovered and was the first to make use of the stomach tube. Dr. Thomas McCrae spoke on "George Cheyne—An Old London and Bath Physician (1671-1743.)"

The Book and Journal Club of the Medical and Chirurgical Faculty.—At the first meeting for the season, March 26, Dr. Alfred Stengel of Philadelphia, read a paper on "Some Old Instruments and Methods for Treatment of the Stomach. Gastric Sensations Interpreted as Live Animals in the Stomach." Dr. William Osler presented the library with 123 theses of American students at the University of Edinburgh between 1760 and 1810, and Dr. Henry B. Jacobs made a few remarks on "A Century of the Faculty of Medicine of Paris, 1794-1894."

MINNESOTA.

Personal.—Dr. Oscar A. Burton, Albert Lea, will leave in May for several months of study in Vienna.——Dr. Carl J. Ringnell, Minneapolis, has been reappointed a member of the State Board of Medical Examiners.

The Open Door.—A bill introduced in the legislature March 4 allows the State Board of Medical Examiners to grant licenses without any examination to physicians already licensed in some other state which has a standard equal to that of Minnesota. Each applicant for a license must pay a fee of $10, which the board may retain, regardless of the results of examination. It is made the duty of every county attorney to prosecute cases of practice without license whenever requested so to do by the board of examiners or any five of its members.

MISSOURI.

Library to Society.—The widow of Dr Marcus A. Bogie, Kansas City, has given his valuable medical library to the Jackson County Medical Society.

Personal.—Dr. Harry E. Ferrel, St. Louis. has been commissioned first lieutenant and assistant surgeon, N. G. M.——Dr. Moritz F. Weymann, in compliance with a request made by the board of directors of the Central Medical College, St. Joseph, has resigned as president and from the teaching force of the institution. Dr. O. Beverly Campbell was elected president for the unexpired term.

Testimonial Banquet.—The St. Louis Medical Society will give a banquet, April 14, in honor of Drs Simon Pollak, William Johnston, William M. McPheeters and J. B. Johnson, all ex-presidents of the society, and all over 80 years old. Dr. Simon Pollak is the oldest, the banquet being given on his eighty-ninth birthday. A large attendance is assured and the occasion is expected to be a most enjoyable one. Tickets to the banquet will cost $5 each and can be secured by addressing Dr. Frank L. Henderson, Century Building, St. Louis.

Damage Suits.—Dr Charles M. Coe, Kansas City, has been sued for $10,000 damages by Miss Minnie Bell of Saline County, who alleges permanent impairment of health and aggravation of disease by reason of the defendant's carelessness, negligence, etc.——University Medical College, University College Training School, Dr. Flavel B. Tiffany and Louis C. James, Kansas City, are made defendants in a damage suit for $5,000, filed by Mrs. Josephine Duzan, who claims that her husband's death was due to lack of proper treatment on the part of his attendants.

Street-Car Colds.—At a meeting of the St. Louis Medical Society, February 28, Dr. Fayette C. Ewing read a paper on "Street-Car Colds," and offered the following resolutions, which were unanimously adopted by the society:

Recognizing the fact that many colds and diseases of the respiratory organs are acquired by riding in draughty, ill-ventilated, cold and crowded street cars, wherein the element of time conspires to produce a prolonged chilling of the body, terminating in localized congestion and consequent respiratory catarrhal affections, it is hereby declared to be the sense of the St. Louis Medical Society that street car officials should take measures for a more uniform and equable temperature in their cars, with protection against draughts, and especially in such cars as run far out into the suburbs, where passengers must sit still for an extended period of time.

And it is further declared that such lines of cars as make long runs, compelling long-distance passengers to endure a temperature under 60°, be condemned as dangerous and a menace to the health of their passengers and their patrons, who are hereby warned to seek other means of conveyance.

NEW YORK.

Carnegie's Gift to Ithaca.—The offer of Andrew Carnegie to defray the expense of the new filtration plant at Cornell University, Ithaca, which will amount to about $150,000, has been accepted by the university.

Elsberg Bill Passes Senate.—The bill providing for the abolition of the coroner's office in New York, Kings, Queens and Richmond counties was passed by the senate, March 18, by a vote of 29 to 17. Senator Elsberg, who introduced the bill, was openly charged with having been actuated in this matter solely by personal spite.

Preventable Disease Mortality.—The mortality from preventable diseases during the year 1902 was 14 per cent. of the total, which was above the average of the last few years. This increase was largely attributed to the prevalence of smallpox, 442 of the deaths being from this cause. Typhoid fever caused 1,318 deaths, or 300 less than the average, and pulmonary tuberculosis 12,582, as against 13,270, the average for the past five years. The work of the Bureau of Pathology and Bacteriology seems to be appreciated, for the report states that applications for examinations of samples of water are becoming more and more numerous. The calls for the examination of foods and drugs can not be met without a greater appropriation from the legislature.

New York City.

The will of Dr. T. Gaillard Thomas has been filed for probate. It is believed that the value of the estate is about one million dollars. It is to be divided into thirds, one-third going to the widow and one to each of the sons.

Fighting Glanders.—The health commissioner has asked for an appropriation of $5,000 to enable the department to stamp out glanders, which is prevalent among the horses in the city. The disease was first discovered in an uptown boarding stable, and it was then learned that horses had been dying there of glanders for months, but no report had been made. It is said that from five to ten cases are reported daily in this city at the present time, and that the disease is also prevalent in the outlying districts. One man, a cigar maker, who is not known to have had any communication with horses, died of the disease at the Metropolitan Hospital.

Rabies Prevalent.—The recent death from rabies of Dr. Henry P. Loomis' son has directed attention to the prevalence of this disease not only among dogs but horses. Several well-known veterinary surgeons are responsible for the statement that several cases of rabies among horses had recently come to their notice. According to Dr. William H. Park of the health department, two physicians practicing on the West Side lost their horses on the same day from rabies. There have been four deaths from hydrophobia in this city in the past twelve months, and within the past few weeks no less than 13 persons have received the Pasteur treatment from the board of health.

Gifts to Hospitals.—The Manhattan Eye and Ear Hospital has received from the widow and children of Gen. Samuel Thomas a gift of $50,000, thus raising the new building fund to $100,000. The institution has outgrown its present quarters and desires to have a new building in the vicinity of Second Avenue and Fifty-ninth Street.——J. Rogers Maxwell has just offered to build, at his own expense, the two central sections of the proposed new building of the Long Island College Hospital as a memorial to his brother, Henry W. Maxwell, who was for a long time closely identified with the interests of the hospital. These two sections will form the main building on Henry Street. The buildings, when completed, will cost about one million dollars.

Buffalo.

Money for General Hospital.—William E. Brown has donated $10,000 for the Buffalo General Hospital.

The February Report.—The monthly report of the department of health for February shows a death-rate of 14.96 per 1,000 a year. The principal causes of death were as follows: Consumption, 43; diphtheria, 8; typhoid fever, 14; debility, 45; cancer, 21; apoplexy, 19; meningitis, 11; valvular heart disease, 29; pneumonia, 53; appendicitis, 6; cirrhosis of the liver, 7; gastroenteritis, 7; diabetes, 3; nephritis, 32, and violence, 24. The total deaths for February were 474, as compared to 392 for February, 1902.

PENNSYLVANIA.

Philadelphia.

Bills Defeated.—The Blumle bill to reward mothers of large families with gold medals and cash prizes and the Keppler antimiscegenation bill were both recently defeated in the lower branch of the legislature.

Resigns After Long Service.—Miss Marion A. Smith has resigned as directress of the Philadelphia Hospital Training School for Nurses after sixteen years' service to accept the superintendency in the University of Pennsylvania Hospital.

Contract Awarded.—At a recent meeting of the board of trustees of the Jefferson Medical College Hospital, the contract for the foundation and the structural steel work, as far as the first floor, was awarded for $99,485. The work will soon begin.

Homeopathic Hospital Postponed.—City councils have decided to postpone further consideration of the proposition to establish a city homeopathic hospital at the site of the present Municipal Hospital when the latter is removed to its new site in the Thirty-third ward.

Vital Statistics.—Typhoid fever showed a decrease for the week ended March 21, there being 74 fewer cases than in the preceding week. The total number of deaths from all causes was 535, as compared with 577 for the previous week, and 476 for the corresponding week of 1902.

Bequests.—The recent adjudication of the estate of William McClary shows a large number of charitable bequests, among them $5,000 to each of the following hospitals for the endowment of free beds: Protestant Episcopal, Presbyterian, German, St. Joseph's and Samaritan hospitals.——From a balance in the estate of J. Alfred Kay the following legacies were allowed: $5,000 each to the Pennsylvania, Germantown, Jefferson, University of Pennsylvania, Orthopedic and Polyclinic hospitals; to the German, St. Agnes', St. Joseph's, Gynecean, Howard, Medico-Chirurgical, Jewish, Hahnemann and Presbyterian hospitals, $1,000 each; a like amount went to the Philadelphia Dispensary and to the Howard Hospital and Infirmary for Incurables. One-sixth of the residuary estate not named is divided among the Pennsylvania, Jefferson, Germantown, University of Pennsylvania, Orthopedic, and Polyclinic hospitals.

UTAH.

Smallpox in State School.—Several cases of smallpox have been discovered in the Utah State School for the Deaf and Dumb and the institution has been placed under strict quarantine.

Want Medical School.—Physicians of Salt Lake City propose a medical college in connection with the state university. They have asked the board of regents of the university to co-operate and, if a favorable reply is received, the legislature will be asked to make an appropriation to establish this department.

Alleged X-Ray Injuries.—A. K. Hicks has brought suit for $20,000 damages against Dr. Samuel H. Pinkerton, Salt Lake City, alleging "negligent, careless and unskilful treatment of a gunshot wound with *x*-rays" whereby the flesh and bone of plaintiff's left leg is said to have been "burned, injured and destroyed."

Salt Lake City's Deaths.—The mortality of Salt Lake City for 1902 was 849, corresponding to an annual death rate per 1,000, of 11.32. The birth-rate for the same period was 16.98 per 1,000. Pneumonia caused 74 deaths; tuberculosis, 43; bronchitis, 24; Bright's disease, 40; heart disease, 49; meningitis, 36; paralysis, 38; diarrhea and enteritis, 45; appendicitis and peritonitis, 21; cancer, 29; diphtheria, 39; scarlet fever, 36 and typhoid fever, 28.

Contagious Diseases in Salt Lake City.—During 1902, 1,573 cases of contagious and infectious disease were reported, the mortality from which made up nearly 13 per cent. of the total mortality. There were 443 cases of scarlet fever with 36 deaths; 251 of diphtheria with 39 deaths; 97 of smallpox with one death; 167 of typhoid fever with 28 deaths; 507 of measles with 4 deaths; 101 of chickenpox without a death, and 7 cases of whooping cough with one death.

Mental Hospital Bill Progresses.—Mr. Spry's mental hospital bill passed the house. It provides for an assistant physician and other additional help, for daily visits by a physician to each patient; it changes the form of examination, provides for the limitation of commitment, allows no special care to be given to any inmate for extra pay and incorporates the most modern ideas of hospital treatment, regarding the insane as sick. The words "arrest" and "conviction" are no longer used.

WASHINGTON.

Physician's Office Robbed.—Burglars recently entered the office of Dr. Guy S. Peterkin, Seattle, and secured $184 from his desk.

Forfeited His Bond.—F. C. Goodale, Spokane, charged with practicing medicine without a license, failed to appear, March 5, for trial, and his bond was forfeited.

Grip Epidemic in Tacoma.—Influenza is said to be epidemic in Tacoma. The rules for its prevention as summarized there are: Nourishing food; plenty of sleep; cleanliness of person and avoidance of stimulants.

Smallpox at Colfax.—Colfax has 16 cases of smallpox, not 31, as was reported. Schools have been closed, public gatherings interdicted and children are not allowed on the streets. It is noted that the disease is confined to boys between 16 and 19 years of age.

WISCONSIN.

Diploma Stolen.—The diploma of Dr. Adolph Roos, Oshkosh, was recently stolen from his office.

Schools Closed.—On account of the prevalence of varioloid, diphtheria and scarlet fever in Baraboo, the local schools have been closed.

Emergency Hospital's Work.—The report of Emergency Hospital, Milwaukee, for the past year shows that 910 cases were treated, 819 of the patients being males, and 655 of the cases surgical. In 9 cases the patient died before reaching the hospital.

Personal.—Dr. Richard Schorse, Milwaukee, has been appointed resident physician at the University of Pennsylvania Hospital, Philadelphia.——Dr. Richard Dewey, Wauwatosa, has been elected president of the honorary medical staff of the Milwaukee County Hospital for the Chronic Insane.——Dr. Arthur J. Patek has been selected as chief of the attending staff, and Dr. Alfred H. Levings, chief of the consulting staff of the Jewish Hospital.——Dr. B. C. Gudden has associated with him in the management of the Oshkosh Clinic, Dr. J. A. Crum.

In the Hands of the Law.—C. B. Savnac, an itinerant corn doctor, has been arrested at Green Bay, charged with practicing medicine without a license.——Dr. George G. Gregory is held in jail at Madison, awaiting the extradition papers from Michigan, where he is wanted on a charge of perjury.——Dr. B. Fowler Baker, Milwaukee, charged with violating the health law, was arraigned in the District Court, March 5, and his case continued until March 14.——Louis Tauvar, an Italian dentist of Marinette, was arrested recently, charged with practicing medicine without a license.

GENERAL.

American Beds in French Hospital.—Victoria Hospital, Nice, France, has received $2,500 from Mrs. Robert Goelet, New York, to endow an American bed. Another was endowed by Andrew Carnegie five years ago.

A Merited Promotion.—By a special act of congress Major William C. Gorgas, surgeon U. S. Army, who made so brilliant a record by his sanitary work in Havana, has been promoted to colonel and assistant surgeon-general.

New Red Cross Head.—Rear Admiral William K. Van Reypen, U. S. N., retired, former surgeon general of the Navy, has been named as the successor of Miss Clara Barton as president of the American National Red Cross Society.

Promotions Prior to Retirement.—The Army papers announce that preliminary to retirement Colonels Charles Smart, Peter J. A. Cleary, Henry Lippincott and Calvin De Witt, assistant surgeons-general, are to be promoted to the rank of brigadier-general.

Plague Continues to Decrease.—The use of the Haffkine, and especially the Yersin, serum, in Mazatlan are putting a decided check on the fatality of the plague. Deaths average only from one to three a day now. Some days there are none. Up to March 13 the total number of cases was 313 and the deaths 255. About $130,000 has been thus far spent in relief of the needy. Without the money contributions it would have been impossible to proceed with the wholesale destruction of infected houses and other measures that fall heavily on the poorer classes. Plague now exists at Villa Union, Siquieros and Rosario.

FOREIGN.

Smallpox in Trinidad.—This island is suffering from an epidemic of smallpox, widespread and rapidly extending.

Russian Medical Students at Berne.—The Russian medical students at Berne, both male and female, far outnumber those of Swiss and other nationalities. The Swiss claim that they are crowded out and demand measures to regulate this afflux of Russians.

Changes in the German Universities.—Dr. Hackenbruch has been invited to take charge of St. Joseph Hospital at Wiesbaden in the place of the late Professor Cramer.——Kreibich of Vienna has been appointed professor of dermatology, and von Hacker of Innsbruck, professor of surgery at Graz.

Trachoma Prevents Visitors' Return.—Some travelers in Italy are refused transportation back to America because they

are afflicted with trachoma and the authorities fear that others on shipboard might take the disease. They are said to be American citizens and to take their detainment in ill humor.

Honors for Koch.—The Paris Académie des Sciences recently voted for a foreign associate member in the place of Virchow. The names proposed were: Robert Koch of Berlin, Agassiz of Harvard, Langley of Washington, and Van der Vals of Amsterdam. Koch was chosen, having received 26 and Agassiz 18 votes.

Russian Isolation Houses.—St. Petersburg will soon celebrate its two hundredth anniversary by the erection of a stone building to serve as a temporary home for the healthy inmates of infected houses while the latter are being disinfected. It will accommodate 100. There are already three such buildings, with a capacity of forty each.

Responsibility for Erysipelas in a Hospital.—Our Russian exchanges mention that the widow of an Odessa architect has sued Dr. Jansen and the managers of a hospital at Berlin for nearly $50,000. The architect entered the hospital for an operation, which was successful, but he contracted erysipelas, to which he rapidly succumbed The widow claims that the erysipelas might have been prevented by due care.

Institute for Post-Graduate Courses at Berlin.—The organization of the free post-graduate courses which are now being held each year in twenty-three large cities in Germany owes its inception to the late Empress Frederick. It is now proposed to found a special institute in Berlin as a memorial to the empress, which will serve as a center for the movement and for housing the collections, etc., which can thence be dispatched as needed.

Baudouin at the St. Louis Exposition.—Dr. Marcel Baudouin of Paris has been made a member of the committee on admissions to the St. Louis Exposition and expects to remain in this country several months. He is the founder of the unique "Institut de Bibliographie," also the editor of the "Gazette Med. de Paris" and the "Bibliographia Medica." He is the moving spirit in the "Agence de la Presse Scientifique Internationale" and has published several important works alone or in collaboration with others. He visited this country at the time of the Columbian Exposition.

Burlesque Number of the "Munich Med. Wochenschrift."—This interesting "Scherznummer" is equal to its five annual predecessors. Recent occurrences in Germany afford apt subjects for satire. One communication, purporting to be from Nardenkötter's clinic, is entitled "The Bath Tub in the Pharmacopeia." It refers to the fact established at the trial of this charlatan that he compounded his medicines in the family bath tub. "A Rare Case of Pneumonia" is described in detail, exidently copied verbatim from the latest text-book. Its rarity was due to the slimness of the writer's practice. "Progress in Homeopathy" describes the limitations hitherto imposed on homeopathists by the difficulty of writing figures with as many ciphers as are necessary to express their dilutions. This has been remedied now by substituting for the figures the figure representing the quantity of ink required to write them. Further progress has also been realized by the results obtained with river water, to which one drop of the mother dilution of croton oil was added several miles above. After drinking six quarts of this river water in twenty minutes, diuresis was promoted to a remarkable extent, thus establishing the hitherto unsuspected value of croton oil as a diuretic when administered on the Hahnemannian principles. "Metallodiscotherapy in Nervous Affections," portrays the remarkable benefit to be derived in inanition and nervous depression, by application of a silver or gold disc, bearing the impress of the mint, and applied to the chest in a leather bag like the "mercolint aprons." One article announces that the sick-benefit societies will soon be able to dispense with nearly all their professional medical assistance, as they are planning to introduce the plan of treating all the sick by streets. All in the first street will be treated by sun baths; on the second by hypnosis; on the third by bromids and opium; on the fourth by mercurial inunctions, and so on. A new infallible remedy for constipation is announced. The patient swallows a silver ball fastened to a celluloid thread wound on a spool. The course of the ball is traced by radiography, and when it emerges the length of the alimentary canal can be estimated by the thread. It is left in the body, the upper end tied to the ear, and the permeability of the intestinal canal can be maintained by sawing it back and forth It is possible also to clean out the alimentary canal by tying a brush to the thread and pulling it through. The idea of the thread is patented under the name "Entero-cathartor." Among the advertisements we note that of the new prepared food "Sana," said to be recommended by Hippocrates where he wrote: "Mens sanus in corpore sana," viz., "That man alone is healthy who has sana in his body."

LONDON LETTER.

The Regulation of Cremation.

A report has been issued by a departmental committee appointed by the home secretary to prepare regulations to be made under the Cremation Act passed last year. The object was to frame regulations which, while avoiding unnecessary restrictions such as might discourage cremation, would reduce to a minimum the risk of cremation being used to destroy the evidence of murder. The committee studied the records of cases of murder in which evidence had been obtained by the exhumation of the remains, and directed special attention to the certificates or other evidence of the cause of death that had been produced before the burial. They disclaim the idea that any possible restrictions can guard completely against the risk of cremation being used for the concealment of crime. But they think that regulations can be framed which will so far reduce the risk as to make cremation at least as safe as burial. The committee has come to the conclusion that the person to decide on the cremation should be a medical referee, specially qualified for the work and appointed by the cremation authority. Before cremation is permitted there should in every case be a personal inquiry by someone beside the medical attendant of the deceased. If the medical referee can not make the actual inquiry there ought to be a second certificate by an independent person, who should be a medical man, either nominated for the purpose by the cremation authority or holding one or other of the following appointments: Medical officer of health, police surgeon, certifying factory surgeon, medical referee under the workmen's compensation act, or physician or surgeon to a large public general hospital. In every case there should be required either (1) two certificates, one given by the medical attendant, the other by an independent person—the medical referee, or a doctor nominated by the cremation authority, or a person holding one of the public appointments mentioned above; or (2) a certificate given after a postmortem by a pathologist named by the cremation authority, who may or may not be the medical referee; or (3) a certificate by a coroner given after an inquest. If the certificates under heading 1 do not show the cause of death definitely and in such terms as to exclude the possibility of poison or violence as the cause of death, the cremation should not be allowed unless a postmortem has been held and a certificate given as under 2. If this does not sufficiently reveal the cause of death, and if the relatives still desire cremation, there must be an inquest. The postmortem should be made by a pathologist, nominated by the cremation authority, who should be a person accustomed to make postmortem examinations. The medical attendant of the deceased, or some other medical representative of the applicant for cremation should be allowed to be present. If, though the cause of death be definitely ascertained, there still remain any suspicious circumstances in the case, the coroner should be referred to, and where a case has been referred to the coroner, cremation should not take place unless, after holding an inquest, he can give a certificate stating definitely that no circumstance exists which could render necessary any further examination of the remains.

Mistakes in the Diagnosis of Infectious Diseases.

The committee of the Metropolitan Asylums Board has issued a most interesting report showing the cases of mistaken diagnosis sent to their board's hospitals during the last three years. In 1899 1,583 cases were sent which were not notifiable diseases—a percentage of mistakes of 6.3. In 1900 the number was 1,706, a percentage of 7.9; and in 1901 the number was 2,365—a percentage of 9.2. The percentage on the total cases for scarlet fever, 5.6; diphtheria 12.8, and typhoid fever 25.5. Among the diseases diagnosed as scarlet fever were measles, rubella, tonsillitis and erythema. Measles was returned as diphtheria in 47 cases, and tonsillitis as diphtheria in 880 cases. Among the cases wrongly certified as typhoid fever were 13 of influenza, 22 of febricula, 9 of bronchitis, and 86 of pneumonia Of notified cases of smallpox the diagnosis was mistaken in 13 per cent. of the cases.

Poisoning by Illuminating Gas.

The modern method of mixing coal gas with "water gas" greatly increases the amount of carbon monoxid in the gas supplied for illumination. Hence an alarming increase in the number of cases of carbon monoxid poisoning has recently

taken place. The latest fatality has been reported from Dublin where a man and his wife were found asphyxiated in their room—the former in a dying state, the latter dead. Prof. E. J. McWeeney examined the blood and found it was saturated with carbon monoxid and gave the spectroscopic indication. Within a short period 6 deaths from this cause have occurred in Dublin. In this particular case the bedroom was insufficiently ventilated and the deceased came from a remote town in Ireland where gas had not been introduced. No doubt their want of familiarity with its use was a source of danger.

Typhoid Fever from Sewage Contaminated Shell Fish.

We have already briefly referred to this subject in THE JOURNAL. As long as twenty-three years ago Sir Charles Cameron, health officer of the City of Dublin, read a paper at the British Medical Association on "Typhoid from Oysters," but the subject attracted no attention until 1895, when it was revived by Sir William Broadbent, who recorded a number of cases of typhoid fever which he attributed to contaminated oysters. In 1896 Dr. Bulstrode, Dr. Klein and the late Sir R. Thorne Thorne reported to the government on the question and, as a result, a bill to regulate the oyster trade was introduced into parliament. But it was withdrawn owing to certain administrative difficulties. Interest in the subject again languished until the recent outbreaks of typhoid fever in several parts of England, attributed to shell fish. In London a scare has been produced and the oyster trade almost completely paralyzed by the publication of the medical officer of health's report. Four cases of typhoid fever were brought under his notice which appeared to be due to cockles bought at the great fish market of Billingsgate. In samples of these cockles Dr. Klein, the bacteriologist, found evidence of sewage contamination—the *Bacillus coli communis*, and spores of the virulent *Bacillus enteritidis sporogenes* in abundance. From one cockle he isolated the typhoid bacillus. Even "cooked" cockles contained numerous living organisms. These mollusks are not boiled sufficiently long to raise their interior to 160 F. —at which the typhoid bacillus and all the bacilli of the colon group perish—because they would be rendered tough and unsaleable. It appears that the whole estuary of the Thames is polluted by sewage. Hence, not only shell fish but sprats, whitebait and smelts, which are eaten "uncleaned," must be a source of danger. Numerous other outbreaks of typhoid fever have been traced to cockles. In 1902 twenty-six cases occurred in Westminster. An outbreak of typhoid fever, due to oysters, occurred at Winchester. After a banquet on November 10 ten persons were attacked on the same evening with violent diarrhea and the illness developed into typhoid fever. As it was not thought possible for the disease to have been conveyed by cooked food suspicion fell on the oysters. All the ten patients had eaten them, though several other persons had also done so with impunity. Investigation showed that the sewage of the town of Emsworth entered the river only fifty yards from the oyster pits and practically flowed over them. Dr. Klein found excrementitious matter, but not the typhoid bacillus, in the oysters and in the water taken from the pits. About the same time an outbreak of thirteen cases of typhoid occurred at Portsmouth, and several of the patients had eaten oysters from the same pits. Subsequently Dr. Klein examined eighteen samples of oysters taken from five different fisheries and found eleven contaminated with sewage. The medical officer of health of London strongly urges the necessity for legislation to prevent the contamination of shellfish by sewage.

The Liverpool School of Tropical Medicine and the Prevention of Malaria.

The energetic Liverpool School of Tropical Medicine has drawn up a set of simple instructions for the prevention of malaria to serve as a guide to Europeans living in tropical countries. They are advised to invariably sleep within mosquito curtains of a mesh of not less than ten holes to the inch and to tack on a piece of material all around the net above the level of the mattress, so as to protect the limbs from bites through the net during sleep. Mosquito boots to protect the ankles during sleep are also recommended. At least 15 gr. of quinin should be taken weekly. The quarters provided for the European members of a firm should possess at least one sitting room or portion of a veranda securely protected by screens of wire gauze against the entry of mosquitos. This should be the room commonly used by the inmates from sunset to bedtime. The office and dining room should be provided with punkahs or electric fans, to be used during office hours and during meals. The premises of the firm should be provided with at least one rubbish bin (with a cover). All cisterns and other vessels for the storage of water should be furnished with accurately fitting covers and wire-gauze caps to the pipes for the purpose of excluding mosquitos. All open and permanent collections of water really required for irrigation, washing or other purposes should be treated once a week with kerosene oil for the destruction of larvæ. The school also intends to arrange a course of lectures on the prevention of tropical diseases for clerks, missionaries and others proceeding to the tropics. Each course will consist of five lectures, extending over two weeks in the months of January, May and November.

Smallpox in England.

Cases of smallpox continue to occur in various parts of the north of England. Over 300 cases are under treatment in Liverpool, and the disease is also rife in Salford and Leeds. It has also broken out in a jail at Birmingham. In the south of England six cases have occurred in one family in Devonshire. In London a man was found by the police in a dying condition in the streets. He was taken to an infirmary, where the cause of disease was found to be hemorrhagic smallpox.

Correspondence.

Tropical Medicine.

PHILADELPHIA, March 21, 1903.

To the Editor:—I am extremely glad to see your editorial on Tropical Medicine in the last issue of THE JOURNAL. I have been much pleased with the interest which has been shown in the study of tropical medicine and surgery of late in the United States. This winter, the Jefferson Medical College founded a lectureship, which was purely voluntary for the senior class, no examinations were held on it, nor was attendance essential to graduation. I expected, perhaps, that a dozen men would attend the lectures of Captain Kieffer of the Army, who gave the lectures for us. Instead of a dozen about 150 men (nearly the entire senior class) attended and showed the greatest possible interest in the subject. The junior class also requested the privilege of attending. The Washington Post-Graduate Medical School opened a similar course the following week, and I believe in Chicago a third course has been established.

This movement has been followed also by the organization of a Society for the Study of Tropical Medicine and Surgery in Philadelphia. Your suggestion that the American Medical Association can not overlook this subject in any future program is certainly wise. Not only is the profession in the subtropical portions of America interested in the subject most vitally, but our new possessions in Hawaii, the Philippines and Porto Rico, our very intimate affiliations with Cuba, and the very early establishment of the Panama Canal with a large population of Americans in Central America make it imperative that the Association should give considerable attention to this subject.

I trust that it will be brought before the Association at the New Orleans meeting by the proper authorities, and, as seems to me best, that a Section on Tropical Medicine and Surgery shall be established. It would be, I fear, an inefficient way to deal with a large subject to have it divided among a number of sections, medicine, surgery, pathology, ophthalmology, etc. This, however, is for the Association itself to decide. The main thing is that the subject shall be properly considered.

W. W. KEEN.

Michigan Students Protest.

ANN ARBOR, March 21, 1903.

To the Editor:—On behalf of the faculty and students of the Department of Medicine and Surgery of the University of Michigan I wish to enter a most vigorous protest against your editorial on page 787. [THE JOURNAL, March 21.] You endeavor to apparently keep within the bounds of truth and at the same time you give a wholly false impression. You start by saying that the students of "certain medical colleges of that state" (Michigan) have protested against the passage of the proposed medical act, and after very properly condemning the position of such students, you wind up with the following: "We hope the students of the Michigan medical colleges will

see the unwisdom of their action and assist, rather than oppose, those who are fighting for the elevation of the standard of the profession which they are about to enter." This statement implies that the protest against the passage of the act has been made by a large number of medical students in the schools of Michigan, and such an implication is not only unjust, but is absolutely false. The students of the Department of Medicine and Surgery of the University of Michigan are not politicians and have never attempted in any way to influence legislation. They are otherwise engaged and have no time to send delegations to Lansing. Moreover, both the student body and the faculty of this school are in favor of the proposed amendment, and the graduates of this school are perfectly willing that their record before the examining boards of this country should be compared with the records of any other medical school in the country. So far as I know the protest has come from only one medical school, and it is unfair for you to condemn the medical students in the schools of Michigan as a whole on account of the action taken by students from one school. When you make charges of the kind made in your editorial you should be more specific and exact.

Yours respectfully, Victor C. Vaughan.

[Dr. Vaughan evidently has not kept in touch with what is going on in his state or he would not say that "the protest has come from only one medical school." We have positive information as regards four, and indirect regarding the other. (There are five colleges in the state aside from the University of Michigan.) As a rule the senior students, as those graduating this year would probably be exempt, are taking no action; and the faculties are generally against the students' actions. We are glad to know that the students of the Department of Medicine and Surgery of the University of Michigan are not among those who are protesting.—Editor.]

May We Not Secure Immunity from Fatal Chloroform Narcosis?

Indianapolis, March 19, 1903.

To the Editor:—Chloroform, pleasant to take, quickly producing thorough muscular relaxation and complete insensibility to pain, would be the ideal anesthetic were it not for the dangers attending its use. These dangers arise so quickly that the system is overwhelmed before the anesthetist realizes that death is impending. Fatalities occur, not necessarily when large amounts of chloroform are used, but when gasps and deep inspirations fill the innermost alveoli with the concentrated vapor. Various apparatuses have been devised to properly dilute the vapor, but none has been altogether satisfactory.

Parturient and pregnant women seldom, if ever, succumb to chloroform narcosis, for the following reasons:

1. In the parturient the central nervous system is in a state of congestion.

2. In both the pregnant and the parturient movement of the diaphragm is greatly restricted because of abdominal distension; therefore, breathing is necessarily shallow. As a consequence, chloroform would have to be given in very concentrated vapor, indeed, to prove dangerous to the patient, for it must be greatly diluted by admixtures with the residual air of the lungs previous to absorption and, in such cases, the shallow respiration would make it practically impossible to overwhelm the patient with an overdose in a few respirations.

In view of these facts, would it not be wise before the administration of chloroform to artificially restrict the movements of the diaphragm? An abdominal bandage, preferably an elastic bandage, would assure shallow breathing, and it would appear, secure at least the immunity from "drowning" in chloroform which belongs to the pregnant and the parturient. H. W. Dudley, M.D.

Eye-Strain and the General Practitioner.

Chicago, March 23, 1903.

To the Editor:—Referring to your review in The Journal of March 14 of Dr. Gould's book, "Biographic Clinics," dealing with the question of eye-strain and its effects, I can not but think it unfortunate that you should adopt such a critical attitude, because the general impression left in the mind of the reader will be that oculists are very prone to exaggerate the importance of eye-strain, and that in the absence of very direct indications the counsel of an oculist will be deemed superfluous and be dispensed with.

It may be that Dr. Gould's claims are excessive, but as a general practitioner I do most certainly know that not nearly enough of our patients are referred to the oculist. Provided that a conscientious and skilled refractionist be employed, the fee and time spent in the examination are the only losses to the patient, yet many patients who could well afford these if it were only to exclude the possible culpability of the eye, are allowed to suffer needless tortures for years because of the ignorance or thoughtlessness of the general practitioner, or sometimes his jealousy of the specialist.

As a general practitioner I have seen so much relief afforded patients by the wearing of properly-fitted glasses, and in such very unexpected ways, that I feel very keenly on this subject, and for this reason am inclined to resent anything that tends to relieve the physician of his responsibility to his patient or encourages him to undervalue the exceeding importance of eye-strain in causing disturbances anatomically remote from the eye and very various in kind. The judicious employment of the services of an expert refractionist—and competency of the highest order is a sine qua non in refraction work—will rob the practitioner of many of his chronic cases, and in place of fees he will have to be content with gratitude—if the oculist does not get all of that. Our duty, however, is none the less clear. Very truly yours, James W. Walker, M.D.

Newspaper Reputation.

Chicago, March 24, 1903.

In view of the surprising and, to some of us, painful newspaper publicity that characterized the now famous visit of Professor Lorenz to this country, the following clippings from the daily papers are of interest:

"DR. MUELLER PERFORMS FOUR OPERATIONS.

Dr. Frederick Mueller, the pupil of Dr. Lorenz, performed four of the most difficult operations for congenital dislocation of the hip, in Beth Israel Hospital to-day," etc., etc.—New York Letter, the *Chicago Tribune,* March 15, 1903.

"LORENZ MACHINE IS USED SUCCESSFULLY.

For the first time in this country the Lorenz machine has been used in an operation for hip disease. The operation was performed by Dr. Frederick Mueller, a pupil of Dr. Lorenz," etc., etc., etc.—New York Letter, *Chicago Record-Herald,* March 17, 1903.

"DR. MUELLER IS BACK. ASSOCIATE OF DR. LORENZ WILL PRACTICE ORTHOPEDIC SURGERY HERE.

TO REMAIN PERMANENTLY.

NOTED VIENNA SURGEON WILL BECOME A CITIZEN AS SOON AS LAWS PERMIT."

—*Chicago Record-Herald,* March 23, 1903.

And then follows a third of a column, including what purports to be an interview with Dr. Mueller, the substance of which is that he likes this country so much that he couldn't stay away; that "There is a great field here for orthopedic surgery. Chicago is centrally located, and people will flock here for treatment from all over the country."

These are but samples taken from the public press. Each of them contains what purports to be some interview with Dr. Mueller.

How long will it be before it is learned that such newspaper attentions, however profitable from a business standpoint, are not accepted by medical gentlemen in this country?

W. A. Pusey.

Marriages.

Deyo L. Ramsdell, M.D., Lincoln, Neb., to Miss Gertrude Musser of Orangeville, Ill, March 9.

Samuel Craig Plummer, M.D., Chicago, to Miss Mary Louisa Middleton, daughter of the late Dr. W. D. Middleton of Davenport, Iowa, March 18.

Carlton Lee Starkweather, M.D., Occoquan, Va., to Miss Jennie Atkinson Jones, daughter of the late Elias Jones, M.D., of Fairfax Courthouse, Va., at Trinity Church, Washington, D. C., March 12.

Deaths.

Edward Watrous Jenks, M.D., of Detroit, died suddenly, March 19, on a Wabash train between Chicago and Detroit, after an illness of five days, from pneumonia, aged 69. Accompanied by his daughter he had been taking a pleasure trip through Mexico. While visiting the Grand Canyon he took cold, and when he reached El Paso, pneumonia developed. Despite the advice of his physicians he persisted in returning to Detroit, but died on the train two hours after leaving Chicago. He was born March 31, 1833, in Victor, N. Y., and was graduated from Castleton (Vt.) Medical College in 1855; he also received a degree in medicine from Bellevue Hospital Medical College, New York, in 1864. The degree of LL.D. was conferred on him by Albion (Mich.) College in 1879. He established himself in practice in Detroit, and in 1864-65 was assistant surgeon in the military hospital, Detroit. He was one of the founders of Detroit Medical College, its president in 1868-69 and professor of obstetrics and diseases of women. From 1871 to 1875 he occupied this chair in the Medical School of Maine, Bowdoin College, and in 1879 was appointed professor of gynecology in Chicago Medical College, succeeding Dr. William H. Byford. He was a fellow of the London Obstetrical Society; one of the founders of the American Gynecological Association; a member of the American Medical Association; member and formerly president of the Michigan State Medical Society, and of the Detroit Academy of Medicine; member of the Detroit Gynecological Society; member of the Detroit Medical and Library Association, and of the Wayne County Medical Society. He was also an honorary member of the Maine Medical Association, Ohio State Medical Society, Cincinnati Obstetrical Society, and Upper Peninsula (Mich.) Medical Society. He was at one time a member of the State Board of Charities and Corrections. He was for several years surgeon-in-chief of the Michigan Central Railroad. He was one of the founders, and for four years editor of the "Detroit Review of Medicine." Dr. Jenks was one of the eminent gynecologists of his time, and made a special study of the history of gynecology. The "Detroit Free Press," in its issue of March 20, pays the following tribute to the memory of Dr. Jenks:

> Michigan and Detroit have suffered a distinct loss in the death of Dr. Edward W. Jenks. In the widened relations of life, he was the old-school gentleman, courteous, considerate and charitable at all times. He carried his ideals into his professional and public life. In the sociological circles of the state Dr. Jenks will be specially missed. He had given much time to the work of correction and charities. He was a careful student of pauperism and crime. He was deeply interested in penology, and had accomplished much towards sustaining interest in the charities and corrections of the state.
>
> To the children of Michigan Dr. Jenks was a firm, faithful and intelligent friend, and particularly was he the friend of the children of the poor and the unfortunate. Much of the energy of his later life was given to the effort to establish a home for crippled and dependent children. All his theories of organized charity and corrections were based on the belief that reform must begin with the child; that unfortunate children of all kinds should be the object of the state's tenderest solicitude; that those who could be trained into useful members of society should be so trained; that those who could not, should be isolated in such a manner that they would present the least possible menace to the physical and moral health of future generations. All this was a labor of love with Dr. Jenks, who contributed lavishly of his money, his time and his energy to the service of society, and it is not extravagant to say that the state of Michigan is far poorer by reason of his death.

Samuel W. McJunken, M.D. Medical College of the State of South Carolina, Charleston, 1875, assistant physician at the North Texas Hospital for the Insane, and previously a medical officer in the Navy, died from erysipelas at his home in Terrell, Texas, Mach 8, after an illness of one week, aged 48. He was a member of the Dallas Medical and Surgical Society, which passed appropriate resolutions at a special meeting held March 9.

Peter Klein, M.D. Geneva (N. Y.) Medical College, 1846, one of the oldest physicians in Detroit; county physician in 1847 for six years; in the United States' service during the Civil War, twice city physician, and twice a representative of Wayne County in the legislature, died at his home in Detroit from paralysis, after an invalidism of five years, March 15, aged 89. He had relinquished active practice ten years before.

John G. Giles, M.D. Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1860, of Athens, Ont., died in the General Hospital, Brockville, Ont., March 12, from kidney disease, aged 69. He was a member of the Provincial Legislature in 1876.

George Washington Le Cato, M.D. University of Maryland, Baltimore, 1860, of Wachapreague, Accomac County, Va., for many years a practitioner of New York City, and since 1893 a member of the Virginia senate, died at Richmond, Va., March 12, aged 61.

Charles A. McCall, M.D. University of Pennsylvania, Philadelphia, 1855, died from influenza at his home in West Philadelphia, after a brief illness, aged 65. He served through the Civil War and had charge of the Mount Pleasant Hospital, near Washington.

Clayton T. Hall, M.D. Medical College of Ohio, Cincinnati, 1889, died at his home in Mason, Ohio, March 11, from septicemia from an infected wound received while incising a carbuncle, aged 36. He was a member of the American Medical Association.

Samuel H. McLean, M. D. Eclectic Medical Institute, Cincinnati, 1874, superintendent of the Illinois Asylum for Feeble-Minded Children, Lincoln, Ill., died at that institution, March 18, after an illness of two years, aged 53.

Nathan Udell, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1855, for many years a practitioner of Centerville, Iowa, and twice state senator, died at the home of his son in Denver, March 6, aged 86.

Frank Fontelle Brigham, M. D. Harvard Medical School, Boston, 1885, a member of the staff of the Lynn Hospital, died from heart disease at his home in Lynn, Mass., after a brief illness, March 10, aged 40.

Alvin Jayne Cole, M.D. University of Michigan, Ann Arbor, 1860, surgeon of the Fourteenth Michigan Volunteer Infantry throughout the Civil War, died at his home in Fort Madison, Iowa, March 6, aged 65.

Albert E. Gangloff, M.D. Cleveland Homeopathic College, 1900, of Pittsburg, Pa., died from pneumonia, March 12, after a short illness, at the home of his brother in Mount Washington, Pa., aged 25.

Noyes Barstow, M.D. Vermont Medical College, Woodstock, died at his home in Springfield, Mass., March 16, from pneumonia, after an illness of five weeks, aged 82. He retired from practice in 1885.

Liberty M. Chilton, M.D. St. Louis Medical College, 1877, died at his home in Stanberry, Mo., March 9, from paralysis, after an illness of three days, aged 63. He retired from active practice in 1898

Walter W. Bunyan, M.D. Northwestern University Medical School, Chicago, 1901, an interne at Cook County Hospital, died from pneumonia at Wesley Hospital, Chicago, March 16, aged 26.

Almer M. Collins, M.D. Medical College of Ohio, Cincinnati, 1874, clergyman, mathematician and physician, died at his home in Shelbyville, Ill., March 10, from Bright's disease, aged 58.

John G. McPherson, M.D. University of Edinburgh, Scotland, 1848, of Manistee, Mich., died in a hospital in Milwaukee, March 10, aged 77. He served as surgeon during the Civil War.

Rolla W. Selby, M.D. Rush Medical College, Chicago, 1885, of Odebolt, Iowa, died in St. Joseph's Hospital, Sioux City, Iowa, February 15, after an operation for appendicitis, aged 42.

Braxton Banks, M.D. Jefferson Medical College, Philadelphia, 1889, died from pneumonia, after an illness of two weeks, March 12, at his home in Garner, Wake County, N. C., aged 50.

T. Harper Rice, M.D., M.R.C.S. London, 1901; M.R.C.P. London, 1902, died at the home of his parents in Pottstown, Pa., March 14, from tuberculosis, after a long illness, aged 29.

De Forest Hunt, M.D. New York University, 1864, died at his home in Grand Rapids, Mich., March 10, from cancer of the stomach, after an illness of two years, aged 61.

Kinsman D. Broga, M.D., an eclectic physician of Oneida, N. Y., died at his home in that city, March 11, from angina pectoris, after a short illness, aged 73.

Chauncey M. Skinner, M.D. Rush Medical College, Chicago, 1876, of Hartland, Wis., died suddenly from heart disease at Oconomowoc, Wis., March 14, aged 65.

Albert B. McKee, M. D. Rush Medical College, Chicago, 1893, died at his home in Edwardsville, Ill., March 17, from morphin taken with suicidal intent, aged 40.

Lavoisier H. Gratigny, M.D. Starling Medical College, Columbus, Ohio, 1864, died at his home in Cincinnati, March 7, from congestion of the brain, aged 62.

Fastus A. Snear, M.D. Cincinnati College of Medicine and Surgery, 1872, died at his home in Bryan, Ohio, March 10, after a lingering illness, aged 53.

Alfred D. F. Donkle, M.D. University of Illinois, 1901, interne at Augustana Hospital, Chicago, died from empyema at Augustana Hospital March 13.

Patrick N. Kelly, M.D. McGill University, Montreal, 1884, of Wabasha, Minn., died at the home of his parents, Pine Island, Minn., March 14, aged 46.

Julian H. Jones, M.D. Hahnemann Medical College, Philadelphia, 1860, died at his home in Bradford, Vt., March 3, from Bright's disease, aged 64.

Beverly P. Morriss, M.D. University of Pennsylvania, Philadelphia, 1849, died at his home near Ebenezer Church, Amherst, Va., March 7, aged 80.

G. A. Rebman, M.D. University of Maryland, Baltimore, 1875, died at his home in Wrightsville, Pa., March 9, from consumption, aged 50

Sherburne R. Merrill, M.D. Jefferson Medical College, Philadelphia, 1854, died at his home in Paterson, N. J., March 16, aged 81.

Norman H. Getman, M.D. Homeopathic Hospital College, Cleveland, 1854, died recently at his home in Richfield Springs, N. Y.

John Oscar Lewright, M.D. Missouri Medical College, St. Louis, 1887, died recently at his home in St. Louis, aged 36.

William Hunter, M.D. Homeopathic Hospital College, Cleveland, 1864, died at his home in Blairsville, Pa., March 13.

Levi C. Hubbard, M.D. Albany Medical College, 1882, died recently at his home in Carthage, N. Y., aged 66.

Deaths Abroad.

Manuel Barros Borgono, M.D., the eminent Chilean surgeon and rector of the University of Santiago, Chile, died recently in that city.

Mateo Gonzalez, M.D., dean of the medical profession of Morelia, state of Michoacan, Mexico, and for many years director of the school of medicine in that city, died March 5, after a protracted illness.

M. Crisafulli, M.D., who graduated at Messina and after several years of study in Paris and London at the expense of the municipality of Messina, returned to be professor of medicine, died there, February 19, after a brief illness, aged 77.

Dr. Ferdinand Weyert, senior physician and chief of the directorate of the St. Petersburg Eye Institute, an eminent ophthalmologist, died at his home in St. Petersburg, February 3, after a brief illness, aged 66. He was graduated from the University of Dorpat, pursued post-graduate studies in Vienna, Paris and Berlin, where he was a student of Albrecht v. Graefe, and on his return to St. Petersburg became connected with the Eye Institute, of which he was an honored official for more than forty years.

Dr. Adolf. Gessner, professor and director of the Frauenklinik at Erlangen, died recently, aged 39. In 1890 he was assistant to Prof. Dr. Frommel, from 1893 to 1897 was assistant physician in Olshausen's clinic, and then established himself in Erlangen, where he again became assistant and associate professor. In 1901 he was made director of the gynecologic clinic and professor of obstetrics. He was a thorough student, a clear and entertaining teacher, and a worthy and lovable man of great promise. He wrote the section on sarcoma of the uterus in Veit's Lehrbuch, and also was the author of a well-written and well-known treatise on asepsis and antisepsis in obstetrics.

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

TREATMENT OF POISONING BY FORMALIN.

Billings, Mont., March 17, 1903.

To the Editor:—Will you please inform me what is the best antidote for formalin? The reason I ask is I had a case of a little boy a few days ago that drank about one ounce. Cliff Lindsey.

Ans.—Acetate of ammonia is reported beneficial, as well as dilute ammonia water cautiously administered. Beyond this follow the treatment of acute alcoholic poisoning; if necessary, maintain the body temperature with external heat, the respiration by atropin, the heart by strychnin. Of course, remove all the drug remaining in the stomach. If the vapor of formaldehyd has been inhaled, cautious inhalation of ammonia is recommended by authorities, as it destroys the formaldehyd.

Miscellany.

Clippings from Lay Exchanges.

NO CONSPIRACY ALLEGED.

"Dr. B———, of Atlantic City, is about to locate at Wycombe for the practice of his profession. The doctor has secured rooms in the home of Mrs. G——— P——— and will put up his shingle the beginning of next week. An undertaker located in Wycombe a week or so ago."—*Jenkintown (Pa.) Spirit.*

THE NEW SYMPTOM—CONSCIOUS DELIRIUM.

Under the heading: "Delirious All Evening. Members of Family were at Bedside, but He Did Not Know Them," the *Johnstown (Pa.) Democrat* says: "He was conscious to the end, but was delirious the greater part of the evening."

COLLES FRACTURE OF THE SHOULDER.

"An *x*-ray examination of the injured shoulder of W—— K——, the ball player, . . . reveals the fact that he is suffering from what is known to the medical profession as a Colles fracture."—*Norwich (Conn.) Bulletin.*

DEATH WAS NOT SURPRISING.

Under the headlines "Doctor Not Surprised at — — ———'s Death," the *Boston Morning Journal* contains these lines: "The cause of death was found to be calcification of the althe romotus tissue, just above the aortic valve."

SLICK'S FEMALE HYDRO-EMETICS.

"Dr. —— Slick of ——— has moved to ——— to practice female therapeutics, metaphysics and hydro-emetics. Dr. Slick ought to be finer than silk."—*Adrian (Mich.) Press.*

POSTMORTEM TO BE POSTMORTEM.

"The medical fraternity . . . have obtained the consent of the young woman and her parents to hold a postmortem after her death."—*Bowling Green (Ohio) Sentinel.*

THE NEW DISEASE—LAPEROTOMY.

"The patient was suffering with laperotomy and after an examination last night an immediate operation was found to be necessary."—*Muscatine (Iowa) Journal.*

Medical Courts of Honor in Prussia.—Prussia has long had a professional court of honor for the army and for law, and in 1901 a similar tribunal was established for the medical profession in every district where there is a medical organization. The court consists of the president and three members of the local organization and a judge of a local court. There is a central supreme court of appeals, consisting of the director of the Prussian ministerial medical department, four members of the central committee of the "Aerztekammer," and two physicians appointed by the crown. The penalties which the court can impose are warning, reprimand, a fine not exceeding 3,000 marks (about $750) and the temporary or permanent withdrawal of the right to membership in the local medical organization. The "Allg. Med. Ct.-Ztg." has recently been publishing the decisions of the supreme court. Its findings do not always meet with the approbation of the profession as a whole. In a recent decision, for instance, it condemned the efforts of a physician who was endeavoring to secure the introduction of the free choice of a medical attendant by the members of the sick benefit societies. This is considered by the profession a much-needed reform and is generally known as "the American plan." Among the decisions is one that imposed a fine of $50 and costs on a physician who had associated himself with a notorious magnetic healer, confirming the decree of the local court of honor. Another imposed a fine of $25 on a physician who had applied to an insurance company for a position, threatening that he would induce certain families to withdraw from the society unless he were appointed to a position in it. In one decision the supreme court reversed the action of the lower court, which had imposed a fine of $75 on a physician because he had opposed the organization of a children's ward in the city hospital, on the ground that the existing medical staff would be inadequate for the enlarged responsibilities and the

children would receive merely secondary consideration. He urged the establishment of a separate children's hospital. The charge against him was dismissed. Another physician was also acquitted who had been fined by his local court of honor. He had been called to a child with the measles, but was dismissed by the father in a few days, before the disease had terminated. He sent in his bill for his services eleven days later, and the local court of honor reprimanded and fined him. One decree states that a physician who deviates from the customs of his colleagues is not unethical so long as the deviation is not derogatory to the honor of the profession. The court of honor expressly states that its power is not limited to contemporaneous occurrences, but that all unethical acts by any living Prussian physician, since his "approbation," come within its jurisdiction. It therefore imposed a fine of $25 on a physician who had forced his professional services on a certain patient previous to the organization of the professional court. Another decision condemned as unethical "control" visits under instructions from a third party without the knowledge of the attending physician, and also derogatory remarks in regard to the professional services of any other physician in the presence of the patient. Seventeen decisions have been handed down since last May, but most of them relate to merely technical legal points.

Book Notices.

VON DER NERVENZELLE UND DER ZELLE IM ALLGEMEINEN. Von Paul Kronthal. Mit 6 chromolithographischen, 3 heliographischen Tafeln und 27 Figuren im Text. Pp. 274. Jena: G. Fischer. 1902.

When this book of nearly 300 pages, dealing with one of the most absorbing topics of the period and illustrated liberally with heliographic and chromolithographic plates, came to us we hoped much from it and, on opening it, began its perusal with a certain degree of eagerness. An appetite already keen was further whetted by a caviar which the author provides, an introductory essay on methods, in which the theories of tissue-fixation and staining are discussed. The writer's apparent familiarity with some of the more recent theories of the structure of protoplasm, including that which looks on it as essentially a colloidal solution, his acquaintance with the fundamental researches of A. Fischer concerning the effects of the fixation-agents in common employ, his references to Gierke's views on the chemistry of staining processes and to O. N. Witts' hypothesis concerning the relation of the staining to the formation of so-called "solid solutions"—all gave us the impression that our author approached his problem armed with the most modern weapons for histologic attack. There seemed every reason to believe that in a research so auspiciously undertaken, leading to results requiring nearly 300 pages for their record, and published at great cost, something of more than ordinary interest would be found. A further study of the book, however, brings disappointment.

An examination of Kronthal's monograph shows it to be divided into two parts: (1) On the biology of the nerve-cell, and (2) on the cell in general and the nerve-cell in particular. The former part includes the introductory essay on methods, a description of the figures in his plates, a review of his personal observations and the conclusions drawn from them. The latter part assumes more the nature of a philosophic treatise.

The title given to Part 1 is "The Biology of the Nerve Cell." It consists of four chapters: 1. On Methods (referred to above). 2. Description of Figures. 3. Résumé of Personal Observations. 4. Inferences Drawn from Observations. In the chapter describing the figures the author gives only a series of legends for the various figures in the colored plates. The description of the first figure is fundamental, for on this a large part of the author's other work and his inferences are based. The figure purports to be a small blood vessel from the anterior horn of a rabbit five days old, under a magnification of 500. Besides the red blood corpuscles within the lumen of the vessel there is a mononuclear cell, filling the whole lumen at its level. This cell is designated a leucocyte, though it is certainly not a polymorphonuclear leucocyte, nor a lymphocyte, nor does it resemble any large mononuclear element one ever sees in the blood. It looks more like an endothelial cell than like a leucocyte, though it is very difficult to say from the drawing what the author has seen. Outside the vessel are two nuclei without visible protoplasm. What these were drawn from is doubtful, though it seems probable that the artist really had glia cells before him. The author calls them "two bodies just like leucocytes in their internal structure and staining behavior" (*Zwei in ihrem innerem Bau und tinctoriellen Verhalten den Leukocyten ganz gleiche Koerper*). As a matter of fact, they do not look at all like his suppositious leucocyte in the adjacent blood-vessel; much less do they resemble the real leucocytes one sees in the blood. The description of this first figure is followed by those of forty other figures in the colored plates and of seven photograms.

In chapter 3, in which Kronthal gives a résumé of his observations, he states that he finds everywhere in the central nervous system, in both white and gray substances, small cells which, in their form and behavior towards staining reagents, agree with leucocytes. They are usually irregularly distributed, but are often in rows. Often no protoplasm is to be seen about them. Fusions of two or more such nuclei are often met with. Various transition stages to the large cells of the anterior horns are described. Especial stress is laid on the occasional presence of a small cell inside the protoplasm of a large cell. The author states that an examination of the good illustrations in archives and monographs reveals "the lymph cells here described in the central nervous system, their relations to one another, to the similar but larger cells, as well as to the large cells in the gray matter" entirely correctly and sharply depicted. Anatomists call the smaller cells "free nuclei" (*freie Kerne*); pathologists and psychiatrists regard the relation of the smaller cells to the larger cells as evidence of degeneration. If they had used his alcohol-glacial-acetic-fixation method, Kronthal thinks they would have seen something entirely different in these structures.

In chapter 4, Kronthal gives his own ideas as to the interpretation of the observations. He decides that he finds leucocytes all through the normal central nervous system. A great many lymphoid cells come into the nervous system from the cerebrospinal fluid. All these "leucocytes," once inside, find themselves in a totally different environment from that to which they have been accustomed. The "nomadic" cell is compelled to "settle down." Again, the wandering cell here meets with chemical substances unknown to it—cerebrin, lecithin, protagon, neurokeratin, keratin, xanthin, hypoxanthin and inosit. As a result the leucocytes lose the properties they had in the blood and take on other characters. They fuse with one another and make larger cells. Gradually the large "cells" of the gray matter are built up out of them. A nerve cell never divides, not even in the embryo. But nerve cells are present throughout life, though they are constantly degenerating. "How then," asks the author, "is the nerve-cell supply maintained?" And his answer is "in the same way that it arose originally, viz., by slightly differentiated cells coming into connection with fibers and so becoming nerve cells." Kronthal believes, then, that nerve cells differ from all other cells and that their nuclei are different from all other nuclei, for the nuclei have not arisen by mitosis, but are the result of fusion of nuclear substances of other cells. The reason there are more leucocytes in the gray matter than in the white matter is that the nerve fibers are medullated and packed together like cables in the white matter, while in the gray matter the fibers are naked; the leucocytes easily wend their way through the relatively thick cables, but are caught and held fast when they reach the extremely fine fibers of the gray matter. The nerve cells are continuously dying and continuously arising anew through the fusion of leucocytes.

The first part of the book contains all the author's observations and the inferences drawn therefrom and occupies forty pages of the volume; the second part, in which he writes a philosophical treatise on "the cell in general and the nerve cell in particular" based on the theory just outlined of the origin of nerve cells from leucocytes, occupies two hundred and twenty-two pages. It seems to the reviewer not worth the while of

American readers to be burdened with even an epitome of this part, though it has been conscientiously waded through. Kronthal introduces in the various chapters the majority of the complex names that have been given to the different parts of the protoplasm and nucleus, and most of the theories that have gradually, at one time or another, been developed in cytology; he cites references from more than 200 writers, and tries to weave all into connection with the "nerve cells derived from fused leucocytes"; he coins, unnecessarily, a certain number of new names, which add to a nomenclature already overburdened.

Kronthal's reading seems to have been encyclopedic, but he appears to be devoid of sound judgment and the power of legitimate interpretation. How his book could have secured a publisher at all, much less the imprint of the celebrated house of Gustav Fischer of Jena, is difficult for American neurologists to understand. America has more than its share of worthless publications; but a few more such volumes from Germany and she will be outrivaled. If anyone thinks the verdict here pronounced unwarranted, let him but turn to chapter xiv of the second part of the book and read Kronthal's discussion of the origin of tumors, where he develops the view that tumors arise as a result of a fertilization process, the cell of one human being, perhaps an epithelial cell or a leucocyte, entering another human being and fertilizing some cell of the host; or let him read the last two pages in the book, of which the following is a translation of the first paragraph: "The bioids in the cell are alive, the trophomigma is dead. But the bioids can not live without the trophomigma. Hence, the 'living' is the whole cell. But this again can not live, if its trophomigma is not regularly supplemented, its nutrition maintained. Hence the 'living' is the cell with its nourishment. Nourishment for the cell consists of all kinds of substances, which, for the most part, constitute the earth. So the 'living' is the whole earth, and, since this, according to the Kant-Laplace hypothesis, is a product of the same forces as is every body in space and can not exist . . . without the other bodies, so the 'living' is the whole universe. Nature is the 'living,' not this or that body." To such levels may one soar, riding on the back of a supposititious leucocyte in a spinal capillary!

Toxicology. The Nature, Effects and Detection of Poisons, with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College. Cloth. Pp. 132 Price, $1.50. St. Louis: Lewis S. Matthews & Co.

This little work is a second edition, though not so stated on the title page. It is a convenient, handy manual of the principal facts in regard to poisons and their antidotes. It is neatly gotten up and seems, in the main, to cover its subject very satisfactorily. An addition which will probably be appreciated is the series of good illustrations of some of the more important poisonous plants. One or two inaccuracies are noticed, such, for example, as the description of the poisonous serpents which is not reliable, since it only describes the viperine type. This, however, is the only type represented in this country that is really dangerous; the coral snake, which is mentioned as being comparatively rare and not vicious and hardly considered poisonous. The statement that chloroform is the principal anesthetic used in this country strikes us as incorrect. We had supposed that ether was used more at the present time for general anesthesia.

Where and How to Amputate. By Lowell E. Jepson, M.S. Paper. Pp. 13. Minneapolis: Jepson Bros.

One of the most important things to consider in making an amputation is where and how this shall be done so that the patient can with the most comfort and satisfaction wear an artificial limb. This booklet concisely states the principal points to be considered and this information will be of practical help.

Farmacoterapia con Formulario. Dr. Prassitele Piccinini. Un volume di pag. viii-382, elegantemente legato in tela. Ulrico Hoepli. Milano. (L. 3,50.)

This is one of the neat and convenient little Hoepli pocket handbooks which will be of use to those who understand Italian and almost anyone can pick up enough of that language to utilize it in a short time. The numerous formulas are easily transposed to accord with the United States pharmacopeia.

State Boards of Registration.

Missouri Examination Dates.—The regular spring examination of candidates for the practice of medicine in Missouri will be held at the University Medical College, Kansas City, Mo., April 1 to 3 instead of April 3 to 5, which was the date previously set. At St. Louis examination will be made April 13 to 15.

Confederation Meeting.—The National Confederation of State Medical Examining and Licensing Boards will hold its next meeting at New Orleans, May 4, and urges every unaffiliated state or territorial board, whose duty it is to examine or license physicians intending to practice, to affiliate with the confederation. The secretary is Dr. A. Walter Suiter, Herkimer, N. Y. An invitation is extended to physicians and educators who are interested in the cause of higher medical education to attend.

Association News.

THE NEW ORLEANS NUMBER.

A Request for Information Concerning Trains, Excursions, Etc.

The issue of The Journal of April 11 will be the New Orleans Number, and will contain the preliminary programs of each of the sections and an illustrated article descriptive of New Orleans. There will also be given railroad rates and a list of special trains, etc. All information concerning such matters should be sent us in time for publication in that issue. Special excursions have been arranged from New York, Chicago, Omaha and other points. We desire full particulars of all such trains. It is hoped that announcements may be made of the water-route excursions, one by the Mississippi River and one by the Atlantic Ocean. Any one desiring to have information on any particular point given in the New Orleans Number should write to The Journal making the request.

Stereopticon for Section on Ophthalmology.

The officers of the Section on Ophthalmology announce that Mr. Earl J. Brown has offered his services and the use of the Geneva Optical Co.'s stereopticon, with or without microscopic adjustment, for the use of such members of the Section on Ophthalmology as desire to have their papers illustrated thereby.

ACCOMMODATIONS AT NEW ORLEANS.

Important Announcement from the Hotel Committee.

We are in receipt of a letter from Dr. E. D. Martin, 810 Common street, New Orleans, chairman of the Hotel Committee, asking us to publish a notice and urge on those who expect to attend the New Orleans meeting the importance of writing him at once regarding reservation of rooms. This is of special interest to those who will be accompanied by ladies. He states that New Orleans is amply able to give comfortable accommodations to all at reasonable rates, although the space in some of the hotels will be taken up early. Those having the responsibility of this matter in New Orleans desire to emphasize the necessity of early action so that all may be accommodated, and that without any complications, on arrival.

Dr. Martin closes by saying: "The Information Bureau has a list of houses that we have visited and inspected and can vouch for, of over three thousand rooms, and there is no alarm necessary, as every one will be cared for at reasonable prices."

The New Orleans illustrated number of The Journal will be issued April 11, giving a full description of New Orleans and its accommodations.

NATIONAL BUREAU OF MEDICINES AND FOODS.

The President of the American Medical Association has appointed the following as a committee to represent the Association to investigate the proposed National Bureau of Medicines and Foods, this committee to report at the New Orleans meeting: Dr. E. Eliot Harris, New York; Dr. Solomon Solis-Cohen, Pennsylvania; Dr. H. Bert Ellis, California; Dr. N. S. Davis, Jr., Illinois; Dr. Philip Mills Jones, California.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

New Mexico Medical Society, E. Las Vegas, April 7.
Florida Medical Association, St. Augustine, April 8.
Western Ophthalmological and Oto-Laryngological Association, Indianapolis, April 9-11.
Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Mississippi State Medical Association, Greenville, April 21-23.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.

Kentucky State Medical Association.—The forty-eighth annual meeting will be held in Scottish Rite Temple, Louisville, April 22, 23 and 24.

Polk County (Iowa) Medical Society.—At its March 3 meeting this society decided so to change its by-laws as to admit any non-sectarian practitioner of medicine.

Medical Woman's Club of Chicago.—This club was recently organized, with Dr. Sarah Hackett Stevenson as president, and Dr. Henrietta Johnston, secretary and treasurer.

Sangamon County (Ill.) Medical Society.—At its monthly meeting, March 9, the constitution and by-laws of the society were amended to conform to those of the Illinois State Medical Society.

Hamilton County (Neb.) Medical Society.—The physicians of Hamilton County recently met at Aurora and organized a county society, with Dr. Edmund A. Steenburg president and Dr. Isaiah W. Haughey secretary, both of Aurora.

Louisville Practitioners' Club.—The annual meeting and banquet was held March 10. Dr. Oscar E. Bloch was elected president; Dr. Hugh N. Leavell, vice-president; Dr. John J. Moren, secretary and treasurer, and Dr. John K. Freeman, historian.

Vernon Parish (La.) Medical Society.—This society was organized at Leesville, March 4, with Dr. Mark R. McAlpin, Leesville, president; Dr. C. C. Self, Hornbeck, vice-president; Dr. F. W. Dortch, Barham, secretary, and Dr. J. H. Word, Leesville, treasurer.

Holt County (Neb.) Medical Society.—The physicians of Holt County recently met at Atkinson and organized a county society, with Dr. Joseph L. McDonald, president; Dr. B. T. Trueblood, O'Neill, vice-president, and Dr. P. J. Flynn, O'Neill, secretary and treasurer.

Steele County (Minn.) Medical Society.—At the annual meeting, March 10, the following officers were elected: President, Dr. George Shulze; vice-president, Dr. John H. Adair; secretary, Dr. Allan B. Stewart, and treasurer, Dr. Warren C. Eustis, all of Owatonna.

Johnson County (Texas) Medical Society.—At the March 13 meeting, at Cleburne, the following officers were elected: President, Dr. W. P. Alexander, Cleburne; vice-presidents, Drs. Larkin L. Harris, Cuba, and R. H. Roark, Cleburne, and secretary, Dr John M. Huddleston, Cleburne.

Philadelphia Society of Tropical Medicine.—This society, whose object is the study of tropical diseases, has been formed, with the following officers: President, Dr. Thomas H. Fenton; vice-presidents, Drs. James C. Wilson and James M Anders; secretary, Dr. Joseph McFarland; treasurer, Dr. Edward B. Gleason, and executive committee, Drs. John V. Shoemaker, James Fenton, Judson Daland, Roland G. Curtin, Orville Horwitz and Hobart A. Hare.

Mercer County (Ohio) Medical Society.—On March 10, with the assistance of Dr. Horace Bonner of Dayton, Ohio, councillor for that district, the Mercer County Medical Society was reorganized at Celina, Ohio, in affiliation with the Ohio State Medical Association. These officers were elected: Dr. D. J. C. Wintermute, Celina, president; Dr. C. F. Bohnan, Coldwater, vice-president; Dr. D Herbert, Richardson, Celina, secretary; Dr. J. E Hattery, Celina, treasurer, and Drs. Joseph Sager and Stephen R. Wilson, Celina, and Philip F. Weamer, Coldwater, censors.

Erie County (N. Y.) Medical Association.—At the annual meeting, March 9, the resolutions prepared by Drs. Julius Ullman, De Lancey Rochester and Charles S. Jewett, the committee of public health, were unanimously adopted. They state that, because of an epidemic of typhoid fever at West Seneca, and because the drainage therefrom into Lake Erie is close to the intake of the water supply of Buffalo, that Buffalo's water supply is now a menace to the public health and that the authorities of West Seneca, Buffalo and New York state should take immediate action. Officers for the ensuing year were elected, as follows: President, Dr. Allen A. Jones; vice-president, Dr Carlton C. Frederick; secretary, Dr. Jacob S. Otto; treasurer, Dr. William I. T. Lornton, and member of executive committee, Dr. Joseph W. Grosvenor.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Dec. 15, 1902.

The President, Alexander Lambert, M.D., in the Chair.

The Rational Treatment of Tetanus.

DR. WILLIAM H. LUCKETT made a brief report covering his experience in three cases successfully treated by intraspinal injections of tetanus antitoxin. One case received eight injections of from 8 to 15 c.c., or a total of 92 c.c., 159 minims of cerebrospinal fluid being withdrawn. Another case received five injections, a total of 59 c.c., and 532 minims of cerebrospinal fluid were withdrawn.

Modern Treatment of Urethral Stricture—Dilatation.

DR. J. W. S. GOULEY opened the symposium on the modern treatment of urethral strictures with a paper on their treatment by dilatation, laying down the following propositions: 1, Strictures at the meatus, being ordinarily dense, require incision; 2, strictures in the scrotal region which are narrow, indurated, resilient and refractory to treatment require internal incision; 3, strictures which render catheterism difficult or dangerous ordinarily require internal incision if in the scrotal region, and external incision if in the perineal region; 4, strictures in the perineal region which are narrow and complicated with fistulæ, and accompanied by masses, require external incision; 5, strictures in the perineal region complicated by abscess or extravasation of urine require immediate external incision; 6, traumatic strictures in the perineal region require early external incision, and 7, other urethral strictures are generally amenable to dilatation, or, at least, divulsion. In the early stages of strictures due to urethritis a permanent cure could be effected in a few months by simple dilatation, but in the long-standing ones months or even years of dilatation would be required. Continuous dilatation or the retention of an instrument for a few hours or even for one or two days, was indicated in narrow strictures, which failed to yield to ordinary dilatation or were complicated by retention of urine. Rapid dilatation, or the increase of the caliber of the urethra by three or four numbers at a sitting, was indicated in narrow strictures which threatened to produce retention of urine.

Urethrotomy.

"Internal Urethrotomy" was discussed by DR. L. W. HOTCHKISS, and "External Perineal Urethrotomy" by DR. PARKER SYMS. These two papers were given in abstract in THE JOURNAL, February 28, p. 608, ¶78 and ¶79.

Discussion.

DR. JOSEPH D. BRYANT said he had always been averse to very free division of the meatus urinarius. Continuous dilatation was a useful method, if proper judgment were exercised as to the length of time it is to kept up.

DR. JOHN F. ERDMANN spoke in favor of the Oberlander and Kollmann dilating instruments, and recommended dilating to the extent of from 2 to 4 mm. at each sitting, the treatment being repeated at intervals of four or five days. The continuous method was, no doubt, a useful one, but in many

of the cases in which it had seemed to be indicated he had succeeded by giving the patient a warm bath for fifteen to thirty minutes. In performing external urethrotomy without a guide he preferred to do the operation as advised by Dr. Bolton. In this method, the patient is placed in the reversed Trendelenburg posture, and an incision is made from one tuberosity of the ischium to the other in the form of an arc. This gives ready access to the apex of the prostate and, when this is found, puncture is made and then a dissection is made towards the membranous portion of the urethra. So far, this method had been invariably successful.

DR. E. L. KEYES, JR., said that it was certainly desirable to have a large incision, but the one recommended by the last speaker appeared to him to be an unnecessarily free dissection. If the dissection were carried down to the face of the stricture it would be comparatively easy to find the opening of the latter.

DR. FERD C. VALENTINE expressed himself as strongly in favor of the treatment of urethral strictures by dilatation, as opposed to operative measures, and condemned the too common plan of leaving this dilatation treatment to the patient himself.

DR. WILLIAM A. SHUFELT spoke in favor of an early resort to perineal section rather than indulging in much experimentation.

DR. ROBERT NEWMAN said that up to seven years ago he had successfully treated by electrolysis over 2,000 strictures of the urethra, and that number was now increased by probably 400 or 500. Relapses never took place, a statement regarding the permanency of the cure effected by this method of treatment which could be substantiated by patients in this city who had remained well for long periods of time—even as long as 26 years. This treatment by electrolysis of urethral strictures had been the subject of an investigation by a committee of his peers appointed by the American Electrotherapeutic Association in 1892. This committee, after long and careful investigation, reported that Dr. Newman's conclusions appeared to be well sustained by the statistics placed at its disposal, and that the experience of the committee also tended to confirm the value of the continuous current in resolving a large class of urethral strictures. The trouble with internal urethrotomy was that it would not restore the caliber of the urethra if the incisions healed by first intention, and if these incisions were kept apart and were made to fill up by granulation, a cicatrix would be formed, which would make the last state worse than the first. It was worthy of note that many authorities had in recent years declared themselves as opposed to internal urethrotomy.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and. in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Symposium on Colic.—I. In Infants.

Dr. Robert Hutchison, in *The Clin. Jour.*, states that the chief symptom of infantile colic is pain, expressed by crying. However, the cries of the infant should cause one to consider the possibility of earache, teething, renal colic (which is as frequent as in older people), phimosis causing straining on passing water and tenderness of the bones resulting from rickets, congenital specific disease, also mental deficiency causes the infant to cry without apparent cause. The signs of colic are: hardness of the abdomen, palpation of little coils of intestine, the tendency of the infant to draw up the legs, and perhaps convulsions. The passage of flatus with cessation of crying is a splendid sign of the proper diagnosis.

The first thing in the treatment is to apply warmth to the abdomen. This can be done by friction with warm oil, by warm fomentations or by poultices of linseed or mustard, and if necessary by the mustard bath. Warmth may be employed internally by means of enemas of hot water, injecting two or three ounces of water as hot as can be borne. Carminatives by the mouth, according to the author, aid in the expulsion of flatus, as peppermint water or dill water or small doses (ten drops) of sweet spirits of niter.

CORRECTION OF FEEDING AND OF CONSTIPATION.

If the infant is breast-fed inquiry may show that it is being fed irregularly and too frequently. Constipation must also be corrected. Massage to the abdomen is indicated in such cases following the course of the colon, applying it morning and evening for five or ten minutes. As to the medicines to be administered, they should consist of such preparations as have a tonic action on the bowel such as aloes combined with a little nux vomica as follows:

℞.	Tinct. aloes	gtt. iii-v	20-.30
	Tinct. nucis vom.	gtt. ss	03
	Tinct. belladonnæ	gtt. ii	12
	Syr. sennæ	gtt. xx	1 30
	Inf. gent. co. q. s. ad	3i	4

M. Sig.: To be taken at one dose night and morning or in severe cases once in six hours.

The foregoing should be varied according to the age, remembering that children bear belladonna very well and strychnia badly. In case children should object to this mixture or are unable to retain it on the stomach the following may be given:

℞.	Confectionis sulphuris	℥ss	15

Sig.: One half teaspoonful at night or morning and night.

This is very agreeable for infants to take, but not so effective as the first combination.

In bottle-fed infants the frequent cause of colic is lack of cleanliness. The feedings are also given irregularly, and the food probably indigestible, owing to excess of casein products. In any case carminatives frequently give relief when given between meals. It should be alkaline on account of the extreme acidity present in the stomach and should be pleasant to take. The following combination serves the purpose:

℞.	Sodii bicarb.	gr. iiss	15
	Spts. ammon. arom.	m. iiss	15
	Glycerini	m. ii	12
	Aq. menth. pip. q. s. ad	3i	4

M. Sig.: At one dose, to be given between the feedings.

In all such cases the abdomen must be kept warm. Binders should be used, if necessary, and the feet should be well protected.

If the child is gaining weight, even though there are attacks of colic, no great alteration in the food should be made. Some preparation of opium may be administered as follows:

℞.	Codeinæ	gr. 1/40 to 1/30	0015-.0020
	Glycerini	m. ii	03
	Aq. menth. pip. q. s. ad	3i	4

M. Sig.: At one dose to relieve the colic.

If acute vomiting is present the infant should be starved for two, three or more days, if necessary. During this period water (boiled) must be given in abundance.

VOMITING.

Lavage is of great service in cases of acute or chronic vomiting. It is not so unpleasant as in adults, and is simple and harmless. If the eyelet of the tube becomes clogged with clots of casein they may be dislodged by blowing into the top of the funnel. If the contents of the stomach are sour sodium bicarbonate should be added to the water in proportion of one teaspoonful to the pint.

Calomel is one of the best medicinal preparations, given in doses of one-tenth grain (.006) to one-sixth grain (.01) every hour for six or seven doses. This may be followed by bismuth subnitrate or the carbonate in ten-grain (.6) doses.

In chronic vomiting the feedings should be diluted and regulated and the stomach washed out before resorting to drugs. Bismuth is the best, given in large doses. In other cases two or three minims of dilute hydrochloric acid is of service, combined as follows:

℞.	Acidi hydrochlor. dil.	m. ii-iii	12-.20
	Glycerini	m. ii	12
	Aq menth. veridis q. s. ad	3i	4

M. Sig.: At one dose.

ACID FERMENTATION.

When the contents of the intestine are undergoing acid fermentation causing colic, the following antacid aperient has been recommended:

℞.	Pulv. rhei comp.	3i	4
	Spts. ammoniæ fœtidi	3ss	2
	Tinct. card. comp.	3iii	12
	Spts. chloroformi	3ss	2
	Aquæ carui q. s. ad	℥iss	45

M. Ft. mistura. Sig.: One or two teaspoonfuls, according to the age of the child, every hour until relieved.

Yeo recommends the following as a clyster when there is difficulty in getting the child to take medicine by the mouth:

℞.	Olei ricini	3i-3iii	4.-12	
	Olei rutæ	mii-vi		12-.35
	Potassii carb.	gr. v-xv		30-1.00
	Aquæ q. s. ad	℥ii-iv	60-120	

M. As a high enema. If, after free evacuation of the bowels, there is still pain and distress the following may be given as an enema:

℞.	Tinct. opii	m. i-ii	06-.12
	Emuls. amyli	℥i-℥ii	30-60

M. Sig.: As an enema in case the child is over six months of age; or:

℞.	Tinct. cascarillæ		
	Tinct. krameriæ, āā	m. x	65
	Olei anthemidis	m. i-ii	06-.12
	Syr. simplicis	3iiss	10
	Aq. q. s. ad	℥ii	60

M. Sig.: One teaspoonful every two hours by the mouth.

II. Colic in Adults.

Yeo, in his *Clin. Ther.*, recommends, in the treatment of colic in adults, the administration of one to two pints of warm soapsuds, containing one or two tablespoonfuls of castor oil and in flatulent distention a tablespoonful of spirits of turpentine. Locally, he recommends hot flannels or a linseed poultice sprinkled with laudanum applied to the abdomen. The surface of the abdomen may be rubbed with opium or belladonna liniment, employing massage at the same time. If the trouble be confined to the small intestine a mild cathartic such as castor oil or calomel should be given by the mouth. In severe cases a hypodermic of morphin may be given. Atropin relieves intestinal spasm by relieving the irritability of the intestinal nerves and does not have so ill an effect on the intestinal nerves as has opium. The following combination is recommended by the author:

℞.	Tinct. belladonnæ	3ss	2
	Tinct. card. comp.		
	Spts. ammon. arom.		
	Spts. chloroformi, āā	3ii	8
	Sodii bicarb.	3i	4
	Aquæ fœniculi q. s. ad	℥vi	180

M. Ft. mistura. Sig.: Two tablespoonfuls every hour until relieved.

In gouty individuals accompanied by constipation warm alkaline medicines are recommended:

℞.	Ammon. carb.	gr. xl	2	65
	Sodii bicarb.	gr. lxxx	5	
	Spts. chloroformi	3iii	12	
	Tinct. zingiberis	3i	4	
	Aquæ cinnamomi q. s. ad	℥viii	240	

M. Ft. mistura. Sig.: Two tablespoonfuls combined with one of hot water every three or four hours.

As a pill to be taken at bedtime in these gouty cases, the following:

℞.	Ext. colchici	gr. ss	03
	Pil. rhei comp.	gr. iv	25

M. Ft. pilula No. i. Sig.: One such to be taken every night.

FLATULENCE.

The following combination is of service in checking decomposition:

℞.	Ext. nucis vom.	gr. iss	09
	Argenti nitratis	gr. ii	12
	Ext. lupuli	gr. xii	75

M. Ft. pil. No. vi. Sig.: One pill three times a day; or:

℞.	Mag. carb.	3i	4	
	Pulv. rhei	3ss	2	
	Tinct. rhei	3iii	12	
	Tinct. opii	m. xv	1	
	Spts. anisi	m. vi		35
	Spts. menth. pip.	3ii	8	
	Aq. destil.	℥vi	180	

M. Sig.: Shake. One tablespoonful three times a day; or:

℞.	Spts. chloroformi		
	Tinct. cardamom. co., āā	℥i	30

M. Sig.: One teaspoonful in water every half hour; or:

℞.	Olei cajuputi	m. iv		25
	Sacch. albi	gr. x		65
	Tinct. jalapæ	3i	4	
	Decoct. aloes comp. q. s. ad	℥iss	45	

M. Sig.: At one dose; or:

℞.	Spts. chloroformi	3i	4	
	Morph. acetatis	gr. iss		09
	Olei anisi	m. viii		50
	Olei menth. pip.	m. viii		50
	Syr. acaciæ	3ii	8	
	Aq. camphoræ q. s. ad	℥ii	60	

M. Sig.: One teaspoonful at a dose and repeat in an hour if necessary.

The *Ther. Gazette* recommends the following to relieve the flatulent colic in women:

℞.	Spts. ammon. arom.	3iss	6
	Tinct. belladonnæ	3ss	2
	Tinct. zingiberis	3i	4
	Spts. chloroformi	3i	4
	Aq. menth. viridis q. s. ad	℥vi	180

M. Sig.: One tablespoonful every two hours if necessary.

Infant Feeding.

Prof. Rotch, in a recent address before the medical students of Chicago, emphasized the importance attached to accurate knowledge of preparing food for the infant and the ability to write a proper prescription whereby it may be prepared in the laboratory. He dwelt on the fact that infants thriving on the mother's milk containing a definite amount of proteids could not be placed on artificial food containing the same amount of proteids obtained from the cow's milk. The casinogen in the proteids of cow's milk seems to be the disturbing factor, thus producing the curds present in the stools, rather than the whey proteids. According to the author the casinogen should be reduced to a minimum to begin with and make up the necessary per cent. of proteids from the whey proteids. By overlooking the presence of the casinogen we fail in our efforts, where otherwise success might be obtained. That physician, according to Prof. Rotch, is not versed in the modern methods of percentage feeding who resorts to the use of the cereal products, otherwise starch, in combination with the milk in order to reduce the curds in the stools. The presence of starch more finely divides the curds and does not reduce their quantity. When sugar is deficient in the food he also insists on making up the deficiency by adding milk sugar (lactose) and not cane sugar as recommended by some authors. He, however, favors the mother's milk if it is borne by the infant to any moderate degree rather than to resort to artificial feeding.

Medicolegal.

Test of Nature of Incorporated Hospital Association.—In the case of Craig vs. the Benedictine Sisters' Hospital Association, the Supreme Court of Minnesota follows the rule that the nature and character of a corporation must be determined from its articles of association, and that its character can not be changed or modified by oral evidence that it is not in fact such a corporation as its articles purport to make it; that, in determining the character of corporations, the articles of association are the sole guide. In this case, the association was incorporated under the provision for the formation of corporations for a pecuniary profit, and, on the face of its articles of association, appeared to be an ordinary business corporation. The court holds that evidence offered for the

purpose of showing that it was in fact a charitable association, and not what its articles purported to make it, was incompetent and inadmissible. Whether a corporation organized for purely charitable purposes, and dependent on voluntary contributions for its support, is liable in damages for the negligence of its officers and servants, the court leaves an open question, so far as it is concerned.

Contract of Physician with Voluntary Association.—In the case of McDermott vs. the St. Wilhelmina Benevolent Aid Society, an action brought by a physician against the individual members of the society, a voluntary association, to recover for professional services, the Supreme Court of Rhode Island holds that, notwithstanding the association was a voluntary one and the physician did not receive a majority of the votes cast, nevertheless he was elected the physician of the association, and the individual members thereof were bound by the contract entered into with him. It appeared that he did receive more votes than any other candidate; that the president declared him elected, and directed the secretary to notify him of his election, to which proceedings no objection was made. Under these circumstances, the court does not think that the irregularity mentioned could properly be held to render the action void. It says that it was merely a technical violation of the rule, and it was doubtless competent for the society, if it saw fit, to dispense with the formality of taking a second vote. Moreover, by allowing the president to declare the physician elected as the physician of the association without dissent on the part of any one present, his election was practically made unanimous. Besides, the court holds that, after the association had recognized the fact that the physician was occupying the position to which he had thus been chosen by directing the secretary to notify him of his discharge therefrom and subsequently choosing another "for the balance of the present term," the technical irregularity stated could not be set up as a defense to his right of recovery for services rendered. It is a matter of common knowledge, the court says, that both corporations and voluntary associations often disregard, to some extent, the strict rules of procedure prescribed in their charters or by-laws in transacting their internal affairs; but, so far as this court is aware, the courts have not held that such technical variation from prescribed forms relieved them from liability to outside parties doing business with them in good faith on the strength of what appeared by their own records to have been regularly and properly done. Of course, the court says, no authorities need be cited to support the physician's claim that the contract with the association was consummated on his depositing his acceptance thereof in the mail, the acceptance having been made within a reasonable time after notice of the election. As to members of the association who were not present when the election took place, the court says that the presumption is that each person, on becoming a member of an association of this sort, knows and consents to be governed by the rules thereof; and hence whatever action is properly taken thereunder by the association is as binding on those members who were absent at the time it was taken as on those who were present. This individual liability arises, not on the ground that the members of such an association are partners, for they are not, but on the ground that the society is their agent in the premises; and hence they are bound by its acts if done within the scope of its authority. No compensation having been expressly fixed on by the association at the time of the election, and it appearing that the physician had previously served them on certain terms, the court holds that the presumption was, in the absence of any statement or agreement to the contrary, that his compensation would be the same as that previously paid. And it thinks pertinent instructions in which the jury were told that when one enters into the service of another for a definite period, and continues in the employment after the expiration of that period without any new contract, the presumption is that the employment is continued on the terms of the original contract. An express request from the parties sued to the physician to render services for them implied an agreement on their part to pay him what his services were reasonably worth.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

March 14.

1 *Tropical Diseases—Eight Lectures in a Course on Tropical Diseases. Charles F. Kieffer.
2 Occlusion of the Superior Temporal Artery of the Retina in a Young Anemic Girl. G. E. de Schweinitz.
3 *Collective Investigation Concerning the Value of Silver-Nitrate Injections in the Treatment of Pulmonary Consumption. Thomas J. Mays.
4 *Some Points in the Management of Infectious Diseases. A. G. Young.
5 *The Treatment of Tropical Dysentery with Sulphur. T. H. Weisenburg.

1. **Tropical Diseases.**—The eighth lecture of Kieffer deals with the subject of filariasis. Of the various species of filariæ there are only two inhabiting the blood that have a pathologic importance. They are the *Filaria nocturna*, formerly called *Filaria sanguinis hominis*, and the *Filaria perstans*. The former is the cause of the well-known condition known as elephantiasis. It is found in almost all tropical and subtropical countries, as far north as Charleston, S. C. In the large majority of cases it causes no symptoms, but in exceptional instances the conditions known as elephantiasis, chyluria, etc., are produced. They may be divided into two classes, those which are due to lymph varices and those due to edema or lymphatic obstruction. The worms may block the thoracic duct or they may injure some special portions of the lymphatic system and produce elephantiasis. He describes the different conditions and remarks briefly in regard to *Filaria perstans* which is supposed by Manson to cause the Congo sleeping sickness which has become so severe a scourge in some parts of East Africa. There still remains a group of filariæ that invade the connective tissues rather than the lymph and the blood stream, the Guinea worm, the eye worm, and one or two others. Only the first of these is of special interest, as it may produce serious abscess and even death. The invasion of all forms of filaria is usually through drinking water, at least that is presumed to be the case.

3. **Silver Nitrate Injections in Tuberculosis.**—Mays has experimented with silver nitrate injections in the treatment of pulmonary consumption in fifty-two cases, with the result of arresting eleven and improving twenty-two, while seven were not improved and five died. There was a marked gain in weight in a large proportion of cases. Cough was relieved, which, he thinks, is due to stimulation of the vagus, increasing its resistance. Vomiting and night sweats were also notably relieved. He says:

> Taking a general survey of the above collection of cases, and the therapeutic results which have been obtained through them, I think it is plainly evident that the silver nitrate injections possess a decided antagonism to the pathological and complex process which we known as pulmonary consumption. It must be borne in mind, however, that in forming an estimate of the action of a new remedy it is comparatively easy to overrate its virtues and to ignore the efficacy of other influences that enhance its final effects. But, making due allowance for all such weaknesses, we have in this collection a confirmation of the results which were obtained by myself with the silver injections employed in a large number of cases more than four years ago, differing from mine in the fact that they are more forcible, because they emanate from a number of independent observers in whom the personal equation was entirely eliminated. In conclusion, I trust that this research into the clinical action of silver nitrate in the treatment of phthisis will merely be an entering wedge into this inviting field of therapeutics and will induce many others to take up the work and develop its possibilities.

The directions for giving the injections are as follows:

> Select for injection a point immediately over, or slightly behind, the pulsating carotid artery in the neck, between the angle of the jaw and the clavicle. Lift the skin between the thumb and forefinger of the left hand and puncture only immediately through the skin. Inject five minims of a 2½ per cent. solution of cocaine hydrochlorate, detach the syringe from the needle and let the latter remain in the puncture. Wash out the syringe with water, draw a 2½ per cent. solution of silver nitrate into the syringe, attach the latter to the needle and throw in 5 minims of same. Or, if cocaine nitrate can be secured, mix 6 grs. of this and 6 grs. of silver nitrate with half an ounce of water and inject 10 minims. This is a preferable method, but as yet there is very little cocaine nitrate on the market. As a rule, most of the injections should be given on the side below which the affected lung is located.

4. **Infectious Diseases.**—Young's article points out the various disorders which should be subject to notification and

isolation, including under this head tuberculosis, diphtheria, scarlet fever, typhoid fever, smallpox, pneumonia, grippe, whooping cough and measles.

5. **Tropical Dysentery.**—The results of treatment simply by the use of sulphur water of a special spring in the island of Marinduque, P. I., in cases of tropical amebic dysentery are reported by Weisenburg. The acute cases were kept quiet and simply put on a milk diet and made to drink the sulphur water of the spring exclusively and bathe in it every morning. The chronic cases were allowed to take moderate exercise, a soft diet, and take a bath twice daily and drink the sulphur water. In both classes improvement was marked. The patients gained in weight and strength and in three to six weeks were pronounced cured. A notable fact also was that dhobie itch, the prevalent skin malady of the tropics, was also cured by the same treatment. The spring is a large one and has long had a local reputation throughout the islands. Its water can be purchased in the drug stores in Manila.

Medical Record, New York.

March 14.

6 *Some Observations on Vulvovaginitis in Children (with Special Reference to the Gonorrheal Form); Its Treatment and Possible Sequelæ. Samuel W. Bandler.
7 *Clinical Notes on a Series of Nine Consecutive Cases of Ectopic Gestation. Hiram N. Vineberg.
8 *Mosquitoes, Quarantine, and Some Statistics with Regard to Yellow Fever. Quitman Kohnke.
9 *The Indications for Opening the Pars Mastoidea. L. D. Brose.
10 *Hot Decinormal Salt Solution Injections in the Treatment of Hemorrhoids. Lucien Lofton.

6. **Vulvovaginitis in Children.**—Bandler's article deals especially with the gonorrheal form, though he admits that there may be a coccal vulvovaginitis not gonococcal. The most important sequelæ in the way of permanent injury is atresia of the hymen or of the vagina, and a considerable portion of his paper is devoted to this subject. All the lesions of the adult, however, may be reproduced in children.

7. **Ectopic Gestation.**—The nine cases reported by Vineberg are of interest as illustrating special points in the occurrence of this condition. In the first there was no delayed or irregular menstruation and the diagnosis of ovarian disease was a perfectly natural one. The second was a typical case. Others were complicated, with menstrual irregularities in the normal condition, which obscured the diagnosis. Others gave symptoms of early miscarriage. In still another an attack of acute appendicitis was thought probable. In all but two there was more or less elevation of temperature. In two cases it reached 102.6 and in one 103.8. It has been generally thought that absence of fever in ectopic pregnancy is an important diagnostic point, but these cases disprove this as an invariable rule.

8. **Yellow Fever.**—Kohnke takes issue with Souchon in regard to questions of quarantine in yellow fever, holding that the mosquito theory is absolutely correct and that the sulphur disinfection of vessels for the destruction of the mosquito is a matter which is being neglected under present rules in New Orleans.

9. **Mastoid Operations.**—Brose reports a case and notes the special indications for operation on the mastoid, such as pain, fever, pressure, tenderness, percussion dullness which is uncertain and should be sought for, swelling and edema, swelling of the posterior superior bony meatus wall giving rise to narrowing or total occlusion of the meatus, fluctuation in the external swelling, which should be sought for earlier in children than in the adult. With such symptoms, if persistent eight or ten days without improvement in spite of treatment, or when they have wholly disappeared, either with or without closure of the drum perforation, and again returned in severity and persistency, mastoid operation may properly be performed. Chronic disease of the mastoid may exist for years without sufficient evidence to warrant operative interference, but there is always danger of serious complications. Operative interference is urged for those that can not be otherwise relieved. As symptomatic of pus retention, we have a sudden diminution or total cessation of a profuse ear discharge, narrowing of the meatus or clogging of the tympanic cavity by granulations or polypi, fever and symptoms of meningeal irritation. External abscess formation, with fistulous opening, leading into the middle ear or mastoid, in the adult especially, indicates operation. In children, however, drainage is good, nature may bring about a cure when assisted by local treatment. Cholesteatoma in the temporal bone may also require removal through a mastoid operation. The case reported illustrates a fatal termination following caries with acute mastoiditis. A large part of his paper is given up to the pathology of the condition and the special symptoms.

10. **Hemorrhoids.**—Lofton has employed hot decinormal saline solution injections in the treatment of piles with success in seventeen cases. The hot water burns the flesh, producing a simple scalding process which acts as does an escharotic, hence, a sloughing process must follow, resulting finally in elimination followed by granulation and a cicatrix. Owing to the great heat incorporated in this method, the albumin of the blood is immediately coagulated, and thus we have a circumscribed area of tissue walled off. The method, he says, is simple, cheap, effective, non-toxic and always safe. Boiling water thus used seems to act, in a measure, as a local anesthetic.

American Medicine, Philadelphia.

March 14.

11 *Obstinate Subacute Rheumatism. James J. Walsh.
12 *On Transplantation of Tumors. Leo Loeb.
13 *Fibroma of the Ovary with Ascites. Theodore A. Erck.
14 *Analyses of the Fluids from Two Cases of Hydrops Cystidis Felleæ. Torald Sollmann.
15 Emphysema Due to Injury of the Upper Air Tracts by Vomiting and Protracted Hysteric Eructations Following Ether Anesthesia for Appendicectomy. Frank Blatchford.
16 *Briefs on Physical Training. G. Frank Lydston
17 The Modern Maternity Hospital: Its Clinical Material Equipment and Influence upon Specialization in American Surgery. Barton C. Hirst.
18 Some Problems of Preventive Medicine. (To be concluded.) Burnside Foster.

11. **Obstinate Subacute Rheumatism.**—The failure of the salicylates in certain cases is first noticed by Walsh. He calls attention to the fact that a number of cases disagree with the general consensus of opinion in regard to the salicylates being the best remedies for rheumatic disorders. Among the conditions which may cause confusion and be erroneously treated with these drugs he enumerates gout, which he thinks is less infrequent in this country than has been supposed, certain nervous disorders, neuritis, alcohol and lead poisoning, and the joint affections of scurvy and hemophilia, influenzal and dysenteric joint symptoms, bronchiectatic and other joint disorders. He says that most of the cases of obstinate subacute rheumatism are not simple rheumatic arthritis, but consist of the joint affection developing in the presence of a diathesis, such as gout, or some blood dyscrasia, or some toxemia, or a neurosis, or a hypersensitive condition of the vasomotor system, all of which hinder the normal reaction and prevent the prompt relief of symptoms that usually occurs.

12. **Transplantation of Tumors.**—In a former article in the *Journal of Medical Research*, abstracted in THE JOURNAL, xxxix, 113, p. 399, Loeb reported the results of transplantation of sarcoma and mixed tumors. In the present communication he discusses the resisting powers of excised pieces of tumors and the influence of temperature, of preservatives, such as glycerin and potassium cyanid. He also speaks of the influence of bacterial products on the growth of transplanted pieces of tumors, the injection of tumor juice, the injection of filtrates of tumor tissue in sodium chlorid solution and, lastly, the injection of hyaline bodies to be found in pieces of tumors kept outside of the body. The conclusions to which the experiments seem to lead are given by him as follows:

A micro-organism living outside of tumor cells and passing through the pores of the Berkefeld filter is not, in all probability, the cause of the formation of sarcoma in rats.

A micro-organism living outside of tumor cells and resembling organisms like the tubercle bacillus, or belonging to the class of blastomycetes, is probably not the cause of the formation of sarcoma. Such a micro-organism would probably not be made absolutely ineffective by heating to 45 C. for half an hour. A microscopic examination of tumors not secondarily infected does not show any bacteria or blastomycetes. No giant cells characteristic of granulomas caused by the tubercle bacillus or by the blasomycetes can be found in these sarcomas.

The following possibilities remain: The formation of sarcoma is caused by an organism living outside the tumor cells, possessing,

however, a similar sensitiveness to heat as do the tumor cells themselves. Such organisms would have to be, as we may conclude from the foregoing experiments, larger than red blood corpuscles, as they seem to be unable to pass, at least under ordinary circumstances, through filter paper.

But, since a careful microscopic examination of the tumors showed no structures other than tumor cells and their products of degeneration, and since, also, injection of the hyaline bodies referred to had negative results, the existence of such organisms would seem to be improbable. Still, further experiments ought to be made before these can, with certainty, be excluded.

The remaining possibilities are that a very small micro-organism not capable of living outside of tumor cells is present; and, lastly, that a micro-organism is not the cause of tumor formation. It would, therefore, be impossible to produce tumors by the injection of micro-organisms alone, if a micro-organism incapable of living outside of tumor cells is present or if no micro-organism is the cause of tumor formation.

He adds some further results, stating that there is no appreciable period of latency in the growth of the peripheral transplanted tumor cells, that the serial sections have shown that apparently separate tumor nodules of sarcoma may be connected by rows of cells, just as Petersen showed the connection of apparently separated carcinomatous cell nests, and also that active mitotic cell proliferation takes place in tumor nodules. Sarcomatous cells are phagocytic and may take up extravasated blood corpuscles. The transplantation of sarcoma was even more frequently successful than that of carcinoma. He finds the results of transplantation of tumor cells as compared with that of ordinary tissue, seem to conclusively show that mere displacement of adult tissue, if it plays any part at all in tumor production, which is not probable, is certainly unessential. The fact that non-infected fresh pieces of sarcoma may be successfully transplanted into the majority of animals of the same species, shows that a predisposition is not the main factor which prevents or favors metastases. The transplantation of tumor cells through so many generations would seem to prove that the life of ordinary tissue may, under conditions not realized in one organism, be able to continue much longer than the individual to which they belong.

13. **Fibroma of the Ovary.**—Erck reports a case which he remarks is of interest from the standpoint of the association of ascites with solid ovarian growths. In fibroma of the uterus such complication is rare, while it is common in fibroma of the ovary. He thinks that, possibly, ascites may be due to something intrinsic in ovarian growths, perhaps a secretion.

14. **Hydrops of the Gall Bladder.**—From a chemical examination of two cases of occlusion or atresia of the cystic ducts, Sollmann deduces the following conclusions: The contents of the human gall bladder in cases of obstruction of the cystic duct, whether this is congenital or through a gallstone, consists in a dilute solution of true mucin, of the molecular concentrations of the serum, devoid of bile acids or pigments, of ferments and of sugar. Traces of coagulable proteid may be present. No nucleoalbumin was found. The gallstones producing the obstruction consisted essentially of cholesterin.

16. **Physical Training.**—In this fifth section of his series, Lydston gives the details of muscle training, calling attention to the importance of the subjects fixing their attention on special groups of muscles. He also remarks on the vital importance of training the abdominal muscles, which he believes constitute the keynote of the athlete's body. The details of his paper can be best studied from the paper itself.

New York Medical Journal.

March 14.

19 *Some of the Complications of Abdominal Surgery. Robert T. Morris.
20 *The Diagnosis and Treatment of Hereditary Syphilis. E. Harrison Griffin.
21 *Some Observations on Tuberculosis. J. O. Cobb.
22 Report of a Case of Inguinal Hernia with Incomplete Sac. J. Shelton Horsley.
23 *Transportation and the Ophthalmic Referee. Justin L. Barnes.
24 Treatment of Infantile Convulsions. (To be continued.) Adah McMahon, Edward M. Thompson, H. R. Coston, G. J. Ellis and W. D. Macon.

19. **Complications of Abdominal Surgery.**—Morris first notices the complications due to anesthesia, such as chloroform paralysis of the vasomotors, the effect of ether on the kidneys and stomach and bronchial membranes. He has never in his observation met with a death from the anesthetic, but, in a number of cases, he has been anxious. Ether complications are not certain as regards prognosis, but are usually transitory. In some cases where acute nephritis has existed this seems to have been relieved by the anesthetic. Iodoform poisoning is also noted, as well as hemorrhage. The former is often mistaken for septicemia, but there is a striking difference, in that the septic wound looks ill as well as the patient, while in iodoform poisoning the wound appears to be doing very well, while the patient is not. He has seen one death occurring from iodoform poisoning after removal of all sources of the intoxication. The danger of shock in too long operations is also important, as well as sepsis.

20. **Hereditary Syphilis.**—Griffin reports a number of cases showing the mistakes in diagnosis that have been made in regard to this condition. He remarks that it is a common mistake to suppose that Hutchinson teeth are present as a rule; in fact, they are a rarity. The reason cases are not diagnosed is largely due to the reliance placed on this rare sign, the lack of information as to the manifestations of hereditary syphilis, and neglect to examine the buccal cavity.

21. **Tuberculosis.**—Cobb reviews some general facts and theories as regards tuberculosis, and is inclined to the belief that the danger of bovine tuberculosis is not altogether an imaginary one, though he admits that nearly all human tuberculosis is contracted by inhalation.

23. **Transportation and the Ophthalmic Referee.**—The importance of eye examinations of railroad employes, etc., is insisted on by Barnes, who criticizes the methods often employed, especially by lay examiners. Complete and accurate records should be kept, and the tests be thorough for color sense, vision and hearing. Lay examiners should submit all but the simpler, less complex cases to the medical referee, who should exercise a general supervision over the whole examinations. The rules for examining should not be left to private corporations, but should be regulated by the state.

Boston Medical and Surgical Journal.

March 12.

25 On the Educational Value of the Medical Society. William Osler.
26 *Limitations of the Uhlenhuth Test for the Differentiation of Human Blood. A. E. Austin.
27 *Report of a Series of Cases of Movable Kidney. H. D. Chadwick.
28 The Composition and Alcoholic Content of Certain Proprietary Foods for the Sick. Charles Harrington.
29 A Case of Habitual Dislocation of the Shoulder Joint. J. Collins Warren.

26. **Uhlenhuth's Test.**—Austin has experimented on the Uhlenhuth test, injecting rabbits and guinea-pigs several times with human blood to produce a serum containing precipitin for the human blood. Following Uhlenhuth's directions exactly he found the test not as fully applicable as it had been represented, and that it can be employed only under very limited conditions. Other fluids of the human body, like effusions and exudates, were of little value, and fluid from placentas could only be used when it was perfectly fresh. Much longer time and more repeated injections were necessary than he had been led to suppose. His experiments are given in detail.

27. **Movable Kidney.**—Chadwick has treated, during the last three months, twenty-eight patients suffering from symptoms referable to movable kidney, some of which are described in detail. He thinks the proper treatment of the affection depends more on the severity of the symptoms than on the amount of inability. Movable kidney often causes no troublesome symptoms, but when it affects the patient's health or limits her or his usefulness, there is only one treatment—that is, fixation—that will cure this condition. Palliative treatment has been of no value in his hands.

Medical News, New York.

March 14.

30 *The Etiology of Colds. James J. Walsh.
31 *Surgical Treatment in Non-Malignant Diseases of the Stomach: Results and Indications. Henri Hartmann.
32 *The Etiology of Ectopic Gestation. Samuel W. Bandler.
33 Apparent Fetal Substitution; Medicolegal Note. Allen J. Smith.
34 *The Elective System in Medical Schools. Daniel N. Eisendrath.
35 *The Symptomatology of Tabes; an Analysis of 140 Cases of Locomotor Ataxia. Joseph Collins.

36 *Primary Tuberculosis of the Ear Followed by Mastoiditis: Report of Four Cases. M. A. Goldstein.

30. **The Etiology of Colds.**—The indefinite and little understood term, "cold," is remarked on by Walsh, who points out that cold can be only a predisposing cause, while, in most cases, it is a direct bacterial infection that occurs. Occasionally the breathing in of irritating substances may give rise to a catarrhal condition, resembling a cold. He considers that the method of steam and hot water heating in our houses, making no provision for the moisture necessary to keep the air in a properly humid condition, is especially favorable to the production of colds, particularly when it is suddenly changed to the cold air outside. He also notes that such effects are apt to occur when an individual comes out of a warm room, where a large number of persons is assembled or in which there has been considerable dust present, because of the movement of the crowd, dancing or gymnastics. Such places, moreover, are often absolutely shut off from sunlight, theaters particularly, and lose the benefit of this great bactericide. Delicate individuals should be warned of the necessity for avoiding such places, and stronger persons should not go immediately to the outer air without a preliminary delay in the corridors or foyer. Colds in the muscles are also mentioned, which are more often spoken of as neuralgia or rheumatism. The mechanism seems to be paralysis of the vasomotor apparatus in the parts from chill. A striking indication that a cold is due to microbic invasion is the fact that the process is nearly always accompanied by the occurrence of fever. Chilliness gives an indication for the first step in treatment, the elimination of toxic matters from the blood. The use of remedies that tend to lock up the secretions at the beginning of a cold is almost sure to be harmful.

31. **Gastric Surgery.**—The importance of early diagnosis as affecting the mortality of operation is first noted by Hartmann, who has examined twenty-nine patients operated on, noting the results of operation, and finds in non-malignant disease real and permanent benefit is the rule. Some special indications should be followed. A correct diagnosis is important. Atonic dilatation is rarely an indication for surgical interference; medical treatment will suffice. In pyloric stenosis operation is indicated as soon as the diagnosis is made, especially in all fibrous pyloric strictures. We can not be so positive in cases of ulcer of the stomach, as ulceration without complications is generally cured by medical treatment. In chronic ulcer he thinks that surgical treatment is indicated only when mechanical troubles exist and give the pyloric syndrome. Even if this be cured, the diseased cicatrix will produce a fibrous stricture more serious than the previous condition. He does not consider excessive hematemesis an indication for operation, but small and repeated hematemesis requires it. As to operation, he would only perform gastrectomy where an epithelial grafting is feared. Pyloroplasty of the German surgeons is not possible in cases of ulcer or of fibrous strictures of the pylorus in consequence of the rigid state of the tissue. Its rôle is a very limited one; he does not perform the operation. Gastroenterostomy seems, in the non-malignant diseases of the stomach, the best operation. With his technic, which he has described in his *Chirurgie Gastro-intestinale*, he has not observed one case of circulus viciosus in his 53 operations.

32. **Ectopic Gestation.**—Bandler reviews the causes of ectopic gestation and concludes that injury to the cilia is the chief, if not the sole, etiologic factor.

34. **The Elective System in Medical Schools.**—Eisendrath points out the benefits of the elective system in the last two years of the medical course, especially in our large institutions of the present time where otherwise direct contact with the teacher is not so practicable.

35. **Tabes.**—Collins finishes his article on tabes and gives the following percentage of the frequency of the most conspicuous subjective and objective symptoms: Lancinating pain, 90; Romberg sign, 85; loss of Achilles-jerk, 88; loss of knee-jerk, 84; Argyll-Robertson pupil, 77; ataxia of gait, 73; hypotonia, 72; paresthesia, 73; anesthesia, 67; analgesia, 58; bladder symptoms, 55; impotency, 50; crises, 20; ocular paralysis, 10; arthropathies, 5; trophic symptoms, 8; optic atrophy, 14; girdle sensation, 50; deep sensibility, 63; diplopia, 22.

36. **Primary Tuberculosis of the Ear Followed by Mastoiditis.**—Goldstein reports four cases which he considers were primary tuberculosis infection and feels justified in this diagnosis. All of these cases, he says, were seen more than three years ago; 3 are still living, and careful physical examination fails to show any present tubercular affection. There are no evidences in the histories of these cases or in their clinical development, either of acquired or hereditary tuberculosis in the families of these patients. Of the 4 cases, 3 involved the mastoid cells extensively, and showed an unusually active and rapid invasion. All of the cases developed from a pre-existing otitis media suppurativa chronica, and appeared to him as direct infection by the bacillus tuberculosis. In the 3 cases where the mastoid operation was performed, the wounds healed by firm granulations, and all evidences of tuberculous trouble ceased with the removal of the local process. This is in direct contrast to the healing of wounds in patients where the systemic tubercular invasion is present. The data which have been furnished in the cases herein reported all point to definitely localized specific infection of the cavum tympanum and mastoid cells, with the characteristic development of a tuberculous process as it occurs in bone tissue, and with the definite demonstration of the bacillus tuberculosis in 1 case.

St. Louis Medical Review.

March 14.

37 Postmortem and Chemical Findings in Acute Arsenical Poisoning and Phenol Poisoning. R. B. H. Gradwohl.
38 Some Remarks on the Clinical Aspect and Diagnosis of Incipient Tuberculosis. Arch Dixon, Jr.

Cincinnati Lancet-Clinic.

March 14.

39 Paraffin Injections in Facial Deformity. John W. Murphy.
40 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Surgery of Pancreas.) B. Merrill Ricketts.

Medicine, Detroit.

February.

41 *Lateral Curvature of the Spine. James K. Young.
42 *Some Practical Thoughts on Pneumonia. J. M. Anders.
43 *Some Problems of Tuberculosis. Roland G. Curtin.
44 *An Examination into the Value of Certain Antiseptics Used for the Preservation of Antitoxic and Other Immune Serums. Joseph McFarland.
45 Problems in the Laboratory Study of Diphtheria. F. F. Westbrook.

41. **Spinal Curvature.**—The causes, mechanism and treatment of lateral curvature of the spine are described at length by Young, who treats it by developing the weak muscles by collective or individual exercise, slightly over-developing them; later uniform development of all the muscles, and the use of special movements to prevent relapse. He divides the condition into three degrees: If the curvature entirely disappears on self-suspension it is of the first degree; if it is somewhat affected, but not entirely corrected, it is of the second; and if not affected whatever it is of the third degree. In the latter cases, the prognosis, of course, is very much more unfavorable. The first degree may be cured, the second influenced by treatment, but the last is incurable.

42. **Pneumonia.**—The increase of pneumonia in recent years is noted by Anders, who gives statistics to show that it is a fact. He thinks it may be due to a great extent to certain degenerative tendencies of modern life, and mentions especially the enormous consumption of malt liquors, which has a bad effect in this particular way. As to its contagion he holds there is good reason to regard it as a fact, notwithstanding the denial by Aufrecht. Pneumonia due to the streptococcus has been common of late years, and he calls attention to the differences between that and the ordinary pneumococcic form. It may assume the type of so-called serous pneumonia, which is really a streptococcic process. There are cases of pneumonia that seem to answer clinically to the variety known as typhoid pneumonia, but he finds that many of these are of pneumococcic origin. The typhoid pneumonia and the asthenic type have become much more common of late years, and he attributes them to the causes first mentioned. Leucocytosis

has been attracting attention. He finds a mild form occurs in light cases, but not so commonly as in malignant types. The highest count usually occurs immediately before the crisis and falls remarkably afterward. Jaundice, when it occurs, he thinks, may be in exceptional instances due to an intense toxemia, but it is in nearly all cases an obstructive jaundice. The diagnosis of aberrant cases may be difficult. The treatment is unsatisfactory. We should use prophylactic measures, disinfection of sputum. We have nothing that will destroy the infecting organism, but we should promptly interfere when cardiac weakness or systemic exhaustion threatens. He has much confidence in oxygen by inhalation and also in normal saline solution; hydrotherapy in many cases meets the indications better than drugs.

43. **Tuberculosis.**—Curtin discusses the contagiousness of tuberculosis, which he thinks has been over-estimated; also the futility of legislation against it. He puts considerable stress on the heredity of the condition favoring an outbreak of the disease, and gives cases to show that pulmonary defects in parents before the birth of a child may leave their impression on the pulmonary tissues of the offspring.

44. **Antitoxin Preservatives.**—McFarland finds that formaldehyd is the only really effective antiseptic in antitoxin cultivation. Unless the pain it causes or the poisonous influence of phenol should be held to outweigh the advantages of trikresol, he would recommend that the use of the latter be abandoned.

International Medical Magazine, New York.

February.

46 *Etiology of Catarrh of the Nasopharynx. Charles W. Richardson.
47 *Do Nasal Diseases in Any Way Predispose to or Cause Pulmonary Disease? E. L. Shurly.
48 *Can Hypertrophic Rhinitis Be Cured by Other Than Surgical Measures? Jacob E. Schadle.
49 *Chronic Nasal Catarrh in Its Relation to Asthma. P. J. H. Farrell.
50 *Galvano-cautery in Hypertrophic Rhinitis. Carl Seiler.
51 Etiology and Pathology of Catarrhal Conditions of the Nasopharynx. D. Braden Kyle.
52 The Influence of Catarrhal Diseases of the Nose and Throat in Producing Speech Defects in Children. G. Hudson Makuen.
53 Atrophic Rhinitis. J. A. Stucky.

46. **Nasopharyngeal Catarrh.**—Atmospheric changes as a cause of catarrh of the respiratory tract are first noted by Richardson, who says the occurrence of acute colds in rapid succession sets up a true catarrhal condition, while the modern methods of house-heating, imperfect ventilation, the excessive use of tobacco, alcohol and so on, all have their influence on the production of the disease. Improper clothing is also another important cause. He notices the digestive disorders which may follow it. The constitutional disorders which may predispose, such as lithemia, rheumatism, neurasthenia, tuberculosis, and so on, the local changes in the nasal chambers such as septal deformities, also causing alterations of the mucosa, which are followed by similar changes in the pharynx, are noted.

47. **Nasal and Pulmonary Disease.**—Shurly concludes from a study of chronic nasal affections that it is not feasible to regard chronic nasal or nasopharyngeal disease as especially concerned in producing chronic pulmonary disease. As regards acute pulmonary disease, there are certainly conditions which invite attacks by continuity, producing bronchitis, pneumonia and so on, and making the subjects more liable to other diseases.

48. **Hypertrophic Rhinitis.**—In answer to the question in the title of his article, Schadle gives a definite "No." He discusses the causes of hypertrophic rhinitis, the methods of treatment, the acid caustic method, the use of the electrocautery, of which he is an advocate and the use of the snare for papillary hypertrophy.

49. **Nasal Catarrh and Asthma.**—Eighty per cent. of Farrell's asthmatics were cured by removal of the abnormal condition of the nasopharynx, classed under the general head of chronic nasal catarrh. Of the remaining 20 per cent. one-half were benefited. He has never failed to cut short an acute attack, no matter how severe, with a hypodermic injection of codein or morphin. Atropin 1/100 hypodermically or 2 per cent. cocain solution applied to the nasal chambers he has found will give equally prompt relief. He says in the search for the underlying cause of the bronchial spasm, eliminate cardiac trouble, renal disease, gastric and intestinal disturbances, chronic bronchitis, rheumatism, gout and all dyscrasias of the blood, and then examine the nose and throat. Whatever may be the pathology of asthma, the exciting cause is frequently found in the nasal chambers and the greatest number of cures results from removal of such causes.

50. **Hypertrophic Rhinitis.**—The galvanocautery in this condition has been advocated by Seiler, who describes the technic. He has also found it exceedingly valuable in hay fever if the following simple precautions are observed: Not to attempt any cauterization until the paroxysm is completely passed and all inflammation has subsided, as in the winter months; to cauterize only the small areas of irritability which can be brought into view by the touch of the tip end of a probe, but without cocain, as this drug prevents the erection of the turbinate tissue and interferes with the sensitive spots becoming visible; never use the flat surface of the knife and never cauterize more than three or four of the sensitive spots at one sitting and then in one anterior nasal cavity only. He would not apply it in the posterior pharynx nor during the stage of acute inflammation.

Archives of Ophthalmology, New Rochelle, N. Y.

March.

54 *A Case of Primary Epibulbar Sarcoma, with Secondary Growths in Limbus and Sclera, and Invasion of the Choroid, Ciliary Body, and Iris. Frederick H. Verhoeff and Robert G. Loring.
55 The Accuracy Requisite in Vision-Testing. Kenneth Scott.
56 The Ophthalmoscopic Appearance of the Ora Serrata and the Ciliary Processes. M. Reimar.
57 On Indirect Ruptures of the Iris. Georg Levinsohn.
58 On the Anatomy of the Ganglion Cells of the Retina. G. Abelsdorff.
59 *A Contribution to the Differential Diagnosis between Glioma of the Retina and Pseudoglioma. Julius Fejér.
60 On Paralysis of Latero-version. Otto Wernicke.

54. **Primary Epibulbar Sarcoma.**—Verhoeff and Loring report a case of interest as showing the malignancy of this condition, which they discuss at length. Their conclusions are given in substance as follows: Epibulbar sarcoma differs from the usual form in malignancy only so far as it is isolated on the highly resistent cornea and sclera, and comes to operation relatively small. Notwithstanding its malignancy, it rarely penetrates the eye. Recurrences almost invariably, sooner or later appear after abscision and general metastases are not infrequent. Immediate enucleation should be advised in all cases after microscopic diagnosis, but the patient should be consulted as to operation after having been fully informed as to the unfavorable prognosis. They give a brief résumé of the cases reported and an extensive bibliography.

59. **Glioma and Pseudoglioma of the Retina.**—Fejer reports a case and discusses the diagnosis and symptoms of the condition. Errors of diagnosis can not well be avoided.

Louisville Monthly Journal of Medicine and Surgery.

March.

61 Pneumonia, with Some Unique Complications. B. A. Allan.
62 *The Surgical Value of the Stomach Tube and the Rectal Tube. Horace J. Whitacre.
63 The Ultimate Results of Treatment in Uretero-Vaginal Catarrh of Virgins. John A. Hale.
64 Simple Mania. Cassius D. Mansfield.
65 The Treatment of the Third Stage of Labor. Turner Anderson.

62. **The Stomach and Rectal Tube.**—The surgical uses of these instruments are enumerated by Whitacre, who deals particularly with their therapeutic uses. The stomach tube, for instance, is of special value in intestinal obstruction, in appendicitis and in emptying an overfull stomach. It is of special value, also in cases of cancer of the stomach. It ought also to be employed more where operation has to be performed without preparation on a full stomach, and he thinks the persistent vomiting after anesthesia can often be relieved by washing the stomach out before the patient has left the operating table and while still under the influence of the anesthetic. The uses of the rectal tube are numerous. He mentions espe-

cially the value of high enemata in the treatment of disease where it is not advisable to give nourishment by the mouth, as in appendicitis or other peritoneal affections, also for moving the bowels after abdominal operations. Rectal feeding is also described. We should bear in mind that the rectum does not digest, therefore proper foods should be used and injected at the proper temperature, about 100 F., in the upper part of the rectum. Not more than four to six ounces should be given at one time. The interval between feedings should never be less than four hours, and preferably five or six. The rectum should be washed with sterile salt solution at least one hour before each feeding. The catheter and syringe should be kept in an aseptic condition and the bowels moved daily by a simple soapsuds enema.

Proceedings of the Philadelphia County Medical Society.

February 28.

66 Nephropexy in a Case of Chronic Nephritis. J. Norman Henry.
67 *An Inquiry into the Value of the Irrigation Method as a Means of Aborting and Treating Acute Specific Urethritis. Orville Horwitz.
68 *Trunecek's Serum and Its Value in Disturbed Cerebral Functions Caused by Circulatory Changes, with Reports of Twelve Cases. Alfred Gordon.
69 Report of a Case Illustrating Importance of Operation in Certain Cases of Facial Paralysis. Levi J. Hammond.
70 The Treatment of Carcinoma of the Rectum by Mercuric Cataphoresis. G. Betton Massey.

67. **Gonorrhea.**—The defects of the irrigation method are reviewed at length by Horwitz, who concludes that it will not abort specific urethritis, though it will hasten the terminal stage which is prolonged and difficult to cure. Chronic urethritis and involvement of the deep organs are common sequences. To effect a cure in the later stages of the disease irrigation must be discontinued and other methods employed. It should not be employed in the acute stage of specific urethritis nor should irrigations in the deep urethra by hydrostatic pressure be used in the majority of cases of acute gonorrhea as it is conducive to the development of complications.

68. **Trunecek's Serum.**—This serum, as modified by Léopold-Lévi, has been used by Gordon in a number of cases of arteriosclerosis with considerable benefit in some of them. Its combination in this modification is sodium chlorid, 10 gm.; sodium sulphate, 1 gm.; sodium carbonate, 0.40 gm.; sodium phosphate, 0.30 gm.; calcium phosphate and magnesium phosphate, of each, 0.75 gm. The mixture makes thirteen powders. Each powder corresponds to 15 c.c. of the fluid serum, or 150 c.c. of blood serum. The method employed by Gordon was the internal treatment. He concludes that this combination may be a valuable remedy in some cases of disturbed cerebral function caused by circulatory changes, and this not only by hypodermic and intravenous administration, but also internally. When the iodids, nitrites and other means used in such cases are without avail, Trunecek's serum should be given a trial. Sometimes a combination of both may be necessary. Several days, at least a week, must elapse before the desirable results can be expected. There are cases, however, in which the remedy is absolutely useless.

California State Journal of Medicine, San Francisco.

February.

71 *Symposium on Hydrotherapy—Hydrotherapy. George A. Hare.
72 *Hydrotherapy in Typhoid Fever. Frank L. Adams.
73 *Hydrotherapy in the Treatment of Pneumonia. A. J. Sanderson.
74 *Spinal Anesthesia with Tropa-cocain in Genito-Urinary Surgery. M. Krotoszyner.
75 On Ptomaine Poisoning. E. O. Jellinek.
76 Supplemental Report on Hygiene. H. J. Crompton.

71.—See abstract in THE JOURNAL, xxxviii, p. 1265.

72. **Hydrotherapy in Typhoid.**—Adams' article treats of the advantages of hydrotherapy in typhoid fever, giving statistics showing the decrease of mortality under the improved methods in this disease, from between 40 and 50 per cent. down to almost nothing under skilled care. The technic of the Brand method is described and the objections answered. The beneficial effects of the bath are enumerated at length, also the conditions which contraindicate and do not contraindicate it. Among the former he includes severe hemorrhage, extreme cardiac weakness, peritonitis, great reduction of strength in the third week of the fever, perforation, severe pneumonia or pleurisy and extreme nervousness on the part of the patient in some few cases. For the aged and enfeebled it would also require some modifications. In conclusion, he gives a summary of answers of correspondents in California as to their methods, showing the large percentage in favor of this method of treatment.

73. **Hydrotherapy in Pneumonia.**—Sanderson advises the use of hydrotherapy in pneumonia and describes the method of applying it, the full body pack, leg pack, cold compress, fomentations, cold friction, bowel irrigation, etc.

74. **Tropa-Cocain Anesthesia.**—Krotoszyner has used tropacocain for spinal anesthesia in some 120 cases and highly recommends it. He has never observed the excruciating headache sometimes following cocain injections, and only in a very few cases any disagreeable symptoms whatever. The only danger with this method of anesthesia is in sepsis to the spinal canal and, therefore, he does not use it in private houses. Thus far he has not had a mishap and thinks it no more dangerous than any other form of anesthesia.

Southern Practitioner, Nashville, Tenn.

March.

77 *Treatment of Malaria. D. B. Blake.
78 *Remarks on Surgery of the Prostate Gland. James W. Handley.

77. **Malaria.**—The paper of Blake covers the subject very completely, adopting in full the mosquito theory and insisting on prophylaxis as far as possible by extirpation of the mosquito. He thinks probably the best larvicides are the aniline dyes recommended by Celli, though he has not yet been able to obtain them. Fish in waters are very like dragon flies in the air and are only an adjunct to other methods of destruction of the mosquito. The most important measure of all is protection of houses by wire netting. The location and construction of the dwelling is a matter of some importance. The anopheles do not fly high or far, and it is well to build on elevations, as far as possible from breeding places, and sleep on the second and third floors, having the windows well screened. While quinin is a specific, its use requires some skill and the best time to administer it is at such periods as will ensure the presence of the remedy in the blood in sufficient quantities when it is most flooded by the parasites. The end of the febrile period seems to be the most favorable time. When symptoms are urgent, however, we can not wait for this, and the drug should be given as soon as possible and in such quantities as may ensure its absorption, with other remedies to relieve glandular torpor, and sometimes hypodermics of morphin, if not contraindicated, at the onset of the cold stage may be of use. In some cases with gastric irritability, administration of medicines must be per rectum. Next to the cinchona preparations, arsenic is the most reliable drug. He advocates popular education on the subject of malaria and its prevention as one of the valuable methods of aiding sanitation.

78. **Prostatic Surgery.**—Handley favors Wishard's method of combined perineal section and Bottini cauterization.

The Laryngoscope, St. Louis.

February.

79 *Congenital Cleft of the Palate—A Further Report upon the Operative Technic and Its Results. James F. McKernon.
80 *The Falsetto Voice; Origin and Respiratory Treatment; Dental Irregularities. Marcel Natier.
81 *Excision of the Epiglottis for Lupus. Talbot R. Chambers.
82 Perichondritis of the Larynx. Marshall R. Ward.
83 Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature. Jonathan Wright.

79. **Cleft Palate.**—McKernon describes at length his technic of operation and speaks strongly in favor of tracheotomy as an adjunct. The patient can thus be treated as if the operation were anywhere else in the body, the patient breathing freely through the tracheal tube. The length of time required is reduced fully one-half, and the danger of getting fluid into the trachea, etc., is very much lessened. The operation generally seems successful.

80. **The Falsetto Voice.**—From the study of a case observed which is illustrated by tracings, Natier finds that the falsetto voice is caused by respiratory troubles, which can be corrected

by respiratory gymnastics as the most efficient and rapid method of treatment.

81. **Excision of Epiglottis.**—Chambers reports a case, the second on record at the time of his operation, which was done for a condition which seems to have been lupus, though another diagnosis had also been made.

New Yorker Medicinische Monatschrift.

January.

84 *Die Grenzen zwischen vaginaler und abdominaler Coeliotomie. H. J. Boldt.
85 *Erfahrungen mit perinealer Prostatectomie. F. Kammerer.
86 Xanthoma tuberosum diabeticorum. Edward Pisko.

84. **Vaginal and Abdominal Celiotomy.**—Boldt advises the vaginal operation in a large number of conditions. Suppurative salpingitis, where the pus sacs are low in the pelvis, he would treat by opening through the vagina and drainage, a method which he has employed in some thirty-seven cases, producing nine symptomatic cures, fifteen improvements and only five had to be radically operated on later. He would also use it for ovarian tumors not larger than a man's head, which can be reached through the Douglas cul-de-sac, in degenerative ovaries which produce uncomfortable symptoms, in abscesses of the ovaries and all suppurations which are operable through the vagina. Uterine myomas should only be attacked when they produce uncomfortable symptoms. Submucous myomas amounting to 10 cm. in diameter can be attacked from below by slitting the anterior uterine wall. Small subperitoneal myomas rarely cause trouble. If the whole uterus is to be removed the abdominal method is to be preferred, since, by this method, one can leave intact the adnexa with a part of the endometrium, as recommended by Zweifel. Nervous phenomena and following hysteria are not so likely to occur. He considers, for operations on the uterus for displacements and retroflexions, that the Alexander is the ideal operation. He would close the wound by the Bassini hernia method in case of no suppuration. In mobile retroversions he would not advise opening the abdominal cavity, but the condition is different in fixed retroflexions. Vaginal celiotomy in extrauterine pregnancy is limited to those cases in which the diagnosis is made before rupture and, secondly, to those where hematocele has already formed and expectant treatment is contraindicated. In cancer of the uterus abdominal extirpation has had many supporters. Whether statistics will favor their views time alone will tell. He is at present of the opinion that the vaginal radical operation, with the aid of the galvanocautery, may give as good results as abdominal operations.

85. **Prostatic Hypertrophy.**—Kammerer favors the perineal method in this condition. It radically removes the trouble and prevents relapses. Its mortality is not greater than after the galvanocaustic method.

Memphis Medical Monthly.

February.

87 The Nature and Treatment of the Dyspepsia in Consumptives. Paul Paquin.
88 *The Treatment of Acute and Chronic Dysentery. M. Goltman.
89 Kidney Complications in Estivo-autumnal Fever. Ira B. Bartle.
90 A Case of Smallpox, with Sequelæ. W. T. Braun.

88. **Acute and Chronic Dysentery.**—The conclusions warranted by Goltman's experience are given by him as follows:

1. The treatment of dysentery, acute or chronic, by topical application is most rational. 2. Topical applications are useless unless large volumes of fluid are used to distend the bowel. 3. Topical applications, as usually made, are very painful in all cases, particularly in those that are acute. 4. Topical applications, to be thorough and far-reaching, are unbearable to the patient, on account of the extreme pain they cause. 5. Anal divulsion is a prime factor in facilitating the work of flushing the colon. Resistance to the escape of fluid is removed, and it markedly relieves the tenesmus. 6. Anal divulsion, cauterization of ulcers through the proctoscope, passage of a tube high up into the sigmoid through this instrument and thorough distension and flushing of the gut are absolutely impossible without the aid of anesthesia. 7. Anesthesia rather relieved than produced shock in my cases. These patients seemed to take as kindly to chloroform as women in childbirth. 8. In my judgment, one is more likely to overdistend and perforate the gut without anesthesia than with it.

Medical Review of Reviews, New York.

February 25.

91 *Food Preservatives: Their Use and Abuse. Willis G. Tucker.
91½ A Case of Exhibitionism. W. L. Robins.

91. **Food Preservatives.**—Tucker reviews the various methods used for preserving foods, and holds that borax, which has long been used, is not particularly deleterious in the quantities in which it may be ingested in food thus preserved. Still, he thinks it will be advisable to prohibit its use in milk, but not in certain other food products, such as those where small amounts are required, as in butter, cheese and cream, and in dusting of ham or bacon. Salicylic acid has been largely used and, if limited to such things as catsup, which is used in small quantities at a time, it is not likely to do harm, but if used in beer or drinks, of which large quantities may be taken, it is very objectionable. Benzoic acid is considered to be somewhat less objectionable, but its indiscriminate use should not be sanctioned. If, for example, it were added to cider in the maximum quantity recommended, a quart might contain as much as 12 grains, which is certainly too much. The sulphites and bi-sulphites should not be permitted in food. Formaldehyd is principally used in milk, and this ought never to be permitted. It directly interferes with digestion. Betanaphthol is another preservative which should be viewed with disfavor. Saccharin is, perhaps, somewhat better. He is inclined to doubt the wisdom of absolutely prohibiting its employment in the present state of our knowledge. The fluorids are supposed to be comparatively rarely used in this country, but he thinks, perhaps, their use is not so uncommon, and the subject needs further investigation. Pyroligneous acid is used as a substitute for smoking meats and, while we are not perhaps justified in saying that foods thus preserved are injurious, they certainly should not be called "smoked" or sold as such. Abrastol or asaprol, the calcium salt of betanaphthol-sulphonic acid, which possesses marked antiseptic properties, has been more or less used as a preservative, but would seem to belong to a class of compounds which should not be permitted. He thinks, however, that too much extreme legislation should be discouraged. The specific prohibition of certain articles not universally conceded to be harmful is unwise, especially as our present laws specifically forbid the addition to foods of any poisonous substances or any that may render such article of food injurious to the health of the person consuming it, as is now the case in many of the states. He thinks, however, that it would be a good law that would require in the case of every food article, in the preparation of which preservatives other than certain articles, such as sugar, salt, etc., are employed, the fact of such employment and the quantity used, plainly stated on the package. Massachusetts has recently passed a law of this description.

The Post-Graduate, New York.

March.

92 *Aseptic Preparation for Surgical Work in Country Practice. R. T. Morris.
93 Methods and Means for Treating Gonorrheal Urethritis in the Male. James Pedersen.
94 Notes from the Clinics: Epistaxis. Bryan D. Sheedy.

92. **Aseptic Preparations.**—The methods of country surgical practice are mentioned by Morris, who tells how to provide for, impromptu, some of the necessities, such as absorbent cotton, sterilization of vessels and instruments. He advises avoidance of absorbent dressings directly to the wound. As to disinfection of the hands, he considers it can be done fairly well by using a 2000 bichlorid of mercury solution for two minutes and, still better, by scrubbing the hands in a mixture of carbonate of soda, chlorid of lime and water, in which the nascent chlorin gas penetrates the interstices about the nails and hair roots. This gives him the best results in hand sterilization. He is experimenting with a method which, he thinks, will be of value, using a germicidal depilatory for removing the hairs, etc., on the surface about to be operated on. He deprecates the disuse of anesthetics in certain lesser operations, dressing of burns, etc., in country practice and in the smaller towns, and believes that we can not do as good work unless we anesthetize in such cases.

Virginia Medical Semi-Monthly, Richmond.

February 27.

95 1. Cirsoid Aneurism of Scalp. Treated by Ligation of Both Common Carotid Arteries. 2. Chronic Posterior Urethritis. Treated by External Perineal Urethrotomy and Drainage. 3. Lupus. Treated by the X-Ray. Stuart McGuire

96 Surgery of Penetrating Wounds of Lungs and Heart (Experimental). Benj. Merrill Ricketts.
97 The Mechanics of Mercury in Syphilis. Thomas W. Murrell.
98 Hystero-asthma; Report of an Illustrative Case, Cured by Tincture of Stramonium. John Randolph.
99 Report of a Case of Rattlesnake Bite. Charles H. Grandy.
100 The Causes and Complications of Gout. John N. Upshur.
101 Acetozone in the Treatment of Gonorrhea in the Female. C. E. Dowling.

Medical Fortnightly, St. Louis.

March 10.

102 Some Cases of Functional Nervous Disease. Charles G. Chaddock.
103 Some Points in the Treatment of Functional Disorders in the Sexual Organs of the Male. Frederick R. Sturgis.
104 Surgery of the Heart—Illustrated with 50 Stereopticon Slides. Benjamin M. Ricketts.
105 Diseases of the Lungs and Pleura—Pulmonary Atelectasis. Albert Abrams.

Journal of Medical Research, Boston.

February.

106 Products of Prolonged Bacterial Action on Proteins. A. E. Austin.
107 Ring Bodies (Nuclear Remnants?) in Anemic Blood. Richard C. Cabot.
108 Experiments Relating to the Question of Fixation of Strychnin in Animal Tissues. S. J. Meltzer and G. Langmann.
109 Note upon Erythragglutinins in a Cyst Fluid. Walter R. Brinckerhoff and Elmer E. Southard.
110 *The Influence of Nephrectomy upon Absorption—An Experimental Study from the Rockefeller Institute for Medical Research. S. J. Meltzer and William Salant.
111 On Fatty Degeneration. Alonzo E. Taylor.
112 Experimental Fat Necrosis. H. Gideon Wells.

110.—This article appeared elsewhere. See THE JOURNAL of February 7, ¶6, p. 400.

Annals of Gynecology and Pediatry, Boston.

March.

113 Good Vision an Important Factor in the Educational Process. S. D. Risley.
114 Children in Cities. Rosa Engelmann.
115 *Albugineotomy in Chronic Orchitis, with Report of Case. Emanuel J. Senn.

115.—Ibid January 24, ¶89, p. 272.

Buffalo Medical Journal.

March.

116 Henry de Mondeville, the Man and His Writings. (Continued.) Charles Greene Cumston.
117 Medical Expert Testimony. Carey D. Davie.
118 Some of the Causes Leading to and Producing Suppuration. Francis W. McGuire.

Indiana Medical Journal, Indianapolis.

March.

119 The Eye and Ear Complications of Measles. L. D. Brose.
120 A Note on the Treatment of the Chancre. Isadore Dyer.

Providence Medical Journal.

March.

121 The Lorenz Method. Frank E. Peckham.
122 The Blood in Malarial Fevers. Henry A. Cooke.
123 The Control of Hemorrhage by Gelatine, with a Report of Three Cases. W. Louis Chapman.
124 Some Remarks on the Present Day Treatment of Pulmonary Tuberculosis. Jay Perkins.
125 First Conviction for Abortion in the State of Rhode Island. Douglas P. A. Jacoby.
126 Remarks on Cremation. William J. Burge.

Maryland Medical Journal, Baltimore.

March.

127 A Case of Aneurism of the Aorta of Twenty-five Years' Duration. Jose L. Hirsh and Morris C. Robins.
128 Some Renal and Ureteral Cases—Calculus and Tuberculosis. Hugh H. Young.

Journal of Advanced Therapeutics, New York.

March.

129 Electrolysis and Its Therapeutical Application. Robert Newman.
130 The Diffusion of Iodin by the Electric Current. M. F. Wheatland.
131 Results and Technic in Treating Epithelioma with X-Rays. Emil H. Grubbe.
132 The Therapeutic Uses of the Brush-Discharge, and Induced High-Frequency Discharges of Vacuum Electrodes and Geissler Tubes. William B. Snow.

Woman's Medical Journal, Toledo, Ohio.

February.

133 Neurasthenia. Margaret A. Freece.
134 The Nurse of the Future. Helen MacMurchy.
135 Impressions of Vienna. Anna E. Blount.

Transactions of the Chicago Pathological Society.

January 12.

136 Bacteriologic Study of the Blood in Thirty Cases of Clinical Typhoid Fever, Two of Which Proved to Be Paratyphoid and One Doubtful. E. H. Ruediger.

Canadian Journal of Medicine and Surgery, Toronto.

March.

137 The Sanatorium—Its Importance in the Crusade Against Tuberculosis. J. H. Elliott.
138 A Plea for the Open Method of Treating Fractures of the Patella. F. N. G. Starr.
139 Address, Provincial Board of Health of Ontario. Harry E. Vaux.
140 Report of a Fatal Case of Secondary Hemorrhage, Four Days Following the Removal of Adenoids. Perry G. Goldsmith.

Toledo Medical and Surgical Reporter.

March.

141 The Cure of Cancerous, Intractable and Destructive Diseases by the X-Ray. John A. Wright.
142 Vaccination. Park L. Myers.
143 Version. J. D. Salvail.
144 Fundus Lesions and Their Relation to General Diseases. George F. Suker.

Memphis Medical Monthly.

March.

145 An Essay on Blindness. E. C. Ellett.
146 Some Further Observations in Diphtheria and Its Serum Treatment. O. S. McCown.
147 Gunshot Wounds, with Reports of Cases. H. S. Wolff.
148 Some Remarks on Appendicitis, with Description of a New Suture. J. P. Runyan.
149 Prosthetic Surgery of the Face. J. E. Johnson.
150 Report of a Case of Puerperal Septicemia Treated by Intravenous Injection of a Solution of Formalin. Frank D. Smythe.
151 A Suggestion in the Therapeutics of Hemoglobinuria. H. C. Stinson.

Medical Times and Register, Philadelphia.

February.

152 Moist Antiseptic Dressing in Minor and Semi-Major Surgery. Lucien Lofton.
153 Cephalalgia and Its Treatment. Henry B. Hollen.

Physician and Surgeon, Detroit and Ann Arbor, Mich.

December, 1902.

154 William Beaumont as a Scientist. John Nelson Goltra.
155 William Beaumont and His Work. Victor C. Vaughan.

Mobile Medical and Surgical Journal.

February.

156 Diagnosis and Treatment of Gallstones. W. E. B. Davis.
157 Causes and Treatment of Cystitis. M. L. Davie, Jr.
158 Antipyretics. Henry Green.
159 Alcoholism and Crime. P. M. Lightfoot.
160 Recent Clinical Notes (Malarial Hematuria, Vomiting in Pregnancy, Etc.). F. A. Webb.

Merck's Archives, New York.

March.

161 Neurasthenia in the Male. (To be concluded.) H. Edwin Lewis.
162 Therapeutic Value of Turpentine. J. Dabney Palmer.
163 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

International Journal of Surgery, New York.

March.

164 A Contribution to the Study of Quinsy with Complications, with Seven Cases Illustrating Operation and Treatment. Frank E. Miller.
165 Nose and Throat Work for the General Practitioner—Tracheotomy. (Continued.) George L. Richards.
166 Briefs on Genito-Urinary Diseases; Note on the Incubation Period of Gonorrhea in Women. G. Frank Lydston.
167 The Surgical Assistant. (Continued.) Walter M. Brickner.
168 The Technics of Amputations. Robert H. Cowan.
169 A Contribution to the Surgery of Uretero-vesico-vaginal Fistula. R. C. Hill.

Medical Times, New York.

March.

170 Generation and the Law of Sex. Wm. More Decker.
171 Points of Interest to the General Practitioner. J. Lee Fowler.
172 Modern Antisepsis. Wm. R. Brubaker.
173 The Urine and Kidneys in Health and Disease. A. N. Ulrich.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Archives Gen. de Medecine, Paris.

1 (December.) Inactivité de l'hyposulfite de soude comme neutralisant de l'abrine et du phénol. E. Boix and J. Noé.
2 Les données (data) expérimentales et cliniques de la mesure de la pression sanguine (determination of blood pressure). N. Vaschide and J. M. Lahy.
3 Le Haut-Tonkin. Essai de climatologie médicale. H. Girard.
4 (LXXX, 1.) *Evolution de la tuberculose produite chez les cobayes (induced in guinea-pigs) par le bacille phthisiogène ou spermigène contenu dans les sputa de personnes atteintes de tuberculose pulmonaire, et genre d'altérations tuberculeuses qui peuvent être efficacement combattues par le Sérum Antiphymique provenant des animaux immunisés avec les toxines du dit bacille. J. Ferran (Barcelona).
5 Le magnétisme en images. H. Meigs.
6 Le lavage de l'estomac (of stomach). G. Linossier. Critical Review.

7 L'aspirine. J. Noé.
8 Les pleurésies rheumatismales. L. Rénon.
9 (No. 2.) L. Gosselin, 1815-1887. P. Tillaux.
10 *Les médicaments actuels dans le diabète sucré. M. Boigey.
11 (No. 3.) Les complications nerveuses des fractures de l'extremité inferieure de l'humerus chez les enfants (in children). M. Savariaud. (Commenced in No. 2.)
12 Les délires de rêve (dream). Vigouroux.
13 Les solutions de caféine. E. Desesquelle.
14 (No. 4.) La graisse (fat) dans le testicule.. M. Loeper and C. Esmonet.
15 L'armée centre morbide. G. Depautaine.
16 Le phlegmon ligneux du cou (woody phlegmon of neck). G. Marion. Two cases.
17 L'abcès rétro-pharyngien. J. Rénault.
18 Acétopyrine. J. Noé.
19 (No. 5.) Paralysie ascendante de Landry, aigue, mortelle, à la suite d'une blenorrhagie. A. Ricaldoni and A. Lamas.
20 L'appendicite tuberculeuse. J. Bougle.
21 Hermophényl. J. Noé.
22 (No. 6.) Etude clinique des paralysies diphthériques. C. Aubertin.
23 La réaction de débilité neuro-musculaire. Klippel.
24 Médication hemostatique. J. Noé. Critical Review.
25 (No. 7.) *De la résection du genou sans ouverture (resection of knee without opening) de l'articulation. G. Marion.
26 Névrites post-pneumoniques. L. Rénon and E. Géraudel.
27 Incompatibilités médicamenteuses. J. Noé.

4. Ferran's Phthisiogenic Bacillus and Serum Treatment.—Ferran announced in 1901 that the sputa of tuberculous subjects always contains a bacillus differing from Koch's but able to induce the lesions of tuberculosis in guinea-pigs. He now gives illustrations of the lesions caused by it in his experimental research and argues to prove that the bacillus in question is the Koch bacillus in the state of a saprophyte. Under the influence of the bacteriolysins and agglutinins produced in the organism in which it is living, it undergoes modifications which transform it into the typical Koch bacillus. The tubercles are due to accumulation of leucocytes, dying under the influence of the bacilli, their necrosed bodies forming the mounds known as tubercles. The tubercles may form before the bacilli have become transformed. In the pretubercular stage it is possible to render the organism immune by a serum obtained from animals immunized with the toxins of this saprophyte or phthisiogenic bacillus. After these bacilli have become transformed into actual Koch bacilli, this serum is useless. Tuffier recently succeeded in rendering guinea-pigs tuberculous by inoculating them with pus or tissues absolutely free from Koch bacilli, taken from Dr. Paul Garnault, who, as our readers will remember, inoculated himself with tissues from a cow in an advanced stage of tuberculosis.

10. Modern Therapeutics of Diabetes Mellitus.—Boigey concludes his review of this subject by calling attention to the results obtained by Strebel from local application of arc electric light reflected on the liver region. The skin becomes red and perspires, and after a few days the sugar rapidly disappears from the urine. The number of cases thus treated is not yet conclusive, but encourages further trials. Moubineff uses a current of 25 amperes and 60 volts for the purpose. Boigey regards brewers' yeast as the heroic remedy for diabetes mellitus. The fact that yeast contains a variable proportion of different saccharomyces explains the lack of a constancy in its effects. But they are truly remarkable when a good yeast of a stable composition is used. It insures antisepsis of the intestines and prevents the formation of an excess of sugar. The cells of the saccharomyces have themselves energetic phagocytic properties and may thus destroy a certain number of the intestinal bacteria. In addition, their secreted products are capable of neutralizing the toxins generated by the food, a supplementary indirect mode of intestinal antisepsis. It transforms starchy foods into alcohol. Its ingestion in large amounts in some cases has been known to induce a certain degree of alcoholic intoxication. The invertine or sucrase which it contains transforms cane sugar into glucose, then the zymase or alcoholic diastase intervenes and transforms the glucose into alcohol.

25. Resection of Knee Without Opening the Joint.—The femur is cut with a right-angled point and the tibia with a v-shaped incision to correspond. The upper cul-de-sac of the synovial membrane is dissected in front and detached from the femur behind down to the beginning of the section of the bone. The joint is then detached at the rear, from the front, loosening all its attachments to the other organs in the popliteal space, down to the beginning of the v-shaped section of the tibia, the incision carried outward through the ligamentum patellæ. By this means the joint is removed whole, with no opportunity for the escape of tuberculous infectious matter. Marion gives numerous illustrations of the various steps of the procedure, which he has performed 9 times. In one case the wound was reopened to arrest hemorrhage later, and suppuration followed, requiring amputation of the limb. In a second case the tuberculous lesions in the cul-de-sac were so extensive that it had to be opened. The result was an interminable fistula and death from generalized tuberculosis. This failure is a brilliant commentary on the necessity of refraining from opening a tuberculous focus in resecting the knee. All the other patients recovered in the most satisfactory manner and the operation can be considered to have fully established its usefulness. Consolidation occurred in two to six months. One of the patients insisted on taking off his cast several times a week, and he still has a slight mobility of the parts, but not sufficient to interfere with his work as a farm hand.

Bulletin de l'Academie de Medecine, Paris.

28 (February 3 and 10.) *L'alcool-poison et l'alcoolisme. J. V. Laborde and others.
29 Discussion of Measures Rendered Necessary by New Law for Compulsory Vaccination.
30 *De l'analgésie localisée par la cocaine. Incision du panaris. P. Reclus.
31 (February 17.) *Nouveau procédé de radiographies. Radiguet and Guichard.
32 *Un cas d'immunité contre le venin de vipère. Boinet.
33 Continued Discussion of Liqueur and Essence Question.

28. The Alcohol Question.—Duclaux of the Paris Institut Pasteur published in the last *Annales* an account of the researches of Atwater and others on the food value of alcohol, accepting their conclusions and remarking that we must hencefortth treat alcohol with more respect. Laborde and numbers of others denounce Duclaux for thus arraying himself against those who are seeking to educate the public in regard to the dangers of the abuse of alcohol.

30. Local Analgesia with Cocain. Incision of a Panaris.—Reclus has performed more than 7,000 operations under cocain and has never had a death which could possibly be attributed to it. Since he has established the three principal rules for its application he has not witnessed any by-effects from its use. These rules are: 1, never to use a stronger concentration than .5 or 1 per cent.; 2, always have the patient recline during its administration and not get up for half an hour afterward, and 3, always to eat and drink something before arising. It is to the disregard of these principles that dentists owe their misadventures with cocain. Reclus asserts that he has carefully sifted the literature and has been unable to find a single published case of a mishap in which these rules had been followed, or even approximated. In incising a panaris he injects the cocain at the base of the finger in the subcutaneous tissue, inserting the needle at four points and injecting the fluid to form a complete ring around the base, using 6 to 7 cg. in all. The finger is then absolutely insensible and the surgeon can proceed to the most thorough intervention on the panaris. After evacuation and curetting he lays the finger in hot hydrogen dioxid and concludes by dressing with an analgesic salve. The lesion heals completely in a few days. He operates under local analgesia with cocain in more than two-thirds of his current surgery, on hernia, hydrocele, varicocele, in dilation of anus, excision of hemorrhoids, artificial anus, gastrostomy, appendicectomy, ablation of subcutaneous tumors, etc. In the discussion that followed his address, Galippe, Laborde, Lucas-Championnière and Duplay stated that they considered cocain too dangerous for current use and had abandoned it almost completely.

31. New Process of Radiography.—The modification suggested is to render the soft parts visible in the radiogram. This is accomplished by outlining or painting one side of the parts desired with a paint made by mixing with oil, subnitrate of bismuth or red copper in powdered form to the consistency of ordinary paint and applying it with a paint brush.

32. Immunity to Viper Bites.—Boinet had occasion to examine postmortem a man whose occupation had been the ex-

termination of vipers or procuring them alive for Calmette, who paid ten cents apiece for them to use in the production of his antivenom. The man's father had followed the same occupation. Both acquired immunity to viper bites in time, but the son showed no signs of inherited immunity. It increased in the son with the frequency of the bites and diminished as the intervals between them became longer. He found cauterization with a concentrated solution of chlorid of gold and phenic acid extremely effective for local treatment of the bites. His death did not seem to be attributable to the vipers, but was the result of diarrhea from exposure, etc.

Bulletin Gen. de Therapeutique, Paris.

34 (LXXII, 1.) *Sulphur Baths in Syphilis. Dresch.—Medication thermale dans la syphilis.
35 Discussion: Fixation de la ration alimentaire. Barbier and others.
36 (No. 2.) *Application thérapeutique des decouvertes de Pawlow. Hallion and Carrion.
37 *Traitement abortif des furoncles par une solution concentrée d'iode dans l'acetone. P. Gallois and Courcoux.
38 *Nouveau mode d'administration de l'huile de chaulmoogra. H. Danlos.
39 (No. 3.) La question des doses de mercure at du traitement du tabes et de la paralysie générale. Leredde.
40 Resultats fournis par l'emploi de l'arrhénal dans la peste, le nagana, le mal de cadera, la fièvre de Texas et la malaria. A. Gautier.
41 Le traitement des néphrites. Muselier. (Commenced in No. 2.)
42 (No. 6.) *Note sur un nouvel emploi therapeutique de l'hyposulfite de sodium. Claret.
43 *Observations d'hémorragies viscérales graves arretées par l'injection de sérum gelatinée. Collet.
44 Beeswax as Vehicle for Drugs to Act in Intestine. Maurel.—De l'incorporation de certaines medicaments dans la cire pour qu'ils ne soient mis en liberté que dans l'intestin.
45 *Action du bleu de methylene sur les ulcérations des tuberculeux. L. Renon and E. Geraudel.
46 Sur l'innocuité absolue de l'acide phosphorique. F. Cautru.
47 (No. 7.) Sur quelques phenomènes (inner phenomena) de la nutrition et des sécretions. J. Renaut. (Commenced in No. 5.)
48 Rational Bicycle Seat. R. Couetoux.—La selle de bicyclette rationelle.

34. To Derive Greatest Benefit from Sulphur Baths in Syphilis.—Dresch points out that if sulphur baths are taken after a course of mercurial treatment, the benefits of the latter are annulled to a great extent as the mercury is eliminated by the waters. On the other hand, if mercurial treatment is instituted after instead of before the sulphur baths, the benefits are immeasurably increased as the system is swept and garnished ready for it. In cases of recurring syphilitic manifestations or merely as a preventive measure, the maximum effect is attained by this combination of mercury following a course of hot sulphur waters.

36. Therapeutic Application of Pawlow's Discoveries.—The discovery that the trypsin of the pancreatic juice is impotent unless its action is solicited by the presence of another ferment which is supplied by the duodenum, has suggested that it may be possible to artificially supply this latter ferment. Hallion and Carrion call the extract of the duodenal mucosa of the pig, which they present for the above purpose, "eukinase." They use it with or without combination with pancreatic juice, in gluten capsules, and hail it as the intestinal "eupeptique par excellence," although it is yet too soon for the sanction of clinical experience.

37. Improved Technic of Iodin Treatment of Boils.—Gallois has found that a combination of 4 gm. of metallic iodin in 10 gm. of acetone is much more effective than iodin alone in the abortion of boils and pimples. He applies it on a cotton pledget on a toothpick. If the lesion is in a particularly sensitive region he applies it very lightly, and if the furuncle has been opened it may smart a little. A drop of a solution of cocain may be advisable for timid persons in such cases. According to his experience this treatment will certainly abort a furuncle or pimple if taken in time.

38. Rectal Administration of Chaulmoogra Oil.—Danlos mixes warm 75 c.c. of milk and 12 c.c. of chaulmoogra oil, and injects it per anum in case of gastric intolerance. He has thus given it twelve times in one case of leprosy and the alvine discharges the next day showed no trace of oil, showing that it must have been duly absorbed.

42. Hyposulphite of Sodium in Dental Caries.—Claret extols the prompt relief and deodorizing effect of the application of a saturated solution of hyposulphite of sodium in two cases of dental caries of the fourth degree.

43. Gelatin in Visceral Hemorrhages.—The first case described by Collet was that of a man of 45 vomiting blood. A subcutaneous injection of a 1 per cent. solution of gelatin in artificial serum was followed in fifteen minutes by a slight hematemesis, probably of the blood already in the stomach at the time, after which the hemorrhage was entirely arrested. Recurring hemoptysis in the second case was checked permanently by a single injection of a 2 per cent. solution. In the third case the patient was a man of 27 in advanced tuberculosis, with daily hemorrhages from the lungs. They were not arrested by the injections of gelatin until the strength was increased to 4 per cent. which definitely abolished further trouble from this source. Collet's experience indicates that the increased coagulability of the blood conferred by the gelatin is comparatively transient, and that one need not hesitate to repeat the injections if the hemorrhages recur.

45. Methylene Blue for Tuberculous Ulcerations.—Renon found that tuberculous ulcerations in the mouth rapidly healed over under daily insufflation of methylene blue in powdered form. In three of the five cases the lesions completely healed and in every instance they cleared up promptly, while pain was relieved at once. He is now studying its action on the ulcerative enteritis of tuberculous subjects, and can already announce that the diarrhea diminishes from the first and in some cases is entirely cured.

Archiv f. Path. Anat., Etc. (Virchow's), Berlin.

49 (169, 3.) *Ueber idiopathische Stauungsleber (passively congested liver). M. Penkert.
50 Ueber einen Fall von Doppel-Carcinom der Gallenblase (gall bladder), zugleich ein Beitrag zur Metaplasie-Frage (question). J. G. Monckeberg.
51 Weitere kritische Ausführungen zum gegenwärtigen Stand (present status of) Plasma-Zellen-Frage. Dazu ein Anhang die Histologie des Tuberkels betreffend. A. Pappenheim.
52 Ueber Plasma-Zellen und Lymphocyten. A. Schlesinger.
53 Die Chemie und Physiologie des Kropfes (of goiter). A. Oswald (Zurich).
54 Experimental Glycosuria Induced by Adrenalin, Reducing Substances and Other Toxins Acting on Pancreas Cells. C. A. Herter and A. J. Wakeman.—Ueber Adrenalin-Glykosurie und verwandte durch die Wirkung reducirender Substanzen und anderer Gifte auf die Pankreas-Zellen hervorgerufene exp. Glykosurien.
55 *Ueber den Ort der Wärmebildung (point of heat production) in dem durch Gehirnstich erzeugten Fieber (in artificially induced fever.) E. Aronsohn.
56 Ueber die Benda'sche Reaction auf Fett- (fat) Nekrosen. W. Liepmann.
57 (170, 1.) Beitrag zur Lehre vom Bau und Wachsthum der Lymphangiome. C. Sick.
58 Histologische Veränderungen im menschlichen und tierischen (alterations in human and animal) Nerven-System, theils als Blitz- theils als elektrische Starkstromwwirkung (from powerful electric action). S. Jellinek.
59 Fat in Kidney Infarcts and Fatty Degeneration. F. Fischler.—Ueber den Fettgehalt von Nieren-Infarcten, zugleich ein Beitrag zur Frage der Fett-Degeneration. Experimental Research.
60 Ueber die Anordnung der elastischen Fasern (arrangement of elastic fibers) im Uterus. L. Pick.
61 Influence of Section of Nerves on Thyroid Gland. J. Katzenstein.—Zur Frage der Wirkung der Nervendurchschneidung auf die Schilddrüse.
62 (No. 2.) Ueber congenitale Muskel-Defecte. R. Bing.
63 Beitrag zur Kenntniss der Organ-Veränderungen (alterations) nach Schilddrüsen- (thyroid gland) Exstirpation bei Kaninchen (in rabbits). W. Bensen. Experimental Research.
64 *Hemorrhages in Suprarenals. M. Simmonds.—Ueber Nebennierenblutungen.
65 Beitrag zur Casuistik der Mesaortitis gummosa. L. Heine.—Three cases.
66 Cause of Action of Diluted and Concentrated Air on the Animal Organism. E. Aron.—Zur Ursache der Einwirkung verdichteter und verdünnter Luft auf den Thierkörper.
67 Ueber Chemismus und Technik der Weigert'schen Elastin-Färbung (stain). B. Fischer.
68 Die Geminität (twin bearing) in ihren erblichen Beziehungen (in relation to heredity). H. Naegeli-Akerblom. Statistical.
69 Das Aufsägen des Schädels ohne Verletzung (sawing skull without injury of) der Dura mater. G. C. Van Walsem.
70 (No. 3.) Störungen (disturbances) der Regeneration von Nieren- (of kidney) Epithelien. R. Rössli.
71 *Zur Histologie und Klinik der Neuro-Fibrom nebst Bemerkungen über das Verhalten (remarks on behavior) der Patella-Reflexe bei Querschnitt- (cross-cut) Lesionen des Rückenmarkes im unteren Brustmark (in lower dorsal spinal cord portion). J. Sorgo.
72 Ueber die Pacchioni'schen Granulationen und ihr Verhältniss (their relation) zu den Sarcomen und Psammomen der Dura Mater. M. B. Schmidt.
73 Ueber Knochen- (bone) tumors mit Schilddrüsenbau (structure of thyroid gland). E. Gierke.—One case.—No primary tumor in the thyroid.

74 Ueber den physiologischen Iodgehalt (iodin contained in) der Zelle. J. Justus.
75 Weitere Beiträge zur Frage der Schaum- (foam) Organe und der Gangrène foudroyante. Cadaveröse Fett-Embolie der Lungen-Capillaren. M. Westenhoeffer. (Cadaver of parturient woman.)

49. **Idiopathic Congestion of Liver.**—Penkert describes the case of a 2-year-old boy in whom the hepatic veins were obliterated, evidently from some congenital anomaly, and resulting in intense congestion of the liver. He could find only one similar case in the literature.

55. **Generation of Fever Temperature.**—Aronsohn describes researches which apparently establish that the higher temperature in both natural and artificially-produced fever is produced by the muscle tissue. The blood does not seem to be directly involved in it, and it is still undetermined whether the glands are concerned.

64. **Hemorrhages in the Suprarenals.**—Simmonds is prosector at Hamburg and has frequently discovered evidences of minute ecchymoses in the suprarenals in various infectious diseases. He regards them as of toxic origin. He has observed cases in which hemorrhagic infarction of both suprarenals proved fatal with the clinical picture of peritonitis and collapse. Hemorrhage in the suprarenals may be due to a hemorrhagic diathesis, to thrombosis of the veins or bacterial embolism of the capillaries or to trauma. Those noted in the newly-born belong in this last group. The thrombosis occurs generally only in chronically debilitated people, and is not due to an inflammatory process. Bacterial embolism may be discovered in subjects free from either clinical or anatomic signs of a septic infection. He has encountered twelve cases of fatal hemorrhage in these organs. When the hemorrhage is unilateral the prognosis may be favorable but not when both are involved.

71. **Neurofibroma.**—Sorgo relates the particulars of a case observed at von Schrötter's clinic. The neurofibroma originates in the peripheral neurilemma of single nerve fibers. The medullary sheath is first involved and later the axis cylinder. The fibers not involved in the neoplasm are liable to become atrophied from compression, but until this occurs the lesion may develop without causing symptoms. Cross section of the dorsal portion of the cord increases the knee jerks on account of the irritation spreading to the reflex centers in the lumbar cord from the pathologic focus. The cells of Clarke's column are less resistant to morbid processes than the large motor cells of the anterior horns. Neurofibromatosis may be a partial sign of a general disposition to pathologic alterations on the part of the connective tissue over large areas of the body, shown in a tendency to neogrowths, interstitial nephritis, glioma, vascular affections, etc. Even in case of absence of compression of the spine, there may be local edema of the skin and local pain on pressure of the spine, but neither are pathognomonic.

Beitraege z. Path. Anat. und z. Allg. Path. (Ziegler's), Jena.

76 (XXXIII, 1-2.) Is There a Primary Affection of the Epithelium Tending to Tumor Formation? G. Hauser.—Giebt es eine primäre zur Geschwulstbildung führende Epithelerkrankungen?
77 Zur Kritik der Tuberculose-Frage. M. Schottelius.
78 Ueber Amitose und Mitose. R. Klemensiewicz.
79 Zur Kenntniss der ependymären Gliome des iv Ventrikels. A. Linck.
80 Ueber färberische Differenzen zwischen den Mastzellengranulationen und den Haemamoeba leucemiæ magna. M. Löwit.
81 Weitere Beiträge zur Pathogenese des Ikterus. H. Eppinger.
82 Zur normalen und path. Histologie der Glandula thyreoidea, parathyreoidea und Hypophysis. J. Erdheim.
83 Ueber trübe Schwellung (cloudy swelling). K. Landsteiner.
84 Beitrag zur Pathologie des Balantidium coli. W. Klimenko.
85 Normale und path. Histologie der Gallen-Capillaren. Beitrag zur Lehre vom Ikterus und der biliären Cirrhose. N. Jagic.
86 Untersuchungen über Polyarthritis chronica adhesiva. M. Kachel.

Berliner Klin. Wochenschrift, Berlin.

87 (XL, 7.) Zur Frage der Abhärtung (question of toughening children). W. Krebs.
88 Die acute Entzündung (inflammation) der Flexura sigmoidea durch Kothstauung (coprostasis). A. Bittorf.
89 Weitere Beiträge zur Lehre von dem Darmfäuiniss (putrefaction in intestines). A. Albu.
90 (No. 8.) *Ueber Eiweissmast (albumin fattening). M. Kaufmann and L. Mohr.
91 *Beitrag zu dem Studium der Rinder- und menschlichen (bovine and human) Tuberculose. A. Cipollina.
92 *Das Adeno-Carcinom der Nase (of nose). H. Cordes.
93 Die Beförderung der Reaction nach kalten Wasser-procedur-en. S. Baruch.
94 Ueber Fütterungs- (feeding) Tuberculose. D. von Hansemann. (Commenced in No. 7.)
95 Thoughts on the Neuron Question. H. Haenel.—Gedanken zur Neuronfrage.

90. **Albumin Fattening.**—The maximum daily amounts ingested in the two cases studied at von Noorden's clinic were 1,800 c.c. of milk; 800 c.c. of cream; 225 gm. of roast beef; 150 gm. rolls; 250 gm. butter and 40 gm. plasmon. One woman gained on this diet in twenty-three days 4.8 kgm., that is, about 10.5 lbs. The other gained in eight days nearly 3 lbs. The details of the metabolism accessible to clinical tests were carefully noted and are given in tabulated form, especially the retention of the calcium salts.

91. **Transmissibility of Human and Bovine Tuberculosis.**—Cipollina reports that a monkey fed with bovine tubercle bacilli cultures contracted tuberculosis with no primary lesions apparent in the gastrointestinal tract. On the other hand inoculation of a calf with humau bacilli resulted negatively. Although these tests are so limited yet he thinks that they suggest that Koch's assertions in regard to bovine and human tuberculosis have led to researches which have established that the bovine bacillus is more virulent for both man and animals than the human tubercle bacillus.

92. **Adenocarcinoma on the Nose.**—The patient was an elderly woman and was cured by electrolysis with no recurrence to date.

Centralblatt f. Bakteriologie, Jena.

96 (XXXIII, 1.) Die Wachsthum und Dauerformen (growth and permanent forms) der Strahlenpilze (Aktinomyceten), und ihre Beziehungen (and their relations) zu den Bakterien. E. Levy.
97 Zur Frage der morph. und biolog. Charakterisierung des Meningococcus intracellularis. H. Jaeger.
98 Ueber einen neuen Stall- (cage) Infektionen verursachenden Mikroorganismus. Schwer (Posen).
99 Die Bakterien-Flora der gesunden und kranken Nasenschleimhaut (nasal mucosa). W. Hasslauer.
100 The Etiology of the Summer Diarrheas of Infants. C. W. Duval and V. H. Basset.
101 Zur Kenntniss des Genus Wageneria Monticello und anderer Cestoden. L. Cohn.
102 *Untersuchungen über die Wirksamkeit des Milzbrandserums des Hundes (efficacy of dog anti-anthrax serum) als Schutz- und Heilmittel. F. Sanfelice (Cagliari).
103 Notiz zur Immunität der Schnecken (of snails) gegen Impfmilzbrand (against inoculation of anthrax). A. Lode.
104 *Ueber die bactericide Wirkung einiger Riechstoffe (of certain aromatics). H. Marx.
105 Ueber der vererbten (inherited) und intrauterinen Uebergang (transmission) der agglutinierenden Eigenschaften (properties) des Blutes (of blood) und die Bildung der Agglutinine im Körper der Embryonen. W. Jurewitsch.
106 (No. 2.) Untersuchungen über Sarcina, Streptococcus und Spirillen. D. Ellis. (Commenced in No. 1.)
107 Studien über Wasser-Bakterien des Leitungswassers der Stadt (flora of water supply) Buenos Ayres mit bes. Berücksichtigung der Pigment-Bakterien. D. Fernandez. (Commenced in No. 1.)
108 Bakt. Befund im Eiter eines gashaltigen Abscesses (bacterial findings in pus of gas-forming abscess). A. Rodella.
109 Meerschweinchen- (guinea-pigs) Epizootie durch eine Varietät des Coli-Bacillus verursachte. K. Kovarzik.
110 Ueber Pebrine und verwandte Mikrosporidien. A. Lutz and A. Splendore (S. Paulo, Brazil).
111 Ueber Lebensfähigkeit (vitality) von Bakterien in Oel. O. Kurpjuweit.

102. **Antianthrax Serum from Dogs.**—The serum from immunized dogs proved able to protect rabbits against subcutaneous injection of virulent anthrax spores ten to forty days afterward. One patient with anthrax also recovered after a total amount of 56 c.c. of the serum had been injected.

104. **Bactericidal Efficacy of Aromatic Substances.**—Marx believes that the ethereal oils liberate oxygen from the air, to which they owe their undoubted bactericidal action.

Centralblatt f. Chirurgie, Leipsic.

112 (XXX, 5.) *Zur Behandlung der Frakturen. Borchard.
113 *Zur operativen Behandlung der veralteten Patellar-Frakturen. M. Sträter.
114 (No. 6.) Zur Frage der Sauerstoff- (oxygen) Chloroform-Narkose. C. Lauenstein.
115 *Zur Technik der "Sondierung ohne Ende" (endless sounding) bei Speiseröhrenverengerungen (strictures in esophagus). Von Hacker.
116 (No. 7.) *Zur Prophylaxis bei der Chloroform-Narkose. L. Feilchenfeld.
117 *Instrument zur Compression der Aorta bei gewissen Bauch- und Becken- (abdominal and pelvic) Operationen. K. Dahlgren.

118 Ein Inflatorium. F. Kuhn (Kassel).
119 (No. 8.) Zur Operatio der Retentio testis inguinalis. C. Longard.
120 *Zur Technik der Behandlung kavernöser Tumoren. E. Payr.

112. **Treatment of Fractures.**—The swelling and jelly-like exudation around a fracture last for twelve to fourteen days before the actual callus begins to form. During this first stage it is possible to prevent the atrophy of the parts by massage, while it does not interfere with the final consolidation, which does not commence until after the twelfth day. Borchard has been very successful in an extensive experience with fractures treated on these principles. He applies, personally, massage of the parts from the very day of the injury, with passive movements of the adjoining joints, of course commencing very mildly. He then applies a cold water bandage and places the limb in a splint. He repeats these procedures every day until the twelfth, when he applies an immobilizing cast until about the twenty-sixth day, after which the massage is renewed and the joints mobilized until complete consolidation. By this technic, atrophy of the muscles and stiffness of the joints are completely avoided as also edema later, while the limb retains its normal shape.

113. **Treatment of Old Fracture of Patella.**—The gap was 6.5 cm. when the knee was extended and 10 cm. when it was flexed in the case reported by Sträter. Even in profound narcosis the gap was 3.5 cm. He detached the quadriceps tendon its entire length and cut it in a Z. This allowed the parts of the patella to be brought within 1 cm., and this gap was finally overcome by chiseling off the tuberosity of the tibia. This brought the fragments together and, besides suturing them directly with a silver wire, a wire was passed entirely around the patella. The tendon was sutured to itself and to the muscles; the capsule sutured and the cutaneous wound closed except for two small strips of gauze. The knee can be flexed to 160 degrees at present, and conditions are approximately normal.

115. **Endless Sounding.**—This is the term applied by von Hacker to the method of dilating strictures of the esophagus by introducing drainage tubes of gradually increasing caliber either by way of the mouth or through the fistula. The tube is drawn through by means of a thread. Some introduce the thread by having the patient swallow a piece of shot to which the thread has been tied. Henle has recently devised the method of tying the thread to one or more small scraps of iron and, after these have been swallowed, he extracts the iron through the fistula by inserting a magnet, to which it clings. Another way, with which von Hacker has been more successful, is to pass a gut string through. His latest improvement, which he deems an actual progress, is to use one-half of a gelatin capsule. A fine silk thread about half a yard long is forced into the cup of the capsule by means of a long strip of whalebone or a fine gut string, the end of the thread left long. The whole is then introduced into the stomach, the pressure from above only pushing the capsule cup farther on the whalebone. After it reaches the stomach and after an interval for the dissolving of the capsule, the patient drinks some water, when the thread is released and floats on the water within reach from the fistula. This procedure is so simple and harmless that it can be repeated every day without trouble and the thread removed in the interim, thus sparing the patient the inconvenience of a thread permanently in the gullet and mouth. It may be necessary to slit the open end of the capsule and bend it, possibly gluing it with a solution of gelatin, to render the process surer. When he changes from one tube to a larger, he stretches the upper end of the first tube and inserts the larger tube in it, thus making the change without discomfort to the patient. The first tube of all is drawn over a small hollow, olive-shaped metal tip, fastened to the end of the thread by a knot inside and with a groove on its farther end, over which the drainage tube is drawn and tied. This enables the transition to be made to the tubes from the thread without danger or inconveniences. Both of these appliances are illustrated.

116. **Prophylaxis in Chloroform Narcosis.**—Feilchenfeld's suggestion that strophanthus be administered to excitable persons for a few days before attempting chloroform narcosis has found wide acceptance. Both Tillmanns and Witzel recommend it as a routine procedure, the latter combining it with digitalis. Feilchenfeld states that the heart must be investigated several times, and if found nervously excitable, this excitability must be reduced before the narcosis. The sounds are dull, sometimes slightly clapping. The apex beat is at the normal spot, but is rather diffuse and indistinct; pulse small and rapid. Such persons should take strophanthus for several days before chloroform narcosis, pure or combined with digitalis, not more than five drops of each three times a day. The pulse becomes slower, the agitation subsides, the appetite improves and the patient sleeps well. The pulse must be brought down to 80 before the narcosis should be attempted. In case of actual muscular weakness of the heart or myocarditis, the arrhythmia must be combatted and the pulse slowed. This will require more energetic measures, digitalis and tepid or carbonated baths with, possibly, injections of strychnin, as recommended by the French for arteriosclerosis. Ether is to be preferred to chloroform in these cases. In case of hypertrophy of the heart muscle, preliminary treatment is indispensable and a morphin injection to supplement the narcosis. Profound narcosis should be avoided. In severe myocarditis one must always be prepared for possible acute danger for the heart from the narcosis.

117. **Compression of the Aorta During Operations.**—Dahlgren found the temporary compression of the abdominal aorta, first suggested and practiced by Lennander, an invaluable aid in preventing hemorrhage in a case of cesarean section, and recommends it for all major operations in the pelvis. The compression can be done with the hand, and has thus been done in the cases to date. But this requires an assistant skilled in anatomy and also compels the enlargement of the abdominal incision. To obviate these inconveniences, he has devised an instrument for the purpose. It consists of a long handle with stirrup-shaped end, at right angles to the shaft, and a stout rubber drainage tube is fastened across the base of the stirrup. A second instrument like a two-tined fork is used to apply pressure at the top of the stirrup when the rubber tube has been placed on the aorta. Very gentle pressure is sufficient to ensure hemostasis. By making the stirrup a little wider it is possible to apply compression to the aorta and also to the hepatic and portal veins at the same time, when operating on the liver.

120. **Treatment of Cavernous Tumors.**—Payr has been advocating for a year the treatment of inoperable cavernous tumors by the introduction of a number of pencils or arrows made of magnesium. The presence of these metallic foreign bodies in the depths of the vascularized tumor leads to processes of coagulation and obliteration, which finally terminate in the complete destruction of the neoplasm and a solid healing. He uses magnesium to ensure absorption of the foreign bodies. In perfecting his technic he has found that it is wise to have a number of the smooth magnesium pencils on hand of assorted sizes to fit all conditions. He introduces them through a small tube with a piston, which enables one after the other to be pushed in without changing the position of the tube. The magnesium pencils must be inserted with some regularity in the tumor tissue to obtain the best results.

Deutsche Zeitschrift f. Chirurgie, Berlin.

121 (LXVI, 3-4.) Experiences in Surgical Bilharzia Affections of Bladder. C. Goebel (Alexandria).—Erfahrungen über die chir. Behandlung der Cystitis und der Basentumoren bei Bilharziakrankheit. Sectio alta, mediana; excochleatio; Resectio partialis vesicæ.
122 *Simultaneous Appendicitis and Cholelithiasis. A. Becker.—Ueber gleichzeitige Erkrankungen an App. und Cholelithiase, resp. Cholecystitis.
123 *Improved Means of Detecting Tubercle Bacilli in Urine. O. H. Forssell.—Eine verbesserte Methode zum Nachweise von Tub.-Bac. im Harn.
124 Ueber Wirkung (action) der Nephrotomie nach (consecutive to) Nephrectomie. Ein weiterer Beitrag zur Frage der Wundheilung in der Niere. O. Langemak. Experimental Research.
125 *Suture of Arteries. H. Schmitz.—Die Arteriennaht.
126 *Anatomic Obstacle to Reposition of Old Dislocation of Shoulder and Means of Remedying It. J. Dollinger.—Das anat. Hinderniss der Reposition bei veralteten subcoracoidalen Schulterverrenkungen und meine Methode der blutigen Reposition dieser Verrenkung.

127 Der functionelle Plattfuss (flatfoot) mit bes. Berücksichtigung seines Entstehens durch Trauma. Herhold.
128 Ueber Peripleuritis. K. Vogel.
129 Blutige Reposition einer irreponiblen Hüftluxation (irreducible luxation of hip-joint). Haedke.
130 Fall von Atresia et Hypoplasia ilei congenita im Folge fötaler Verlagerung (fetal impaction) in eine Mesenterial-Lücke (gap). E. Fuchslg.

122. **Simultaneous Appendicitis and Cholelithiasis.**—In differentiating dubious cases the possibility of a simultaneous affection of both appendix and gall bladder must be borne in mind. It is remarkable that this coincidence has not been more frequently observed. Sonnenburg noticed it only twice in 600 operations for appendicitis, and Kehr ten times in 625 gallstone operations, Czerny four times in 317. Becker has encountered it five times in 125 operations for gallstones and has collected twenty-nine other cases published in the literature, including the above.

123. **Improved Method of Determining Presence of Tubercle Bacilli in Urine.**—Forssell receives 1000 c.c. of urine in a glass tube tapering to a point below where there is a glass screw cock. It is set aside for twenty-four hours. The cock is then turned and the lower part of the contents is drawn out into two strong glass pipettes tapering abruptly to a point. The pipettes are then centrifugalized vigorously for fifteen to twenty minutes. Examination of one or several cover glasses, spread with the contents of this tip of the tube after pouring off the supernatant fluid, will decide the question as to the presence of tubercle bacilli. The tubes are cleaned afterward and filled with a 6 per cent. solution of caustic soda for twenty-four hours, after which they are rinsed again and are ready for use.

125. **Artery Suturing.**—Schmitz gives a historical sketch of this operation, and states that lateral suture of an artery has been done in twenty-one cases and nearly always with signal success. The axillary artery was thus sutured in seven; the femoral in five; the iliac communis, the carotid communis or interna in one each, and the popliteal or brachial in three each. The latter arteries are too small, it has been found, for successful suturing. The conditions for success in suturing an artery are smooth edges to the wound and no gap between them. The vessel must be handled as delicately as possible, hemostasis applied very gently, best with the fingers. After the suture is completed gentle compression with a tampon for one to three minutes favors the formation of the clot. The experiences to date indicate that the entire wall can be included in the suture without fear of thrombosis, endarteritis or narrowing of the lumen. The adventitia can be drawn up afterward over the wound and a few stitches taken in it to strengthen it. The needle and thread must be very fine. Catgut was used in four successful cases, but silk seems preferable. The femoral artery was invaginated and a circular suture applied in three successful cases, in two on account of adhesion to a tumor and once on account of a bullet wound. Experimental researches have also confirmed the advantages of this method of treating extensive destruction of an artery. Even in case the lumen of the artery should become obstructed later, it occurs so gradually that there is time for collateral circulation to become established.

126. **Obstacle to Reduction of Old Dislocation of the Shoulder.**—Dollinger has found that the head is caught and held by the retracted and sclerotic subscapular muscle in old cases. All that is necessary to reduce the dislocation is merely to sever the tendon of this muscle near its insertion. The arm can then be easily abducted and the dislocation reduced by Kocher's rotating and raising method as readily as in case of a recent luxation. His experience includes five cases. He illustrates the anatomic relations he found in them, showing the rôle played by the muscle referred to.

Wiener Klin. Wochenschrift, Berlin.

131 (XV, No. 51.) Results of Traumatic Detachment of Epiphysis. H. Lorenz.—Zur Frage der Wachsthumsstörungen und Gelenksdeformitaten infolge von traumatischen Epiphysentrennung. One case.
132 Beiträge zur Morphin-Skopolamin-Narkose. K. Schickberger.
133 Zur Kenntniss der lokalen Veränderungen (changes) nach intramuskularen Injektionen von Hydrargyrum salicylicum. C. Pezzoli.
134 Ueber die Beobachtungen von Darmbewegung (observation of movements of intestines) im cystoskopischen Bilde. W. Latzko.
135 Ibid. J. Halban.
136 Stellung der Aerzte zu den Hilfskassen (position of medical men to the benefit societies). A. Klein.
137 *Filling for Bone Cavities. Mosetig-Moorhof.—Die Knochenplombe.
138 (No. 52.) Anatomisch-physiolog. Untersuchungen an Tieren (studies of animals) mit congen. Labyrinth-Anomalien. G. Alexander.
139 Sprengelsche Difformität mit Cucullaris-Defekt und rechtsseitiger Wander-Niere (kidney) bei einem 12 jährigen Knaben. C. Hödlmoser.
140 *Ueber subkutane Gelatine-Injektionen im Kindesalter. Zuppinger.
141 Fall von traumatischer Pankreas-Cyste. Heilung nach Operation. Vorübergehende (transient) Diabetes. K. Pichler.
142 *Fall von Gastrotomie wegen Blutung (on account of hemorrhage) infolge von traumatischer Ruptur der Magenschleimhaut (gastric mucosa). F. v. Winiwarter.
143 (XVI, 1.) *Verätzungs-Strikturen des Esophagus. Mosetig-Moorhof.
144 Weiterer Beitrag zur Kenntniss der Sialo-Lithiasis. F. Hanszel.
145 Perlsucht und menschliche Tuberculose. F. Schanz.
146 Die Behandlung Lungenkranker in einem öffentlichen Krankenhause (treatment of consumptives in public hospital). Teuner.
147 (No. 2.) *Ueber subkutane Paraffin-Injektionen. L. Moszkowicz.
148 Zwei Fälle von Dupuytren'scher Finger-Contraktur bei Tabes, resp. Tabes mit multipler Sklerose. W. Neutra.
149 *Phlebolithen in Genital-Organe des Weibes (in the female). K. Czorwenka.
150 (No. 3.) *Zur Frage der Verwerthbarkeit der Leucocyten-Bestimmung (value of leucocyte count) bei Erkrankungen des weiblichen Genitaltraktes (in affections of female genitalia). A. Weiss.
151 Heterople im histol. Aufbau (structure) eines fibrösen Uterus-Polypen. E. Pollak.
152 Zwei Fälle von congenitalem partiellen Clavicular-Defekt. K. Preleitner.
153 (No. 4.) *Zur Pathologie und Therapie des Asthma. M. Sihle (Odessa).
154 Menièrescher Symptomkomplex mit Anosmie und Ageusie. A. Strubell.
155 Ueber specifische Virulenz-Steigerung (increase) in vitro. F. Hamburger.
156 *Ueber Knochenveränderungen (changes in bones) bei gonorrhoischer Arthritis und akute Knochen- (bone) Atrophie überhaupt. R. Kienböck. (Commenced in No. 3.)
157 Absorption of Active Oxygen Through the Skin. J. Thenen.—Sauerstoffzufuhr durch die Haut.
158 (No. 5.) Ueber Immunisierung von Bakterien. F. Wechsberg.
159 Zur Symptomatologie der "unter dem Bilde der Pseudo-Leukemie verlaufenden Lymphdrüsen- (glandular) Tuberkulose." H. Schur.
160 Beitrag zur Klinik der Prostata-Tumoren. G. Kapsammer.

137. **Filling for Bone Cavities.**—For three years Moorhof has been plugging bone cavities with a combination of 60 parts iodoform in 40 parts each of spermaceti and oil of sesame. The ingredients are slowly heated together to 212 F. and kept at this point for fifteen minutes, then allowed to cool, while the vessel is constantly shaken to ensure the complete emulsifying of the iodoform. He has now an experience of more than 100 cases thus treated. The filling was always well tolerated. The cavity must be scraped far into sound tissue, as aseptic conditions are indispensable. It is then rinsed with a 1 per cent. solution of formalin and thoroughly dried with a jet of hot air. The filling is warmed in a thermophore to about 122 F., and the cavity is filled with it to the brim. As it penetrates into every crevice there is no danger of hemorrhage, but any exposed vessels in the soft parts are first tied off. The filling hardens in a few minutes; the periosteum and other soft parts are then drawn back over it and sutured without drainage unless there has previously been a fistula, in which case drainage is advisable, as also in intervention on the joints. After all sutures and dressings have been applied, the constricting bandage above is then removed and the limb raised. The dressings are not changed until the second or third week. The after-course is almost invariably afebrile. There may be a slight evening rise the second day. No symptoms of iodoform intoxication were observed in any instance. The filling is gradually absorbed and a bone growth takes its place, but the patient can use his limb freely as soon as the soft parts have healed. In one instance he thus substituted the astragalus and calcaneum in a boy of 12, with caries aperta. Nothing was left of the calcaneum but the periosteum; 200 gm. of filling were required for the cavity. The other foot was operated on a month later, the navicular, cuboid, three cuneiform bones and the bases of the metatarsal bones removed. Both wounds healed rapidly.

140. **Gelatin as a Hemostatic for Children.**—Zuppinger witnessed the death of a girl of 8 with hemorrhagic purpura whose nose had been tamponed to arrest uncontrollable bleeding. The hemorrhage was apparently arrested, but the child died suddenly soon afterward, and the air passages were found full of accumulated blood. Since that time he has made a practice of subcutaneous injection of a 2 to 5 per cent. solution of gelatin in all hemorrhagic affections in children, and has found it invariably successful in controlling the bleeding. He has sometimes used a 10 per cent. solution. Holtschmied has reported that he saved the lives of five infants with melena neonatorum by injection of 15 c.c. of a 2 per cent. solution. In three the effect was immediate; the others required one or two more injections. Others have published similarly favorable results in this formerly hopeless affection. A few drops of a concentrated solution applied to the bleeding point in cases of hemorrhage in the throat, etc., have instantaneously arrested it in many cases.

142. **Rupture of Stomach Mucosa.**—The rupture occurred in a football game; the young man running at full speed was hit in the pit of the stomach by the elbow of one of his opponents. He was able, after a time, to continue playing. Two or three days later he noticed a sharp intermittent pain at the right costal arch, which was aggravated by eating and drinking. The eleventh day, after drinking a large quantity of beer, there was vomiting and sharper pain, and a few days later, after a copious meal, sudden oppression, vertigo, cold perspiration, vomiting of blood and melenic stools. The laparotomy disclosed that the serosa was intact, but a laceration 8 cm. in length was found in the mucosa. The patient made a good recovery after the rupture had been sutured. It is probable that such lacerations from contusion of the stomach region are common, but usually heal spontaneously or present the clinical picture of an ulcer later. This case would probably have run this course if it had not been for the immoderate beer and wine drinking. It suggests the necessity for complete abstinence in cases of gastric disturbances after contusion of the stomach region. The sharp, persistent pain at the costal arch may serve to differentiate the injury.

143. **Strictures of Esophagus.**—Moorhof has been able to close the stomach fistula without a laparotomy in cases of stricture from action of caustics. He incises around the fistula and down to within .5 cm. of its orifice in the mucosa. When the fistula canal thus stands up alone and detached—injury being prevented by a sound inserted in it—he then pushes the entire canal in, turning it wrong side out and suturing the outer orifice and then the abdominal walls above it. By this means the opening of the fistula can heal without interference from the gastric juice. He has treated fistulas into the bladder in the same way with complete success. In one case he describes, all the urine was voided through the large fistula, but after treatment in this way not a drop of urine oozed through. It is necessary to carry the incision a little above and below the circular one. In his experience the Billroth conical bougie has frequently passed a stricture in the esophagus, impervious to all other instruments. These bougies are filled with quicksilver and act by the constant pressure of their weight. He gives the particulars of five cases of nearly impermeable stricture, which he cured by these measures.

147. **Paraffin Prothesis.**—This communication from Gersuny's service describes the experience of the inventor of this procedure. He states that the prothesis has not altered in size in cases treated three years ago.

149. **Phleboliths in Genital Organs.**—In the case described a iiipara of 40 applied for relief from uterine hemorrhage. In the veins around the cervix and along the upper portion of the vagina were found a number of concretions, small balls of calcium phosphate and carbonate. The ovarian and other veins were apparently intact. The uterus was the seat of a hemorrhagic endometritis, but, as it was impossible to remove all the phleboliths that could be palpated, the prognosis is not favorable.

150. **Leucocyte Count in Gynecologic Affections.**—Weiss proclaims from Chrobak's clinic that a negative leucocyte count in the early phases of a gynecologic affection entirely excludes the assumption of a suppurative process. Constant leucocytosis of 16,000 and over points to such a process, but this leucocytosis gradually declines as the affection progresses. It is still high enough, however, by the time the patient seeks a physician to indicate its character.

153. **Pathology and Therapy of Asthma.**—Sihle contributes a long article, in which he seeks to establish that asthma is a neurosis in the respiratory and circulatory domains. There are four elements, hypertonicity of the unstriated muscles of the air passages, hypotonicity in the vascular system, including the heart, a bronchial secretion of nervous origin, and a congestion of the entire mucous lining of the air passages. These four elements can be brought into play by the action of the peripheral nervous system, by irritants circulating in the blood, or by the action of the cortex, that is, the asthma may be peripherigenic, hematogenic or psychogenic. He cites some interesting examples of the benefit that may be derived from treatment along these lines, with therapeutic suggestion as the leading motif, and each element in the symptom-complex receiving its due consideration.

156. **Acute Atrophy of the Bones.**—Kienböck is an *x*-ray expert and has been making a special study of the changes in the bones revealed by the *x*-ray from four to eight weeks after some injury or inflammation of the extremities, especially those developing with much pain or requiring immobilization, fractures, osteomyelitis, joint tuberculosis, contusions or phlegmons of the soft parts. The bone casts a lighter shadow than normal, especially the spongiosa nearest the focus, or the lighter portions may occur in patches. The calcium salts are absorbed and the bone becomes pathologically altered in time. The condition may, likewise, be induced by injuries or affections of the central or spinal nervous systems. Before the discovery of the x-rays it was impossible to diagnose it until in an irreparable state, as the early stages cause little if any symptoms. Treatment must be mainly prophylactic. When this tendency to pathologic softening of the adjacent spongiosa is recognized and its dangers realized, the physician will aim to cure the underlying affection as rapidly as possible. If the *x*-rays show that the softening of the bone has already commenced, especially if in a joint, it must be exercised and massage applied, regardless of the pain it may induce, with Faradization, baths and, possibly, therapeutic passive congestion. In orthopedic treatment of the later ankylosis, luxations, etc., the fragility of the atrophied bone must be borne in mind.

Sei-I-Kwai, Tokyo, Japan.

161 (XXII, 1.) The Impregnated and the Unimpregnated Ova of Ascarides. K. Miura and N. Nishiuchi.
162 On the Weight of the Encephalon of the Japanese. K. Taguchi.

British Medical Journal, London.

March 7.

163 *Some Misconceptions with Regard to Diseases of the Liver. W. Hale White.
164 *Adenoma and Adeno-carcinoma of the Rectum. Charles B. Ball.
165 The Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment. H. Radcliffe Crocker.
166 Case of Apparent Secondary Abdominal Pregnancy in a Rabbit After Primary Rupture of the Uterus. Kurt Kamann.
167 Case of Rheumatic Fever Complicated by Chorea, Iritis and Endocarditis—Recovery. Fred. C. Forster.
168 Bright's Disease; Anuria; Intestinal Hemorrhage; Death. Lyster Cole-Baker.
169 Diabetic Coma Treated by Transfusion. David Young.

163. **Diseases of the Liver.**—The misconceptions alluded to by White are, first, the common belief that alcoholic excesses are solely the cause of hepatic cirrhosis, while, in reality, some other cause must also be at work to produce the symptom. Nevertheless, the common type of hobnail liver is almost invariably the result of alcoholic drinking. He points out the characteristics of syphilitic cirrhosis, which, however, is so rare that it will be of little clinical importance. Malaria, which is given as the cause of cirrhosis, is, in his opinion, largely imaginary. We have really no obvious cause, except alcoholic drinks, for the usual type and while it is

experimentally true that obstruction of the bile duct will cause cirrhosis, it is rarely clinically, if not almost unknown, notwithstanding the frequent cases of pressure on the duct by cancers, growths, etc. Another misconception is in the attempt to draw a sharp distinction between atrophic and hypertrophic cirrhosis. In considering these, we must exclude Hanot's cirrhosis, which is a separate disease, occurring almost exclusively in children. White holds that there is really no distinction between atrophic and hypertrophic liver, but that the former is an earlier stage of the latter. The presence of ascites in atrophic liver is only natural, seeing that it occurs in the late stages of the disease. He notices the symptoms; ascites, a very serious one; jaundice, which may occur early; swelling of the feet; anemia; hemorrhages, etc. The disease we call alcoholic cirrhosis, which is so frequently associated with the consumption of alcohol, though some other factor is also present, is not a local disease, any more than granular disease of the kidney is a local condition of that organ. He insists on the importance of ascites in the prognosis. If a patient in an uncomplicated case has ascites, he is very near the end. He also notes the occurrence of perihepatitis, the zuckerguss liver of the Germans and remarks on certain symptoms of primary malignant disease, which he thinks occurs in a certain proportion of cases. He takes a midway position between those who hold that malignant disease is very rare and those who, like Friedreichs, claim that it occurs in one-third of all cases. He had in his necropsies about one case of primary malignant disease of the liver to every twenty-four, where it was secondary.

164. **Adeno-Carcinoma of the Rectum.**—Ball's lecture gives the details of operative treatment, perineal excision, the Kraske operation, the abdominal method, etc.

The Lancet, London.

March 7.

170 The Nature and Anatomy of Enteroptosis (Glenard's Disease). Arthur Keith.
171 *The Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment. H. Radcliffe Crocker.
172 The Rise of Blood Pressure in Later Life. T. Clifford Allbutt.
173 Report on the Influence of Sanitation in Checking Enteric Fever and Dysentery at Harrismith, Orange River Colony, South Africa, in the Years 1901 and 1902. R. M. Le Hunte Cooper.
174 A Case of Acute Tetanus with Certain Points of Interest. L. Dimock Saunders.

171. **Skin Inflammations.**—Crocker's second lecture treats first of microbic infection and the conditions which favor it. He also notices the importance of the absorption of intestinal toxins in the production of skin diseases and the part played by the nervous system, especially in special vasomotor areas. Pregnancy is responsible for a few eruptions, the most notable one being herpes gestationis. The influence of season is also mentioned, as in summer and winter prurigo, also the effects of ingesta and drugs. He remarks, in conclusion, in regard to gout as having a primary position as an etiologic modifying factor of dermatitis. While he does not doubt that gouty patients are predisposed to eczema and some other forms, there is no doubt that its influence has been much overrated by the profession.

The Practitioner, London.

March.

175 *On the Mode of Production of Fractures of the Lower Extremity by Indirect Violence. W. Arbuthnot Lane.
176 *Examination of the Blood: With Examples of the Wide Range of Its Value. Herbert French.
177 *Lorenz's Method of Treating Congenital Dislocation of the Hip. J. Jackson Clarke.
178 Experiences of an Epidemic of Cerebrospinal Meningitis. R. Travers Smith.
179 *A Note on Gastric Tetany. B. G. A. Moynihan.
180 The Use and Abuse of High-Frequency Electricity in Medicine. H. Lewis Jones.
181 The Phenomena of Tidal Percussion at the Apices of the Lungs, and Their Interpretation—A Reply to Dr. Philip. E. H. Colbeck.
182 Diseases of the Liver—A Review of Some Recent Work. H. D. Rolleston.
183 Cerebral and Mental Diseases in Relation to General Medicine—A Review of Recent Work. H. Campbell Thomson.
184 The Prevention of Measles. George Newman.
185 The Imperial Vaccination League. Edward J. Edwardes.

175. **Fractures of the Lower Extremity.**—Lane criticises the anatomic works, with their various descriptions of the mechanism of the joints of the lower extremity, remarking that the lateral movement of the ankle joint is not extensive. It is a fairly perfect hinge joint. The surgical anatomy, he thinks, is even worse in the text-books. The only method of treating, for instance, in Pott's fracture with displacement, owing to the mechanism of the injury, is by pinning together of the broken parts. Fracture of the tibia and fibula produced by indirect violence is almost always spiral and requires similar treatment, holding the parts in position by wires or screws. The spiral fracture of the femur is brought about in a similar way.. He says it is a pity that anatomists, when writing text-books for students, do not confine themselves to improving on the existing, generally inaccurate, descriptions of the mechanics and functions of the skeleton, instead of attempting, under the title of surgical anatomy, to confuse the student by statements and illustrations which are usually extraordinarily incorrect.

176. **Blood Examination.**—The importance of blood examination is emphasized by French and the methods described, with illustrative cases of the value of the leucocyte count, hemoglobin estimates, red corpuscle counts, etc. Specific gravity is also of some importance, and he describes the method of testing it by a mixture of chloroform and benzene of the specific gravity of the normal blood. A drop of blood put into this will float or sink as its specific gravity varies from the normal and by putting more chloroform or benzene into the test tube, to bring it to exact equilibrium, the figures as read off on the urinometer will determine its specific gravity. He details the blood examination as follows:

> The ear is pricked. 1. Blood films are made and dropped into absolute alcohol and ether. 2. Blood is drawn up into the red-corpuscle pipette to the mark of 0.5, diluted to the mark 101 with Hayem's fluid, quickly mixed, and put aside to count presently. 3. The same is done with blood in the white corpuscle pipette. 4. Blood is drawn up to the mark on the hemoglobinometer pipette, expelled into a little distilled water in the graduated tube, and thus laked. 5. Then another drop is taken in the same pipette and put into the mixture of benzine and chloroform. The pipette should then be cleaned. This is quickly done by drawing distilled water up into it two or three times, blowing it out again each time; then in the same way, drawing up absolute alcohol twice successively, to dehydrate the tube, and, finally, ether in the same way, to remove the alcohol and to leave the tube dry and clean when the ether evaporates, as it does in a few minutes. The determination of the specific gravity may then be completed, and the chloroform and benzine returned to a stoppered bottle for future use; the blood drops are readily filtered out by pouring it through muslin. The hemoglobin estimation may then be continued and completed. Finally, after further complete mixing in the pipettes before samples are taken, the red and white corpuscles are successively enumerated under the microscope. The films wait until next day, and then require but ten minutes for their staining and mounting.

The complete blood examination, without a differential leucocyte count, need not occupy more than three-quarters of an hour; a differential count will take a little longer.

177. **The Lorenz Method in Congenital Hip Dislocation.**—Clarke reviews Lorenz's manipulations, and sums up as follows:

> Lorenz's method of treating congenital dislocation of the hip is based on correct anatomic and physiologic grounds; it is the outcome of an exceptional experience, both of open and subcutaneous operating; in a considerable proportion of cases it gives a perfect anatomic and physiologic result (i. e., it cures a condition hitherto deemed incurable); in a still greater number of cases it affords a permanent functional improvement that relieves the patient of the grievous disabilities which the deformity usually entails if left untreated. In the remaining cases, in which the method fails to give a firm articulation placed anteriorly, the manipulative operation of Lorenz is a necessary preliminary to any subsequent treatment by open operation that may be undertaken. The manipulative operation is free from danger, save when treatment has been too long delayed.

179. **Gastric Tetany.**—Moynihan reports a case with recovery, though the patient afterwards died of pneumonia. The point which he emphasizes is that gastric tetany is not the rare or serious disease which has been described by Frankl Hochwart and others. Of the five cases which he has observed, all were due to simple diseases; gastroenterostomy was performed in all, and all recovered.

Journal of Tropical Medicine, London.

March 2.

186 Oriental Sore with Specific Orchitis. Dr. Manson.
187 The Antisepsis of Major Eye Operations, as Practiced by Some of the Leading Ophthalmologists of Europe. (To be continued.) R. H. Elliot.
188 Cases Illustrative of Elephantiasis. W. Renner.
189 Notes on a Case of Ainhum in South Africa. John Muir.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume I. March, 1903. Surgery of the Head, Neck and Chest—Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Cloth. Pp. 450. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1903.

THE DISEASES OF WARM COUNTRIES. A Handbook for Medical Men. By Dr. B. Scheube, State Physician and Sanitary Adviser, Greiz. Translated from the German by Pauline Falcke, with Addenda on Yellow Fever, by James Cantlie, M.B., F.R.C.S.; and on Malaria, by C. W. Daniels, M.B., M.R.C.S. Edited by James Cantlie, M.A., M.B., F.R.C.S., D.P.H., Lecturer at the London School of Tropical Medicine. With All the Original Colored Maps, Charts, Illustrations, Etc., Together with Many Additional Plates, from the *Journal of Tropical Medicine*. Second Edition, Revised. Cloth. Pp. 594. Price, $8.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. Carl von Noorden, Physician-in-Chief to the City Hospital, Frankfurt a. M. Authorized American Edition, Translated Under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastro-intestinal Tract, Hygiene, and Climatology, Department of Medicine, Temple College. Part III. Membraneous Catarrh of the Intestines (Colica Mucosa). By Prof. Dr. Carl von Noorden, with the Collaboration of Dr. Carl Dapper. Cloth. Pp. 64. Price, $0.50. New York: E. B. Treat & Co. 1903.

THE MYCOLOGY OF THE MOUTH. A Text-Book of Oral Bacteria. By Kenneth Weldon Goadby, D.P.H. Camb., L.R.C.P., M.R.C.S., L.D.S. Eng., Bacteriologist and Lecturer on Bacteriology, National Dental Hospital. With Illustrations. Cloth. Pp. 241. Price, $3.00 net. London, New York, Bombay: Longmans, Green & Co. 1903.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION. At the Fifty-eighth Annual Meeting, Held in Montreal, Que., June 17-20, 1902. Cloth. Pp. 333. Published by American Medico-Psychological Association. 1902.

BACTERIA IN DAILY LIFE. By Mrs. Percy Frankland, Fellow of the Royal Microscopical Society. Cloth. Pp. 216. Price, $1.75 net. London, New York and Bombay: Longmans, Green & Co. 1903.

MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volume XXXV. Cloth. Pp. 369. London: Longmans, Green & Co. 1902.

SIXTH ANNUAL REPORT OF THE EPISCOPAL EYE, EAR AND THROAT HOSPITAL, Washington, D. C., 1902. Paper. Pp. 54.

REPORT OF THE TRUSTEES OF THE NEWBERRY LIBRARY, for the Year 1902. Paper. Pp. 28. Chicago. 1903.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending March 14, 1903:

Surgeon G. P. Lumsden, detached from the *Hancock* and ordered home to wait orders.

Medical Director J. R. Waggener, commissioned medical director from Jan. 20, 1903.

P. A. Surgeons H. H. Haas and W. H. Bucher, commissioned passed assistant-surgeons from Jan. 10, 1903.

P. A. Surgeons E. O. Huntington, J. B. Dennis and E. Thompson, commissioned passed assistant-surgeons from Feb. 10, 1903.

Asst.-Surgeon B. H. Dorsey, appointed asst.-surgeon March 2, 1903.

Pharmacist I. N. Hurd, detached from the Navy Yard, Portsmouth, N. H., and ordered to Washington, D. C., for examination for retirement, and thence home to wait orders.

Surgeon E. S. Bogert, Jr., detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered home to wait orders.

A. A. Surgeon P. F. McMurdo, ordered to the *Gloucester*.

P. A. Surgeon W. P. Grove, detached from duty with Marine Detachment, Culebra, P. R., and ordered to Naval Hospital, New York, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 12, 1903:

P. A. Surgeon A. R. Thomas, granted leave of absence for two months from February 25.

Asst.-Surgeon J. W. Kerr, leave of absence granted by Department letter of Sept. 20, 1902, amended so that said leave shall be for one month and fifteen days.

Asst.-Surgeon A. D. Foster, on the return of medical officer in command, relieved from duty at Wilmington, N. C., and directed to proceed to Charleston, S. C., and assume command of the service, relieving A. A. Surgeon F. F. Sams.

A. A. Surgeon L. C. Bean, granted leave of absence for two days.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for one day.

A. A. Surgeon W. E. Patrie, granted leave of absence for fourteen days from February 27.

A. A. Surgeon J. C. Rodman, granted leave of absence for three days.

Pharmacist J. Achenbach, relieved from duty at Port Townsend Quarantine, Wash., and directed to proceed to Port Townsend, Wash., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist R. F. Troxler.

Pharmacist E. J. Thurston, to proceed to Gulf Quarantine and report to medical officer in command for duty.

Pharmacist C. H. Woods, granted leave of absence for twenty days from March 21.

Pharmacist H. E. Davis, relieved from duty at Louisville, Ky., and directed to proceed to Memphis, Tenn., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist E. M. Holt.

Pharmacist R. F. Troxler, on being relieved from duty at Post Townsend, Wash., to proceed to Port Townsend Quarantine and report to medical officer in command for duty.

Pharmacist E. M. Holt, on being relieved from duty at Memphis, Tenn., directed to proceed to Louisville, Ky., and report to medical officer in command for duty and assignment to quarters.

PROMOTION.

Asst.-Surgeon H. B. Parker, commissioned as passed asst.-surgeon, to rank as such from March 3, 1903.

RESIGNATION.

P. A. Surgeon A. R. Thomas, resigned, to take effect April 25, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 14, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 28-March 7, 11 cases.

California: Fresno, Feb. 1-28, 23 cases; Los Angeles, Feb. 22-28, 4 cases; Sacramento, Feb. 22-28, 3 cases; San Francisco, Feb. 22-March 1, 8 cases.

Colorado: Denver, Feb. 22-28, 10 cases.

Florida: Jacksonville, Feb. 28-March 7, 3 cases.

Illinois: Feb. 28-March 7, Alton, 1 case; Chicago, 12 cases, 4 deaths.

Indiana: Elwood, March 1-8, 6 cases; Evansville, Feb. 28-March 7, 5 cases; Indianapolis, Feb. 28-March 7, 19 cases, 8 deaths.

Iowa: Davenport, Feb. 28- March 7, 1 case.

Kansas: Wichita, Feb. 28-March 7, 2 cases.

Kentucky: Lexington, Feb. 28-March 7, 1 case; Newport, March 1-8, 1 case.

Louisiana: New Orleans, Feb. 28-March 7, 3 cases.

Massachusetts: Feb. 28-March 7, Fall River, 2 cases; New Bedford, 1 case.

Michigan: Feb. 28-March 7, Ann Arbor, 1 case; Marquette, 1 case; Port Huron, 5 cases.

Missouri: St. Louis, March 1-8, 5 cases.

Nebraska: Omaha, Feb. 28-March 7, 2 cases.

New Jersey: Jersey City, March 1-8, 1 case; Newark, Feb. 28-March 7, 3 cases.

New York: Buffalo, Feb. 28-March 7, 1 case, 1 death.

Ohio: Cincinnati, Feb. 27-March 6, 6 cases, 1 death; Cleveland, Feb. 28-March 7, 2 deaths; Dayton, Feb. 28-March 7, 5 cases; East Liverpool, Feb. 1-28, 2 cases.

Pennsylvania: Feb. 28-March 7, Erie, 3 cases; Johnstown, 1 case, 1 death; McKeesport, 1 case; Philadelphia, 17 cases, 4 deaths; Pittsburg, 27 cases, 1 death.

South Carolina: Charleston, Feb. 28-March 7, 2 cases, 1 death.

Tennessee: Memphis, Feb. 28-March 7, 3 cases.

Utah: Salt Lake City, Feb. 23-March 7, 26 cases.

Wisconsin: Green Bay, March 1-8, 1 case; Milwaukee, Feb. 28-March 7, 6 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 7-14, 6 cases.

Belgium: Antwerp, Feb. 7-14, 1 case; Liege, Jan. 31-Feb. 7, 1 case, 1 death.

Brazil: Rio de Janeiro, Jan. 17-Feb. 6, 14 deaths.

Canada: Hamilton, Feb. 28-March 7, 1 case; Winnipeg, Feb. 1-28, 2 cases.

Canary Islands: Las Palmas, Feb. 7-14, 32 cases.

Germany: Hamburg, Feb. 14-21, 1 case.

Great Britain: Birmingham, Feb. 14-21, 8 cases, 1 death; Dublin, Feb. 14-21, 2 cases; Leeds, Feb. 14-21, 9 cases, 2 deaths; Liverpool, to Feb. 21, 105 cases, 5 deaths; London, Feb. 14-21, 7 cases; Manchester, Feb. 7-21, 52 cases, 3 deaths; Sheffield, Feb. 7-21, 4 cases.

India: Bombay, Feb. 3-10, 53 deaths.

Mexico: City of Mexico, Feb. 15-22, 2 cases, 1 death.

Russia: Odessa, Feb. 7-11, 3 cases, 1 death; St. Petersburg, Feb. 7-14, 75 cases, 14 deaths; Warsaw, Feb. 19-26, 2 deaths.

Spain: Barcelona, Feb. 1-15, 4 deaths; Malaga, Jan. 1-31, 3 deaths; Valencia, Feb. 1-15, 3 deaths.

Straits Settlements: Singapore, Jan. 10-17, 4 deaths.

Switzerland: Zurich, Feb. 7-14, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, Jan. 16-Feb. 6, 75 deaths.

Mexico: Vera Cruz, Feb. 21-28, 3 cases, 3 deaths.

CHOLERA—FOREIGN.

India: Bombay, Feb. 3-10, 1 death; Calcutta, Jan. 31-Feb. 11, 33 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Jan. 16-Feb. 6, 4 deaths.

India: Bombay, Feb. 3-10, 649 deaths; Calcutta, Jan. 31-Feb. 7, 142 deaths; Karachi, Feb. 1-8, 38 cases, 39 deaths.

Mexico: Mazatlan, Feb. 7-14, 41 cases, 20 deaths; to March 6, 302 cases, 250 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, March 9, 1 death.

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Original Articles.

FRACTURES INTO AND ABOUT THE ELBOW JOINT.*

J. HENRY BARBAT, PH.G., M.D.

Instructor of Surgery, Medical Department University of California.

SAN FRANCISCO.

Fractures involving the elbow joint, if not properly treated, will often result in impairment of function, amounting in some cases to complete ankylosis, and when we consider that even slight limitation of the movements of this joint may incapacitate an individual from following the trade of his choice, it behooves us to not neglect even apparently trivial injuries of this joint. Motion is limited by either a malposition of the fragments, the overproduction of callus or the interposition of bone fragments in the joint cavity.

The overproduction of callus is sometimes difficult to avoid; but unless the bone be comminuted we can maintain the proper relation of fragments by either nails, wire, staples or plates, and any piece of bone which finds its way into the joint cavity should be removed. Opening of the joint is fraught with much less danger, so far as the subsequent motion is concerned, than leaving the fragments in faulty positions or loose pieces of bone in the cavity.

Before discussing the diagnosis of elbow-joint injuries I will briefly recall the anatomy of these parts, because without this knowledge we are absolutely unable to correct intelligently any of the various injuries which might befall this joint.

The elbow is a hinge joint; the bones entering into its formation are the trochlear surface of the humerus, which is received into the greater sigmoid cavity of the ulna, and admits of the movements peculiar to this joint, viz., flexion and extension; while the lesser, or radial head, of the humerus articulates with the cup-shaped depression on the head of the radius; the circumference of the head of the radius articulates with the lesser sigmoid cavity of the ulna, allowing of the movements of pronation and supination. The articular surfaces are covered with a thin layer of cartilage and held together by means of a capsular ligament, which is thicker on the sides than in front or back. The joint is lined with a synovial membrane, which is attached to the inner surface of the capsular ligament and reflected on the articulating surfaces of the bones, lining the olecranon and coronoid fossæ, and being continuous with the synovial membrane lining the superior radio-ulnar articulation.

On each side of the lower end of the humerus is found a prominence, the external and internal condyle, the internal being much larger than the external, and therefore more liable to injury.

The articular surface of the humerus is divided by a ridge into two parts, the internal extending lower than the external and known as the trochlea articulating with the greater sigmoid cavity. The outer part is called the radial head or capitellum and articulates with the upper end of the radius. The fact that the trochlea projects below the capitellum produces what is known as the carrying angle of the elbow, so that when the arm hangs naturally with the palm forward there is an angle of ten degrees at the elbow, enabling one to carry a bucket and at the same time rest the elbow on the trunk. Above the trochlea in front is a depression, the coronoid fossa into which fits the coronoid process of the ulna, the



Fig. 1.—Before operation.

olecranon being received into the olecranon fossa just above the trochlea behind. The upper end of the ulna presents two processes and two cavities, the olecranon process is a thick curved piece of bone which is continuous with the posterior border of the ulna and gives attachment to the triceps muscle and the posterior portion of the capsular ligament of the joint; the coronoid process projects horizontally forward from the upper and front part of the ulna, giving attachment at its base to the brachialis anticus and the anterior portion of the capsular ligament. The greater sigmoid cavity is formed by the olecranon and coronoid processes, the lesser sigmoid cavity is a narrow depression in the outer side of the coronoid process which articulates with the side of the head of the radius. The upper extremity of the

* Read before the Alameda County Medical Association at the October meeting.

radius is called the head and presents a shallow depression on top; the circumference of the head is round and smooth and rotates in the lesser sigmoid cavity, being held in place by the orbicular ligament.

A knowledge of the development of the ends of these bones is of great importance in the treatment of fractures in children, and the text-books give only a general idea



Fig. 2.—Before operation.

of the time and manner of development. I have taken a large number of skiagraphs of elbows of children, the ages varying from 1 to 15 years, and I find that the beginning of ossification in the various centers depends, not only on the age, but on the general development of the child. In some cases a center of ossification would

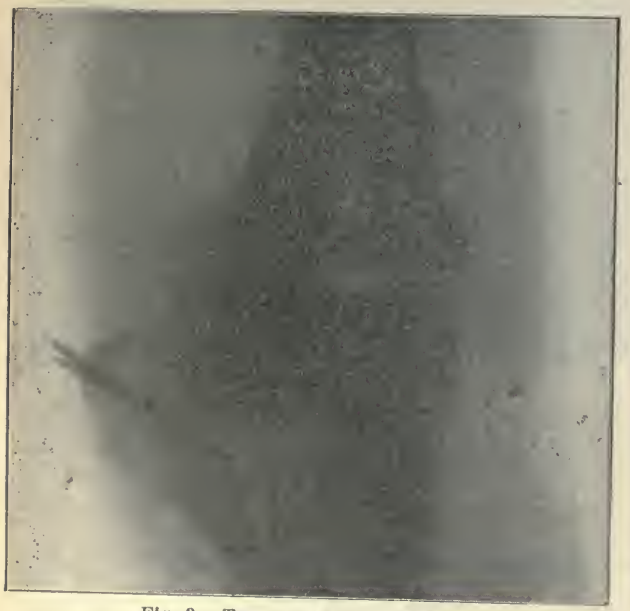


Fig. 3.—Two weeks after operation.

show three years in advance of the text-book time, and in others would be later. It was noticed, however, that, as a rule, the *x*-ray showed the ossific center at least one year sooner than the books would expect.

The diagnosis of fractures of the elbow joint can not be accurately made without the *x*-ray. I do not mean to be understood that the *x*-ray takes the place of palpation or that a correct diagnosis can be made by anyone by simply looking at a skiagraph of an injured joint; but I do say that, without one or more well-made skiagraphs taken in the proper planes, no surgeon can venture to make an accurate diagnosis of fractures involving the elbow joint.

In fractures of the shafts of long bones we often get functionally good results, even when the fragments have not been accurately adjusted, but in fractures involving the joints, and especially the elbow joint, we can not expect any such results, and we must see that all the broken parts are placed in their normal positions and retained there until union has taken place.

The following case is of interest on account of its rarity; I have not been able to find one recorded which was similar in character:

G. M., aged 16, was sent to me for examination three weeks after having received a fall on the elbow. The arm had been treated by means of a right-angled splint, which had been removed every few days and readjusted. At the end of three weeks the joint was found to be immovable, allowing neither extension nor flexion. Pronation and supination were almost



Fig. 4.—Nine weeks after operation.

normal. The carrying angle was very much increased, and the internal epicondyle was much flatter than that of the other arm. Slight crepitus was elicited while making pronation or supination. Two *x*-ray plates were taken at different angles, and showed that the internal epicondyle had been broken off and was lying between the trochlea and the greater sigmoid cavity, with the broken surface in contact with the cavity. The capitellum showed a small piece chipped off, but in proper position.

Operation was advised and accepted. An incision was made directly over the internal condyle down into the joint, and the epicondyle found exactly as shown by the *x*-ray. The flexor and pronator tendons were still attached to it, and their function had not been impaired. The internal lateral ligament had, of course, been torn through and the ulnar nerve was found surrounded by inflammatory tissue, and was dissected loose. The epicondyle was lifted from its position with great difficulty, first on account of the adhesions which had formed and also because it could not be tightly grasped without danger of crushing.

After its liberation it was found that the muscles had contracted to such an extent that it was impossible to bring the fragment to its original position, and it had to remain about one-fifth of an inch lower down than normal. While

in this position I drove two wire nails directly through the epicondyle into the condyle, being careful to avoid entering the olecranon or coronoid fossa. The lateral ligament was brought together with catgut, and the skin with silkworm gut, leaving the heads of the nails protruding.

The arm was put up in a straight splint and left for two weeks, after which one nail was taken out and passive motion begun; the other nail was removed one week later. There was considerable callus surrounding the humero-ulnar articulation, but under massage this is gradually diminishing and the patient is at present, nine weeks after the operation, able to move the joint without much pain, and can extend the forearm almost to a straight line and flex it to beyond a right angle. There is yet some callus to be absorbed, and we may expect that after another month or two the arm will be in almost perfect condition. The carrying angle is still too great, showing that there is some thickening of the synovial surfaces between the ulna and humerus. The small piece which was chipped off from the capitellum is causing very little, if any, disturbance, and appears to be united to the humerus in good position.

To obtain skiagraphs which will show accurately the injury to an elbow we place the arm with the two condyles of the humerus on the same plane as the plate,



Fig. 5.—Nine weeks after operation.

and the forearm extended as far as it will go, this will show any fracture of the lower end of the humerus, or of the condyles, but will not give an accurate idea of the direction of oblique fractures which run in an antero-posterior direction. It will therefore be necessary to take another skiagraph, with the plane of the condyles at right angles to the plate, and the forearm flexed at almost a right angle and the hand pronated. It may be impossible in some varieties of injuries to get the arm in these positions, but we should strive to come as close as possible, because if we habituate ourselves to certain positions and relations we can with greater ease detect any deviation from the normal, and right here let me remark that no one is capable of interpreting a skiagraph of an injured bone or joint who has not made a study of the skiagraph of bones and joints which are known to be normal.

In diagnosing elbow injuries in children under 18 years of age it is absolutely necessary to take pictures of the sound as well as the affected side, on account of the fact that the epiphyses are either entirely cartilaginous or not yet united to the shaft of the bone. It may be difficult to tell whether there has been a dislocation of one of the epiphyses by either palpation or x-ray if there is no deformity, but by comparing the skiagraphs of the two sides the slightest abnormality can be detected, and I find it better in all cases to keep the arm splinted for at least two weeks when the child complains of pain or shows a disinclination to use the arm.

Fractures of the olecranon are best treated by driving a long wire nail through the tip of the process down into the shaft of the bone; this may be done without cutting if the fragment can be properly adjusted and there is no blood between the pieces, otherwise it is better to cut the skin and clean out the blood first. Broken-off condyles are retained in position by means of steel staples, one prong of which is driven into the shaft of the bone and the other prong into the fragment. In using staples or nails which have to enter the compact tissue of the bone it is necessary to drill holes before driving them in, being careful that the holes are just small enough to hold the nail or staple tightly. In cancellous bone nails may be driven in without drilling.

First make your diagnosis, then adjust the fragments, and if a splint will not retain them in proper position, make fixation as I have indicated, being particularly careful as to your asepsis, and your results will be very much superior to those obtained by the expectant plan.

590 Sutter Street.

A CASE OF SUCCESSFUL REMOVAL OF AN ENLARGED SPLEEN,

WITH TWISTED PEDICLE, ADHERENT TO THE RIGHT SIDE OF THE PELVIS, IN A WOMAN PRESENTING MULTIPLE NODULATION AND PIGMENTATION OF THE SKIN.

J. CLARENCE WEBSTER, M.D.
CHICAGO.

WITH REMARKS ON THE MEDICAL ASPECTS OF THE CASE.

THEODORE TIEKEN, M.D.
CHICAGO.

NARRATION OF THE CASE.

Mrs. W., Jewess, housewife, aged 38, was admitted to my service in the Presbyterian Hospital, Chicago, Aug. 25, 1902, with pain in the pelvis and lower abdominal region, generally of a dull, aching character, varying in intensity and radiating occasionally to different portions of the upper abdominal and thoracic regions.

The pain is most marked in the right iliac region, where there is a swelling which varies in size and consistence from time to time. The latter is usually tender when palpated. There is always great aggravation of her suffering during menstruation.

She also complains of frequent and occasionally painful micturition, shortness of breath, intense headaches, swollen feet, leucorrhea, and of occasional bloody stools. She also complains of a swelling in the region of the navel, of discoloration and nodulation of the skin.

Duration and History.—The patient states that she first noticed the swelling in the right iliac region 17 years ago, after the birth of her first child. It was then flat and about as large as her hand. It gradually increased in size, becoming more and more painful and sensitive to pressure. Eight years ago she was seized with intense agonizing pain of a colicky nature, and ever since has suffered from similar attacks every two or three months; they usually last one or two days, and the patient is compelled to inhale chloroform in order to obtain relief.

Frequently after the attacks the urine was noticed to be dark, reddish-brown in color and somewhat foul-smelling.

As it was voided there was usually smarting in the bladder and urethra. The iliac swelling at other times became smaller, less firm in consistence and less tender.

The pigmentation and nodulation of the skin have been present for many years. They began to appear about a year after the development of the swelling in the right side.

Four years ago, an abdominal section was performed in another hospital and the patient states that the operator informed her that the swelling was an inoperable tumor of the right kidney and that nothing could be done. A few months after this operation the abdominal wall cicatrix began to stretch and a ventral hernia gradually developed.

Sexual History.—Menstruation began at 13. The type has always been irregular until the time of operation four years ago; ever since it has been fairly regular, of the 28-day type. The duration is usually 5 days, the flow being profuse. There has always been some pain in connection with the periods, most marked immediately before and after. Since the appearance of the swelling in the right iliac region, the pains have been very severe at menstrual periods. She states that at these times she frequently passes blood in her stools.

Previous History.—In early life she had various diseases of childhood. As a young woman she lived in the south and had malarial attacks several times. At the age of 22 she had pulmonary hemorrhages during a period of eight months, losing considerably in weight at the time; five years ago she was also similarly troubled for several months. She coughs occasionally, and states that she "catches cold in her chest" easily. At the age of 26 she had typhoid. For many years she has been troubled at times with pains in various joints; they have sometimes swelled and become very painful. She states that on two or three occasions she has been jaundiced.

Family History.—Her father was alive when she last heard of him, two years ago. Her mother died at 66 of measles. She has two sisters who are well. Several members of her father's family have had tuberculosis.

State on Admission.—The patient is somewhat poorly nourished and has a haggard expression. The skin of the face is of a light brown hue, the pigmentation varying in different parts. The trunk is also pigmented, there being a generally diffused light brown tint, as well as patches of deep brown, varying in size from one to six or eight centimeters in diameter. Many cutaneous nodules, varying in size from a pin head to a marble, are also visible. Some are entirely below the surface, some bulge the latter slightly, others are sessile or pedunculated.

Abdomen.—In the middle line there is a vertical scar extending downward five inches from a little above the navel. The latter is everted and stretched as is the scar tissue. The recti muscles are 3½ inches apart in the region of the navel as the patient lies on her back. In the erect posture the intestines bulge between the muscles, forming a hernia in almost the whole length of the scar. In the right iliac region a swelling is visible, being very prominent. It is firm in consistence and can not be moved. The patient states that it is tender when it is palpated firmly. Its upper end is about 2 in. above the level of the anterior superior iliac spines. It descends below the pelvic brim, where it is in close relation to the right half of the retroverted uterus.

Bimanual Examination.—The uterus is somewhat enlarged, retroverted and fixed. The appendages are matted and fixed at the sides of the uterus and are somewhat sensitive. The right half of the pelvis is occupied by the lower portion of the iliac swelling. It is close to the uterus with which it appears to be connected.

Examination of Blood.—(Made by Drs. Farnum and Barnhardi.) Erythrocytes per c.mm., 4,016,000; leucocytes per c.mm., 16,800; hemoglobin, 70 per cent.

Urinalysis.—Amount in 24 hours 400 c.c., sp. gr. 1,010, acid. Slight trace of albumin, a few leucocytes and epithelial cells. Some erythrocytes. A few hyaline casts. Urates.

On August 29 the interior of the bladder was examined. The mucosa was normal save behind the trigone, where there was a small, deeply-congested area.

The ureters were catheterized. The left catheter was easily passed. The right one met with an obstruction about 3 inches above the bladder, but, after a little manipulation was passed upward about 10 inches. The catheters were left *in situ* for 1¼ hours. The specimens of urine differed somewhat, as follows:

RIGHT SPECIMEN.	LEFT SPECIMEN.
Very turbid.	Quantity 3½ times that of the right side.
Consid. serum-albumin.	Slight serum-albumin.
Urea 1.3.	Urea 1.7.
A few hyaline casts and one blood cast.	No casts.
Small transitional epithelial cells.	
Many erythrocytes.	Some.
Few leucocytes.	Few.

Temperature and Pulse.—The temperature varied considerably while the patient was in hospital. It was usually normal, but frequently varied from 99 to 102. The pulse varied greatly, from 72 to 120.

X-ray examination of the abdomen and pelvis revealed no calculus.

The patient was kept under observation until September 9, when she was sent home.

Treatment.—She was placed on milk diet, a mixture of sodium iodid, sodium chlorid and sodium phosphate being administered. The daily quantity of urine gradually increased. Slight variations in the size and sensitiveness of the iliac swelling were noted from time to time.

September 17 the patient returned to hospital and was prepared for abdominal section. Previous to operation the hemoglobin was 80 per cent. and the leucocytes 8,800 per c.mm. The 24-hour quantity of urine was 2,000 c.c.; no casts were found in it and only a few erythrocytes and leucocytes.

Operation.—September 25 the abdomen was opened in the middle line. Both kidneys were found to be normal in size and position. The liver was normal. The stomach and transverse colon were lower than normal. Anterior to the iliac swelling were small intestines and omentum. The latter enveloped a considerable portion of the swelling and was widely adherent to it, as well as to the parietes and pelvic viscera.

The swelling proved to be an enlarged spleen. It was adherent to omentum, intestines, iliac fossa, bladder, right appendages and uterus. The vermiform appendix was enlarged and buried in adhesions on the posterior surface of the spleen. Extending from the hilum of the spleen a rope-like band extended upwards and to the left towards the celiac axis. It consisted of the twisted splenic vessels. I estimated that the pedicle of the spleen had in it between two and three twists. The vein was enormously enlarged, especially near the spleen, where its diameter was nearly an inch. The uterus was retroverted and the appendages buried in adhesions. The small intestines and sigmoid flexure were firmly adherent to the uterus and broad ligaments.

After removing a large portion of the omentum, the adhesions around the spleen were separated with some difficulty. The vessels in the pedicle were secured with catgut, and the spleen was removed. As the patient's pulse had become very rapid and irregular, it was deemed advisable not to interfere with the pelvic organs. The abdomen was filled with salt solution and closed, the separated recti being well approximated.

The patient made a good recovery. During the first two days the pulse varied from 90 to 120, but thereafter was satisfactory.

On October 24 she returned home, feeling in good condition. There has been a considerable clearing up of the skin-pigmentation since the operation, but no change has been noticed in the nodules.

Report on the Spleen.—The spleen weighs 28 ounces and measures 7 in. vertically, 4 in. in breadth and 3½ in. in thickness. It is dark colored, the capsule is thickened and covered with adhesions and portions of omentum. Dr. Hamley's report as to the microscopic examination is as follows:

1. Marked congestion, uniform throughout the spleen, only a slight degree being observed within the Malpighian corpuscles.

2. A moderate increase in the connective tissue trabeculæ and walls of blood-vessels.

3. Some thickening of the capsule.

4. Mast-cells are very numerous.

5. In some parts there is increased pigmentation.

A few skin-nodules were removed for examination and Dr. Hamley reports on them as follows:

Each consists of fibro-cellular tissue, varying in compactness and in the character of the cells; the latter are mostly round. In some parts hyaline degeneration is found. Many mast-cells and plasma-cells are seen, the former not being found in the degenerated areas. Mitotic figures are occasionally noticed in the connective tissue cells. The nodules contain a few capillaries. The epithelium of the skin is considerably thinned over some of the nodules.

REMARKS ON THE CASE.

The case presents features of considerable interest. In the first place there was great difficulty in determining the nature of the iliac swelling. The patient's statement that her abdomen had been opened four years previously and that the operator had stated that the mass was an inoperable right renal tumor naturally biased our judgment. In view of the long duration of the swelling and its slow increase in size, malignancy could not come into consideration. If a new growth it seemed more likely to be some form of benign fibrous fibro-cystic or fibro-lipomatous swelling, similar to those described by Wilks, Bristowe, Billroth and others. Wilks in 1869 described such a tumor of the right kidney as large as a child's head, which had caused hematuria and pain for ten years. The pigmentation of the skin suggested an involvement of the suprarenal bodies.

The clinical symptoms, however, suggested strongly hydronephrosis of the intermittent type, associated with a calculus or with stricture or torsion of the ureter. There were severe crises of pain requiring the administration of chloroform, the swelling varied in size and became smaller when urine was passed after the attacks of pain. The urine was frequently dark as if containing blood, and on ureteric examination blood was found in it. The presence of leucocytes in the urine and the irregular elevation of temperature suggested an infective process in the supposed renal swelling. No stone was found on *x*-ray examination. The passage of a catheter for ten inches into the right ureter did not seem consistent with the supposition of ureteric torsion, especially when the kidney appeared to be partly within the pelvic cavity. An obstruction was felt a short distance above the bladder, but the catheter passed it without great trouble. The patient's statement as to the increase and diminution in the size of the tumor was then thought to be exaggerated or to be explained by a rising and falling, merely due to filling and emptying of the bladder. Slight variations in the size and consistence of the swelling were certainly observed by me, but were not at all marked. The possibility that the tumor might be a pedunculated uterine fibroid, a fibroma or dermoid of the ovary or a large right hydrosalpinx was considered, but only by conjecture. Such swellings might be of long duration and might cause pressure on the ureter, especially if associated with marked displacement of the pelvic viscera and cicatrizations following old peritonitic adhesions. It was never supposed that the swelling might be a spleen.

A wandering spleen may undoubtedly sometimes enter the pelvic cavity, and an enlarging spleen, e. g., in splenic anemia or leucocythemia, may descend into the pelvis on the left side and be mistaken for a tumor of pelvic origin. The present case is the only one recorded, so far as the writer has been able to ascertain, in which an enlarged spleen has become fixed in the right side of the pelvis.

The variations in the size of the tumor were probably associated with increase and diminution of the quantity of blood in the spleen, associated with disturbances in the circulation due to torsion of the pedicle. The attacks of pain were similar to those associated with torsion of the pedicle of ovarian and fibroid tumors, local peritonitis having developed leading to adhesions between the spleen and surrounding structures. Bland Sutton has pointed out that retroversion of the uterus may be caused by the descent of a wandering spleen into the pelvis. It is extremely likely that this relationship existed in the present case, the firm adhesions which covered the uterus and appendages having resulted from peritonitis secondary to splenic torsion.

MEDICAL ASPECTS OF THE CASE.

THEO. TIEKEN, M.D.

Blood Examination.—The first examination made was six days after operation, Sept. 30, 1902: Erythrocytes, 4,300,000; leucocytes, 22,000; hemoglobin, 60 per cent (Dare); color index, .69.

(*a*) The fresh specimen shows corpuscles to be of normal size, rather pale, no poikilocytosis. No malarial pigment or living organisms found.

(*b*) Stained specimen (Ehrlich's triacid mixture). Erythrocytes normal size, stained uniformly. No macrocytes; few microcytes; two normoblasts; no megaloblasts; no microblasts; no poikilocytosis; no myelocytes.

(*c*) Differential count of two hundred leucocytes: Small mononuclears, 14 per cent.; large mononuclears, 7 per cent.; transitional forms, 1 per cent.; polymorphonuclear, 77 per cent.; eosinophiles, 2 per cent; no mast cells.

Second examination, nineteen days after operation, Oct. 13, 1902: Erythrocytes, 4,408,000; leucocytes, 13,000; hemoglobin, 72 per cent. (V. Fleischl) 73 per cent. (Dare); color index, .80.

(*a*) Fresh specimen shows normal shape and size of red corpuscles, slightly pale; no malarial organisms or pigment seen.

(*b*) Stained specimen shows similar picture to No. 1; no myelocytes.

(*c*) Differential count of two hundred leucocytes: Small mononuclear, 13 per cent.; large, 17.5 per cent.; transitional forms, 1.5 per cent.; polymorphonuclear, 66.5 per cent.; eosinophiles, 1.5 per cent.; no mast cells.

Third examination, twenty-six days after operation, Oct. 20, 1902: Erythrocytes, 4,420,000; leucocytes, 11,200; hemoglobin, 77 per cent (V. Fleischl); color index, .82.

(*a*) Fresh specimen same as previous examinations; no malarial organisms.

(*b*) Stained specimen: two red corpuscles were found containing a ring of pigment very similar in appearance to the tertian malarial organism. Although unable to find organisms in the fresh specimen, these two were so characteristic as to leave but little doubt. There was no extra-corpuscular pigment in this specimen, which makes it all the more improbable that these were artefacts.

(*c*) Differential count of four hundred leucocytes: Small mononuclear, 12 per cent.; large mononuclear, 17 per cent.; transitional forms, 1.8 per cent.; polymorphonuclears, 65.2 per cent.; eosinophiles, 2 per cent.; no mast cells; no myelocytes.

One large mononuclear cell was seen with faint granules. Five normoblasts were seen while counting four hundred leucocytes.

Comparing the three differential counts we have the following:

	Per cent.	Per cent.	Per cent.
Small mononuclear	14	13	12
Large mononuclear	7	17.5	17
Transitional forms	1	1.5	1.8
Polymorphonuclear	77	66.5	65.2
Eosinophiles	2	1.5	2
Mast cells	0	0	0

Briefly summing up the differential counts made at different periods after operation, we see the following changes: A slight decrease in the small mononuclear elements; an increase in the large mononuclear type from 7 per cent. to 17 per cent.; a very slight increase in the transitional forms; a decrease in the polymorphonuclear type from 77 per cent. to 65.2 per cent.; no change in the eosinophiles.

I am sorry that it is impossible to compare the differential count before operation, as this was not made, because there was nothing to indicate the importance of such a step before discovering that the tumor was an enlarged spleen. The findings as indicated in the above examinations of the blood correspond so closely to those of previously reported cases of splenectomy that we need not dwell further on this part of the subject.

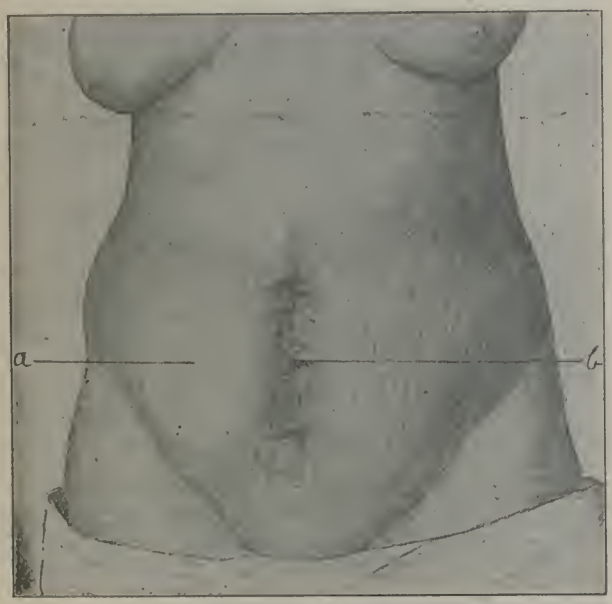


Fig. 1.—Sketch of the anterior surface of the abdomen previous to operation. *a*, Swelling caused by the enlarged spleen; *b*, stretched scar tissue resulting from old operation.

Kurloff's experiments show that the spleen is not indispensable in the guinea-pig and some other animals, as the white corpuscles are formed by the lymphatic glands and bone marrow in sufficient numbers to compensate for the loss incurred by removal of the spleen.

In man, too, it has been found that removal of the spleen is not followed by any serious consequences, numerous cases having been reported in which the operation has been carried out for the relief of certain conditions, e. g., trauma, abscess, tumors, cysts, chronic hypertrophy, cirrhosis, leukemia and splenic anemia. In the latter condition splenectomy has been followed by very satisfactory results and is, undoubtedly, to be regarded as a valuable therapeutic measure.

Da Costa states: "Excision of the spleen in man is followed by a diminution of hemoglobin and erythrocytes, the degree of which is generally believed to be more pronounced than can be accounted for by the simple factor of hemorrhage incident to the operation." As regards the present case, the hemoglobin was reduced to a greater degree than the red cells. No doubt this is to be explained partly by the very slight loss of blood during operation, and partly by the loss of blood prior to operation, from frequent intestinal hemorrhages, hematuria, and possibly profuse menstruation. The leucocytosis was most probably due to the hemorrhage incident to operation, since it rapidly decreased from 22,000 on the sixth day to 11,200 twenty days later. The presence of normoblasts may be attributed to the same factor.

Let us now consider carefully the facts brought out in the history and see if it is possible to arrive at definite conclusions regarding the diagnosis in this case.

Osler has recently reported a series of cases of a disease termed splenic anemia, which he defines as follows: "A specific malady of unknown etiology, char-

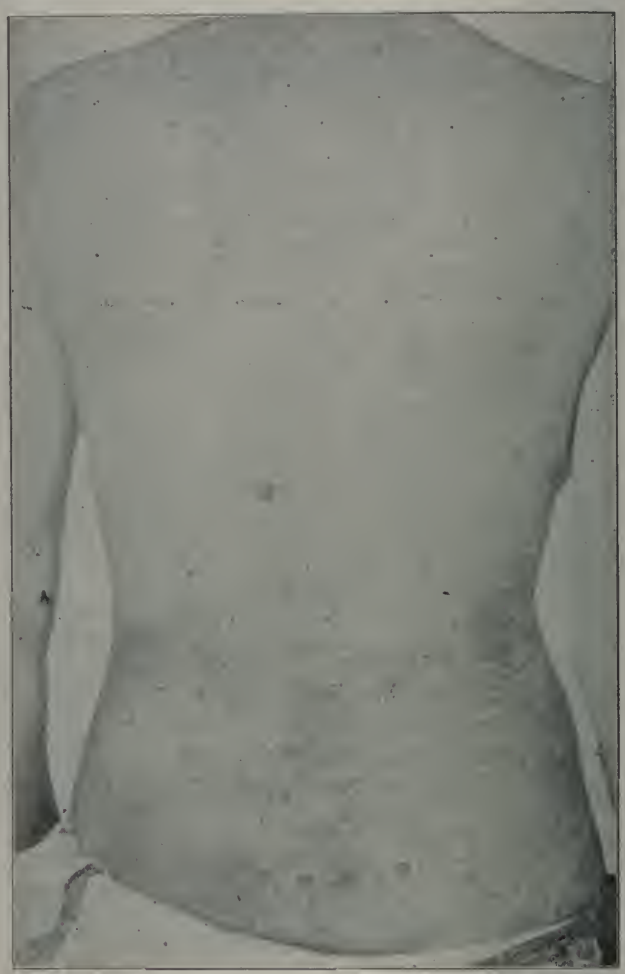


Fig. 2.—Back of patient showing multiple nodulation and pigmentation. The anterior aspect of the trunk presents a somewhat similar appearance.

acterized by a chronic course, enlargement of the spleen, a secondary anemia, a marked tendency to hemorrhage from the stomach, a liability to jaundice, cirrhosis of the liver, ascites and pigmentation of the skin."

In the case under consideration there is no definite etiologic factor explanatory of the various disturbances, although the patient gave a malarial history and had lived in a malarial district. Malaria might account for the splenic tumor, but not for the other signs and symptoms. The history is that of a chronic diseased state, extending over a period of seventeen years or more, associated with enlargement of the spleen. There were the following features: Secondary anemia; a tendency to hemorrhage from the kidney and bowel (the blood passed

in the stools may have come from the stomach); recurring attacks of jaundice; the pigmentation of the skin. Having present so many of the prominent symptoms of a typical case of splenic anemia are we justified in making a diagnosis of splenic anemia? Cases 14 and 18 in Osler's series correspond very closely to ours in every detail, having an enlarged spleen, secondary anemia, pigmentation of the skin, hematuria, jaundice, and in addition, cirrhosis of the liver, which, however, was not demonstrable until late in the disease.

In the case under consideration there was no liver cirrhosis nor any history of ascites. These conditions are, however, usually found only in the advanced stages of splenic anemia. The splenic enlargement is not as large as that reported in most cases of long-standing anemia. Its size might, indeed, be due to chronic congestion and hypertrophy of the tissues secondary to torsion of the pedicle.

In the present case there was a peculiar nodular condition of the skin which came on about one year after the tumor was first discovered. Does this bear any relation to the disease? In reviewing the literature at my command I find no mention of such a condition in splenic anemia. Oertel describes a somewhat similar appearance in a case of leukemia, but there was no such pigmentation associated with it. Kreibich describes another case of leukemic lesions of the skin, associated with some pigmentation, but the patient had been taking arsenic for some time previously, and this might have caused the pigmentation. Pinkus also describes a case of lymphatic leukemic lesions of the skin. Since all of these cases are positively of a leukemic nature, our case is, so far as I can ascertain, the only one of splenic anemia associated with a nodulation of the skin.

Our case was exhibited before the Chicago Dermatological Society, and the opinion was generally expressed that the nodulation was of the nature of a molluscum fibrosum.

A FEW PRACTICAL POINTS IN THE TECHNIC OF NEPHRORRHAPHY AND HERNIOTOMY,

AND A NEW MODIFICATION OF ALEXANDER'S OPERATION.

F. P. CANAC-MARQUIS, M.D.
CHIEF SURGEON OF THE FRENCH HOSPITAL.
SAN FRANCISCO.

In presenting this paper to the medical profession, I wish merely to call attention to a few simple details that I have found of such practical benefit that my results are far superior to what they formerly were.

By referring to my case-books I note that the cases operated on prior to 1890 and in which I followed the technic then in vogue, are not to be compared in practical results, rapidity of healing and permanent benefits, to my subsequent cases, in which I followed the technic here given.

NEPHRORRHAPHY.

An incision 10 cm. long is made 4 cm. from the spine and 2 cm. below the twelfth rib and parallel to it, cutting through the skin, fascia and muscles. The finger is inserted in the incision and the peritoneum is pushed out of harm's way. The fatty capsule of the kidney is caught, opened and resected in the dorsal part of the kidney. The capsule proper is now incised to the extent of 8 cm. on its dorsum, the capsule then freed 3 or 4 cm. in all directions by the finger.

The slight bleeding that follows this denudation is easily arrested by compression. To anchor the kidney, a double silkworm-gut continuous suture is made on each side of the incision, starting at A (Fig. 1), passing through the skin, fat, muscle and capsule proper; taking about 1 cm. of the muscles with the capsule proper and passing out in the inverse order, as shown in Figure 1 at A. The same procedure for the opposite side is shown at B and B′. By pulling these sutures taut, the capsule is drawn to the side and exposes a raw surface of kidney parenchyma about 3 cm. wide and 6 cm. long. A lead nickel-plated shield is threaded and shotted and the shot crushed on these sutures, when moderate tension has been accomplished.

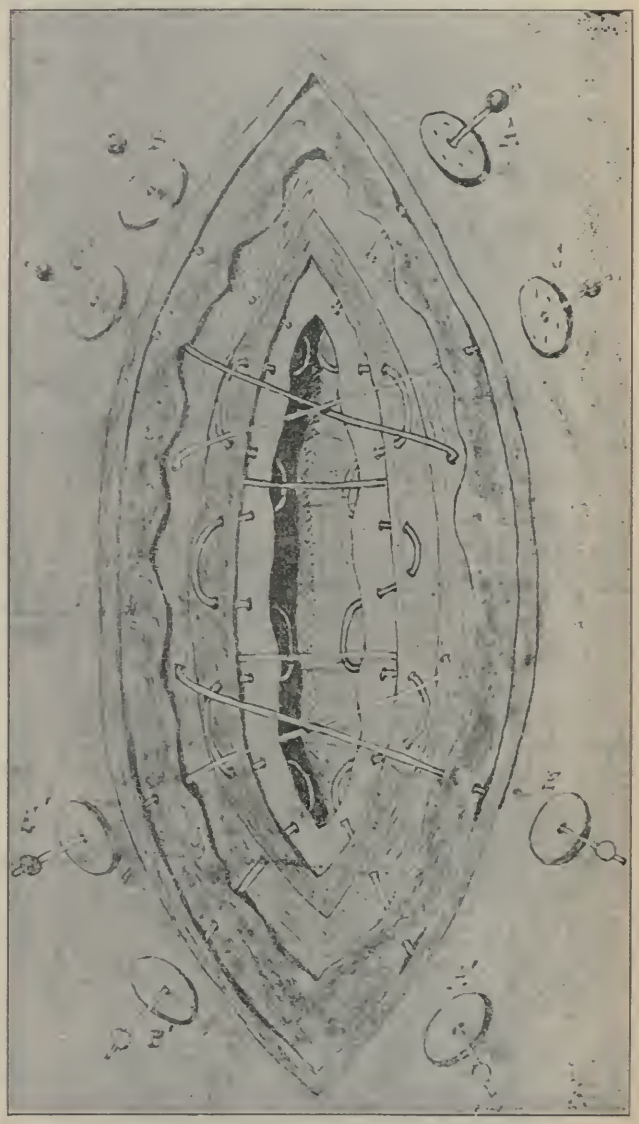


Figure 1.

The next step in this operation is to draw the muscles over the raw surface of the kidney, which is accomplished by passing double silkworm-gut sutures, starting at C, going through skin and fat, crossing over and taking in all of the muscles of opposite side, then recrossing over surface of kidney to take the muscles of the side whence suture started; to be recrossed and take in fat and skin, as shown in Figure 1, C′. The same procedure is followed in lower angle of incision, as shown in Figure 1, E and E′. If necessary, one or two more of this sort of figure-of-eight suture may be made, as shown in Figure 2.

When these figure-of-eight-like sutures are made tense, they serve to draw the muscle edge together and bring

their posterior raw surface in contact with the raw surface of the kidney parenchyma, at the same time bringing the adipose and skin in opposition. The "agraffes" (hooks) of Dr. Michel serve to make linear apposition of the skin, as shown in Figure 3.

The only dressing made is plain sterile gauze with tight-fitting abdominal bandage. The patient is kept

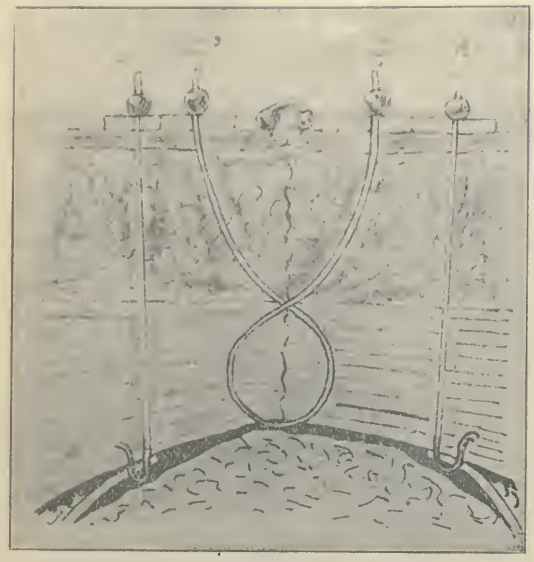


Figure 2.

in dorsal decubitus for about twenty days. The third day the agraffes of Michel are removed and collodion with absorbent cotton applied to skin incision.

On the twelfth to fifteenth day the shot and shield of A and B′, C and E′, are removed, leaving the sutures to loosen by the respiratory movements, so as to avoid

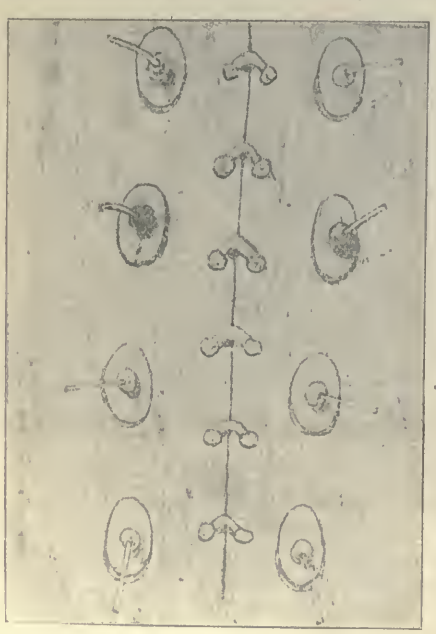


Figure 3.

pain and the possible breaking of the sutures in its final removal, a few days afterward.

By this method, it will be noticed, there are no buried sutures left to serve as a cause for future trouble.

Should there be an excess of oozing, a small strip of gauze may be left for drainage between sutures C and E and removed the second or third day of operation.

Since 1890 I have performed this operation 281 times, following this technic, and have never yet observed a failure. At this time it may serve a useful purpose to remark that in ten cases of double nephrorrhaphy, where, prior to operation, there had existed chronic nephritis and enlarged kidneys, with albumin and granular casts in the urine, in a few months following operation the urine cleared itself of pathologic products, and an evident diminution in the size of the kidneys was apparent, which I attributed to the freeing of the capsule of the kidney and the improved circulation in that organ.

In sixteen cases of single nephrorrhaphy, where the floating kidney was enlarged and congested, the bene-



Figure 4.

ficial effects of the operation were apparent in thirty days and the kidney practically restored to normal in two months following the operation.

TECHNIC OF HERNIOTOMY FOR RADICAL CURE OF HERNIA.

An oblique incision of the skin 5 cm. long is made parallel to the pillars of the inguinal canal. With the finger separate all the cellular tissue until the vas deferens is reached. Gentle traction is now made on the vas deferens, which brings the sac into view, which is usually attached thereto. The sac is now freed from the cord and adjacent structures, and for a distance of 3 cm. around and within the internal abdominal ring.

A curved needle, armed with double silkworm-gut sutures, is inserted at the neck of the sac, following its edge in the entire length of the sac, keeping to the margin, across the fundus and up the opposite edge, making a purse-string suture, as shown in Figure 4,



Figure 5.

C and C′. A second double silkworm-gut suture is now passed through the fundus of the sac, as shown in Figure 4, D and D′.

Now the finger is inserted through the external ring,



Figure 6.

between the peritoneum and abdominal wall. A Doyen's needle is inserted 4 cm. above the pillars and 3 cm. internal, i. e., towards the median line, as shown in A, Figure 4, and passed through skin, fascia and muscles until the finger is reached, and on which it is guided through the wound. Suture C is now threaded to this needle and brought out at A. This same process is followed in A′ by inserting needle 1½ cm. external to A, and on which thread C′ is passed and brought out at A′.

These sutures are now held by forceps. About 3 cm. external to A′ and parallel to it, the Doyen's needle



Figure 7.

is inserted as previously described, and threaded with suture D, and drawn through B; 1½ cm. external to this suture the needle is again inserted as above and threaded with D′ and drawn out at B′. Suture A and A′ are drawn moderately tense and threaded with shields and shot, and shot crushed.

The same process is followed with suture B and B′. It will be readily seen that drawing taut sutures A and A′ and B and B′, the hernial sac is held taut between the



Figure 8.

parietal peritoneum and abdominal wall, making a bulwark above the internal ring, which serves at all times to resist any intra-abdominal pressure.

The cord is replaced in its normal bed and the pillars and abdominal wound carefully closed over it by two

or three figure-of-eight sutures, as described in the technic of nephrorrhaphy and shown in Figure 5.

The final closing of the wound and schematic drawing of the folded sac is shown in Figure 6.

On the third day the Michel hooks are removed and collodion and absorbent cotton applied to the skin incision.

On the tenth to the twelfth day the shot-holding sutures A and B are cut loose, also one end of each of the figure-of-eight sutures are released and left in

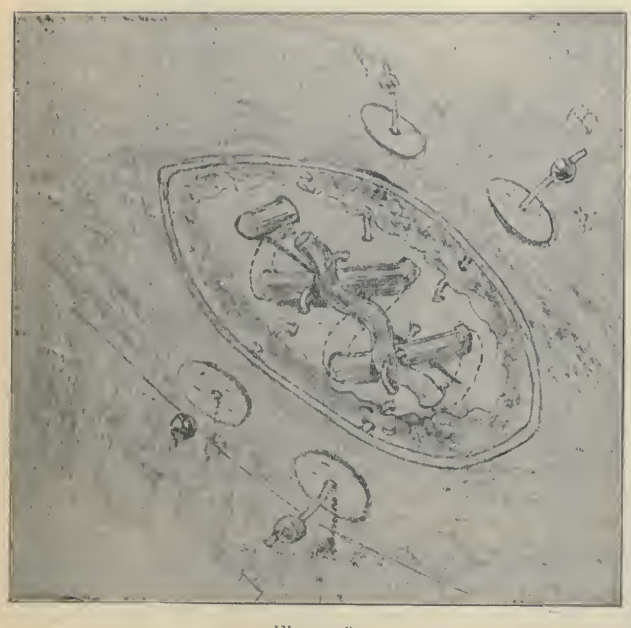


Figure 9.

position for two or three days more, at which time they are easily removed without pain.

Should, at this time, it be found difficult to remove the folded stitch A and A′, a small strip of gauze is wound under the remaining shield so as to form a cushion which will serve to assist the respiratory movements in further freeing the stitch.

In this operation there are no sutures left for absorption or encystment.

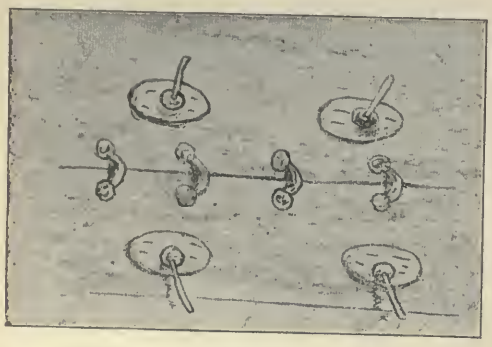


Figure 10.

A NEW MODIFICATION OF ALEXANDER'S OPERATION FOR SHORTENING THE ROUND LIGAMENTS.

An incision of 6 cm. is made over and parallel to the inguinal canal through the skin; with the finger dissect the fatty tissue down to the fascia. With the assistance of a grooved director, perforate the fascia over the inguinal ring. The small bunch of pearly white, fatty tissue, commonly found over the inguinal ring, is picked up, and on the inferior side is found the round ligament. This is now carefully dissected from its peritoneal hood for a space of 10 or 12 cm. A silkworm-gut suture is tied at its distal end. A Deschamp's needle is passed through the fascia and muscle of the inguinal ring about ½ cm. from its edge and threaded with the silkworm-gut suture, as shown in Figure 7.

The round ligament is made to follow this carrier suture and its own structure used as a suture of the inguinal ring. About 2 cm. below, this same method of suturing is followed, as shown in Figure 8. Again, a third suture is made as above. The end of the round ligament is overlapped over the last two round ligament sutures.

These round ligament sutures are anchored in place by silkworm-gut sutures, placed in the following manner: A curved needle, armed with silkworm gut, is passed through the skin and fat and taking a loop of fascia, then passing through the middle of the two crossed round ligaments, dipping again into the fascia and coming through the fat and skin of opposite side, as shown in Figure 9, A and A′. This same process is followed for suture B and B′.

It will be noticed that the inguinal ring and canal will thus be sutured by the round ligament itself and reinforced by its overlapping, which in turn is anchored by a silkworm-gut suture, which, when drawn taut, presses them together and overcomes the necessity of leaving any buried sutures in the wound. These silkworm-gut sutures are threaded with shields and shot, drawn moderately tense and the shot crushed. The Michel hooks are used for the close approximation of the skin edges, and removed the second or third day, and the line of incision covered with collodion and absorbent cotton. In about fifteen days following the operation, shot A and B′ are cut off and the suture left for three or four days more to partly free itself, at which time the sutures may be removed painlessly.

When the round ligaments are illy developed and there is marked uterine retroversion, an assistant is requested to raise the uterus into position by vaginal manipulation.

THE MOSQUITO AS A CARRIER OF DISEASE.

J. STEBBINS KING, M.D.
LATE U. S. ARMY SURGEON IN CUBA.
DECATUR, ILL.

While preparing a paper for the Decatur (Ill.) Medical Society on the "Mosquito as a Carrier of Disease," I was surprised to learn, through the numerous medical journals consulted, that so many of our profession had adopted the extreme, and to me the erroneous, view that the mosquito was the only intermediate host for the transmission of yellow and malarial fevers.

While the various scientific experiments made during the past few years prove conclusively that the mosquito is one great factor in the transmission of these fevers; and that by the extermination of the mosquito, and the proper precautions against allowing this insect to bite those afflicted with these diseases, a great reduction of the number of patients can be made in any community; yet, in my estimation, the evidence does not establish the fact that the mosquito is the only medium through which these fevers can be propagated. Those who maintain that it is claim that the experiments in Cuba, in 1900, of the board for the "Study of the Etiology and Prevention of Yellow Fever," prove the correctness of this, as to yellow fever. It may prove so to those who have not had any practical experience in the treatment and

study of yellow fever during epidemics of that disease; but not to many who have had such experience.

The experiments of the board on which their eighth conclusion, "Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding or merchandise, supposedly contaminated by contact with those sick with the disease, is unnecessary," was founded on placing three non-immunes in a small house in which was placed clothing, bedding, etc., contaminated by having been used by persons sick with yellow fever. They slept there twenty nights, then two other non-immunes took their place for the same time, then again two other non-immunes for the same period. A test was made with these seven men from Nov. 30, 1900, to Jan. 31, 1901. As none of these men contracted the disease, the board at once jumped to the conclusion that this forever settled the non-contagious character of yellow fever—hence their eighth conclusion.

This test was totally inadequate. Perhaps had they placed seven other men to the same test they would have had entirely different results. The erratic and uncertain transmission of yellow fever during an epidemic from one part of an infected district to another, striking down some non-immunes, and leaving others who had been equally exposed, should teach us to place but little reliance on so meager experiments as those made by the board. Yet many members of our profession have followed the dictum of the board, as a flock of sheep will follow their leader, even though he takes them over a precipice and dashes them to death; which will be the result to non-immune physicians and their patients, should they, during an epidemic of yellow fever, disregard all the usual precautions of exposure to infected articles and to proper and thorough disinfection.

During my eleven years' residence in the South, and an experience in the study and treatment of yellow fever during three epidemics, of which one lasted from August 15 to December 25, and occasioned 1,375 cases and 125 deaths within the city limits, there were a number of non-immunes who passed through this terrible scourge—taking care of the sick and being bitten by the numerous culex mosquitoes that existed—and yet did not take the disease. Some who did this in the epidemic of 1867 took the disease in the next epidemic, 1871. Every physician who has had an experience with yellow fever during an epidemic can give the same experience.

While I was on duty at Santiago de Cuba as U. S. Army surgeon from July to November, 1898, numerous instances came under my observation of non-immunes being in contact with yellow fever patients, and, of course, at the same time being bitten by the Cuban culex mosquitoes, and yet they did not take the disease. All who are exposed to yellow fever do not take it; which we know to be true of all other infectious and contagious diseases. Hence the eighth conclusion of the board appears almost absurd. Simply because these seven men did not take the disease is no evidence that it can not be taken by exposure to articles contaminated with yellow fever. If the same rule was applied to the mosquito theory it would not stand for a moment, for hundreds of non-immunes are bitten every year by infected culex mosquitoes where yellow fever exists as an epidemic and do not take the disease. Why non-immunes can be exposed for days and months to yellow fever, and that, too, in the presence of infected culex mosquitoes, and not take the disease, is beyond our ken to explain. It is strange how they do it, but they do.

An editorial in The Journal of the American Medical Association, Feb. 23, 1901, well and truly says:

> The experiments of Drs. Reed, Carroll and Agramonte make a great advance in our knowledge of yellow fever. . . . For them to be accepted as conclusive, however, and as overthrowing at once all former notions, is not exactly the scientific course. . . . The facts already obtained must guide us to others. In the meanwhile, it would be foolish to think of neglecting all hitherto accepted safeguards against the disease.

Major Havard, Chief U. S. Surgeon, Division of Cuba, in his report to the Surgeon General, U. S. Army, July 10, 1900, says:

> Our increased experience with yellow fever has shown us that there is much about the nature, development and communicability of the contagion of which we are ignorant. The laws governing this disease have not been discovered. It continues to strike when and where it listeth, regardless of our most reasonable expectations, and best hygienic measures.

The Major is emphatically right in this statement. Therefore, as we do not as yet know the specific cause of yellow fever, nor the numerous and varied means by which it may and can be transmitted, we should continue to use every possible precaution against it in our southern states.

That the mosquito is one great medium for its transmission we know, and we may in the near future learn of other means of its transmission and be able to combat them. That others exist the careful study of epidemics of yellow fever of the past will demonstrate. Its erratic and inexplicable movements in an infected district can not be accounted for on the mosquito theory alone.

As to whether the mosquito is the only intermediate host for the transmission of malarial fever: the majority of our profession are convinced that it is not. We do not know any more about the laws that govern the transmission of malaria than we do of those that relate to yellow fever. We know what the malarial parasite is when developed in the human blood; but what it is outside of that and the laws that govern it are yet unknown. Lavern, a French army surgeon, in 1880, claimed to have discovered the causative micro-organism of malaria outside of the human body, and after further investigations, in connection with a few persons in different parts of the world, decided that it could not be fully developed so as to produce malarial disease in the human being except through the stomach of the anopheles mosquito, and then through the bite of that insect produce malarial fever in the human being. No doubt much, if not the entire, theory of Lavern will soon be bottled up and placed on the dusty shelves in the laboratory of bacteriologists—to keep company with the Sanarelli bacillus.

In the transmission of malarial diseases by the mosquito the same law exists that does in yellow fever. The mosquito must first bite a person afflicted with malarial fever, and then in from eight to twenty days—average time two weeks—she can transmit the disease to a healthy individual. Therefore, from every community some one must go to a place where malarial diseases exist, let the infected mosquitoes bite him, contract the disease, return home, invite the mosquitoes to come and feast on his blood, then send them forth on a biting mission to his neighbors, and thus spread the disease.

Can any one who has studied the history of malarial diseases, or had practical experience in malarial districts, for a moment believe that malarial fever in former times could have thus been transmitted over our

vast prairies, or now in the bottom lands of our rivers and the swamps of the north and the south by the mosquito alone? Most certainly not! Especially when we take into consideration that it is a well-established fact that mosquitoes, as a rule, go but a short distance from their breeding places, sometimes but a few hundred feet—average distance not to exceed half of a mile—and that in olden times, and even now in our swamp regions, the settlements were and are, scattered—often with miles intervening between them—with but little if any communication one with another.

Many of the experiments that have been made by investigators in different parts of the world during the past few years, which are claimed to have established the mosquito as the only intermediate host in the transmission of malarial diseases, were of a similar character to those made by the Cuban board on yellow fever, and are not conclusive. For it is well known that many persons living in malarial districts can be, and are, exposed year after year to every possible means of contracting malarial fever—through the atmosphere, water and the mosquito—and yet remain in perfect health; and that healthy persons from non-malarial districts can spend months where malarial fevers are prevailing—mingling with the sick and being exposed to every possible means of contracting the disease—and not have a symptom of malarial trouble. Thousands of persons living in malarial districts can testify to the truth of this. The writer, who has had years of experience living in malarial districts, both before and since he became a physician, can most positively vouch for the truth of every statement here made.

THE BACTERIOLOGY OF CYSTITIS.*

R. C. LONGFELLOW, M.D.
FOSTORIA, OHIO.

In the light of present advances in the real causes of cystitis, no one who is a student of progressive medicine will or can ignore the foreground bacteriology has taken in cystitis as other diseases, and bacteriologic investigation has proven that all cases of cystitis are due to infection of pathologic bacteria, even though trauma may first be given that organ from internal or external sources. Normal urine is free from all bacteria, whereas urine contained in the bladder under any diseased conditions of the urinary tract must necessarily contain pathologic and non-pathologic bacteria.

In cystitic urine, as a rule, both cocci and bacilli are present; either one may exist in excess of the other, both exist equally or only one form of bacteria be present. Among the cocci present are the *Staphylococcus pyogenes aureus, albus* or *citreus,* the *Micrococcus ureæ, Sarcina urinæ,* the *Uro-bacillus liquefaciens septicus,* the *Streptococcus pyogenes,* the *Zooglœa* masses and the *Gonococcus.* The bacilli are usually the coli communis, the tubercle and in cystitis during the middle or latter end of a typhoid attack the Eberth bacillus. Thiogenic bacteria may be present, whose peculiar function is to convert sulphuretted hydrogen into more potent compounds of sulphur, and play no small rôle in cystitis. The pathologic bacteria that are factors in most cases of cystitis are the colon bacillus, the different varieties of staphylococcus, the streptococcus, the tubercle and the gonococcus. The bacteria may invade the bladder mucosa from the meatus, urethra, or the blood may contain certain bacteria, which is true of pyemic and septicemic infections, and cystitis supervene from these conditions. The bacteria may descend through the ureter directly from the kidney, or penetrate the bladder wall from the intestine, as sometimes occurs, for the colon bacillus has been found in the blood during an attack of enteritis.

Instrumentation may frequently cause infection, even though performed under almost or seeming perfect asepsis. Vulvovaginitis in children, proctitis also, often produce cystitis, due directly to an invasion and infection of the mucosa by the bacteria in the vulvovaginal secretions, aided, perhaps, by the careless hygiene of children and the common habit of titillation of the external parts. The resisting power of the bladder mucosa against bacteria is lessened by any condition producing congestion of the bladder. This is proven by the congestions following contusions or lacerations of the urethra during labor, or after a sudden suppression of the menses from any cause excepting pregnancy. At one time the mucosa may be proof against the infection of bacteria, at another time the condition may be reversed, and an infection from certain bacteria produce an acute cystitis. Urine containing cystin has been considered infectious, during which condition of cystinuria certain bacteria produce a metabolic condition in the mucosa and muscular wall which results in an infiltration or hyperemia to a lesser or greater degree.

In the simple non-suppurative cystitis, caused by non-pathogenic bacteria, the urine is decomposed by these bacteria and produce a condition known as bacteriuria, but do not penetrate the mucosa. The streptococcus does not decompose urea, whereas the staphylococcus in most varieties do, and are present in alkaline urine. The saprogenic bacteria are not factors in the non-suppurative cystitis, and only rarely are present in the suppurative form, then in necrotic conditions. A group of bacteria, saprophytic in action, are the nitrifying and denitrifying bacteria, whose function may later produce ammoniacal urine, or add to it, when caused by other before-named bacteria. When the urine is ammoniacal, the nitrifying bacteria if present, oxydize ammonia into nitrous acid, and under reversed conditions the denitrifying bacteria, if present, convert nitric acid to ammonia and nitrous acid. In cystitis zymogenic bacteria rarely if ever enter into the fermentation process, as they do in beer, wine, butter and cheese manufacture, from whose bacterial action the necessary fermentation must result to produce these domestic articles of commerce. The *Proteus of Hauser* acts decidedly on urea, produces ammoniacal urine and may often be found in such urine caused by other bacteria. The *Proteus vulgaris* is often found in urine and is an important factor in the causation of pyelonephritis, as these bacteria descend with the urine into the bladder and find a host in the mucosa. In the suppurative cystitis the urine, which may be acid from the *Bacillus tuberclosis,* may also contain the *Bacillus coli communis.* Ammoniacal urine may contain other than decomposing bacteria, may contain only the *Bacillus coli communis* due to outside infection, as by instrumentation or other procedures by the patient. When ammoniacal fermentation of urine occurs it is not due to the *Micrococcus ureæ,* but results from the then or pre-existing cystitis in less or greater degree from other bacteria. In ammoniacal urine cystitis to a less or greater degree precedes the ammoniacal condition, oftentimes from the action of thiogenic bacteria on urea, previously mentioned. The acid urine in cystitis is rarely, if ever, caused by instrumentation. In some

* Read by invitation before the Seneca County Medical Society, Tiffin, Ohio, Sept. 18, 1902.

forms of cystitis the alkalinity of the urine is due to certain bacteria which decompose urea, such as the *Bacillus pyocyaneus,* with or without the aid of the *Bacillus coli communis,* and even when the latter bacillus is present in large numbers.

The *Bacillus tuberculosis* plays an important rôle in cystitis, due generally to a secondary infection from pus, as in a tubercular kidney or tuberculosis of the urinary tract. in which the pus infected with the *Bacillus tuberculosis* is washed down through the ureter to the bladder mucosa. Not infrequently an ulcer of tubercular origin gives direct infection to the mucosa at a point remote from the ulcer. Disease of the anus, rectum or colon is often the cause of cystitis, as the pathologic bacteria migrate directly through the bladder wall. Cystitis in children is usually caused by the *Bacillus coli communis;* the invasion announced by pyrexia of an uneven course, followed by frequent, painful urination and the presence of blood more or less in the urine, which is subsequent to the marked vesical tenesmus. The urine voided under these conditions will exhibit mucus, pus cells, epithelial cells, blood cells and the *Bacillus coli communis* in large numbers.

The gonococcus as a primary cause of cystitis is not common, but most frequently produces prostatitis, but when cystitis is caused by gonorrhœa the other bacteria will be found as coexisting with the gonococcus as factors in the causation. The *Streptococcus pyogenes* may invade the bladder from a nearby suppurating process, which is spreading in character, or the *Staphylococcus pyogenes aureus* may, and often does, penetrate the tissue of the bladder from a circumscribed abscess formation or a pocket of pus near the bladder. Ischiorectal abscess has produced cystitis, due to the *Staphylococcus pyogenes aureus,* and the streptococcus was found present also, proving the penetrating powers of the bacilli. A pyosalpinx, or a suppurative peritonitis, pyelitis or a pyelonephritis may liberate the staphylococcus or streptococcus directly into the bladder or urinary tract.

In pregnant and non-pregnant women the vagina and cervix uteri are hosts to many forms of bacteria. Often the secretions contain streptococcus of a saprophytic nature, that become virulent under certain conditions of less resistance by the mucous membrane, migrate into the bladder, lodge in the mucosa and produce a form of cystitis occasionally met in gynecologic practice. In uterine displacement, causing congestion, hyperemia, or even hyperplasia, the *Streptococcus pyogenes,* the *Staphylococcus pyogenes aureus* or *albus* have frequently been found in the vagina, at or near erosions of the cervix, ulcers of the vulva or vaginal wall, which have caused an attack of cystitis. Such a case came to the notice of your essayist last March, which occurred in the practice of Dr. Houseman, Fostoria, who sought a bacteriologic examination of a urine, which disclosed the *Staphylococcus pyogenes aureus, Streptococcus, Bacillus coli communis* in large numbers, from which colonies were started, cultures made and kept alive by transplantation. The growth of the *Bacillus coli communis* from this urine on potato media revealed bacilli of such hearty proportions as to remind one of the "Huntswurst" of the up-to-date sausage factory. That urine also contained *Micrococcus ureæ,* sarcina, tetrads and other cocci.

Now and then, during typhoid fever, a cystitis appears, which is due to the invasion and infection of the Eberth, or *Bacillus typhosus.* Such cases of cystitis occur from the last of the second week to the fourth week of typhoid fever. Occasionally a cystitis will supervene during a relapse of the fever, of short or longer duration, which is due to the renewed activity of the *Bacillus typhosus.*

A new factor in the bacteriologic causation of cystitis is the *Bacillus dysentericus* of Shiga, the Japanese investigator. This bacillus is the cause of that virulent form of dysentery which has attacked our soldiers in the Philippine Islands. This bacillus varies but little from the *Bacillus coli communis* or the *Bacillus typhosus,* and certainly belongs to the colon family. It has been reported as the cause of a severe attack of cystitis supervening the acute attack of dysentery, when the dysentery becomes of a chronic character. As our soldiers return to this country, bringing cases of the acute and chronic tropic dysentery, these bacilli may in the future be added to the long list of "home bugs now doing business at the old stand." In suspected infection of the bladder by the bacillus tubercle it may be necessary to obtain the urine free from contamination from the meatus, urethra or external parts, which can best be accomplished by sterilized catheter under aseptic conditions. The *Bacillus smegmæ* is apt to contaminate the urine and might be mistaken for the *Bacillus tuberculosis.* The same holds true of the *Bacillus Lustgarten,* the so-called bacillus of syphilis and the bacillus of leprosy, but the latter—so rare in this country—is not a factor in pathologic examinations for *Bacillus tuberculosis.* For ulcerative nodular elevations at the urethral orifice, or in the bladder, the differentiation of the *Bacillus tuberculosis* and the *Bacillus Lustgarten* must be made, but the local and constitutional condition will usually be sufficient to decide between the last two if present, and the method of procuring the urine will greatly decide the possibility of contamination of the *Bacillus smegmæ.* The cystoscope is an invaluable aid in the early diagnosis of vesical ulcers, nodules, etc., and catheterization of the ureters in complex cases may be necessary for a differential investigation. The platinum loop or curette may be utilized, scrapings secured of suspected ulcers or nodules, colonies started, if possible, for the culture and staining differentiation in complex or obscure cases.

118 East North Street.

GASTROINTESTINAL PERFORATIONS AND THEIR DIAGNOSIS.

F. GREGORY CONNELL, M.D.
SURGEON TO ST. VINCENT'S HOSPITAL.
LEADVILLE, COLO.

(Concluded from p. 833.)

PRESENT ACCEPTED METHODS. B. EXPLORATORY LAPAROTOMY.

So we see there are but two recognized methods of arriving at a diagnosis of perforation, i. e., awaiting peritonitis or performing laparotomy. The former is unreliable and of little value; the other, while it may be of great value, is of considerable real danger. As to a choice between them the consensus of opinion is in favor of the latter. Fewer cases will die after performing an exploratory laparotomy on all suspected cases than will be lost after awaiting the development of a peritonitis to corroborate the diagnosis. By awaiting the symptoms of a peritonitis in all such cases some few will not develop them and will recover without being exposed to all the dangers of an unnecessary major operation. To perform laparotomy in all such cases will of necessity result in some few being needlessly exposed to the many dangers of a major operation. But in the first instance the chances of a satisfactory outcome are as

small as is the danger of doing an unnecessary operation in the second. Certain cases undoubtedly do recover without operation, after penetrating wounds of the abdominal wall. But the vast majority of such cases are those uncommon instances in which a bullet enters the peritoneal cavity and by pure chance fails to injure the gastrointestinal canal.

Dr. Loomis,[35] in discussing Dr. Fitz's paper, said: "I do not remember to have seen a single recovery after there was unmistakable evidence of intestinal perforation."

Mr. Makins, speaking of gunshot wounds of the small intestine which occurred during the Boer war, says: "In the majority of cases which recovered spontaneously the injury was not of a perforating nature, and that in five cases in which the injury was certainly diagnosed in the hospital death occurred."

Flagg[16] reports a case of penetrating gunshot wound received in the Philippines in which exploratory laparotomy was performed and no perforation found, the patient recovering uneventfully.

Robinson[21] cites a case of penetrating wound of the abdomen on whom laparotomy was performed with no injury to the intestine found. Patient recovered. Such a happy ending is rare and can not be counted on; the probability of nonperforation occurring is not great, for Neff[36] says: "When the diagnosis of perforation is made the viscera will not escape injury in more than 4 or 5 per cent. of the wounds."

So in the absence of any method of definitely determining the true state of affairs it is better to consider all cases as are the 95 per cent. As we do not know which are included in the 5 per cent., we had better disregard the minor per cent. entirely. Cases in which undoubted perforation of the gastrointestinal tract has occurred and recovery followed, without any operative interference, are quite uncommon. The chief method of nature in such cases is by the establishment of an artificial anus, or a fecal fistula. In other cases the difficulty exists in differentiating those cases in which the intestine is injured from those in which it escapes damage; as a rule, in the absence of an autopsy, all cases of recovery following penetrating wounds of the abdominal wall are considered as cases in which the intestine escape injury. In this connection Makins is quoted as saying: "Wounds of the intestinal tract showed themselves capable of spontaneous recovery in a certain proportion of cases." But we are not told how he made a positive diagnosis of perforation in these cases which were not operated on and which recovered.

One of the earliest cases in which undoubted injury to gut was followed by recovery without operation is recorded by Littre in 1705, and is referred to by John Bell in his "A System of Surgery," Edinburgh, 1826. It is the case of a madman who stabbed himself with eighteen wounds in the belly, and of these eight penetrated the abdomen; they were made with a sharp-pointed knife. The fever, pain and swelling and difficult breathing, with vomiting and purging, proved them to be dangerous wounds; vomiting of blood discharged by the stool proved that the wound touched the stomach and the intestine; yet desperate as this case appeared, in two months the man had entirely recovered. His madness came on him again and about eighteen months after he threw himself from a high window and died. On autopsy it was found "that the jejunum just below the stomach had been injured with a cut half an inch in length across the gut; the right side of the colon had been injured with a cut one inch in length, the scar which it left being a half inch long." This is of interest and value in showing to us that it is possible for such a case to recover without surgical intervention. We will not consider the possibility that these scars might be the result of some ulceration from within, probably caused by a foreign body. As the man was insane there is a chance that foreign substances might have been swallowed, or that the wound of the knife might have injured the outer coats of the intestine alone, not including the mucosa, and so not forming a perforating wound; but, granting the explanation given by the author that the scars were the result of stab wounds inflicted eighteen months previous, the question remains, how many such cases would recover under similar treatment and how many similar cases would recover after laparotomy and enterorrhaphy? The fact that such a case may possibly recover without surgical interference does not justify one in allowing others to die without attempting to repair the damage.

Such an outcome is usually explained by the establishment of a localized peritonitis which causes omentum or neighboring loop or loops of the bowel to become attached to the site of the perforation and so occlude the opening, preventing extravasation or extension of the inflammation. Such a favorable termination is uncommon and can not be depended on. It may occur in small punctured wounds (as in experiment No. 10), but the size of the intestinal perforation can not be gauged before seeing it. The size of the penetrating object makes no difference, for a small bullet by burrowing obliquely along the convex border may give rise to an opening of comparatively enormous size.

The stopping up of a perforation by the protrusion of the mucous membrane can not be depended on. In all large wounds it everts and so prevents formation of adhesion to serosa; this protrusion forms a mucous canal connecting the septic lumen of the gut with the free peritoneal cavity. The lumen of this canal may be small, but a large lumen is not necessary to allow of the escape and passage of bacteria.

In gunshot wounds and punctured wounds of the abdominal wall the first indication is to ascertain whether or not the abdominal wall is perforated. It is impossible in many cases to tell whether there is an opening in the peritoneal sac from the apparent course the bullet has taken, or from the symptoms which may develop, such as shock, tenderness or muscular rigidity, for all these may be present and yet there be no opening in the peritoneum.

The method of arriving at a diagnosis of penetration in use by the best authorities to-day consists in making an incision over the wound and following the course of the bullet, the track being in plain sight all the time, till the peritoneum is found to be intact or penetrated, when the wound is treated accordingly, either proceeding and doing a laparotomy or closing the wound.

The older, more common and more dangerous method of probing is still used considerably. The objection to the use of the probe is the danger of forcing infectious matter deeper into the wound or even into the free peritoneal cavity; this, of course, can be done with a surgically clean probe as with one not so. All bullet wounds may be infectious, and hence promiscuous probing will only add to the spread of the infection; and again, it is working in the dark; one can not see where the instrument is being forced and damage may be done. It is often unsatisfactory, as the muscles may contract on the track of a bullet and prevent the passage of a probe. The finger has been proposed as a substi-

tute for the ordinary probe. This animated probe will in many cases be too large and will force and spread infection in the same manner as the other, its only advantage being the addition of the sense of touch, which, of course, will be of considerable moment in many cases.

Caution against too much probing in bullet wounds may be found as early as 1845 by Gibson[37] as follows: "The surgeon should make it a rule, when called to a gunshot wound of the abdomen, to spare the probe and finger as much as possible; such examinations thoughtlessly made can do no good and have been the cause of great mischief." And in 1898, by Senn:[5] "A penetrating wound of the abdomen should never be probed, either for diagnostic or therapeutic purposes." Yet in a recent number of the *Annals of Surgery* we find LeConte reports a gunshot wound of the abdomen in which he says: "And a probe refused to pass beyond the latissimus aponeurosis." In commenting on this case and gunshot wounds in general the same speaker says: "It has been my practice to treat the tract of the bullet as septic until it has proved itself otherwise." We would ask then, why probe?

Other methods have been advocated, such as the injection of hydrogen gas or peroxid of hydrogen into the wounds; if the passage of the gas was obstructed it was supposed that the wound did not communicate with the free cavity, and if, on the other hand, the gas did not cause any distention of the track and met with no obstruction, it was supposed to have passed into the abdominal cavity. But these have been found to be inaccurate and dangerous measures, and so are practically abandoned at the present time.

If the wound is penetrating the probability that damage has been done to the abdominal contents is great; as great as 95 or 96 per cent. by one author. But, on the other hand, we find Makins saying that "unless the intestine was struck in such a direction as to render lateral displacement an impossibility the gut often escaped perforation."

In this connection we call attention to the frequent escape of the intestine from injury in cases of stab wound as compared to gunshot wounds. This may be explained by the comparative slowness of the stab wound which allows the intestines to escape from the path of the knife.

The operation of "Paracentesis Abdominalis," so frequently performed yet never damaging the intestine unless there be adhesions between the visceral and parietal peritoneum, at site of puncture, serves also as an example and tends to strengthen the proposition that, in certain cases, the intestine may get out of the path of even a bullet. But, again showing the differences of opinion, the late Sir William McCormac said: "The bowel is nearly always perforated, feces are extravasated and very frequently there is some other complication as well."

It would seem that in the vast majority of cases evidence of penetration is sufficient provocation for laparotomy. Parke says: "The treatment of penetrating wounds of the abdomen requires exploration." But Senn, as late as 1898, says: "Quite recently the assertion has been made by several prominent surgeons that laparotomy should be performed in all cases where it can be shown that penetration has occurred. It must, however, be admitted that in the absence of serious visceral lesions penetrating wounds of the abdomen are injuries from which the patients are very likely to recover without operative treatment, and that when such patients are subjected to laparotomy death may occur solely in consequence of the operation. Clinical experience and the result of experiment show conclusively that laparotomy should not be performed because a bullet has entered the abdominal cavity, but that its performance should be limited to the treatment of intra-abdominal lesions, which, without operative interference, would tend to destroy life." Hildebrandt, Berlin, at the Congress of German Surgeons, April, 1902, in discussing penetrating wounds of the abdomen and their treatment, says: "When the diagnosis of perforation is made laparotomy should be performed immediately." In other cases he advises expectant treatment, performing the operation only when necessary.

Then there are certain and not uncommon conditions under which we may have perforation of the gastrointestinal tract in which the abdominal wall shows no evidence of penetration or even injury, as ulcerations and contusions. In such cases especially is there a crying need for some method of diagnosis other than those two above enumerated.

With our present aseptic technic exploratory laparotomy is *almost* devoid of danger, so that if no perforation is found in the majority of cases no damage will have been done, or, as Cushing says: "Nevertheless, I believe much less responsibility was associated with an explorative laparotomy than with the risk of neglecting a perforation until signs of peritonitis should occur." Or Richardson, who says: "An objection lies in the possibility of unnecessary operation, for the chagrin is great, though the danger is slight, when the patient has been subject to an unnecessary risk." Scudder,[38] in this connection, says: "Indiscriminate early exploratory operations for diagnosis are to be deprecated; it is certainly better, however, to have operated many times and found no lesions than even once to have neglected operating where it might have saved a life."

But in each and all of these quotations there is a tacit admission that it is a question of choosing between two evils, and all are agreed as to which is the lesser. And the lesser evil is evil because it is not absolutely free from danger. Explorative laparotomy on even perfectly normal individuals is not free from danger. Dr. Keen, at the Denver meeting, challenged any one in the room who believed he could do 100 abdominal sections on well patients even and not have a 2 per cent. mortality, and no one took it up. At the Columbus meeting, when criticised by Dr. Morris, he said: "I am perfectly well aware that several of the best surgeons can show less than 2 per cent. mortality, but I still maintain that in the hands of the average man the mortality will be 2 per cent. or higher."

The use of a local anesthesia reduces but one source of danger; the other possible causes of a fatal termination are still present. It is this mortality rate, small as it is; the knowledge that exploratory laparotomy is not devoid of danger; the fact that an unnecessary laparotomy may terminate fatally, that has led to many attempts at some other method of diagnosis, if not absolutely dangerless, perhaps of less langer.

In an editorial in The Journal A. M. A. we find the following: "Any operation which does not better the condition of the patient must be regarded as a therapeutic error. Progress in the future is likely to depend much more on the discoveries which shall make surgery less necessary than to the opening of new fields for surgical treatment. The advance should be in the direction of limiting these unnecessary and harmful operations, for the wisdom of the surgeon should serve as well

to restrain him from operating as to enable him to operate successfully."

NEW METHODS AND EXPERIMENTS.

A suspected perforation, in a case of typhoid fever occurring in the writer's practice, and the lack of conclusive evidence sufficient to justify an operation, even after the aid of consultation with that master of diagnosis, the late lamented Christian Fenger, led to a train of thought which might be expressed in the following manner:

THE SURGEON'S SOLILOQUY.

To operate or not to operate, that is the question;
Whether it is nobler in the mind to suffer
The slings and arrows of a suspected perforation,
Or to take up the scalpel, against our doubts,
And by exploration—end them.
To cut, to explore and perchance not find a perforation.
Ah, there's the rub. Thus uncertainty does make cowards of us all.
To explore, to cut, to laparotomize;
And by so doing find a perforation, and thus snatch
A human being from an untimely grave.
This is a consummation devoutly to be wished.
To test, to prove, to satisfy oneself,
Without the aid of the uncanny scalpel;
To explore without a celiotomy,
To find a reaction, by the aid of chemics,
That would demonstrate beyond the peradventure of a doubt.
That perforation did exist,
What an advance were that my fellow surgeons.
To test, to prove, to answer questions,
From the *x*-ray hidden,
To explore and lay bare the minutest perforation
By the aid of a reaction
Is a want, and the want has long been keenly felt.

And this, in turn, led to an effort to arrive at a means of diagnosis in cases of suspected perforation without the dangerous procedure of a laparotomy and before the development of peritonitis. The available literature was consulted and a line of experiments mapped out, these experiments to begin with the simpler and more readily discernible chemical reactions and from these on to the more complicated and proportionately more valuable procedures that would include the use of the spectroscope, microspectroscope, the polariscope and all available means that might shed even a ray of light on this problem. But circumstances led the writer far from the facilities of the complete laboratory, with a result that but few experiments were performed, and these of a more simple nature. The results, while not absolutely conclusive thus far, show the possibilities of the modern laboratory when intelligent inquiries are made of it.

The experiments have been, in principle, the injection of filtered air or normal salt solution into the abdominal cavity, the withdrawing of the same and examining it for some substance found normally in the gastrointestinal canal and which is not found in the normal peritoneal cavity. Or, to put it in as few words as possible, if there is a perforation will not a delicate chemical reaction detect it?

When any new method of treatment or diagnosis is presented the first indication is to demonstrate conclusively that no harm or damage will follow its application; the second, that it will accomplish some good.

As to air, if no perforation is present will the injection of filtered air into the peritoneal cavity do any harm? Murphy has demonstrated the innocuousness of nitrogen when injected into a large serous sac, the pleural cavity. Senn claims that no evil effect follows the escape of hydrogen gas from the bowel into the free cavity. G. Kelling[39] has recommended tamponing the abdominal cavity with air in cases of threatened internal hemorrhage, and in his method of celioscopy[40] has still further demonstrated the lack of any bad symptoms following the injection of air into the abdominal cavity. In the writer's experiments, in three instances (Exp. 3, 10 and 5) the abdomens of dogs were filled with filtered air and no evil effects of any description was noted, the distention and tympany disappearing in from two to six hours. On the contrary, in one instance in which the animal was given too much anesthetic and seemed to be about dead, forcible distention of the abdomen with air seemed to resuscitate the animal. Once again, during the same operation, the animal apparently stopped breathing and pulsation of the heart could not be heard. Care was taken to ascertain these facts. Injection of air was again resorted to, with a return of pulse and respiration. A third time the animal collapsed and a repetition of the measure failed to restore him. This was in all probability merely an apparent death, for in two other cases the animal died from the anesthetic, while the injection of air into the abdominal cavity and all other known means failed to bring back life.

On the other hand, if there be a perforation of the gut and examination of the aspirated air reveals the fact, operation will be performed at once.

As to the injection of fluid into the cavity, the normal salt solution is superior to sterile water, in that it does not act as an irritant to the peritoneum and cause the destruction and removal of the endothelial cells as the plain water has proven to do. T. J. Maxwell[41] reports two cases in which he irrigated the abdominal cavity with a normal salt solution, at intervals of from four to six hours, as temperature and pulse indicated, for four or five days, with no evil result as a consequence. Laplace[42] has demonstrated that the peritoneal cavity stands with perfect safety a continuous irrigation with normal salt solution at a temperature of 100 F. during 74 hours.

In the absence of perforation the injection of fluid into the cavity will cause no infectious matter to be spread throughout the sac because there is no infection present. The result of this fluid in the peritoneal cavity will be the same as that which follows transfusion; it will become rapidly absorbed and will act as a stimulant to a flagging circulation and at the same time serve as a most rational treatment for shock and collapse.

If there be a perforation, and examination of the fluid reveals the fact, laparotomy will be instituted at once, and as it is an almost universal practice to flush out the cavity in such cases, this flushing will have been begun before the operation and have acted as a stimulant, so enabling the patient to stand the operation better than without it. By this method no new infectious intestinal contents will be forced into the general cavity, as may occur when the rectal insufflation is practiced. To be sure, the contents which have already escaped may become disseminated throughout the peritoneal sac, but whether it is better for the patient to have 1,000 germs in one locality or one germ each in 1,000 different locations is an open question, regarding which J. G. Clark,[43] who has made a masterly study of the subject, says: "It may appear to some of my readers that the peritoneal infusions of normal salt solution, in cases in which infection is suspected, is to condemn the patient to certain septicemia or even pyemia through the wide distribution of the microörganisms. On the contrary, we believe this very action is prevented." He bases his argument, very rationally it seems, as follows: "Given

a minimum amount of peritoneal infection it is infinitely better to distribute it at once, before the microorganisms undergo manifold sporulation, than to hope for its elimination after it has gained virulent headway through stagnation within the abdominal cavity. By at once distributing a minimum amount of infectious material generally throughout the body the microörganisms are promptly placed in the most favorable situations for their destruction and elimination."

From the above we conclude that the injection of the air or water into the abdominal cavity in the absence of a perforation is harmless, and in the presence of perforation is likewise devoid of danger.

There may be cases of chronic nonperforative peritonitis in which the aspirated air or liquid may reveal substances, contained normally in the lumen of the gut, for Fitz says: "A fecal order may be present in the purulent exudate, which has remained for some time in contact with the large intestine, although there be no perforation on the bowel." And it is a well-known fact that the bacteria, especially the colon bacilli, may pass through the nonperforated intestinal wall.

Cutler and Elliot[21] report a case of typhoid in which the symptoms pointed to a perforation and laparotomy was performed. Peritonitis was evident. No perforation was found, but two grayish patches were almost ready to slough. These were inverted by suture and the patient recovered.

G. Poser and J. Cohn[45] claim, after experiment, that there is no doubt that under certain conditions the intestinal wall is penetrable by bacteria. They injected *Micrococcus prodigiosus* into the rectum of dogs and then sealed the anus. After two days the animals were killed and the prodigiosus was found in the peritoneum. It is probable that a perfectly normal bowel opposes their passage.

This process was called propagation by Monad and Van Vertz.[26] But these conditions are not found in acute abdominal emergencies, and when found in subacute or chronic conditions demand laparotomy as their treatment. To satisfy ourselves that such a condition will not be found in acute nonperforative peritonitis one experiment was carried out as follows:

Large bull dog. Anesthesia, shaved and cleansed. Incision, median line, opening the abdominal cavity. A small piece of gauze saturated with pus from an infected finger was inserted into the cavity and abdominal wound closed. Twelve hours after, when animal showed evidence of peritonitis (tympanites and temperature), normal salt solution was injected and withdrawn. This fluid, on examination for sulphur, ammonia, indol, nitrates, bile, peptone, proteoses, starch, sugar, etc., gave a negative result.

In the first experiments it was our aim to utilize the principle by means of which plumbers locate a leak in the sewerage; that is, by exposing white blotting paper saturated with lead acetate to the suspected air, which, if contaminated with any compound of sulphur, notably H_2S, will convert the lead acetate into lead sulphid and cause the white paper to become black. As the lower bowel at least contains sulphur, and the normal peritoneal cavity contains none, it was hoped that by this means a perforation of that portion of the alimentary tract might be discovered. With this object in view experiments were conducted as follows:

Experiment 1.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into abdominal wound, which was incised at its convex border for a distance of two inches. The mucosa everted and contents escaped, after which the bowel was returned to peritoneal cavity and the abdominal wound closed. Twenty-four hours after the receipt of injury to gut the dog was found alive, but in very bad condition, tympanites marked. Animal again anesthetized and cleansed. Gas escaped spontaneously from the abdominal cavity after the induction of trocar. This gas was conducted by means of a rubber tube to the bottom of a test tube containing a saturated solution of lead acetate, which solution was turned black in one minute.

Experiment 2.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into wound and incised on convex border for distance of 1½ inches. Mucosa everted and contents escaped. Injured bowel returned to peritoneum and abdominal wound closed. Twelve hours after receiving the injury the animal was again anesthetized. Two trocars were inserted into abdomen, one below the xiphoid cartilage, and the other above the pubes, and filtered air forced in one trocar. After a slight distension of the abdomen this air made its escape from the second trocar, and upon being conducted to the bottom of a test tube and allowed to bubble through a solution of lead acetate, it shortly turned the lead acetate solution black.

Experiment 3.—Similar to No. 2, and differed only in that the filtered air was forced through the abdomen three hours after the injury instead of twelve hours as in No. 2. The same positive reaction (lead acetate solution turned black) resulted in this case.

Experiment 4.—Similar to No. 3, except that the air after passing through the contaminated peritoneal cavity was allowed to bubble through a solution of iodized starch. As a result this blue solution was changed to a colorless one.

Experiment 5.—Differed from Nos. 3 and 4 in that instead of using lead acetate or iodized starch as a test solution the escaping air was passed through Nessler's reagent, which was promptly turned yellow, indicating the presence of ammonia.

Experiment 6.—To demonstrate that such reactions are not confined to the lower animals, human feces in dilute solution (oz. to pint) of sterilized water were placed in a large bottle and shaken. Filtered air was now forced through this solution and allowed to pass through a solution of lead acetate, which was darkened. The lead solution was replaced by one of iodized starch and this in turn was bleached, and on substituting Nessler's reagent for the starch it was changed to a yellow color.

Experiments 7, 8 and 9.—To exclude the possibility of these reactions occurring after passing the air through a normal peritoneal cavity, and at the same time to determine whether or not there were any evil effects to follow the procedure, the experiments were similar.

Dogs anesthetized, shaved and cleansed. Two trocars inserted, one below xiphoid cartilage, and the other above the pubes. Filtered air was forced through one trocar into abdominal cavity. After slight distension air escaped from second trocar, and was led into a solution of lead acetate, which was unchanged after the air had bubbled through it for five minutes. Similar negative results were noted after the substitution of the iodized starch solution and the Nessler's reagent, for the lead acetate. The trocars were then withdrawn, leaving as much air as possible in the abdominal cavity, and the punctures sealed with collodion. No evil effects were noticed and the next day the tympanites had entirely disappeared, and the animals seemed perfectly normal in every respect.

Experiment 10.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Jejunum brought into wound and incised for 1½ inches at its convex border. Gut replaced in cavity and abdominal wound closed. Twelve hours after receipt of injury tympanites and peritonitis present. Air was forced through the cavity, and then in turn through lead acetate, iodized starch solution and Nessler's reagent with a negative result in each instance.

Experiment 11.—Dog. Anesthetized, shaved and cleansed. Abdominal incision, median line. Rectum brought into wound. Two trocars inserted into this viscus six inches apart, and air forced through them, the gut being compressed above and below the trocars with Murphy clamps to prevent the air from

filling the entire tube. This air after its escape readily turned the lead solution dark. The same process was repeated in the ascending colon with a like positive result. It was also performed in the small gut, and in the stomach with a negative result. After passing the escaping air through the solution for five minutes no change in color could be detected. The abdominal wall was now saturated with the intention of making tests from the free cavity on the following day, but at that time the animal presented no external evidence of peritonitis, and instead of doing so, rapidly recovered.

This experiment is instructive in demonstrating the necessity of more than one test, as a different substance or substances must be looked for in cases of perforation of the small gut or stomach, and also of extreme interest in proving the possibility of spontaneous healing of the gut and recovery without any attempt at closure of wounds by suture or other artificial means. This animal recovered without suture of gut after receiving eight punctured wounds of the alimentary canal; the wound in each instance being made by a trocar about one-eighth of an inch in diameter. It is worthy of note that in none of these wounds did the mucosa evert, which in all probability accounts for the union and recovery.

While the possibilities of air as a source of information were far from being exhausted, a few tests with liquid were deemed desirable. The observations of Maxwell and Laplace demonstrated conclusively that no evil effect may be expected as a result of the free application of normal salt solution to the peritoneum of human beings, and rendered it useless to prove the proposition on the lower animals. The first experiment was in the nature of a control, the fluid being examined after its passage through a normal peritoneal cavity, one in which the gastrointestinal tract is nonperforated.

EXPERIMENT 12.—Small bull terrier. Anesthetized, shaved and cleansed. Two trocars inserted into the abdominal cavity, one below ensiform cartilage and the other above pubes. One liter of normal salt solution at a temperature of 110 F. was injected into the abdominal cavity, trocars withdrawn and puncture sealed with collodion; after the expiration of one hour, four ounces of fluid were withdrawn from the cavity and immediately examined for ammonia, nitrates, indol, bile, sugar, starch, peptone, proteoses, sulphur, and sulphates, none of which were found, thus showing that with no perforation these substances will not be found in the solution after its passage through a non-perforated peritoneal sac.

Next an attempt to arrive at a diagnosis of perforation of the large gut was undertaken as follows:

EXPERIMENT 13.—Black and tan cur. Anesthesia, shaved and cleansed. Abdominal cavity was filled with normal salt solution 110 F. through two trocars—withdrew about four ounces of this fluid into a bottle marked "Before perforation."

After removing trocars, abdominal incision was made, through which the large bowel was exposed. The rectum was incised on its convex border for a distance of about half an inch and then replaced in its normal location in the abdominal cavity and the wound in belly was closed. Twelve hours after the injury to the gut was received the dog was again anesthetized, the trocars inserted once more and through one normal salt solution introduced into the abdominal cavity, through the other a portion of this fluid was withdrawn and put into a bottle marked "After perforation, twelve hours." Examination of these solutions for ammonia was negative in the first, and positive in the second.

EXPERIMENT 14.—Similar to No. 13, differing only in that the normal salt solution was injected into the abdomen three hours after the injury instead of twelve hours as in the previous one. This fluid was allowed to remain in the abdomen for 30 minutes and then about four ounces of it was withdrawn and placed in receptacle labeled "After perforation, three hours," and which, when examined for ammonia with Nessler's reagent, gave a distinct positive reaction.

EXPERIMENT 15.—Similar to No. 14, except that instead of examining the aspirated fluid for ammonia it was treated with sulphuric acid and sodium nitrate, the change of color indicating the presence of indol. By this test, according to Herter, we are enabled to recognize indol even when diluted as much as one part to two hundred thousand of water.

EXPERIMENT 16.—Similar to No. 15, but instead of examining the fluid for indol it was made alkaline by adding sodium hydroxid and then sodium nitroprussiate was added with a resultant violet color. This indicated the presence of soluble sulphids.

EXPERIMENT 17.—Dog. Anesthetized, shaved and cleansed. Incision, median line. Upper portion of the jejunum brought into the abdominal wound and its convex border incised for an inch and a half. The mucosa everted and contents escaped. Bowel put back. Abdominal wound closed. Six hours after injury, normal salt solution injected into abdominal cavity and after remaining for fifteen minutes four ounces were withdrawn, and examined for peptone or proteoses, bile, sugar, starch, with a negative result for all except the biuret test for proteoses.

EXPERIMENT 18.—Same as No. 17, except that in testing for bile, Hays' reaction was utilized and found positive. When powdered sulphur is sprinkled on a fluid containing bile the sulphur gradually sinks. This reaction, according to Beddard and Pembrey, depends on the presence of bile salts alone, and is still given when one part of bile is diluted by 120,000 parts of water.

TREATMENT.

While it is not intended to include treatment at length in the scope of this paper, the diagnosis and treatment are so intimately related it, it would be incomplete without a few words concerning treatment of the condition when found. The treatment may be arbitrarily divided into treatment of the perforation and of the peritonitis.

Treatment of the Perforation.—As to the perforation, its location relative to the portion of the gut involved will be of considerable importance. The wound may be *a*, at the convex border; *b*, at the mesenteric border, or *c*, between these two. If at the convex border a simple suture will be sufficient. If there is any danger of causing a stenosis the wound may be closed transversely to the long axis of the gut (Heinecke, Mikulicz, the so-called enteroplasty).. If at the mesenteric attachment the blood supply must be carefully studied and in suturing too much blood supply must not be cut off. Some advocate resection, followed by enterorrhaphy, in such perforations. The presence of the mesentery with its separated serous coverings adds to the difficulty of suturing in this locality.

In through-and-through perforations, i. e., with an opening on both sides of the gut, the danger of stenosis is increased, and if near the mesentery the circulation of the convex portion may be imperiled; so it is usually advisable in such cases to perform resection.

The technic of intestinal suturing will not be dwelt on. The Lembert suture is certainly, according to many writers, fast becoming a thing of the past, and the through-and-through suture with the knot in the lumen taking its place.

When resection is necessary a choice lies between anastomosis with the Murphy button and enterorrhaphy with plain needle and thread. The advantage and disadvantage of each can not be dwelt on here, but it seems that the suture method is again gaining popularity.

Treatment of the Peritonitis.—The treatment of the peritonitis, which is unfortunately present in so many cases, is much more unsatisfactory than is that of the perforation. The practice of flushing out the cavity with normal salt solution is almost universal, and the

leaving of a liter of this solution in the cavity is earnestly urged by many.

The use of hydrogen peroxid, as recommended by Morris, has little to recommend it beside the fact that it spreads the infectious material the same as does the use of normal salt solution, and so allows nature to combat the infectious process at many points instead of at one situation.

The bactericidal property of the nascent oxygen can not be great, for if it were sufficient to kill the germs, such as the colon bacillus or streptococci, it would certainly at the same time destroy the sensitive endothelial cells lining the peritoneal sac.

The postural treatment, with elevation of the head, as recommended by J. G. Clark,[46] so aiding in the drainage of the infectious material through the diaphragm and into the mediastinal lymph glands, has many enthusiastic advocates, as has the method with elevation of the foot of the bed, as proposed by G. Ryerson Fowler,[47] which allows the deleterious substances to come in contact with the pelvic peritoneum, which, for some reason, seems more resistant to infection than is that peritoneum at the diaphragmatic portion of the cavity.

The continuous irrigation with the warm normal salt solution for acute general septic peritonitis, was suggested by Laplace[48] in 1889, at which time he said: "The method has not to my knowledge been used before." And at the St. Paul meeting he again refers to it and mentions cases which have recovered following its use.

We find an article by T. J. Maxwell[41] of Keokuk, Iowa, in which he reports two cases of post-operative septic peritonitis treated by free irrigation of the peritoneal cavity as long as the pulse and temperature demanded it.

CONCLUSIONS.

1. The previous attempts at an early and accurate diagnosis of perforation of the gastrointestinal tract without opening the abdominal wall have not been adopted.

2. There has been practically no improvement in the method of diagnosing such conditions during the past century.

3. The treatment of the perforation *per se* during the last century has progressed to a state bordering on perfection when compared with the older methods.

4. The diagnosis of gastrointestinal perforations is one of the most important unsolved questions in the domain of abdominal surgery.

5. There is no pathognomonic sign or symptom or group of signs or symptoms of perforation.

6. The only positive method of arriving at a diagnosis to-day is to either perform an exploratory laparotomy or await the development of a peritonitis.

7. To await the development of a peritonitis will reveal the diagnosis too late for the most effectual treatment.

8. Exploratory laparotomy as a routine measure will of necessity result in some cases being needlessly exposed to the many dangers of a major operation.

9. Exploratory laparotomy is not a harmless procedure.

10. The consensus of opinion is in favor of exploratory laparotomy as a choice between two evils.

11. The fact that even the most expert clinicians fail to diagnose perforation in all cases and even diagnose such a condition when it does not exist shows the great need of improvement in diagnostic methods.

12. The diagnosis should be arrived at before the treatment of the perforation is complicated by the presence of a peritonitis.

13. The injection of air or normal salt solution into the peritoneal cavity and withdrawal of the same for examination will do no harm.

14. Such a procedure will, in many instances, reveal a perforation before any sign or symptom of peritonitis exists.

15. The treatment of the perforation *per se* is simple and satisfactory.

16. The treatment of the complicating peritonitis is multiple and unsatisfactory. The best treatment is prophylactic, i. e., early diagnosis and repair of perforation before peritonitis has become established.

BIBLIOGRAPHY.

1. Published at Philadelphia in 1796.
2. Osler's Practice of Medicine.
3. Am. Text-Book Theory and Practice of Medicine.
4. The Journal A. M. A., June 23, 1888.
5. The Journal A. M. A., July 9, 1898.
6. Trans. So. Gyn. and Surg. Assn., 1900, vol. xii, p. 50.
7. Med. and Surg. Reporter, December, 1894.
8. The Journal A. M. A., July 23, 1898.
9. The Journal A. M. A., Dec. 30, 1899.
10. The Journal A. M. A., Jan. 20, 1900.
11. Trans. Am. Surg. Assn., 1888, p. 437.
12. Texas Med. Journal, October. 1901.
13. N. Y. Med. Jour., Dec. 31, 1898.
14. Phila. Med. Jour., Feb. 3, 1900.
15. Annals of Surg., January, 1902.
16. Jour. Assn. Mil. Surg., 1901.
17. The Journal A. M. A., July 9, 1898.
18. Johns Hopkins Hospital Reports, vol. ix.
19. Am. Jour. Med. Sciences, January, 1902.
20. Boston Med. and Surg. Jour., June 28, 1900.
21. Annals of Surgery, February, 1901.
22. Cincinnati Lancet-Clinic, May 7, 1898.
23. Annals of Surg., March, 1902.
24. Johns Hopkins Hospital Reports, vol. vii.
25. Am. Jour. Surg. and Gyn., November, 1900.
26. Rev. de Chir., 1897.
27. Med. Record, March 23, 1901.
28. Am. Jour. Surg. and Gyn., September, 1900.
29. Am. Jour. Med. Sci., 1901, vol. cxlviii, p. 664.
30. Med. Record, Dec. 7, 1901.
31. Phila. Med. Jour., June 9, 1900.
32. American Medicine, May 18, 1901.
33. Annals of Surgery, September, 1901.
34. American Medicine, April 26, 1902.
35. Boston Med. and Surg. Jour., Oct. 1, 1891.
36. Virginia Med. Semi-Monthly, Dec. 27, 1901.
37. Institute and Pract. of Surg., vol. I, p. 19.
38. Boston Med. and Surg. Jour., May 2, 1901.
39. Wien. Med. Woch., Sept. 17, 1901.
40. Wien. Med. Woch., vol. xlix, No. 1.
41. The Journal A. M. A., Sept. 10, 1898.
42. The Journal A. M. A., Oct. 12, 1901.
43. The Journal A. M. A., Aug. 10, 1901.
44. Med. Rec., Dec. 22, 1900.
45. Berl. Klin. Woch., Sept. 3, 1902.
46. Johns Hopkins Hospital Reports, vol. vii, 1898-89.
47. Med. Record, April 14, 1900.
48. Phila. Med. Jour., Oct. 14, 1899.

PRIMARY ENDOTHELIOMA OF THE GALL BLADDER.*

WILLHELM BECKER, M.D.

From the Pathological Laboratory of the Milwaukee Medical College.

MILWAUKEE, WIS.

NARRATION OF CASE.

History.—Mrs. R., age 65, referred by Dr. W. F. Malone. Usual diseases of children. Appendicitis three years ago. Full recovery. Thirteen months ago loss of appetite and loss in weight. Family history negative.

Present State.—Weight 52 kilo. Emaciation and weakness very marked. Almost complete anorexia. Dull continuous pain over gastric region; slight tenderness over region of the gall bladder. This is only elicited at intervals. Stiller's sign absent. Abdomen is distended to the utmost in both the gastric and umbilical regions. Ten c.m. below the umbilicus the resonance of percussion takes on a lower pitch. (Percussion from above downward.) No stool the last ten days. Patient

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vomits continually, which consists of a foamy, brownish, malodorous mass, made up of fermenting food remnants. Total absence of HCl free or combined. Presence of an immense number of sarcinæ. No Oppler-Boas bacilli. Stomach is emptied by means of the stomach tube; 1½ liters of fermenting stomach contents are brought forth. Gas evolved by fermentation is CO^2. No lactic acid. After evacuation of the stomach the same is washed with salt solution. Distension over gastric region has now disappeared. The stomach is artificially inflated with air; lower border is found 10½ c.m. below the umbilicus. The partly inflated stomach containing water which is introduced for diagnostic purposes shows the lower border of the stomach 8 c.m. below the umbilicus. Determination by gurgling sound on introduction of air. An attempt to outline the colon by inflation proves too painful and is abandoned. Colonic treatment results in copious stools. Patient feels comfortable. This treatment is continued and the stomach contents are tested daily. After seventh treatment free and combined HCl are evident. Appetite improves and stool every two or three days. All stools contain reduced bile pigments; no blood at any time; never any blood in stomach contents. (Examination according to Weber's method.) In spite of moderately large meals patient continually loses in strength and weight. Percentage of urea ranges from 20 to 28 grams in 24 hours. As soon as a day is allowed to pass without gastric lavage there is rapid accumulation of gas with consequent painful distension of the stomach. This is particularly noticeable when the patient assumes an upright position, or sitting posture. On the seventh day of observation the lower border of the liver is felt for the first time, and a distinct hardening can be felt at the site of the gall bladder. The hardening appears to be in the liver substance. Pressure on this nodular hardening, for instance, on attempting to palpate the gall bladder from below, elicits moderate pain. On distension of the stomach this hardening can not be felt. Never any icterus. Spleen moderately large. The highest total gastric acidity reached was 25, of which 7 were free HCl. After this amount had been reached, the quantity gradually decreased until about two months later it disappeared completely and remained absent until death. Boas' gallstone sign, on pressure pain in region to the right of tenth dorsal vertebræ could not be elicited.

Diagnosis Intra Vitam.—Carcinoma of the gall bladder; kinking of the duodenum; enormous dilatation of the stomach.

AUTOPSY.

In the report of the necropsy only such findings will be mentioned as are considered relevant.

Necropsy was performed six hours after death. Protocol, Dr. M. A. Kleinhans. Abdomen tensely inflated. On opening the peritoneal cavity an enormously dilated stomach tensely filled with gas is evident, which had pushed the colon down into the large pelvis. Only a moderate degree of gastroptosis. On turning the fundus and greater curvature of the stomach upward the gas contained in the stomach can be expelled into the duodenum. The pylorus and duodenum are firmly adherent to the dorsal surface of the liver. The pancreas is, to some extent, enveloped in these gastric adhesions. No gall bladder is visible or tangible. In its stead is a circumscribed firm, slightly elastic hardening in the liver substance. Stomach, liver, pancreas and spleen—which latter is not enlarged—are taken out together. Weights and measures of the organs are all within normal limits except the measurement of the stomach. Serial incisions into the liver reveal an ovoid tumor of white color at the site of the gall bladder. This tumor is directly continuous with the serosa of the stomach and duodenum, and also with the pancreas by means of a slightly elastic tissue bridge. Liver substance shows distinct lobulation, increased periportal connective tissue, especially around the larger bile ducts.

Stomach.—Stomach contains about a half liter of undigested food. The mucosa shows no rugæ. The usual petechia on posterior wall; disseminated plaques of smooth, grayish mucosæ, which are diagnosed and proven by microscopy to be atrophic areas. No bile discoloration of the stomach. No thickening of the mucosa anywhere suggested carcinoma; no ulcers, deep or superficial. Pyloric orifice patent. In the posterior wall of the antrum pylori a hard thickening is seen and felt. It contains crepitating material. The highest point of this elevation is devoid of mucosa. The mucosa is replaced by connective tissue. The thickening is incised, and two gallstones, one the size of a filbert, the other the size of a small pea, are found therein. The gallstones were only slightly facetted and medium hard. The floor of this cavity which contained the stones is formed by the substance of the above mentioned tumor in the liver. The tumor formation had evidently forced the gallstones into their present position. No cystic duct could be made out. Hepatic duct is uninterruptedly continuous with the common duct, and the whole duct is patent. Diffuse fibrosis of the mucosa of this duct. No scar or other mark which might designate the entrance of the former cystic duct. Pancreatic duct is patent and enters the duodenum at 1 c.m. distance from common bile duct. Pancreas moderately sclerosed.

Now, all the length of the intestinal canal is explored, together with the genitalia, uropoietic organs, likewise the contents of the thorax, but no evidence of carcinoma is found.

Heart.—The right ventricle of the heart contained a large marantic thrombus, which had occluded the sinus venosus and branched into the pulmonary artery.

It being a private case, the privilege of opening the cranium was denied.

Anatomic Diagnosis at Time of Autopsy.—Primary carcinoma of the gall bladder; adhesions with pylorus of the stomach, duodenum, and pancreas. Enormous dilatation of the stomach. Cause of death, probably occlusion of the sinus venosus by marantic thrombus. (Patient died with symptoms of apnea.)

After examination microscopically the diagnosis is changed into primary endothelioma of the gall bladder.

DESCRIPTION OF ILLUSTRATIONS.

Pathology.—Figure 1 shows the gross appearance of the tumor located in the lower dorsal aspect of the liver at *a*. The white tumor substance merges gradually into that of the darker liver substance; *b* represents the pylorus and duodenum. The serosa of these two last named organs is seen to be nodularly swollen; *c* shows the increase in the portal connective tissue.

Figure 2 shows the liver and stomach, in order to demonstrate their relative size. It is plainly seen that there is no obstruction of the pylorus, but simply adhesions by means of the serosa. The comparison between the sizes of the two organs, stomach and liver, will at once convey the excessive degree of dilatation of the stomach (*a*). Rosenheim (Krankheiten des Verdauungs-Apparates) states in a differential diagnosis between liver and gastric cancers, that *"Gallenblasen-Carcinome bedingen meist keine Dyspepsie und niemals Ectasie."* A number of authors, including American and French, have, I think, thoughtlessly, repeated this statement. I have seen five cases of carcinoma of the gall bladder during the last year, four of which showed an immense ectasia of the stomach. Figure 3 represents a transverse section through the whole liver, together with an immensely dilated stomach for comparison. In this case, as in the case of endothelioma (Fig. 2), there was no involvement of the mucosa of the stomach whatsoever, and only a slight, easily separable adhesion of the stomach and the under portion of the gall bladder. In one more case of the four that showed signs of dilatation of the stomach during life, I have performed the autopsy which revealed similar conditions as seen in Figure 3. One case is still alive, but since an exploratory laparotomy was performed I had an opportunity to see the dilated stomach in that case. Rosenheim's statement, therefore, can-

not be considered of any value in differential diagnosis between carcinoma of the stomach and gall bladder.

Histology.—A large number of specimens of tissues of all regions were examined. The liver tissue remote from the tumor shows a moderate degree of increase of the periportal connective tissue with new formation of bile ducts. This suggests interstitial hepatitis. The connective tissue, however, does nowhere invade the lobules proper. Study of the individual liver cells shows them to be fairly normal. Epithelium of the old and new formed bile ducts shows no tendency to atypical proliferation anywhere. The connective tissue immediately



Fig. 1.—Vertical section through liver. *a.* Endothelioma. *b.* Pylorus. *c.* Pericholangitis.

surrounding them is in active proliferation (pericholangitis).

In Figure 4 the margin of the tumor is made up of connective tissue containing foci of round cell proliferation (*a*). The individual liver cells surrounded by this connective tissue formation (*b*) are entirely normal. The blood capillaries of this liver tissue are slightly overdistended. This congestion is thought to be due to prolonged agony.

Figure 5, from a section taken about 1½ c.m. away from the margin toward the center of the tumor, also shows mostly connective tissue, young and old, but containing strings of polymorphous large cells, the cytoplasm of which takes a deep eosin stain. In some areas these cells are seen to rise from oblong spaces or narrow slits, which I take to be lymph spaces. Where there is a large number of these cells, those marginally situated seem to undergo gradual fibrillation, and it is then extremely hard to make out the dividing line between the connective tissue proper and the tumor cells.



Fig. 2.—Endothelioma of the gall bladder, with dilatation of the stomach. *a.* Pylorus. *b.* Endothelioma.

The cells contained in the center of the larger aggregations undergo hyaline degeneration. No karyorrhexis; no vacuolization. In other areas the centrally located cells of the cluster seem to lose their cytoplasm and then resemble common small lymphocytes. The change of the cells, or decrease in the size of the cells from the margin toward the center of the cluster, is extremely gradual. Necrosis described by Adler in his paper on "Endothelioma of the Pleura" was not found in this case.



Fig. 3.—Cancer of the gall bladder, with enormous dilatation of the stomach. Adhesion to skin.

The serosa of the stomach and duodenum affords a better opportunity to study these cells as following the course of the lymph spaces. Extensive serial sections were made.

Figure 6 shows a section through the serosa and muscularis of the pylorus (low power). The thickened serosa extends from *a* to *a*. Within it can be seen strings

of the above described polymorphous cells surrounded by a rather voluminous connective tissue stroma. This connective tissue stroma contains numerous foci of round cell proliferation.

Figure 7 shows an area of the serosa under higher power; *a* represents a string of endothelial cells cut

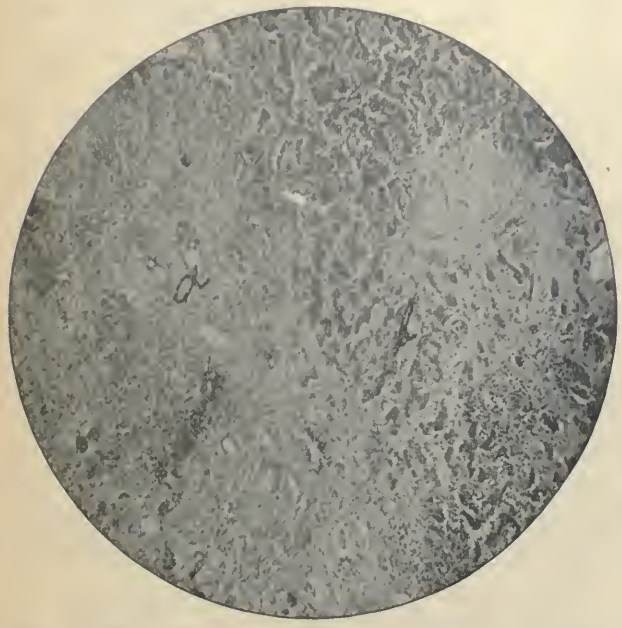


Fig. 4.—Hem. Eosin. Leitz, obj. 3. Section from margin of primary tumor. *a.* Connective tissue (inflammatory). *b.* Liver cells.

longitudinally; *b*, a similar string cut transversely; *c*, an irregularly branching cluster of endothelioma cells. The stroma is seen to contain numerous young connective tissue cells.

Figure 8 is a section prepared from the above-mentioned tissue bridge between the gall bladder and the

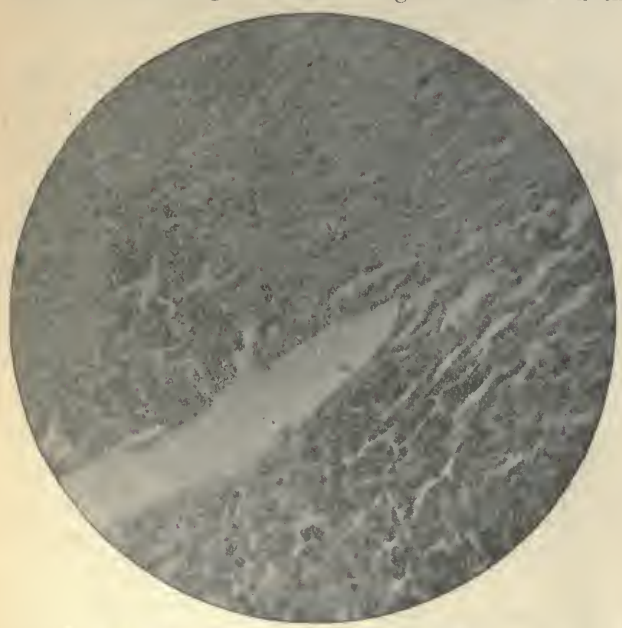


Fig. 5.—Hem. Eosin. Leitz, obj. 6. Section of tumor about 1½ c.m. inwardly from margin of primary tumor. Shows fibrillation of older tumor cells.

pylorus and duodenum. It shows exactly the same structure as does the center of the primary tumor; *a* represents the center of a large endothelial cell cluster. Distinct fibrillation of the endothelial cells at the margin of the cluster.

Figure 9 shows the cluster of tumor cells in serosa of the duodenum. The nuclei of the cells seem to be swollen (vesicular), the chromatin filaments stain distinctly; at *c* is cell with giant nuclei. Numbers of these giant cells, and also polynuclear giant cells were observed. There are a great number of cells which showed degen-

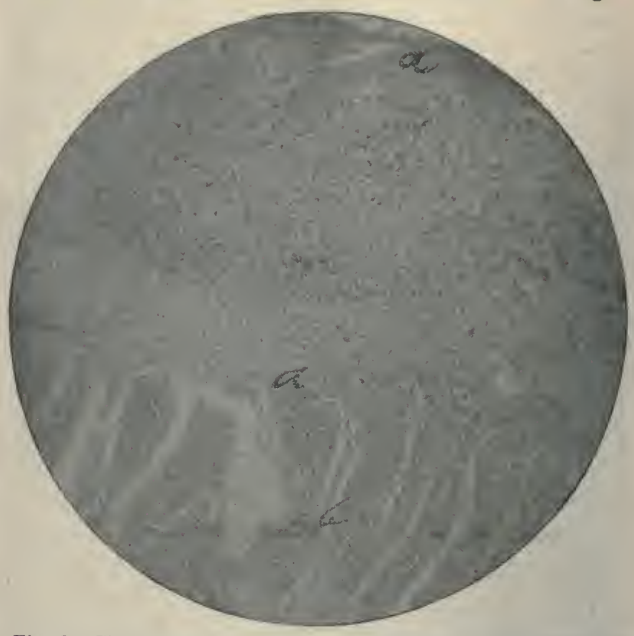


Fig. 6.—Hem. Eosin. Leitz. obj. 3. Section through serosa and muscularis of duodenum. *a-a.* Serosa. *b.* Muscularis.

erative coalescence of several nuclei, thus forming a long, sometimes semi-circular, sausage-shaped nucleus. At *a* and *b* atypical mitoses, of which all varieties were present. Abortive mitoses, clumping of the chromosomes were especially frequent.

Figure 10 is taken from the same slide as Figure 9.

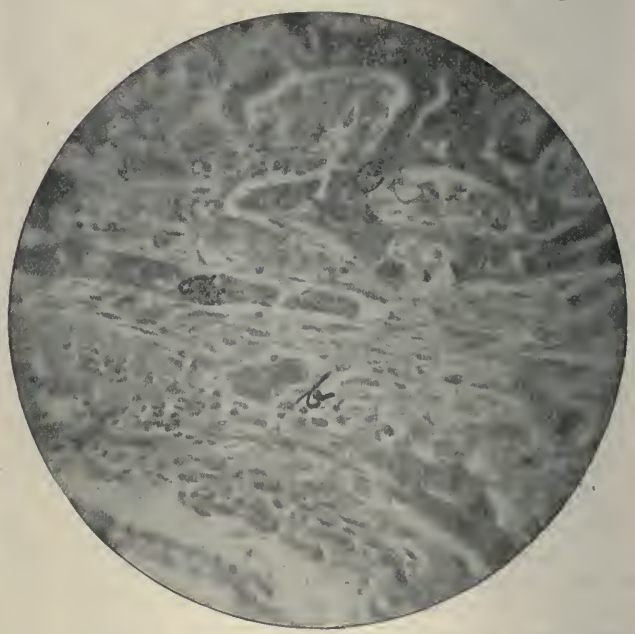


Fig. 7.—Hem. Eosin. Leitz, obj. 7. Area from Fig. 6 under higher power. *a-b-c.* Strings of endothelial cells.

In the center a cell is visible with a giant nucleus; in the cytoplasm a dead polymorphonuclear leucocyte. The nucleus of this leucocyte is undergoing karyolysis, the cytoplasm of the leucocyte is represented by a light ring around the fading semi-circular nucleus. Many in-

clusions similar to this one, with all gradations of degeneration, were observed. (Russell-Plimmer-Leyden-Schueller's Bodies.*)

In the lymph spaces, dilated excessively, the polymorphous "tumor cells" seemed to be suspended in the serous fluid (Fig. 8, *a*). An attempt was made to determine the chemical nature of this fluid in the fresh condition, but, owing to the small quantity obtainable, the attempt was unsuccessful. This much, however, was ascertained: The fluid did not contain any mucin; it may have contained pseudomucin, such as is found in numerous connective tissue tumors, but it was not viscid enough to consist entirely of this substance, or contain a great deal thereof. It did not ferment when brought in contact with yeast cells. It gave the reaction of albumin. The presence of small, round cells, scattered promiscuously through the polymorphous elements, suggested the interpretation of the fluid as lymph. (?)

DETERMINATION OF THE CHARACTER OF THE GROWTH.

These microscopic findings being incompatible with the diagnosis of carcinoma, and agreeing in every detail



Fig. 8.—Hem. Eosin. Leitz, obj. 3.—Section of tissue bridge between liver and duodenum and stomach. *a*. Center of dilated lymph space filled with endothelial cells. *b*. Fibrillation of peripheral cells.

with the histopathology of endothelioma, the latter diagnosis was held as the correct one. Endotheliomata have been described by a great number of authors, and under a multitude of names, endothelial cancer, perithelioma, alveolar sarcoma, sarco-carcinoma, etc. I am not inclined to enter into the nomenclature of the subject, since that would lead to an almost endless discussion. A group of investigators believing the nature of endothelioma to be entirely or partly inflammatory, have proposed names like lymphangitis proliferans, and to convey also the neoplastic idea, lymphangitis carcinomatoides. One thing is certain, that a large number of sarcomata of organoid structure have been described as endotheliomata, which were common angiosarcomata, peritheliomata or hemangioendotheliomata. I do not see the necessity of classifying these tumors as endotheliomata, since we know that the majority of sarcomata originate from the perithelium or endothelium of the blood vessels anyway.

* With apologies to those discoverers whose names have not been mentioned.

Morphologic peculiarities are no criterion for the classification of tumors. This is shown by the confusion brought into the subject of endothelioma by the morphologic classification suggested by Hanseman.

If we, however, reserve the name of endothelioma exclusively to those neoplasms which are the result of an

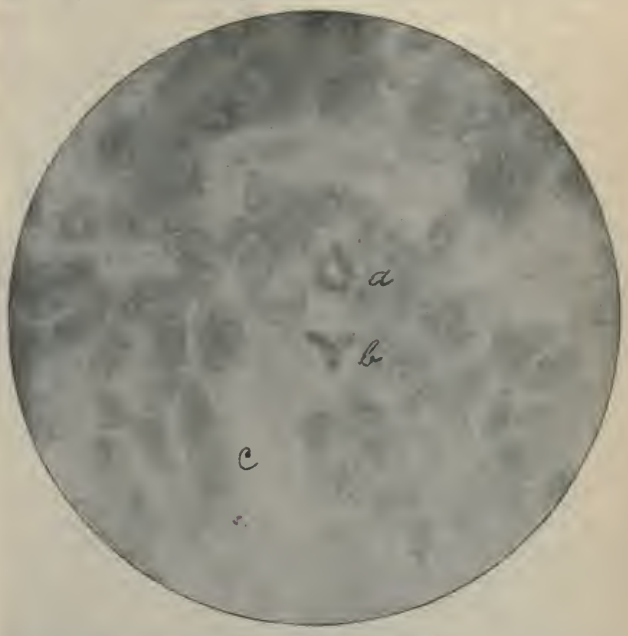


Fig. 9.—From center of alveolus in serosa of duodenum. *a*. Asymmetrical mitosis. *b*. Atypical, tripolar mitosis. *c*. Endothelial cells with giant nucleus. Suffranin. Leitz, 1/12.

abnormal proliferation of the endothelium lining the lymph spaces and serous cavities, we have well-characterized, clear-cut tumors.

That the name of lymphangitis proliferans is also justifiable will be shown below, for I think the inflammatory character of the tumor which I have described

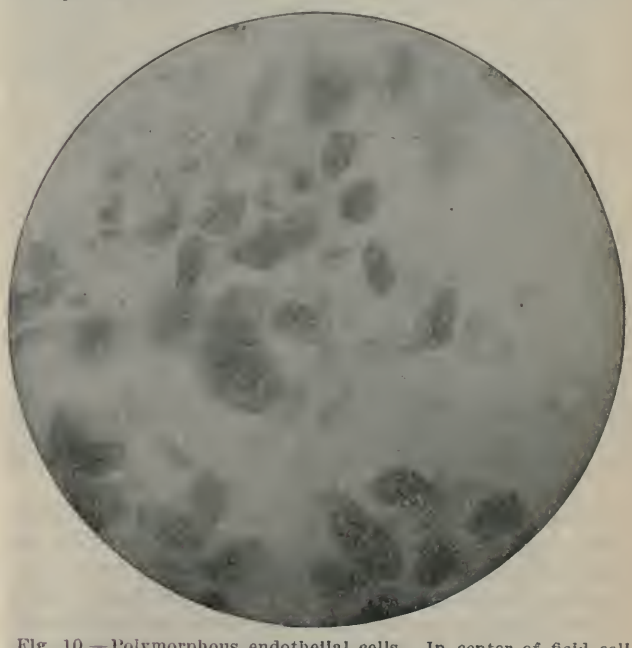


Fig. 10.—Polymorphous endothelial cells. In center of field cell with giant nucleus containing a leucocyte. Saffranin. Leitz, 1/12.

can not be questioned, at least the primum movens of the proliferation of the endothelial cells is of a nature the same as that found in chronic inflammations.

In a number of endotheliomata which I had the opportunity to study, I have never seen any endothelial

proliferation in the lymph spaces unless the surrounding tissue was also in a state of inflammatory hypertrophy. This observation is adduced by Neelsen as an argument in favor of the inflammatory character of the new growth. In addition to this one can easily see that the filling up with cells of the lymph spaces is not the result of an invasion of cells, as we see it in carcinoma and sarcoma, where the elements first get into places not their legitimate habitat, proliferate, and then destroy the surrounding tissue. In the true endothelioma there is first a swelling of the resident cells due to irritation (Reiz Anschwellung, Pollman), most likely of chemical nature, perhaps a cellular poison as described by Ehrlich. Thereafter the proliferation again of these same resident cells takes place in answer to the same formative irritation; dilatation of the lymph space follows. It is evident that the differentiation of the endothelial cells will be lost, or will at least suffer through this onslaught, and anaplasia will result. But this anaplasia may run through "physiologic" gradations. The highly differentiated mesodermic endothelial cells will change into connective tissue cells of a lower type, and will share the fate of all common connective tissue cells. They will fibrillate. This is shown strikingly in Figure 5. The older cells undergo fibrillation first, namely, those seen along the margin of the dilated spaces. Being remote from the lymph current they are deprived of an opportunity to perform their function, even if they were able to perform it; as a result, the cells resign themselves to the quiescent state of fibrillation. This is incompatible with anaplastic, blastomatous carcinoma or sarcoma cells, but is known as the routine process in inflammatory scar tissue formation, i. e., the cells do not maintain the blastomatous character of malignant cells.

The regional expansion of the process may be explained thus: The primary formative irritant was furnished by the presence of the gallstones in the gall bladder, perhaps with an addition of micro-organisms (which were not found). Or there may have been at first an inflammatory occlusion of the cystic duct. The lymphatics of the gall bladder had to remove the altered contents of the same. The change in the chemism of the substance carried by the lymph spaces caused the inflammatory changes of the lining epithelium, as described above.

The cells thus vitiated secreted in turn a vitiated substance which acted as the formative irritant to the adjoining still normal endothelial cells. In this method a circulus vitiosus is established. Experimental pathology and physiology may be able to prove these ideas some day.

Other retrogressive metamorphoses described in connection with endotheliomata, as myxomatous, and especially hyaline degeneration, are likewise frequently found in other common chronic inflammation, viz., in certain forms of peritonitides, zuckerguss exudates, etc., and in a great number of so-called benign tumors.

Furthermore, there is not an area in the tumor where there is not common inflammatory tissue surounding the tumor cells proper, no matter how few they may be in number. Even in the extreme ends of the tumor where the endothelial cells are simply swollen and not multiplied, there is lively inflammation in the surrounding connective tissue. This, also, is unlike the peripheral growth of both carcinoma and sarcoma. We see a round cell sarcoma invade the normal muscular structures, a carcinoma metastasis in a normal lymph node, etc. Specimens stained with Sudan 3 (Formalin-freezing sections) showed numerous endothelial cells containing fat droplets. These are most likely the "vacuoles" found and described in hardened specimens of endothelioma by Adler and others. The significance of these fat drops is not easily explained. Thoma has found that the covering endothelium of the serous surfaces absorbs albumin contained therein into fat. It may be that such a process went on in this endothelioma. The cells certainly do not show any fatty degeneration, but that there is an energetic metabolism going on in the cells is shown by the presence of the serous exudate filling and dilating the affected lymph space (Fig. 8, *a*). I can not believe that this liquid is a simple transudate since there was only an inconsiderable quantity of fluid in the free peritoneal cavity.

METASTASES.

In the tumor here described there was no metastasis; in two more which came under my observation, one of the peritoneum (Dr. E. F. Fish's case), and another of the skin, they were likewise absent. The cases reported in the literature of the last twenty years show about 50 per cent. with metastasis, but I have noticed in the illustrations that a number of these appear like common angio-sarcomata, i. e., the tumor cells are not found restricted to the lymph spaces. Neelsen, who described a number of endotheliomata, lays especial stress on the fact that the cells proliferate *in loco* and do not immigrate. But he has metastases. Wagner could not find any secondary tumors in a woman of 69, where all the tumor cells were within the lymph spaces. In a great many cases the metastatic tumors were found in the vicinity of the primary one; in these instances it is doubtful whether there was not a contiguous growth, as not one report mentions reconstruction methods as a means of ascertaining true metastases. Age and sex do not seem to affect the frequency of occurrence of endothelioma.

Hereditary influence has not been proven in man. Eberth-Spude have seen endothelioma in several members of a family of white mice. Transplantation has been unsuccessful.

OTHER CONCLUSIONS.

Endothelioma, hemangio-endothelioma and perithelioma may be blastogenetically alike, but the first tumor differs materially from the last two in the mode of growth, histology and clinical aspect. One need but think of the functional difference of the normal elements to appreciate this fact.

Endotheliomata are only relatively malignant. A great number of tumors reported under this name are essentially inflammatory.

LITERATURE.

Eberth-Spude: Familiare Endotheliome. Virchow's Archiv, 153.
Pollmann: Endothelioma der Pleura und Periton, etc. Beitr. v. Ziegler, vol. xxvi.
Glockner: Ueber d. Vorkommen von Riesenzellen, etc. Beitrage v. Ziegler, xxvi.
McCallum: Intravenous Growth of Endothelioma of Testicle. Johns Hopkins Hosp. Repts., 1900.
Krombecher: Ueber die Geschw. insl. d. Endothelioma d. Hodens. Virch. Arch., 151 (supplement).
Limmacher: Ueber Blutgefass-Endotheliom, etc. Virch. Arch., 151 (supplement).
Borrmann: Ueber Blutgef. Endotheliom, etc. Virch. Arch., 151 (supplement).
Borst: Ber. ueb. d. Erb. a. d. Path. Inst., Wurzburg, 1897, 2d F.
Neelsen: Unters. u. d. Endothelkrebs (Lymphangitis carcinomatodes). Deutsches Arch. f. klinische Med., vol. xxxi.
Wagner: Rechtseitiges Pleurexudate, etc. Archiv f. Heilkunde, vol. xi.
Schulz: Endothel Carcinom. Arch. f. Heilkunde, vol. xvii.
Malassez: Examon. Histologique d'un Cas, etc. Arch. de Physiol. Norm. et Path., vol. iii, 1876.
Bohme: Prim. Sarco-carcin. Pleuræ. Virchow's Archiv, vol. lxxxi.
Ritter: Der Fettgehalt in d. Endotheliomen. Deutsche Zeitschr. f. Chirurgie, vol. l.
Isabolew: Zur Lehre von Endotheliomen. Virchow's Arch., 161, 1900.

Schulze-Villinghausen: Beitrag. z. Kenntniss d. prim. Endothel-Krebse der Pleura. Muench. Med. Woch., 1900, May.
Glockner: Ueber d. Sog. Endothel Krebs d. ser. Haente (Wagner-Schulz). Zeitschr. f. Heilkunde, 1897, vol xviii.
Volkmann: Ueber Endothel geschwuelste, Zeigl., etc. Deutsche Zeitschr. f. Chirurgie, 41, 1895.
Mulert: E. Fall v. mult. Endothel. d. Kopfhaut, etc. Langenbeck's Arch., 54, 1897.
Hansemann: Ueber Endothelioma. Deutsche Med. Wochenschr., 1896, No. 4.
Barth: E. Fall v. Lymphangiosarcoma, etc. Beitrage v. Ziegler, vol. xix.
Rossler: Contrib. a l'Etude du Cancer Primitif Diff. de la Plèvre. Beitr. v. Ziegler, vol xiii, 1893.
Thevenot: Des Endothèliomes des Os. Rev. d. Chir., 1900.
Guenlot: Cholecystide sclero-Hypertroph. Bull. et Mem. de la Soc. Anatomique de Paris, 1900.
Adler: Remarks on Primary Endothelioma, etc. Jour. of Medical Research, 1901.
Koerner: Ein selt. Fall v. perit. Endoth., etc. J. Diss., Wurzburg, 1901.
Bergenthal: Ueber e. Endotheliom d. Peritoneums. J. Diss., Wurzburg, 1901.
Fuetterer: Ueber die Aetiologie des Carcinoms, etc. Wiesbaden, 1901.

THE OPERATIVE TREATMENT OF CYSTOCELE AND PROCIDENTIA UTERI.

E. C. DUDLEY, M.D.
CHICAGO.

The evolution of the operative treatment of cystocele and rectocele with resultant procidentia includes the following essential factors:

1. Operations of superficial denudation and reefing of the anterior vaginal wall as practiced by Sims and Emmet.

2. Operations on the lateral vaginal walls with superficial denudation, as described by myself and others.

3. The recognition of the essential fact that no operation can succeed that does not include plastic work on the lateral and anterior vaginal fornices with the definite purpose of forcing the cervix uteri back to its normal location in the hollow of the sacrum.

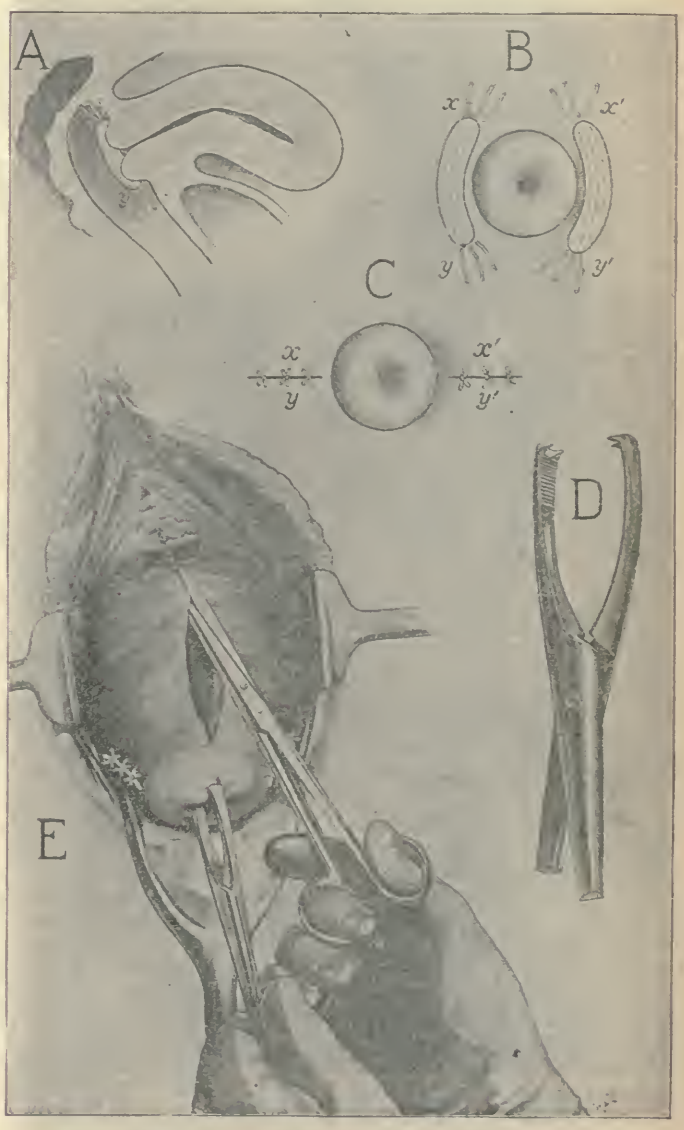
All these measures have been employed with varying success, the variation being dependent on the ability of the operator to force the cervix uteri back into the hollow of the sacrum and to make it stay there. This location for the cervix is the prime indication. With the cervix uteri in its normal posterior location, the corpus uteri must necessarily fall forward into its natural position of anteversion.

The methods above outlined, even though supplemented by hysterorrhaphy, have so frequently failed to give permanent results that many surgeons advocate the more radical alternative of hysterectomy. Of late, however, the essential principles and indications on which successful plastic work may be done are becoming more clearly defined. Dr. Edward Reynolds[1] of Boston sets forth two anatomic points which in the previous literature have not been very clearly brought out, but which necessarily underlie the success of this class of operations. They are: 1. That cystocele is hernia of the bladder and should not be treated by superficially denuding and reefing in the overstretched portion of the vaginal wall, but that this overstretched portion should be removed and the lateral margins of it should be united by interrupted sutures. In other words, this hernia should be treated like other similar conditions by reduction and the excision of the sac so as to expose and unite the strong, fixed facial margins of the wound. 2. A successful operation must recognize two fixed points of attachment of the anterior vaginal wall; the first at its lower extremity to the inner surface of the pubes; the second at its upper extremity to the facial structures on either side of the uterus, which are in direct connection with the broad ligaments. Accordingly, I have made radical changes in my method of elytrorrhaphy for the correction of cystocele and procidentia uteri. The modified operation which I have performed several times with most gratifying results may be divided into two steps, and is briefly as follows:

1. A crescentic denudation and suturing in the vaginal wall on each side of the cervix uteri.

2. The removal of a portion of the anterior vaginal wall and suturing together of the wound thus made.

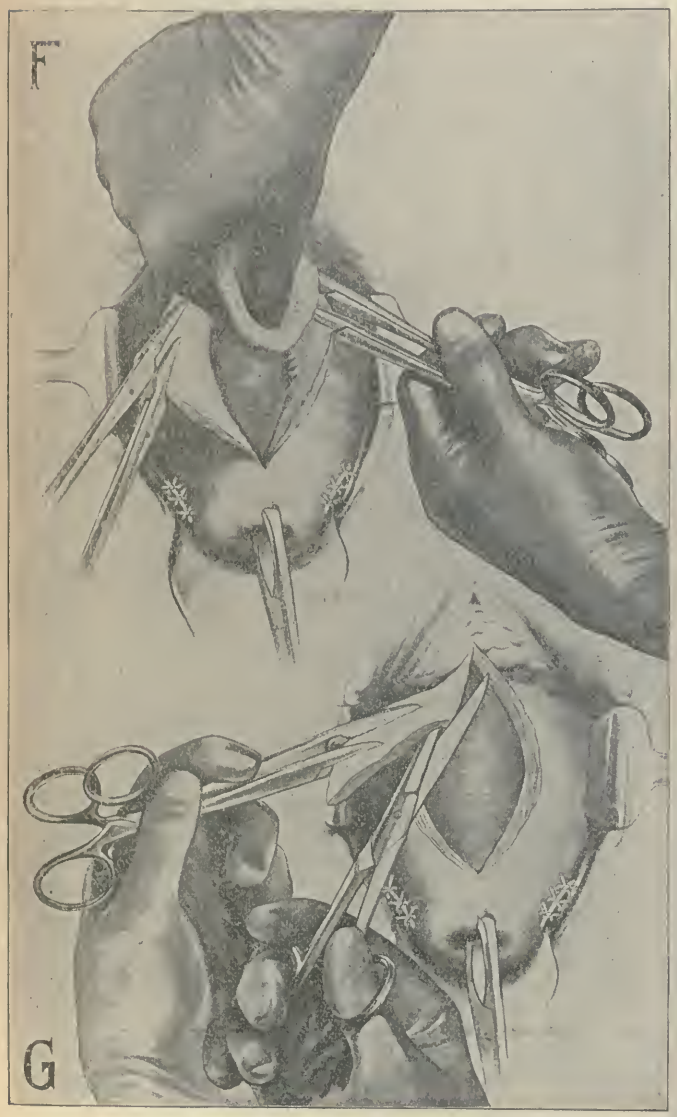
First Step.—The first part of the operation is performed preferably with the patient in Sims' latero-prone



position and the vagina exposed by means of Sims' speculum. The blade of the speculum should be perforated at the extreme end. Before the speculum is introduced the cervix should be attached to the end of the blade by means of a temporary suture which is passed through the posterior lip of the cervix and the perforation in the speculum and tied. This suture should remain in place throughout the first step of operation. The object of this temporary stitch is to hold the cervix uteri far back in the hollow of the sacrum while the sutures are being secured which shall fix it there. When the cervix is thus held back the space anterior to the cervix is so increased

1. An epoch making paper on this subject has recently appeared from the pen of Dr. Edward Reynolds, American Medicine, Aug. 2, 1902.

that the corpus readily falls forward into a position of decided anteversion; that is, into the normal position. It is essential that this part of the operation be performed with the organ in normal position, because if so performed the result is more likely to be permanent. Two semi-circular strips are denuded in the vaginal wall close to the uterus about one-half of an inch wide on either side of the cervix, their convexity being turned toward the cervix. This denudation is shown in Figure B, *x y* and *x' y'*. This denuded surface is shown on one side of the cervix in Figure A, *x y*. Each denuded surface is now closed on itself by means of fine chromic



catgut sutures, Figures A, B and C. A and B show the sutures in place, but not tied; C shows them tied and also the lines of union running laterally from either side of the cervix. The folding of these denuded surfaces on themselves causes their lower extremities *y* and *y'* to be brought in contact with their upper extremities *x* and *x'*, Figures A, B and C. By this means the cervix is lifted upward and backward toward the hollow of the sacrum and held there.

SECOND STEP.—The second step in the operation is performed with the patient in the dorsal position, the parts being exposed by means of a Sims speculum or a Simon retractor. The operation is now continued as shown in Figure E, then in Figures F and G, then in Figures 1 and 2. Figure E shows the lines of union lateral to the cervix uteri made in the first step of the operation and shows the incision being made by sharp-pointed scissors through the vaginal wall, but not including the vesical wall, from a point near the cervix uteri in the median line of the vagina to a point near the meatus urinarius. The dotted lines in Figure E indicate the extent of this median incision. While the incision is being made the cervix is held securely in place by means of flat vulsellum forceps, a full-size section of which is shown in Figure D. Figure F shows the

Figure 1.

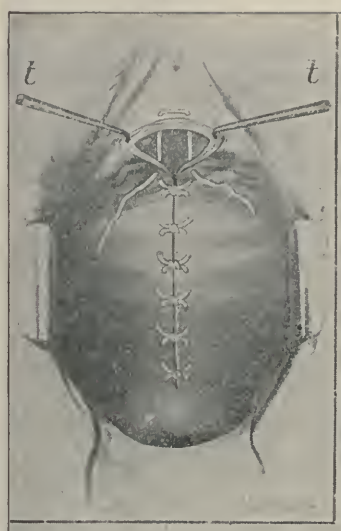


Figure 2.

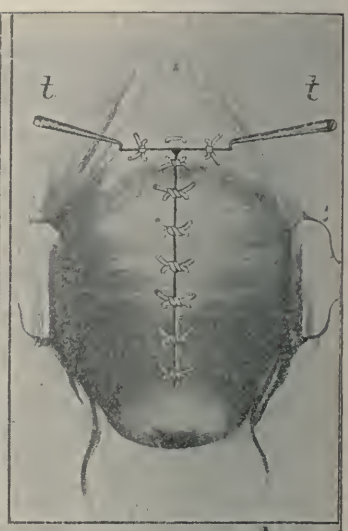


Figure 3.

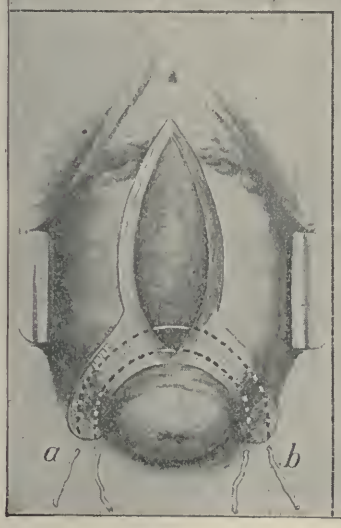


Figure 4.



vaginal wall being stripped off from the vesical wall. The operator has seized the margins of the flap in pressure forceps and is stripping it away from the vesical wall by sponge pressure. This will be found a very effective method of blunt dissection. The flap on the opposite side is held in pressure forceps and is represented as already stripped off. In Figure G the loose flap has been removed by means of scissors from one side and is being removed from the other side. Figure 1 shows the median vaginal wound nearly closed by means of chromic catgut sutures. Experience in this operation has shown that in the majority of cases there is considerable redundant vaginal wall in the region of the

urethra which may be disposed of most effectively by uniting the wound in a transverse direction. Accordingly the lateral margins of the wound are shown as being drawn apart by tenacula, *t. t.* A single stitch introduced but not tied shows how this portion of the would should be united. Figure 2 shows all sutures introduced and the operation complete. The tenacula are the same as shown in the previous figure.

It is extremely essential in this operation that the entire thickness of the vaginal plate of the vesico-vaginal septum be removed, as shown in Figure G. The former method of merely denuding a superficial surface is ineffective. It is unnecessary to add that this operation should always be supplemented by a perineorrhaphy.

Figures 3 and 4 are here introduced to show a method of denuding and introducing sutures so as to force the cervix uteri back into the hollow of the sacrum. This method is offered as a substitute for the one shown in Figures A, B and C, and will be found most applicable to cases of extreme relaxation of the pelvic floor. In principle it is the same as that employed many years ago by Sims, Emmet and others. Figure 3 shows a circular denudation in front of the uterus extending on either side to the post-vaginal fornix. Two sutures are shown in place but not tied. Three sutures are generally used instead of two. These sutures, when tied, will draw the loose vaginal tissues on either side of the cervix to the front of it so as to bring points *a* and *b* together in front of the cervix, as shown by Figure 4, *a, b.* The structures thus brought in front of the cervix uteri are in close relation with the broad ligaments; hence the effect is to bring the lower margins of these ligaments to the front of the cervix and so to force the cervix upward and backward. Reynolds prefers to expose the lower margins of the ligament and to introduce the sutures directly through them. In Figure 4 a threaded needle is being introduced to complete the closure of the median vaginal wound. This part of the operation is the same as in Figs. 1 and 2.

The accompanying figures show the cervix drawn well down to the vulva. This is not in accordance with the fact. The cervix, as already explained, is held well back in the hollow of the sacrum during the operation. The appearance of drawing the cervix downward to the vulva is only introduced to facilitate illustration.

PROGRESSIVE BULBAR PARALYSIS.*

ALFRED C. COTTON, A.M., M.D.
CHICAGO.

Kitty M., aged 11 years, an American schoolgirl, first came to my clinic Jan. 17, 1902.

Family History.—Mother living and well; father died of pneumonia; she has four brothers and sisters in good health; both maternal grandparents lived to old age; her paternal grandmother developed some form of paralysis after childbirth. Her paternal grandfather was paralyzed late in life, and had some disturbance of speech which passed away before death.

Previous History.—Birth and early history negative except for the usual diseases of infancy. She had pneumonia when six years of age; diphtheria three years ago and again last April (1901) from which she apparently made a good recovery. For the past two or three years the mother has noticed more or less impairment of hearing.

Present Illness.—Early in September the mother detected slight difficulty in swallowing and some defect in the child's speech; it seemed as if there were something in the mouth. About the middle of September she was sent home from school with instructions to have her eyes tested. This was done and she was given glasses for astigmatism.

Drooling and speech defects led to a consultation with a throat specialist, who advised the removal of postnasal adenoids. The operation was performed about the 1st of October. She had occasional fits of obstinacy and cried frequently, i. e., she was emotional, but showed no evidence of impaired mentality. Speech and deglutition became increasingly difficult, so that the hand was occasionally employed to retain food in the mouth.

Examination.—A girl of average size for her age, but somewhat pale and poorly nourished. The expressionless face, fallen lip and drooling mouth first arrest attention. She answers questions indistinctly and laboriously; the speech defect shows inability to pronounce labials and denti-linguals; she can not wrinkle the forehead, elevate the eyebrows, close the eyes completely, purse the lips or smile; the tongue can not be protruded beyond the teeth or raised to the roof of the mouth; it is thickly coated, plainly shriveled and lies passively in the floor of the mouth with occasional flickering tremors. The pharynx presents no gross lesions, but the uvula and palate show some anesthesia; the voice is monotonous and of nasal quality; the mouth is full of saliva which pours over the pendulous lip; the child masticates food slowly and swallows with marked difficulty, at times choking and coughing. Fluids do not regurgitate through the nose, nor is there any history of this symptom. The respiration is shallow and under excitement or exertion becomes slightly snoring; she also snores while asleep.

The examination of the ocular fundus and ear by Professor Hotz gave negative results. Pupillary reflex normal. The range of ocular movements is somewhat restricted toward the right. Slight horizontal nystagmus is at times noticeable. She can not close the eyes completely, prolonged effort causing parallel deflection upward and to the left. Eyes are constantly suffused, and there is conjunctival anesthesia. The general muscular system shows but little wasting. Patellar reflexes normal and co-ordination good. Electrical response to both galvanism and faradism normal, with the exception of the facial muscles, which show reaction of degeneration. A. O. C.= 2.5 M. A., C. C. C.=4.5 M. A., A. C. C.=4.5 to 5 M.A. There is no response to faradism (the strongest current) in the facial muscles. (Tested by G. W. Hall, M.D.) No anesthetic areas, either thermal or tactile, were found except on palate and conjunctiva. No tremors were present, except occasional fibrillary twitchings of tongue and facial muscles. Taste as far as observed is not affected. Chest examination negative with exception of systolic murmur; abdomen negative; urine negative.

Subsequent History.—The child was under observation during the last weeks of her life, during which time inanition was steadily progressive, with loss of weight. Towards the last she showed increasing somnolency, disinclination to exertion, and staggering, uncertain gait. Impairment of speech, deglutition and tongue movements increased. In the last two weeks fluids were regurgitated through the nose. A few days before death she developed a slight bronchitis with some elevation of temperature (103).

Throughout the observation until the last weeks the highest temperature was 100.4, the lowest 97, with a tendency to be subnormal. The pulse ranged from 70 to 120 and was easily disturbed; respiration, 20 to 26.

She died rather suddenly the night of April 7, 1902.

Bulbar paralysis is certainly so rare a disease among children that no apology is needed for bringing it to your attention. As you will recall, this disease was described for the first time in 1860 by Duchenne, and it was not until ten years later that the real seat of the lesion was recognized by Charcot and Leyden.

The fact that the symptom-complex of glosso-labio-laryngeal paralysis may accompany lesions other than the degenerative process in the nuclei of medulla, would excuse a brief consideration of the classification given by Collins in "Twentieth Century Practice."

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

This author presents these paralyses with reference to their etiology under eight heads. With your permission I will give them seriatim in comparison with the clinical findings of the case before us.

COLLINS' CLASSIFICATION.

1. Progressive labio-glosso-laryngeal paralysis.
2. Primary vascular lesions; (*a*) acute inflammatory; (*b*) bulbar hemorrhage; (*c*) thrombosis and embolism.
3. Bulbar neuritis (associated neuritis of bulbar nerves).
4. Infantile bulbar paralysis; (*a*) familiary; (*b*) hereditary.
5. Secondary degenerative lesions of the bulb; (*a*) in amyotrophic lateral sclerosis; (*b*) in syringomyelia; (*c*) in tabes and multiple sclerosis.
6. Pseudobulbar paralysis (cerebral).
7. Tumors of medulla oblongata, including gummata.
8. Bulbar paralysis without anatomic foundation (asthenic bulbar paralysis).

From his second class, due to vascular disturbances, this case may be excluded by its gradual onset and absence of acute symptoms, as fever, disturbance of pulse rate, vomiting, etc.

For the same reason (gradual onset) we may rule out class three, viz., associated neuritis of bulbar nerves, which condition not only causes a rapid development of symptoms, but is rarely reported as furnishing all the symptom-complex of true bulbar paralysis.

The fourth class (familiary or hereditary type) we may possibly exclude, for want of corroborative history, her brothers and sisters being free from any suggestion of similar trouble.

There is no evidence of any involvement of the cord, such as spasticity, increased muscular irritability or atrophy.

Lack of sensory disturbances, as analgesia, thermic anesthesia and also lack of muscular atrophies may exclude syringomyelia.

The persistence of the patellar reflex, absence of crises and the Argyll-Robertson pupil may allow us to dismiss tabes from consideration, and, although we have a slight nystagmus, the intention tremor, scanning speech, rigidity and exaggerated knee-jerks of multiple sclerosis are wanting. If, as it has been claimed, an isolated area of a developing multiple sclerosis have its seat in the medulla and produces the symptoms seen in this patient, may we not claim that it is time (seven months) for the symptoms of other scleroses areas to manifest themselves?

In pseudobulbar (cerebral) paralysis we should expect a sudden onset with possible subsequent improvement until there is a second attack, possibly hemiplegia; the atrophy should be that of inanition and the muscles should not show the reaction of degeneration. Especially is atrophy of the tongue wanting. Nor is pseudobulbar paralysis long free from other evidences of cerebral involvement, as mental impairment and emotional disturbances.

From tumor of the medulla it is possible that enough time has not yet elapsed for the development of sufficient symptoms to make positive differentiation. Indeed, we have already involvement of the upper facial muscles and slight involvement of the ocular muscles. However, the negative condition of the fundus, absence of sensory disturbances, cephalagia, etc., might lead us to exclude a tumor of any considerable size. The entire absence of any other signs of syphilis renders the diagnosis of gummata improbable.

Asthenic bulbar paralysis, without anatomic foundation, is not recorded as showing true muscular atrophy with the reaction of degeneration. Nor is its course steadily progressive; on the contrary, almost complete cessation of symptoms follows intervals of rest.

The extensive involvement of the facial nerve seen in this case, though not of itself a part of the symptom-complex of true bulbar paralysis, still occurs with sufficient frequency not to jeopardize our diagnosis, providing the pathognomonic symptoms be present. As to the ear involvement, the history of partial deafness for the past three years would indicate merely a coincidental condition.

It seems to the writer that from the symptoms present, the course of the disease and the onset, he is justified in classing this case as degenerative bulbar paralysis. The extreme rareness of this affection in a female child lends exceptional interest to this case.

AUTOPSY REPORT BY DR. P. BASSOE.

April 8, 1902.—The autopsy was held about eighteen hours after death and was limited to the removal of the brain and spinal cord.

General.—The body was poorly nourished. Rigor mortis slight. Lividity posteriorly. No external marks except an opening to the left of the umbilicus through which embalming fluid had been injected. No injection had been made into the vessels. The scalp and skull presented no changes. There were no abnormalities of the meninges. The brain and cord showed no changes externally and were immediately placed in a 10 per cent. solution of formalin in water and carefully suspended. An opening was made into the abdominal cavity from behind. The spleen was removed and found of normal size. The kidneys also of normal size, capsules not adherent, section dark red, cortical markings distinct.

Brain.—The brain and cord were sectioned later and showed no gross changes. After preliminary formalin hardening the medulla was placed in Müller's fluid. Serial sections will be made later. Pieces of cortex and cord were taken at the autopsy, placed in 96 per cent. alcohol, cut without embedding and stained by Nissl's method. In most of the ganglion cells of the frontal lobe a normal condition of the nucleus, nucleolus and Nissl bodies is seen. In a few cells the Nissl bodies between the nucleus and base of the cell have been broken up into fine particles, less deeply stained than the normal Nissl bodies. A number of vessels cut longitudinally are filled with red corpuscles. There are no perivascular infiltrations.

Motor Area.—The cells show distinctly outlined generally, centrally situated nuclei with nucleoli. In several cells there is a rim of unstained protoplasm around the nucleus, the stainable substance being arranged along the periphery of the cells as densely aggregated small granules. The vessels are normal.

Cervical Cord.—In specimens stained by the Marchi method degenerated fibers were scattered in every portion. They seemed more numerous in the direct pyramidal and cerebellar tracts than elsewhere. However, they were not numerous enough to leave marked gaps in Weigert-Pal preparations. The gray matter was normal. Marchi preparations from the lower portion of the medulla showed scattered degenerated fibers in the lateral columns. The posterior columns and pyramids were practically uninvolved, and show a normal number of fibers in Weigert-Pal preparations.

As stated before, the remainder of the medulla has not been examined yet.

DISCUSSION.

DR. J. M. DODSON, Chicago—I take it that the question in this case is one of central or peripheral lesion. The history of an antecedent diphtheria, of course, suggests itself in this connection, although the long interval that had elapsed from the last attack of the disease and the onset of symptoms seems almost to negative that possibility. Yet I think it does not do so entirely. I shall look with interest for the publication of the report of the complete postmortem findings.

DR. COTTON—Seeing this case for the first time in clinic, I made a snap diagnosis of bulbar paralysis as one of the possibilities, because of the symptoms presented. Meeting the mother afterward, I was surprised at her intelligence regarding the symptoms of paralysis, and I then found she had

been to other clinics. She had been encouraged to believe in the recovery of the child from the fact that a diagnosis of postdiphtheritic paralysis had been made in a neurologic clinic. The length of time intervening, however, between the attack of diphtheria and the occurrence of the paralysis was greater than I had ever seen in such a case. The fact that the disease had progressed three months before coming under my observation led me to exclude postdiphtheritic paralysis as we understand it by that name. The suggestion of intoxication from infection as affecting the function of nerves is, of course, a wide field for speculation, and the cases of pseudoparalysis without anatomic foundation remain yet unexplained. The autopsy thus far in my case seems to confirm the diagnosis; however, it would be just as interesting to us all if the autopsy were negative. That all the symptoms of bulbar paralysis should be present without any anatomic changes in the bulb or other nerve structures would certainly be remarkable. Such cases are recorded, however, as asthenic bulbar paralysis, according to Oppenheim and others, without anatomic lesion yet discoverable.

Special Article.

THE TYPHOID EPIDEMIC AT ITHACA.

(By our Special Commissioner.)

III.

THE IMMEDIATE CAUSE OF THE EPIDEMIC.

In casting about for some special cause for the epidemic, public attention naturally became focused on the fact that a band of Italian workmen had been employed in the work of preparing a dam site and reservoir projected by the Ithaca Water Company, the private corporation controlling the Six Mile Creek and Buttermilk Creek supplies. Considerable friction had been generated between the water company and the townspeople over the construction of the proposed dam, and public opinion seized, with a not unnatural avidity, on the presence of the Italian laborers as affording a satisfactory explanation for the outbreak. About 100 of these workmen were employed in the gorge of the stream at a point nearly one mile above the intake, up to about the middle of November, 1902, and during the months of November and December men and teams belonging to the town were also engaged in work on the dam and its surroundings. One gang of Italians was controlled by the contractors and one, working below the dam, by the water company itself. According to the statements of the officials of the water company, the Italians did not work in the gorge after November 14, and, although they remained at work in the vicinity for some time longer, all but twelve were discharged on December 12, and all were discharged on December 19. There is evidence that both the contractors and the officials of the water company were alive to the responsibility entailed by the presence of these workmen at this critical point, and that measures were taken to prevent the fouling of the stream. It is said that lime was used in large quantities for the destruction of and the disinfection of the excreta. At the same time, there is abundant evidence for believing that, however careful the supervision of the Italians may have been, contamination of the stream and its banks was not altogether prevented. Many observers testify to having witnessed in the neighborhood of the camps a state of things which was far from reassuring, and which, in the light of subsequent events, throws much suspicion on the presence of these men. No information can be obtained, however, regarding the occurrence of any case of illness among these workmen, and there is no record indicating that other than good health was maintained among the whole crew during the period of their work.

It is certainly a seductive hypothesis that the presence of these workmen is connected with the epidemic that followed a few months later, but after a careful examination of the site of the dam and the surroundings of the camps of the Italians, and after a consideration of the dates at which the workmen were employed in the gorge and the dates at which the early cases of fever developed, the writer is unable to find any convincing evidence for this view. The meteorological record shows that during the months of November and December, 1902, heavy rains and periods of thaw occurred several times, so that if infectious material in large quantities had been deposited by any of the Italians on the banks of the stream, such material would have been most likely to find its way into the water at a date considerably earlier than that which marks the beginning of the present epidemic. Furthermore, while it is conceivable that a typhoid convalescent with an infectious urine discharge, might have been present among the Italians during the period of their stay in Ithaca, it does not seem likely that either the character or the quantity of the infectious material discharged by such a convalescent would have been sufficient to produce a severe outbreak after the lapse of several weeks. The more plausible supposition that a mild or "walking" case of typhoid fever existed among the workmen, and that the washing into the stream of the accumulated bowel discharges of such a patient caused the present outbreak seems to be rendered somewhat problematical by the utter absence of evidence that any such case existed and by the facts of the meteorological record. One is undoubtedly tempted to suppose that the presence of these workmen in the gorge is connected in one way or another with the outbreak, but, in view of all the facts, such a hypothesis must be accepted with some hesitation.

It seems, indeed, quite as reasonable to assume that a case of typhoid fever, possibly in a mild and unrecognized form, existed at some point on the Six Mile Creek watershed, and that the discharges from such a case either passed directly into the creek or were washed down from some one of the scores of privies that afford opportunity for such a mode of contamination. The sanitary history of Ithaca, as has been already pointed out, shows that infection of the water has probably occurred in the past on more than one occasion. The outbreak of fever in 1902, it should be remembered, was a spring epidemic only less severe than that of the present year.

In favor of the view that a case of typhoid fever existed somewhere on the watershed during the month of January, 1903, might be urged the fact that the extent and duration of the infection suggest the presence in the water of the stream of a very large amount of infectious material and also of a continuance of the infectivity of the water over many days. It should be kept in mind that the stream in question is small, that its current is swift, and that there is practically no storage, so that the conditions are radically different from those obtaining in the case of a polluted lake or reservoir. It is quite possible, as has been suggested, that material from an infected privy may have been spread as manure on the surface of a field bordering on the stream itself or on one of its rapidly flowing tributaries.

Certain analogies with the famous Plymouth, Pa., epidemic of 1885 at first inclined several observers to seek for some connection between the "January thaws" and the outbreak of typhoid fever in Ithaca, but such a connection, if it exists, is not obvious. As is well known, the period of incubation in typhoid is somewhat uncertain, but the best authorities agree that a period of at least eight to fourteen days generally precedes the manifestation of definite symptoms, and in many cases the incubation period is as long as twenty-one days, or even longer. It will be seen by reference to Table 2 that the maximum number of cases that occurred among the students developed during the three-day period, February 4-6, which would place the period of infection about January 21-23, if it were assumed that fourteen days had elapsed since infection. It will be noticed, however, that many cases of typhoid fever appeared among the students considerably earlier than this, and, even allowing for an incubation period as brief as eight days, some individuals must have been infected much earlier than January 21. This inference is confirmed by the undoubted fact that many cases of typhoid fever appeared in Ithaca during the week January 19-26. On January 26 one of the local papers *(Ithaca Daily News)* contained the statement that 73 cases of fever existed in the town, and this statement was one of the first published indications of the existence of an epidemic. During the following week many more cases were reported, and on February 2 237 cases were said to exist in Ithaca.

All these facts (see especially Table 2*) indicate that the active agency in the infection was operative during at least several weeks, possibly extending from the first of January to the middle of February. There is no conclusive evidence of a sudden outburst of infection confined to a few days and terminating more or less abruptly. On the contrary, the facts rather point to a specific contamination that persisted for several weeks. The meteorological table shows that there was an extended thaw lasting from the first of January to the fourth; a slighter one about the middle of the month (Jan. 16-17), and the most marked of all January 27-30. It is certainly possible that the thaw early in January may have had some connection with the first cases to be reported, but if that were true one would expect that the onset of the epidemic would have been marked by a more explosive character than was actually the case. As a matter of fact, the beginnings of the outbreak were apparently quite gradual. It may be noted, for example, that the first patient was admitted to the University Infirmary on January 23, a date some days after cases of typhoid fever had made their appearance in the town, and it was not until about February 1 that the number of cases among the students began to assume highly alarming proportions. The most extended thaw of all, January 27-30, does not seem to have had any noticeable effect on the number of cases, unless one assumes that the cases developing between February 4-6 could be traced to infection at the time of this thaw. This, however, seems hardly likely, since a period of incubation so much shorter than the average would hardly have occurred in the maximum number of cases, and it would naturally be anticipated that the effect of this thaw would manifest itself especially about February 11-14, a time when the epidemic was plainly relaxing its hold (Table 2). The rather insidious beginnings of the outbreak, followed by a slow rise to a period of maximum infection and its final tardy and reluctant dying out, are not facts that betray the existence of any definite relation between any particular January thaw and the infection, although it seems only fair to suppose that such thaws may have served, from time to time, to accentuate the pollution.

MANAGEMENT OF THE EPIDEMIC.

Both town and university authorities have been subjected to unsparing criticism in various quarters for the overcrowding of the city hospital and the University Infirmary, and for the general management of the epidemic conditions. With respect to the overcrowding, such criticism has, perhaps, not been wholly just. There is no doubt that both hospital and infirmary have been greatly overtaxed almost from the beginning of the epidemic, but it is difficult to see how this could have been altogether avoided. The proportion of cases to the population has been very high, and both Ithaca and the university are to be congratulated that the facilities for caring for the patients were as ample as was the case. Few small towns and few universities are adequately provided with hospital accommodations for such an extraordinary emergency. The authorities of New York or Chicago would assuredly find themselves beset with many difficulties if they were suddenly called on to face the necessity of caring for 100,000 typhoid patients, and yet the proportion of cases to population in Ithaca was probably at least as large as this. The University Infirmary and its management, in particular, have received a great deal of sharp criticism, and it seems to be nowhere questioned that during the height of the epi-

* See p. 783, issue of March 21.

demic the conditions in that institution were more like those of war times than of ideal hospital practice. Unavoidable overcrowding was, of course, present, and one is told that there was much of the confusion that has sometimes accompanied great military emergencies. High praise is due the physicians of Ithaca, who, under such adverse circumstances, must have been severely overtaxed. With less than 30 physicians in the town and with sometimes over 400 typhoid patients added to their usual work, the conditions of the work can be understood. The highest appreciation of the efforts of the physicians was everywhere expressed. Whatever may have been their opinion as to the nature of the epidemic in its beginnings, there is no reason to believe that individual disinfection and prophylaxis were neglected, and, as already said, many of them showed themselves fully alive to the situation from the very first.

A particularly fortunate element was introduced into the situation by the arrival of Dr. George A. Soper of New York, representing the New York State Board of Health. The situation was one eminently demanding energy and great judgment. Dr. Soper won from the outset the confidence of all factions and immediately infused a spirit of system and hopefulness into the whole city. A particularly active campaign has been waged under his direction against the possibilities of secondary infection, and if the reforms suggested and initiated by him are carried into effect, Ithaca should be the cleanest and most ideally hygienic town in the state of New York. Only the highest praise can be awarded to the character of the methods, both physical and tactical, employed in this work. It is certainly one of the hopeful signs of the times that a man of practical experience and energy, combined with scientific knowledge, should be placed in a position of authority.

SECONDARY INFECTION.

The presence in Ithaca of the enormous number of typhoid bacilli generated in the bodies of 700-800 patients caused much concern among those conversant with the methods of spread of typhoid fever. The well-known dangers of secondary infection, a term generally applied to direct transfer of the specific bacilli from one individual to another through carelessness in disinfecting the discharges, were undoubtedly very great. The peril of further spread of the disease by this means was early appreciated, and a warfare against filth of every description was waged, and the discharges of typhoid patients were rigorously taken care of. Owing to energetic and efficient methods, the opportunities for secondary infection have been greatly diminished, and the aftermath of such cases will probably be much smaller in Ithaca than in most typhoid epidemics.

As to the part that has been played by secondary infection in originating cases of typhoid during the course of the epidemic, opinion is at variance. The fact that many cases developed among the members of one household or among the students in the same fraternity house or boarding house, together with the fact that in some cases a definite interval elapsed between the infection of different individuals has seemed to some to indicate that secondary infection has been of rather frequent occurrence. On the other hand, it is pointed out that the large number of individuals residing in a single boarding house lessens, somewhat, the value of the evidence derived from the appearance of many cases at the same house number, and it is also noted that the interval elapsing between the successive cases has been almost invariably less than the average period of incubation for typhoid fever. There can be no question that in this, as in all extensive outbreaks of typhoid fever, secondary infection has played a part, but there does not seem any reason for assigning it other than a strictly subordinate rôle. Cases of this character, however, would undoubtedly have been more numerous in the later stages of the epidemic but for the methods of prevention already alluded to.

THE OUTLOOK FOR A PURE WATER SUPPLY IN ITHACA.

Public opinion in Ithaca has become thoroughly aroused, and town and university authorities have been working with notable zeal to obtain a pure water supply. The revulsion of feeling over the use of surface water has led to an enthusiastic attempt to obtain a supply from artesian wells. A citizens' committee has taken up this matter with great vigor, and under their direction wells are now being drilled at different points in the valley, with the aim of securing an exceptionally pure and abundant supply. It is said, however, that competent engineers who have examined the locality are unable to secure any evidence that a supply satisfactory in quantity and quality can be derived from this source. Experiments are now in progress designed to determine this point, and, since there exists an overwhelming sentiment among the inhabitants of Ithaca in favor of deep well water and against surface water, the question is likely to be probed to the bottom.

At the same time that wells are being drilled in the valley a plan for filtering the water of Six Mile Creek is well under way. The water company has secured as consultant Mr. Allen Hazen, who has had large experience in matters of water purification and who is well known as the designer of the filtration plant now in successful operation at Albany, N. Y. Any measure carried out by his advice and under his supervision may be received with entire confidence by the people of Ithaca as a satisfactory solution of the problem. A slow sand filter, constructed from Mr. Hazen's designs, will unquestionably assure the city a supply of pure and wholesome water. It is expected that a thorough inspection of the watershed will go hand in hand with the preparations for filtration and that many improvements will be carried out along the banks of this stream. When this is effected and the filter plant is in operation under competent management, typhoid fever should practically disappear, and "Ithaca fever" be relegated to well-deserved oblivion.

The university authorities have determined to depend no longer on the supply of raw water from Fall Creek, and are installing a small mechanical filter which will be completed in a few weeks, and which is expected to ward off the possibilities of danger from this source. During the epidemic the university has supplied artesian well water for the drinking tanks in the campus buildings, and to its prompt action in this respect a considerable degree of immunity among the students during the later stages of the epidemic must be attributed.

Among the many persons in Ithaca to whom I am under obligations for friendly courtesies, I wish to express my especial indebtedness to Prof. V. A. Moore of Cornell University, who has generously placed at my disposal much information concerning the epidemic, and also to Dr. George A. Soper, who has kindly aided me in the course of my inquiries in many ways.

POSTSCRIPT.

The epidemic is now, March 30, to all appearances, at an end. Only fourteen new cases have been reported since March 11, and during the last week there have been only four. The revised and corrected tabulation of cases on the best information obtainable is as follows:

	Students.	Citizens.	Total.
Cases in Ithaca	124	660	784
Cases outside of Ithaca	106	22	128
Total	230	682	912

The corrected list of deaths to the present date is as follows:

January 23 to January 29	1
January 30 to February 5	4
February 6 to February 12	7
February 12 to February 19	12
February 20 to February 26	11
February 26 to March 5	10
March 6 to March 12	5
March 13 to March 19	5
March 20 to March 26	2
March 28	1
Total	58

Twenty-six of this number were students in Cornell University.

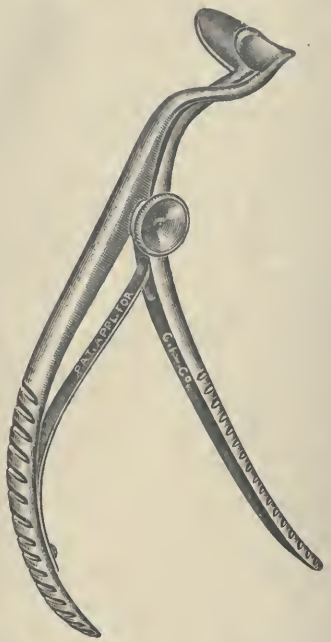
New Instruments.

A NEW NASAL SPECULUM.

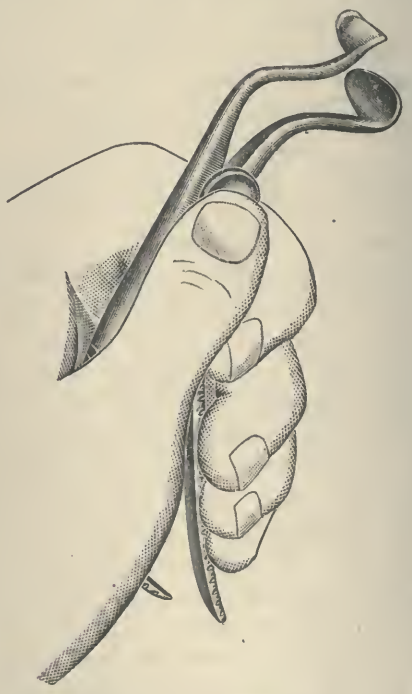
O. B. MONOSMITH, M.D.
LORAIN, OHIO.

Realizing that the bivalve speculum, opening transversely, did not meet all of the requirements of a nasal speculum, I was led to devise one for my own use that would overcome these difficulties. That I have succeeded, at least to my own satisfaction, is the excuse for presenting it to the profession. Its evolution extended over a period of about three years, during which time I made many modifications. The model, a cut of which I present, I have used about a year, and, in the majority of nares, it meets all of the requirements of an ideal speculum, both diagnostic and operative. It has merits that will appeal to the specialist as well as the general practitioner.

The instrument is to be held in the left hand of the operator for both nares, with the ball of the thumb on the screw head, thus giving a firm hold of the instrument without necessarily forcing the blades apart. By holding the instrument in this manner the blades open vertically. The advantage of this is that it raises the tip of the nose, giving a more advantageous angle of illumination and a better view of the nasal cavities. Another advantage is that the blades do not touch the mucous membrane. It will be seen that the upper blade is much shorter, and is placed somewhat back of the lower blade. It is also hooked slightly upward. This is, perhaps, the most important feature of the instrument. Being shorter and placed back of the lower blade, it conforms perfectly to the



anatomy of the nose, allowing both blades to enter the nose without leaving anything outside that is superfluous. The blades being attached to the shanks at right angles, prevent their being forced inward against the mucous membrane, and the upward curve of the upper blade prevents the speculum



slipping out at inopportune times, especially while operating. It may be noted, in passing, that with any bivalve speculum it is occasionally necessary to clip out the hair that is sometimes found in the anterior nares, in order to get a perfect view of the nasal cavities. A patent has been secured on the instrument, with the sole purpose of giving the control of the

manufacture to one instrument house that can be depended on to make it right, otherwise the merits of the instrument would be spoiled. As to the wisdom of this, I refer to an article in The Journal of the American Medical Association, vol. xxxvii, p. 1336, by Dr. Frank Allport, in which he writes: "As it is now, the moment he publishes an instrument all manufacturers have a right to make it, and, before long, the instrument on the market bearing the inventor's name may be so far removed from his original idea as to make him ashamed that he ever gave it to the profession."

THE THIERY CLAMP.

A SUBSTITUTE FOR EXTERNAL SUTURES.

ANDREW B. GLONINGER, M.D.
Surgeon to Good Samaritan Hospital.
LEBANON, PA.

I would like to give your readers the benefit of an idea that I picked up in Paris last summer at Professor Thiery's clinic. It is a little clamp, invented by Thiery to take the

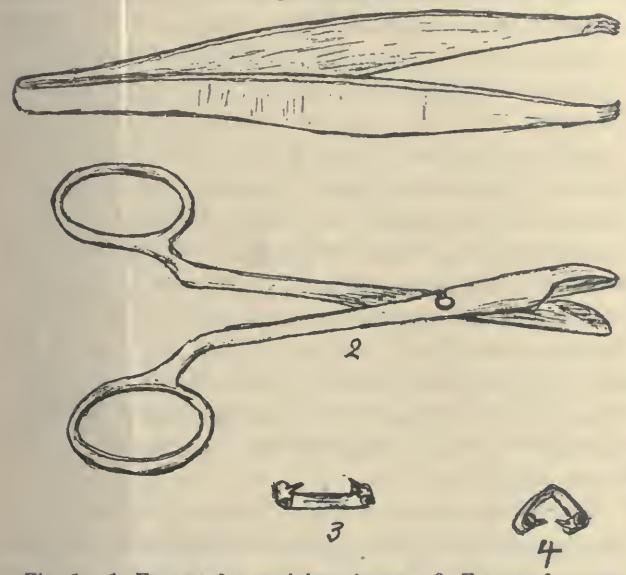


Fig. 1.—1. Forceps for applying clamps. 2. Forceps for removing clamps. 3. Clamp before application. 4. Position of clamp when in use.

place of superficial sutures, which saves time in closing incisions after operations and prevents troublesome stitch abscesses.

The clamp itself is a narrow strip of soft non-corrosive metal 1¼ cm. in length, the ends curled and armed with little spurs.

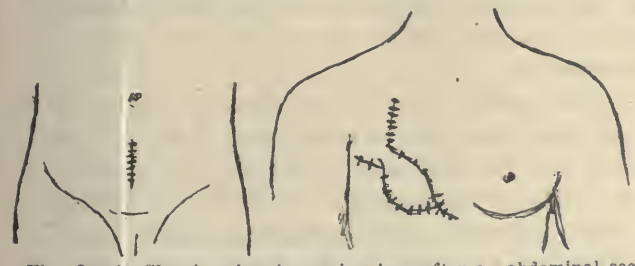


Fig. 2.—1. Showing the clamps in place after an abdominal section. 2. Showing the clamps holding a flap in place, reinforced by silkworm-gut suture at points where tension is greatest.

The two skin surfaces to be united are held in apposition between thumb and forefinger and the clamp, held in the grasp of a heavy claw-tipped dressing forceps, is pressed lightly against the adapted edges and pinched on with slight pressure. The little instrument bends easily, and the points enter the skin, holding the edges firmly together. They should be removed on the fourth day. For this an ordinary small hemostatic forceps will do, but the forceps specially designed for the purpose has a prominence on one jaw and a depression in the other; the grooved jaw is slipped under the clamp, and when the other is closed on it it bends back readily into its original shape with very little annoyance to the patient, leaving only a small cicatrix along the line of incision.

The outfit, including the two pairs of forceps and 500 clamps, cost me 20 francs in Paris. They can be used in all sorts of incised wounds where the tension is not great.

In abdominal operations they are the ideal suture. In fifteen sections I had complete union in four days in all but one, in which I had used some deep sutures on account of an unusually thick layer of fat. Following an amputation of the breast, I use two or three silkworm-gut sutures where there is tension and finish with clamps. I have had good results in closing incisions after phlebotomy for transfusion or for the ligation of varicose veins, and I tried them in two cases of amputation of the leg, but the grasp did not seem to be strong enough to hold the flap, and the result was not very satisfactory. They are specially well adapted for incisions of face, scalp and neck on account of the small cicatrix.

The misconstruction of the Code of Ethics which enjoins physicians against the methods of advertising like the quacks, i. e., by offering to give public advice to the poor gratis and by private cards or public handbills proclaiming one's skill to cure special diseases, has deterred capable physicians from imparting the kind of information they ought to impart on all proper occasions to the public. Up to date the public has obtained most of its knowledge indirectly from published accounts of epidemics, etc., and what health boards are doing and from occasional newspaper extracts from medical society proceedings selected on the judgment of non-professional and of inexpert newspaper reporters and from the alarming, overdrawn and often perverted statements made in quack advertisements. Often the first and only knowledge of what the medical profession is doing gets to the public through the last-named mercenary channels, who often pay tribute to the great work of the medical profession by indirect reference to the merits of its dead masters and by naming their quack establishments and more or less fake remedies after our great names. For we know, though the public does not, how many of the patent medicine men of our time have been simply drug store clerks or bottle washers or porters sometimes in physicians' offices, evoluted and transformed into patent medicine proprietors and kings of gullibility and Napoleons of fake finance founded on humbug—folly in matters medical and fake healing with the people, because we who have the light to shed give it not, but leave the popular medical world in darkness.—"Alienist and Neurologist."

The proportion of accidents and disease is brought out by an analysis of a recent census report made by the "Insurance Press," from which we learn that deaths due to accidents and injuries were highest among those whose mothers were born in Italy (119.5 per 100,000 of white population); lowest among those whose mothers were born in the United States (62.7). The death rate due to accidents and injuries is highest among persons 45 years of age and over. The average age at death from accidents is about 33.5. The proportions of death from accidents and injuries were greatest in the Cordilleran regions, the Pacific coast region and the Western plains; they are least in the North Atlantic coast region, the Middle Atlantic coast region and the Northeastern hills and plateaus. The warmer months show a larger proportion of fatal accidents than the cooler months. A person is more liable to meet death by accidental injuries than by any other single cause, except tuberculosis, pneumonia or heart disease. One is twice as liable to die from accident as from old age Typhoid fever, cancer, apoplexy, inflammation of the brain and meningitis, paralysis, diphtheria, diseases of the stomach, liver and brain, all these are slight menaces to life compared with the accident hazard If, as seems not unreasonable, a person is liable to die of any disabling accident that happens to him, what is to be said concerning the 11,000,000 accidents that happen every year. It seems to be true that a person is 100 times more liable to "catch" an accident than a fatal case of tuberculosis or pneumonia, and about 1,000 times more liable to "catch" an accident that a fatal case of liver disease.—"Amer. Medicine."

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INVESTMENTS FOR PHYSICIANS.

It is a matter of common remark among bankers and business men that physicians, more than members of any other profession, unless it be the clergy, are prone to make unwise investments of their savings. Medical men, it is true, are among the most far-seeing of individuals as far as the judgment of the character of their fellow-man is concerned; in general, they are noted for the common sense they display in the ordinary dealings of life. Too often, however, the sense of proportion seems to abandon them when it comes to matters relating to their financial welfare. The reason is largely, in our opinion, to be found in the widespread misunderstanding which exists among members of the profession regarding the fundamental principles underlying investments. How often in moving among medical men do we hear comments on "investments" in mining stocks, in oil wells, in rubber plantations or in industrial companies of various types. It is no unusual occurrence to be recommended by a friendly-disposed fellow practitioner to remove our accumulated little surplus from the savings bank and to buy ignis fatuus oil stock that is paying 12 per cent. dividends, or to sell our Chicago & Northwestern railway bonds and purchase Guatemala rubber and coffee stock at 50 cents per share because it is announced that the price will be advanced to 75 cents next month. The promoters of these will-o'-the-wisp concerns are only too well aware of the ease with which large numbers of medical men can be induced to venture in them; that they make good use of medical directories the daily mail of every medical man in the country attests.

It is doubtless to the credit of the majority of medical men that they are ignorant of the details connected with the selling of stock and bonds, that they know nothing of "puts" and "calls," and that the "short interest" and "stop-loss orders" are terms which are mysteries to them. A man to be well versed in all the minutiæ of Wall street or La Salle street should give his whole time to the occupation and he will be fortunate then if he learns how to trade with profit. The physician who is to be a success in his profession and an honor to it, must give as much time and thought to that profession as old John Graham advised his son to give to pork. If he attempts to speculate in stocks and to practice medicine at the same time he may not be the most closely-shorn of the "lambs" in the street, but he will almost certainly deteriorate as a physician in the homes of his patients.

It is important to distinguish between "investment of savings" and "investment for large profits." In the latter instance over-ambition is likely to lead to indulgence in semi-speculative investments or to the yielding to pure speculation in so-called securities which are really nothing more nor less than gambling counters.

If Simeon Teluya of the Province of Moncostenango in Guatemala were to write to a thousand physicians and ask each one of them to lend him a hundred dollars, it is very improbable that he would receive favorable answers to his request; at any rate, before loaning the $100 to a man unknown to him and living so far away, inquiry would first be made as to the reliability of the man and the security of such a loan. But let Simeon Teluya stake out a few acres of Gautemala highlands or marsh, and, with the help of an enterprising American promoter who has a couple of hundred dollars with which to begin a new scheme, organize a company with $3,000,000 capital, advertise broadcast that rubber trees which have been planted are rapidly developing and that meanwhile the yield of coffee will speedily make dividends possible, send printed prospectuses to physicians stating that this month is the last opportunity to secure "treasury stock," and that next month the price of each share will be doubled, and it is surprising how many "conservative" men, without investigating in the slightest way Simeon or his plantation, will mail their checks for the stock.

Now there can be no doubt that some rubber plantations are exceedingly profitable and that there have been mines and oil wells which have turned small investments into great fortunes. Many of the ventures exploited represent opportunities of actual value; more of them have an honest purpose behind them, but ultimately prove unprofitable, but those who have watched the course of such concerns most closely tell us that a "large proportion of such offerings afford little or no return to the public who risk their money in the scheme."

Safety of the principal is of much greater importance than large dividends or a high rate of interest. Rather than run any large risk it is better to be satisfied with the small rate of income which pertains to the so-called "widows' and orphans' investments," such as are provided by savings banks, government and conservative municipal bonds, endowment insurance in first-class companies, or first mortgages on real estate worth twice the face of the mortgage, and which is producing income considerably in excess of the interest on the mortgage and is owned by some one who has other property than that on which the mortgage is held.

Certain bonds and stocks can be purchased with safety; others are risky. One of the most important principles which should be grasped is this: It is never wise to invest in securities of which one can not have full

knowledge. This is why it is better to invest in the securities of local companies which serve essential local needs, like light, water and transportation; for the physician if he invests in his own town or city, ought to be better able to make sure whether or not the companies whose bonds he purchases are honestly and economically managed, than if he buys the bonds of companies operating in distant cities. He should study the company's reports, be sure that he understands what every item means, keep in close touch with the officers thereof and know as much as possible of the nature of the business. The advantages of seeking all one's business profits within the range of his own immediate and more or less expert observations can scarcely be over-estimated. The securities of companies, and especially of industrial concerns, which avoid publicity, and of which no adequate account of resources and liabilities, of relation of fixed charges to net earnings, and of relation of dividend distributions to surplus earnings can be obtained should be shunned as assiduously as the substitution of morphin for quinin.

A second fundamental verity with regard to investments is to be found in the fact that "the return on a security always indicates the measure of the risk." An examination of the yield of different classes of bonds will show that government bonds return about 2 per cent.; high-class municipal bonds about 3 per cent., and railway bonds of the best class from 3.25 to 4.5 per cent. If on inquiry a bond or stock be found to be selling at a price which permits of a net yield of over 5 per cent. it is either because there is a limited market for the security or the investing public doubts the stability of the return. Occasionally there is to be picked up a really safe security which yields more than 5 per cent. net return, but this is rare, and there is always some special reason to account for its cheapness.

A third law of investments is this: A large proportion of new business undertakings fail; it is therefore rarely wise to put money into any new enterprise. Such a disposition of money must be looked on as speculation rather than as an investment. It is much safer to limit one's purchases to the bonds, for example, of railways and corporations, which, through a series of years (including a period of hard times), have demonstrated their ability to pay all their fixed charges with 60 per cent. or less of their net earnings. If the stocks of first-class railroads are ever purchased (and they are, of course, always much less safe than the bonds of the same roads) the investor should first make sure of the margin of safety of surplus earnings over dividends; if, after all fixed charges have been paid, more than 60 per cent. of the surplus earnings have been distributed as dividends at any time during the preceding five or ten years, the stock should not be bought as a prime investment.

Fourthly, a physician should never intrust money for investment to any person or company who offers to place great skill in reading the markets at the disposal of the investor in exchange for a practical part of the large profits promised. Discretionary pools, trading syndicates and all such "get-rich-quick" concerns are to be avoided as one would the arch enemy. Promises of 10 per cent. return or more monthly are to be regarded as opportunities for falling into a snare, and the snare is very often a tangle which ends in disgrace. If discretionary pools had that clairvoyant knowledge of the immediate movements of the market which would permit them to make the money for their clients that they claim, they would be in the market entirely on their own account, and not be wasting time working on small commissions for other people. Fortunately the postal authorities are ridding the country of the worst of these pests as fast as their attention is called to them.

In conclusion, if medical men would learn to follow the advice of a sage counselor and "lend no money as a favor to anyone unless you are willing and able, if need be, to give the money outright; to have no business dealings with your relatives in which business and sentiment are mixed up; sign no notes and assume no financial responsibilities for other people . . . and never put a large part of your savings into any one investment," there would be many fewer heart burnings in old age and many happier physicians' families than there are to-day.

THE NOMENCLATURE OF CYTOLYSIS AND BACTERIOLYSIS.

The terms intermediary body, complement, etc., have appeared repeatedly in these columns in discussing some of the phenomena of the reactions of immunity. Although the functions of these bodies, which are made clear by certain observed phenomena rather than through the isolation of tangible substances, are now fairly well understood by scientific workers and general readers, there is among the contributors of various countries a reprehensible lack of unanimity in the terminology employed. This must needs lead to a degree of confusion among medical men in general in their attempts to grasp a problem which, primarily, is not simple.

In view of this, a brief consideration of the nomenclature of immunity seems appropriate. It is now generally understood that so-called cytolytic and bacteriolytic serum contains two substances, one thermostabile, and one thermolabile, which is destroyed by about 56 C. for thirty minutes. The thermostabile substance combines with the cell (animal or bacterial) for which it is specific, gaining entrance through the theoretical cell "receptors," of which every cell has a great variety. After this union has taken place, something happens by means of which the thermolabile substance in some way can enter or be joined to the cell and produce its solution. Without the first step the second can not occur, and they must occur in this order. We have, then, to do with three different "bodies" in the process of cytolysis: the cell with its receptor, the thermostabile body (intermediary body or amboceptor), and the thermolabile body (complement).

The amboceptor or intermediary body has a certain amount of complexity in that it has two different affinities, one for the cell and one for the complement. It has been supposed that these affinities reside in definite molecular groups of the amboceptor, and, in accordance with their function, they are called binding groups (haptophorous groups or simply haptophores). The group with affinity for the cell is the cytophilous, for the complement the complementophilous group of haptophores. Now the amboceptor, under certain circumstances, may undergo a kind of degeneration, in that it may lose its binding group on the one hand for the cell, or on the other for the complement. The degenerated body is an *amboceptoid* (Wechsberg).

The complement also is not simple in its constitution. It is the active or digesting substance of an immune serum, the amboceptor being an intermediary body. It has been shown that the complement degenerates spontaneously with ease, losing its power to cause lysis, but retaining the power to combine with the complementophilous group of the amboceptor. In this way the amboceptors are used up, and active complements which may happen to be present can not come into play. The degenerated complement is called *complementoid.* Although it is inactive in this form, when injected into animals it is able to give rise to the formation of *anticomplement,* because it retains its haptophorous group. That part of the complement which digests the cell, and is so sensitive, is the toxophorous group, or the toxophore.

Various sera are designated thus: bacteriolysin, hemolysin, leucolysin, spermolysin, endotheliolysin, and so on through the whole list of available cells. The amboceptors are the specific elements in these sera, and while some are present normally they are produced to an enormous degree in immunization; complements seem to be less specific and are not increased in immunization.

The relationship of animal species has made necessary another group of names. If the serum or fluids of an animal will dissolve its own cells the phenomenon is called autolysis; if a member of a species can naturally, or through immunization, cause lysis of cells of another member of the same species, isolysis is spoken of; and heterolysis, if the serum dissolves the cells of an animal belonging to a different species. The respective amboceptors are autolysin, isolysin, and heterolysin.

Agglutinins, precipitins and coagulins are additional bodies which are produced by injecting animals with different substances. They are simple compared with the amboceptors, and are called unicceptors, having a haptophorous group and supposedly a toxophorous (agglutinophorous); thus they have a structure similar to that of complement and also of toxin, which latter can not be discussed now. Certain bacteria produce in bouillon cultures substances which dissolve or agglutinate animal cells, giving rise to the terms bacterio-hemagglutinin, etc., in distinction to serum-agglutinins. Bacteria may also form other substances of this kind, for example, the staphylococcus forms a staphylohemolysin and a staphyloleucolysin (leucocidin). There is also a specific precipitin which is produced in the serum of an animal immunized with certain micro-organisms; bringing such a serum in contact with the fresh filtrate of bouillon cultures of the microbe in question gives rise to a precipitate (Kraus).

By way of summary, one may say that the products of immunization are antitoxins, antiferments (antirennet, etc.), coagulins and precipitins, agglutinins, and cytolysins or cytotoxins; of these the cytolysins require the united action of two separable substances, amboceptor and complement. Of these bodies, the following allow the production of special antibodies: coagulin, precipitin, agglutinin and cytolysin. An anticytolytic action may be due to the presence either of an antiamboceptor or an anticomplement.

This is surely a complex mass of names and the object of these remarks is solely to call them to mind, but the early confusion disappears for the most part when the principles have been mastered. However, various synonyms have continuously crept into literature, particularly in dealing with the thermostabile body of cytolytic serum. "Antikörper" (antibody), "Immunkörper" (immune body), "Zwischenkörper" (intermediary body), and "Amboceptor" have been applied successively to it by German writers. Bordet and the French school generally use "substance sensibilisatrice" (the substance which sensitizes). However, Metschnikoff introduced "philocytase," then later concluded that "fixateur" represented the function of the body better. We can not conceive what subtle properties the amboceptor may possess by virtue of which London's "desmon" (Gr., a bond) may be better suited than Mueller's "copula" (Lat., a bond). Let us hope we have seen the last in Gruber's "Præparator."

Nor has the complement been spared. Buchner's "alexine" (Gr., to ward off) formerly represented the whole bactericidal property of the blood before specific cytolysis was understood. The French, some Russians and Germans now use it as Ehrlich has used complement, since he abandoned "addiment." Metschnikoff has invented "cytase" out of respect to the supposed cellular (phagocytic) origin of the substance.

In view of the prevailing and growing custom in America, it seems that we are destined to use amboceptor or intermediary body and complement. Amboceptor seems preferable to intermediary body, because the anti- is so conveniently prefixed and the -oid added. As to the state of affairs in Europe, it is to be hoped that the minority will be willing in the course of time to render back their carefully culled but unnecessary names to their source—the lexicon.

LESSONS OF THE EPIDEMIC AT ITHACA.

If the deplorable occurrences at Ithaca are to serve any useful purpose in the economy of nature, it must be to point a moral rather than to adorn a tale. If we

draw lessons for our own behoof from the calamity of other people, it is not with the intent to increase in any way the burden of the afflicted town, but simply with the desire that other municipalities may heed while there is yet time the plainest of the lessons that are taught by the experiences of Ithaca.

The outbreak has already had a remarkable effect in stimulating the authorities of many other towns to inspect and guard more closely their own supplies of surface water. A searching of hearts among the officials in charge of water works is going on all over the country. Clippings come to us all the way from Connecticut to California, showing that municipal water supplies are being looked into as never before. In the city of Buffalo, for example, an active discussion is being carried on at the present moment as to the relative desirability of constructing a filtration plant or pushing the water intake farther into the lake. Rochester, Auburn and many other places in the state of New York are considering measures for the betterment of their supplies. The authorities of several of the large universities are fully awakened, it is said, to their responsibilities, and are increasing the safeguards which are already in some instances thrown about the water supply of their respective student bodies. The wide publicity given by the Ithaca epidemic to the danger that always lurks in an unguarded surface water in a populous district can have no other than a beneficial effect. The constant menace from an unprotected surface water is one of the most obvious of the lessons to be drawn from the Ithaca outbreak.

In some quarters much stress has been laid on the circumstance that the water supply of Ithaca was in the hands of a private corporation, and more or less cogent arguments for municipal ownership have been deduced from this fact. The reversion of opinion on this point at Ithaca is worthy of note: Feb. 27, 1902, the town voted against municipal ownership of the water works by a vote of 718 to 583; while at a special election, held March 2, 1903, the vote stood 1,335 for and only 30 against. There is undoubtedly much to be said in favor of the municipal ownership of public water supplies, and whatever may be one's opinion as to the desirability of municipal ownership of public utilities in general, it must be admitted that the arguments for the ownership of water supply are far stronger than in the case of transportation or illumination facilities. We can not help believing, however, that the introduction of the question of municipal ownership into the present discussion really obscures the true issue. It does not seem to be a question of municipal ownership *per se* that is here in question. Many cities that have owned their water supply for years find themselves in a much more helpless position than Ithaca in respect to controlling the general quality of their supply. It is certainly not true that municipal ownership of water works insures a good supply, or that private ownership necessitates a bad one.

The plain lesson here, and the lesson that, for our part, we should emphasize most strongly, is that both municipalities and private water companies must learn to resort habitually to expert opinion and to accept it when secured. Perhaps the most depressing feature about the management of our cities is the continued failure of the authorities to avail themselves of competent opinion and advice. The good old American custom of assuming that any man's opinion about any matter is as good as any other's, is one that can hardly be carried over into the twentieth century without considerable danger to our national prestige. In matters involving life and health, especially, there is no place for the amateur. City aldermen, college trustees, even physicians without special training in modern hygiene, must all give way eventually to the definitely trained and experienced expert, who can advise with knowledge as to the proper means of safeguarding a water supply or stamping out an epidemic. If those possessed of local authority in such matters would devote themselves to securing precise information concerning the men in whose judgment confidence can be placed, rather than in endeavoring to form for themselves in a few days or weeks an opinion about questions for the proper consideration of which an elaborate and special training is required, the result of their deliberations would be less often either grotesque or disastrous. Reliance on those who know, rather than on those who pretend to know or think they know, is the lesson to be most seriously taken to heart by municipal authorities at the present moment. The requisite information and engineering skill for all public works involving the protection of the public health can easily be obtained, and no fancied exigencies of local or national politics should be allowed to block the way when the lives of human beings are at stake.

A POSSIBLE LEGAL DISTINCTION.

A new question may arise for our technical judges to decide. It is reported that the amended law of North Carolina is so worded as to exempt those "who 'cure' the sick or afflicted by spiritual means alone." It apparently makes no provision for those who only "treat" the sick by such means. As a lay contemporary pertinently asks: "Does it apply in case the patient dies?" The Eddyite or mental healer might find himself still under the law if he had bad luck with his case. It is a little remarkable that the persons who were influential enough to obtain the exemption as stated did not see the possibility of the embarrassing complication. We await the decision of the North Carolina courts with trepidation.

TOTAL ABSTINENCE AMONG BARTENDERS.

A total abstinence society of bartenders has been formed in Chicago, its objects, as set forth, being to promote temperate habits among bartenders, to set a good example to the customers, to protect the cash register and stock, and to elevate the calling. Bartenders are not considered good risks in insurance companies on account of the dangers of their business, there-

fore the promotion of temperate habits among them has a very sensible sort of egoistic motive. To set a good example to the customers, however, by being total abstainers as a business proposition is one which we should think would not be encouraged by the bartenders' employers. It is hardly likely that they would want their customers to become total abstainers. The elevation of the calling is, of course, another question. Whether a calling which discredits itself by the conduct of its own followers can be specially elevated in this way may be a matter of some doubt.

IS SALICYLIC ACID AS A FOOD PRESERVATIVE HARMFUL?

Elsewhere[1] in THE JOURNAL appears an abstract of an article by Drs. MacAlister and Bradshaw of Liverpool, on the effects of salicylic acid as a food preservative. Their conclusions are positive and, as they say, they speak with a due sense of responsibility. According to their views, salicylic acid, in the ways in which it is used in the preparation of food products, is not only not harmful, but is a preservative to health, inasmuch as the process of decomposition which it prevents would be far more dangerous. Their argument seems to be fairly well taken and their experiments reasonably conclusive. They show by their experiments that digestion *in vitro* is scarcely perceptibly hindered by saturated solutions of salicylic acid and that the effects of small quantities on the living subjects are practically negligible, according to their own personal experiences and observation and those of Kolbe, whom they quote. The question of food preservatives is one that is of general interest and the communication, therefore, has a certain specific value. One of their arguments is that a large number of popular non-alcoholic beverages are possible with the use of salicylic acid, and are useful substitutes for the stronger alcoholic drinks. The use of salicylic acid, therefore, is in direct line with the temperance cause. On this point they lay much stress. There is a certain use of salicylic acid to which this argument does not apply, and that is in certain drinks in which a decided percentage of alcohol is used. If the amount of salicylic acid thus taken either in these "temperance drinks" or in the alcoholic ones is not harmful, then it is probably not harmful in food in the way it is used, especially the small quantities in condiments, such as catsup, etc., in which it is principally employed. What is said of the harmlessness of salicylic acid is probably equally true of several other antiseptics used as food preservatives. Dr. Tucker's paper, abstracted in a very recent issue of THE JOURNAL,[2] while conservative as to their use, deprecates any extreme legislation on articles which are not generally conceded to be harmful. It would not be a bad idea, however, as he suggests, to require manufacturers of all substances containing these preservatives to have the proportion used stated on the labels.

1. See page 942 of this issue, abstract 11.
2. THE JOURNAL, March 28, p. 875.

Cocoanut As a Vermifuge.—A diet or a free ingestion of cocoanuts is said, in many of our exchanges, to destroy tape worms. The item is quoted without credit or authority, and the question naturally arises whether the simple remedy is efficient and who has proved it.

Medical News.

DISTRICT OF COLUMBIA.

Georgetown University Hospital Addition.—Ground has been broken for the extension to the Georgetown University Hospital building. The addition will be 100 by 35 feet.

Addition to Garfield Hospital.—Plans are being prepared for the $100,000 addition to Garfield Memorial Hospital, which is to be four stories high and of brick and stone construction.

Law Against Spitting.—After a public hearing, the commissioners have adopted a health regulation prohibiting spitting on the sidewalks. The law already in force prohibits spitting in street cars, public vehicles and public places under control of the district.

Health of the District.—The report of the health officer for the week ended March 21 shows the total number of deaths to have been 111, of which 73 were white and 38 colored; 78 births were reported, of which 50 were white and 28 colored. At the close of the week there were under treatment 86 cases of typhoid fever, 10 of scarlet fever, 8 of diphtheria, and 7 of smallpox.

Medical Inspectors for Schools.—The district appropriation act approved March 3, provides for twelve medical inspectors of public schools, four of whom shall be of the colored race, at $500 each, with the proviso "that said inspectors shall be appointed by the commissioners only after competitive examination, and shall have had at least five years' experience in the practice of medicine in the District of Columbia."

ILLINOIS.

Smallpox at Greenfield.—Dr. Archie W. Barker, Springfield, who was sent by the State Board of Health to Greenfield to investigate the smallpox conditions there, reports that there are twelve cases in the village.

State Society Incorporated.—The Illinois State Medical Society was licensed to incorporate by the Secretary of State, March 24.—The incorporation is not for profit, and the object is to promote the science of medicine. The principal office is to be in Springfield. The incorporators are Drs. David W. Graham, Chicago; Carl E. Black, Jacksonville and Otho B. Will, Peoria.

Chicago.

Practiced Without a License.—Leon H. Dombro, a Russian, was fined $100 and costs, March 23, for practicing medicine without a license.

Generous Pledges.—Dr. Frank Billings announces that one individual has offered to give $100,000 or a large tract of land to the Children's Hospital Society, and that another person has pledged $75,000.

Personal.—Dr. and Mrs. George de Tarnowsky have returned from their trip abroad.——Dr. Horace G Anderson, who has been ill a long time, has been placed in a private sanatorium in Peoria.——Dr. Robert F. Bennett has been adjudged insane and sent to the State Hospital, Elgin.

Bone and Not Lung Tuberculosis.—On account of sensational statements in the daily press regarding the prevalence of tuberculosis in the School for Crippled Children, where it was alleged the majority of the pupils were afflicted with consumption, the health commissioner ordered an investigation, which demonstrated, as might have been expected, that a large proportion of the crippled children were suffering or had suffered from tuberculosis of bones or joints.

The City's Deaths.—The month is barely saving its record as one of declining mortality. The 563 deaths recorded during the week represent an annual rate of 15.58 per 1,000, precisely the same as for the corresponding week of last year, when the death rate was about normal for the season, and 7.9 per cent. lower than that of the preceding week. Pneumonia deaths still continue excessive—100 per cent. greater than those from consumption and 40 per cent. more than last year. The deaths from pneumonia numbered 121; from consumption, 60; from heart disease, 54; from Bright's disease, 33, and from violence, 28.

INDIANA.

Anatomical Board Organizes.—The State Anatomical Board, created by the recent legislature to have charge of the furnishing of corpses to colleges for dissection purposes, held its first meeting in Indianapolis, March 20. Dr. John H. Forrest, Marion, ex-officio chairman of the new board by reason of his position as president of the State Board of Health, presided. The board organized by selecting the following additional

officers: Dr John H. Oliver, treasurer; Dr. E. F. Sommer, secretary; Drs. F. M. Wright, Collins T. Bedford and T. E. Courtney, trustees.

Recent Sanitary Legislation.—The sixty-third general assembly, which adjourned March 7, passed four bills which were presented by the State Board of Health. The first was an increased appropriation for health work. Six thousand dollars per annum, aside from the salary of the secretary and chief clerk, had been heretofore appropriated Now ten thousand dollars is given. This makes an increase of four thousand dollars available Nov. 1, 1903. The state board promises to do good work with this money. The second bill, which became a law, and which the board has twice before recommended, is for the purpose of providing ventilation for the state house. The third forward step gained was the passage of the quarantine law. This law leaves very little more to be desired in the way of power given to boards of health for the suppression of infectious diseases. It first provides that physicians and householders shall immediately report such diseases as are required to be reported in the rules of the State Board of Health. It then becomes the duty of the health officer in whose jurisdiction the disease is found to immediately establish a quarantine "so as effectually to isolate the case or cases and the family if necessary, in such manner and for such time as may be necessary to prevent transmission of the disease." The penalty for breaking quarantine or for physicians refusing or neglecting to "take such precautions as are directed in the rules of the State Board of Health" is a "fine of ten to fifty dollars, to which may be added imprisonment in the county jail not exceeding six months." The law requires that all infected persons and premises shall be disinfected at the proper time according to the rules of the state board. School children, "if infected with any communicable disease, or if they have been exposed to any communicable disease," shall not attend school or appear in public; and all school teachers "shall exclude from the schools all such children, unless a written permit to attend is given by the health officer having jurisdiction." Other important provisions are contained in the law.

IOWA.

Invoke the Law.—Dr. Edwin W. Haradon, Jesup, has been sued by Harry Baker of the same place for $3,000 damages for libel in the form of an information alleging the insanity of the plaintiff——Dr. Edward S. Burroughs, Marshalltown, has been sued by a husband and wife for $6,500 damages; the wife alleging mistake in diagnosis and claiming $5,000, and the husband alleging nothing, but claiming $1,500.

Adulteration Causes Blindness and Death.—A correspondent sends the following extract from the "Waukon Standard," suggesting that the fatal result may have been due to lemon extract made with wood instead of grain alcohol:

> Clarence Floyd, a printer and newspaper writer of Center Point, Iowa, died last week after a protracted period of heavy drinking. Lately he had been unable to purchase liquor, no one daring to sell it to him, but somehow he got hold of two dozen bottles of lemon extract. He drank all but three or four of these bottles and he went blind on the streets of Vinton. Then he grew violent and physicians were summoned. They could do nothing for him and he died in horrible agony.

KENTUCKY.

Jewish Hospital for Louisville.—Jewish individuals and societies of Louisville have already pledged $24,526 of the $30,000 required to establish a free non-sectarian Jewish hospital in that city.

Violated Health Law.—For going to church while suffering from smallpox, Henry Welch, a farmer of Fayette County, was indicted by the grand jury, March 18. This is the first case since the passage of the statute.

Commencement.—Louisville Medical College graduated a class of 53, March 24. General Basil Duke was the orator of the occasion; Dr. John D. Miller of Mississippi delivered the salutatory, and Dr. D. J. Maguire of Kentucky was valedictorian.

Prison for Physician.—Dr. Asa P. Taylor, Lexington, president of a defunct mutual deposit company, was sentenced to three years' imprisonment, March 27, for embezzlement. The offense lay in paying a dividend from the surplus fund of the company.

MARYLAND.

Clean Bill of Health.—Dr. Rohrer, who has been in charge of the smallpox hospital at Chestertown for the past month, released all the suspects and patients there on March 27, and Chestertown now has a clean bill of health

Personal.—Dr. Washington G. Tuck has been reappointed postmaster at Annapolis.——Dr. William W. Golden has been chosen superintendent of the new Davis Memorial Hospital at Elkins, W. Va.——Dr. Henry W. McComas of Oakland has returned from a visit to Hot Springs, Ark. Dr. W. H. Ravenscroft of the same place, who has spent the greater part of the winter in Denver, has also returned.

Baltimore.

Mortality and Morbidity.—The mortality last week was 200, or 16.60 per annum per 1,000 for whites and 37.41 for colored. Pneumonia caused 33 deaths. Two new cases of smallpox were reported, both in negroes.

Damage Suits.—The suit against Dr. Pierre G. Dausch for $20,000 damages for death following operation, has been dismissed on an order of counsel for plaintiff.——A verdict for $100 damages has been obtained against Dr. Arthur D. Mansfield by a woman who claimed that the Doctor pushed her violently while attempting to collect a bill.

The Crim Estate.—The personal property of the late Dr. Crim has been appraised at $48,305. In this is included the large collection of antiques, hitherto mentioned as left in reversionary bequest to the University of Maryland. There are over 1,500 articles enumerated in the inventory, comprising all kinds of furniture and household effects, silverware, paintings, and engravings. The sale of the collection will commence in this city April 22.

Personal.—Dr. Howard A. Kelly will go abroad shortly, to be gone until August. He will attend the sessions of the International Medical Congress at Madrid and will deliver one of the four principal addresses, representing this country. His subject will be "The Passing of a Specialty." He will then go to Glasgow, where he will deliver an address before a medical society, and to Paris, where he will address the French Surgical Society. He will travel extensively through Europe before returning to America.——Dr. Alexander D. McConachie will also attend the Madrid Congress.——Dr. M. W. Glover, U. S Marine-Hospital Service, who has been assigned as medical inspector to the U. S. Immigration Bureau at this port, arrived from New York March 23.

MASSACHUSETTS.

Homans Memorial.—A meeting memorial to the late Dr. John Homans was held in Sprague Hall, Boston, March 30. Addresses were made by Drs. Richardson, Cabot, Shattuck, Bradford, Edes, Warren and Harrington.

Corey Hill Hospital.—Dr. Joel E. Goldthwaite, Boston, has joined with twelve other Boston medical men and will erect on Corey Hill a fine hospital, to be called the Corey Hill Hospital. It will accommodate about thirty patients and be modern and complete in all its details.

Lowell Typhoid Traced.—The health department of Lowell has traced the typhoid fever which is prevalent there to the milk supplied by a Chelmsford milkman, whose hired man was ill with typhoid. The local authorities have interdicted the delivery of milk from this source in Lowell.

Brigham Hospital.—The new buildings of the Brigham Hospital are to cost more than $1,000,000, and the income will be about $150,000 annually. This will be administered by a board of twelve directors recently chosen by the corporation which is styled The New England Trust Company.

Massachusetts General Hospital Staff.—Drs. James C. White, William L. Richardson, and C. B. Porter, who recently resigned from the visiting staff of the Massachusetts General Hospital, have been appointed members of the consulting staff. Dr. James J. Minot has been appointed visiting physician.

Formalin and Bacteria.—The tests made by Dr Hibbert Winslow Hills, bacteriologist of the Boston Board of Health, on the value of formalin injections to arrest bacterial activity in the body as advocated by Dr. Barrows, indicate that solutions to be efficient must be sufficiently strong to destroy tissues and hence are impracticable.

Unregistered Practitioner Sentenced.—Henry Beltman, who came to America from Germany only a year ago, was sentenced to three months in jail as he was unable to pay a fine of $100 assessed against him for practicing medicine without being registered according to law. He pleaded for leniency, claiming that he ignorantly infringed the law.

Ten Hours a Day Limit for Nurses.—A bill before the state legislative committee on labor provides that nurses and attendants in hospitals, asylums and sanatoriums shall not be

required to be on duty more than ten hours in the twenty-four, and that if emergency requires such service, corresponding time off during the ensuing week shall be allowed.

Bequests.—Arioch Wentworth, whose fortune is estimated at over seven millions, left $100,000 to the town of Dover, N. H., for a hospital to be called The Wentworth. The bulk of his estate is to be used in the establishment and maintenance of a great trades school.——The will of J. H. Center, Boston, leaves $54,000 to charities, prominent among which are the Massachusetts Homeopathic Hospital, Children's Hospital, House of the Good Samaritan, and the Massachusetts Charitable Eye and Ear Infirmary.

MICHIGAN.

From Murder to Manslaughter.—The charge of murder against Dr. Wallace E. Newark, Charlotte, on account of his implication in the death of Mrs. Harriet Wirtz, has been changed to manslaughter, and his bail reduced from $2,500 to $1,500.

To Muzzle Dogs.—The Michigan State Board of Health has issued a circular recommending that every local board of health immediately make and publish regulations ordering the muzzling of all dogs at large and the killing of all unmuzzled dogs found at large, and that provision be made for the prompt and effective execution of such regulations.

No Isolation Hospital.—At the session of the Detroit city council, March 28, the proposed appropriation of $75,000 for a city hospital for communicable diseases was cut out of the estimates for the year. Drs. Guy L. Kiefer, Johnston B. Kennedy and Charles G. Jennings argued for the hospital, and Dr. J. Henry Carstens opposed and prevailed.

University Treats Hydrophobia.—The Board of Regents of the University of Michigan, at a recent meeting, decided to provide Pasteur treatment for hydrophobia, and appropriated $2,500 for the purpose. Residents of Michigan will be treated free, while patients from other states will be charged what they would have to pay at a private institution. Dr. Thomas B. Cooley, a graduate of the medical department of 1895, will have charge of this work under the supervision of Dr. V. C. Vaughan, director of the hygienic laboratory.

MISSOURI.

Quigg Bill Defeated.—The bill to create four boards of examiners, one for each of four so-called schools of practice was defeated in the house.

Osteopathy Bill Passed.—Both houses of the legislature have passed the bill regulating the practice of osteopathy and providing therefor a state board of examiners, and the bill now requires only the governor's signature to become law.

New Blind Asylum.—The legislature has passed the bill authorizing the sale of the asylum for the blind property in St. Louis and the purchase of a new site. The bill carries an appropriation of $150,000. Under the provisions of the bill a commission of three will be appointed by the governor to take charge of the matter.

Commencements.—On March 24 Kansas City Medical College graduated a class of 24. Chancellor E. Benjamin Andrews of the University of Nebraska delivered the address to the class. ——Medico-Chirurgical College, Kansas City, awarded diplomas to a class of 20, March 19.——The graduating exercises of the University Medical College, Kansas City, were held March 26, when a class of 63 was graduated.

College Merger.—On May 1, 1903, St. Louis University assumes control of the Marion-Sims-Beaumont College of Medicine, which becomes the medical department of the university. St. Louis University founded the pioneer medical college of the Mississippi Valley in 1836; in 1855 its medical school became independent of the university. The revival of its medical school by the acquirement of the Marion-Sims-Beaumont College is a step in the development of the university, and of great importance for the progress of medical teaching in St. Louis.

NEW YORK.

Surgical Pavilion Opened.—The Cochran Surgical Pavilion, an annex to St. John's Riverside Hospital, Yonkers, provided at a cost of $55,000 by the late William Francis Cochran, was thrown open, March 21.

One-Fourth Consumptives.—In an argument before the legislative committee on ways and means by Dr. Julius B. Ransom, physician to the Clinton State Prison, Dannemora, he stated that one-fourth of the population of the prison is afflicted with tuberculosis.

Nursery and Child's Hospital Bill Unconstitutional.—A bill now before the legislature authorizing the sale of the property of the Nursery and Child's Hospital has been declared unconstitutional by Attorney-General Cunneen. The hospital holds the property under a perpetual lease from New York City, and in view of the encroachments necessitated by the proposed extension of the terminal facilities of the New York Central and Hudson River Railroad the managers of the hospital are anxious to sell the property and purchase another and more suitable site. The legal opinion says that the authorities of New York City might be empowered to effect the sale.

New York City.

Nurses' Home.—The Presbyterian Hospital is about to erect a magnificent six-story home for its nurses. The structure will be located in East Seventy-first Street, near the hospital, and is to cost $300,000.

In Memoriam.—The alumni of Charity Hospital, Brooklyn, at a special meeting held March 11, adopted resolutions of regard, regret and sympathy on the death of Dr. Earle Woolworth, who was an interne in the hospital in 1897.

Decision Favors Faith Healers.—The Appellate Division of the Supreme Court in Brooklyn has reversed the conviction of J. Luther Pierson of Valhalla, the charge being a failure to provide a physician for his adopted daughter. Judge Bartlett wrote the opinion, which was concurred in by Judges Hirschberg and Jenks. Presiding Judge Goodrich, in dissenting from this opinion, maintained that liberty of conscience should not justify practice inconsistent with the peace and safety of the state.

Tents for Tuberculous.—The president of the department of health has written a letter to the mayor regarding this subject, from which the following excerpts are taken:

During 1902 7,571 persons died of tuberculosis of the lungs in New York City, while 1,312 died of other forms of tuberculosis. In 1901 the deaths from pulmonary tuberculosis numbered 8,135. While the death-rate from tuberculosis was thus gratifyingly reduced in 1902, the disease remains the greatest single cause of deaths in this city. I believe that with an appropriation of $35,000, which amount will be formally requested by the board of health from the board of estimate and apportionment, I can erect a sanatorium on the tent and ducker plan, with accommodations for sixty patients and fifteen attendants, to be operated from May 1 to Dec. 31, 1903. If this camp should be put in operation and should prove to be successful, as I do not doubt it will, it will then be possible for the city of New York to enter on this method of tuberculosis prevention on a larger scale.

A tract of ninety acres in Orange County, N. Y., has been offered to this department free for a period of two years, and the acceptance of the offer entails no financial obligations on the city.

The extreme cheapness of the tent plan for the care of tuberculosis cases, as compared with the hospital plan, leads me to believe that if the work is taken up under the auspices of the New York City government it will be adopted by many other cities of the United States.

PENNSYLVANIA.

To Enlarge Hospital.—It is proposed to enlarge the Bryn Mawr Hospital and subscriptions are being secured for this purpose.

Smallpox on Steamer.—The British steamer "Riverdale," on its arrival at Delaware Breakwater, signaled that smallpox had broken out among the crew. The vessel was taken charge of at Reedy Island Quarantine.

Hospital for Allegheny.—Allegheny is soon to have a general hospital. The main building will be seven stories high, and there will be separate one-story buildings for contagious diseases and for a laboratory and autopsy room.

Hospital Bill Passed.—A bill passed by the legislature and recently signed by the governor gives municipalities the right to acquire property, either within or without their limits, on which to erect hospitals, or for the purpose of waterworks or for poor-farms.

Philadelphia.

Hospital Staff Change.—Dr. David D. Stewart has resigned as visiting physician to the Protestant Episcopal Hospital and Dr. Charles H. Weber has been appointed to the place.

Phototherapy at the Polyclinic.—The Polyclinic Hospital has established a phototherapeutic department and will treat without charge a limited number of appropriate and deserving cases.

Health Report.—The official health report for the week ended March 28 shows a decided decrease in the number of new cases of typhoid fever, there being only 154 new cases, as against 247 for the previous week. There was an unusual number of new cases of diphtheria and scarlet fever, 54 of the former and 94 of the latter. There were 31 new cases of smallpox. The general mortality was high.

To Raise Standard.—At the regular meeting of the Philadelphia County Medical Society, March 25, a resolution was adopted urging the passage by the legislature of the Ray bill, now before the senate. The bill provides for higher preliminary requirements for those entering medical colleges. One provision of the bill, which took away a privilege now accorded students of smaller colleges of good standing, namely, that of entering the second year of medical college by showing an equivalent for the first year has been amended in the senate so as to retain the original privilege.

GENERAL.

Plague at Hawaii.—Two cases of plague were reported from Hilo, Hawaii, March 17.

More Plague at San Francisco.—After being free from any report of plague for many weeks, San Francisco has had one more case; this was in a Japanese woman, who died in the week ended March 21.

Examination for Army Medical Corps.—The examination will be held at the Army Medical Museum, beginning April 20, to fill forty vacancies in the junior grade of the medical department of the Army.

Florida Postpones Quarantine.—Every spring it has been a precaution of Florida to declare a quarantine against Cuba through fear of yellow fever. This year no quarantine will be enforced until cases of yellow fever occur in Cuba.

The Fourth Pan American Medical Congress, which was to have been held this year in Buenos Ayres, Argentine Republic, will not be held there on account of some unforseen complications It has practically been decided to hold the next meeting in Toronto, Canada, September next.

Vacancies in Navy Medical Department.—There are twenty-seven vacancies in the grade of assistant surgeon in the United States Navy. General Van Reipen and Surgeon-General Rixey are exerting every effort to fill the vacancies with young medical graduates of marked ability.

The Navy Medical School will hold its graduating exercises April 4. The following assistant surgeons will graduate at that time: Drs. R. A. Backman, E. M. Brown, R. E. Hoyt, M. W. Baker, J. L. Neilson, H. Shaw, F. M. Munson, H. F. Strine, J. P Trainer, J. H. Holloway, R. H. Michels and B. F. Jennings.

Promotion of Naval Medical Officers.—The acting secretary of the Navy has decided officially that medical officers of the Navy must, under the law, be promoted to the next higher grade as line officers of like dates of precedence are promoted. In promoting medical officers they are to be advanced grade by grade with such line officers.

Whiting Caught.—We are glad to announce that F. Whiting, who was swindling physicians in Pennsylvania, New York and other eastern states, has been arrested, convicted and is now serving a six months' jail sentence. Credit is due to Drs. J. W. Morris, Jamestown, N. Y.; F W. Frankhauser, Reading, Pa., and C. G. Hubbard, Hornellsville, N. Y., in securing Whiting's arrest and conviction. We can not allow this opportunity to pass without again urging our readers never to pay money to agents of any journal, or, in fact, to agents of anything, unless they show written and undoubted authority to make collections. Some two years ago a smooth young man swindled a large number of physicians, keeping up for several months by claiming to represent one journal for a while, then another and another, changing his name and field of operation with each change in journal.

CANADA.

Appointment.—The board of governors of McGill University have appointed Dr. James M. Elder of Montreal, assistant professor of surgery and lecturer in clinical surgery in the medical department of McGill.

Ghoul's Work at Queen's University, Kingston.—A freshman of Queen's University has recently been placed under arrest, having been caught in the act of attempting to rob a grave in a cemetery near that city.

Physicians to Speak in Montreal Churches.—The Protestant Ministerial Association of Montreal has decided that meetings should be held in all the city churches in May, at which addresses will be given by city physicians on "Tuberculosis and How Best to Prevent its Spread"

Canadian Physicians Turned Down in South Africa.—Three Canadian physicians, who went to South Africa with the Canadian Army medical corps, tried, at the conclusion of the war, to practice in the Transvaal. They were prohibited from doing so because only English diplomas were legal there They appealed to Lord Milner, but he refused to alter the regulation.

New Isolation Hospital Site Selected in Montreal.—The site of the new contagious diseases hospital, which is to be conducted under the management of the authorities of the Notre Dame Hospital, has been secured. The piece of land contains 52,000 feet and cost $15,000. The board of management of the hospital is to receive $15,000 annually from the city council for the purpose of maintaining the institution.

Honoring Dr. William Bayard, St. John, N. B.—A tribute of public regard and personal esteem was recently tendered to Dr. William Bayard of St. John, one of the oldest medical men in Canada. It took the shape of a handsomely engrossed resolution on parchment and was presented by the municipal council of St. John on the occasion of Dr. Bayard's resignation from the board of commissioners of the General Public Hospital, after a service of forty years

Medical Inspection of Schools in Montreal.—In a paper recently read before the social science department of the Women's Club, Montreal, Dr. C. H. Church of that city strongly advocated the medical inspection of the schools of Montreal, as the conditions existing in some of them are to the last degree dangerous and unsanitary. Dr. Church had recently made an inspection of some of the city schools and the conditions he found prevailing, as embodied in his paper, seem almost to be incredible in a city the size of Montreal.

Deaths from Scarlet Fever in Ontario.—The returns for Ontario for February show a great number of deaths from scarlet fever. There were in all 104 deaths from this disease as compared with 38 during February, 1902. In January there were 94 deaths from scarlet fever, so that this year already there have been over 200 deaths from this disease. The deaths in Ontario in February from other diseases were: smallpox, 4; diphtheria, 27; measles, 7; whooping-cough, 7; typhoid, 19; tuberculosis, 160; total deaths, 2,083.

Growth of Montreal Tuberculosis League.—The Montreal League for the Prevention of Tuberculosis is rapidly growing in importance. It is now virtually associated with the main body, which holds its annual meeting at Ottawa, April 16. Dr. Roddick, as chairman of the executive, and Dr. Richer, secretary, will represent the league officially; and Senator Drummond, president of the league, Professor Adami and Dr. Lachapelle will also be present. Dr. Lachapelle will shortly present a strong resolution to the City Council, recommending that a by-law be passed against the obnoxious habit of spitting in public places.

Academy of Medicine and Physicians' Club for Toronto.—A movement is now on foot in Toronto looking to the amalgamation of the Toronto Clinical Society, Toronto Medical Society, Toronto Pathological Society and Ontario Medical Library Association into an Academy of Medicine and the establishment in connection therewith of a physicians' club. The movement is being endorsed by prominent practitioners in Toronto; and it is understood that already negotiations are under way for the purchase of a very handsome residence in the very heart of the city. The movement is a very desirable one, and it is to be hoped will meet with full consummation.

Ontario Medical Association.—The annual meeting of the Ontario Medical Association will be held in Toronto, June 16 to 18, under the Presidency of Dr. J. C. Mitchell of that city. This will be the first time in its history that a three days' meeting has been deemed advisable. The chairman of papers and business is Dr. W. P. Caven, Toronto, while Dr. Bruce Riordan, Toronto, will have charge of arrangements. This will ensure success both socially and scientifically. Dr. Thos. Cullen of Baltimore and Dr. Musser of Philadelphia are to be present and contribute papers During the meeting a discussion will be held on arteriosclerosis. Dr. Harold C. Parsons, Bloor St., W. Toronto, is the general secretary.

FOREIGN.

Another Hospital Bed at Nice.—H. Humphrey Moore of California has established an American bed in the Victoria Hospital at Nice.

Veit Goes to Erlangen.—Professor Veit of Leyden has accepted a call to Erlangen to the chair of obstetrics and gynecology, in the place of the late Professor Gessner.

Legacy for Neurasthenics in Norway.—A legacy from the Meyer family of Bergen, Norway, leaves over $75,000 to be applied to the assistance of neurasthenics. Part of the fund is for children.

Measles in London is more fatal than in previous years. It is not on the list of reportable disease in many sections of England. In view of its greater severity, English physicians are urging that it be made reportable.

Personally Conducted French Medical Trip to Foreign Universities.—The "Presse Médicale" of Paris has organized several of these tours and is now arranging one to visit the universities in Spain on the occasion of the International Medical Congress.

The Tenth Congress of Polish Physicians and Scientists, which was to meet in Lemberg, Austria, July, 1903, has been postponed until July, 1904, on account of the several international meetings which have either taken place recently or will occur during the current year.

Schaudinn Receives the Tiedemann Prize.—Dr. F. Schaudinn of Berlin has been awarded the annual Tiedemann prize by the Senkenburg Society at Frankfurt a. M. for his biologic studies and monograph on the Coccidia. The prize consists of a medal and $125. The previous recipients have been Koch, Bütschli, Ehrlich, E. Fischer, Behring, and A. Kossel.

England Fears Sleeping Sickness.—The question is asked in London whether or not the so-called sleeping sickness of Africa can be transmitted to England by returning soldiers and, if so, how the danger should be handled? The disease has been known for years, but only as a rarity. Its change to an epidemic excites alarm, it is said, lest its nature be such as to threaten other than African or even other than tropical countries.

Novel Cure for Baldness.—A Weimar quack prescribed as a cure for baldness to smear the head with plum jam and spend three days and nights in the cellar. The farmer who followed his directions had a fine growth of mould by the third day, which was claimed to be the new growth of hair. But the course of treatment was interrupted by a severe cold, which kept the man in bed for three weeks. He complained to the authorities and the quack was fined $1.25.

Memorial to Panas.—The friends of the late eminent Paris ophthalmologist are soliciting subscriptions for the purpose of erecting a portrait bust of Panas in the large hall of the ophthalmic clinic where he lectured for twenty-two years. A medal is also to be struck, and all who subscribe at least $5 will receive a duplicate of the medal. Subscriptions can be sent direct to the bankers, MM. Rodocanachi et Cie, avenue Gabriel 42, Paris, or to the secretary, Dr. Monthus, rue Godot-de-Mauroi 41.

Quarantine Mecca Pilgrims.—Egypt is inspecting the caravans of pilgrims that are on their way to Mecca. Tor is a small port near Mount Sinai where each pilgrim has to stop and be investigated and have his belongings fumigated. Quarantine is established whenever there is need. The government pays the expenses of pilgrims who are detained. All boats are compelled by inspectors to carry pure water and to use wholesome food. The inspectors have the right to levy fines for infractions of rules and to detain vessels until such fines are paid. Since many pilgrims are sick or feeble and make the pilgrimage for that reason, hoping thereby to insure a right to paradise, the mortality and spread of disease is great. It is estimated that a third of those who start perish in the hardships of the desert.

Professional Secrecy Conflicting with Notification of Diseases.—The proposal to have notification of the venereal diseases made compulsory, which was discussed at the Preventive Conferences, is energetically combatted by Boulengier in an appeal to the "Presse Méd. Belge." He complains that the physician is being deprived more and more of his personal initiative, and being degraded into a mere police official. People at large are like great children. Much more can be accomplished by gentle moral suasion and example than by compulsion. What is needed is better training of medical students in the diagnosis and treatment of venereal diseases, special diplomas for specialists in this line and a "practical year" in venereal practice, with repeated post-graduate courses, which should include lectures on medical ethics. All public medical officials should be compelled to attend these courses. Unna's journal quotes his article approvingly.

German Society for Campaign Against Quackery.—A society has been recently organized for this purpose at Berlin with a large membership of physicians and laymen belonging to all classes of society. The aim of the organization is to enlighten the public in regard to the damage inflicted on health and purse by the practices of charlatans, and also to instruct the public in the proper care of the sick. Public lectures on both subjects are to be held, and examples of the damage done by quacks will be cited. Still another line in which the society hopes to accomplish much is to send delegates to the open meetings held by charlatans to take part in the discussions. Popularly worded pamphlets warning the public are also to be distributed, and the publication of a weekly journal to further the cause is contemplated. Flagrant cases of injury from quack practices are to be reported to the officials and daily press. The dues of the society are merely 25 cents a year, and the list of members already includes many prominent names, both in and outside of the profession. Dr. Siefart of Tauenzienstrasse 3, Berlin, is the treasurer. The first public meeting was held March 8 in the city hall. The charlatans and their adherents were there in full force and by their demonstrations rendered the proceedings rather noisy.

Semi-Centennial of Munich Med. Wochenschrift.—At the jubilee banquet, March 7, Dr. Merkel reviewed the history of the "Wochenschrift," which is practically the history of medicine in Bavaria. The history of the medical press in general from its earliest inception was reviewed by Dr. Sudhoff, the most complete historical sketch of this subject yet produced. Both of the addresses are to be published in the "Wochenschrift." A bust of Dr. Dollinger, who has been managing the weekly, was unveiled, and a painting and set of silver were presented to the publisher and editor-in-chief. A reproduction of the first number of the "Wochenschrift" under its primitive title of "Aerztlisches Intelligenz-Blatt," was distributed to the 160 guests. It was announced that the number of subscribers is now 9,000 and that the balance on hand for distribution to worthy objects was $3,850 Of this sum $1,230 was given to the National Physicians' Insurance Fund, $500 to the Fund for Widows and Orphans of Bavarian Physicians, and other sums to similar organizations, with $1,250 to the Pettenkofer Memorial Building Fund, $25 to the Haller Monument Fund in Berne, and $125 to the Ziemssen Memorial Fund. This makes a total of nearly $12,000 distributed for such purposes since 1897. The "Wochenschrift" has been published by a syndicate of ten physicians, to which Helferich of Kiel and Spatz of Munich have recently been added.

Campaign Against Charlatans in Germany.—The last "Allg. Med. Ct.-Ztg." reports five new successfully prosecuted suits against quacks in Germany. The Hanover court condemned L. Fette to four years at hard labor and a fine of $375 for his swindling methods, selling a box of salve that he bought in the drug stores for 10 cents for $3 to $5, and similar frauds. The Bayreuth court condemned Ahrbecker to two years of hard labor for selling abortifacients, and another charlatan, Jacob, to one month's imprisonment for receiving and treating by his methods a man with a complicated and soiled fracture of the leg, until the man was in the last stages of sepsis, when he summoned a physician. The Detmold court also condemned a magnetopath to six months in prison for treating an incarcerated hernia as "stomach cramps" until too late for suitable aid to be effective. Another magnetopath, Vigano, has also been sentenced to two years of prison at Magdeburg. It was found that he used to stand on a metal plate in the floor, connected with an electric apparatus, so that his patients could actually "feel the magnetic sparks emanating from him" as he touched them. He treated gallstones with an "oil cure," and presented the patients afterward with pebbles which he announced that they had voided. The testimony showed that the office boy ran out to pick up the pebbles as needed. He frequently received from $15 to $20 for a course of this treatment.

LONDON LETTER.

The Eyesight of School Children.

For some time the London School Board has had under consideration the question of the eyesight of the children and the means to be taken for its preservation when defective. As a result it has been decided to appoint 6 oculists. The general result of a preliminary test showed that while 80 per cent. of the children in the schools were found to have normal vision and 10 per cent. fair vision, the sight of 10 per cent. was bad, and of these 2 or 3 per cent. were very bad. Such defects of vision as existed were not due chiefly to fine work or bad lighting in the schools, but to social and nutritive conditions and to racial peculiarities, the proportion of those who had very bad sight being larger in the poorer schools than in those which were well-to-do, and larger in those schools which were predominantly Jewish than in those which were mainly Christians. The recommendation of the medical officer was that in future every child, when first admitted into a senior depart-

ment, should be examined by the class teacher, and a vision record made, such test being repeated annually.

The Anatomy of the Skull Stereoscopically Demonstrated by the X-Rays.

At the Royal Academy of Medicine in Ireland Dr. W. S. Houghton pointed out that the difficulty of interpreting a single skiagram arose from several causes. The *x*-ray picture was an example of uniplanar projection of multiplanar objects. This caused superposition of shadows. Then the fact that the *x*-rays formed a diverging cone caused magnification and obliquity distortions. These sources of inaccuracy in the "single picture" were eliminated by the beautiful stereoscopic method of Roentgen photography of Mr. Mackenzie Davidson. By this method a reproduction of the skull could be obtained, perfect in contour and perspective. Dr. Houghton showed by diagrams how all sources of inaccuracy were eliminated in the stereoscopic method and afterwards in the reflecting stereoscope showed prints of the base of the skull and lateral views in which general points were well demonstrated, including the relations of the groove for the lateral sinus to the mastoid air cells, the mastoid emissary vein, the internal auditory meatus, the external auditory meatus, the cochlea, the semicircular canals, the canal for the internal carotid artery, and the foramina in the base of the skull.

The Physical Condition of School Children.

The physical deterioration of the town population, which ever increases at the expense of the country, has given rise to serious forbodings by those interested in the national welfare. A royal commission appointed to inquire into the physical training of children in Scotland has just presented its report. The principle that education should consist in training the body, as well as the mind, though acted on in the schools of the upper classes and in the universities, is systematically ignored in the state-provided schools for the mass of the population. The commissioners ask for a more comprehensive conception of school life than prevails, and provision of larger playgrounds and exercise halls. They consider that too many subjects are attempted to be taught and that the children are too closely confined to their books. Systematic school exercises are recommended. At present in the schools in Scotland only from half an hour to two or three a week are devoted to physical training. The commissioners have collected some rather alarming statistics concerning the prevalence of diseases of the eyes, ears, nose and throat.

Paraffin Injections in Prolapse of the Bowel and Uterus.

At the Clinical Society Mr. Stephen Paget read a paper on this novel method of treatment. He described the case of a man aged 65 who in 1897 underwent excision of the rectum for cancer. Ever since he suffered prolapse of the bowel and was compelled to wear a rectal plug. On January 15 paraffin was injected into the prolapse bowel, forming two round, hard nodules under the mucous membrane, so that the orifice was closed by a sort of valve. The prolapse was cured and the use of the plug discontinued. In another case a woman aged 70 had suffered from prolapse of the bowel for 22 years, and had undergone 5 operations. Prolapse occurred on the slightest effort, and if the motions were very loose she had no control over them. On February 15 paraffin was injected under the mucous membrane and formed a hard collar, more than half of the bowel. This produced great improvement, but still slight prolapse at times. March 1 a second injection was made and the anal orifice was narrowed by Mayo-Robson's operation. The prolapse was permanently cured. In a third case a woman aged 63 had for 28 years suffered from prolapse of the uterus, in spite of an operation performed 14 years before. The vagina was so dilated that it would not contain a pessary, and there was complete prolapse of both walls and of the cervix, which was greatly enlarged. Paraffin was injected in various directions under the mucous membrane of the vagina, mostly in the posterior wall and under the mucous membrane of the cervix. Since then there had been no prolapse, not even when she strained. The cervix was high, and both vaginal walls were indurated, and the recto-vaginal septum was half an inch thick.

As to Prognosis.—Never be too sure. Be not over-positive. A wrong prognosis is always bad—for the doctor. One that is conservative and guarded is always safe for the reason that it permits one to turn either way in modification of the former contingent opinion, and thus always be right.—"Med. Council"

Correspondence.

Pompeii and the Alleged Lost Art of Gynecology.

Barry, Ill., March 21, 1903.

To the Editor:—Enclosed please find an article which appeared in "Current Literature" of December, 1900, based as to the knowledge alleged to have been in existence in the time when Pompeii was in existence, that is, before 770 A. D., on an article in the "Scientific American." I saw, some weeks ago, in the "Sunday Globe-Democrat," the same statements, only stronger. I mislaid the copy which I intended to send you at that time, but, fortunately, while looking over some old numbers of the "Current Literature" I find the enclosed.

[The enclosure credits the Pompeiians with having a great number of surgical instruments the exact counterpart of those used to-day and further declares that gynecology in its present degree of perfection was existent 2,000 years ago.]

Now, I do not believe a word of the statement for two reasons: If such were a fact, it would be very strange if no hint of the kind is to be found in the works of the Elder Pliny, who perished in the eruption of Vesuvius which destroyed Pompeii, he being in command of the Roman fleet stationed in the Bay of Naples. His works are well known to contain a hodge podge of almost everything known at that time which by any possibility could be considered at that time as belonging to natural history and a great deal that has no sort of relation thereto. But if it should so happen that he does not deal in medical and surgical knowledge, my second reason is much stronger, for, as you know, we have what the Encyclopedia Brittanica,, vol. 23, p 675, calls the "Authoritative Treatise of Paul of Argina, 650 A. D.," which contains no mention of any such wonderful instruments. I suppose that the translation by Travis Adams, 3 vols., London, 1847, is easily to be found in some of the Chicago medical libraries. I think if I am right that The Journal ought to have an article on the subject. I should think that Dr. Senn might well occupy some of his learned leisure, if he has any at this time of year, in writing such an article; it ought to be illustrated by pictures of those wonderful "anticipations" by the ancients of the proudest achievements of modern surgery.

E. W. Baker.

Answer.—There is a popular superstition that there are lost arts; that in times past the earlier civilizations excelled the efforts of our times. Wendell Phillips used to have a favorite lecture which he delivered through the country on these lost arts, which may have been a partial cause of the prevalent notions on the subject. The fact is, however, that there is no lost art. Whatever was lost during the middle ages has been more than recovered. Dr. Senn's paper on Pompeiian surgery and surgical instruments, "Medical News," Dec. 28, 1895, which seems to be unknown to our correspondent, while it illustrates surgical instruments obtained at Pompeii, gives no evidence of anything to compare with the imaginations of the writer of the article in "Current Literature" referred to by Dr. Baker. The instruments Dr. Senn illustrates are crude and, while they seem to suggest in some respects modern appliances, etc., they are very far from being what a surgeon of the present day would care to be restricted to in his surgery, and a very poor mechanic at the present time could improve on them. As the late Prof. Joseph Henry used to say, there is no lost art except that of reckless and unlimited waste of human life, to which many of the great works of the ancients, as now shown in the ruins of Baalbec and in the Pyramids, can be attributed. Human life and time counted for little with the despots of the Orient in the early history of the world.

Osteopaths and Legislation.

New York, March 28, 1903.

To the Editor:—It seems incredible that the osteopaths should have been enabled to gain favorable legislation in several states, and it makes one feel that the physicians have not properly presented the matter in discussions before legislative

committees. On several occasions when I have been present it was painfully evident that regular physicians who were being depended on by members of the committee had not read any of the books or other literature of the osteopaths, and that they were not prepared to take a dignified position in discussions. It seems to me that the osteopaths could always be defeated without the necessity for any very elaborate argument if some physician would take the trouble to have properly-prepared specimens of spinal columns to show to members of the committee. I have chosen a longitudinal section of a child three or four years of age, preserved in formalin solution, and the fresh rack of a lamb. The osteopaths are then asked to state that they cure diseases by "setting or moving" vertebræ and ribs and other bones, and the fraudulent nature of their pretension is so apparent to legislators who have the specimens before them, that even as laymen they are at once convinced of the deception that is practiced on patients, and one need not turn any fine points in rhetoric, or polish his diction in preparation for the discussion. There is one point in osteopathic bills that is misleading to legislators. I quote from this year's New Jersey Senate Bill No. 218, Page 4, Section 9: "The certificate or license granted by said board shall not in any way be construed to authorize the holder thereof to prescribe or use drugs in his or her practice, nor to perform operative surgery." This sounds very innocent, but it means that osteopaths will take charge of all sorts of cases that really should have the benefit of drugs or of operative surgery.

58 West 56th Street. ROBERT T. MORRIS.

Priority in Technic of Tubercle Bacilli Recognition.

CHICAGO, March 30, 1903.

To the Editor:—In your issue of March 28, I notice an abstract of a paper which appeared in the "Deutsche Zeitschrift für Chirurgie" by Forssell on an "Improved Method of Determining the Presence of Tubercle Bacilli in the Urine."

I would direct your attention to the fact that the process described is identical in every essential feature with the method introduced by Dr. J. E. Skinner and myself a number of years ago and described by us in an article published in THE JOURNAL of the American Medical Association, Jan. 29, 1898. Our process, as described in this paper, consists in separating the sediment from a considerable volume of urine by gravity (preferably in a tapering glass vessel like a percolator), drawing off the deposit, and reducing it to a very small bulk by centrifuging. Forssell's method, as will be seen by consulting the abstract referred to, is practically identical with this.

It is true that our method was especially devised and introduced for the purpose of detecting casts in the urine, and this fact is indicated in the title of our article. But in two or three places we refer to its use in examining for any sediment, and in next to the last paragraph we speak of its great advantage in testing urine for micro-organisms, especially when they are sparingly present.

I may add that I have used the method now for six or seven years and find it fully as advantageous as claimed in our article for the detection of casts and all other sediments when present in small proportion, and I am glad to have the added testimony of Forssell in regard to its value in examining for tubercle bacilli WALTER S. HAINES.

A Vigorous Protest.

CHICAGO, March 30, 1903.

To the Editor:—I wish to protest as vigorously and publicly as may be against the sentiment, the lack of good taste, the apparent deplorable motive, and the contents of the editorial with the Latinized caption, on page 855 of the last issue of THE JOURNAL. This poorly conceived, libelous and anonymous assault on the scientific labors of Dr Jacques Loeb, and on his personal character, does not add dignity to THE JOURNAL, nor is it calculated to cultivate respect for the Association among the many students of this pioneer in physiology. I have read it with shame and disgust, and I call for a public apology from the censorial editor of his flagrant neglect of duty. BAYARD HOLMES, M.D.

ANSWER.—A careful reading of our editorial will, we think, convince one that our critic is over-sensitive in his interest in the eminent physiologist referred to. It was not intended to reflect in any way on his personal character or scientific work, but to criticise the unfortunate—to say the least—sensationalism which has attended most of the announcements of his discoveries in the public press, and to notice the latest statements credited to him which seem to be extreme and scientifically presumptious. We do not think an apology is called for.

The Sub-Section on Tropical Medicine.

NEW YORK, March 28, 1903

To the Editor:—Allow me the observation that tropical medicine is of such vast importance that a sub-section as proposed by you and which you editorially endorse would not cover the ground. Why should the Section on Hygiene and Sanitary Science have anything to do with it? That section has as much interest in every other section as it would have in tropical medicine. ALBERT S. ASHMEAD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of, the writer not to publish his name will be faithfully observed.

WHY IS THE A. C. E. MIXTURE NOT USED MORE?

MAHONY CITY, PA., March 23, 1903.

To the Editor:—Dr. Willy Meyer (in THE JOURNAL of February 28 and March 7) quotes our English colleagues as having used the A. C. E. mixture in 15,000 cases without one death. If this is true kindly advise me why the A. C. E. mixture is not used more in this country. GEORGE W. REESE.

ANS.—The A. C. E. mixture has never achieved the popularity in this country that it has in England. We believe it is used there more than is either ether or chloroform. Deaths are, however, reported from its use.

MADRID CONGRESS RAILROAD CERTIFICATES.

NEW YORK, March 25, 1903.

To the Editor:—The following information has just been received by cable from the Secretary-General of the Fourteenth International Medical Congress: The French railroads have made their rate reductions for the members of the International Medical Congress depend on a special certificate, and on the use of the same route for going and returning. Any member of the congress to whom this is of interest should therefore write immediately to the secretary-general at Madrid, stating at what port he expects to land and what route he will take. The secretary-general will send to him at the port named under the address "poste restante" the necessary certificate. JOHN H. HUDDLESTON,
Secretary American Committee.

MATERNAL IMPRESSIONS.

ATCHISON, KAN., March 26, 1903.

To the Editor:—In THE JOURNAL of March 21, Dr. A. G. Beisheim reports a case of so-called maternal impression. The Doctor evidently wishes to convey the inference that the burn was responsible for the birthmark.

The maternal-impression belief is as old as the race and apparently as ineradicable as the unlucky Friday superstition. Occasionally some one meets misfortune on Friday; therefore Friday is responsible. Very rarely a powerful shock or accident occurring during pregnancy is followed by the appearance of a mark on the child at birth; such a coincidence is promptly regarded as a case of cause and effect. When an expected marking doesn't appear—which is the case at very many births—the maternal-impression theory receives no discredit thereby, but possibly some pious reflection on the efficacy of prayer may be elicited instead.

Surely at this late day the maternal-impression superstition should be relegated to the medical lumber-room. When it is remembered that there is practically no more anatomic or physiologic connection between the nervous systems of the mother and her unborn child than there is between the nervous systems of the setting hen and her unhatched chicks, how can the belief in the transmis-

sion of nervous influences so powerful and so selective as to produce specific localized structural lesions, be entertained. Such an unscientific theory may be good christian science or good sewing-circle-science, but surely it is too absurd a notion to merit the credence of intelligent medical men

The grief of the mother of an imperfect child is usually great enough without adding to her distress by laying the blame for the unfortunate occurrence on her. On the contrary, physicians had far better try to relieve the sacred period of motherhood of the cruel, absurd belief, that the mother can, by any possible means, "mark" her unborn child. E. T. Shelly.

Marriages.

Aug. D. Ferguson, M.D., to Miss Elma Gaulding, both of Frost, Texas, February 25.

Clinton B. Herrick, M.D., Troy, N. Y., to Miss Mary M. Slavin of Cohoes, N. Y., at Jersey City, N. J., March 19.

Abbie M. Winegar, M.D., Battle Creek, Mich., to Mr. W. Ray Simpson of Helena, Cal., at San Francisco, March 8.

Lieutenant Henry S. Kiersted, assistant surgeon, U. S. Army, to Miss Edith McBean of San Francisco, March 28.

Deaths.

John Wallace Collins, M.D. University of Louisiana, New Orleans, 1860, throughout the Civil War a surgeon in the Confederate service, professor of gynecology and abdominal surgery Denver Medical College from 1886 to 1895 and emeritus professor since 1895, president of the Colorado State Medical Society 1888-1889, physician and chief surgeon at the Colorado State Penitentiary, Canon City, died at the home of his brother, near Pueblo, March 20, aged 67.

Jonathan L. Cilley, M.D. Miami Medical College, Cincinnati, 1866, for 19 years demonstrator of anatomy in the Ohio Medical College, considered one of the greatest anatomy teachers in America; a surgeon during the Civil War in both Army and Navy, died March 18, in the Post-Graduate Hospital, New York City, from complications following an operation for Bright's disease, from which he had suffered for eighteen months, aged 65.

Cyrus E. Baker, M.D. College of Physicians and Surgeons, New York, 1862, who served as acting assistant surgeon in the volunteer forces until 1863, when he was invalided on account of sunstroke and malaria, and who thereafter practiced in Claremont, N. H., died at his home in that place, March 23, after many years of ill-health, aged 67.

J. Augustus Carncross, M.D. Jefferson Medical College, Philadelphia, 1876, assistant physician at the Friends' Hospital for the Insane, Frankford, Pa., a member of the Philadelphia County Medical Society, and a well-known authority on nervous and mental disease, died at the hospital, March 19, after a short illness from heart disease, aged 58.

Frederic L. Marcotte, M.D. Chicago Medical College, 1877, of Concordia, Kan., formerly surgeon of Missouri Pacific and Burlington and Missouri River railways; formerly president Republic County Medical Society, died at Leavenworth, Kan., where he had been taken for treatment, March 18.

William Eastman, M.D. Rush Medical College, Chicago, 1871, a member of the American Medical Association, and one of the most prominent practitioners of southwest Wisconsin, died at his rooms in Mineral Point, Wis., March 15, from paralysis, after an illness of a few hours, aged 70.

Charles B. Ferrell, M.D. Bellevue Hospital Medical College, New York, 1873, member of the Franklin County Medical Society, and some-time physician at the state penitentiary, died at his home in Columbus, March 23, from meningitis, after an illness of two weeks, aged 63.

Charles Howell, M.D. University of Michigan, Ann Arbor, 1861, died at his home in Ann Arbor, Mich., March 20, after a long illness, from paralysis, aged 73. He served throughout the Civil War as a surgeon on the Union side.

Herbert H. McAuley, M.D. Kentucky School of Medicine, 1889, of Chicago, organizer of the Chicago Hospital Corps in the Boer war, died at St. Joseph's Hospital, Joliet, after an operation for appendicitis, March 24, aged 32.

William A. Howell, M.D. University of the Victoria College, Cobourg, Ont., 1860, died at his home in Jarvis, Ont., March 23, from paralysis following spinal disease due to a fall from his horse in 1874, aged 66.

Spencer Morris, M.D. Cincinnati, 1846, for many years a popular quiz-class teacher of Philadelphia, died at his home in Mount Morris, Pa., after an illness of four years, from paralysis, aged 82.

Charles W. Dulin, M.D. College of Physicians and Surgeons, Chicago, 1895, of Kansas City, Mo , died at his home in Nevada, Mo., March 23, from typhoid fever, after an illness of two months, aged 30.

Norton Strong, M.D. Harvard Medical School, Boston, major and surgeon U. S. Army (retired), who was stricken with paralysis five years ago, died at his home in Baltimore, March 23, aged 51.

James Shackelford, M.D. Jefferson Medical College, Philadelphia, 1861, formerly a state senator, died at his residence in Maysville, Ky., March 25, after an invalidism of several years.

Hans M. Martin, M.D. Rush Medical College, Chicago, 1897, of Newark, Ill., died at St. Charles' Hospital, Aurora, Ill., March 17, from dropsy, after an illness of several weeks, aged 34.

Thomas T. Oliver, M.D. Medical Department of Victoria College, Toronto, 1853, died at his residence in Chicago, March 26, from pneumonia, after an illness of one month, aged 73

H. Turner Bass, M.D. University of Pennsylvania, Philadelphia, 1874, was shot by Dr. Julian M. Baker, March 16, and died on the following day at his home in Tarboro, N. C.

Henry Allan Noyes, M.D. Hahnemann Medical College, Chicago, 1891, of Pittsfield, Mass., died at Asheville, N. C., March 24, from tuberculosis, after an illness of a year.

James C. Burlington, M.D. Indiana Eclectic Medical College, Indianapolis, 1886, died at his home in Attica, Ind., from pneumonia, March 15, after an illness of ten days, aged 65.

Ross C. Kirkpatrick, M.D. Starling Medical College, Columbus, 1870, died at his office in Los Angeles, Cal., March 13, from angina pectoris, after a short illness, aged 60.

Roscoe M. Parsons, M.D. Chicago Homeopathic College, 1882, died at his office in Traer, Iowa, March 21, from an overdose of chloroform, taken to induce sleep, aged 55.

John M. Douds, M.D. Homeopathic Hospital College, Cleveland, 1881, died at his home in Beaver Falls, Pa., March 17, after an illness of several months, aged 60.

Frank Merritt, M.D. Detroit Medical College, 1877, twice mayor of Charlotte, Mich., died at his home in that place March 16, after an illness of three weeks.

John H. Fisher, M.D. Eclectic Medical Institute, Cincinnati, 1852, died at his home in Augusta, Mich., March 23, from pneumonia, after a short illness, aged 69.

Benjamin Miller Van Sickle, M.D. Bellevue Hospital Medical College, of New York, died at the home of his mother in Newark, N. J , March 15, aged 46.

Harvey L. James, M.D. University of Buffalo, N. Y., 1881, died at his home in Shelby, N. Y., March 14, from consumption, after a long illness, aged 46.

John Steifel, M.D. Homeopathic Medical College of Missouri, St. Louis, 1878, died at the home of his daughter in Bucyrus, Ohio, March 14, aged 78.

Charles Wesley Roberts, M.D. Hahnemann Medical College, Philadelphia, 1889, died in Scranton, March 20, from heart disease, aged 55.

John Miller, M.D. Heidelberg and Berlin, Germany, died at his home in Buffalo, N. Y, March 18, from gastric ulcer, aged 79.

Walter H. Vincent, M.D. New York University, 1884, died at his home in Orwell, Vt., March 6, after an illness of one week.

Robert Safford Newton, M.D. New York University, 1876, an alienist of New York City, died at his home, March 25, aged 45.

Charles F. Parker, M.D. University of Vermont, Burlington, 1883, died at his home in Boston, March 24, after a long illness.

J. P. Shacklett, M.D. Louisville Medical College, 1880, died at his home in Ekron, Ky., March 22, after a prolonged illness.

Albert R. Erskine, M.D. University of Pennsylvania, Philadelphia, 1851, died at his home in Huntsville, Ala., March 24.

Augustus C. E. Hertel, M.D. Cooper Medical College, San Francisco, 1859, died at his home in San Jose, Cal., March 14.

J. C. Archer, M.D. Ensworth Medical College, St. Joseph, Mo., 1898, died recently at his home in South St. Joseph, Mo.

Frederick Alexander Hesler, M.D., surgeon-lieutenant U. S. Navy, died at sea, March 11, from heart disease.

Warren O. Blaisdell, M.D. 1878, died at his home in Macomb, Ill., from rheumatism of the heart, March 18.

Julius C. Fox, M.D., 1878, died at his home in Keyesport, Ill., March 12, aged 65.

Book Notice.

BIOLOGICAL LABORATORY METHODS. By P. H. Mell, Ph.D., Director of Alabama Experiment Station. Cloth. Pp. 321. Price, $1.60. New York: The Macmillan Co. 1902.

This little book, while not strictly medical, is one that can be of use to the physician who utilizes the microscope. There are many uses for the microscope, moreover, that are not strictly medical which would be a profitable recreation at least for the physician who has time on his hands. The special advantage of the book is the fulness of its illustrations and descriptions of the biologic methods. It may be a little deficient in purely medical details such as special tissue stains, etc., but on the whole it is very complete.

Miscellany.

Skill in the combination of drugs, not only to increase the physiologic action of each, but to make the medicine pleasant of administration, is greatly to be desired and has made the reputation of many a man. But to attempt to prescribe for every symptom of a disease by throwing unskillfully together eight or ten drugs, as is too often done, is unscientific, dangerous and is that abomination of abominations—polypharmacy. —H. R. Purdy.

For the Removal of Tattooing.—Those who have been tattooed and who regret it may succeed in ridding themselves of these marks by the following process: Pour on the tattooed portion a concentrated solution of tannin, then by means of a needle analogous to that of the tattooer, prick the surface and then rub hard with a nitrate of silver pencil. There is formed a slough which falls at the end of fourteen or eighteen days, and the operation leaves only a slight scar, which at the end of two months is invisible.—"Cosmos."

No Patent Medicines at St. Louis Fair.—J. A. Ockerson, chief of the liberal arts department of the St. Louis exposition, says: "Articles that are in any way dangerous or offensive; also patent medicines, nostrums and empirical preparations whose ingredients are concealed, will not be admitted to the exposition. The director of exhibits, with the approval of the president, has the authority to order the removal of any article he may consider dangerous, detrimental to or incompatible with the object or decorum of the exposition or the comfort and safety of the public."—"Practical Druggist."

Overfeeding and Cancer.—Oldfield urges in the "British Medical Journal" that the overfeeding of animals and the retention in their tissues of the decomposition products make the eating of such animals as food productive of an unstable cell equilibrium which foreruns the cancer incidence, and that the same thing applies to vegetables, though in a lesser degree. During his late tour through India he found cancer practically absent from all areas where vegetation was sparse and where the animals used for food had lived a hardy existence, but in those regions marked by ranker vegetation and where the animals were more highly foddered it was more prevalent.

The Cocain Evil.—The law of Illinois specifically prohibits the sale of any article, open or proprietary, containing cocain, except on the prescription of a physician. . . . The law is certainly one of the most righteous ever enacted by a legislative body. The curse of the cocain habit to-day afflicts thousands of homes, from the palaces of the rich to the hovels of the poor. It is doubtful if the evils of alcoholism are more extensive or more destructive in their effects on society than the insidious and deadly ravages of cocain. . . . What the statute prohibits in Illinois the conscience of every druggist in America should as resolutely prohibit, and any thought of profit arising from complicity in the traffic should be as foreign as complicity in any other dastardly crime against his patrons or society in general.—"Western Druggist."

Adulteration.—Nearly every drug in the Pharmacopeia is adulterated, and, as such, fails to give the desired action. So great has this evil become that we often confess to one another that we prescribe less and less, and confine ourselves to a few fundamental drugs, remedies which we think we obtain from reliable sources and give in cases of necessity, leaving our patients to take their favorite compounds of tonics and appetizers on their own responsibility. . . . If drugs could be treated sacredly, exactly and conscientiously by the druggists, and by the public, as they are in hospitals, in experimental laboratories, and as physicians themselves treat them, the practice of medicine would be a much more satisfactory profession than it is at present.—"Medical News."

Queensland More Progressive than the United States as to the Adulteration of Foods.—While we wait in vain for our political bosses to do something for the health of the people, Queensland has perfected a system to protect her citizens from the scoundrels who seek to cheat them by the most vicious criminality in the manufacture of impure and poisonous foods. Strict laws are enforced in Queensland as to the substances that may and may not be used as ingredients, coloring matters, preservatives, etc., of beer, alcoholic liquors, mineral waters, fruit essences, foods, milk, tea, vinegar, butter, cream of tartar, etc. There are detailed laws also as to the carrying on of the businesses pertaining to the manufacture and sale of all such things, and a fine not exceeding $250 is provided for infringement of any parts of the law. Were it not for the hope that the careless and corrupt and ignorant among our people and their lawmakers will at last renounce their ways and become interested in the health and welfare of the nation, the outlook for republicanism in government would not be hopeful. —"American Medicine"

Diarrheic Form of Hyperchlorhydria.—Hyperchlorhydria is usually accompanied by constipation, but there is a variety with diarrhea, either paroxysmal or constant. Both the diarrhea and the constipation are evidently defensive reactions on the part of the intestine to the hyperacid chyme. Surmont and Lerat have been making a special study of the diarrheic form and proclaim that it is undoubtedly due to imperfect closure of the pyloric orifice, and this insufficiency is the result in turn of nervous influences, a muscular asthenia. These nervous influences are demonstrated also in the intense depression that follows the attacks, the violent abdominal pains occasionally experienced, and the secondary influence of emotions or chilling, noticed in all cases of diarrhea. Diagnosis is almost impossible without chemical investigation of the stomach contents, but differentiation is important as prognosis and treatment directly depend on it. The paroxysms of diarrhea usually occur in the middle of the night; the pain is located in the epigastrium and around the umbilicus. It subsides abruptly as the desire is felt. The subject experiences afterward great nervous depression and a nausea and distress recalling the sensations of seasickness. This condition does not subside until toward morning, and if the subject drops to sleep he awakes from time to time with a start. One of Surmont's patients was an army officer and his depression after a paroxysm was so extreme that he feared he would be compelled to leave the service, as he realized the impossibility of responding to any professional calls at such times. The condition resembles the nervous depression liable to follow the paroxysmal sialorrhea of certain tabetics or certain profuse sweats. The diarrhea may be the only apparent symptom of the hyperchlorhydria. One of the patients with the permanent form of diarrhea from this cause was a child of 11. This diarrhea always occurs very early in the morning or after breakfast and lunch. There is usually considerable pain and some nervous depression follows. Treatment is that of hyperchlorhydria in general with hydrochloric or phosphoric lemonade in cases rebellious to the usual measures.—"Echo Méd. du Nord," vii, 2.

Privileged Communications and the Physician.—At the last meeting of the New York Society of Medical Jurisprudence

Alfred L. M. Bullowa, a lawyer, read a paper entitled "The Medical Secret, or the Privilege of Physicians in Court Proceedings." He said that the present code gave every practicing physician the right to decline to answer any question or to give any testimony which would reveal any secret, condition or fact that had come to him by reason of his professional duties. This provision of law in this country is of the first importance in life insurance cases, and next in inheritance cases, where insanity on the part of the testator might be alleged. The physician is not expected to divulge professional secrets, even if he knew that his patient was deliberately perpetrating a fraud. Physicians complain that the law bears hard on them when they desire to sue for professional services, but lawyers are similarly prevented from detailing the nature of their services. In supplementary proceedings, or in bankruptcy actions, no call can be legally made on physicians for their account books if the latter contain information regarding their patients of a privileged character.

State Boards of Registration.

Texas Examination.—The next meeting of the Board of Medical Examiners (Regular) for the State of Texas will be held in Austin, April 20 to 23. For further information or application blanks, address Dr. M. M. Smith, secretary, Austin, Texas.

Indiana Examination.—A special meeting of the Indiana State Board of Medical Registration and Examination is called for April 23, when this year's graduates of the medical colleges of that state will be licensed to practice. They will receive certificates without examination if they matriculated before Jan. 1, 1901, but after Jan. 1, 1905, all graduates will be obliged to take examinations.

New Arizona Law.—The new medical practice act of Arizona, which has just passed the legislature, provides for a board of medical examiners, three regular, one homeopathic and one eclectic, appointed by the governor, meeting quarterly at Phœnix, and at such other times as it may appoint. The law provides for the issuance of license to those who are residents of Arizona, are of the age of 21 and are of good moral character, and who in addition: 1, present diploma and pass examination; or 2, present diploma and show certificate of license under the laws of 1901 or 1897; or 3, have practiced for five successive years previous to the passage of the act and pass an examination. The law provides how application shall be made, sworn to, and how certification shall be made as to character and length of practice. The fee for license is $2, and for examination $10. Those who have complied with previous laws are given until June, 1903, to comply with this law. Violation is punishable by a fine of $100 to $1,000 or imprisonment for three months to one year, or both fine and imprisonment. Other provisions of the law appear in the following portions quoted:

Sec. 5. The examination provided for in the preceding section shall be made by said board as soon after the application shall have been presented as it may be conveniently done and after notice to the applicant of the time and place thereof. The examination shall be conducted under such reasonable rules and regulations as the board may prescribe therefor, and with the design and purpose of ascertaining the fitness of the applicant for the practice of medicine in this territory. If the applicant request it, he or she shall have the privilege of being examined in the branches of the science and practice of medicine other than physiology, anatomy, pathology, chemistry, practice, surgery, obstetrics and gynecology, by the member or members of the board of the particular school of medicine specified in his or her diploma, and if the examination in such other branches be satisfactory to the member or members conducting said examination, it shall be approved by the board and to the extent thereof be deemed to be to the board's satisfaction.

Section 7. Upon proper proof to the Board of Medical Examiners of Arizona that the holder of any license issued under the provisions of this act has been guilty, since the issuance thereof, of any grossly immoral or unprofessional conduct, or of other conduct rendering him or her unfit to practice medicine in this territory, or has been convicted of any felony, said board shall, after due notice to such holder and full opportunity to him or her to defend against or refute such charges, revoke and cancel such license, and it shall thereafter be unlawful for such person to practice medicine in this territory until he or she shall again be licensed thereto under the provisions of this act.

Sec. 10. Any person shall be regarded as practicing medicine within the meaning of this act, who shall, within this territory, (a) by advertisement, or by any notice, sign or other indication, or by any statement, printed, written, or oral, in public or in private, made, done or procured by himself or herself, or any other, at his or her request for him or her, claim, announce, make known or pretend his or her ability and willingness to diagnosticate or prognosticate any human diseases, ills, deformities, defects, wounds or injuries: (b) or who shall so advertise or make known or claim his or her ability and willingness to prescribe or administer any drug, medicine, treatment, method or practice, or to perform any operation, or manipulation, or apply any apparatus or appliance for cure, amelioration, correction, reduction or modification of any human disease, ill, deformity, defect, wound or injury, for hire, fee, compensation or reward, promised, offered, expected, received or accepted, directly or indirectly; (c) or who shall within this territory diagnosticate or prognosticate any human diseases, ills, deformities, defects, wounds or injuries, for hire, fee, reward, or compensation, promised, offered, expected, received or accepted directly or indirectly; (d) or who shall within this territory prescribe or administer any drug, medicine, treatment, method or practice, or perform any operation or manipulation, or apply any apparatus or appliance for the cure, alleviation, amelioration, correction or modification of any human disease, ill, deformity, defect, wound or injury, for hire, fee, compensation, or reward, promised, offered, expected, received or accepted, directly or indirectly; (e) or who shall act as the agent of any person, firm or corporation, in the practice of medicine as hereinbefore set forth; (f) except it be in the advertisement or practice of dentistry, midwifery, or pharmacy, or in the usual business of opticians, or of vendors of dental or surgical instruments, apparatus or appliances.

Sec. 11. The provisions of this act shall not be construed to modify, or in any wise affect the provisions of the laws of this territory relating to the practice of dentistry.

Association News.

NEW ORLEANS HOTELS.

ST. CHARLES HOTEL FILLED—ANNOUNCEMENT OF HOTEL COMMITTEE.

Dr. E. D. Martin, New Orleans, Chairman of the Committee on Hotels, writes that all accommodations in the St. Charles Hotel, the headquarters, are taken for the time of the meeting. He requests that physicians who write for reservation of rooms specify what they desire, as to the time of their arrival and departure, price, baths, single or double rooms, etc. THE JOURNAL next week is the special New Orleans Number, containing an elaborate write-up of New Orleans, with many illustrations thereof. Full particulars of hotels, railroads, excursions, programs, etc., will be given.

Medical Organization.

Humboldt County (Cal.) Medical Society.

Members of the medical profession met at Eureka, March 7, and organized a county medical society, which asked affiliation with the state society.

Athens County (Ohio) Medical Society.

This society was organized at Athens, March 3, with the following officers: Dr. Charles S. McDougall, Athens, president; Dr. Edmund F. Danford, Glouster, vice-president; Dr. Ulysses P. White, Athens, secretary, and Dr. David H. Biddle, Athens, treasurer

Rowan County (Ky.) Medical Society.

The physicians of Rowan County met at Morehead, March 21, and organized a county society, after listening to an address by Dr. Joseph E. Wells, Cynthiana, councilor for that district. The constitution and by-laws prepared by the American Medical Association were adopted without change and the following officers elected: President, Dr. F. M. Carter, Farmers; secretary, Dr. Jeremiah Wilson, Morehead.

Bath County (Ky.) Medical Society.

The physicians of Bath County met at Owingsville, March 20, and organized a county society, and adopted the constitution and by-laws promulgated by the American Medical Association without change, after an address on the subject of organization by Dr. Joseph E. Wells, Cynthiana, councilor of the district. The following officers were elected: President, Dr. Henry H. Lewis, Salt Lick; secretary, Dr. J. W. Rutherford, Sharpsburg.

Fleming County (Ky.) Medical Society.

The physicians of Fleming County held a meeting at Flemingsburg, March 18, and organized a county society, and adopted the constitution and by-laws proposed by the American Medical Association, after listening to a talk on organization from Dr. Joseph E. Wells, Cynthiana, councilor of the district. Dr. Alvin M. Wallingford, Mt. Carmel, was elected president; Dr. Charles R. Garr, Flemingsburg, vice-president, and Dr. Addison S. Robertson, Flemingsburg, secretary and treasurer.

Nelson County (Ky.) Medical Society.

The physicians of Nelson County, met at Bardstown, March 21, and organized a county society, adopting the constitution and by-laws prepared by the American Medical Association without change. The following officers were elected: President, Dr. J. Edward Smith, Bradstown; vice-president, Dr. William J. Heiser, New Haven; secretary, Dr. Hugh D. Rodman; treasurer, Dr. H. E. McKay, both of Bardstown, and delegate to the state association, Dr. Aloysius G. Blincoe, Bardstown.

Nichols County (Ky.) Medical Society.

The physicians of Nicholas County met at Carlisle, March 17, and organized a county society, after listening to an address by Dr. Joseph E. Wells, Cynthiana, councilor of the district, and adopted the county constitution and by-laws of the American Medical Association without change. The following officers were elected: President, Dr. G. W. Grimes, Carlisle; vice-president, Dr. H. Yancey, Carlisle; secretary, Dr. George B. Spencer, Carlisle; treasurer, Dr. Samuel R. Fisher, Headquarters; delegate to the state association, Dr. B. F. Reynolds, Carlisle; censors, Drs. N. H. McNew, Harry Munger and Malcolm Dills.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

Florida Medical Association, St. Augustine, April 8.
Western Ophthalmological and Oto-Laryngological Association, Indianapolis, April 9-11.
Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Mississippi State Medical Association, Greenville, April 15-17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Therapeutic Society, Washington, D. C., May 11-13.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
Oklahoma Territorial Medical Association, Guthrie, May 12.

Florida Medical Association.—The thirtieth annual session will be held in St. Augustine, April 8, 9 and 10.

North Texas Medical Association.—This association has been incorporated at Sherman by Drs. Joseph M. Fort, Paris; J. T. Wilson, Sherman, and Bacon Saunders, Fort Worth.

Medical Society of the State of North Carolina.—The fiftieth annual meeting will be held at Hot Springs, June 2, 3 and 4. An especially attractive program is being prepared to honor the semi-centenary of the society.

San Bernardino (Cal.) Medical Society.—This society held its annual meeting and banquet, March 11. Dr. C. Van Zwalenburg, Riverside, was elected president, and Dr. Joseph A. Champion, Colton, secretary and treasurer.

Wichita (Kan.) Academy of Medicine.—About fifty physicians of Wichita met, March 16, adopted a constitution and organized an academy of medicine, with the following officers: Dr. James E. Oldham, president, and Dr. J. M. Jacobs, secretary.

Kansas City (Mo.) Medical Library Association.—The Jackson County Medical Society and the Kansas City Academy of Medicine have joined in incorporation of the Kansas City Medical Library Association to establish a library for the medical profession of Kansas City and its vicinity. The collection now numbers about eight hundred volumes.

San Joaquin Valley (Cal.) Medical Association.—At the fifteenth semi-annual meeting held in Fresno, March 10, the following officers were elected: Dr. Joseph D. Davidson, Fresno, president; Drs. Walter E. Lilley, Merced, Nathaniel P. Duncan, Hanford, and M. L. Pettit, Visalia, vice-presidents; Dr. John R. Walker, Fresno, secretary, and Dr. Thomas M. Hayden, Fresno, treasurer.

Chicago Medical Society.—At its meeting, March 25, the society elected the following fifteen councilors-at-large: Drs. Charles S. Bacon, Arthur D. Bevan, Frank Billings, W. S Christopher, N. S. Davis, Joseph B. DeLee, Arthur R. Edwards, Adolph Gehrmann, David W. Graham, Malcolm L. Harris, Fernand Henrotin, James B. Herrick, Louis L. McArthur, Walter Van Hook, and George W. Webster. Fifteen other councilors will be elected by the branches and affiliated societies. The councilors constitute the governing body and will elect the president and other officers and trustees at the June meeting.

Aberdeen District (S. D.) Medical Society.—This society, which comprises twelve counties in the northeast corner of the state, held its annual meeting at Aberdeen, March 17, at which the following officers were elected: Dr. Charles B. Mallery, Aberdeen, president; Dr. Lynn A. Pickering, Warner, vice-president; Dr. Henry J. Rock, Aberdeen, secretary and treasurer; Dr. Robert Hill, Ipswich, censor for three years, and Dr. Henry J. Rock, Aberdeen, delegate to the next meeting of the state association. After the routine business and reading of papers, a banquet was served in honor of Dr. H. E. McNutt, Aberdeen, at which he was presented with a fine fur-lined overcoat, as a slight testimonial of appreciation of his successful efforts in improving the standard of the profession in the state by the passage of the new medical bill requiring examination.

BUFFALO ACADEMY OF MEDICINE.

Meeting of the Section on Pathology, held March 17, 1903.

Dr. Irving P. Lyon in the Chair.

The Cardiac and Vascular Complications of Typhoid Fever.

DR. W. S. THAYER of the Johns Hopkins Hospital, Baltimore, read this paper.

Among the cardiac complications of typhoid fever we first meet acute endocarditis. The bacillus of typhoid fever has been found in this lesion. Pericarditis is a rare complication, while myocarditis is met extensively. Acute myocarditis complicating typhoid gives its clinical symptoms. Among the vascular complications we find acute endarteritis and arterial thrombosis. Gangrene of extremities due to this change has occurred.

As an exhibit under the microscope, Dr. Thayer presented a section of acute coronary endarteritis. The venous changes are better known than the arterial, e. g., venous thrombosis, which is secondary to a phlebitis. The typhoid bacillus has been found in the wall of the vessel.

In the reports of the Johns Hopkins Hospital from May, 1899, to Jan. 1, 1901, there were 1,357 cases of typhoid fever. Of these 122 cases were fatal, or about 9 per cent. In 156 cases the pulse was over 140. In only 2 per cent. of cases was the pulse under 50, in these latter cases there was no death; all convalesced. In 215 cases there were cardiac murmurs on admission; the murmurs were mostly soft systolic. A peculiarity about these murmurs was that they were only noted on first examination, not afterwards. The excitement incidental to admission, etc., can account for this. Diastolic murmurs were not met with unless the patients have given a history of having same previously. In all there were two cases of pericarditis and two cases of endocarditis. These cases were reported and were interesting. The two cases of acute endocarditis were unsuspected during life were, therefore, only found at necropsy.

In regard to vascular changes in these cases reported, there were 38 cases of venous thrombosis, of which 5 were fatal.

Of these 38 cases, 36 were of the lower extremities, and mostly the left side. Thrombosis of the left iliac vein was comparatively frequent in connection with lower extremities. In all these cases of venous thrombosis this complication occurred toward the end of the fever. The typhoid thrombosis was found in one thrombus. Of the 122 fatal cases, autopsies were had in 87 cases.

Dr. Thayer urges a more general examination of the arterial lesions to see frequency of involvement. In several cases the aorta and mitral valve were involved. One hundred and twenty-six cases were accurately examined and blood pressure noted in the recumbent posture in bed. The ages varied from 8 to 69, the majority being under 30. Of these 126 cases 8 developed cardiac complications after admission. In 52.3 per cent. of the cases the radial was palpable. In 46 per cent. of the cases the radial was not palpable. The few remaining were not reported. In 110 cases the blood pressure was above normal.

Dr. Thayer did not make any general conclusions, wishing, rather, to excite the interest and the more minute examination of these complications in typhoid fever.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Injections of Yolk of Egg in Tuberculosis.

Dr. T. Boyle, in "Amer. Jour. Med. Sciences," recommends the use of the yolk of the egg, combined with equal parts of a normal salt solution, administered hypodermically. One ounce may be introduced beneath the skin without producing local irritation. He claims that the lecithin, normally present in the yolk of the egg, does not undergo the molecular change which takes place when it passes through the digestive tract. The mode of introduction hypodermically is recommended only when the digestive processes are not normal. The lecithin of the yolk is more stable than that put on the market.

Ipecac in Pneumonia.

The following method has been recommended by Perreau, in "St. Louis Clinic," in the treatment of pneumonia:

℞.	Pulv. ipecac.	gr. xv	1
	Mucil. acaciæ	ʒiii	90

M. Sig.: One teaspoonful every hour for eight doses.

Care should be observed to avoid vomiting and diarrhea by lengthening the intervals between the doses. The author states that by this method of treatment the lung is depleted and counteracts microbic infection. He reports splendid results, especially when the treatment has been begun early.

Acute Laryngitis.

The following combinations are recommended by "Merck's Archives" in the treatment of acute laryngitis:

℞.	Potass. cit.	3iv	15
	Dionin	gr. vi	35
	Tinct. aconite	m. xxiv	1 60
	Spts. etheris nitrosi		
	Syr. tolutani, āā	3vi	24
	Aquæ q. s. ad	ʒiii	90

M. Sig.: One teaspoonful in water every two hours to relieve the cough, fever and hoarseness; or:

℞.	Menthol	3iss	6
	Olei pini sylvestris		
	Olei eucalypti		
	Tinct. benzoini		
	Tinct. tolutani, āā	3i	4

M. Sig.: To be used as an inhalation from a steam kettle several times daily.

Ulcer of Stomach.

Westphalen, in an abstract in "Med. Press," recommends in the treatment of round ulcer, that in the beginning nothing be given by the mouth, except a little cold tea or Vichy water or small pieces of ice. Nutrient enema may be used during this period if necessary. This period of starvation by the mouth may continue over a period of from six to sixteen days. Then the author gives four glasses of milk daily, increasing the quantity half a glass each day. After another period of ten days he adds soups and more solid food. He advises the continuance of fresh milk or whey, with cream, as they reduce the hyperacidity of the stomach, the milk keeping the motor function of the stomach at a minimum. He also recommends bismuth in heaping teaspoonful doses, in a glass of water before breakfast in the morning. The diet should be regulated for a year. The patient should be kept in bed for three weeks at the beginning of the treatment.

Syphilis.

Horwitz, in the Amer. Text-Book of Ther., recommends the following in the treatment of the initial chancre:

℞.	Unguenti hydrargyri nitratis	gr. xx	1 30
	Unguenti iodoformi		
	Balsami peruvianæ		
	Unguenti belladonnæ		
	Unguenti zinci oxidi, āā	3ii	8

M. Sig.: Apply locally. The patient should be instructed not to allow the salve to remain too long in contact with the parts; otherwise it will become rancid and cause greater injury than benefit.

The following ointment is also recommended:

℞.	Unguenti hydrarg nit.	3ss	2
	Unguenti petrolati	ʒss	15

M. Sig.: Apply locally.

Another excellent ointment of service in hastening cicatrization is composed as follows:

℞.	Unguenti hydrargyri oxidi rubri	gr. viiss	50
	Unguenti petrolati	ʒss	15

M. Sig.: Apply locally. In the local treatment of the skin eruption the following is recommended applied to the sores after removing the crusts by the application of hot water to soften them:

℞.	Ung. hydrarg. nit.	gr. xv	1
	Balsami peruv.	3i	4
	Ung. belladonnæ	3ii	8
	Ung. iodoformi q. s. ad	ʒi	30

M. Sig.: As a local application.

The mucous patches may be easily controlled by instructing the patient to avoid all highly-seasoned foods, stimulants and such articles of diet as are liable to irritate the sores. Tobacco should be discontinued until the mouth is well. If the patches are superficial and not too numerous they should be touched with the following solution:

℞.	Argenti nitratis	gr. xxx	2
	Aquæ destil	ʒi	30

M. Sig.: Apply once daily to the patches.

The following astringent mouth wash should be used:

℞.	Potassii chloratis	3iii	12
	Acidi tannici	gr. xx	1 30
	Olei gaultheriæ	gtt. vii	35
	Glycerini	3ii	8
	Aquæ q. s. ad	ʒvi	180

M. Sig.: As a mouth wash two or three times a day.

And for the alopecia, to stimulate the new growth of hair, the author recommends the following:

℞.	Hydrarg. chloridi corros.	gr. vi	35
	Tinct. cantharidis		
	Tinct. capsici, āā	3iii	12
	Spts. ammon. arom.	3vi	24
	Spts. rosmarini	ʒvi	180
	Alcoholis q. s. ad	ʒxii	360

M. Sig: Apply locally to the scalp with a sponge moistened in the solution and use thorough friction.

Rickets.

I. A. Abt, in "Archiv. of Ped.," recommends, in treatment of rickets, that the patient be kept out of doors in order to receive an abundance of fresh air and sunshine. During the first stages of the disease children should not occupy, for too long a time,

the same position in bed on account of the softness of the bones. Spinal curvatures may also occur in infants who are held or carried in the sitting posture. They should not be allowed to stand or walk too soon for the same reason.

As to the diet, it should be digested without giving rise to fermentation or putrefaction. The food should be fresh and should contain as much fat as the child can take care of; fruit juices, beef juice and the animal broths should constitute part of the diet.

The most useful medicinal preparation is cod liver oil, given pure in doses of one-half teaspoonful three times a day. It is not so well tolerated in the summer time and had better be omitted during the summer months. Phosphorus is also recommended, and by some authors it is classified as a specific in this disease. It is best prescribed in the form of Thompson's oil, every minim of which contains 1/100 of a grain of phosphorus. The usual dose is one-half a minim or 2/200 of a grain of phosphorus.

Baths are of decided therapeutic value. Salt baths are indicated in those children who perspire profusely.

Medicolegal.

Physician Can Not Enjoin Removal from Reformatory.—The case of Marshall vs. the Board of Managers and Superintendent of the Illinois State Reformatory was brought by the former to restrain the latter parties from removing him from the office of physician of said reformatory. But the Supreme Court of Illinois thinks it clear that the trial court did not err in dissolving the temporary injunction granted and dismissing the case for want of equity, as it says that it is well settled that the title to a public office and the right to exercise its functions can not be determined by a court of chancery unless express authority so to do is conferred on the court by statute, the remedy being in a court of law. This reformatory, it holds, is a penal institution, and the position therein of physician is an office, and a court of chancery has no greater power to determine the title to such office than the title to any other public office.

Unlawfully Exposing People to a Contagious Disease.—In Nebraska all public offenses are statutory, and no person can be punished for any act or omission not made penal by the plain import of the written law. In view of this, in the case of State vs. De Wolfe, where the latter was charged with having unlawfully exposed the citizens of a village to a contagious disease by negligently keeping an infected person in a public place, the district court held that no prosecution could be maintained for the acts complained of, the code failing to specify them. But the Supreme Court of Nebraska holds that the trial court erred in dismissing the action. It says that there is as much reason now as there ever was to repress conduct calculated to injure the health of the people. Without a clear expression of purpose so to do, it can not believe that it was the intention of the legislature to so limit the meaning of the word "nuisance" as to make conduct blameless which has always been considered inherently wrong and deserving of punishment. And while there are in the state no common-law crimes, the definition of an act which is forbidden by the statute, but not defined by it, may be ascertained by reference to the common law. So a statute declaring all common nuisances to be criminal is to be construed as prohibiting every act which was by the common law indictable as a nuisance.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

March 21.

1 *A Review of the Recent Literature on the Intercommunicability of Human and Bovine Tuberculosis. John M. Swan.
2 *Cryoscopy. D. S. Grim.
3 Trunecek's Serum and Its Value in Disturbed Cerebral Functions Caused by Circulatory Changes, with Report of Twelve Cases. Alfred Gordon.
4 *The Operative Treatment of Goiter. Ingersoll Olmsted.
5 *Psychopathic Epidemics. (To be continued.) John B. Huber.
6 A Case of Diabetes Mellitus in a Young Child. James H. Lloyd.

1. **Bovine and Human Tuberculosis.**—Swan reviews the literature and concludes that the two disorders are intercommunicable, and closes his article by summarizing Koch's paper and his arguments against this view. He thinks it is a mistake to adopt extreme opinions concerning the organism causing the disease, but holds that while there are differences, they belong to the same parent stock and are modified by their environment.

2. **Cryoscopy.**—The methods of cryoscopy are described by Grim, who also gives a review of the theories as regard to it as summarized in the following conclusions:

1. Cryoscopy can not replace, but only supplement, the older qualitative tests and microscopical examination of urines.
2. It is probably the most delicate test we possess in detecting and estimating the effect of therapeutic measures directed toward cardiac and kidney lesions.
3. It permits of reasonable accuracy in diagnosing renal insufficiency and the type of renal lesion present, though the examinations should be prolonged over a number of days; our conclusions coinciding with Lindemann's.
4. Uremia can not be diagnosed from the examination of the urine alone.
5. Cryoscopy of the urine from each kidney, obtained by ureteral catheterization, and especially when supplemented by the phloridzin and methylene blue tests, becomes a very delicate and reliable test in determining a unilateral kidney lesion and the degree of insufficiency of the affected kidney.

Because of an insufficient number of cryoscopic examinations of the blood, we can not criticize the "interchange" theory of Koranyi.

4. **Operative Treatment of Goiter.**—Kocher's methods and results are described by Olmsted. He mentions, in conclusion, that he has operated on twelve patients during the last year, all cases of simple goiter, and one of exophthalmic goiter, apparently with good results in all, though he does not give details, reporting briefly only two. The average time of residence in the hospital for treatment was seven days. The important points in operation are absolute asepsis, ligation of all the bleeding vessels, avoiding the wounding of the gland proper, and the preservation of the recurrent laryngeal nerve.

5. **Psychopathic Epidemics.**—In this first installment of his article, Huber describes certain delusions which are frequent and are still flourishing, such as Eddyism, mesmerism, the Sanford and Simpson delusions and the Dowieism craze.

New York Medical Journal.

March 21.

7 The Development and Ultimate Result of Medical Science. Andrew F. Currier.
8 *The Treatment of Felon. Edward Wallace Lee.
9 *Report of a Case of Epidemic Parotiditis, with Fatal Termination. W. J. S. Stewart.
10 *A Study of Tuberculous Infection—Special Susceptibility of Childhood—Causes and Methods of Infection—Factors of Development of the Disease. F. M. Pottenger.
11 *The Intravenous Injection of Formaldehyd. William L. Baner.
12 *The Hemorrhagic Diathesis as a Factor in the Production of Hemorrhage Following Removal of Tonsils and Adenoids. Frank H. Washburn.
13 The Treatment of Infantile Convulsions. (Concluded.) Adolph Goldhammer, O. C. Tarbox, and Edmund N. Huff.

8. **Felon.**—According to Lee, felon is a more serious matter than is usually supposed, and is very commonly maltreated. The method he suggests would be to give a general anesthetic with the patient in the recumbent position, with thorough asepsis, elevate the hand and arm to relieve congestion before the Esmarch bandage is applied, using slight digital pressure over the brachial artery, which will thoroughly bleach the parts before the bandage is put on. This, he says, is necessary to control the slight hemorrhage that would otherwise embarrass the operation. The hand is then placed on an aseptic towel, over a hard substance, and an incision made from a few lines back of the inflamed area to the tip of the finger, down to the bone, if necessary. The extent of the disease can be clearly seen as hemorrhage is repressed and all pus and débris should be cleaned out with peroxid of hydrogen, afterward washing the wound and cavity with a 1 per 1000 solution of bichlorid of mercury. All diseased tissue, integument, cellular tissue, tendon, periosteum and bone, etc., should be removed, not leaving a vestige; again washing the wound out with peroxid and bichlorid. The whole cavity should then

be swabbed with pure carbolic acid, immediately followed by a washing with alcohol, which will prevent over-action of the carbolic acid, and again washed with a 1 to 1000 bichlorid of mercury solution. The wound can be then closed and held in position with a snug compress, over which a dry gauze bandage is applied and over this a rubber tissue, and over all, including the whole hand, cotton gauze and a bandage, the arm and hand being placed on a splint and elevated. In four or five days the dressing can be removed. If the work has been well done the wound will be found closed, free from discharge and on rapid road to recovery. The same dressing should be reapplied, and four days more will show all the parts united. The wound now only needs a protective dressing until new epidermis and skin have formed. He thinks the results justify the pains taken in this method of treatment.

9. Fatal Parotiditis.—Stewart reports a case of a sailor who apparently died from heart failure, due to the excessive strain to which that organ has been subjected from embarrassed respiration for some hours before death. The obstruction was due to swelling from the parotiditis, but the death was unanticipated, as it did not seem so serious. He has not found any such case on record, nor ever read of a death from asphyxiation in this disease. It was not the immediate cause of death in this case.

10. Tuberculosis of Childhood.—Pottenger has studied tuberculous gland infection, etc., in children, and finds, from the facts and study of the literature which he reviews, that tuberculosis is common in childhood, causing about 25 per cent. of the deaths occurring during the last quarter of the first year, and quite a large proportion of those during the second and third years. Nearly all cases of tuberculosis show involvement of the lymph glands; and, if the fact that the process is furthest advanced is an indication, they are in a large percentage of cases to be considered the primary foci. Nearly all children show enlarged glands during the period of infancy and early childhood, of which investigation seems to show from 60 to 70 per cent. to be tuberculous, and, of those chronically enlarged, even a larger per cent. are so affected. A large proportion of those who have enlarged glands during childhood develop tuberculosis in later life; and it is probable that the gland was frequently the primary focus whence came the spread of infection. Why the bacilli do not cause a general tuberculosis in these children with lowered vitality has not been explained. It may be that they are less virulent, as has been shown by experiments, and it is possible that they meet with such opposition in these structures that they are unable to make further headway. He suggests that it will be well to collect all statistics to see if children exposed to tuberculous infection from parents and others do not have a more virulent form than those who receive their infection from less virulent sources. He thinks that the reason of the prevalence can be explained by the general mismanagement of children, their habits of putting everything into the mouth, creeping on the floor with exposure to dust, etc. Pottenger believes that many cases of tuberculosis in the adult are due to primary foci acquired in childhood. We are too apt, he says, to consider the infection as originating at the time it makes its marked appearance, though he would not say that adults can not acquire it. It is at the adolescent period that these foci are most liable to become active, during the special strain of sexual changes, social functions, studies, etc. It is the second period of life when the vitality is low and, as in early childhood, it is marked by an increased number of tuberculosis cases. From the total of his investigations he deduces the following general conclusions:

1. Tuberculous infection is very common in early childhood.
2. A large proportion of those patients who, although infected, do not show acute symptoms during childhood, develop active tuberculosis in later life.
3. In seeking the cause of this frequent infection, aside from the habits of the child and the carelessness of the parent bringing it in frequent contact with the bacillus, all those things which lower vitality at this time must be considered; and, I would call special attention to the fact that there is a connection which seems more than coincidence in the time that tuberculous infection takes place and the time that the child is most apt to suffer from catarrhal conditions of the stomach and bowels.
4. More attention should be given to the care and feeding of children, so that their systems may be resistant to infection.
5. All tuberculous children, whether they have lesions in the glands, bones, lungs, or any other part of the body, should be treated for their disease.

11. Formaldehyd Intravenous Injections.—Baner notices Barrow's experiences and the experimental results of Fortescue-Brickdale and others, and says from the available facts it seems improbable that formaldehyd used intravenously has a specific value in sepsis. One thing suggests itself to him, however, that we are too apt to be forgetful of the intravenous route in cases of intense toxemia, and rely too much on hypodermoclysis and the rectal enema for that dilution of the toxins which gives the poisoned tissues a breathing spell, as it were, and enables them to keep up the battle. The intravenous injection of antiseptics probably does not kill the bacteria in the blood in septic cases, but does dilute the toxins. A normal saline solution by the same route will do this equally well, and there is less danger probably of injuring the blood.

12. Hemorrhagic Diathesis.—Washburn reports a case of severe hemorrhage following removal of tonsils, with subsequent recovery, and discusses the possibilities of hemorrhagic diathesis in these cases.

Medical News, New York.

March 21.

14 *Some Types of Retinitis and Chorioretinitis. Alexander Duane.
15 *The Indications for Operative Interference in Intracranial Tension. Frederic S. Dennis.
16 *A Preliminary Report of the Venous Hum in Relation to the State of the Blood. C. N. B. Camac.
17 Some Physiological Observations on a Crustacean Heart. (To be continued.) George V. N. Dearborn.
18 *Pneumonia. An Infectious Disease. J. O. Cobb.
19 *Observations on American Climates and Localities in the Treatment of Pulmonary Tuberculosis. James K. Crook.

14. Retinitis and Chorioretinitis.—The types here noted by Duane are focal exudative chorioretinitis, occurring with acute onset, rapid course and a generally favorable prognosis, usually in young people and often without apparent cause, marked by the presence of single circumscribed exudates situated usually not very far from the optic disc; often associated with considerable edema and milkiness of the surrounding retina and impairment of vision depending on the site of the exudate. The salicylates, calomel in broken doses and rest in bed seem to furnish the best treatment. Second, plastic chorioretinitis, another form characterized by pretty sharply defined whitish aggregations of connective tissue, which may be sunk in the substance of the choroid or retina or may project out into the vitreous, even as far as the lens or the ciliary body, attributable to organization taking place in the fibrous exudate. They may develop in conjunction with a disseminated choroiditis or may accompany a retinitis, in which case they very frequently originate in a patch of hemorrhage, or they may also probably occur as a result of hemorrhage without inflammation of either retina or choroid. Once developed the plastic products are apt to remain unchanged for years, though the milder forms may be capable of absorption, with often great reduction of size. Mercury and the iodids seem to be the best treatment. The last form mentioned is retinitis circinata, which may appear in atypical forms, a case of which is here described.

15. Intracranial Tension.—The conditions of intracranial tension are described and illustrated by a case reported by Dennis. He remarks that the tension may be extreme, and mentions an instance where, after trephining and opening the dura, the clot made its way from the lateral ventricle through the track made in the cortex, through the slit in the dura mater and through the trephine hole, with such force as to be projected several feet in the air. The author considers that operative interference is indicated in many cases. In some the indications are very clear, while in others they are somewhat doubtful. A deep coma, in his opinion, calls for operation, and where this does not occur, if the symptoms are gradually increased in severity, it may save life. The problem, however, is hard to solve as to just when operation is demanded in some cases.

16. Venous Hum.—Camac tabulates a number of cases in which venous hum was present with a decidedly marked percentage of hemoglobin. He thinks the cases are not those of

incipient chlorosis. The practical point is that pallor and even a cervical bruit may not indicate anemia. The blood should be examined to determine this point.

18. Pneumonia.—The infectious nature of pneumonia is argued for by Cobb, who points out that it is largely a disease of cities and of overcrowding. He considers that cold and dampness have very little to do with its spread, though dryness is a considerable factor. He thinks the more rational explanation of its more frequent occurrence is that in the severe, dry winters the atmosphere is dryer than at other times and, the weather being severe, people tend to huddle more in places of amusement, in business and in homes, and the air becomes more and more infected. It is a disease, he claims, incident to overcrowding and can only be stamped out by careful attention to ventilation.

19. Climate and Tuberculosis.—Crook speaks of the advantages of climate, and mentions the localities which are suitable for various cases. In the early stage of the ordinary case with slight lung involvement and little constitutional disturbance there is usually improvement with change of climate. Catarrhal cases, with profuse secretion, should have a dry climate, preferably a warm one like Arizona. They usually do poorly in moist climates. Persons of the nervous, irritable and erethistic temperament do better in a marine climate, and should not be sent to high elevations. Sir Hermann Weber advises against sending cases of ulcerative tuberculous laryngitis to high elevations. Most chronic, slowly progressing cases, especially of fibrous phthisis, do best in a marine climate. Cases complicated with heart disease should be kept at a low elevation. Cases involving much loss of lung substance or a large portion of the respiratory area from any cause, usually fare badly at high elevations. The low desert land of Arizona would seem to be the ideal climate for such patients. Puny, scrofulous-appearing youths, not actual, but potential or probable cases of tuberculosis, are generally benefited by prolonged residence in high mountainous regions. There has been considerable difference of opinion as regards the proper climate for hemorrhagic cases. The author thinks that the best observers are beginning to agree that the occurrence of hemorrhage is no bar to high altitude. The tendency to pulmonary hemorrhage does not in itself furnish an indication for or against a particular variety of climate. He is also unable to find evidence that cases of phthisis with albuminuria or marked diabetes should be kept away from high altitudes, but he thinks it would be generally unwise to send them far from home. For those who can not take advantage of change of climate, there should be a sanatorium close to their home.

Medical Record, New York.

March 21.

20 *The Present Status of the X-Ray Treatment of Malignant Tumors. William B. Coley.
21 *Sigmoidoproctectomy for Cancer of the Rectum. George W. Roberts.
22 A Case of Adenoids with Malaria. Walter F. Chappell.

20. The X-Ray in Malignant Disease.—Coley gives a general review of the *x*-ray treatment, reporting a number of cases. He says in conclusion:

> We find abundant evidence that the *x*-rays have an inhibitory action on all forms of malignant tumors. Yet, the number of cases is insufficient to enable us to state what particular varieties are most susceptible to this influence. So far it would seem that sarcomas primary in the lymph glands yield most readily to the treatment. Superficial epitheliomas might be placed in the same category. Several cases of recurrent carcinoma of the breast have been observed in which the growths have entirely disappeared after prolonged exposures of the *x*-rays. Yet all these cases have been too recent to be classed as cured. In fact, sufficient time has not yet elapsed in a single case of cancer treated with the *x*-ray to justify us in regarding it as cured. While this should, on the one hand, prevent us from reporting patients as cured in whom the tumors have merely disappeared under treatment, it should not, on the other hand, lead us to minimize the importance of these immediate results, even be they no more than a prolongation of life or an alleviation of suffering. One can not witness the marvelous melting away or disappearance of an undoubtedly malignant tumor under a few weeks' or months' treatment with the *x*-ray, without feeling that we have a new and powerful addition to our hitherto scanty means of attacking this disease. The knowledge of this new agent is so slight that there is added hope in our very ignorance. For, by deeper insight into its nature, gained by further experience, we may hope to better utilize its power, and thus accomplish greater results. In the meantime, while the *x*-ray has a legitimate place in the treatment of inoperable cancer, present data do not warrant us in advising the method in primary operable cases.

21. Sigmoidoproctectomy.—Roberts' article describes the technic in detail, for which the reader is referred to the original. He reports several cases.

American Medicine, Philadelphia.

March 21.

23 *Excision of the Superior Maxillary Under Medullary Narcosis. A. W. Morton.
24 *On the Transportation of Cellular Emboli Through the Thoracic Duct into the Lungs. W. G. MacCallum.
25 *The Albumoses: Their Clinical Significance Viewed from a Modern Standpoint: Their Detection and Distinction from the Other Proteids Found in the Urine as a Means of Lowering the Death-Rate in Obscure Suppurative and Other Diseases. Thomas J. Yarrow, Jr.
26 *Influence of Marriage and Pregnancy on Diseases of the Heart. M. J. Backenstoe.
27 The Report of a Case of Malignant Edema. Isaac R. Trimble.
28 *Briefs on Physical Training. G. Frank Lydston.
29 Some Problems of Preventive Medicine. (Concluded.) Burnside Foster.
30 National Bureau of Medicines and Foods: For Pure and Honest Drugs, Chemicals and Foodstuffs. Philip M. Jones.

23. Spinal Anesthesia.—The case reported by Morton is of interest, as showing how high an operation may be performed under this method. The operation is the same and one of the illustrations is the same as was reported in THE JOURNAL of Nov. 8, 1902. He thinks the advantages of the method are that the anesthetizer is out of the way of the operator; avoidance of the danger of blood and secretions getting into the lungs and causing later pulmonary complications; the facts that heart disease or lung or kidney complications do not prevent it, and finally, that the shock is not so severe. He has used it in 929 cases; 76 were operations above the diaphragm, and many were similar operations to that reported.

24. Cellular Emboli in the Lungs from the Thoracic Duct.—MacCallum has not found any description of extensive affections of the lungs due to the cause suggested in this title, but reports a case, which he finds best explained in this way. He says we have here evidently to deal with multiple hemorrhagic infarctions of the lungs, produced by plugging of the branches of the pulmonary artery with masses of cells of the type of the lymphoid cells and larger mononuclear phagocytic cells. What is the origin? He suggests that this can be best explained by their being carried through the thoracic duct and into the subclavian vein. He thinks the study of such possibilities has not been made sufficiently thorough, though they seem to have some important bearings.

25. Albumoses.—Yarrow gives a lengthy article discussing the tests and clinical significance of albumoses in the urine. He thinks we have in them a very valuable aid in diagnosing concealed pus collections which has not been, to any great extent, taken advantage of, and illustrates his views by a number of brief reports of cases. He enumerates a number of conditions in which this examination might be of value. The recognition of the fact that pus is often present may relieve a situation of some of its danger and offer a chance for early operation. He is opposed, like Deaver, to placing absolute reliance on the presence or absence of leucocytes, and thinks the additional test is of some value.

26. Marriage and Heart Disease.—The question as to whether marriage should be advised in case of heart disease is noted by Backenstoe, who thinks we should study the degree of the disorder, especially if it is giving rise to cardiovascular symptoms, such as hemoptysis and dyspnea, and in these cases marriage should be advised against. The situation of the patient as regards occupation and environment should be taken into account, and the ability to keep quiet in case unfavorable symptoms make their appearance. If the conditions are all favorable there is no objection, but the condition of the heart should be carefully watched. All effort or fatigue should be avoided in case of pregnancy. He attributes considerable importance to the preventive action of a mixed milk diet, the milk being consumed at the rate of two quarts a day. He would not offer serious objection to marriage in the absence of cardiovascular symptoms of a certain gravity when the patient is willing to promise to follow this diet in case of pregnancy.

28. Physical Training.—The concluding article of Lydston reviews the more valuable forms of athletics. He thinks that

outdoor exercise is excellent, better than gymnasium practice, and the element of play should come into it as an essential. A person should have a thorough physical examination before undertaking practical athletics. The ideal form of outdoor exercise is boxing for men, and fencing is the ideal form of athletics for women. Wrestling, within proper bounds, is especially good, but it is hard to thus restrict it. Non-professional ball playing is good. Football, he thinks, is too brutal, especially as there is a chance of rowdyism. His conclusions are given that physical training is an important part of preventive and curative therapeutics, and should be taught in medical schools. Such departments of medicine as neurology and surgery, particularly orthopedic surgery, are especially enriched by a knowledge of physical training on the part of the physician. The aim should be to utilize the inherent physical capital of the individual and bring it up to the physiologic standard. Physical and intellectual development should go hand in hand. He thinks these would tend to reduce pauperism and crime if properly followed. Comparative measurements are not to be relied on. Specialism in muscle building is justified only in so far as it tends to bring up any given portion of the body to the relative proportions normal to the particular individual—to the normal symmetry. Occupation should be considered. The highly trained muscles are useless and perhaps injurious to those of sedentary occupation, and tend to muscle and visceral degeneration, and the tendency of certain individuals to become muscle and joint bound is a point which should be guarded against. The athletic habit should be guarded against, as well as athletic overstrain. The ideal system of muscle building is that which involves the least expenditure of time and the use of the least apparatus. Abdominal muscle development is the keynote of success. Of practical athletics the best forms are boxing, fencing and handball. All are best performed in the open air. Golf is admirable in this respect. The element of play, diversion of the mind and cheerful companionship is a *sine qua non* in obtaining the best results.

Boston Medical and Surgical Journal.

March 19.

31 An Account of Dr. Thaddeus MacCarty—A New England Country Doctor of Pre-Revolutionary Days. Edited by Burnside Foster.
32 *Lipoma Arborescens. Charles F. Painter and William G. Erving.
33 Suppuration of the Frontal Ethmoid, and Sphenoid Sinuses, with Brief Report of the Treatment of 237 Cases. (To be continued.) Edgar M. Holmes.

32. **Lipoma Arborescens.**—This disorder, consisting in fatty growths of the joints in connection with arthritis and tuberculosis, is described by Painter and Erving, who report seven cases. The clinical symptoms are those of a foreign body, and the authors think that in the absence of other evidence of tuberculosis it is reasonably certain that isolated villous hypertrophies without more symptoms of joint disease will not be found to be due to tuberculous infection in the cases they report. They briefly review the literature, remarking that while the condition has been noticed in pathologic works it has received very little attention in surgical text-books. The clinical picture is that of a more or less swollen joint without any signs of acute inflammation, and most commonly without even any excess of fluid. The growth sometimes produces pain; more often pain is absent, but there is often impairment of motion from locking of the joints. The tumors are attached to the synovial membrane by a pedicle, usually slender, consisting mainly of blood vessels in a mass of small round cells. In structure they vary from a soft, fatty to a tough, fibrous growth. They are very vascular, and after removal shrink to a great extent. The bulk of the mass consists, however, of normal adipose tissue, through which run bands of varying width of fibrous tissue. They adopt practically Stieda's conclusions that it is etiologically a chronic inflammatory condition of the joint. It is not a lipoma in the sense of being a new growth, but is merely a hypertrophy of normal pre-existing tissue, a hyperplasia and fatty degeneration to an extreme degree of pre-existing synovial tabs. Diagnosis is not certain in an unopened joint. Prognosis of spontaneous healing and recovery of joint function is unfavorable. They disagree, however, with Stieda's conclusions, in giving less importance to tuberculosis in the etiology.

Cincinnati Lancet-Clinic.

March 21.

34 Valedictory Address, Academy of Medicine of Cincinnati. A. B. Isham.
35 President's Address, Academy of Medicine of Cincinnati. Byron Stanton.
36 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

Medical Age, Detroit.

March 10.

37 *Treatment of Pneumonia. R. T. Morris.
38 Corneal Burns. E. M. Marbourg.
39 Nervous and Mental Phenomena of Arteriocapillary Fibrosis and Atheroma. J. E. Courtney.
40 Chloroform Anesthesia. E. T. Duke.

37. **Treatment of Pneumonia.**—Morris reviews the various treatments of the past and those recommended at present. He does not find that creosote bears out the praises that have been given it. More extended experiments should be conducted. Quinin has been advised and a very low mortality reported under its hypodermic use, but it should be further tried. Antipneumococcic serum has not met the full expectations, though many are hopeful of better results. Saline infusions are also similarly noticed. He advises to treat the patient and then the pneumonia incidentally. If the patient is strong and robust, depletion at the outset, calomel and soda, 5 grains each, followed by magnesium sulphate, morphin to relieve pain, pleasant surroundings, equable temperature with an abundance of pure air, dry cold to chest to relieve temperature, followed by the tepid bath, if necessary. Beginning on the second or third day concentrated nourishment every three hours, day and night. Strychnin, digitalis and whisky if heart shows any indication of weakness, and if collapse is imminent, hot applications and saline infusions. If the patient is of low resisting power, do not deplete, but support and nourish from the commencement. If the patient is accustomed to drink, continue it in increasing dose. He thinks that following such a course one has done all that our present knowledge warrants.

Brooklyn Medical Journal.

March.

41 *Epidemic Parotitis with Metastasis to the Female Genitalia; with Report of a Case. George McNaughton.
42 Raw Cow's Milk in Infant Feeding. Elias H. Bartley.
43 *Diagnosis of Primary Syphilis. G. Morgan Muren.
44 Some Considerations on Intra-Pelvic Infection, with Reference to Rational Treatment. Walter B. Chase.
45 Regional Tuberculosis. F. E. Lambert.

41. **Metastasis to the Female Genitalia.**—Summing up the literature, McNaughton finds that the localization of the disease in the region of the ovaries in mumps is more frequent than is generally supposed. The fact that the complication is observed less frequently in girls than in boys is due to the lesser accessibility of the parts. He reports a case.

43. **Diagnosis of Primary Syphilis.**—Muren reviews the theories of authors as regards the propriety of early treatment of syphilis, finding that the great majority, in fact, all but one leading American syphilographer, believe in the advisability of delay of syphilitic treatment until secondary symptoms have appeared.

Medicine, Detroit.

March.

46 *The Prognosis in Pneumonia. J. M. French.
47 *Method of Stamping Out Yellow Fever Suggested Since 1899. Carlos J. Finlay.
48 The Diagnosis of Chronic Interstitial Nephritis Based upon Physical Signs, Chiefly Cardiovascular. Charles L. Mix.
49 Bacillus Coli Communis. Veranus A. Moore.
50 Report of a Case of Disarticulation of the Hip for Sarcoma of Femur, with Remarks upon the Diagnosis and Prognosis in Sarcoma of the Femur. A. E. Halstead.
51 A Case of Hypertrophic Cirrhosis of the Liver, with Splenomegaly in a Young Man. Augustus A. Eshner.

46. **Prognosis in Pneumonia.**—French first notices the increase of pneumonia, its significance, if any, and the reduction of its mortality. He emphasizes the prognostic elements as, first, age, which he finds is well known, advanced years influencing mortality. As regards catarrhal pneumonia, the rule of Ziemssen that the danger increases in proportion to the youth still holds good. As regards sex, he thinks statistics show, if anything, a rather greater mortality among women, though the number of cases occurring is much less. Habits and consti-

tution have much to do with it. The percentage of deaths is large among alcoholics and degenerates. Pregnancy adds to the danger, as well as heart disease. Traumatic pneumonias are very fatal. Fleshy people suffer more than thin ones. The amount of lung tissue involved also influences mortality, the danger increasing with the amount. The upper lobes are somewhat more dangerous than the lower. The involvement of both lungs makes the prognosis more serious. Of the various complications, heart disease as well as meningitis is almost always fatal. Affections of the kidneys are dangerous. Catarrhal or capillary bronchitis is always a dangerous complication. Something is said also as regards the severity of the epidemic, which is emphasized by Osler, who considers the toxemia the most important element in the disorder. Of the individual, symptoms most reliance is to be placed on the pulse. A pulse in the adult of over 120 or in children of over 140, is of grave significance, according to Quain. Marked irregularity in force or rhythm, especially in the young, is a bad sign. The table given by Sears and Larrabee seems to illustrate the law that the mortality in pneumonia is in direct ratio to the frequency of the pulse. The line of average mortality seems to be drawn at a pulse rate of 130. Below that the mortality is less than the average of 35.9; above it is higher than the average. The variations in respiratory rate follow much the same law, though the importance of respiration is much less than that of the pulse. The importance of temperature as a prognostic element is generally recognized as second only to that of the pulse, but it does not follow the same laws, according to Sears and Larrabee's figures. It seems to show a steady decrease of mortality corresponding to a rise of temperature up to 105, after which the mortality again rises, increasing with the temperature. That the mortality should be so great below 100 would be more remarkable if the number of cases were larger. The line of comparative safety would seem to be between 103 and 105, with the danger increasing above and below these figures. As regards treatment, there seems little from their studies that is encouraging, and they conclude that pneumonia is uninfluenced by treatment. French, however, is disinclined to accept this conclusion, and hopes the time will soon come when treatment will be universally admitted to be an important element in the prognosis of pneumonia.

47. Yellow Fever.—Finlay claims that he had pointed out the principal facts in regard to yellow fever from his clinical observations, that were subsequently determined by the yellow fever commission, differing only slightly. He thinks his right of priority has been tacitly denied by the Army board, their work only verifying the conclusions he had already reached and the results which have been so brilliant were those he had already pointed out as being probable.

Archives of Pediatrics, New York.
March.

52 *An Analysis of Twenty-six Cases of Mongolism. John Muir.
53 A Case of Autointoxication, with Neutral Magnesium Phosphate in the Urine. Charles G. Jennings.
54 *Clinical Observations on Circulatory Failure in Acute Infectious Disease. Augustus Caillé.
55 Sudden Death of an Infant Six Months Old Due to Compression of Large Blood Vessels by an Enlarged Thymus Gland. Augustus Caillé.
56 Amygdalitis Followed by Appendicitis, Nephritis and Endo-Carditis. E. W. Mitchell.
57 A Key to the Home Modification of Bottled Milk. J. F. Connors.
58 Report of a Case of Tetany. T. J. Elterich.

52. Mongolian Idiocy.—Muir has investigated 26 cases and discusses the condition generally. He found a history of drunkenness in 4 cases of his 26; 4 cases with either a family history of insanity or eccentricity; in 3 the father was violent in temper; in 1 the father was a suicide; in 4 the mother was a neurotic and excitable; in 3 cases there were twins or triplets in the family; in 3 the intra-uterine movements were hardly felt; in 3 the mongol was premature; in 1 a previous child was anencephalous; in 8 the labor was prolonged or complicated; and in about one-half the cases a statement of fright or worry was reported. Only 38 per cent. of the cases had tuberculosis in the parents and only 3 had syphilis. In 15 cases the mother had bad health during pregnancy. Fifteen were males and 11 females. He describes the symptoms, appearances, and the data as to physical development of the patients. Fourteen of the cases were idiocy of the low grade, 4 medium, and 7 of a high grade. Speech came late. The best-educated one knew his own name, could spell "Monday," and knew the year and month, knew all the figures and some of the letters. The prognosis seems bad in these cases. Treatment has been of no avail and thyroid treatment was useless.

54. Circulatory Failure.—This is a brief preliminary report dealing with circulatory failure from direct loss of blood, shock, loss of blood and sepsis combined, and sepsis in acute infectious disease. In shock and hemorrhage it would appear that saline infusions and also hypodermoclysis can be promptly and safely used. The infusion has an immediate effect and the hypodermoclysis improves the circulation in five to ten minutes. Both are more rapid in effect than drugs and apparently increase the effects of the drugs given. It is safe to continue with the saline until the pulse is of good quality, and then to stop it. From a study of septic cases treated by saline infusion it seems that it would be safe to reserve this for septic cases where there has been decided loss of body fluids, as in severe choleraic or typhoid diarrhea. In cases of sepsis without loss of body fluids and with an imperceptible pulse and rapid respiration and a very rapid thumping of an undilated heart, saline infusions and hypodermoclysis may be warranted, but should never be employed in a routine way or when the heart's action is hampered by pericardial effusion. Seven of the 8 septic cases—the basis of this report—were looked on as hopeless and the ultimate recovery of 4 out of the 8 was in every way satisfactory, considering the gravity of the cases. Enteroclysis properly carried out with Kemp's flexible double current catheter, fifteen minutes' flow of water at 110 F., seems to be an absolutely safe method of combating circulatory failure in sepsis. It stimulates the kidneys, eliminates poisons, induces intestinal absorption of water when the body craves for it, reduces temperature to a certain degree and seems to be indicated as a routine treatment in all septic conditions, even if the kidneys are unimpaired. In severe anemia, Caillé has found that enteroclysis is followed by an actual improvement of the blood mixture, independent of the administration of drugs. In conclusion, he emphasizes that circulatory failure is not always heart failure, and more attention should be given to this fact. Enteroclysis properly carried out should be universally adopted in the practice of medicine as a therapeutic measure of undoubted value when increased elimination through the kidneys is desired, as in all forms of infective disease and in faulty metabolism generally. It may also be given in connection with medicines.

Journal of Nervous and Mental Disease, New York.
March.

59 *Report of Two Cases of Bullet Injuries to the Left Lateral Half of the Upper Portion of the Spinal Cord. J. T. Eskridge and Edmund J. A. Rogers.
60 *A Study of Sensations in Motor Paralysis of Cerebral Origin, Based upon Thirty-five Cases. Alfred Gordon.
61 Report of a Case of Mamillai Tremor of the Head. John K. Mitchell.

59. Bullet Wound of the Spinal Cord.—Two cases of gunshot wound of the upper left lateral half of the spinal cord are reported by Eskridge and Rogers. The direct cerebellar and the crossed pyramidal tracts were cut across in both, but the extensive inflammatory softening and the hemorrhagic infiltration came on early and the rapidly fatal termination prevented the valuable data as to localization which was desired. Still some interesting points were noted suggesting that there are fibers in the cervical region of the spinal cord that aid in elevating the upper lid of the eye of the same side, and in modifying the size of the pupil of the opposite side. These results are opposed to what has been found by experiments, but the conditions are somewhat different.

60. Sensations in Motor Paralysis.—Thirty-five cases of hemiplegia have been studied by Gordon, with special reference to sensory disturbance and their cerebral localization. He finds that in all the cases there was more or less sensory involvement. The order in which the sensory involvement was most frequently observed is summarized as follows:

Touch—upper limb, trunk, lower limb, face. Pain—upper limb, trunk, lower limb, face. Temperature—upper limb, lower limb, trunk, face. The stereognostic sense was disturbed in 29 cases out of 35. In 22 the loss was complete. The greater the involvement of the other sensations the more marked the astereognosis, which he thinks favors the conception of the stereognostic sense as depending on integrity of the three cardinal sensations. Paresthesia was present in only 12 cases. The special senses were involved only in 11. The longer the date of motor paralysis, the less the sensory disturbance He is forced to the conclusion that hemisensory disturbances probably always accompany motor paralysis of cerebral origin, no matter to what extent the latter is marked; paralytic or even only paretic symptoms will at the same time show sensory symptoms. The method and persistence of investigation will determine this fact.

American Gynecology, New York.

February.

62 Study of the Cadaver of a Woman Who Died in the Sixth Month of Pregnancy. J. Clarence Webster.
63 The Technic of Vaginal Hysterectomy in Cases of Pelvic Inflammation. William R. Pryor.
64 *Hysterectomy in Puerperal Septic Infection. Charles Jewett.
65 *Hydrops Tubæ Profluens. Henry D. Ingraham.
66 *Version or Forceps, Which? S. Marx.

64. **Puerperal Sepsis.**—In this paper Jewett tabulates all the material that he has been able to obtain in regard to the effects of hysterectomy in childbed sepsis and finds a total of 116 operations. In 4 the result was not stated; of the remaining 112, 59 resulted successfully, that is, 52 per cent. In 34 operations after term labor, there were 17 recoveries, 50 per cent., and in 28 after septic abortion there were 11 recoveries, or 39.2 per cent. In 25 cases in which no extrauterine structures were involved, 19 were saved, 76 per cent. Of 12 patients in whom peritonitis was found at operation, 2 or 16.6 per cent. recovered; in 12 cases where bacteriologic examinations were made, streptococci were found. In 17 cases operated on the first week after delivery, there were 64.7 per cent. of recoveries. Seventeen operations during the second week gave 52.9 per cent. of recoveries. In 54 abdominal hysterectomies there were 27 recoveries, or 50 per cent.; and in 29 vaginal operations there were 14 successful results, 48.8 per cent. In 3 cases of supravaginal amputation with extraperitoneal treatment of the stump, all the patients recovered. No instance of recovery appears where there was a clearly-established diffuse peritonitis. The experiences presented justify the conclusion that while hysterectomy is very seldom demanded in the treatment of puerperal septic infection, the operation can not be wholly rejected. In rare instances it is clearly indicated. He gives a table of cases.

65. **Hydrops Tubae Profluens.**—Two cases are reported by Ingraham, one due to hemorrhage in childbirth, and the other probably too long-continued constipation. In the first case there has not been any relief. In the second, relief of the constipation caused relief of the symptoms, which recurred when the condition of the bowels was neglected.

66. **Version or Forceps.**—Marx favors the use of version in preference to forceps and would not sanction the application of forceps to the head above the brim, except when rupture of the uterus exists or is impending, or when we are dealing with a tetanized organ from which the waters have long escaped.

Illinois Medical Journal, Springfield.

March.

67 The Management of Our Charity Hospitals. Denslow Lewis.
68 The Care of the Perineum During Labor and the Puerperium, Based on a Study of 514 Cases. Effa V. Davis.
69 *Treatment of Septic Conditions of the Uterus. M. S. Marcy.
70 Fracture of the Femur and Its Treatment. W. A. Kuflewski.
71 What Cures? B. B. Griffith.
72 The Work of the State Board of Health. Warwick A. Shaw.
73 The Heart and Life Insurance. J. C. Sullivan.

69. **Septic Uterus.**—Marcy recommends in a case of actual abortion the leaving alone of the placenta if it is not detached or can not be detached as a whole. Examine the patient at least twice every day as to temperature. If there is a slight rise or if we can not see the patient often, then a clean fountain syringe with a sterilized glass uterine tube attached, pouring in one-half pint of hydrogen dioxid, diluted with one-third sterile warm water, allowing it to flow while introducing the tube into the uterus to prevent air entering the uterus is recommended. The os must be sufficiently open to allow the free escaps of the fluid. There should also be ready a pitcher of hot sterile water in which has been dissolved a few tablets of potassium permanganate with which to continue the douche, repeating this procedure as often as necessary. He claims that this method will be satisfactory, and says it bleaches septic debris in the uterus and renders it odorless and harmless, without doing violence to the uterus itself. In the discussion following the plan was criticised by Dr. C. B. Reed.

Archives of Otology, New Rochelle, N. Y.

February.

74 *A Brief History of Bacteriological Examinations in Suppurative Otitis Media, with Remarks upon the Relative Virulence of the Various Micro-organisms. Wendell C. Phillips.
75 *The Treatment of Acute Otitis Media. F. Bezold.

74. **Otitis Media.**—Over twenty different micro-organisms are noted by Phillips as having been observed in otitis media. The most virulent are the streptococci. Next to them he considers the diplococcus intercellularis meningitidis. The pneumococcus is frequently found, but is not to be considered especially virulent. It is probably more frequently present in purulent otitis media than any of the others.

75. **Treatment of Acute Otitis Media.**—Bezold notices several points in regard to the treatment. He insists on determination of the site of the perforation which, in his experience, was most frequent in the upper and lower posterior quadrants. He has never observed an acute perforation in the Shrapnell membrane. Multiple perforations or a marginal one, indicate tuberculous infection. He comments on the anatomic peculiarities of the pneumatic cells as affecting the duration of the disease. They differ in size and number in different cases. In ordinary tubal occlusion, if the serum is not mechanically removed and brought to absorption by the repeated use of the Politzer bag, he would practice paracentesis in the lower posterior quadrant of the ear-drum, preceding it by mechanical cleansing of the ear and irrigation with a 5 per cent. carbolic solution. The serum which exudes is removed with cotton tips, and if the remainder is not forced into the meatus by the air-bag, he would use an external air douche to force it into the nasopharynx. In ordinary acute otitis media he would operate by paracentesis and use the air douche and inflate a small quantity of boric acid powder. He considers a careful drying of the canal by dipping out the discharge with cotton tips to be very important. If acute middle-ear suppuration lasts more than two months and there are complications present which will prevent its spontaneous cure, he does not hesitate to proceed to operation, especially if pain or swelling are present below the mastoid. He objects particularly to irrigation through the catheter and to the packing of the ear canal, the so-called dry method.

Journal of the Michigan State Medical Society, Detroit.

March.

76 *The Sanatorium Treatment of Phthisis Pulmonalis. E. L. Shurly.
77 *The Nature and Treatment of Epilepsy. Herman Ostrander.
78 *Some Unsettled Points in the Consideration of Typhoid Fever. Homer E. Safford.
79 Some Points in the Differential Diagnosis of Cancer of the Stomach. Collins H. Johnston.
80 Auto-intoxication as a Cause of Gingivitis. J. C. Maxwell.

76. **Tuberculosis.**—Shurly advocates the sanatorium treatment of tuberculosis in some advanced cases, though the home treatment he considers is preferable, especially with salubrious environments, for children and young adolescents, as also among the educated well-to-do class of people during the early stages of chronic pulmonary disease. When septic poisoning has occurred, however, greater relief may be expected from sanatorium life and discipline. He thinks it would be well for general hospitals to have an annex properly built for the accommodation of these cases. He deprecates the panicky feeling about its contagion and thinks that possibly the prevalence of the disease is overestimated.

77. **Epilepsy.**—Ostrander holds that the prevalence of epilepsy may be diminished by greater attention on the part of physicians to the remote causes, especially the nutrition of children

in early life, which he thinks has much to do with the degeneration of their nervous system and in the production of later epilepsy. He also objects to the use of nerve sedatives or powerful drugs to prevent or abort convulsions. It is not always advisable to do this. The proper treatment may be summed up as régime and discipline, and since these can not always be controlled at home the colony treatment is the ideal one for a large class of these unfortunates.

78. **Typhoid Fever.**—Safford reviews certain points in typhoid fever, the diet which he finds of late years has come to be more liberal, at least according to the recommendation of certain authorities As regards the baths, he thinks the opponents and adherents of the Brand method are compromising on the tepid bath, though in cases of hyperexia the case may be a little different. The mere lowering of temperature, however, is not considered as important as formerly. Intestinal antisepsis is also mentioned. He thinks in using means for this, we should take special care as to the condition of the kidneys. The various reactions, the diazo and Widal reactions are noticed. The former may be of value in the diagnosis and prognosis. Its late appearance and persistence would indicate acute tuberculosis. The reappearance of the reaction after its disappearance for a time may help to determine the question of relapse as distinguished from the fever of complications. Its occurrence in other diseases, of course, is not to be forgotten, and is responsible for the neglect into which it has fallen. The Widal reaction is less questioned of late, but still it is not absolutely reliable, and often appears but late. If its limitations are recognized it may be used with advantage. In conclusion he calls attention to the elimination of bacteria through the urine as a possible cause of the continued danger of infection, and the question of typhomalarial fever, which he holds does not exist.

Dominion Medical Monthly, Toronto.

March.

81 *The Identity of Human and Avian Diphtheria. F. C. Harrison.
82 Report of a Case of Acute Leukemia. W. B. Thistle.
83 A Case of Hemorrhage from Stomach and Bowels Complicating Chronic Bright's Disease. W. T. Gemmell.

81. **Non-Identity of Human and Avian Diphtheria.**—After first noticing the experimental work of others, Harrison gives his own experiments, in which he inoculated fowls suffering from roup with diphtheria antitoxin without effect, and also healthy fowls with cultures of the Klebs-Loeffler bacillus, which were similarly ineffective. He also finds that he did not infect rabbits and guinea-pigs with false membrane taken from birds, and he has kept rabbits and guinea-pigs in cages with diseased hens and they have never taken the disease. He also finds that the structure of diphtheria membrane in man and fowl is quite different. In the former it consists of necrosed epithelial cells and inflammation of underlying connective tissue with abundant fibrous exudation. In fowls, however, it is entirely composed of pus cells, some small masses, and débris of epithelial cells and bacteria; micro-organisms which stain by the Gram method were seldom found. Attempts were made to increase the virulence of the hen diphtheria micro-organism, which he calls the *Bacillus cacosmus*, with success, producing roup in the hen at pleasure by inoculation from roupy pigeons. He finds also that the same disease can be produced in healthy hens by the use of the *Bacillus pyocyaneus*.

Alabama Medical Journal, Birmingham.

March.

84 Annual Report of County Health Officer. J. M. Mason.
85 Puerperal Infection. T. A. Casey.
86 *The Heroin Habit Another Curse. Geo. E. Pettey.
87 Dr. W. E. B. Davis, as a Man, as a Citizen, as a Physician, as a Surgeon, and as a Friend. R. M. Cunningham.
88 *Coughs and Their Treatment. Alex. De Soto and C. W. Crimpton.
89 The Modern Hospital. J. H. Phillips.

86. **The Heroin Habit.**—The published statements that heroin does not cause the habit of using it are contradicted by Pettey, who reports cases of heroin addiction. Out of the last series of 150 drug-habit cases coming under his care, 8 had been addicted to the use of heroin, 3 were initial habits, the patients not having been before addicted to any drug. He finds the same difficulty in breaking off the habit that we have in morphin. In his experience, it differs from morphin in having less of the primary stimulating effect, being more prompt and certain as a hypnotic, and less powerful and prompt as a pain reliever. It does not so greatly impair digestion or assimilation or interfere with secretion and excretion, but it does cause constipation and interfere to a hurtful degree with the nutritive function, and its prolonged administration is liable to produce the opium habit.

88.—This article has appeared elsewhere. See THE JOURNAL of February 14, title 41, p. 470.

American Practitioner and News, Louisville.

December 15, 1902.

90 The Most Practical Organization for the Medical Department of the United States Army in Active Service. (Concluded.) Thomas P. Grant.
91 Psychology as an Adjunct in the Treatment of Disease. L. J. Jones.
92 Causes of Blindness in Kentucky: From a Study of the Eyes of the Pupils of the Kentucky Institution for the Education of the Blind. W. O. Bailey.

Medical Standard, Chicago.

March.

93 Three Cases of Hip Disease Illustrating Different Stages. John L. Porter.
94 The X-Ray in the Treatment of Deeply Located Malignant Growths. Clarence E. Skinner.
95 Commoner Diseases of the Eye. C. A. Wood & T. A. Woodruff.
96 Active Principles of Plants. Albert D. Thorburn.
97 Practical Dietetics. A. L. Benedict.
98 Pain and Its Indications. E. C. Hill.

Northwestern Lancet, Minneapolis.

March 1.

99 Switzerland as a Medical Center. G. R. Curran.
100 Influenza and Its Relation to Motor Paralysis. H. K. Read.
101 Tuberculosis. H. M. Bracken.

March 15.

102 Retropharyngeal Abscess in Infants, with Report of Cases. W. T. Adams.
103 Retropharyngeal Abscess—Two Cases. Edward J. Brown.
104 Treatment of Typhoid Fever. H. L. Staples.
105 The Symptoms of Acute Miliary Tuberculosis of the Lungs, with Report of a Case. Geo. Douglas Head.

Atlanta Journal-Record of Medicine.

March.

106 Physical Training in the Public Schools of Atlanta. Theodore Toepel.
107 The Mechanics of Mercury in Syphilis. Thomas W. Murrell.
108 Observations on Tertian and Quotidian Malarial Fevers. S. D. Kolozsvary.
109 Chloroform as a Surgical Anesthetic, and Its Administration. F. Manfred Call.
110 A Brief Study of Flat-Foot. Michael Hoke.

Chicago Medical Recorder.

March 15.

111 The Illegitimate Child in Chicago. Hastings H. Hart.
112 A System for the Surgical Treatment of Hare-Lip and Cleft Palate. Geo. V. L. Brown.
113 The Tuning Fork and Stethoscope in the Diagnosis of Fractures. Albert H. Andrews.
114 Notes on Three Hundred Consecutive Anesthesias. D. H. Galloway.
115 An Interesting Case of Syphilis. Max Reichmann.

Denver Medical Times.

March.

116 Alkaloids in the Treatment of Fevers. S. B. Miller.
117 The New Surgical Treatment for Glaucoma. Henry LaMotte.
118 Removal of the Superior Cervical Sympathetic Ganglion for Glaucoma, with Report of a Case. A. A. Kerr.
119 Operation for Chronic Osteomyelitis in a patient with a Constitutional Dyscrasia. E. S. Wright.
120 A Case of Delayed Eruption of Syphilis, Following Abortion and Resembling Smallpox. Geo. A. Moleen.

New York State Journal of Medicine, New York City.

March.

121 Hernia. S. W. S. Toms.
122 Proprietary Remedies. N. B. Bayley.
123 On Unscientific and Careless Prescribing, Secret and Proprietary Remedies. Harry R. Purdy.
124 New Devices for the Treatment of Stricture of the Esophagus. Theodore Dunham.
125 Treatment of Pneumonia. J. W. Grosvenor.

Oklahoma Medical News-Journal, Oklahoma City.

March.

126 Three Cases of Congenital Single (Unsymmetrical) Kidney, with Remarks. Ramon Guiteras.
127 Acute Appendicitis and Its Treatment. (Concluded.) John B. Deaver.
128 Plastic Surgery in Ophthalmology. Flavel B. Tiffany.
129 Report of Extrauterine Pregnancy—Two Cases of Appendicitis—Pregnancy Complicating Cyst. G. C. Perdue.
130 Malarial Fever. L. W. Palmer.

St. Louis Courier of Medicine.
March.

131 Pelvic Tumors Complicating Parturition. Henry Schwarz.
132 Typhoid Fever vs. General Miliary Tuberculosis. E. W. Cannady.
133 Hypodermatic Injections of Quinin in Malaria. John A. Collins.
134 Severe Headache and Other Nervous Symptoms Relieved by Correcting an Error of Refraction. J. E. Jennings.
135 Hematemesis in the Newly-Born Treated by Adrenalin Chlorid. Spontaneous Reduction of an Intussusception. George M. Tuttle.
136 Preventive Medicine. (To be continued.) B. F. Hart.

Medical Summary, Philadelphia.
March.

137 The Physician's Whole Duty in Cases of Appendicitis. J. R. Clemens.
138 The Morphin Habit as a Psychic Disease. C. E. Pattersen.
139 Disease and Old Age. J. L. Wolfe.
140 A Collection of Driftwood from the River of Time. Wm. Hooker Vail.
141 Masturbation. J. A. Burnett.
142 Hour-Glass Contractions with Adherent Placenta. S. S. Turner.
143 Compound Fracture of the Bones of the Hand and Foot. Thomas H. Manley.

Medical Bulletin, Philadelphia.
March.

144 Locomotor Ataxia. John V. Shoemaker.
145 Some Thoughts on Iron Therapeutics. J. C. Hill.
146 Report of Four Cases of Typhoid Fever Treated with Acetozone. Joseph V. Antill.
147 Renal Dropsy. S. C. Reisman.
148 Migraine Tablet Poisoning: A Medicolegal Matter. John A. Cutter and Dallas Flannagan.

Medical Mirror, St. Louis.
March.

149 The Proposed Surgery of Bright's Disease. Jacob Block.

Texas Medical Journal, Austin.
March.

150 Infectious Endometritis. J. W. Kennedy.
151 Remarks on the Tractus Intestinalis. Byron Robinson.
152 Puerperal Eclampsia. E. B. Parsons.
153 Delayed Union of Fractures, with Report of Three Cases. J. C. Andrews.
154 Sterility in the Female and Its Curability. S. L. Kistler.

Medical and Surgical Monitor, Indianapolis.
March 15.

155 Foul Breath. John F. Barnhill.
156 Some Elements to be Considered in Urinalysis—Phenomena of the Secretion and Excretion—Sediments, Their Tests and Method of Identification. (To be continued.) J. W. Crismond.
157 Puerperal Eclampsia and Its Treatment. I. B. Washburn.
158 Old Things Become New. G. W. H. Kemper.

Virginia Medical Semi-Monthly, Richmond.
March 13.

159 Cornual Pregnancy, with Report of a Case. Stuart McGuire.
160 The X-Ray Treatment of Cancer: Report of Cases. Thomas A. Groover.
161 Some Theories as to the Causation of Cancer. Greer Baughman.
162 Diagnosis of Cutaneous Cancers. F. H. Beadles.
163 X-Rays in the Treatment of Superficial Cancers. Alfred L. Gray.
164 Case of Leukemia—A Clinical Lecture. William Osler.
165 Pulmonary Tuberculosis—Means of Early Diagnosis—Treatment. O. F. Blankingship.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
March 14.

1 *The Diagnosis of Pulmonary Tuberculosis. C. Theodore Williams.
2 *The Nature of the Infectivity of Phthisis: A Study of the Views of Koch, Flugge and Others. Alfred Hilller.
3 *Human and Bovine Tuberculosis: The Possibility of Human Infection from Cattle. Nathan Raw.
4 *Phthisis and House Infection. J. R. Johnson.
5 *The Dietetic Treatment of Pulmonary Tuberculosis from the Point of View of Its Hematology and Histopathology. J. J. Galbraith.
6 *The Sanatorium Treatment of Pulmonary Tuberculosis, with Especial Reference to Nordrach Methods. Peverell S. Hichens.
7 Sanatoria Plus Homes for Consumption. W. Rushton Parker.

1. Tuberculosis.—Williams first notices the pathology and calls attention to the defenses of the air passages to protect the lungs, the tonsils, larynx, nose, especially the trachea, and to a certain extent the primary bronchi. The last two have three layers of epithelium which have to be penetrated, the top one armed with cilia, producing a strong current outwards, thus preventing the tubercle bacilli from descending. The amount of germs that must be inhaled is very great, and yet we note that comparatively few of those who inhale them suffer from pulmonary tuberculosis. He notes in this connection the well-known experience at the Brompton Hospital. The chief causes of tuberculosis, however, are two: 1. Impure air; 2, lack of proper food Frequently deprivation or starvation is the starting point of a tuberculous infection. He gives a striking instance of this in a man who had his esophagus injured by sulphuric acid, embarrassing swallowing. When death occurred, as it did shortly, his lungs were found filled with tubercles. Special conditions that favor tuberculosis are noticed, such as ossification of ribs, noted by Freund, and pleurisy. Why the apices are first involved is probably due to a certain amount of obstruction and stagnation in the upper lobes. The first place where a tubercle lesion is likely to be found is near the upper lobe about one and a half inches below the posterior apex in the superscapular region. Thence it spreads by continuity, by the lymph, by the circulation (which is the most serious and rapid method and the one which occurs when the meninges are infected) and lastly by re-inhalation of sputum. The points of diagnosis are mentioned, history, physical signs, sputum examination, diagnosis of pneumonia and of bronchitis, which in cases of catarrhal infections is sometimes difficult. As regards typhoid fever, this has more bearing in acute tuberculosis than on the ordinary form.

2. The Infectivity of Phthisis.—Hillier notices the different methods of the infectivity of phthisis, the chief one being the inhalation of sputum, and offers the following conclusions from the evidence he has adduced:

I hold it conclusively established that both dried tuberculous sputum dust and the minute drops coughed out by the consumptive are capable of conveying the infection. The precise proportion which each factor plays in this infection it is difficult to estimate, but there are two points in connection with the cough infection which, I think, are of special importance.

In the first place, the minute cough-sprayed drop which contains a tubercle bacillus probably in the majority of instances contains that bacillus in a condition of a high degree of virulence. The bacillus contained in the minute sprayed drop comes straight from its natural soil, and is probably more potent as an agent of infection than that contained in the dust particle which has been exposed to desiccation, and in the majority of instances to some degree of light.

Secondly, those sprayed drops which fall to the ground, or are deposited elsewhere, although they may not carry with them a large number of bacilli, nevertheless deposit such bacilli as they do carry, under conditions which ensure their rapid desiccation and formation into the smallest particles of dust. These minute drops thus add their quota of bacilli to that quantity of minute dust which alone is capable of inhalation.

With reference to the extent of the infectivity of phthisis, while I hold it to be an infective disease, I do not consider that the degree of this infectivity is a high one. But as against this we must set the fact that phthisis is a chronic disease, and that the chance of conveying the disease often extends over years.

Of those exposed to infection for brief periods only a very small minority are infected. Of those exposed for days, weeks, even months in a small confined atmosphere many escape. Why many escape and others do not escape, has not yet been scientifically demonstrated. But this we know, that be the causes of apparent immunity what they may, no person can develop tuberculosis who is not exposed to the possibility of invasion by the tubercle bacillus.

3. Human and Bovine Tuberculosis.—We have already given Raw's views in The Journal of February 28, '99, p. 609.

4. Phthisis and House Infection.—Johnson analyzes a number of cases of tuberculosis occurring in old houses in Richmond. He finds, out of 11, 6 arose in old ill-ventilated, narrow-windowed, sunless or dusty houses; 2 arose in houses known to be tenanted by persons suffering from phthisis; 2 were imported cases living in old houses in which the disease was rapidly accelerated; one is an imported case residing in a modern house. In not a single instance does the disease arise *de novo* in modern, decently-kept houses. It is bad building and bad management that make tuberculous houses. The modern, well-cleansed house, he says, offers no risks whatever.

5. Diet in Tuberculosis.—Tuberculosis is characterized by generally widespread toxic changes. The tissues in this condition are not capable of elaborating food stuffs satisfactorily. One advantage of the meat diet in addition to its directly curative effect is that it supplies organically combined iron and renders the administration of other organic hemetics unnecessary. A rational dietary in phthisis is not indiscriminate stuffing nor

indiscriminate lessening of food, but consists in furnishing a diet rich in the proper constituents. The special advantages of a meat diet in this relation is that, besides containing the nuclear bodies which have a directly stimulative action, it contains also proteids which have a high nutrient value. Sufficient fat and carbohydrates should be given to meet the physiologic needs and should be increased as metabolism and absorption improve, to the maximum which can be elaborated.

6. Sanatorium Treatment.—The Nordrach method is here discussed by Ilichens, who claims that it is the duty of the practitioner to cultivate his observations and diagnostic skill so as to recognize the earliest signs of tuberculosis and as soon as diagnosis is made put the patient on the most thorough open-air treatment that his circumstances will allow. If the patient is poor much can be done at home, keeping his windows wide open day and night, and being under an open shelter or in a chair in the garden with a sufficient and nourishing diet. If well-to-do the patients should be sent, if possible, to a sanatorium and the best plan would be to have one in the climate in which they have permanently to live. Even in the slightest cases a very long period should be devoted to treatment and rest from work. Even after an apparent cure there are many tubercular foci which are apt to be left. If more time can not be given even one or two months at a sanatorium will be a training, and after leaving the patient should live an open-air life for one or two years. If poor one must do the best we can for them by allowing them to take up some light occupation out of doors.

The Lancet, London.

March 14.

8 Some Points in the Anatomy and Pathology of the Vermiform Appendix. W. McAdam Eccles.
9 The Nature and Anatomy of Enteroptosis (Glenard's Disease). Arthur Keith.
10 *On the Problem of Glycosuria and Diabetes. W. Hale White.
11 *The Use of Salicylic Acid as a Preservative in Food. C. J. MacAlister and T. R. Bradshaw.
12 *Concerning Anti-streptococcic Serum and Its Use in Malignant Endocarditis. Cyril Ogle.
13 How to Prevent the Spread of Pellagra in Egypt. F. M. Sandwith.
14 *The Etiology of Sleeping Sickness. Aldo Castellani.
15 On Prolapsus Uteri, with Special Reference to an Operation for Reproduction of the Sacro-uterine Ligaments. E. Stanmore Bishop.

10. The Problems of Diabetes.—White notices a number of things which are required to complete our knowledge in regard to glycosuria and diabetes: 1. We must have some better methods of recognition of dextrose in the urine as easy as small amounts of albumin are discovered. We want to know something more about glycoronic acid and whether people that pass it later become glycosuric; the connection of exophthalmic goiter with glycosuria is another question. We want information about the occurrence of other sugars than dextrose in the urine. Very few if any observations have been made in England on pentosuria and the question is asked whether the passing of lactose in the urine may lead to diabetes or not. The more accurate use of the term diabetes is noted as desirable. We need to find out whether alimentary cases of glycosuria become real diabetes mellitus, and the fact that many diabetics can utilize levulose much better than dextrose is of interest. The question arises whether other sugars might not be utilized in this disease. Another point mentioned by White is the extraordinary fact that patients put on a strictly carbohydrate-free diet may, if a little carbohydrate is given, excrete far more sugar than has been given. We also want an explanation why sugar disappears when coma comes on and also why the body fails to utilize dextrose when it has not lost the general power to oxidize. Coma is a matter of great importance. There is considerable evidence that it is closely associated with oxybutyric acid, which is always abundantly present and the fact that coma is sometimes benefited by giving alkalies is suggestive of this. The origin of oxybutyric acid is also of interest. There are no special anatomic changes in the nerve centers or in the peripheral nervous system with diabetes, but the fact that the knee jerk is absent in 50 per cent. of diabetics is difficult to explain. As regards treatment, the author thinks that in many instances the dieting has been too strict. Many cases are not allowed enough fat, and he thinks that the use of a large amount of alkali is excellent in the treatment of coma.

11. Salicylic Acid and Food Preservatives.—MacAlister and Bradshaw have experimented on the effect of salicylic acid in food stuffs and find that it exerts about the same retarding influence on digestive processes as does kitchen salt. Its effect on nutrition can not be very well elucidated by laboratory experiments. The only practical method was to take it themselves and give it to others. One of them took a dose of five grains of the pure acid every day for a month without any ill-health following, and a smaller quantity given to children every day with their dinners did them no harm. It is a curious fact that insects do not appear to be harmed by taking salicylic acid dissolved to saturation in syrup. Kolbe, quoted by Binz, while directing attention to the strong antiseptic properties of the drug, says it is not poisonous to human beings and in proof of this took himself and gave to others from 1 to 1.5 grams a day and in some cases for nine months together without apparent injury. The objection that it is injurious to the mucous membrane on account of its acid quality alone can not be maintained. The argument is fallacious that any substance which has a deleterious action on one kind of protoplasm must act deleteriously on all kinds. Some micro-organisms require oxygen while others are killed by it. While the harmfulness or not of antiseptics is a matter of disagreement, authorities are agreed as to the harmfulness of food in decomposition, and we may be courting a greater evil by barring their use. They maintain that the use of salicylic acid enables the manufacturer to place on the market, wholesome, agreeable and inexpensive articles of food for persons who can not afford the more costly luxuries and which take the place of intoxicating drinks. They say this with due consideration and with, they trust, an adequate sense of responsibility.

12. Anti-Streptococcic Serum in Endocarditis.—From a study of the effects of antistreptococcic serum in endocarditis including two tabulated statements of organisms present before and after the use of the serum, Ogle says, that if any conclusion can be drawn, perhaps they will be:

1. That the gravest symptoms combined with streptococcic infection, even of the blood stream, are not incompatible with recovery if treated by injections of anti-streptococcic serum. 2. That this is true also in malignant endocarditis, but that here the chances are probably less favorable on account of the colony of micrococci involved in the vegetations in constant contact with the blood stream. 3. That in malignant endocarditis staphylococci are frequent, or a mixed infection of staphylococci and streptococci. 4. That if an examination of the blood be negative it would be prudent, therefore, to use injections of anti-staphylococcic, together with anti-streptococcic serum.

14. The Etiology of Sleeping Sickness.—Castellani finds an organism in this disorder in the blood and the cerebrospinal fluid which he thinks a new variety of streptococci. While the streptococci are hard to differentiate, the cultivation on gelatin he thinks is sufficient to differentiate it from all others.

Australasian Medical Gazette, Sydney.

February 20.

16 Insanity in Its Relation to the Practitioner, the Patient, and the State. W. Beattie-Smith.
17 Typhoid in Hobart and Melbourne and the Influence of Drainage on Its Prevalence. James Jamieson.
18 The Spread of Typhoid Fever. Duncan Turner.
19 Pathogenesis and Prophylaxis of Typhoid Fever and Observations on Malaria in Northwest Australia. T. B. Belgrave.
20 Two Gynecological Cases. W. Throsby.
21 A Peculiar Bullet Wound. H. Cox.

Centralblatt f. Innere Medicin, Leipsic.

22 (XXIV, 1.) *Ueber das Zusammentreffen (coincidence) von Oxalurie und Indikanurie. W. von Moraczewski.
23 Green Plant Germs Growing in Stomach. A. Kühn.—Nachtrag zu der vorläufigen Mittheilung über "Das Vorkommen von grünen entwicklungsfähigen Pflanzenkeimen im Magen und deren diagnostische Bedeutung."
24 (No. 2.) *Zur Diagnose multipler Darm- (intestines) Stenosen. H. Schlesinger.
25 *Rückenmarks und Wurzel-Metameren (of spinal cord and roots) bei der Syringomyelie. L. Ferrannini.
26 (No. 3.) Zur Frage der Entgiftung (neutralization) von Strychnin. S. J. Meltzer and G. Langmann (New York). Experimental. Negative.
27 *Ueber syphilitische Beckenzellgewebsentzündung (inflammation of pelvic cellular tissue). M. Loeb.
28 (No. 4.) *Bemerkungen über Stauungsblutungen (extravasation from congestion), insbesondere infolge eines epileptischen Anfalles. K. Pichler.
29 (No. 5.) *Klinisches Phosphormeter. A. Jolles.

30 (No. 6.) *Ueber hereditäre, kongenitale Herzleiden (heart affections). L. Ferrannini.
31 (No. 7.) *Zur Diagnostik des Sanduhrmagens (hour-glass stomach). G. Rosenfeld.
32 *Zur Lehre vom milchigen (milky) Ascites. T. Christen.
33 (No. 8.) *Die Ether-Glykosurie und ihre Beeinflussung (and influence on it of) intravenöse Sauerstoff- (oxygen) Infusionen. A. Seelig.

22. **Coincidence of Oxaluria and Indicanuria.**—Moraczewski, at Carlsbad, has examined 439 persons to determine the frequency of this coincidence. He found that oxaluria accompanied indicanuria in 84.3 per cent. of the 376 cases in which the latter was noted, and in 100 per cent. of the 23 cases in which the indicanuria was extremely pronounced. Indicanuria was present in 74.2 per cent. of the 398 cases with evident oxaluria. In only 15 per cent. of the total number was oxaluria found without indican, while they coincided in 84 per cent. In only 10 per cent. was indican noted without oxaluria. The subjects were those with uric acid diathesis or oxaluria *sui generis*; or diabetics, the latter representing 23 per cent. of the total number. The digestion was apparently excellent in the majority. Altering the diet and administering alkalies modified both in the same proportion. The diet proposed by Rosin for oxaluria avoids spinach, cabbage, milk, eggs, tea and cocoa. Acid reaction is obtained with meat. This is supplemented by small doses of magnesia and copious drinking.

24. **Diagnosis of Multiple Stenosis of Intestines.**—Schlesinger reports the successful diagnosis of 4 cases of this condition. It was based on the repeated observation of the abrupt, visible erection of certain loops of intestines at a distance from each other, with no palpable rigid intestine between. The assumption of multiple stenosis is confirmed by the recurrence of these "huge snail shells pushing out the abdominal integument," at about the same place each time. Also by the subsidence of a protruding loop with borborygmi and rumbling noises. A history of syphilis or tuberculosis is an aid to the diagnosis. One of his patients had a stricture at twelve points, but recovered after "exclusion"—*Ausschaltung*—of 6.5 feet of the small intestine.

25. **Metameres in Syringomyelia.**—Ferrannini establishes by the findings in 2 cases which he describes that the sensory disturbances are of a type corresponding to the spinal cord or the roots according as the lesions are situated in the former or in the latter.

27. **Differentiation of Inflammation of Pelvic Cellular Tissue.**—Loeb reports a case diagnosed as an inoperable sarcoma which proved at the autopsy to be syphilitic gummata of the liver. Lancereaux has reported another of stenosis of the rectum in an anemic woman of 36, from compression by a mass adherent to the pelvic wall, assumed to be of malignant nature. There were no traces or history of syphilis, but the patient entirely recovered under potassium iodid, 3 gm. daily for two months.

28. **Extravasation from Congestion.**—A supposedly healthy young man awoke from an afternoon nap finding himself on the floor instead of the bed, and with his face, mouth and neck somewhat swollen and dotted with punctate hemorrhages, down to a red line around his neck. He had also urinated. The physician diagnosed the case as a first attack of epilepsy occurring during sleep, the congestion and swelling of the head aggravated by the neckband of his undershirt, loose under ordinary conditions.

29. **Phosphometer.**—Jolles has improved and simplified his apparatus for detecting phosphorus and phosphoric acid in the blood. The description is illustrated.

30. **Hereditary Heart Affections.**—Ferrannini remarks that in the history of certain families general dyscrasias, nervous affections, nutritional disorders, cardiac defects and vascular and morphologic anomalies appear before us as in a kaleidoscope, recurring in various combinations. He gives the history of one family for three generations, including 42 individuals. In 31 per cent. there was some cardiac affection, and only 7 per cent. were healthy. He attributes the inheritance of heart disease to an embryologic substratum in inherited insufficiency of the histogenetic power of the mesenchyma.

31. **Diagnosis of Hourglass Stomach.**—The usual signs of this condition may be lacking and yet it is possible to differentiate it as shown by the case described by Rosenfeld. The patient was a pale, thin man of 28. Functional tests showed HCl in abundance, but otherwise nothing abnormal in the stomach. There was no palpable constriction and the fluid contents of the stomach could be siphoned out with a soft sound. Radioscopy disclosed that the spiral metal sound rested in the usual curved line along the bottom of the stomach, but below it there was evidently a cavity, 8 cm. in height, casting a lighter shadow, and at its base could be seen the familiar lake of fluid contents. The sound could not be pushed down into this cavity until a soft sound was substituted. The history of the noises in the stomach during digestion and the occasional cramps harmonized with the assumption of hourglass stomach. The autopsy showed a marked constriction by a fibrous band, which filled up the groove it made.

32. **Milky Ascites.**—The milkiness can not be ascribed to lecithin as this may be found in the clear fluid as well, Christen finds, contrary to what some have asserted.

33. **Influence of Oxygen in Ether-Glycosuria.**—Seelig announces that in his tests on dogs, ether invariably induced glycosuria during the inhalation and also for three or four hours afterward. The proportion was 8 to 10 per cent. in the more vigorous animals. He also found that with the simultaneous intravenous infusion of oxygen, there was no glycosuria. He is now studying this interesting fact to determine whether the same measure will abolish or prevent glycosuria from other causes.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

34 (XXIX, 7.) Ueber die Priorität der Entdeckung (discovery) des Ruhr- (dysentery) Bacillus und der Serumtherapie bei der Dysenterie. K. Shiga.
35 *Tardy Brain Affections After Injuries of Skull. E. Stadelmann.—Ueber Späterkrankungen des Gehirns nach Schädeltraumen. (Commenced in No. 6.)
36 Ueber eine Stomacace-Epidemie während des südafrikanischen Krieges (during campaign in Southern Africa). J. C. J. de Haan.
37 Ueber einen weiteren Fall von Nebenwirkung des (by-effects of) Aspirins. Otto Meyer.
38 Eine neue automatische Spritze (syringe) für Infiltrations-Anesthesie und andere Zwecke. A. Strauss.
39 Shall the General Practitioner Get a Roentgen Apparatus? Discussion.
40 (No. 8.) Caustic Action of Soft Soap. A. Most.—Ueber Schmierseifenverätzung.
41 Ueber einen neuen Apparat für die Nachbehandlung der angeborenen Hüft- (for after-treatment of congen. hip-joint) Luxation. L. Heusner (Barmen).
42 *Experimentelles über subconjunctivale Injectionen. K. Wessely.
43 Are Boric Acid and Borax without Effect or Danger for the Organism? E. Rost.—Sind Borsäure und Borax wirkungs- und gefahrlos für den Organismus? (Commenced in No. 7.)
44 Medicinische Mittheilungen aus unseren westafrikanischen Kolonien. E. Joseph.
45 Campaign Against Charlatans.—Ein Wort zur Bekämpfung des Kurpfuscherthums.
46 History of the "Sweat Cure." W. Cohn.—Zur Geschichte der Schwitzkur.
47 (No. 9.) *Weiterer Beitrag zur Ursache (cause) und spezifische Heilung des Heufiebers (hay fever). Dunbar.
48 *Zur Physiologie der Ernährung (nutrition) des Foetus. J. Veit.
49 Beitrag zur conservativ-operativen Behandlung der veralteten (old) Inversio uteri puerperalis. A. Schulze-Veilinghausen.
50 *Ueber die diagnostische Verwerthung (utilization) des Alt-Tuberkulins bei der Keratitis parenchymatosa. Enslin. (Commenced in No. 8.)
51 *Ueber Myosarkom des Magens (of stomach). Moser. (Commenced in No. 8.)
52 Gravidität und Nephritis. Heinrich. Four cases.
53 Ueber die Anwendung der Schultze'schen Schwingungen (swinging) bei Bronchiolitis und katarrhalischer Pneumonie junger Kinder (in young children). C. S. Engel.
54 Ein Nasen- (nose) Speculum mit Vorrichtung für die sterile Tamponade der Nase. L. Neufeld.
55 (No. 10.) Ueber eine Methode zur Untersuchungen des lebenden Knochenmarks von Thieren (investigation of living marrow in animals) und über das Bewegungsvermögen (capacity for movement) der Myelocyten. A. Wolff.
56 Untersuchungen über den menschlichen Schweiss (human sweat). L. Brieger and G. Diesselhorst. Cryoscopy.
57 Zur Chemie der Sauerstoff- (oxygen) Chloroform-Narkose. Roth.
58 *Proposal for Complete Reform in Dressing Infants. K. Assmus (Kiel).—Ein Vorschlag zu einer vollständigen Reform der Erstlings-Bekleidung und Wasche auf hygienischer Grundlage.
59 Occurrence of Tetanus Bacillus Outside of Point of Infection in Man. O. Hohlbeck.—Das Vorkommen des T.-Bacillus ausserhalt des Bereiches der Infektionsstelle beim Menschen.
60 *Zur Frage der Antitoxin-Behandlung bei Tetanus. Von Schuckmann.
61 Ibid. R. A. Frotscher.

62 Agurin. M. Lewitt.
63 Der Zeichenunterricht der Schule (drawing in schools) und sein Werth für den Arzt (value for the physician). Beitrag zur Schulreformfrage.

35. **Tardy Brain Affections After Injuries of Skull.**—Stadelmann relates the details of several cases to emphasize the necessity of long oversight of patients who have suffered some traumatism affecting the head. Exertion of all kinds and the resumption of the occupation should be forbidden. He now makes a practice of keeping such patients in bed for four weeks after any concussion of the brain, and not dismissing them from medical supervision until six weeks have elapsed. In one of the cases he reports the slight fracture of the skull healed with only an insignificant inflammation and circumscribed adhesion of the dura to the bone, and yet seven weeks after the accident symptoms of meningitis developed, proving rapidly fatal. The subject had been able to continue at work during the interim, after the first few days. The meningitis was caused by the pneumo- and staphylococcus. In another case a man received a severe blow on the right parietal lobe, felling him unconscious. He quickly recovered, and was apparently quite well, with no injury to the bone, for four weeks, when he developed typical Jacksonian epilepsy. The autopsy showed disturbances in the circulation at the point of the injury and directly opposite, with softening of the brain tissue and serious hemorrhage later.

42. **Subconjunctival Injections.**—Wessely describes the effect of subconjunctival injections as a local revulsion. They have a reflex action on the vessels inducing hyperemia and its consequences, and attract the protecting substances in the serum to the eye. They are, therefore, important aids in torpid processes, but are directly injurious in acute inflammatory lesions.

47. **Cause and Specific Treatment of Hay Fever.**—Dunbar is the American-German in charge of the Institute of Hygiene at Hamburg. He announces that the specific causal agent of hay fever is the pollen of certain grains which affects the predisposed while harmless for other persons. He has succeeded in reproducing the disease in winter by subcutaneous injection of a minute amount of the toxic substance in the pollen. This toxic substance is not the ethereal oily constituents of the grain, but seems to be an albuminoid body contained in the starch particles. He describes the intense typical attack induced by this procedure in hay fever patients in midwinter while the control subjects did not manifest the slightest reaction to it. He then attempted to produce an antitoxin by inoculating animals with the pollen toxin. For several months the serum of the animals not only failed to neutralize the toxin *in vitro*, but aggravated the symptoms when injected into hay fever patients. But gradually the serum acquired antitoxic power. In the course of his tests he had inoculated 8 hay fever patients in January by instilling into one eye ground corn pollen grains in a centrifugalized aqueous suspension. In every case, without exception, the subjective and objective symptoms of hay fever were produced in varying intensity, while none of the 11 control subjects displayed the slightest objective reaction, even on repetition of the dose and with twenty times the concentration and amount. In the tests of the new serum he instilled into the other eye of the same hay fever patients, the same amount of pollen toxin as before, but mixed with the antitoxin. The eye itched slightly and appeared slightly congested, but all traces of the congestion and itching had vanished by the end of half an hour. In other tests he instilled a drop of concentrated pollen toxin in the eye of a hay fever patient. As soon as the caruncle became congested and the parts smarted he instilled four drops of the antitoxin in the course of twenty minutes. The result was the complete neutralization of the effects of the pollen toxin. The same results, only more striking, were obtained in the nose. He used the pollen from corn in his tests but found that the serum was just as effective against pollen toxin from rye in tests *in vitro* and on the one hay fever subject. He thinks that the pollen toxin of the different grasses and grains is probably identical. The comprehensive report of his researches has been published in book form by R. Oldenbourg, Munich, 1903.

48. **Physiology of Nutrition of Fetus.**—Veit argues to prove that the fetus is nourished by the albuminoid substances in the maternal serum. A syncytiolysin is formed as a side chain of the erythrocytes and a hemolysin as a side chain of the chorionic epithelium. In this way hemoglobin is liberated from the erythrocytes and protoplasm from the deported chorionic villi. The dissolved albuminoid substances flow slowly toward the fetal circulation in the maternal blood, but those substances which are precipitated by the fetal serum do not enter the fetal circulation, and those which are precipitated by the maternal serum do not enter the maternal circulation. The fetus is nourished, therefore, by taking up the albuminoids circulating dissolved in the maternal blood, while the deported chorionic villi are dissolved in the maternal serum. The albuminoids derived originally from the fetus may return to it for its nourishment in this way. This balance may be disturbed by exaggerated deportation of villi which entails exaggerated hemolysis, hemoglobinuria, albuminuria, and weaker syncytiolysis, or by the reverse condition, insufficient deportation of villi. In the latter case the maternal organism does not suffer so much, but the nourishment of the fetus is, perhaps, not so good. The anatomy of the pregnant uterus is, therefore, the key to the question whether there is a defective "Anlage," inflammation, or any cause that may induce an exaggeration or insufficiency of the normal deportation of villi. He appeals for further research in this line, and urges that broad points of view should be adopted and trivial contradictions between the results of single investigators should be overlooked in the search for the underlying principles.

50. **Diagnostic Value of Tuberculin in Keratitis Parenchymatosa.**—Enslin remarks that in an already inflammed eye we can not expect a decisive local reaction to an injection of tuberculin. The characteristic of the general reaction to Old Tuberculin in case of a tuberculous affection is the steep rise and steep decline of the temperature, which commences to be apparent in ten to twelve hours after the injection. This reaction was marked in all his cases in which the keratitis was of tuberculous origin, whether accompanied by lues or not, but it did not occur in any case of syphilis only. In the eight cases of associated tuberculosis and lues this temperature reaction occurred in two after .1 mg. of the Old Tuberculin; in five after injection of 1 mg.; in one after injection of 3 mg. The height to which the temperature rises is less important for the diagnosis than the typical steep peak in the curve, subsiding to the previous temperature within twenty-four hours. The absence of the general reaction speaks in favor of the syphilitic nature of the keratitis, and the steep peak of the temperature curve for its tuberculous nature. In leprosy and actinomycosis the rise is more gradual and lasts longer.

51. **Myosarcoma of Stomach.**—Moser reports from Frankfort what he claims to be the first successful operation on a myosarcoma of the stomach. He also describes a similar case operated on at Greifswald, which terminated fatally Three other cases are on record of extensive resection of the stomach wall for myoma, with one recovery, but in the latter case the tumor was found to have a sarcomatous center. In the personal case described the stomach appeared to be normal in size and outline and the tumor was supposed to originate in the kidney or suprarenal, although the urine was normal. It was reached by a lumbar incision according to Bardenheuer, and found to be in the posterior wall of the stomach, with the normal pancreas closely adherent, requiring resection of the latter; the excised portion measuring 14 cm. and the tumor itself weighing about 1,500 gm. The defect in the stomach wall required 26 Lembert sutures, with a second tier of 32 sutures. Silk was used. The cavity was then rinsed with warm solution of boric acid and tamponed. The operation was done by Pernice and lasted two hours. The patient made a smooth recovery. She was a iipara of 41, and has had no stomach symptoms since, but previously had had occasional pains since her twentieth year, with eructations and bad taste in her mouth. No signs of a tumor had been noticed until shortly

before the operation. The lumbar incision was carried as far up as needed, and a hard bolster placed under the body, which rendered possible the access to the upper portion of the cardia, a region hitherto considered inaccessible. The mistake in the diagnosis unmistakably facilitated the operation.

58. **Reform in Infant Clothing.**—Assmus has been testing a number of substances to supplant the customary diapers for infants. He is much pleased with the results obtained by using an extremely absorbable material in a bag, with a double thickness of mull between it and the skin of the child. This absorbable cushion sucks up all the fluid in urine and feces at once and the child is dry all the time, requiring no changing except at morning and night except after defecation. As all the fluid in the feces is absorbed at once by the cushion, they do not spread and escape as with ordinary diapers. The cushion has also deodorizing properties, so that there is no smell of urine about the child nor in the room from diapers hung out to dry. When the child is taken up its garments and bed are always dry. The soft cushion fits and adapts itself comfortably to the child's body. The substance which fulfills all these conditions is bog moss (Moostorf), which has an absorbing capacity to sixteen times its own bulk. The experiences with it to date have been extremely satisfactory and it certainly realizes a great improvement and saving of expense in the care of the children of the poor. The moss and bags, etc., are supplied by the Berlin firm of E. Cohn Reisner, Neue Friedrichstrasse 65. Berlin C.

60. **Antitoxin Treatment of Tetanus.**—Schuckmann reports a case that terminated fatally the day after a second injection of Behring's antitoxin. He reviews the published statistics and remarks that the best method of administering it can be deduced from the following figures. In twenty cases the antitoxin was injected into the brain, with 25 per cent. recoveries; in three into the veins, with 33 per cent. recoveries; in forty-three the injections were subcutaneous, with 51 per cent. recoveries, and in ten the injections were subdural, after lumbar puncture, with 80 per cent. recoveries. In fourteen cases treated without serum the proportion of recoveries was 57 per cent., and in seventy-six cases treated with serum it was only 47 per cent. He does not believe that the serum treatment is of any appreciable advantage in cases of tetanus

Riforma Medica, Palermo.

64 (XVIII, 213-4.) I limite di resistenza dei vene per i diuretici. Donzello.
65 (No. 215-6.) La influenza della bile sulla resistenza dei globuli rossi (red corpuscles). G. Viola and B. Tarugi.
66 (No. 217-8.) Un caso di cisti della testa (cyst in head of) del pancreas ed epatite sifilitica simulante perfettamente la cirrosi di Hanot. L. Ferrannini.
67 (No. 219.) Sulla plastica col grande omento (plastic operations with omentum). A. Soraci.
68 (No. 220.) Sulla coagulazione del liquido di idrocele per azione dell latte umano (by action of human milk). G. G. Ferrandi and E. Giannelli.
69 (No. 221.) Gli estratti alcalini degli organi di animali sani (of healthy animals) nella immunita versa el carbonchio ematico (anthrax). F. Tusini.
70 (No. 222-3.) Contributo casistico-clinico sulla cura dell' uremia con il veratrum viride. A. Oliare.
71 (No. 224-231.) *Il ferro nell'organismo sano (iron in healthy organism), nella leucemia e nella cloro-anemia. C. Bartoletti.
72 Il fegato infettivo (infectious liver) in una forma morbosa non ancora cognita (hitherto unknown). Galvagni.
73 (No. 232-3.) Contributo sperimentale alla fisiologia del nucleo caudato. D. Lo Monaco and G. Bellanova.
74 (No. 234.) A proposito dell'iniezioni endovenose d'ossigeno nell' uomo (in man). C. Bernabei. Claim for priority.
75 (No. 236.) Alcuni appunti sulla sensibilità di tensione del ventriculo (sensibility to tension of the stomach). P. F. Arullani.
76 (No. 237.) Su 2 casi di rumore musicale del cuore. M. De Vivo.
77 (No. 238.) *Sul significato e sull'importanza della citodiagnosi nelle meningiti dei bambini (of children). L. Concetti.
78 (No. 239-242.) *Intorno all' influenza del micrococco tetragono sul processo tubercolare del polmone (of lung). A. Michelazzi.
79 (No. 243.) *Sugli effetti dell'ischemia temporanea dell' apparecchio tireo-paratiroideo. C. Pinto.
80 (No 244.) *Sulla glicosuria surrenale: ricerche dirette a determinarla nell' organismo umano. S. Barba.
81 (No. 245-247.) Osservazioni istologiche sui granulomi infettivi. T. Secchi.
82 ((No. 248-9.) Essudati e trasudati. A. Jardini.
83 (No. 250.) Vomito stercoraceo di origine isterica. F. Fazio. One case. Cured by massage and suggestion.
84 (No. 252.) *Sugli effetti dello svuotamento (excision) della sustanza midollare delle capsule surrenali. G. Vassale and A. Zanfrognini.
85 (No. 253-5.) Ricerche sperimentali ed osservazioni anatomo-patologico intorno alla miocardite segmentaria. G. Giacomelli.
86 (No. 256-7.) *Tabe dorsale ed aortite. P. F. Arullani.
87 (No. 258-260.) Contributo allo studio dell anacloridria. Ricerche sulle putrefazioni intestinali e sulla medicazione iperclorinica. L. Ferrannini. Two cases.
88 (No. 261-2.) *Sull'agglutinabilità del bacillo tubercolare per sieri differenti e sua importanza diagnostica. A. Ilvento.
89 (No. 263-4.) Metamerismo midollare e metanerismo radicolare nella siringomielia. L. Ferrannini.
90 (No. 265.) Sul potere (power) patogeno che il bacillo coli esercita nel cane (in dogs). G. Loy-Peluffo.
91 (No. 266.) Negative Action of Freezing Alternating with Thawing on Bacteria of Cholera, Typhoid, Diphtheria and Glanders. F. Testi.—Azione de geli e disgeli alternati sulla vitalita e virulenza di alcuni batteri patogeni.
92 (No. 267.) Le cardiopatie eredo-familiare e congenite. G. Arnone.
93 (No. 271-2.) L'azione del (action of), nitrato d'argento nella vaginale del testicolo leso ed infiammato ed infetto (in inflammation of testicle). V. Montesano.
94 (No. 273.) Caso di fibroleiomioma dello stomaco. G. Zironi.
95 (No. 274.) *Contributo allo studio dell'anasarca essenziale. P. Bacialli.
96 (No. 275.) *Sulla disvulnerabilità degli eppilettici. V. Tirelli.
97 Benefits from Local Application of Balsam of Peru in Ulcerative Cutaneous Tuberculosis. G. Sliva.—Sulla cura della tuberculosi ulcerosa cutanea. Ten cases.
98 (No. 276.) Il metamerismo secondario degli arti (of limbs). L. Ferrannini.
99 (No. 277.) Depressing Local Action of Cocain on Intestinal Absorption. A. Baldacci and G. Guidi.—Azione della cocaina sull' assorbimento intestinale.
100 (No. 278.) *Dangerous Alteration of Canned Meats. G. Grixoni.—Su una pericolosa e poco nota alterazione delli carni conservate.
101 (No. 279-282.) *Sulla Linitis plastica del Brinton. A. Folli and U. Bernadelli.
102 (No. 283-285.) *Physio-pathology of Phosphorus Intoxication. A. Cevidalli.—Lo stato del sangue nell' avvelenamento da fosforo con considerazioni sulla fisiopatologia dell' intossicazione fosforica.
103 (No. 286.) Study of Sheep Pox. E. Tabusso.—Contributo allo studio delle lesioni istologische nel variolo ovino.
104 (No. 287-9.) *Study of Extensive Resection of Intestine. G. Fantino.—Nuovo contributo allo studio delle estese resezioni intestinali.
105 (No. 290.) Experimental Closure of Bladder Defect by Flap from Abdominal Wall. L. Baldassari and R. Finotti.—Trattamento delle perforazioni vescicali con trapianti.
106 (No. 291-2.) *Delle ernie della vescica (hernias of bladder). G. Baroni.
107 *La Milza nei bambini. F. Sarcinelli.
108 (No. 293.) *Su di alcune questioni relative al corpi acetonici. G. Satta.
109 (No. 295.) Indirizzo alla cura del lupus erithematodes. R. Campana.
110 (No. 296.) Cisti epiteliale del pancreas e cancro del fegato (liver). G. Cavazzani.
111 (No. 297-8.) Patogeni dell' anemia perniciosa progressiva. G. Finzi.

71. **Elimination of Iron in Health and Disease.**—Bartoletti's long article on this subject establishes that subcutaneous injection of iron in health causes an increase for the first few days in the amount eliminated in the urine. As a general rule he found that the proportion was 2.89 to 2.14 on a mixed diet and 5.19 on a meat diet, but the quantity of urine voided during the twenty-four hours must always be taken into account. The amount eliminated in leukemia is not appreciably less than that in health, reaching the minimum of the latter. In chloroanemia the proportion is much reduced. There does not seem to be any regular proportion between the amount of iron in the blood and the amount eliminated, even in the same individual. The decrease in the proportion of iron in the blood in leukemia and chloroanemia is not proportional to the decrease in hemoglobin. In short, he concludes that the laws regulating the elimination of iron are still totally unknown. The variations may be due to differences in the functional capacity of the kidneys.

77. **Slight Value of Cytodiagnosis.**—Concetti has been making an extensive study of the cerebrospinal fluid as a means of diagnosing meningitis in children. He finds that the predominance of lymphocytes is the expression of an irritation of the meninges of toxic origin, while the predominance of polynuclear cells and of the large mononuclears is the expression of a bacterial irritation. The polynuclear and large mononuclear cells gather to repel the invading bacteria by their phagocytic action. Cytodiagnosis thus has not the differentiating value ascribed to it by Widal and others. The formula changes as the irritation is toxic or bacterial, irrespective of the nature of the toxins or bacteria in question.

78. **Influence of Tetragonus on Tuberculous Processes.**—Michelazzi was able to protect guinea-pigs against tuberculosis

by a previous injection of cultures of the micrococcus tetragonus. On the other hand, the tuberculous process was favored when the tetragonus injection was made after tuberculous infection had been realized. He found that the lesions produced by the tetragonus alone in guinea-pigs were identical in every respect with those produced by the tubercle bacilli. Many supposed tuberculous lesions in the human lung are undoubtedly the work of the tetragonus.

79. **Effects of Temporary Ischemia of Thyroid Apparatus.**—Pinto reports that ischemia for sixteen to thirty-one hours induced parathyroid tetany in the numerous dogs in his tests. If the ischemia was maintained for more than thirty-one hours, the animals exhibited mixed phenomena or pure parathyropriva cachexia. The organs were apparently sound in the animals subjected to ischemia for twelve hours or less, when examined a month later, but those with ischemia for sixteen hours to twenty-two days still showed signs of slight alterations.

80. **Suprarenal Glycosuria.**—Barba relates his experience with three patients treated by injections of suprarenal extract. The effects were an aggravation of the general condition in a case of Addison's disease. One of the other patients was in an early stage of tabes and the other had chronic bulbar paralysis. The general health was improved in these cases and diuresis increased. No glycosuria was induced in any instance, nor in tests on healthy subjects.

84. **Effects of Excision of Medullary Substance of Suprarenal Capsules.**—Rabbits and cats died in rapidly progressive cachexia after extraction of most of the medullary substance. Partial excision did not produce any appreciable symptoms.

86. **Tabes and Aortitis.**—Arullani has observed that lesions of the aorta are very common in tabes. When a valvular affection develops in the course of tabes it is almost certain to be aortic insufficiency from dilatation of the aorta. This is due to the action of syphilis, alcohol, lead or some other intoxication.

88. **Agglutination by Tubercle Bacilli.**—Ilvento's experience has confirmed the fact that the serum and pleural effusion of tuberculous subjects are able to agglutinate the bacilli. It not only serves as a diagnostic measure but affords insight into the relative immunity of the organism in question.

95. **Traumatic Dropsy.**—The patient was a woman of 29, previously healthy, who fell into the water. In consequence, undoubtedly, of the fright and the cold, general dropsy developed.

96. **Strong Bactericidal Action of Epileptic Serum.**—Tirelli has found that the serum of epileptics is much more bactericidal than ordinary serum. It is especially active against staphylococci, and he suggests that it might be possible to utilize it to induce immunity against and also to cure staphylococcus infection. He ascribes to this peculiarity of the serum the rarity of suppurative lesions in epileptics.

100. **Liquefaction of Gelatin as Test of Canned Meats.**—Grixoni proclaims that when the gelatine in canned meats is liquified at a temperature below 64.5 F. it can be attributed to the action of living bacteria and their ferments. The meat should be considered spoiled, although it may not exhibit any other evidence of putrefaction except a splashing sound when the can is shaken.

101. **Linitis Plastica.**—The four cases described presented the clinical picture of plastic linitis, but histologic examination disclosed diffuse carcinomatous degeneration.

102. **Coagulability of Blood in Phosphorus Intoxication.**—The coagulating power of the blood was quite abolished after five days of subacute phosphorus intoxication in the tests on animals described in this communication.

104. **Resection of Intestine.**—Fantino remarks that the cases most favorable for extensive resection of intestine are those with hypertrophy of the sound portion. The first or second part of the small intestine is the best portion for such an operation. In one of the two cases he reports he failed to recognize the part of the intestine involved, and, under a mistaken impression, resected the entire colon and three feet of the small intestine. The patient survived nine months in comparatively good condition. The anastomosis was made under the same incorrect impression, and the food passing through the intestines had to travel a very roundabout route. This kept it longer in the intestines and gave more time for digestion, and to this fact he ascribes the unexpectedly favorable results secured. He suggests that the disadvantages of extensive resection of the intestine might be counteracted by modifying the technic so as to compel the ingesta to follow a circuitous route and thus have as good opportunity for digestion as under normal conditions.

106. **Hernia of Bladder.**—If the bladder alone is involved in the hernia the sac will be soft and flabby when empty and distended when full of urine. Its size also alters with change of position, coughing, etc. Pressure on it induces a desire to urinate. When the bowel is also involved besides the part with the above characteristics, the sac has a second usually the outer part, which has the characteristics of an intestinal hernia. The catheter may be passed through the urine into the sac or may aid in the diagnosis by withdrawing urine from it. After the subject has spontaneously voided his urine, an additional portion may be emitted on compression of the tumor. There may be pain in the kidney region on the side of the hernia. Resection is inadvisable unless the communication with the bladder is extremely small.

107. **Percussion of Spleen in Infants.**—If the child is held by a third person so that the spleen is at the lowest position possible, in the back, percussion applied from below, on the back, will avoid interference from other organs and afford more information than is obtainable in any other way. The child is held in a position that is neither on its back nor on its left side, but between these.

108. **Acetonuria.**—Satta investigated the influence of ingestion of fats on the elimination of acetone in ten diabetics. He found that 12 to 15 gm. of butter increased the acetone by a gram in the severer cases, but in the mild ones it had little influence. Olive oil and beef fat had a similar effect, but less pronounced.

Revue Mens. des Maladies de l'Enfance, Paris.

112 (XXI, 1.) *Splénomégalie chronique avec anémie et myélémie. Forme infantile. P. E. Weil and A. Clerc.
113 Fièvre typhoïde et entérite chez le nourrisson (in nurslings). P. Nobécourt.
114 (No. 2.) De l'esophagotomie externe pour les corps étrangers de l'esophage chez les enfants (foreign bodies in esophagus in children). G. Gross.
115 Ponction galvano-caustique des abcès retro-pharyngiens. H. Chatelllier.
116 (No. 3.) Varices du crane (of skull) dans le rachitisme. C. Aubertin.
117 Action de la vaccination sur la coqueluche (on whooping cough). G. Ponchon.—Extremely Favorable.
118 Tubercules du cervelet (in cerebellum). Lymphocytes et bacilles de Koch dans le liquide cephalo-rachidien. P. Nobécourt and R. Voisin. One case.
119 Anémie infantile pseudo-leucémique. Traitement arsénical. Guérison (recovery). Mahar and others.
120 Strophulus post-vaccinal. H. Gillet.
121 *Valeur des linges (linen) stérilisés contre les infections cutanées des nourrissons (of nurslings). W. Weill Agnel.

112. **Chronic Splenomegalia with Anemia and Myelemia.**—Study of the blood shows that splenic anemia comprises lymphogenic leukemia and myelogenic leukemia in nurslings as well as in adults. The prognosis is grave, but not inevitably fatal in the infantile form. Treatment to date has not given very encouraging results. Iron and arsenic are the main reliance, but Combes has reported good results from administration of bone marrow, and Pietro of the extract of fresh spleens.

121. **Sterilized Linen for Infants.**—This communication from Lyons states that during the last few months the diapers and garments used for the infants in the hospital have been sterilized in the same way as the dressings, etc., for surgery. The outfit for each babe is wrapped in a separate cloth, arranged in order and then sterilized and handled as little as possible. The attendants disinfect their hands as for assisting at an operation before taking up the babe. They find that the extra trouble is more than compensated by the prevention of cutaneous affections and the rapid healing of those observed when the infant is first received. This method of aseptic care of infants has been found to pay in the saving of both time and trouble in the end, beside the advantages for the child.

Revue de Therapeutique, Paris.

122 (LXX, 1.) Les tendances nouvelles de la thérapeutique. C. Bouchard. See THE JOURNAL of February 21, p. 545.
123 Le traitement des néoplasmes par le suc de tumeurs carcinomateuses. Bra.—Claim for Priority.
124 Preparations aqueuses de menthol. Crésantignes.
125 (No. 2.) *Du moment opportun de la cure thermale chez les uterins (hot springs in uterine disease). R. Blondel.
126 *Traitement médical des fistules anales. A. De Vevey.
127 (No. 3.) La theocine. J. Chevalier.
128 Les rayons x dans l'examen du foie (radioscopy of liver). Bergonié.
129 *L'enteroclyse dans la dysenterie algue et chronique. V. Belleli.
130 (No. 4.) Nouvelles médications hémostatiques. A. Chassevant.
131 *Sérothéraple antistaphylococcique. E. Doyen.
132 (No. 5.) *Traitement de la goutte. Debove.
133 Les sels d'atropine et leurs indications en thérapeutique oculaire. A. Darier.
134 L'anesthésine en rhino-laryngologie. A. Courtade.

125. **Hot Springs in Uterine Affections.**—Blondel proclaims that, aside from the acutely inflammatory and painful stage and from absolutely irreducible lesions and tumors, a course of hot mineral springs waters may be found beneficial at any phase of a uterine affection. The menstrual period is no contraindication, on the contrary, the system is in a peculiarly favorable receptive condition at such times. The "thermal cure," as the French call a course of treatment at the hot springs, is particularly beneficial in the leucorrhea of anemic subjects, in congestion of the uterus in arthritics, in chronic parametritis, in physiologic menstrual troubles, and in uncomplicated ovarian pains, also in cases of chronic and rebellious vaginal discharges in herpetic and arthritic women. After the thorough working over of the soil, therapeutics is more effective, and instead of waiting to advise the waters as a last resort, he advises prompt resort to them as a most valuable adjuvant in uterine affections.

126. **Medical Treatment of Anal Fistulas.**—De Vevey reports five cases of anal fistula in which surgical intervention was impracticable, and in which he succeeded in curing the patients in the course of six to eight months by repeated injections of a 2 to 2.5 per cent. solution of copper acetate. He irrigated the parts three times a week with this solution, applying it on a compress in the interim, and insisting on the patient's reclining. He also gave internally guaiacol and small doses of dilute copper acetate.

129. **Flushing the Intestines in Dysentery.**—Belleli practices at Port Said and has found injections of a liter of tepid water to which 20 to 40 drops of carbolic acid have been added, so useful in dysentery that he is inclined to regard them as almost a specific for this disease. The colics and flatulence subside and the recurring exacerbations are less frequent and less painful. If the buttocks are raised 25 to 30 cm. above the level of the head, the water flows into the transverse colon without the need of any special apparatus. It is then rapidly voided. In chronic dysentery there is usually recurrence of the painful spasmodic attacks every fifteen to thirty days. It is probably due to some peculiarity in the life cycle of the amebæ, and can be prevented, or at least modified, by giving the injections in a mucilaginous vehicle and adding an astringent. He has found the following combination useful: 50 to 60 gm. of althea in 2 liters of water, with 3 to 5 gm. of tannin and 30 to 40 drops of carbolic acid. It is wise to vary the astringent at times, substituting 2.5 to 4 gm. of alumnol to the 2 liters of water. This enteroclysis must be accompanied by the administration at the same time by the mouth of 2 or 3 gm. of bismuth salicylate a day, to soothe the erethism of the gastrointestinal tract. The salicylate may be alternated with dermatol, tannigen or vaccinum myrtillus. He gives the latter in a decoction. Opium should be strictly avoided.

131. **Antistaphylococcus Serum.**—Doyen complains that little attention has been paid to his announcement of the success of the serum he has produced by means of inoculation of animals with the *Staphylococcus aureus*. It has proved more powerful and more constant in its effects than any other serum yet known in experiences with hundreds of cases. At the early stages of a furuncle or abscess a single injection of 5 c.c. is usually sufficient. The pain and tension cease in two or three hours and the lesion is aborted. In a large carbuncle complicated by diffuse phlegmon, the elimination of the necrosed portions proceeds so rapidly under the influence of the serum that in six to eight days nothing remains of the lesion except a small red granulating surface. The serum was applied in a case of severe phlebitis of the ophthalmic vein and cavernous sinus, with bilateral ophthalmia and delirium. The patient recovered, although the infection had been so severe that the sight of one eye was lost. The improvement was rapid in a case of phlebitis of the cavernous sinus consecutive to a carbuncle on the temple, the patient already in coma. The sore throats and other lesions due to the staphylococcus yield to the serum with equal promptness, but it has no influence on streptococcus infections. One of its most promising applications is in simultaneous injection with antitetanus serum in cases of complicated fractures, extensive contusions and soiled wounds. In a recent case of this kind, a complicated fracture of both legs in a railroad accident, in which amputation seemed inevitable, under this combined serum treatment the patient made a smooth recovery and his legs were saved.

132. **Treatment of Gout.**—Debove warns that gouty subjects are the most difficult patients to handle. They have notions of their own in regard to medicines and argue with the physician at every step. On the other hand, they are extremely credulous as far as quacks are concerned. He remarks that morphin is the most admirable of all remedies in the treatment of the accidents of acute, painful gout, while it is the most deplorable of all in the chronic form.

New Patents.

Patents of interest to physicians, March 3 and 10:

721773. Optical apparatus. Eugene W. Beebe, Milwaukee, Wis.
721999. Producing casein. Aubrey D. Charles, Bellows Falls, Vt.
722102. Nasal dish. Harry L. Harris, New York.
722019. Instrument for removing blackheads. A. A. C. Hildebrandt and N. W. Johnstor, Chappaqua, N. Y.
721812. Hernial truss pad. Paul A. Lorenz, Dresden, Germany.
722121. Suspensory bandage. James L. Lupfer, Swatara Township, Dauphin County, Pa.
721963. Pad for hernial belts. Florentin Matuchet, Paris, France.
722130. Vaginal syringe. Donald McPherson, Palmyra, N. Y.
722133. Surgical needle. John A. Nelson, Owensboro, Ky.
721737. Movement cure apparatus. Charles Owens, Chattanooga, Tenn.
721752. Compressed air spray. Loyd Scruggs, Omaha.
721768. Making India rubber surgical instruments. Bertram G. Work, Akron, Ohio.
722203. Hypodermic needle. Charles D. Brooke, Coshocton, Ohio.
722503. Disinfecting apparatus. Eugene Fournier, Paris, France.
722594. Electrical instrument. Myron D. Law, New York.
722598. Electrical generator and distributor for medical use. Edwin L. Madden, Kanawha, Iowa.
12097. Re-issue, bottle for medicine. Charles W. McShane, Zanesville, Ohio.
722456. Stretcher. James E. Reeves, Philadelphia.
722542. Surgical instrument. Nathan J. Smedley, Chicago.
722462. Exercising apparatus. Frederick D. Smith, New York.
722644. Abdominal supporter. Eva M. Temple, Portland, Ore.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in All Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Arranged, with Critical Editorial Comments, by Eminent American Specialists, under the Editorial Charge of George M. Gould, A.M., M.D. In Two Volumes. Volume I, Including General Medicine. Cloth. Pp. 691. Price, per volume, $3.00 net. Fully Illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

PRACTICAL PHYSIOLOGY. By A. P. Beddard, M.A., M.D., Demonstrator of Physiology, Guy's Hospital; Leonard Hill, M.B., F.R.S., Lecturer on Physiology, the London Hospital; J. S. Edkins, M.A., M.B., Lecturer on Physiology, St. Bartholomew's Hospital; J. J. R. MacLeod, M.B., Demonstrator of Physiology, the London Hospital, and M. S. Pembrey, M.A., M.D., Lecturer on Physiology, Guy's Hospital. Illustrated in Numerous Diagrams and Tracings. Cloth. Pp. 495. Price, $5.20. London: Edward Arnold. New York: Longmans, Green & Co. 1902.

SURGICAL ANATOMY. A Treatise on Human Anatomy in Its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes. Illustrated by 499 Plates, Nearly All Drawn for This Work from Original Dissections. Volume III. Abdomen; Pelvic Cavity; Lymphatics of the Abdomen and Pelvis; Thorax; Lower Extremity. Cloth. Pp. 816. Price, per set, $21.00. Philadelphia: P. Blakiston's Son & Co. 1903.

MANUAL OF BACTERIOLOGY. By Robert Muir, M.A., M.D., F.R.C.P. Ed., Professor of Pathology, University of Glasgow, and James

Ritchie, M.A., M.D., B.Sc., Reader in Pathology, University of Oxford. American Edition (with Additions), Revised and Edited from the Third English Edition. By Norman MacLeod Harris, M.B. (Tor.), Associate in Bacteriology, the Johns Hopkins University, Baltimore. With 170 Illustrations. Cloth. Pp. 565. Price, $3.75. New York: The Macmillan Co. 1903.

DISEASES OF THE STOMACH. A Text-Book for Practitioners and Students. By Max Einhorn, M.D., Professor in Clinical Medicine at the New York Post-Graduate Medical School and Hospital. Third Revised Edition. Cloth. Pp. 534. Price, $3.50 net. New York: Wm. Wood & Co. 1903.

ANNUAL REPORT OF THE NEW YORK STATE REFORMATORY AT ELMIRA. For the Fiscal Year Ending Sept. 30, 1902. Twenty-seventh Year Book. Illustrated. Paper. Pp. 138. Elmira: Summary Press. 1902.

BULLETIN OF THE HADLEY CLIMATOLOGICAL LABORATORY OF THE UNIVERSITY OF NEW MEXICO. Volume III, Nos. 4, 5 and 6. Paper. Pp. 9. December, 1902.

REPORT OF THE HEALTH OFFICER OF THE DISTRICT OF COLUMBIA. 1902. Cloth. Pp. 277. Washington: Government Printing Office. 1903.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from March 7 to 21, 1903:

DeWitt, Wallace, first lieut. and asst.-surgeon, is relieved from further attendance at the Army Medical School, Washington, D. C., and will proceed to Fort McPherson for treatment and observation by the post surgeon.

McAdory, Robert J., contract surgeon, U. S. A., is relieved from duty at Camp McKinley, H. I., and will proceed to San Francisco, and report by telegraph to the Adjutant-General of the Army for further orders.

A board of officers, to consist of Col. Calvin DeWitt, assistant surgeon general, Major Louis A. LaGarde, surgeon, Major Henry P. Birmingham, surgeon, Major James D. Glennan, surgeon, and Capt. Carl R. Darnall, asst.-surgeon, has been appointed to meet at the Army Medical Museum Building, in this city, on Wednesday, April 15, 1903, at 10 o'clock a. m., for the examination of candidates for admission to the Medical Corps of the Army. The board will be governed in its proceedings by such instructions as may be communicated to it by the Surgeon-General of the Army.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 21:

A. A. Surgeon A. W. Kaines, appointment revoked, to take effect on reporting of relief.

P. A. Surgeon F. L. Benton, ordered to the Naval Station, Cavite, P. I.

Surgeon G. A. Lung, detached from the Bureau of Medicine and Surgery and ordered to the Naval Hospital, Philadelphia.

Asst.-Surgeon J. Stepp, detached from the *Isla de Luzon* and ordered home to wait orders.

A. A. Surgeon P. L. Cooke, ordered to the Naval Academy, Annapolis, Md.

Surgeon F. A. Hesler, died March 11 on board U. S. S. *Wilmington*, en route from Cavite, P. I., to Yokohama, Japan.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 19, 1903:

Assistant Surgeon-General L. L. Williams, to proceed to New York City, as inspector of the Purveying Depot.

P. A. Surgeon H. W. Wickes, relieved from duty at Cincinnati, and directed to proceed to Reedy Island Quarantine and assume command of the service at that port, relieving Asst.-Surgeon T. F. Richardson.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for fourteen days from March 7.

Asst.-Surgeon H. C. Russell, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for temporary duty.

Asst.-Surgeon L. D. Fricks, on being relieved from duty at Cape Fear Quarantine, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

Asst.-Surgeon J. W. Kerr, relieved from duty at New Orleans, and directed to proceed to Cincinnati and assume temporary command of the service at that port.

Asst.-Surgeon T. F. Richardson, on being relieved from duty at Reedy Island Quarantine by P. A. Surgeon H. W. Wickes, to report to him for temporary duty; on expiration of said temporary duty to proceed to New Orleans and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon W. A. Korn, to report to medical officer in command at Philadelphia, for assignment to special duty.

Asst.-Surgeon J. W. Schereschewsky, relieved from duty at New Orleans, and directed to report to Surgeon G. W. Stoner, Immigration Depot, New York, for duty.

Asst.-Surgeon M. W. Glover, relieved from duty at the Immigration Depot, New York, and directed to proceed to Baltimore, and report to medical officer in command for assignment to special duty.

Asst.-Surgeon B. S. Warren, on expiration of leave of absence, relieved from duty at Washington, D. C., and directed to proceed to Cape Fear Quarantine, relieving Asst.-Surgeon L. D. Fricks, and assume command of the service at that port.

Asst.-Surgeon A. M. Stimson, relieved from duty at the Immigration Depot, New York, and directed to proceed to New Orleans, and report to medical officer in command for assignment to special duty.

A. A. Surgeon Fernando Aleman, granted leave of absence for seven days from March 8, 1903, under provisions of Paragraph 191 of the regulations.

A. A. Surgeon W. E. Patrie, granted extension of leave of absence for seven days from March 13.

Pharmacist R. H. Gibson, granted leave of absence for twenty-three days from March 9. Relieved from duty at the Gulf Quarantine Station, and directed to proceed to Vineyard Haven, Mass., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist L. P. Hall.

Pharmacist F. L. Brown, on being relieved from duty at Cape Charles Quarantine, to proceed to Pittsburg, Pa., and report to medical officer in command for duty.

Pharmacist C. W. Stephenson, to report to chairman of board of examiners at Chicago, for the purpose of determining his fitness for promotion to the grade of pharmacist of the second class.

Pharmacist L. P. Hall, on being relieved from duty at Vineyard Haven, Mass., to proceed to Cape Charles Quarantine and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist F. L. Brown.

Pharmacist L. C. Spangler granted leave of absence for twenty-five days from March 4.

BOARD CONVENED.

Board convened at Chicago, March 31, 1903, for the purpose of examining C. W. Stephenson, pharmacist of the third class, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon C. E. Banks, chairman; Asst.-Surgeon L. P. H. Bahrenburg, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 21, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 7-14, 4 cases.
California: Berkeley, March 4-11, 1 case; Los Angeles, Feb. 28-March 7, 5 cases; Sacramento, Feb. 28-March 7, 1 case; San Francisco, March 1-8, 8 cases.
Colorado: Denver, Feb. 28-March 7, 17 cases.
District of Columbia: Washington, March 7-14, 2 cases.
Illinois: Chicago, March 7-14, 8 cases, 2 deaths.
Indiana: Elwood, March 8-15, 1 case; Evansville, March 7-14, 2 cases.
Iowa: March 7-14, Davenport, 8 cases; Dubuque, 1 case.
Kansas: Douglas County, Feb. 1-28, 1 case.
Maine: Biddeford, Feb. 28-March 14, 8 cases.
Maryland: Baltimore, March 7-14, 5 cases.
Massachusetts: Boston, March 7-14, 1 case; Fall River, March 7-14, 3 cases; New Bedford, March 6-14, 2 cases.
Michigan: Detroit, March 7-14, 17 cases; Grand Rapids, Feb. 28-March 14, 24 cases, 1 death; Port Huron, March 7-14, 3 cases.
Missouri: St. Louis, March 8-15, 4 cases.
Nebraska: Omaha, March 7-14, 2 cases.
New Hampshire: Manchester, Feb. 28-March 14, 16 cases.
New Jersey: Camden, March 7-14, 1 case; Jersey City, March 8-15, 3 cases; Newark, March 7-14, 1 case.
New York: March 7-14, Buffalo, 2 cases; New York, 2 cases.
Ohio: Cincinnati, March 6-13, 10 cases; Cleveland, March 7-14, 1 case; Dayton, March 7-14, 7 cases, 2 deaths.
Pennsylvania: March 7-14, Altoona, 1 case; Philadelphia, 44 cases, 5 deaths; Pittsburg, 48 cases, 2 deaths.
South Carolina: Charleston, March 7-14, 3 cases; Greenville, Feb. 28-March 7, 2 cases.
Tennessee: Johnson City, Feb. 28-March 7, 14 cases; Memphis, March 7-14, 2 cases; Nashville, March 7-14, 1 case.
Washington: Colfax, March 1, present.
Wisconsin: Green Bay, March 8-15, 3 cases; Milwaukee, March 7-14, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Jan. 3, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 14-28, 20 cases.
Belgium: Brussels, Feb. 14-28, 9 deaths.
Brazil: Pernambuco, Jan. 15-31, 10 cases; Rio de Janeiro, Feb. 5-12, 8 deaths.
Canada: St. John, N. B., March 13, 1 case.
Chile: Antofagasta, Jan. 1-31, 13 deaths.
Ecuador: Guayaquil, Feb. 7-21, 1 death.
France: Rheims, Feb. 8-15, 2 cases; Reubaix, Feb. 1-28, 6 deaths.
Great Britain: Birmingham, Feb. 21-28, 11 cases; Cardiff, Jan. 25-31, 1 case; Glasgow, Feb. 27-March 6, 1 death; Leeds, Feb. 21-28, 9 cases; Liverpool, to Feb. 28, 60 cases, 7 deaths; Nottingham, Feb. 14-21, 4 cases; Sheffield, Feb. 28-March 7, 2 cases.
India: Bombay, Feb. 10-17, 36 deaths; Calcutta, Feb. 7-14, 2 deaths; Karachi, Feb. 8-15, 1 case; Madras, Jan. 31-Feb. 6, 1 death.
Italy: Palermo, Feb. 21-28, 5 cases.
Mexico: City of Mexico, Feb. 22-March 1, 7 cases, 4 deaths; Vera Cruz, Feb. 28-March 7, 1 case.
Russia: Moscow, Feb. 7-21, 11 cases, 2 deaths; Odessa, Feb. 14-28, 4 deaths; St. Petersburg, Feb. 14-28, 100 cases, 9 deaths.
Straits Settlements: Singapore, Jan. 17-31, 10 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 5-12, 40 deaths.
Colombia: Panama, Feb. 26-March 5, 2 cases, 1 death.
Mexico: Vera Cruz, Feb. 28-March 14, 7 cases, 4 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, Dec. 27-Jan. 31, 6 cases, 4 deaths; Provinces, Dec. 27-Jan. 31, 1,985 cases, 1,436 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Dec. 27-Jan. 3, 3 deaths.

PLAGUE—FOREIGN.

India: Bombay, Feb. 10-17, 888 deaths; Calcutta, Feb. 7-14, 171 deaths; Karachi, Feb. 8-15, 23 cases, 19 deaths.
Mexico: Mazatlan, to March 13, 313 cases, 255 deaths; Oso, to Feb. 15, 1 case.

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Addresses.

THE STUDY OF PEDIATRICS IN ITS RELATION TO MEDICAL EDUCATION.*

THOMAS MORGAN ROTCH, A.B., M.D.

PROFESSOR OF PEDIATRICS, HARVARD UNIVERSITY.

BOSTON.

As our knowledge of the various branches of medicine increases through the great advances which are being made in the methods of scientific research, it becomes more apparent that every branch of medicine has been more or less imperfectly studied by and taught to the student of medicine before he enters on his life's work. It is therefore necessary almost every year to pay especial attention to broadening and perfecting the medical curriculum of our university teaching. What is true of one branch of medicine, holds also with the others, and I shall speak to you to-night on the subject of pediatrics, merely because I happen to represent this department in one of our eastern universities, Harvard. In no way do we so well acquire experience in, and add to our knowledge of, a subject as by attempting to teach it and by being brought into close contact with the active minds of young men in their early twenties, especially when, as is the case at Harvard, all of them are graduates from recognized universities and hold an A.B. or an equivalent degree. In no way are we so greatly stimulated to add, year by year, to our knowledge of the subject which we are attempting to teach as by being met year by year by a new set of these young men.

It is for this reason that I enter, with a great deal of enthusiasm, into the description of the methods which we have adopted in teaching at Harvard and the ideals which we hope in the future to attain. I happen to have had a somewhat extended opportunity for teaching the subject of pediatrics, and the development of this branch of medicine, having been connected with the teaching body of Harvard University for the past twenty-five years. I have seen the teaching of pediatrics from the time that it existed only in the department of general medicine and when it was taught only in a few lectures, given by the professor of the theory and practice of medicine, these lectures being interspersed in his teaching of the medicine of adult life. I have seen the beginning of separate teaching of children alone, represented by a class of half a dozen students, once or twice a week for half of the medical year. I have seen the subject of pediatrics then become an elective with the students, so that they had to choose between gynecology and pediatrics. I have then seen the class increase from one-half its numbers to the entire class, through the establishment of a separate department for pediatrics, with its required examination for a degree, and the teaching first placed in the hands of an instructor, then of an assistant professor in the faculty, and finally of a professor of pediatrics, the subject thus becoming a recognized department, on a par with the older and more established subjects representing the various departmental divisions of the Harvard faculty.

It is rather remarkable, from a pedagogic point of view, that the special study of children has not only for so long a time and in so many universities held such a minor position, but also that it has been so difficult to attain proper recognition for this important department of medicine without unceasing vigilance and arduous work, not only in promoting the scientific side of the subject and thus improving the teaching, but most of all in contending against the opposition to its recognition by the older and established departments with their endowed professorships. Such, however, is the case, and if we look over the principal centers of medical teaching in this country it will be seen how true it is that in almost every case an insufficient amount of teaching, as to time, is given to the medicine of early life, how inadequate are the opportunities for this teaching in the various schools, and often how lacking is the knowledge which the teachers themselves have of the subject. This, in many cases, is owing to pediatrics having been taught by men who, as experts in other branches, have a reputation, but who, evidently, have had but a small amount of instruction themselves in this branch. Thus we have seen and will at times see the teaching of children a part of the course on obstetrics or on gynecology, or, as is usually the case, in the province of general medicine. There is no doubt that it is in general medicine that the teaching in regard to children is best placed from a theoretical standpoint.

We have heard it said that under one head there could be a department devoted to the clinical medicine of all ages. If, however, we appreciate the number of hours which it is necessary to devote to the clinical pathology and symptomatology of adult life, and believe that an equal number of hours and the same opportunities for acquiring the knowledge of the pathology and symptomatology of early life are necessary, it is evident that it would simply be impossible practically to have one professor do justice to such a broad range of clinical medicine, in fact, such a professor would have to be a man of such education and such mental caliber that it would be exceedingly rare to find him in any part of the world. The number of hours in the day would have to be doubled if one man should devote his time to teaching all branches of clinical medicine, and many hospital

* An address delivered by request of the Chicago Pediatric Society, at a joint meeting of that society and the Chicago Medical Society.

services would necessarily have to be taken in order to keep properly abreast of the advances which are being made in the different branches. Again, such broad subjects as neurology, obstetrics and gynecology may, in the same way, be classed under the head of general medicine. The term "professor of clinical medicine" in our universities is evidently a misnomer, as there is a clinical medicine of so many branches that, as I have just stated, it would be impossible to have these branches well covered by one man, even if such a man simply superintended the teaching of them. Such methods would be very unsatisfactory, and he would continually find that, unless he could have time and opportunity for teaching in the various hospitals devoted to the especial branches, he would inevitably fail to keep abreast with those who were studying these branches in especial hospitals and who would soon fail to recognize him as their chief. It has become very evident, therefore, that a number of subdivisions of general clinical medicine must not only be recognized in the teaching curriculum of any advanced medical school, but that it must be insisted on that the teaching of these various divisions should be fostered in the special hospitals where the greatest opportunities are given for the study of them, and that physicians should be appointed to these hospitals who not only will best serve the patients, but will also, from their general education, personal enthusiasm and capabilities, best impart to the student of medicine the practical knowledge of diagnosis and common sense treatment, which can only be obtained in this way.

It is often asked wherein the diseases of children differ from the diseases of adults, and much skepticism as to such difference exists in the minds of those who have had little opportunity for studying clinical medicine, both in the large general hospitals devoted to adults and in the hospitals devoted to the early periods of life. The fact is that, with very few exceptions, there are no diseases of children; diseases *of* children is a misnomer; what we have to deal with is a manifestation of diseases as they occur *in* children. The disease, or, rather, the cause of the disease, is the same, whether it be in later or earlier life. It is the differences that occur in these diseases, according to the period of life when they are studied, that makes so very difficult the teaching of the pathology, symptoms, diagnosis and treatment of old age, of fully developed adults, of adolescence, of children in the early period of childhood, in the middle period of childhood, of infants in their second year, in the middle or latter part of their first year, in the early months, weeks or days of early life, and of premature infants. If we appreciate the great clinical differences in these periods, great in their extent, broad in their scope, important in their relations, we can not but be forced to a conclusion that a problem quite large enough for one man at present to deal with is presented by the clinical medicine of old age, of fully developed adult life, and of adolescence, and for another of the different periods of childhood and infancy.

So far as the name of the department devoted to the study and teaching of children and infants is concerned, it really makes very little difference under what name we teach, provided that sufficient proportionate time be given to each branch by the men who have the greatest opportunity for studying and improving their knowledge of these periods of life. At Harvard we have decided to use the name pediatrics, a word meaning the hygienic or medical teaching of children. The medical societies devoted to the study of children have adopted this name; the medical journals devoted to the diseases of early life have also assumed this name. We should understand, therefore, that there is a clinical medicine of early life from birth to adolescence.

If we decide that there are no, or few, especial diseases of children, but that our province is to teach clinical medicine according to the age and stage of the development of the patient, the study of pediatrics becomes much simplified. The more, however, that we study the conditions of early life, both in health and in disease, the more are we impressed by the breadth of the subject, and the more are we convinced that a much larger amount of time should be given to it before a student can be expected to intelligently diagnosticate its diseases and practically treat them. At Harvard the subject of pediatrics is taught through the whole third year, and is soon to become a part, also, of the fourth year, when opportunities will be given for advanced teaching. The idea which is at present held with us, is that the best method of teaching, and the one which will be carried out after the new medical school buildings and the hospitals connected with them have been finished, will be somewhat as follows:

In the first place, we recognize that the most thorough and systematic study and treatment of disease at the different periods of life can be best accomplished by having, so far as is possible, these different periods of life taken care of in separate hospitals. Where infants or young children have in the past been treated in connection with adults, it has almost invariably happened that in the hospital management most attention has been paid to the later period of life, at the expense of the earlier. We, therefore, expect to have, in connection with the Harvard Medical School, a children's hospital and an infants' hospital, entirely separate from each other and from the general university hospital for adults. In like manner, we have learned by experience that where it has been attempted to arrange a hospital régime for both children and infants, it is the infants who are most likely to suffer, such a great difference between these two degrees of development exists in the amount of air space needed for the individual, in the requirements for the laundry, in the number of nurses, and lastly in the method and precision of feeding. It has, indeed, been found that much greater advances in the study of and in the care of infants can be obtained by having them under entirely separate hospital management. So far as university medical teaching is concerned, it is as important to treat these different classes of cases in different buildings as it is to have separate laboratories for physiology, bacteriology and chemistry.

It would be impossible in one evening to enumerate all the phases of the different diseases which in early life markedly differ from the manifestation of disease in later life. A slight review, however, of the differences which have been impressed on me as important, and the fact that such differences exist and require much time to teach will perhaps be of interest to you. From the very beginning of my studies in pediatrics I have been impressed with the idea that a knowledge of the anatomic and physiologic conditions which exist in the early periods of life is the keynote to the proper understanding of the diseases of this early period and is of prime importance for its diagnosis and treatment. I might mention as important anatomically, the open petro-squamosal suture which exists and continues to exist in the first two or three years of life, and that

this anatomic condition, in connection with the great proportionate vulnerability of the infant to infection of the middle ear, makes possible a variety of cerebral symptoms which are seldom seen in later life, while at this early period they are very common. These symptoms can only be thoroughly understood and intelligently dealt with when we appreciate the value of this anatomic condition. Again, a knowledge of the greater frequency of adenoid growth at an early period of life, carries with it the explanation of the symptoms of many abnormal conditions which otherwise would fail to be understood unless this tendency to lymphoid growth were recognized. Again, the recognition that in early life the bladder is an abdominal, and not a pelvic organ is of importance to the surgeon, while the greater proportionate length and freedom in motion of the mesentery is of the greatest significance in regard to the intussusceptions, which are so much more common in infants than in the later stages of development. In like manner the greater proportionate length of the sigmoid flexure in early infancy, and the continuation of this condition to a later period becoming an error of development, with its accompanying symptoms connected with rhachitis, illustrates how the diagnosis of many diseases would be very obscure unless these anatomic conditions were recognized. The development of the bones and the different periods of ossification, present to us anatomic facts which are of great aid in the diagnosis of the period at which certain diseases develop, and has, in cardiac diseases, aided us in differentiating congenital from acquired lesions of the heart. I refer to the displacement of the sternum, which, when produced by intrathoracic pressure, takes one or the other form according to the period of ossification of the different parts of the sternum, in relation to the time when the cardiac disease began. A careful study of the various investigations which have been made in the physiologic laboratories, shows that the physiologic conditions which normally occur at different periods in early life are of the utmost importance in connection with the treatment of the diseases which arise at these periods.

It is not only the physiologic investigations in connection with gastric and duodenal digestion which plays so great a rôle in the various disturbances of early life, but also the studies which will in the future be carried to still greater perfection in connection with the unstable nervous system of early life, and the undeveloped conditions of the nervous centers. There is not much doubt, also, that a special study should be made of the pathologic conditions which arise in early life, a knowledge of which is of the greatest aid, not only for the intelligent treatment of the organs affected, but also in the aid which it gives us in determining the prognosis of the especial diseases. The wonderful recuperative power of the kidney in the early periods of life, is an instance of this, and makes the pathologic study of the various forms of nephritis as well as of functional renal diseases extremely interesting and important.

The pathologic conditions connected with the three most important diseases of nutrition which occur in early life, and which have a peculiar significance in the clinical medicine of that period, namely, infantile scorbutus, infantile atrophy and rhachitis, present only a small part of the immense amount of especial study which is needed for these diseases which primarily only occur in early life, but the results of which are found at a much later period of development.

Again, in studying the diseases where there are decided pathologic lesions of special organs we must recognize the varied forms of meningitis or of simple cerebral irritation which occur so much more frequently among infants and young children than in older children and adults. The study of the different organisms which produce so readily and so frequently cerebral symptoms in early life opens up in itself an immense field of investigation, a field which can best be studied in the wards of hospitals devoted to infancy and to childhood. The variety of lesions and of symptoms which occur in the pneumonias of infancy are so great in number that they form a special clinical medicine in themselves. The mixed infections, so much more common in early life than at a later period, illustrate this statement and teach us that a knowledge of the pneumonias of later life are entirely inadequate for the symptoms, diagnosis and prognosis of an earlier period. Again, we may mention the susceptibility of the heat centers in infants and young children to the action of very cold baths and to ice bags applied to the head, by which the vitality of the patient is so frequently lowered as not infrequently to cause collapse, whereas in later life the same treatment might be used with benefit.

The proper appreciation of infantile eclampsia in all its varied forms and with its manifold etiology calls for a study of many years to be fully understood, and shows us that this condition often arises from entirely separate causes from the eclampsias of a later period, in that it so often depends on the anatomic and physiologic conditions as only exist in early life, and which lose their significance at a later period.

Another set of diseases which causes not only many symptoms connected with an early period of development, but also presents the most serious results from its terminal processes in later life, is a certain class of infectious diseases, such as scarlet fever, diphtheria, measles, pertussis, varicella and others which illustrate this statement. In this connection it is extremely interesting to observe the cardiac dilatations secondary to and the cardiac hypertrophy tertiary to scarlet fever. These serious conditions are far more common in infancy and childhood than at a later period, and this class of diseases is so much more frequent in children than in adults that they may almost be called diseases of early life. The rôle which they play is very great, and they should as a class be one of the principal features in the curriculum of the pediatric department, for they belong to it.

The much greater frequency of the diseases of the mouth and of the gastroenteric tract in early life makes a much more extended knowledge of these diseases and special precision in the nomenclature which covers them necessary for those whose province it is to practice principally among children and to teach pediatrics.

This subject of nomenclature is of a good deal more importance than is usually recognized, and the study of pediatrics would be much more simple if such a classification were in vogue in all the universities, even if it were only temporary, as it might be used until some better one could be obtained.

What is especially important is to classify these diseases under some one reasonable nomenclature, so that physicians in the different parts of the world can know in writing on and investigating the diseases of the mouth or of the gastroenteric tract what each one is talking about, and not be at a loss to know if some one else is investigating the same disease under a different name, or, as is especially noticeable in the group of diseases

which is classified under dysentery, calling a number of diseases by one name.

I have thought it worth while to show you the classification which we have temporarily adopted at Harvard in these diseases. This classification of diseases of the mouth in early life is one which was adopted by the pediatric department of Harvard after it had been presented to and endorsed by the American Pediatric Society at its meeting at West Point in 1893, and was prepared by Dr. F. Forchheimer of Cincinnati and myself, who had been appointed by the society in 1892 as a committee to carry out this work.

The infectious diseases of the mouth are so much more frequent in infants than in older individuals that a systematic nomenclature was found to be especially necessary in order that the subject could be taught more systematically and rendered more intelligible to the student. It is not necessary in presenting this nomenclature to explain to you in detail the various facts on which it is founded. The main idea is that there is probably in every disease of the mouth an underlying stomatitis which renders the mucous membrane of the buccal cavity vulnerable to the various organisms which cause its disease.

NOMENCLATURE OF DISEASES OF THE MOUTH.

- Stomatitis
  - Catarrhalis
    - Simplex.
    - Exanthematica
      - Secondary to the exanthemata.
    - Traumatica
      - Mechanical.
      - Thermal.
      - Chemical.
  - Herpetica
    - Aphthosa.
  - Ulcerosa
    - Scorbutus.
    - Mineral poisons
      - Arsenic.
      - Lead.
      - Mercury.
    - Other diseases.
  - Mycetogenetica
    - Hyphomycetica
      - Thrush.
    - Pseudo-Membranosa
      - Diphtheria.
      - Tuberculosis.
      - Syphilis and like diseases.
    - Gangrenosa
      - Noma.

The following nomenclature of the diseases of the gastroenteric tract in infancy shows the classification which is now used in the department of pediatrics at Harvard, and is the one which was endorsed by the American Pediatric Society at its meeting in Washington in 1891, when it was presented by a committee appointed by the society to simplify the unnecessary, complicated and irrational names which up to that time had been in vogue throughout the world. This committee consisted of Dr. Emmett Holt of New York and myself. This nomenclature is merely intended to fill temporarily a much-needed demand until a more precise and rational nomenclature can be drawn up on a purely etiologic basis.

At present in the Harvard Medical School pediatrics is taught every day in the week during the entire medical year. Early in the beginning of the course, during the first month or six weeks, I personally give some elementary lectures to the whole class on three broad subjects:

1. On the elementary knowledge required to appreciate scarlet fever, measles, varicella and diphtheria. As soon as this elementary instruction has been concluded the students are sent in sections to the South Department of the Boston City Hospital, where one of my instructors shows them cases of scarlet fever, measles, diphtheria or any other contagious diseases which happen to be in the hospital. This South Department of the City Hospital is a separate hospital in itself, and is one of the best equipped and finest in the world, probably coming second only to the one in Glasgow. The students are here taught the diagnosis and treatment of the diseases, the best methods of disinfection and isolation, intubation and the use of antitoxin. Each student is required to report on two cases which he has seen during the course of this instruction, and this report is submitted to me at the end of the year, and is taken into account in the final examination for the degree.

The close relation between the different diseases which occur in children, both as to the terminal processes caused by these acute infectious diseases, or occurring in connection with these diseases, such as whooping cough and the different forms of pneumonia, is of such great importance to the student to see before entering into practice, that it has been deemed advisable to still further

NOMENCLATURE OF DISEASES OF THE GASTROENTERIC TRACT.

- A. Gastric.
  - Developmental.
    - *a* Malformations.
    - *b* Malpositions
  - 2 Functional...
    - *a* Acute.....
      - 1 Nervous vomiting. . . . Central-reflex.
      - 2 Cyclic vomiting.
      - 3 Indigestion.
    - *b* Chronic.... Indigestion.
    - *c* Eliminative.
  - 3 Organic....
    - *a* Non-inflammatory.
      - 1 Mechanical.
      - 2 Ulcers.
      - 3 New growths
    - *b* Inflammatory.
      - 1 Acute gastritis.
        - *a* Catarrhal.
        - *b* Corrosive.
        - *c* Pseudo-membranous.
      - 2 Chronic gastritis. . Catarrhal.
- B. Enteric.
  - 1 Developmental.
    - *a* Malformations.
    - *b* Malpositions
  - 2 Functional...
    - *a* Acute.....
      - 1 Nervous... Central-reflex.
      - 2 Indigestion . *a* Duodenal. *b* Intestinal.
    - *b* Chronic....
      - 1 Nervous... Central-reflex.
      - 2 Indigestion . *a* Duodenal. *b* Intestinal.
      - 3 Incontinence
      - 4 Constipation . Atonic-spasmodic.
    - *c* Eliminative.
  - 3 Organic....
    - *a* Non-inflammatory.
      - 1 Fermental... Acid-albuminous.
      - 2 Mechanical..
        - Dilatation of colon.
        - Volvulus.
        - Intussusception.
        - Hernia.
        - Fissure.
        - Prolapse.
        - Polypi.
        - Hemorrhoids.
        - Fistulæ.
      - 3 New growths
    - *b* Inflammat'ry
      - *a* Proctitis.
      - *b* Appendicitis
        - *a* Acute.
        - *b* Chronic.
      - *c* Ileocolitis.
        - *a* Acute.
        - *b* Chronic.
- C. Animal parasites.

broaden this course, and we are now contemplating giving advanced teaching in these diseases in the last year of the school course.

2. In like manner I give an elementary course on the gastroenteric diseases of infancy to the whole class just before the clinical teaching of these diseases is given in the wards and out-patient clinics.

3. I have also found that it is necessary to give some preliminary lectures on human breast feeding, and on the general principles of our American percentage feeding, before the practical teaching, both in the classes and in the wards, can be carried out with success.

What I especially wish to explain in regard to what I have just said is, that certain preliminary didactic lectures should be given on the subjects just mentioned before the student is given his bedside instruction.

After these three preliminary divisions have been briefly mapped out for the students, certain didactic lectures are given by myself twice a week to the whole class, such diseases being especially spoken of which it so happens in an especial year can not be obtained for the clinical

exercises. When examples of these diseases can be obtained the didactic teaching is replaced by the clinical, and what I have found to be of especial value in this latter method of instruction is not only the close intercourse with the individual student which it allows, but also the mutual stimulation to criticise and discuss the various features of the case with each other which it engenders, as these exercises are made entirely informal. Certain subjects are also taught from the text-book, but this part of the teaching is very limited, and is soon supplemented by what we are in the habit of calling case teaching. This is usually given at the end of the year, just before the examination, and is a discussion of picked cases, the history of which has been given to the student (printed) in the previous week, so that he may have the opportunity of studying the case before it is discussed. The teaching of the whole class, both didactic, clinical, by recitations and by case teaching, plays, however, but a small part of what we consider the best methods of instruction in the department of pediatrics. The greater part of the teaching is given in sections of five or six, in the wards of our infants' and children's hospitals, and it is this class of teaching which we think most of at Harvard. The other methods are simply preparatory, and in order to systematize the student's knowledge of the subject and to crystallize his ideas.

Recognizing what I have told you concerning the importance of anatomy, physiology and pathology in the study and teaching of pediatrics, they should be made a part of the curriculum of all advanced medical teaching, as should a course on laboratory therapeutics. We expect that the anatomic department will give an especial course on the anatomy of children, and the physiologic department has intimated that it will also give especial physiologic instruction in connection with infancy and children, preparatory to our later clinical teaching in the hospitals. In this way only can pediatrics be thoroughly and intelligently studied, and the young physician can not acquire a proper knowledge of infants and of children if his anatomic knowledge comprises only the anatomy of a later period, as is usually the case in most of our medical schools in the past. There is just as much reason in preparing students for the clinical study of infancy and childhood, by especial anatomic and physiologic teaching, as that such preparation should be made for the clinical medicine of adults.

Bearing all these facts in mind, we are deducing from them a system for teaching in the department at Harvard certain practical measures which we expect to carry out and perfect when the buildings and hospitals of the new medical school are erected. In the first place, we expect to teach the diseases of the first two years of life, in a hospital built and arranged for this age, and to have another hospital arranged for the needs of sick children between 2 and 12 years of age, with especial arrangements for the teaching of the different diseases as they occur at that period. We have also decided that such diseases as scarlet fever, measles, diphtheria, varicella and pertussis are so essentially connected with the early periods of life that they should be taught in the department of pediatrics, and with this end in view an assistant professor who has control of the fine department for contagious diseases in connection with the Boston City Hospital has been placed in the department of pediatrics.

There is another question that is of importance in looking on the study of pediatrics in this broad way, namely, that a thorough knowledge of the subject is of inestimable value to the practitioner of medicine, whether he be the so-called general practitioner, or whether he devotes himself entirely to children. The treatment of diseases in children is not necessarily a specialty. The physician can only decide how much of this clinical medicine he is able to practice or to teach well, by gauging his own capabilities to grasp the especial subject and his opportunities of so doing. There is surely enough to be learned and enough to be done in the clinical medicine of infancy and children to more than fill the time and tax the brain of the average practitioner. It is needless to say how important a great deal of knowledge of infants and children is to the general practitioner of medicine. When we consider how it is usually through the younger members of the household that the young physician enters into his practice, it is very evident that much more study in the practice of pediatrics is needed by the average practitioner, especially when we see how numerous are the mistakes and how bad the results of his treatment; in fact, it not infrequently occurs that the child is found to be suffering, not from the terminal processes of the disease which it has just been treated for, but from the inappropriate treatment to which it has been subjected.

In conclusion, let me express the hope that I have not dwelt at too great length on a subject which has only recently gained recognition as one worthy to be raised and placed on a level with other great departments of medicine. It is my belief that as time goes on the leading medical schools of this country will adopt a policy similar to that which I have outlined as prevails in Harvard University, and I shall merely say, in parting, Godspeed to the development and teaching of pediatrics in your great city.

THE TREND OF MODERN SURGERY.*

JAMES E. MOORE, M.D.
MINNEAPOLIS.

Westerners as a class have the reputation of thinking well of themselves and of being rather boastful of their achievements. It is very evident that others would not think well of us if we did not think well of ourselves, and it is now conceded by those whose good opinion we prize most highly that western surgeons have accomplished much of which they may be proud and even a little boastful. Most of those present have been obliged to do surgery under a serious handicap. We have had no marble walled operating rooms and no rich endowments. We have been obliged to build our hospitals as we went along and our endowments are yet to come. In short, we have had opportunities only as we have made them. It is this ability to overcome obstacles and to make opportunities that characterizes the western man. Western surgeons are proud of the fact that, notwithstanding the many disadvantages they have labored under, they are not now accused of making up the rear guard in the surgical procession.

At the organization of the American Surgical Association in 1882 one of the leading surgeons of the day said, "In my opinion surgery has nearly reached its limits. I do not see how it can advance much beyond its present height of perfection," yet in twenty years that have elapsed since that statement was made surgery has made more advancement than in all time before. The profession has

* President's Address before the twelfth annual meeting of the Western Surgical and Gynecological Association, held at St. Joseph, Mo., December 29 and 30, 1902.

been swept by such a wave of optimism, aggressiveness and surgical furor that it behooves us to scan closely our present trend. What is there in the present tendencies of surgery that makes for good and what for ill? That the general trend is toward better things all will agree, but that there are some dangerous tendencies all must admit. It is well for us occasionally to see ourselves as others see us. To this end I wish to quote briefly from an editorial which appeared in the *Minneapolis Daily Tribune* on the occasion of Dr. Lorenz's too much advertised visit to Chicago.

Reaction from the Knife.—The brilliant operations in bloodless surgery which the Austrian, Dr. Lorenz, is conducting in Chicago and elsewhere, call attention to a distinct reaction from lavish use of the surgeon's knife which is appearing in the higher levels of the profession. It is time for a counter revolution in this direction. Tremendous impetus has been given to the use of the knife in surgery by the two discoveries of anesthesia and antisepsis. Surgeons began to carve more freely when they found a way to do it without causing torture to their victim. But their power to explore the human interior was limited by the perverse habit of dying after the operation. In many cases this was due to the secondary cause of blood poisoning, which was largely removed by the later discoveries of antiseptic surgery. Then came a perfect riot of cutting and slashing, attended undoubtedly with great benefit to the human race. It would not become laymen to say that this has gone too far, because intelligent surgery always weighs carefully the chances of death and recovery, with or without an operation. If it was a great gain for humanity to learn how to use the knife with less danger to the patient, it will be a greater gain to learn how to dispense with the knife in many cases.

While we can not endorse this editorial, there is some truth in it. Our only defense is that while we do go to extremes at times there is no greater tendency in that direction among surgeons than among any other class of men. Even newspaper men by trying cases "out of court" succeed in hanging some innocent men and assisting some guilty men to escape. Surgeons are accused of being over aggressive, but the aggressor is far less dangerous than the obstructionist, and he has the saving grace of learning something while the obstructionist never learns. Even extremists have their uses. We do not look to extremists for the best in anything, yet if it were not for them we could not know our limitations. The editor just quoted, like many medical men, has a wrong conception of conservatism. He seems to think that conservatism consists in not using the knife, when we all know that the knife in judicious hands is the greatest conservative agent at our command. True conservatism consists in doing that which will the most surely prolong human life and prevent suffering. Surgeons are more truly conservative now than ever before because they save more lives and prevent more suffering than their predecessors ever did. Surgeons should not be held responsible for the work of the would-be surgeons found in every community where surgery is being done. Their ranks are filled up with young men not yet out of their medical swaddling clothes, and with older men without experience and proper training who are seeking for a royal route to fame and fortune. Their work is at times appalling and none deplore it more than the surgeons. The time will come—and it can come none too soon for the welfare of suffering humanity and the honor of surgery—when the law will require of a man that he shall have had hospital experience and shall have shown special qualifications as a surgeon before he will be allowed to perform operations involving life and death. A diploma from the best of medical colleges is no criterion, for not all physicians, not even all good physicians, can become surgeons.

Medical colleges are trying to turn out better educated medical men by raising their standard of entrance and lengthening their college term. There is no question but that the tendency is toward better education, but there is great room for improvement yet. The lengthening of the college term from two to four years unfortunately does not mean that the student spends twice as much time in studying the diagnosis and treatment of disease. So much of his time is taken up by laboratory work that he has very little more time to study medicine than he had when the course extended over but two years. We must not forget that we are trying to make doctors out of these young men and not embryologists and bacteriologists. We can not all be bacteriologists any more than we can all be surgeons. Much of our laboratory teaching at the present time is theoretical and of very little practical value. There is no crying need of half-baked medical men; why not extend the course to six years and limit the laboratory work to the first two? We certainly should do this or make the laboratory course a requirement for entrance to the medical course, leaving a full four years for the study of medicine. Our institutions have been spending so much money building and equipping laboratories that they have little or none left for hospitals and clinics.

We make this criticism of medical education in order that we may more consistently criticise the teaching of surgery. Our didactic teaching has improved and is still improving very materially. The didactic lecture, given alike to freshmen and seniors, is fortunately a thing of the past. It has given place to graded instruction and recitation. Our clinical teaching of surgery, however, is very faulty. The average surgical clinic has been very aptly likened to a continuous vaudeville performance. There is too much of major and too little of minor surgery. It is of infinitely greater value to a student to see a finger amputated or a fracture treated than it is for him to see an abdominal operation. The students see so much major surgery and so many brilliant results that they naturally think it is easy and that they can begin doing that kind of surgery as soon as they get out of college. This is certainly a bad tendency, but one that is easier to find fault with than to remedy. The remedy is for the medical colleges to furnish the clinician with abundance of material and with the same facilities for graded instruction that are furnished to the laboratory teachers, and to so compensate him financially that his only hope of reward is not through the advertisement he may get from his clinic. Eminent jurists and theologians are not obliged to charge their time spent in teaching to the advertising account. They have too much good sense to allow themselves to be placed in any such position. The position of the average clinical teacher is all wrong, and the humiliating part of it is that it is all his own fault. We as surgeons can fully appreciate the value of laboratory work, but as teachers we should insist that it shall supplement and not supplant the teaching of medicine and surgery. One of the great advances surgeons have made is the supplementing of clinical diagnosis with laboratory diagnosis.

The tendency now is to give the patient a more thorough and careful examination than we formerly did, making use of many scientific mechanical devices to aid us. Each year some new devices are added to our

armamentarium and old ones are being improved on. At the present time no one who is imbued with the prevalent professional spirit thinks of listening to a patient's tale of woe and then writing a shotgun prescription. On the contrary, a careful and systematic physical examination is made and the patient gets fewer drugs than ever before. This method of examination is the outcome of specialism.

The one thing that has had more to do with the advancement of medicine and surgery than any other is specialism. It stands to reason that one who devotes his whole time to one branch of the profession can do better work than he otherwise could. A specialist who has not graduated only yesterday, but who has developed from a general practitioner is certainly in a position to do better for the community and for himself than if he were to try to cover all branches throughout his professional career. One of the bad tendencies of the day is for young men to go directly from college into special work before they know to what line of work they are best adapted and before their knowledge is broad enough for good general work and while it is utterly inadequate for special work. When so many new things were added to medicine specialism became a necessity, and it in turn has developed the science of medicine to a degree that could not otherwise have been attained. As soon as men began to devote their whole attention to some one branch of the profession they became more expert in old methods and discovered many new ones. Twenty-five years ago the oculist and aurist was practically the only specialist known. Then came the gynecologist, but as long as he confined himself to the local application of nitrate of silver, to glycerin and tannin tampons and pessaries, he made very little progress. Very soon, however, he began to do plastic surgery, which lead to pelvic surgery. From pelvic surgery he soon passed on up to the diaphragm and out through the abdominal wall to the breasts, when he began to lose his identity and to become a general surgeon. The consequence is that there are fewer gynecologists now than there were ten years ago. The gynecologist developed the science of abdominal surgery, for which we owe him an everlasting debt of gratitude. At the present time the bulk of most general surgeon's work is abdominal surgery. It is absurd to maintain that the surgeon who can do good work in the upper part of the abdomen can not do equally good work in the lower part, and vice versa.

Fifteen years ago there were very few specialists in general surgery. There were none in the West, and, in fact, it was not believed possible for a man to get enough surgery to keep him busy. About this time, however, a few pioneers began to realize the great possibilities of surgery as a specialty, and the consequence is that to-day we have specialists in surgery in every city of consequence throughout the land, and the more surgeons there are the more surgery there is for them to do. New fields have been entered each year and the end it not yet.

Hospitals are being established without number, and it will be interesting to note the results. Many of them being poorly equipped and poorly manned will doubtless close, but others will remain a blessing to their communities and to the profession. The good country hospitals will be helpful to the metropolitan hospitals because they will educate the country people to the hospital idea and teach them the possibilities of surgery. We will find that the more hospitals there are the more surgical cases there will be to fill them. The modern hospital, with its trained nurses, is a very essential part of modern surgery, and the rule now quite generally adopted by surgeons that every patient requiring an operation must go to a hospital when it is possible, has much to do with advancing surgery. The people in the cities have already learned that a hospital is not a charnal house, but a harbor of safety. We find very little difficulty now in persuading our patrons to go from the finest homes to the hospital. The country people already know something of this, and through the country hospitals will soon learn more. We of the larger cities need not fear the competition of the country hospital, because much that will be done there would otherwise be undone.

A few years ago when our present technic was being developed many of the papers read were on that topic, but now we are so content with our methods that the technical paper is the exception. There is even a little tendency to criticise one who writes a paper on technic as though this subject were settled for all time, but this is wrong, for great as have been our improvements we have not yet attained to perfection. It has been suggested by a recent writer that a uniform standard of technic be established, but it is questionable whether this can ever be brought about, and if it could be done it is not desirable, for technic is the work of human hands and can never be perfect. An established standard would imply perfection which would prevent progress. The early history of antiseptic surgery was an illustration of our tendency to go to extremes. Our very elaborate technic at that time made us seem ridiculous in the eyes of unbelievers and the laity. There is a very wholesome trend now toward simplicity in technic. The best surgeons are those who have the least paraphernalia and who make the least fuss about an operation.

Strong chemicals are rapidly disappearing from our operating rooms and are giving way to soap, water, brush, boiled instruments and rubber gloves. The late Lawson Tait builded better than he knew, for when he thought he was denouncing antiseptic surgery he was really teaching us aseptic surgery. We have even learned that an operation can be conducted more satisfactorily and comfortably without flooding everything with water. There should be but one rule in aseptic surgery, viz., absolute surgical cleanliness, brought about in the simplest manner possible.

The tendency in the West is to abandon all unabsorbable buried sutures. One who becomes accustomed to catgut uses it more and more, until he finally uses it for everything but the intestines and the integment. One accustomed to it finds no objection to it.

One of the most hopeful signs of the times is the great interest surgeons take in each other's work. A spirit of kindly criticism prevails that is helpful to us all. So much good surgery is being done everywhere that it is quite the proper thing now for surgeons to visit each other and make comparisons which are bound to prove beneficial. We have always traveled East for surgical light, but at the present time there is a very respectable and rapidly increasing return current toward the West.

In conclusion: Let us continue to work so that it can not be said of us twenty years hence that we did good work for a few years and then folded our hands and said we have attained to such a height of perfection that farther advance is impossible. Let us continue to work, still admitting that there is room for advancement, not being content with our laurels until we shall have at-

tained the millennium when there will be no disease and no suffering.

Let us then be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labor and to wait.

Original Articles.

A MODIFICATION OF PANAS' OPERATION FOR PTOSIS.

FRANK ALLPORT, M.D.
Professor of Ophthalmology, Chicago Policlinic; Ophthalmologist and Otologist to St. Luke's and Wesley Hospitals, etc.
CHICAGO.

Panas' operation for ptosis probably yields better results, on the whole, than any other operation, and yet its various steps are not always clearly understood by

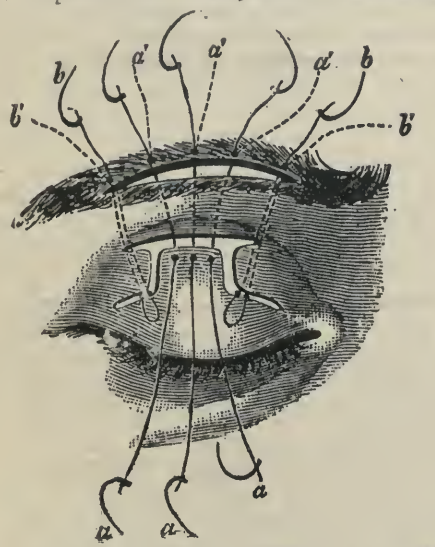


Fig. 1.—Panas' operation for ptosis. (After Panas.)

operators, and it possesses some glaring defects that have served to render it rather unpopular. It is for the purpose of clearing up these misunderstandings and

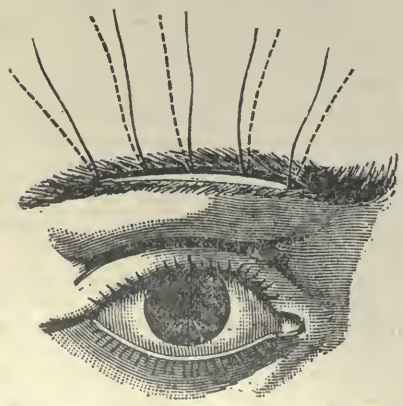


Fig. 2.—Appearance after the operation is completed. (After Panas.)

remedying the defects that I have ventured to offer this communication.

I will first reproduce the drawings usually given to clarify the written description of Panas' operation, and it will be seen that they do not entirely clear up some of the points in the ordinary description.

I think that the addition of a plain schematic drawing would better demonstrate the different steps in the operation, and for this purpose at my clinics I draw a plan like Figure 3.

The line indicated by 1 represents the first incision, which should be in the eyebrow and extend to the bone. The line indicated by 2 represents the second incision, which should be just below the eyebrow, and should extend also to the bone. The bridge of tissue between these two incisions should not be more than 5 or 6 mm. in width. The line marked 7 represents the palpebral margin of the upper lid. The line marked 3 represents a short incision in the lid at about the upper margin of the tarsal cartilage, and should be from 8 to 10 mm. long, and should pass completely through the skin. The line marked 4 represents another similar incision in the opposite angle of the lid. The lines marked 5 and 6 represent two incisions passed completely through the skin and uniting 3 and 4 with 2. While incisions 3, 4, 5 and 6 are being made, the horn spatula should be placed underneath the lid, both to facilitate the making of the incisions and to avoid accidents to the underlying eyeball. The tissue between incisions 5 and 6 should be about 15 mm. in width.

Figure 1, as given by Panas, shows all the lines, etc.,

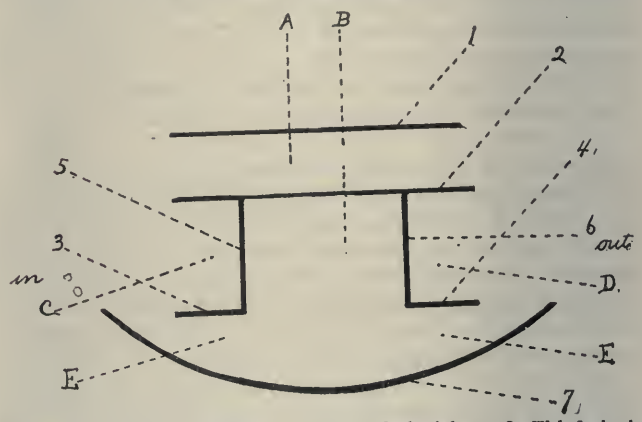


Fig. 3.—1. First incision. 2. Second incision. 3. Third incision. 4. Fourth incision. 5. Fifth incision. 6. Sixth incision. 7. Edge of upper lid. A. Bridge flap. B. Tongue flap. C. Nasal flap. D. Temporal flap. E. Palpebral flap (nasal side). E. Palpebral flap (temporal side).

to be beautifully curved in outline, but in practical work these curves are not feasible, and I believe straighter incisions can be much more accurately made, and will not detract from the efficiency of the operation.

The original drawing of Panas (Fig. 1) is misleading, as it shows the two threads in the five needle holes in the superior portion of the eyebrow incision, both coming out of the same needle hole, whereas they should be shown as coming out of separate needle holes, side by side and close together, as shown in Figure 4, which I would suggest as in every way a plainer drawing than Figure 1.

The description as given by Panas is also not explicit concerning the sutures 4 and 5, which are placed to prevent a tendency to ectropion induced by the traction effect of sutures 1, 2 and 3. These sutures should include the tissues of the lid except the skin and tarsal cartilage, and should be inserted in the spaces between the skin flaps. One of the needles of a double-needled thread should be inserted directly through the lid from within outwards, just above the upper edge of the tarsal cartilage, and pulled through, after which the other needle should be inserted through the tissues, also from within outwards, and brought out close to the first point of entrance of this suture, leaving the loop of the suture on the conjunctival surface of the lid. The lid should

be held well away from the eyeball either with the fingers or forceps during the entire placing of these sutures, so that the operator may look under the lid and see what is transpiring, and so that the needle may not injure the eyeball. The sutures should then be passed up under the bridge flap, and through the superior margin of the brow incision and firmly tied.

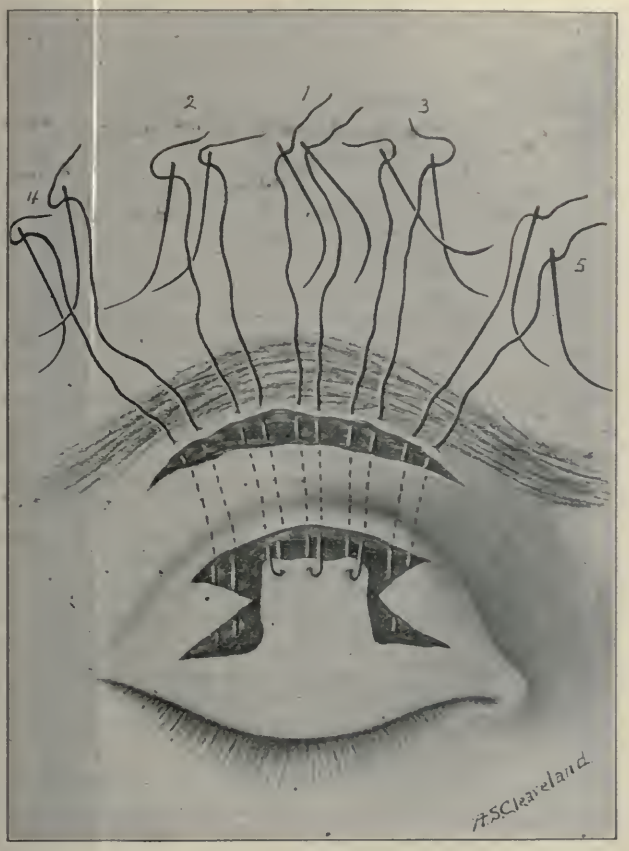


Fig. 4.—1. First suture. 2. Second suture. 3. Third suture. 4. Fourth suture. 5. Fifth suture.

One great objection to the operation is the fact of the non-adherence between the flap marked B (Fig 3), which I will call the tongue flap, and the flap marked A (Fig. 3), which I will call the bridge flap. The upper surface of the tongue flap is unbroken skin, that of the

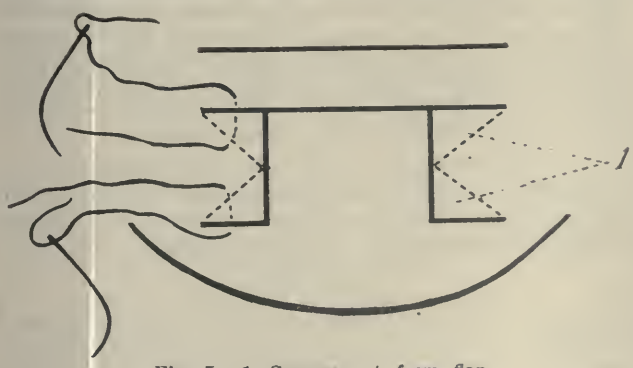


Fig. 5.—1. Corners cut from flap.

under surface of the bridge flap is connective tissue, fat, etc., and the two do not heal together, which leaves a pocket or cul-de-sac between the two for the permanent accumulation of various forms of debris, which is both unsightly and unhealthy, as well as being a distinct defect in the operation. This objection I remedy by thoroughly scarifying the skin surface of the tongue flap by criss-cross incisions, and then removing most of the dermal epithelium by delicate forceps and scissors. This procedure is accomplished before the tongue flap is dissected from the underlying tissue, as the flap is then firm, and can be handled easier than after it is lifted. The sutures are then placed and the tongue flap drawn up under the bridge flap and tied, and in a few days perfect adhesion will take place. Another objection to the operation is the thick, lumpy appearance of the bridge flap, which never entirely disappears. This objection I minimize by making the bridge flap as narrow as possible, never more than 5 or 6 mm. in width, and also making it as thin as possible by stripping it of all possible tissue beneath the true skin.

The last objection to the operation is the two pieces of skin at the angles of the lids marked C and D in Figure 3, which pucker up and look permanently bulky

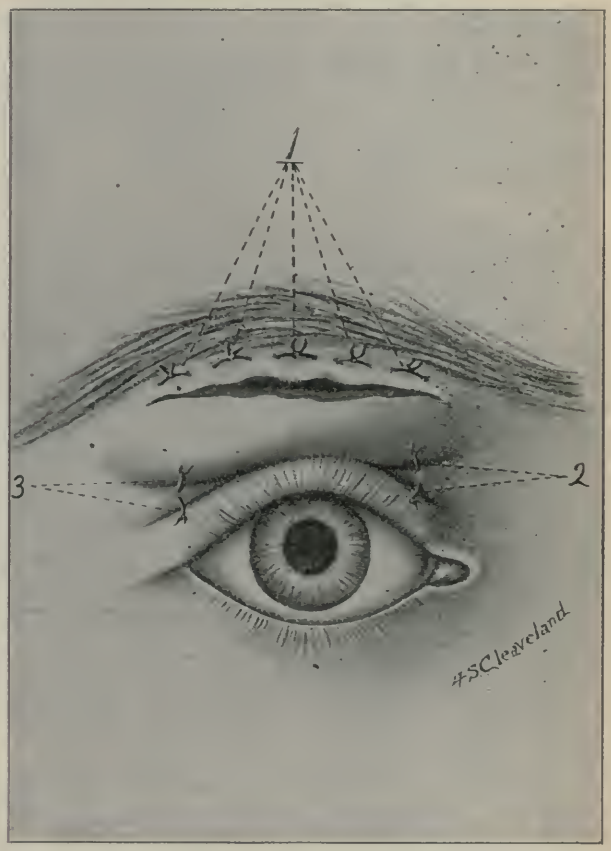


Fig. 6.—1. Sutures 1, 2, 3, 4, 5, after being tied. 2 and 3. Sutures in flaps C and D after being tied.

and unsightly. This I remedy by cutting off the corners as seen in the dotted lines of Figure 5, and then thinning the under sides of flaps C and D (Fig. 3) by removing all possible tissue except the true skin. Flaps C and D (Fig. 3) are then sutured to flaps E and E (Fig. 3) and flap A (the bridge flap) by four sutures, which makes the entire field of operation present a smooth and finished appearance and adds much to the cosmetic effects of the operation, as shown in the completed operation of Figure 6.

I have performed the operation as thus outlined a number of times, and have not failed to obtain satisfactory results.

Crystallized Wisdom on Epidemics.—In these days there are no excuses for epidemics of filth diseases; there are only explanations of them.—"N. Y. Times."

THE EXTERNAL PREPARATIONS AND THEIR THERAPY.

CARL S. N. HALLBERG, PH.G.

Professor of Pharmacy in the School of Pharmacy, University of Illinois; Member Committee of Revision U. S. Pharmacopeia.

CHICAGO.

While the history of the preparations embraced in the broad generalization of external preparations is of the most ancient origin, yet their evolution and differentiation along therapeutic lines is largely a matter of recent development.

Up to a comparatively recent period the fats employed for vehicles of the oleagenous preparations were selected with sole reference to their pharmaceutic properties, that is, to afford preparations possessing the most desirable physical characteristics: proper consistence, ready fusibility, etc. The earlier materia medica was especially rich in oils and fats of animal origin, the fat of nearly every creature being vaunted as having especial virtues, such notions still surviving among many peoples, as, for example, bear-grease to promote the growth of the hair; goose-grease to loosen and break up a cold; rattle-snake oil as an application for rheumatism, and many similar domestic remedies.

OINTMENT VEHICLES.

The introduction of the petroleum fats or soft paraffins, in 1870—cosmolin and vaselin—was a great advance over the rancid and otherwise often decomposed mixtures of animal and vegetable fats, mostly used before this time, and the substitution of these practically inodorous and unchangeable soft paraffins for the latter became quite general. The immiscibility with water and watery liquids of the soft paraffins was the only drawback to their more extended use, until about 1882 the purified wool-fat appeared under the name of lanolin. The peculiar property of this cholesterin, even after being hydrated, to take up its own weight of water at once attracted attention, and when its power to penetrate the skin was subsequently discovered it began, though slowly, to be recognized as a valuable medium by which systemic effects may be obtained through the skin. While the fat from wool was used by the ancients under the name of "Œsypus," to Oscar Liebreich is due the credit of presenting a pure hydrated form of it under the name of lanolin, official as adeps lanæ hydrosus, U. S.

THERAPEUTIC GROUPING.

The at first more or less empiric use of these two fats —the soft paraffin and lanolin—of exactly opposite qualities as regards their water miscibility and property to penetrate the skin, led eventually to the grouping of the ointments and similar preparations from a therapeutic standpoint, according to the vehicle employed, substantially as follows:

1. *Epidermatic:* Non-penetrative, or non-absorptive. Protective, antiseptic. Vehicle: Soft paraffin, vaselin or petrolatum, U. S.

2. *Endermatic:* Semi-penetrative or semi-absorptive. Emollient, nutritive, astringent, etc. Vehicle: Animal or vegetable fats, oils and waxes. Lard, suet, oils of almond, olive, etc.

3. *Diadermatic:* Penetrative or absorptive. Systemic or constitutional. Vehicle: Lanolin or hydrated wool-fat.

While this classification is a generalization, its approximate correctness is apparent from the fact that a vehicle consisting of equal parts of petrolatum and lanolin, the respective types of the two extreme groups, has the general properties of the intermediate endermatic group. Since this vehicle does not become rancid or react with chemicals, as do the animal or vegetable fats and oils, it serves excellently for endermatic uses.

SUPPOSITORIES.

In no class of preparations has the failure to consider the general therapeusis been so apparent as in the suppositories. Since their first introduction into the U. S. Pharmacopeia in 1870 the vehicle has been uniformly cacao-fat or theobroma oil.

While three different forms of suppositories are recognized no distinction is made as to the vehicle employed, although the necessity for such selection is generally conceded. For rectal suppositories fats undoubtedly are the best vehicle, not only because of the alkalinity of the secretions, but also because more or less penetrative or absorptive effects are desired. Cacao-fat serves this purpose probably better than any other fat. While soap is sometimes used, its effects are simply those of an irritant or solvent, as in the official glycerin suppositories. Neither is gelatin a proper vehicle for rectal suppositories, except when used instead of nutritive enemata, where other considerations supervene.

On the other hand, the secretions of the urethra and vagina are normally acid, and fats are therefore not indicated as the proper vehicle for urethral and vaginal suppositories, but water-soluble substances should be employed. Glycero-gelatin answers the purpose probably better than most of the other substances employed, the only objection being that in melting it exudes and may mat the pubic hairs. By using 50 per cent. anhydrous glycero-gelatin mass, a soft, readily-soluble "bougie" is obtained in which tannin and similar agents may be presented without difficulty.

The late Dr. Hay of Chicago employed a vaginal suppository of elm powder which had the advantage of ready preparation in that the suppository could be easily formed into any shape desired with the fingers.

Glycero-Massa Ulmi (Elm Suppository-Mass.)—Powdered elm bark, 10; water, 6; glycerin, 6 c.c. In the water and glycerin previously mixed dissolve the required amount of the medicinal agent, add the solution to the elm powder at once, and quickly mix and form a mass, by working the mixture in a mortar. A soft, cohesive and plastic mass results which may be rolled out, divided into the required number of parts (for the above quantity of 6) and made globular by forming with the spatula and the fingers. This operation should be done quickly, since the mass hardens in about ten minutes and can not then be readily formed. Any form can easily be made in this manner without losing its shape. In about twenty-four hours the suppositories become hard and elastic.

In a suppository the medicinal agent should be most thoroughly distributed with the vehicle, as in all similar preparations, and it is worst kind of slip-shod pharmacy to use the so-called "hollow" suppositories.

CERATES.

The cerates are mixtures of fats and waxes, having a higher melting point than ointments, their firmer consistence requiring them usually to be spread on cloth and applied as dressing. They are, therefore, in the epidermatic group and comprise protective, cooling, emollient and vesicating effects. The cantharidal cerate is the most important, and when spread on adhesive plaster in such thickness as to obliterate the yellow color of the plaster cloth, when viewed through the light, it is the most effective cantharidal vesicant to be had.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. A. W. Baer, A. B. Lyons and W. J. Robinson.

PLASTERS.

This most ancient form of medication has largely fallen into disrepute during recent years, owing partly to their ineligibility and uncertainty of action, and partly to the advent of more efficacious and more quickly responsive methods of treatment. The advent of the rubber plasters has also caused the lay public, which believes in "anything that will stick," to appropriate the plasters as its own sovereign remedy for all kinds of aches and pains.

Nevertheless, the plasters serve a useful purpose owing to the great range of their application, which may be summarized in the following groups:

1. *Epidermatic:* Supportive, protective, antiseptic, counter-irritant, vesicant. Vehicle: Rubber or any suitable adhesive.
2. *Endermatic:* Anodyne, astringent, alterative, resolvent, sedative, stimulant. Vehicle: Oleates or lead plaster, sometimes with resins or gum-resins.
3. *Diadermatic:* For constitutional or systemic effects. Vehicle: Lanolin or plaster-mull.

The vehicle for the commercial rubber plasters is chiefly India-rubber, or caoutchouc, with sufficient orris powder and sometimes gum-resins, to give it the proper consistence and retain its adhesive properties. For epidermatic purposes this serves admirably as a convenient and fairly stable adhesive, but since it lacks penetrative properties in any considerable degree, it should not be used for endermatic effects, such as are sought from drugs like belladonna. The suggestion to increase the efficacy of rubber belladonna plaster by the addition of boric acid would seem also to support the view that such anhydrophile mixtures do not penetrate into the skin, as has also been clinically demonstrated.

For endermatic effects the oleates, as represented by the well-known lead plaster, are the best vehicle, since they penetrate into but not through the skin, and thus have the desired effects without producing any systemic or constitutional results. The objection to the old-style plasters with a lead-plaster vehicle, that they are impaired by age, become brittle and lose adhesiveness, has been met by improved methods of manufacture affording an adhesive plaster which retains its flexibility and through the admixture of a little rubber adheres without being artificially warmed.

For diadermatic or systemic effects the vehicle for plasters should be animal fat, such as lard or suet with waxes, or preferably mixtures of these with lanolin, substantially like the plaster-mulls of Unna. The official mercury plasters, at present made with lead plaster and gum resins, should be prepared with this lanolin vehicle.

OLEATES.

The official oleates are liquid or semi-solid mixtures of the respective oleates in oleic acid in excess which renders them often ineligible. The true oleates, or so-called "dry oleates," are preferable, but these should be diluted with a proper vehicle before use.

As indicated above, the oleates do not penetrate through the skin, which becomes self-evident when the constant use of soap (sodium oleate) is considered. While there is plenty of evidence that the natural oleates, the oils of olive and almond, also the oleopalmitates and stearates, lard, butter, etc., in which the respective acids are linked with the radical glyceryl, penetrate through the skin and are absorbed in the system, the artificial compounds of these acids with the metals and alkali bases, known respectively also as insoluble and soluble soaps, are not absorbed through external use. If it were otherwise, what an inducement for the people in "the farther Mediterranean" to consume at least some portion of their daily rations of olive oil in the form of soap.

LINIMENTS.

The value of liniments depends on the degree they penetrate into and through the skin, only one official liniment being protective, that of lime, the well-known Carron oil, so called from the factory town in England where the mixture of linseed oil and lime water originated as an application to burns. While the effects resultant from such liniments as consist of oils or soap solutions are supposed to be largely influenced by the mechanical rubbing or massage in their application, solutions of medicinal agents, such as belladonna, camphor, etc., in alcohol or other volatile liquids, are no doubt more effective when they are applied by means of an occlusive dressing as shown by the extended researches of Dr. Thos. F. Reilly,[1] presented to this association in 1900.

Several modifications have come into recent use: the saponimenta or liquid medicated soaps, which may be prepared extemporaneously from the official soap liniment or from the semi-solid form, linimentum saponatum camphoratum of the National Formulary or solid opodeldoc.

COLLODIONS.

The collodions, owing to the impervious film of pyroxylin or colloxylin which they leave on evaporation of the volatile solvent ether-alcohol, suggest a wider employment, and as being well adapted for applications on small areas, when lasting effects are desired of tannin, iodin, iodoform and similar derivatives. The official list may well be extended to include those of the National Formulary.

The linimenta exsiccantia, or the so-called drying liniments, have somewhat similar uses, except that they do not form so impervious a coating as do the collodions. the vehicle consisting of mucilages of starch, dextrin, tragacanth or albumin. The following is a type, which may be medicated as desired with zinc oxid, chrysarobin, iodoform, ammoniated mercury, ichthyol, salicylic acid, etc.:

VERNICIUM ICHTHYOLI ALBUMINATUM, UNNA.

℞.	Ichthyol sulph. ammon.	3v	20
	Starch, powder	3v	20
	Distilled water	3xv	60
Mix with:			:
	Liquid egg-albumin, recent	m. xii	75

MODERN DERMATOLOGIC PREPARATIONS.

Pastæ (Pastes—Dermatologic—Lassar, Unna, etc.)—These are mixtures of starch, dextrin, zinc oxid, sulphur or calcium carbonate, made into a paste with glycerin, soap or fat, such as petrolatum or lard, medicated with antiseptic or astringent agents. The following are important examples:

PASTA ZINCI, LASSAR (ZINC-SALICYL).

℞.	Acid salicylic	gr. xxx	2
	Zinc oxid, starch, each	3vi	24
	Petrolatum, white	3xiiss	50

PASTA RESORCINI (MITIS), LASSAR.

℞.	Resorcin	3iiss	10
	Zinc oxid, starch, each	3vi	25
	Petrolatum, liquid	3x	40

PASTA NAPHTHOLI, LASSAR.

℞.	Naphthol	3iiss	10
	Sulfur, pp	3xiiss	50
	Petrolatum		
	Soft soap, āā	3v	20

1. THE JOURNAL A. M. A., Jan. 26, 1901, p. 250.

PASTA ZINCI MOLLIS, UNNA.

℞.	Zinc oxid., calc. carb. pp., each	3vi	24
Mix these powders and incorporate gradually:			
	Lime liniment	3xiiss	50

PASTA ICHTHYOLI, UNNA.

℞.	Ichthyol, sulf. ammon.	3iiss	10
	Distilled water, glycerin, dextrin, each	℥i	30

PASTA ZINCI SULFURATA, UNNA.

℞.	Zinc oxid	℥ss	15
	Sulfur, pp.	3iiss	10
	Acid silicic (kaolin)	gr. lxxx	5
	Benzoated lard	3xviiss	70

PASTA DEXTRINATA.

℞.	Dextrin	3xxv	100
	Glycerin, distilled water, each	3xxv	100
Dissolve by heat, add water to make 300 gm. ℥x.			

This is a general vehicle for many medicated pastes used in dermatology.

PASTA KAOLINI. GLYCEROPLASMA KAOLINI.

℞.	Kaolin, elutriated and dried	3xiiss	50
	Glycerite boroglycerin	3iiss	10
	Methyl salicylate, thymol, each	gr. i	5
	Glycerin, to make	3xxv	100
Or sufficient to make a semisolid paste by thorough levigation.			

Stili (Stili Dilubiles, Unna. Pencils.)—Pencils for the direct application to the skin of medicinal agents—antiseptics, astringents, anesthetics, etc. These agents are dissolved or mixed with a paste consisting of mucilaginous or saccharin vehicles, starch, dextrin, tragacanth, sugar, etc., rolled out into sticks about 1/5 inch (5 mm.) in diameter and 2 inches (5cm.) in length, dried at ordinary temperature on parchment paper and wrapped in tin-foil.

Gelatinæ Glycerinatæ (Glycerogelatin).—Gelatin mass as a vehicle for suppositories and other external applications is used as follows:

GLYCEROGELATINA ACIDI SALICYLICI, 10 P. C., UNNA.

℞.	Gelatin	3iiss	10
	Glycerin	3xiss	45
	Distilled water	3ix	35
	Acid salicylic	3iiss	10

GLYCEROGELATINA IODOFORMI, 10 P. C., UNNA.

℞.	Gelatin	gr. lxxx	5
	Glycerin	3v	20
	Distilled water	3xvi	65
	Iodoform	3iiss	10

GLYCEROGELATINA ZINCI DURA, UNNA.

℞.	Gelatin	3iiiss	15
	Distilled water	3xiss	45
	Glycerin	3vi	24
To this add gradually the following, levigated:			
	Zinc oxid	3iiss	10
	Glycerin	3iiiss	15

Then mix with it enough water to make 100 gm. The soft form (Glycerogelatina Zinci Mollis) is prepared in the same way by using 10 gm. gelatin.

These glycerogelatins should be freshly prepared when wanted. They may be run out in molds, oiled with cacao-fat. The zinc gelatins may be used as vehicles for ichthyol, resorcin, chrysarobin, etc. When to be applied, they are melted and then penciled on the affected part.

Gelatinæ Medicatæ (Lamellæ, Eye Discs).—Discs of gelatin are made with some glycerin, containing alkaloidal salts for insertion and solution in the eye. They are applied to the eye with a pencil. The following is an illustration:

GELATINA ATROPINÆ SULPHATIS. 1-10 mg.

℞.	Gelatin	3vi	25
	Distilled water	3xxv	100
	Glycerin	gtt. vi	4
	Atropine sulphate	gr. iss	1
For 1,000 discs from a plate 7x12 inches (18x30 cm.).			

Salve Mull.—Under the name of "salbenmull," salve mulls, or steatines, ointments have been introduced of higher fusibilities spread on porous cloth, gauze or "mull" by Dr. Unna. These are mixtures of suet with lard and sometimes wax, in such proportion as to afford a consistence adapting them to being easily spread when heated without melting or running when applied to the body. They are intended chiefly for epidermatic effects, protective and antiseptic, but also for endermatic, astringent and resolvent action.

The mulls serve a distinct purpose in dermatology, since owing to the porous character of the fabric employed, they permit ready evaporation and thus prevent maceration of the epidermis which usually occurs from the prolonged application of more occlusive dressings. Their value as a form of application in intractable skin diseases has therefore been recognized by the highest authorities in this special branch of medical practice. The following are some of the most largely used:

UNGUENTUM EXTENSUM HYDRARGYRI CHLORIDI CORROSIVI. 2 p. mill.

℞.	Mercuric chlorid	gr. iii	2
	Alcohol	m. lxxx	5
This solution is incorporated with the following mixture previously fused:			
℞.	Benzoated lard	℥iv	5
	Benzoated suet	3xxiiss	90

UNGUENTUM EXTENSUM HYDRARGYRI CHLORIDI MITIS, 10 P. C.

℞.	Calomel	3iiss	10
	Benzoated lard	3v	20
	Benzoated suet	3xviiss	70

STERILE SOLUTIONS.

While many pharmacists are careful in making solutions, such as injections, eye washes, gargles, lotions, etc., the majority are not, and the result has been that many leading specialists in eye diseases, for example, prepare and dispense their own solutions, asserting that only through such procedure can they be assured of complete asepsis. The use of compressed tablets for hypodermic solutions has become general, chiefly because of their convenience and portability, but no doubt also from the fact that through their use solutions may be prepared extemporaneously with fresh water as pure as may be obtainable. In the larger cities where the water supply is more or less infected, the general practitioner no doubt is often compelled to use the service water instead of pure water, and the employment of the tablets must therefore in many instances be a source of infection. Weak, 1 per cent. water solutions of the alkaloidal salts: atropin, morphin, cocain, pilocarpin, also ergotin, permit germ growth, while concentrated solutions, i. e., 10 per cent. solutions of cocain and quinin, are easily kept germ-free. Solutions in germicidal solvents: alcohol, ether; iodin, mercuric chlorid and strong phenol solutions, are not admissible, but almond oil may be used for camphor and glycerin for iodoform. Carbolic acid—one drop for 160 minims (10 c.c.)—is the safest and altogether the best preservative for the water solutions.

Whether or not it may be regarded desirable to admit formulas for hypodermic injections into the U. S. P., there is no doubt that some general directions or formula should be introduced for sterilization. Not only for hypodermic injections are sterile solutions necessary, but also for ordinary injections, lotions or washes, nebulæ or sprays, and especially for collyria.

Dr. Fütterer, a most careful observer, reports several instances of the most serious results due to careless preparation of solutions for hypodermic use, and regards the

official recognition of a process for sterilization as of the greatest importance, since it would enable the physician to specify its employment for the preparation of solutions, etc. It would, moreover, direct the attention of pharmacists to the necessity for care in these preparations and would afford him at once an authoritative method insuring the best results.

INJECTIONES HYPODERMICAE. BR. PH. '98.

These solutions are prepared by dissolving the medicinal agent in distilled water which has just been boiled and allowed to cool. The antiseptic agents in the cocain and ergotin solutions are added before the medicinal agents are dissolved.

INJECTIO HYPODERMICA.

℞.	Apomorphin hydrochlorate .....gr. iss		1
	Ac. hydrochloric dil.....min. iss		1
	Distilled water .....min. clx	10	
℞.	Cocain hydrochlorate .....gr. xvi	1	
	Ac. salicyl.....gr. 1/4		015
	Distilled water .....min. clx	10	
℞.	Extract ergot .....gr. clx	10	
	Phenol .....gr. v		3
	Distilled water 3v	20	
℞.	Morphin tartrate .....gr. lxxx	5	
	Distilled water 3xxv	100	

The apomorphin and ergot injections are directed to be recently prepared.

ANTISEPTIC GAUZE.

Schimmelbusch, director of Bergmann's clinic in Berlin, states (1893) that moisture is one of the essentials for germ life, while "dryness" is one of its greatest enemies, and therefore dry dressing is always preferable to wet, except where the wound secretion is viscid and purulent and where the antiseptic material is employed for packing deep or incised wounds. It seems that the majority of surgeons prefer dry dressing for aseptic wounds, but wet or moist dressing for septic wounds, such as result from great laceration, etc. This question would go entirely beyond the scope of pharmaceutic discussion and is presented only to demonstrate the necessity for a distinction between wet and dry gauze and surgical dressings. While under the circumstances it may be inadvisable to recognize antiseptic gauze in the pharmacopeia, the admission of aseptic gauze would be highly desirable, either simply defined as to its character and properties, as the "tela depurata" in the German pharmacopeia and also "gossypium purificatum" in the U. S. P., or preferably by giving directions for the purification of the commercial gauze, as is done in the French codex by a process like the following:

CARBASUS ASEPTICUS.

Gauze of the required weight and mesh is boiled in water for 10 to 15 minutes, expressed, and washed two or three times in cold water. The expressed gauze is then allowed to macerate in solution of chlorinated soda for one-half hour, pressed and macerated in water containing 1 per cent. hydrochloric acid, rinsed in cold water several times, pressed, and dried in a closed vessel or sterilizer.

The gauze is quickly formed into rolls of the required dimensions and immediately transferred to sterile receptacles, preferably of tinned iron which are hermetically sealed.

DISCUSSION.

Dr. A. W. Baer, Chicago—Only yesterday I went into a physician's office in this place and saw the most complete outfit that I have ever seen. Here were all forms of apparatus for applying electricity, galvanic, faradic and static, some of which the owner would not in all probability use once a month. It occurred to me that if the pharmacist had these appliances, more especially in the smaller towns of 1,500 or 2,000 inhabitants, he might thus be of much assistance to the physician and keep himself occupied. Drugs are now only a part of the means for treating disease; and at the present day the large pharmaceutical manufacturing houses supply nearly all the preparations, to say nothing of the proprietary drugs unfortunately prescribed, thus doing the work of the pharmacist, supplanting him in his legitimate occupation.

GENERAL PUERPERAL SEPTICEMIA TREATED BY INTRA-ABDOMINAL IRRIGATION WITH NORMAL SALINE SOLUTION; RECOVERY.*

JAMES HAWLEY BURTENSHAW, M.D.
Adjunct Professor of Gynecology in the New York Polyclinic Medical School and Hospital.
NEW YORK.

A number of cases have been reported in which the abdominal cavity has been subjected to irrigation for puerperal sepsis, with indifferent results; but the accompanying report is unique, so far as I am able to determine, on account of the length of time the irrigation was practiced, the effect of the irrigation on the kidneys and peritoneum, and the ultimate recovery of the patient without the ordinary sequels of septic peritonitis.

The patient was a French woman, aged 24, unmarried, secretary to a woman of considerable wealth. She became pregnant during the latter part of August, 1902. During October and November she made frequent attempts to produce abortion by means of various drugs, hot-water vaginal douches and the like, but unsuccessfully. Early in December a meddlesome woman friend initiated her into the mysteries of instrumental procedure, and during the evening of December 9 she inserted an ordinary wooden penholder into the cavity of the womb and allowed it to remain there until the following morning. The membranes were not ruptured by this maneuver, but it was followed by the appearance of considerable blood, undoubtedly from a wound of the endometrium.

Abortion occurred during the afternoon of the 10th. The girl remained in bed until the next morning, when she arose, dressed, and resumed her usual duties about the house. I was summoned to see her at midnight, December 16. She had then been confined to bed two days. I found her temperature to be 104.4 F., her pulse rate 120, and her respiration rapid and shallow. She was somewhat delirious. Her abdomen was greatly distended, and was sensitive to the touch. The uterus was enlarged and soft, and the lochial discharge was scanty in amount and very offensive. From the housekeeper I learned that she had had several protracted chills, had vomited a number of times, and, to the best of the housekeeper's knowledge, had urinated but once during the previous twenty-four hours.

I catheterized her, and drew off all the urine the bladder contained, about four ounces. Later examination of the specimen demonstrated a specific gravity of 1,031, numerous hyaline casts, and a considerable amount of albumin. I may state here that a blood examination the following day showed the presence of almost innumerable streptococci, while the uterine scrapings developed streptococci and staphylococci in great numbers.

I flushed out the uterine cavity with two gallons or more of hot water, and, under very superficial chloroform narcosis, gently curetted it with a broad curette, taking great care not to abrade the endometrium. Considerable foul-smelling placental tissue and blood-clot were removed in this way, and the cavity was again copiously irrigated, this time with a 1 per cent. solution of lysol. I then introduced a suppository containing one dram of iodoform, fifteen grains of starch, and glycerin into the uterus, and packed that cavity and the vagina lightly with iodoform gauze. Nearly a quart of hot saline solution was then slowly introduced into the bowel, but the retention

* Read before the Polyclinic Clinical Society.

of even a small quantity of the fluid caused the patient so much pain that the enteroclysis was not persisted in. Meanwhile, I had opened the median basilic vein of the left arm and withdrawn about eight ounces of blood. This was replaced by about eleven ounces of hot normal salt solution. Marked improvement in the patient's pulse and respiration was at once manifest. Her body was then sponged with tepid water and alcohol, cloths wrung out in ice water were applied to her head and abdomen, and she was again catheterized. Two ounces of urine was obtained. A rather free, loose bowel movement had resulted from the attempt at enteroclysis. It was my intention to practice continuous irrigation of the bowel with the salt solution, but the patient complained so bitterly when the procedure was attempted that I desisted.

At 11 o'clock the next day, December 17, her temperature was again 104 F., having dropped during the early morning, after the infusion, to 103; her pulse was still 120, her breathing was rapid, and coma was developing. Only seven ounces of urine had been obtained by catheter. Subcutaneous infusion of saline solution was resorted to, the sites of the injections being the anterior border of the right axilla and under the left breast. The uterine and vaginal dressings were removed and a second iodoform suppository was introduced into the uterus, both cavities again being packed. The posterior vaginal fornix was markedly distended, owing to the presence of fluid in the peritoneal cavity. Absorption from the cellular tissue was extremely slow, although the patient showed temporary improvement after the injections were begun. Enteroclysis was again practiced, but with very unsatisfactory results.

I had intended to open the posterior cul-de-sac and pack the pelvis with iodoform gauze, but the grave condition of the patient, especially the almost complete cessation of kidney function, appeared to preclude all hope of success attending this procedure. The approximate quantity of urine passed during thirty-six hours had been nineteen ounces.

It then occurred to me that thorough irrigation of the entire abdominal cavity with normal saline solution might accomplish several things: first, remove the collection of serum, which undoubtedly already was infected by streptococci; second, through absorption by the most extensive lymphatic system of the body, the kidneys would be more quickly and radically influenced; and, third, the general agglutination of the peritoneal surfaces as a result of the inflammation might, to a certain extent at least, be prevented.

Digitalin, strychnin and whisky had been injected hypodermatically at intervals since the night before. Several gallons of normal saline solution, prepared according to the formula of Locke, containing sodium chlorid, 3 iiss; calcium chlorid, gr. 3¾; and potassium chlorid, gr. iss to the quart of sterilized water, was prepared and kept at a temperature approximating 110 F. A four-quart fountain syringe and tube were sterilized by boiling. The patient was given a few whiffs of chloroform, and I made a two-inch incision into the abdominal cavity midway between the umbilicus and pubes. A rubber pad was placed under her to catch the overflow, and the tube of the syringe was inserted through the opening as far as possible into the pelvis.

For one hour the solution was permitted to flow into the cavity without intermission. Several times during this period the patient was turned on her side, and once on her abdomen, and pressure was made on her flanks to facilitate the exit of the fluid. At first, when this was done, the fluid returned was of a yellow tinge and contained many lymph flakes, but later it came away perfectly clear. Twenty minutes after the irrigation was begun ten ounces of urine of a specific gravity of 1,024 was obtained by catheter, and fifteen minutes later, six ounces. At the end of the hour her temperature had dropped to 102.6 F., her pulse rate to 110, she was in a profuse perspiration, and her mental condition had greatly improved. In all, forty ounces of urine had been drawn from the bladder, the last being of a specific gravity of 1,013. Five ounces of whisky had been given by the mouth. At one time syncope appeared to be imminent, but was averted by raising the foot of the bed to the level of a chair seat.

At 10 o'clock at night the irrigation was repeated for half an hour. A self-retaining catheter had kept the bladder drained, and forty-eight ounces of urine had been collected. The bowels had moved freely twice. At midnight her temperature was 102 F., and her pulse rate 116. A third irrigation was practiced the following morning, again for half an hour, and at three-hour intervals until 1 o'clock the next morning the cavity was filled with the saline solution. The next day, December 19, I closed the abdominal wound with stitches under cocain anesthesia. Her temperature then was 100.4 F. and her pulse rate 100. From 10 o'clock on the night of the 17th until noon of the 19th 210 ounces of urine were collected by catheter.

On December 20 her temperature and pulse rate were practically the same as on the day before, but her general condition had greatly improved. By December 23 the abdominal tenderness, except in each iliac region, had almost disappeared, the lochial discharge had increased in quantity and had ceased to be offensive, and all signs pointed toward recovery. On December 25 she had a decided increase of temperature during the afternoon, but this yielded readily to a moderately large dose of quinin. Intrauterine suppositories, each containing 20 grains of iodoform, were employed daily, and the uterus and vagina were lightly packed with iodoform gauze from December 18 to 22.

The patient was allowed to sit up January 4, and February 1 I examined her at my office. I found the uterus to be in good position and freely movable, but enlarged and somewhat sensitive to the touch. Both ovarian regions were sensitive, and the left ovary was enlarged. I could discover no evidence of pus foci in either broad ligament or elsewhere. Her bowels were constipated, but movements were unaccompanied by pain. The usual sequels of peritonitis appeared to be entirely absent.

In reviewing the line of treatment adopted in this case a number of pertinent queries are in order.

First.—Was there not danger of "drowning" the patient by introducing such great quantities of fluid into the abdominal cavity? I confess that I feared this might be the outcome, and had the kidneys not begun to functionate almost immediately after the irrigation was begun would have discontinued it at once.

Second.—Could not the same favorable result have been attained by intravenous infusion? So far as influencing the general systemic infection was concerned, I unhesitatingly reply in the affirmative, the opinion being based to some extent on recent reports of *lavage du sang* in streptococcic infection with a solution of formalin. In the cases reported, however, I believe that the favorable outcome was due to dilution of the poison in the blood current, and not to any germicidal influence exerted by the contained drug. The use of normal salt solution, I feel sure, would have been attended by as good results.

With regard to the attendant peritonitis, it undoubtedly was the local action of the saline which cut short the inflammatory process and which apparently prevented adhesion formation. I am able to explain this action only on the theory that, as streptococcic infection having the uterus as a starting point spreads to surrounding structures especially through the medium of the lymphatics, and as saline solution in the peritoneal cavity, as elsewhere, is primarily absorbed by the lymphatic system before entering the blood current, the consequent attenuation of the toxins almost at the point of origin would necessarily follow. Then again, while the primary effect on the blood vessels of hot water, that is, of water at a temperature ranging from 107 F. to 120 F., is to cause dilatation, and consequent engorgement, through the governing nerve mechanism, the secondary effect is that of contraction and cessation of congestion. As congestion is a natural concomitant of irritation, or

inflammation, the effect produced by its disappearance is obvious. While this explanation appears plausible, I am compelled to ignore the fact that the peritonitic inflammation in this case was of streptococcic origin, and consequently of a type which would be the least likely to yield to any form of treatment.

As regards the nonformation of adhesions, it is natural to suppose that, the inflammation of the peritoneum being held in abeyance and the surfaces being separated by the fluid, no opportunity would be afforded for such adhesions to occur.

Third.—Was there not danger of over-stimulating the kidneys? This factor was before me during all the time the treatment was being carried out. The conditions under which the infusions were given made it impracticable to measure the quantity of fluid administered, and I have no means of knowing even the approximate amount absorbed. The urine collected was carefully measured at frequent intervals, and it was evident that the flow from the kidneys was almost constant from the beginning. It also occurred to me that such long exposure of the intestines to the action of water at a temperature of 110 F. might have a deleterious effect, but such did not prove to be the case.

It is to be regretted that bacteriologic examinations of the blood were not made at intervals subsequent to the one made after the venesection. Two specimens were obtained for this purpose, but, owing to an error, were lost.

I am inclined to think that the satisfactory outcome was in part due to the character of the fluid employed. Dr. Harvey Cushing has called attention to the fact[1] that a solution containing 0.6 per cent. of sodium chlorid, that commonly employed, should not be regarded as a normal physiologic salt solution. He says:

> As a matter of fact, this is a most misleading designation, if we mean to imply by the term a fluid which is isotonic with the body fluids, and thus one that may be used with impunity in large amounts to replace directly in the circulatory system the loss of normal blood serum. A 0.6 per cent. salt solution is, in the first place, sufficiently hypisotonic to lake the corpuscles perceptibly if used in sufficient quantity and, furthermore, the recent observations of Loeb and his pupils have demonstrated the actual toxicity toward cellular activities of the pure sodium chlorid solution, that is to say, when uncombined with other salts. . . . Sidney Ringer, years ago, through an accidental observation, discovered the fact that minute doses of calcium and of potassium salts, when used in combination with the usual percentage of the sodium salt, made a solution possessing a much more beneficial effect in conserving the activity of an isolated heart than the sodium solution when used alone. Thus, for the first time, was pointed out the antagonizing action of small amounts of calcium and potassium toward the toxicity possessed by the single sodium ion, and thereby was given the first indication of the necessity of combining salines in order to obtain a more perfect infusion solution. . . .
>
> There can be no doubt that the pure sodium chlorid solution alone may, in certain ways, be injurious from its toxic effects; that, furthermore, a solution of the single salt, as weak as the 0.6 per cent. commonly employed, has a hemolytic effect on the red corpuscles. The desirability, therefore, of administering a fluid which shall be as nearly as possible isotonic with the blood—that is, shall have a molecular concentration corresponding to that of the liquor sanguinis—is evident.

381 West End Avenue.

1. "System of Physiologic Therapeutics," vol. ix. pp. 287 *et seq.*

Heat relieves the pain of inflammation, but increases that of suppuration. This is a valuable diagnostic aid in appendicitis.—"Med. Fortnightly."

FISTULA BETWEEN THE GALL BLADDER AND THE STOMACH.

A. BARR SNIVELY, M.D.
WAYNESBORO, PA.

The cause of fistula between the gall bladder and stomach is primarily cholecystitis with formation of one or more gallstones, which by irritation cause inflammation resulting in plastic peritonitis with adhesions to the surrounding structures. The gall bladder contracts and its walls become thickened and friable. The constant pressure causes the stone to produce an ulcer which develops into a fistula. This is Nature's cure, and may also be attended by no new symptoms or the previous ones may be relieved, especially if the stones pass into the stomach and if there is no obstruction in the cystic duct and the adhesions are not numerous enough to cause trouble.

A cholocystico-gastric fistula is relatively rare, the operative cases recorded, as far as I can find, being four in number. The following table affords information as to the varieties of fistulæ resulting from cholecystitis and their frequency in recorded cases taken chiefly from Courvoisier:

Fistulæ between the bile ducts themselves	8
Fistulæ between the bile ducts and retro-peritoneal tissues	4
Fistulæ between the bile ducts and the stomach	12
Fistulæ between the stomach and the liver	4
Fistulæ between the stomach and gall bladder	8
Fistulæ between the bile ducts and the duodenum	108
Fistulæ between the gall bladder and the duodenum	93
Fistulæ between the gall bladder and the jejunum	1
Fistulæ between the gall bladder and the ilium	1
Fistulæ between the bile ducts and the colon	50
Fistulæ between the gall bladder and the colon	49
Fistulæ between the common bile duct and colon	1
Fistulæ between the bile ducts and urinary passages	6
Fistulæ between the bile ducts and the thoracic viscera	10
Fistulæ between the bile ducts and the abdominal wall	184

Adopting Mayo Robson's statistics, out of a table of 10,866 autopsies made by Roth, Schroeder and Schloth, biliary fistulæ occurred 43 times. Fistula between the gall bladder and stomach was found only once. In general the cases of such fistulæ between the gall bladder and stomach give no symptoms, if any, none other than those of cholecystitis or cholelithiasis. Fistulæ between gall bladder and stomach are not always due to gallstones. Murchison records a case in which there was a fistulous opening between the dilated bile duct in the liver and the stomach. In this case, which was one of cancer associated with impaction of gallstones in the common bile duct, the bile flowed through three or four rounded orifices in the interior wall of the stomach, which communicated with the dilated bile ducts and superficial portion of the liver. This was evidently the source of the bile found in the stools during life.

Cancer of the gall bladder has been known to invade the stomach and thus bring about fistulous communication by ulceration. Ogle reports a case where the perforation of a simple ulcus ventriculi into the gall bladder caused a fistula.

Nichols, in an admirable paper, reports the case of a woman aged 85 dying two weeks after having an impacted fracture of the femur. At autopsy eight hours after death the stomach was found almost empty. The stomach walls were atrophied. The stomach was long and fusiform. The gall bladder was adherent to the stomach one-half inch from pylorus. A fistula between the gall bladder and stomach was found large enough to admit a small probe.

Mayo Robson mentions two cases, one of probable diagnosis, the patient having vomited gallstones, the other an operative case, where a fistula was found and adhesions separated. The edges of the fistula were pared

and closed with two rows of sutures; while the opening in the gall bladder was utilized to remove the gallstones and afterward to allow drainage. The patient made an excellent recovery and is now in good health.

Kehr, who has reported a series of 409 abdominal sections on account of assumed or acutally present cholelithiasis, with 3 3/10 per cent. mortality, mentions one case of gall bladder stomach fistula found in a patient where he drained the common bile duct; later a gastro-enterostomy was done, the patient dying eight days afterwards, unfortunately, of cholemic hemorrhage. He says:

A fistula between the gall bladder and stomach may, for example, develop entirely without symptoms, and only rarely will we be able to diagnosticate fistula of the gall bladder and stomach. But in most instances we will make the diagnosis not before or during the formation of the fistula, but first, as a rule, after it. This is incidentally remarked, also, quite well, for in general it is wrong to disturb the procedures of a natural cure. If stones are vomited, then one may not yet say that they have reached the stomach through the unnatural fistula. Just as easily as bile flows backward through the pylorus, even as easily can small stones come into the stomach and be vomited. In case of the vomiting of a large stone, the suspicion of a fistula between the gall bladder and the stomach is justified.

Oschner mentions one case of perforation of gall bladder into stomach. Naunyn, in statistics taken from Courvoisier, cites eight cases of cholecystico-gastric



Fig. 1.—Gallstone (natural size). This stone is irregular in outline, is in no way faceted, indicating in a general way that the gall bladder contained no other stones. One can hardly imagine a stone of this size and shape escaping into the duodenum via the common duct and further, examination of the common duct at the time of operation did not show any thickening or the presence of adhesions as we would naturally expect had such a stone at one time lodged in the duct.

fistulæ. Murchison gives twelve instances in which gallstones were vomited, but only one of these cases, namely, that reported by H. Jeaffreson, was proved by autopsy to result from gastro-cholecystic fistula. Cruveilhier narrates a case where the fistula between the gall bladder and stomach was found plugged by a gallstone. Oppolzer describes one in which the fistula was close to the pylorus. Frerichs, quoting Baille and Weber, refers to two cases.

The following case which I have to report of Mrs. M. of Altoona, Pa., was diagnosed by her family physician, Dr. E. E. Neff, through whose kindness I am able to present the following history:

She is 53 years of age, has had four children, the youngest of which is aged 22. This woman has had symptoms of gallstones since the birth of her last child. She has had colic from time to time during this period. Five years ago she had an attack of typhoid fever, being ill ten weeks. Dr. Neff saw her for the first time Oct. 21, 1899, in an attack of cramp, with all the symptoms of gallstone colic. By the free use of cathartics and turpentine stupes the patient was relieved until Dec. 27, 1899, when he was again called and found her in an attack more severe than the former one. The pulse was 96, temperature 99, respirations 20, and the abdomen was somewhat distended, tense, tympanitic, and there was apparently entire cessation of peristalsis. A mass could be felt over the region of the gall bladder, giving pain on pressure and causing nausea, as though an edged instrument was being forced through the back.

December 28 the treatment was the same as in the former attack. The symptoms continued, abating for a short time and then coming on as severe as ever. The temperature and the pulse were the same. In the morning a high enema of glycerin was given; in the afternoon a large enema of white of egg and turpentine was administered, with some relief.

December 29 there was no change in the condition. A high enema of sweet oil and water was given with no apparent effect. About 8 p. m. a second enema of sweet oil was given; flatus now suddenly escaped with a report that could have been heard in the adjoining room. Peristalsis now started, and the symptoms gradually abated. The patient passed about 75 to 80 gallstones. The patient had had eructations of gas and bile in its purity. The abdomen became flaccid; the tympany disappeared. The pulse was 100, temperature 99, respirations 24. The patient had a restful night. December 31 the patient feels fairly well, there was some tenderness over the entire abdomen, more especially over the pyloric end of the stomach, which gave pain when palpated. The patient expectorated bile continually. Magnesium sulphate and olive oil were administered to keep the bowels moving.

Jan. 1, 1900, at 2 a. m., the patient had a return of the cramp and passed 97 more gallstones. The pain subsided immediately, and she felt entirely relieved. About two hours later she complained of a stoppage in the rectum and, on examination, Dr. Neff found a large stone which had lodged there (Fig. 1). This was easily removed with long forceps.

The patient steadily improved in strength, the bowels, however, continued to be very sluggish, and she complained of a burning sensation in the stomach. Operation was advised and insisted on repeatedly, but the patient flatly refused surgical interference. Any sort of food, predigested or otherwise, which was taken into the stomach gave pain as soon as it touched the stomach walls. The raising of bile was more marked at times, seeming as though the gall bladder had filled to the opening in the stomach, overflowing and causing nausea, expectoration and wretching, also causing the abdominal muscles and tissues around the gall bladder to contract and force most of the bile out. Dr. Neff said that the following symptoms caused him to make a diagnosis of a fistulous opening between the gall bladder and stomach:

1. Eructations of bile and gas from the stomach.

2. The tender spot persisting in the region of the pyloric end of the stomach.

3. Continuous obstinate constipation, which looked as though the lubrication were being removed by some other way—namely, by mouth.

4. Pain when anything was taken into the stomach.

This woman, while on a visit in Waynesboro, Pa., May 23, had an attack of gallstone colic lasting three hours, until relieved by hypodermic injection of morphia. The attack did not recur after the use of morphia. On May 25, I called in consultation Dr. Thomas S. Cullen of Baltimore, who advised operative procedure.

Operation May 29, Church Home, Baltimore, by Dr. Cullen, assisted by Dr. Gavin and myself. An incision was made to the outer side of the rectus, the gall bladder was small, and found to be intimately adherent to the stomach and surrounding structures (Fig. 2). The adhesions were gradually liberated until we came to a point where the gall bladder was fused to the stomach over an area fully 1 cm. in diameter. There was a distinct opening between the stomach and gall bladder at this point. The fistulous tract was divided and the stomach wound turned in on itself and closed with mattress sutures. The region of the gall bladder was carefully packed off and the gall bladder opened and drained. Two stones in the cystic duct were gradually forced up into the gall bladder and removed. The patient stood the operation well. On May 30, she had a chill, her temperature ran up to 105. Her

pulse was very rapid, but she was in fairly good condition. The temperature dropped the next day, but two or three days afterwards rose to 106. Since that time it rapidly came down to normal. She is very much better and her general condition is excellent. Patient continued to improve, and was discharged apparently cured, the first week in July. There was no escape of bile, and the abdominal incision had nearly closed. Since which time the patient has been able to indulge in a very liberal diet with no discomfort whatever and has led a very comfortable life. The operation demonstrated the fact that the pain produced by the ingestion of any food or liquid whatever was caused by the stomach pulling on the adhesions with which it was fastened to the gall bladder, liver and intestine.

Sept. 22, 1902, the subject of this sketch, after eating a hearty supper of tea, toast, soft-boiled eggs and sliced tomatoes, had a violent attack of gallstone colic; morphia was given hypodermically and, after a short while, patient was relieved. On examining the abdomen there seemed to be an abscess forming in the line of the incision. The point at which this ap-

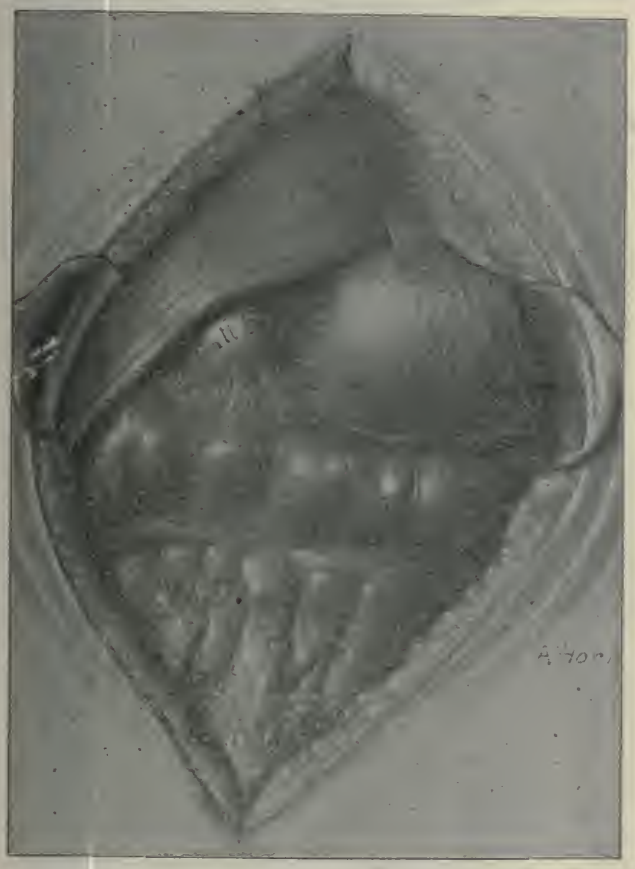


Fig. 2.—Gall bladder as viewed on opening the abdomen. The incision has been made through the right rectus muscle. The gall bladder is seen adherent to the stomach and to the transverse colon and there are adhesions between the surface of the liver and stomach. On separation of adhesions the condition detected in Fig. 3 was found.

peared was about 1 cm. in diameter. Two hours later this ruptured and about one quart of clear, thin, almost straw-colored bile was discharged. After this the stiffness of the muscles and the pain about the waist-line entirely disappeared. For three days the stools had no sign of bile and were of oatmeal-like appearance. On the fourth day they commenced to have the normal bile stain. About 50 very small gallstones now passed, and the fistula ceased discharging and rapidly granulated and closed. These gallstones had evidently come down from the liver and blocked up the common duct, as at the time of the operation the common duct was patulous. Since this time the patient has been regularly taking Sprudel salts and has had no discomfort in region of gall bladder, and has gained about twenty pounds.

Jan. 20, 1903, I received a further communication from Dr. Neff, stating that for some time he had noticed a swelling in the region of the gall bladder, which gradually increased in size and at one point there was pain on pressure. There was also a burning sensation extending through to the back in the vicinity of the lower angle of the right scapula.

On January 16, following the usual dose of Sprudel salts and oil, she felt something give way in the vicinity of the swelling and had a very copious stool, composed principally of bile. Next day a second copious stool, containing a large quantity of bile, was passed. The patient experienced a great deal of pain with the escape of the bile and, to use her own words, "It was as if coals of fire were passing through the bowel." After the escape of the large quantity of bile the swelling entirely disappeared. There has evidently been an acute inflammation of the common duct, followed by marked dilitation of the gall bladder.

The subsidence of the inflammation in the duct has allowed the gall bladder to completely empty itself.

Addendum: April 1, 1903. Dr. Neff reports the patient as in very good health and leading a very normal life with no sign of a return of the trouble.

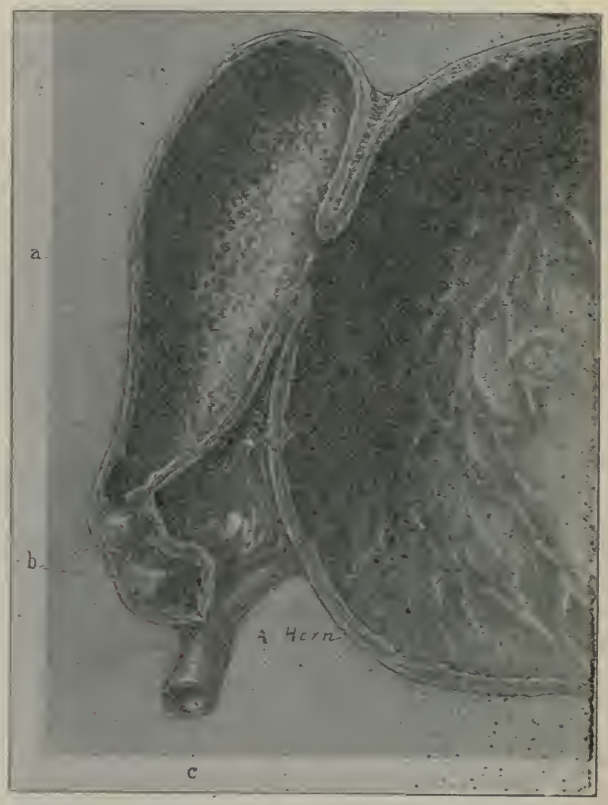


Fig. 3.—Fistula between the gall bladder and stomach. The gall bladder is densely adherent to the stomach and at *a* is a fistulous opening nearly 1 cm. in diameter between the gall bladder and the stomach. In the cystic duct are two small stones, indicated by *b*. These were readily pushed up into the gall bladder and removed. *c* is the common duct. At operation the stomach was freed from the gall bladder and the fistulous opening closed by a double row of silk sutures. The gall bladder was drained.

Mayo Robson sums up the subject of biliary fistulæ as follows: "Many of the fistulæ are mere pathologic curiosities, quite undiagnosable, and only capable of being discovered postmortem. Many must form and heal, leaving the patient cured, and thus are they not only not discovered, but they are probably not even suspected, for contrary to what one might suppose, fistulæ between the bile passages and the hollow viscera in the majority of cases heal spontaneously, leaving only visceral adhesions; so that the fistulæ are comparatively rarely found postmortem." It will thus be seen that the elaborate

figures given by Courvoisier and Naunyn can only give a very imperfect estimate of the frequency of these fistulæ which must be constantly overlooked or not recorded.

BIBLIOGRAPHY.

Mayo Robson: Diseases of the Gall Bladder and Bile Ducts, f. 88-89, 1901.
Mayo Robson: Lancet, I, 1897, pp. 15-26.
Murchison: Diseases of the Liver; 3d edition, 1885, p. 419.
Ogle: St. George's Hospital Reports, III, 1868.
Nicholls, A. G.: A Case of Cholecystico-gastric Fistula with Accompanying Diverticulæ in the Duodenum. Montreal Med. Jour., 1898. xxvii, 826-830.
Kehr: Gallstone Disease, f. 245.
Ochsner: Annals of Surgery, vol. xxxv, 1902, p. 712.
Naunyn: Treatise of Cholelithiasis New Sydenham Soc., 1896.
Jeaffreson, H.: British Med. Jour., May 30, 1868.
Cruveilhier: Trait d'anat. path. II, p. 541.
Oppolzer: Zeitschr. d. Gesellsch. des aertze in Wien., November, 1860.
Frerichs: Diseases of the Liver New Syd. Soc., II, 1861.

LIGHT IN THE TREATMENT OF LUPUS AND OTHER CHRONIC SKIN AFFECTIONS.

J. W. KIME, M.D.
SUPERINTENDENT BOULDER LODGE SANATORIUM FOR TUBERCULOSIS.
FORT DODGE, IOWA.

Light and especially concentrated actinic light derived from the sun, is a specific in the treatment of lupus, chronic ulcers and other destructive lesions of the skin.

The first essential in the treatment of this class of cases is a practical and efficient apparatus, one with unlimited power and yet so easily manipulated that any physician may successfully operate it. The instrument which I use consists of a modification of the ray filter used in photography, and at a distance of 18 inches focuses, to a very fine point, a violet-colored light. At its smallest focal point it is intensely hot, but I have found that in certain cases nothing short of this strongly concentrated irritant light will sufficiently arouse the tissues to action to start the process of repair which, once started, continues to complete recovery.

The cell used is so constructed that it is readily adjustable at any angle to catch the rays of the sun. With the sun as a source of light the supply is unlimited, its strength is the greatest, it is richest in actinic power; it is, in fact, the one source from which all other lights are ultimately produced by means of mechanical appliances.

The light from the sun is accessible to every physician and it is free for the using. With a beam of sunshine one foot in diameter falling through the office window the instrument is ready for use.

The manner in which I treat lupus is as follows: The surface of the wound is first thoroughly cleansed, all scabs and crusts being removed, and it is then washed with water. I have avoided antiseptics as I wished to determine accurately the specific action of the violet rays. After this cleansing, I seat the patient with the cell placed between him and the sun and at a distance of about eighteen inches from him. I go over the entire wound surface and coagulate the albumin in the tissues until it is of a smoky white color. This usually takes but a few minutes. The treatment is then turned over to the nurse, who seats the patient a little farther from the glass, or a little nearer to it, so that the true focal point of the lens is avoided, and with the light strong, yet comfortably to be borne, she continues the application of the light for about twenty minutes.

A wet dressing of absorbent cotton and water is then applied until the following morning, when she removes the dressing and applies the weakened light for twenty minutes and reapplies the dressing. This dressing is again changed in the evening. The following day she repeats this treatment in like manner, and on the third day I usually apply the strong light again, especially to any part which seems to be lagging behind in its response to the irritation produced. In this manner the treatment is continued until healing is complete.

Around the edges of the wound granulations spring up within a few days, new integument begins to form around the borders, and gradually the size of the wound diminishes until complete restoration takes place.



Fig. 1.—Method of use of lupus machine.

I wish to emphasize the importance of the physician's applying the strong light himself and the necessity of closely watching that the parts are thoroughly cleansed twice each day. It is of the greatest importance that all crusts and scabs be kept from the wound, as these seem to be especially damaging to the process of repair.

The action of actinic light possesses a twofold potency: it is strongly germicidal and it is powerfully irritant to the tissues. By its irritant action an increased blood supply is furnished, new food is brought in abundance to the starving tissues and a retrograde

metamorphosis is converted into a reconstructive process. By its germicidal action a malignant sore is converted into a simple one, and Nature brings about the cure in the ordinary way.



Figs. 2 and 3.—Lupus vulgaris of nose.

In this connection will be recalled our treatment of chronic ulcers ten years ago, when we criss-crossed their



Figs. 4 and 5.—Lupus vulgaris of neck.

surfaces with deep cuts of the knife with a view to bringing about repair by the irritation produced by the



Fig. 6.—Lupus of cheek.

injury wrought by the knife. We now curette these ulcers with the same object in view. The irritant action of chemical light is much greater and can be extended to any degree at the will of the operator.

The apparatus used needs but little explanation, as it is very simple in construction and is easily operated. The solution of copper used is combined with alcohol to prevent freezing. The lupus lens consists of a plano-convex lens of eighteen inch focal length and is six inches in diameter. Behind it, at a distance of three-fourths of an inch, is placed a circle of plain plate glass. Between the lens and the plate glass is the space for the blue solution, which both cools the heat of the sun's rays and absorbs all but the blue rays, which contain



Fig. 7.—Same as Fig. 6. After treatment.

little heat, but are rich in chemical power. The lens is so mounted that it may be readily adjusted at any angle and the stand is of sufficient height that the patient may be seated in a chair while he receives treatment about the face or head. It may be dropped lower for use on other portions of the body.

The following records are presented as typical of results produced in the manner described:



Fig. 8.—Chronic ulcer of leg.

Case 1.—M. K., age 21, domestic; has had lupus vulgaris on left side of nose for one year. Father died of lupus and from effects of operation for it. Two points shown in cut were involved. She has tried various washes and ointments. August 9 light treatment was begun. Light was used daily for half an hour until September 1. No nodules then remaining, treatment was discontinued. September 20 ulcers were completely healed. There has been no relapse during two years' time. See Figs. 2 and 3.

CASE 2.—M. G. has had lupus on side of neck six months. It has ulcerated deeply into the tissues of the neck, is one and one-half inches in length and one inch in breadth. She began treatment in April, 1901. All nodules had disappeared May 1. No relapse. See Figs. 4 and 5.

CASE 3.—Anna K., age 35, domestic. Mother died from tuberculosis. Present trouble, lupus, began two weeks ago. When first seen it had penetrated all the layers of the skin. There were several smaller patches near the angle of the mouth. Three treatments with light near the cautery point effected a cure. See Figs. 6 and 7.

CASE 4.—Fig. 8 shows result obtained in chronic leg ulcer of one year's standing in a man 52 years of age. Site of ulcer six inches above left ankle. The ulcer was about the size of a silver dollar. Light was used for six weeks, at the end of which period healing was complete.

Strongly concentrated actinic light is a most efficient remedy and it should be generally adopted by the profession that the quacks may not reap a harvest from its irregular and illegitimate use.

THE THERAPY OF DYSENTERY.

WILLIAM ROBERTS, M.D.
Lieutenant Assistant-Surgeon, U. S. A. (Late of Manila, P. I.)
FORT BRADY, MICH.

The therapy of dysentery is at present in no sense specific. While the causative agents have clearly set a dividing line between the amebæ on the one hand and bacteria on the other, the resulting treatment of either has not been uniformly successful. Quinin in amebic cases with the intention of killing the causative agent is highly irritating, as might have been expected, and does not reach all the amebæ, while the serum therapy of the cases of bacterial origin is in its infancy, though so far well spoken of.

This paper contains no new plan of treatment, for it is on the use of ipecac in dysentery, but the narration of several cases will illustrate what can be attained with this old and well-tried remedy.

The profession in India has established certain axioms in the administration of ipecac, and they are good today:

1. The dose must be large.
2. Its safe passage through the stomach without inducing nausea is of paramount importance.
3. It must contain all the active principles of cephaelis ipecacuanha.
4. It should be used early in every case, before pathologic changes occur in the intestines

Attempts to use a refined ipecac have not been followed by good results. The method of securing the passage of the drug into the intestines with as little nausea as possible was by having the stomach empty, by counter-irritation to the epigastrium and by partly stupifying the patient with opium, but at times this fails to keep the patient from rejecting the remedy. Coating boluses of ipecac with salol was considered by the writer in order to avoid the action of ipecac on the stomach. Salol being insoluble in the gastric contents, the bolus passes on to the duodenum where the salol is dissolved and the ipecac liberated, where it undergoes some change in the presence of the intestinal juices which prepare it for its therapeutic mission.

The ipecac is first made, *secundum artem,* into large pills containing one-half gram each, which when dry are placed in liquid salol, either melted by heat or dissolved by ether. Each pill is picked up on the point of a pin and withdrawn, the coating being accomplished in a short time. Ipecac prepared in this manner was used in the following cases, with uniform success both as to the safe passage of the drug through the stomach and prompt arrest of the disease:

CASE 1.—A. B., female, aged 45; American; seen in consultation; had been ill eight days. Diagnosis: acute specific dysentery, due to Shiga's bacillus. The patient was semi-comatose; pulse thready; there was considerable shock, and between thirty and forty discharges a day. She had been under saline purgation and rectal irrigation. Four grams of ipecac made into boluses coated with salol were administered. She immediately improved and subsequently recovered.

CASE 2.—A. C., female, aged 30; American; seen in consultation; had been ill for ten days, and was having twenty-five to seventy-five operations a day. There was tympany over the region of the descending colon, vesical and rectal incontinence, dry pointed tremulous tongue, anxious expression, considerable nervous and arterial depression, great weakness and constant nausea. The stools showed no amebæ; the Widal reaction was negative to Shiga's bacillus. Diagnosis: acute dysentery; cause unknown. She had been on saline and other unrecorded treatments. Seven grams of ipecac in boluses coated with salol were given. Operations ceased and prompt recovery followed.

CASE 3.—A. D., male; civilian; aged 25; American; had been suffering from discharges of blood and mucus for two months, was advised to go to the hospital, but declined. He was directed to go to bed and take seven grams of ipecac in boluses coated with salol, which he did, going to work the following day. He was seen four days later, and reported the disappearance of all blood and mucus, and that he was having one normal operation daily. He had been having from eight to fifteen operations a day prior to his treatment.

All cases of severity will not answer so promptly any more than will every case of malarial infection answer equally well to quinin; but if used early and in sufficiently large doses ipecac is probably more of a specific for dysentery than any other remedy of which we know at present. Most of the medical literature dealing with dysentery refers to ipecac with more or less praise. Dujardin-Beaumetz maintains that ipecac acts as a cholagogue aperient, and Yeo states, "Whether ipecacuanha acts in this way or not or as a special antidote to a specific poison, it is undoubtedly the most valuable remedy we possess for dysentery, especially in the acute form." Cunningham is reported as giving sixty to ninety grains of powdered ipecac, which, he says, "causes much nausea and vomiting, together with reduction of pulse rate, profuse perspiration, cessation of pain and tenesmus, and quieting of the bowels for twelve to twenty-four hours, the next motion being soft, fluid and free from blood or mucus."

A résumé of all the various articles of the materia medica which have been used from time to time in the treatment of dysentery can not but impress the reader with the utmost universal praise with which ipecac is mentioned. It is true other remedies have been extolled from time to time, but their history shows them to have been "the things of a day," and that ipecac deserves in some measure the encomiums awarded.

In 1672 ipecac was known in Europe. John Helvetius, grandfather of the famous author of that name, having been associated with a merchant who had imported a large quantity of ipecac into Paris, employed it as a secret remedy, and with so much success in dysentery and other bowel affections that general attention was drawn to it, and the fortunate physician received from Louis XIV a large sum of money and public honors on the condition that he should make it public. Local remedies and dietetic régime are indispensable in rendering comfort and aid to patients, but none can be said to produce a specific action nor are they followed

by such prompt relief as may follow the administration of ipecac in the therapy of dysentery.

In an article by Joseph Ewart, in which he outlines the usual ipecac treatment, going to great pains to impress the reader with the importance of avoiding emesis, he states that the drug should be repeatedly administered in order to secure its retention, and that:

The signal for the relinquishment of these doses is freedom from tormina and tenesmus, with the occurrence of refreshing sleep, feculent, bilious, or ipecacuanha stools, and restoration of the primary processes of assimilation. If no great amount of disorganization of the mucous membrane has taken place, these favorable changes are frequently noticed after the administration of the first or second dose. . . .

When ipecac fails to preserve the life of a patient its failure may generally be attributed to: 1, co-existence of abscess of the liver; 2, unchecked malarial poisoning; 3, permanent enlargement of the spleen, or liver, or both; 4, irretrievable constitutional cachexia; 5, Addison's disease; 6, morbus brightii; 7, phthisis; 8, strumous disease of the mesenteric glands; 9, peritonitis with or without perforation of the gut, or, 10, the existence of extensive sloughing or gangrene.

The advantages of the ipecac treatment—for the revival of which the profession in India and England is indebted to Mr. Scott Docker, of the Second Battalion of the Seventh Royal Fusiliers, stationed at the Mauritius—in the congestive, exudative and ulcerative stages of almost every form and type of acute dysentery, may be briefly stated. They consist in:

1. Its simplicity, its safety and its certainty, compared with any other method.
2. The promptitude with which the inflammation is stopped.
3. The rapidity with which repair takes place, (*a*) by resolution, or (*b*) by granulation and cicatrization.
4. Conservatism of the constitutional powers.
5. Abbreviation of the period required for convalescence.
6. Decrease in the frequency of recurrence.
7. Decrease in the frequency of abscess of the liver.
8. Diminution of mortality in cases treated.

All of these results are accomplished without calomel or other irritating purgatives or opium. There is no other remedy of which report speaks so highly as of this, and it is assumed that it has succeeded when the rest have failed, and its early use in every case is recommended.

Antitoxic or protective sera in the treatment of dysentery is noted as "doubtful but hopeful," in an article recently prepared by R. C. Cabot. Flexner states, as a result of his labors in this city, that "it is not unreasonable to hope that with the discovery of the specific cause of dysentery, particularly if it be a bacterium capable of being artificially cultivated, means will be found by which protective inoculation may be carried out with effect and safety. The fundamental conditions underlying such immunizations are now fairly established, and two general methods of accomplishing such results are open to investigation. In the first place, an active immunity may be achieved through the use of cultures of a determined grade of activity; in the second, the serum of animals may be employed either as a therapeutic agent or to provide a passive immunity.

"It has been found possible, through the use of cultures destroyed by heat or by the addition of chemicals, to protect small animals from the effect of subsequent inoculations of the virulent bacilli; large animals, such as the goat, when treated first with the dead and afterwards with the living cultures, develop a gradually increasing resistance to the inoculations, their blood serum assumes highly agglutinative qualities for the bacillus and, coincidentally, acquires protective and healing qualities.

"My own experiments relating to this topic have been carried out on small animals only, as no patients with acute dysentery have been seen by me since the serum from the goats has been available. Shiga has, however, been able to test the serum on human cases. According to Dr. Eldridge, up to Nov. 1, 1899, Shiga had treated with serum cases as follows:

1898.—In Laboratory Hospital: 65 cases, death rate 9 per cent.

1899.—In Laboratory Hospital: 91 cases, death rate 8 per cent.

1899.—In Horowo Hospital: 110 cases, death rate 12 per cent.

"During the period of 1899 there were under ordinary treatment at Tokyo:

At Horrjo Hospital: 116 cases, death rate 37.9 per cent.
At Horowo Hospital: 53 cases, death rate 37.7 per cent.
At Komagonic Hospital: 398 cases, death rate 34.7 per cent.
In private houses: 1,119 cases, death rate 28.5 per cent."

The application of curative sera to diseases of man was looked forward to as the utopian period of scientific therapeutics. Our expectations have been disappointed in more than one instance, but it is to be hoped that a serum of sufficient potency for the cure of dysentery will be given the medical world ere the present decade ends.

The chief objection to the use of ipecac being its frequent rejection, its use in compressed pills coated with salol is recommended as one method by which nausea and vomiting can be avoided, thus securing the full action of a remedy of world-wide repute in the treatment of dysentery, but a remedy often robbed of its specific virtues by faulty administration.

POST-OPERATIVE PULMONARY COMPLICATIONS.*

REUBEN PETERSON, M.D.
Professor of Gynecology and Obstetrics, University of Michigan.
ANN ARBOR, MICH.

In April, 1901, at a meeting of the Chicago Gynecological Society, I reported two cases of lobar pneumonia following operations. Both cases occurred in my practice within a single month, and were my first experience with this complication in a ten years' surgical practice.

In the first case, a young girl on whom I performed Alexander's operation, there was a distinct history of a cold, contracted shortly before the administration of the ether. The patient had a chill and rise of temperature within three hours after the completion of the operation. But one lung was affected, and the patient made a good recovery. The second case occurred in a patient from whom I removed a tube and ovary and suspended the uterus. The symptoms were not so severe as in the first case, nor could any history of exposure be elicited. She also made a good recovery.

At the same meeting Frankenthal reported a fatal case of double lobar pneumonia following an abdominal operation. Two other patients who were being prepared for operation at the same hospital about this time died from pneumonia before the operations were performed. This fact led Frankenthal to conclude that the pneumonia was not so much due to the ether or septic causes as to the great prevalence of la grippe at certain seasons of the year.

* Read by invitation before the Wayne County Medical Society, Detroit, Dec. 15, 1902.

Two cases of pneumonia, three cases of pleurisy and a single case of bronchitis following operations performed in my service at the University of Michigan Hospital during the past fourteen months, have renewed my interest in this variety of post-operative complication. Of the two cases of pneumonia, one died and one recovered.

Case 1.—*(Gynecologic Case 159).—Bilateral Salpingo-Oophorectomy for Cystic and Atrophic Appendages. Appendectomy. Lobar Pneumonia on Second Day. Death on Eighth Day.*—The patient, aged 39, married twenty-three years, had suffered for a long period from pelvic pain and tenderness. March 18, 1902, the adherent tubes and ovaries were enucleated by the abdominal route and removed. As the appendix showed signs of chronic inflammation, it also was removed. The operation was free from shock. When the ether was started, the patient's right eye was seen to be edematous and the conjunctiva injected. At the time no importance was attached to this condition.

The next day the eye symptoms had increased and, on investigation, it was found that the patient had shown symptoms of having taken cold a day or two prior to the operation. Forty-eight hours following the operation, the patient was seized with a severe pain in the right lower thorax and corresponding shoulder. The signs of pleuro-pneumonia gradually became distinct. By the fifth day there was dulness over the entire lower right lobe, with the usual accompanying signs of consolidation. Dr. Dock was called in consultation and obtained, by aspiration through the eighth interspace, a considerable amount of bloody serum. The relief, however, was only temporary. The signs of consolidation grew more marked, the temperature ranged higher and the pulse grew more rapid and thready. The patient died on the eighth day following the operation. Unfortunately no autopsy could be obtained.

Case 2.—*(Gynecologic Case 293.)—Vaginal Celiotomy; Vaginal Suspension of the Uterus by the Round Ligaments. Bilateral Trachelorrhaphy. Perineorrhaphy. Acute Lobar Pneumonia on the Third Day. Recovery.*—The patient, aged 35, married, had shown no pulmonary symptoms prior to the operation performed, Nov. 21, 1902, which was simple and devoid of shock.

On the third day following the operation she complained of feeling chilly, and there was an immediate elevation of temperature to nearly 104. The fever remained at about this point until the crisis on the ninth day. For the first two or three days of the disease, cough was not a prominent symptom and only appeared on deep inspiration. It was at no time troublesome, and there was little if any expectoration. The physical signs of the lesion in the right lung were somewhat obscure at first. There were few adventitious sounds, and it was not until the sixth day that dulness over the affected area was marked. A slight change in the percussion note existed from the start and, with the other signs, left no doubt as to the presence of a central lobar pneumonia of the right side. There was a pseudocrisis on the eighth day. On the following day the temperature reached normal, there was a rapid clearing up of the lung, and the patient made a good recovery. The vaginal wounds healed by first intention.

Why did these patients contract pneumonia after their operations? Was the pneumonia due to direct irritation of the anesthetic, an ether pneumonia? Was it of septic origin? Could it have arisen from exposure and chilling of the patient during the operation? Such questions as these will arise in the operator's mind when a patient has pneumonia after an operation, unattended, as a rule, by much risk or mortality.

The distinctions between the kinds of pneumonia developing after surgical operations are not always borne in mind. Such a pneumonia may be an infectious disease, a true lobar or croupous pneumonia, or it may be an inhalation or bronchopneumonia. It has long been recognized that the last form is far from being uncommon after certain operations or when certain types of patients are operated on. Bronchopneumonia is apt to follow operations on the pharynx or larynx, and is very common after tracheotomies. The etiologic factor here seems to be the aspiration into the air passages of minute particles of food, which set up a severe inflammation in the finer bronchi. It is a true capillary bronchitis and its severity is directly proportionate to the amount of lung tissue involved. Bronchopneumonia also is apt to follow the administration of an anesthetic with or without operation in persons in the extremes of life. It is this factor which makes emergency operations, such as strangulated hernia, in young infants or children so much more dangerous than in adults. Very old people or those with weakened constitutions are also liable to develop bronchopneumonia after an anesthetic. Alcoholics are especially prone to this complication.

It is not so well known that true lobar pneumonia is not such an uncommon sequela of operative procedures. W. H. Prescott[1] looked over the records of various Boston hospitals for the purpose of ascertaining the frequency of this complication and could find only five authentic cases out of an estimated 100,000 etherizations. His conclusion was that ether rarely acts as an exciting cause of acute lobar pneumonia, and that the few cases of this complication may be classed as coincidences.

My own experience and that of other surgeons in the middle west with whom I have conversed on this subject, does not coincide with Prescott's statistics as to the relative frequency of lobar pneumonia after operations. Within two years I have had four undoubted cases in my own practice. The two just reported occurred out of 302 etherizations, of which 65 were for examinations and 237 for operations.

This brings up the question of whether the frequency of lobar pneumonia in my clinic can be explained by the nature of the anesthetic employed, its quality, or by the manner of its administration.

Ether is almost invariably employed as an anesthetic in the clinic, chloroform having been used only 17 times out of 319 anesthesias. The very best Squibbs' ether is used, so that the quality of the anesthetic can hardly be at fault. I have endeavored to perfect the technic of the administration of the anesthetic in the highest possible manner. An anesthetic chart is kept, showing the amount of ether used to render the patient unconscious, the total amount consumed during an operation and other data common to such charts. I personally see that the patient is not drenched with ether, and the anesthetizers are taught to attend strictly to their part of the work and nothing else. A good sign that the anesthetics have been administered well is that only twice has it been necessary to suspend an operation to revive a collapsed patient.

Particular care is taken at the clinic to avoid any unnecessary chilling of the patient during operation. Not only are the ordinary blankets employed, but such parts of the body as can be, are wrapped in cotton wool in order to preserve the body heat.

In order to prevent the hypersecretion of mucus so common during etherization, a hypodermic of atropia and morphia is given just prior to the anesthetic. If there be anything in the theory that the pneumococci find their way to the lungs through inspired mucus, as claimed by Whitney,[2] this danger is minimized by the

1. "Does Etherization Ever Cause Acute Lobar Pneumonia?" Boston Medical and Surgical Journal, March 28, 1895.
2. Boston Medical and Surgical Journal, Sept. 23, 1897.

action of these two drugs. I never hear in these days that distressing bubbling in the patient's throat. A tongue forceps, while always near at hand, is never employed, for the throat does not require swabbing.

The claim has been made, and perhaps justly, that the Trendelenburg position may be a factor in the production of pulmonary complications. That it impedes respiration during the operation, especially in fleshy patients, is a matter of common observation. The diaphragm is pressed towards the thorax by the viscera, which seek this position through the force of gravity or are crowded upward by the hands of the operator, who retains them in this unnatural position by gauze packs. It has been my custom for some time to modify the Trendelenburg position by partially elevating the head of the table after the intestines have been removed from and held away from the pelvis by packs. In this way one secures all the advantages of the Trendelenburg position while eliminating some of its disadvantages. The etiology of post-operative pulmonary complications, especially pneumonia, is obscure enough at best, and it behooves us to employ every means of prevention at our command.

It has been claimed that pneumonia is more apt to occur after abdominal than other operations. This is especially true if ether be the anesthetic employed. The statistics of Gurlt,[3] compiled from 52,677 anesthetizations, show that fewer deaths can be attributed directly to the use of ether than to chloroform or the mixtures. Pneumonia, however, is especially liable to occur after ether narcosis. Out of thirty such cases following ether narcosis, there were fifteen deaths. Thirteen of these occurred after abdominal operations. The explanation, according to Gurlt, lies in the suppression of the cough because of abdominal pain and tenderness.

As regards the so-called septic form of pneumonia, I believe that the term is too loosely applied. There is undoubtedly a hypostatic form of pneumonia which develops usually at the base of the lungs of a patient with peritonitis or other forms of sepsis. This hypostatic pneumonia differs not at all from that seen in other febrile conditions. The higher and longer continued the fever, the greater is apt to be the involvement of the lung. Another form of pneumonia arising from septic conditions elsewhere in the body is due to the lodgment of septic thrombi in ramifications of the pulmonary artery. Catarrhal pneumonia may surround the abscesses produced by the thrombi, and the fusion of these will give rise to areas of consolidation of the lung tissue. The diagnosis, however, of pneumonia of this description is not difficult, because of the accompanying signs of sepsis.

I am convinced that I have overlooked many cases of pleurisy, with or without effusion, in my operative cases in past years because of failure to make careful stethoscopic examinations where thoracic pain is complained of. In cases of moderate abdominal or pelvic sepsis, accompanied by pain and tenderness low down in the abdomen, it is a common error to ascribe pain higher up to these causes. More often are directions given to extend the area of external applications than are careful thoracic examinations made.

The following case illustrates the sero-fibrinous form of pleurisy undoubtedly of septic origin:

Case 3.—*(Gynecologic Case 306.)—Vaginal Hysterectomy for Foul-smelling Submucous Polyp, the Size of the Fist, Projecting from External Os. Septic Vaginal Discharge. Sero-Fibrinous Pleurisy, Right Side. Recovery.*—The patient, aged 47, had flowed almost continuously for over a year. At entrance her hemoglobin was only 35 per cent., but was increased to 65 per cent. by the administration of iron and the control of the hemorrhage. Very little hemorrhage and no shock accompanied the removal of the tumor and uterus by the vaginal route (Nov. 12, 1902). There was some absorption from suppuration of the vaginal stumps, but at no time were the symptoms alarming.

On the fifth day following the operation the patient complained of sharp pain in the right axilla, increased by forced inspiration. Examination of the affected area revealed to and fro friction sounds and established the diagnosis of pleurisy. These signs were followed by those of a pleuritic effusion. The condition gradually subsided under the appropriate treatment.

Here was an undoubted case of pleurisy of septic origin, the micro-organisms passing upwards to the pleura from the septic focus in the pelvis by way of the lymph channels. Streptococci have been found in the fluid of such pleurisies. The fluid may be either clear, cloudy or purulent, according to the nature and virulence of the infection. Purulent pleurisies as complications of scarlet fever, measles and typhoid, are not uncommon. Sears quotes Betke as having found 58 instances of pleurisy as a complication out of 1,420 cases of typhoid.

The following case shows double septic pleurisy where the diagnosis was confirmed postmortem:

Case 4.—*(Gynecologic Case 131.)—Bilateral Salpingo-Oophorectomy for Hydrosalpinx and Pyosalpinx in a Patient with General Miliary Tuberculosis. Bilateral Septic Pleurisy with Effusion. Death on the Fifth Day from General Suppurative Peritonitis. Autopsy.*—The patient, a frail girl of 22, had been ill for some months with signs referable to the pelvis. There was considerable operative shock, but she rallied under active stimulation. Septic symptoms developed almost immediately after the operation and resulted in death from peritonitis on the fifth day.

The day following the operation the patient complained of severe pain in the right chest and shoulder. The next day the pain was worse, although careful examination of the chest gave negative results. Within the next twenty-four hours pain had developed in the left thorax and to and fro friction sounds could be made out just below the fourth rib on the right side. The following day friction sounds could be heard over the left thorax.

The autopsy showed general suppurative peritonitis, general miliary tuberculosis and double pleurisy, more extensive on the right than the left side. There was a slight amount of cloudy fluid in each pleural cavity.

An interesting feature of this case was the difficulty in differentiating between beginning pneumonia and sepsis before the signs of both conditions became clear. There was at first very little abdominal pain and tympanites. The pulse was not particularly rapid nor thready, nor was the temperature markedly elevated. It was thought at first that she might be developing a lobar pneumonia until the ordinary signs of beginning general peritonitis appeared and were followed by an ever increasing pleuritic inflammation.

In still another case did a pleurisy develop after operation. Here, however, it is extremely doubtful whether it was due to sepsis.

Case 5.—*(Gynecologic Case 100.)—Abdominal Hystero-Salpingo-Oophorectomy for Chronic Disease of the Uterus and Appendages. Left Sided Dry Pleurisy on the Fourteenth Day After Operation. Recovery.*—The patient, aged 40, presented the usual symptoms of chronic disease of the uterus and adnexa. There was no history of previous pulmonary disease. Operation Jan. 17, 1902, unattended by shock.

For two weeks the patient's convalescence was uninterrupted, the wound healing by first intention. On the fourteenth day

3. Annals of Surgery, 1896, vol. xxiii, p. 232.

she was seized with a sharp pain over the left thorax, increased by forced inspiration. Examination was at first negative. Friction sounds were obtained two days later. While the temperature was but slightly elevated, the highest point reached being 101, the pleuritic complication was excessively annoying. There were no signs of effusion, and the patient made a good recovery.

Possibly in this case the pleurisy was tubercular, the lighting up of some old focus, as it is conceded that the majority of pleuritic inflammations are due to this cause. It is hard to ascribe it to septic absorption, as there were absolutely no septic symptoms in the case.

Case 6.—*(Gynecologic Case 70.)—Hystero-Salpingo-Oophorectomy for Chronic Disease of Uterus and Adnexa. Bronchitis Following Operation. Recovery.*—The patient, aged 46, was operated on Dec. 6, 1901. Considerable shock attended the operation. There was prompt reaction to stimulation. The following day there was a troublesome cough and complaint of oppression and pain in the chest. Examination the following day showed bronchial râles in abundance. The expectoration at this time was profuse and muco-purulent in character. The pulmonary symptoms subsided gradually under treatment. It was learned on inquiry that the patient had a cold just prior to the operation, but had not mentioned it.

I have recorded this case, not because it exhibited any alarming symptoms, but because such a bronchitis is not uncommon after ether narcosis. Under ordinary circumstances, even in the presence of a mild pharyngitis and laryngitis, the conditions present in an ordinary cold, I do not believe it is especially dangerous to administer ether. A slight increase of the irritation will be the only result, as a rule. But one is not sure of not having the grip germ present in the upper respiratory passages at certain times of the year, and experience has shown how deadly this organism is at times. The pneumococcus often found in the pharynx may not gain entrance into the system during a mild inflammation of the upper air passages, but when to this is added the irritation of the ether, it may actively flourish and place the patient in extreme peril.

For these reasons I am having more and more careful physical examinations made of patients prior to the narcosis and unless the operation be one of emergency it is postponed in the presence of even a slight cold.

IODOFORM DERMATITIS.

W. A. BRYAN, A.M., M.D.
ADJUNCT PROFESSOR OF SURGERY, VANDERBILT UNIVERSITY.
NASHVILLE, TENN.

It is the purpose of this paper to notice a phase of action iodoform sometimes assumes in the form of a dermatitis. By the term local iodoform dermatitis I have meant to distinguish this process from that showing constitutional involvement and an eruption scattered more or less over the body. This general involvement is well understood, but the purely local condition has been but little written of, and is probably not generally recognized as being produced by the application of iodoform, even when it does appear. My reason for calling this local iodoform dermatitis is the fact that it comes only on the surface surrounding the wound to which iodoform has been applied, produces no eruption or discomfort elsewhere and shows no special constitutional symptoms.

THE CLINICAL COURSE.

The appearance of the surface begins to change toward the end of the first 24 to 48 hours after application to an open wound, and resembles very much the poisoning of *Rhus toxicodendron,* with the exception that there is usually not so much redness present in the iodoform poisoning, for it is obscured by the vesicles that form on the skin. Numerous small vesicles appear around the point of application and increase gradually in the area they cover, until they may extend several inches from the focus. The vesicles toward the focus grow larger than those at the periphery because they are closer to the poison and get more of it. Often a number of vesicles coalesce and produce blebs of considerable size, which rupture and allow the contained serum to escape. Once the epithelium is broken the liberation of serum is more abundant in these than in any other lesions I have ever seen. In a few hours dressings are completely saturated with serum. The dressings thus stick closely to the wound, unless it is covered with an unguent. On removal of the cuticle the true skin appears as a thick, red, raw, edematous, uneven surface, often filled with little pockets of serum, resembling vesicles, but for the absence of the cuticle.

In a few instances the skin on which the blebs appear seems to be inflamed beyond the limits of vesiculation, but the majority of the cases I have seen have been devoid of such manifestation.

This eruption is likely to be mistaken for some other lesion, unless we remember not only its possibility, but as well its comparative frequency, and that it comes from iodoform no matter in what manner it is applied or to what surface. I have seen it come from the powder and the gauze, from application to the mucous surface and the skin. I have seen it called infection or eczema and treated for such, growing worse all the time.

The spread of iodoform dermatitis does not seem to follow any very definite rule, the usual method being by uniform extension in every direction. I have seen a case due to application to the stump made by enucleating an eye, spread upward over the brow and downward over the upper part of the face. Another case, the photograph of which is here presented, began at the metacarpophalangeal joint and extended up on the dorsum of the hand and down the dorsa and sides of the fingers. I saw another case with lacerated scalp have the whole side of his head above and below, in front of and behind the lesion, covered with ruptured, weeping vesicles. This fact seems to indicate that the spread of this process is through the connective tissue spaces rather than the lymphatics, as I at first thought.

The chief symptom complained of by the patient is an intense, intolerable itching; this symptom frequently begins before any change can be observed in the part complained of. It is incessant and described as a burning pain. Tenderness and irritability are other symptoms worth mention. These patients suffer intensely if great care is not used in removing dressings.

The duration of iodoform dermatitis is from one to four weeks under treatment, with removal of the cause. If iodoform is continued on the wound, in consequence of a false diagnosis, as that of infected wound, where iodoform is certainly a very useful drug, the symptoms will continue worse and worse until, from disgust, the surgeon tries some other drug.

How important must it be, then, that we recognize iodoform dermatitis when we see it, for, in the first place, almost any surgeon who uses iodoform in infected cases, having confidence in his drug, would increase the dose, and so increase the poison. Again, every patient who suffers once from this trouble ought to be told frankly by his surgeon that he has an idiosyncrasy for iodoform, that it poisons him, and in case of receipt of

another injury he should tell the attending surgeon of this fact.

The idiosyncrasy for this drug is peculiar in some respects. I have used the very best make of the drug I could find. In one instance a patient was treated with it without harm; shortly after his recovery he received another wound, which became infected, and on applying iodoform from the same bottle to it a typical case of dermatitis resulted. The patients who have, under my observation, developed this condition are usually of a sallow, unhealthy appearance, and somewhat anemic; but it is not confined to this type. I have seen only two or three cases developed in negroes, the failure to see any at all until recently having led me to believe it was not possible in them; but one case of a severe nature, that I saw recently, developed in a male negro, aged



Figure 1.

21 years, who had suffered from indolent ulcer of his leg for four or five months. I have been able to find one case, a trained nurse, on whose hand the vesicles would form if she even dressed a patient who was having iodoform applied, whether she came directly in contact with the drug or not.

The poison does not seem to be simply the iodin liberated. I have used iodin on as many cases as I have iodoform, yet not one of them has shown this vesicular type found consequent on iodoform. Iodin blisters many people very easily, but produces this blister under the cuticle, which, when it is peeled off, leaves a smooth, raw surface, not one showing irregularities like that from iodoform. Beside, iodin is limited in its action to the site of application, while the vesicles due to iodoform cover a wide area surrounding the original lesion. Again, the blister made by iodin, when it is opened and the cuticle taken away, does not tend to discharge serum indefinitely; the vesicles once ruptured in iodoform dermatitis, this discharge occurs without exception and is frequently very difficult to control. Iodoform seems to produce its effect by spreading through the cellular tissues of the skin; iodin by acting only on the surface. Recently I saw this same lesion produced by aristol.



Figure 2.



Figure 3.

ILLUSTRATIVE CASES.

The description made above will be better understood by the study of accompanying cuts.

Figure 1 represents a case of iodoform dermatitis 44 hours after the first and only application of iodoform made to the stump left by enucleation of the patient's left eye by Dr. G. C. Savage. This case suffered no rupture of the vesicles and was well at the end of one week from the beginning of treatment.

Figure 2 is iodoform dermatitis 72 hours after an only application of iodoform to an infected laceration marked A. A large bleb is seen at B and surrounding this are the small vesicles C. The case was as follows:

J. W. G. came with slight laceration on dorsum of left hand, July 18, 1901. This was cleansed antiseptically and was treated with no application, except bichlorid dressing for four days, when a little pus appeared. It was then dressed with sparing applications of iodoform of the very best quality from a box, out of which I had used half the contents on other cases with no harmful result. He returned after forty-eight hours for another dressing, at which time the peculiar form of local iodoform poisoning shown in the cut was apparent. The blisters were clipped and carbolated vaselin applied every day.

Figure 3 shows an advanced stage of the process, eight days after the application was made (March 4, 1901) to the infected laceration of the fourth and fifth fingers and of the dorsum near the base of the index finger shown at points A—A. The first succeeding dressing was March 6, 1901, when the patient complained of considerable itching of the parts. On examination, several blisters, which surrounded lesions and contained a yellowish serum, were noticed. The iodoform was thoroughly washed off, but too late to prevent the dermatitis. The process continued until at its worst the hand appeared as this picture shows it. The points B—B are the dead but as yet unseparated epithelium; C—C are red inflamed areas where the epithelium has come away; D is a wart, having nothing to do with the disease. The chief characteristic of these wounds is their abundant exudation of serum. Notice in the region devoid of epithelium, the small granular bodies; they are accumulations of serum in the skin proper. This photograph was taken March 14, 1901, just eight days after first appearance of blisters and ten days after application.

TREATMENT.

The treatment of iodoform dermatitis is, in the first place, to stop the application as soon as the first symptom of itching is complained of and the first little vesicle seen; cleanse the surface thoroughly, using peroxid of hydrogen to loosen up the iodoform that has adhered to it, remove every particle of the drug, for any part of it left acts continuously as a poison and delays recovery. After cleansing, daily applications of carbolized vaselin 5 per cent., or an aqueous solution of carbolic acid, should be made until all vesicles disappear. I have obtained better results from this application than from any other. It is well at each dressing to immerse the part in an astringent solution in hot water for from 10 to 30 minutes. If dry dressing or dusting powders are used, they must be applied freely and repeated frequently, as they become early saturated with the exuded serum.

CELL IMPLANTATION IN THE PRODUCTION OF TUMORS.*

From the New York State Laboratory, Buffalo, N. Y.

LEO LOEB, M.D.

MONTREAL.

The problem of the origin of tumors is a part of the physiology of growth. In explaining malignant tumors pathologists made use of two of the most obvious instances of ordinary tissue growth, namely, embryonic development and regenerative phenomena. Accordingly two theories have been advanced to explain tumor growth. The first one explains tumors as originating from embryonal cells, either actually detached from their normal surroundings, or at least functionally detached. With or without changing their place these cells do not take part in the further development of their neighbors; they remain in an embryonal condition, are not functionally active as the normal surrounding tissue is, until at a later period they begin to make use of their latent, stored up forces. Being locally or functionally disconnected they do not find the tension of the neighboring cells opposed to them and they can now grow indefinitely. This is, in the main, Cohnheim's theory, especially as it has lately been further developed by Wilms. This theory, therefore, combines the two factors named above. It makes use of the embryonic character of the tumor producing cells, and of the fact that these cells are disconnected, implanted, as it were, in a strange environment. The lack of the normal tension or the regenerative factor of growth is added to the embryonic factor.

Some clinical facts seem to support this theory. Many teratomata can hardly be explained any other way. Many mixed tumors suggest such an explanation as to their origin. There seem to be tumors representing transitional formations between the teratomata on the one side and simple tumors, like sarcoma, on the other side. But it is difficult to explain many tumors, especially many carcinomata, on this basis. Therefore, Ribbert, though accepting the first theory as sufficient for many cases, added a supplementary theory, making solely use of the regenerative factor for the explanation of tumors. Through inflammatory processes adult cells become separated from their normal ground. Cells which are no longer subjected to the inhibiting influence of their neighboring cells begin, as ordinary wound healing shows us, to grow, until they find their normal connection with cells of the same kind. Cells which are perfectly detached from their normal ground will probably never find their normal environment producing the necessary tension and will therefore be able to grow indefinitely.

After having thus defined the two factors underlying these two theories, we have to consider how far these conceptions really adequately explain the growth of tumors.

The first problem to investigate is: how do displaced embryonic cells actually behave? A number of facts have been ascertained through experiments carried on in the last twenty, and especially in the last ten years, which to some extent enable us to answer this question. Still, our knowledge is yet limited, especially because some facts have been found in certain species of animals only, and in applying the results of these experimental facts we have to do it with this restriction. Let us first consider what becomes of the earliest embryonic cells, whose normal relation to their neighboring cells has been disturbed. If one-sided pressure is exerted on the segmenting cells of the egg of a frog, e. g., so that the normal succession of cleavage is altered and the relation of the first cleavage cells to each other is different from their ordinary relation, a normal embryo ultimately results. If the first blastomeres are entirely separated from each other each one develops a normal though smaller embryo, the number of cells formed being proportionately smaller, their size remaining unaltered. This holds good absolutely only up to the four-cell stage; isolated cells from the eight and sixten cell stage still begin the normal development, and some of the blastomeres of the eight-cell stage run through the whole course of their development, but the blastomeres derived from these later stages stop at an earlier stage of their development. Thus the blastomeres derived from later stages differ in their fate from earlier blastomeres, not

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. Alfred Stengel, L. Hektoen and Frank B. Wynn.

as was to be expected by the former developing more specified parts of the whole, but instead, they form the first stages of whole embryos. No conclusive experiments have been made with regard to the fate of isolated blastomeres of later stages. Sufficiently large pieces of blastulæ also can develop perfect larvæ. At a somewhat later stage certain parts of the embryo must be present in the cut-out piece if the gastrulation shall take place. A certain morphogenetic localization has perhaps already taken place at this stage. Very few data are at hand for later stages. The observation of Roux, however, might be mentioned, who found very frequently in frog embryos with a closed medullary canal, isolated cells of the character of the much earlier morula stage.

Of importance are the recent experiments of Spemann. He found in triton at a stage when the medullary plate is already indicated, that by tightening a ligature across the medullary plate the anterior end of the posterior part will form a head just as the anterior part will do. We see that under these changed conditions ear vesicles can be formed from parts which, if the development would have proceeded normally, would not have formed any part of the head. That, however, does not yet prove that any isolated cell of an embryo at this stage is able to form these structures, but probably the connection of these cells with a large part of the embryo is necessary for this result.

Before drawing any conclusions from these experiments with regard to tumor formation, the results of experiments of a different kind shall be reported. Pieces of the tissue of embryos of different age were transplanted or injected into adult animals. At variable periods afterwards the fate of these pieces was determined. The following result was obtained: Most tissues grow and may even undergo a certain differentiation, corresponding probably (but how far that holds good has not been determined) to the differentiation they would have undergone normally. In some instances, where especial attention was given to this point, it was found that only a part of the transplanted tissue survives, that most of it degenerates and that the succeeding growth takes place from the surviving elements. The rate of growth is different for different tissues; it is most pronounced in the case of cartilage, but other tissues also grow, and epithelial cells may even arrange themselves in glandular form, even if they have been injected at such an early embryonic stage that no differentiation of this kind has yet taken place. Even glandular epithelia with granules characteristic for gland activity may develop. Ultimately, however, all these cells cease to grow and become resorbed. (Nevertheless, it is still to be determined whether certain cyst-like epithelial structures may not remain stationary, indefinitely, without becoming absorbed.) If we inject, instead of embryonal tissue adult tissue the result is, on the whole, the same. Of course, no differentiation comparable to the embryonic development takes place. Transplanted adult cartilage grows markedly less than embryonal cartilage. But a similar difference between the growth of adult and embryonic tissue does not seem to exist with regard to other tissues. In some cases adult cells even seem to grow better than embryonal cells. Further investigation into this question is needed. The data at hand at present do not justify the widely accepted idea that all embryonal transplanted tissues are much superior in their faculty to grow to adult tissues.

Let us now consider what conclusions might be drawn from these facts with regard to the formation of tumors. There are tumors consisting of a number of different tissues, with a limited growth, more or less resembling an irregularly formed embryo. Such teratomata might be derived from a detached blastomere, undergoing afterwards an autonomous development. Also Spemann's experiment might help us to explain certain tumors of a similar complex character. A wound or tear in the embryonic tissue of a later period might give rise to unexpected "heterotopic" formation, as e. g., to a brain-like tumor, at the caudal part of the spinal column.

But already here we find difficulties. In the first place we find these complicated tumors, although not exclusively, still in the majority of cases in the ovary and in the testicle. The explanation advanced to meet this difficulty is not sufficient and not quite satisfactory. In this connection it may be added that also mixed tumors of a less complex kind are, although not exclusively, mainly found at a few places, and again especially in glandular structures like the kidney, the salivary, lachrymal glands, and, to judge from recent findings, also in the thyroid gland. Roux observed early embryonic cells in different parts of the frog, not only in the "Anlage" of the genito-urinary organs; but, to my knowledge, just in the frog where such aberrant cells seem to be of a relatively frequent occurrence, teratomata or malignant tumors have never been described.

Nevertheless, the origin of this kind of tumors from blastomeres is the most probable one, although it must not be forgotten that it remains a mere hypothesis at present. Our knowledge does not seem to me to warrant us to exclude with an absolute certainty the older view of Waldeyer as to their possible origin from germinal cells, nor the hypothesis of Pfannenstiel as to their origin from ova. Mammalian ova may, in the beginning of the atresia of the follicles, show the first stages of segmentation. This segmentation is under the given conditions irregular, but irregular, also, is the segmentation of the ova of sea urchins in Hertwig's and Morgan's experiments. We must hesitate to exclude merely from data supplied by descriptive embryology possibilities which might be realized under conditions different from the ones under which the normal development takes place. Observations on the ordinary embryologic development would not have admitted the possibility of the development of isolated blastomeres to full embryos or of the formation of a typical lens from the retinal part of the iris in an adult organism. But there is a second difficulty. The growth of detached or separated embryonal cells leads, according to the above reported experiments, to a definite, limited growth. These embryomata, however, may start to grow like a malignant tumor, indefinitely, and may produce metastases. This also holds good of certain of the less complex mixed tumors, which otherwise might, in part at least, be explained as derived from detached embryonic cells or tissues of a later, already more differentiated type.

That leads us to the further consideration, can malignant tumors be explained by the detachment of cells, embryonic or adult? Malignant tumors grow apparently indefinitely; they may penetrate the surrounding tissue. Cells detached from the main tumor may, if they are not destroyed in the beginning (which probably frequently happens), multiply rapidly and form metastases. We saw that detached or transplanted normal embryonic or adult cells behave quite differently in the large number of experiments made. There is only one apparently divergent result published, the experiments of Lack with the scrapings of the ovary of a rabbit. That this apparently different result is due to an erroneous interpretation has been made very probable by Shattuck. How-

ever, it might be objected that there exist all degrees of malignancy. There really do exist tumors with different degrees of energy to grow. It has further been maintained, especially by Lubarsch, that the formation of metastases does not principally depend on the energy of growth of the tumor cells, but on a constitutional factor in the individual affected by the tumor (the capability to resorb transplanted cells being diminished). The transplantation of sarcoma and carcinoma, which has now succeeded in a sufficient number of cases, demonstrates, among other facts, that these objections do not hold good. The formation of metastases is caused by a primary increase in the energy of growth of the tumor cells. The transplanted cells rapidly multiply in a very large number of individuals of the same species. Secondly, transplanted tumor cells continue to multiply apparently without end, and therefore the difference between the transplantation of tumor cells and of ordinary embryonic or adult cells is very striking. With the tumor cell we seem to transplant some so far unknown factor which causes the cells to multiply without end. Different tumors have a varying energy; but this varying energy remains about constant in the same tumor in the course of a long series of succeeding transplantations. If we transplant pieces of a benign tumor, the transplanted cells remain benign. And even when we cut out pieces from such benign tumors at different intervals, the tumor did not, in the experiments made, assume a malignant character. On the other hand, transplantation of hypertrophic granulation tissue into different animals of the same species from which the original tissue was derived, was rapidly absorbed.

If Cohnheim in his lectures still maintained that experimentally transplanted cells may produce tumors, that, however, transplanted pieces of real tumors did not give rise to new growths—to-day we must reverse this statement. Neither the regenerative factor alone is able to change ordinary cells into cells of a malignant tumor, nor the embryonic character of the cells added to the regenerative factor. The results of experiments carried on from different points of view and with different methods corroborate each other. Ordinary embryonic cells, transplanted, have, under conditions, created experimentally only a limited growth. Therefore, we have no reason to assume that the results obtained so far are due to some accident and might be reversed some day. Still, there are factors which have perhaps not yet received the attention they deserve, e. g., the soil into which the tissues are transplanted, although a few investigations have been made into the question of the influence of the soil. It has recently been stated that tissues transplanted into ovaries had a more pronounced growth than those transplanted elsewhere. There does exist, however, another factor of more general significance. In the experiment of Spemann previously mentioned, embryonic tissue of triton could at many places produce a head, where, in the course of normal development the same tissue would have given origin to other organs. A head has, however, never been produced by injection of embryonic tissue. It makes some difference if the regenerating, detached, embryonic cells are on one side still in their normal connection with the rest of the body. It may be that the quantity of the regenerating substance has something to do with the different tissues regenerated by apparently the same cells, as especially Morgan suggests in some other connection. It may be that other correlative factors, perhaps of a specific chemical character, are here at play. There are other facts perhaps to be explained in a similar way. Pieces of hydra grafted to each other form different organs, if, after the union has taken place, both pieces remain of about the same size or if a large piece is cut off from one of the pieces. Perhaps also the fact that epithelium transplanted into epithelium has a different fate from epithelium transplanted elsewhere may belong to a similar category. The theories based on the supposition of detached, either embryonic or adult cells, as the cause of tumors, are at the present state of our knowledge not sufficient to explain the growth of malignant tumors. If transplanted epithelium enters into the normal union with connective tissue, the expansive growth of the epithelium will soon be arrested under formation of small cysts. If, however, such a regular union does not take place, the epithelium after a preliminary growth soon degenerates and connective tissue penetrates it. Decrease of tension added to sufficient nourishment is therefore not able to induce such epithelium to indefinite expansive growth, although such epithelium transplanted into blood serum, e. g., reproduces a number of the morphological appearances of carcinoma. Nevertheless, many, or perhaps most cells have a faculty for growth which is apparently almost indefinite, with regard to the quantity of tissue which can be produced and perhaps also to the time over which such growth can extend under favorable conditions. Why the transplanted tissues after a preliminary growth cease to continue to grow we do not yet know. Perhaps exhaustion of reserve material in the cells is the cause, perhaps some other factor plays a part. If we shall be able to experimentally prolong and increase the growth of transplanted tissue we will be nearer an understanding of the factors underlying the tumor growth.

The deficiency of the theories discussed here was, it seems, also recognized more or less by their authors. Wilms admits that some other unknown factor may come into play to produce a malignant tumor, though at other places the fact that the growing embryonic cells do not grow in their normal relation with neighboring cells seems to be sufficient to him to explain the boundless growth. Ribbert mentions "accommodation" of certain cells to the conditions of their new environment as necessary for their transformation into tumor cells. Israel, who applies similar principles as Ribbert, modifying them, however, in such a way as to include carcinomata arising from the surface epithelium directly and not from implanted cells, makes use of an hereditary transmission of an acquired increase in the energy to grow. Also Adami, in his theory which otherwise is based on different principles, makes use of an acquired "habit to grow." These or similar factors are perhaps not yet well defined, but they may be accessible to an experimental analysis. In this connection some recent experiments of Lyon might be mentioned, in which he succeeded in proving that an acquired immunity against potassium cyanid may be transmitted to succeeding generations of cells.

At the base of the theories discussed here lies a principle mainly gained by deductive a priori reasoning which was clearly expressed, especially by Weigert. This principle says that there do exist functional Reize (exciting causes), but no formative ones. All cell growth is caused by removing the tension of the neighboring cells. This theory itself is based on a theory of development, according to which no interdependence between normally developing parts of an organism takes place and all regenerative processes are caused by the presence of a reserve idioplasma called into action by removing the tension of the neighboring tissue. This

principle is a negative argument in favor of Cohnheim's and Ribbert's theories, excluding as it were the possibility of any other explanation for cell division. More promising, however, than the discussion of the above stated principle seems to be, at least with regard to the tumor problem, an analysis, and especially an experimental one, of the facts of embryonic development and of the regenerative processes. The latter must be an individual one for the different tissues which may behave differently. And here new methods must be worked out for new problems which suggest themselves. As Herbst and Spemann made it very probable that the touch of certain parts of the optic vesicle caused the skin of the head (and probably any part of the skin of the head) to form the lens, so G. Wolff demonstrated recently that the regenerative growth of the cut-off extremity of a triton does not take place if the medulla and the spinal ganglia are removed. In these cases we certainly can not speak of a removing of mechanic tension as the cause of growth. If the meaning of the removing of tension does not restrict itself to mechanic tension, it would be only used in a metaphorical sense and might mean any change of a chemical or physical nature; it would therefore essentially not be different in its meaning from the conception of a formative "Reiz." These causative factors for growth are at present still mostly unknown to us. Their analysis will also be necessary for a full understanding of the etiology of tumors. For even if micro-organisms shall have been definitely demonstrated as the cause of tumors, great as this achievement would be, the problem would still remain how such physical or chemical conditions created by the micro-organism can be the exciting factor of increased cell division.

DISCUSSION.

Dr. H. D. Pease, Albany, N. Y.—Before many of the phenomena observed in tumor formation and the production of metastases can be explained we shall certainly have to know more about the physiology of normal tissue elements, both embryonic and adult. Such questions lead to a discussion of the problems of cell division, tissue differentiation and inheritance. Even if it is eventually found that micro-organisms have an etiologic relation to malignant tumor formation, many of the phenomena which occur in such formations will require for their explanation a consideration of these problems.

REPORT OF A CASE OF TYPHOID PERFORATION WITH GENERAL PERITONEAL INFECTION

AND FIVE OTHER CONSECUTIVE CASES OF GENERAL SUPPURATIVE PERITONITIS; ALL RECOVERED.

J. B. MURPHY, A.M., M.D.
CHICAGO.

It is the prevalent opinion of the profession that practically all cases of general suppurative peritonitis should terminate fatally. That this is not true, however, is forcibly illustrated in the cases here reported. The questions arise, therefore: 1. What are the conditions which produce the fatal result? 2. Can these be overcome by medical or surgical treatment, and if so, when and how?

General suppurative peritonitis is not necessarily a fatal disease. The result of a general peritoneal infection depends on the following:

(*a*) *The type of infection.* If it be a virulent streptococcus type, with little pus formation, the peritoneum is rapidly denuded of the epithelial covering and becomes a "blistered surface" through which absorption rapidly takes place. Death in these cases is caused by the large quantity of the products of infection rapidly absorbed. If the poison be diluted or the pressure under which the infective products are retained be reduced the patient may pass over the critical period to a convalescence. If it be a staphylococcus or colon bacillus infection, the denudation of the peritoneum is slower, the danger of immediate overpowering of the patient by the absorbed toxins is diminished and the fatal termination is postponed often to four or six days, until such time as the fibrinous exudate which covers the peritoneum is exfoliated, taking with it the peritoneal endothelia. A rapid and fatal absorption may then ensue.

(*b*) *The period of time* that elapses between the infection and the time of operation. In the past the diagnosis of perforation was based on the combination of symptoms included under the term collapse, which was believed to occur a few hours after the perforation took place. At present the diagnosis of acute infectious perforative peritonitis is based on the symptoms of pain, nausea and vomiting, localized tenderness, circumscribed flatness on piano percussion, elevation of temperature and hyperleucocytosis, in the order mentioned. With these symptoms many of the patients give a history of diseased conditions which predispose to the development of perforative peritonitis. The operation should, therefore, be performed as soon as these symptoms are manifest. If it be postponed until the patient is in collapse the case will terminate fatally. If it be performed, however, in the early stage, the "peritoneal shingles" or endothelia will be found intact, thus preventing absorption. When these natural barriers to absorption are destroyed, as is the case when operation is delayed, a fatal termination can not be obviated.

(*c*) *The tension* under which the products of infection are retained in the peritoneal cavity. The mere pressure of pus in this situation does not necessarily mean absorption of the infective products. The greater the pressure under which the pus is held in these acute conditions the more rapid the absorption. This is true, not only in the peritoneal cavity, but also in suppurations in the cellular tissue in any portion of the body. Remove the pressure and there is an almost immediate cessation of absorption, as is shown by the sudden subsidence of the symptoms of infection after draining an abscess in any portion of the body, notwithstanding that pus remains in this cavity after it has been opened. The reduction of pressure is one of the basic principles of treatment of cases of general suppurative peritonitis. We believe, and have shown, that irrigation is not necessary in the peritoneal cavity any more than it is in circumscribed suppurations of other tissues.

(*d*) *The diffusion* of the infective material through the peritoneal cavity. It is well known that when this diffusion takes place in the upper half of the peritoneal cavity the danger is enormously increased, because absorption from this part is much more rapid than from the lower or pelvis portion. On this basis all patients were kept in the semi-sitting position, at an angle of thirty-five degrees, from the time they came under observation, both before and after operation, until the pus was entirely removed. In all the cases an effort was made to allow the pus to settle into the pelvis, where it would be free from pressure and could be easily carried off by the drainage tubes. In this way absorption took place slowly and the patients were saved from the primary, overwhelming dose of toxins, which is so fatal.

(*e*) *The administration of antitoxins and other substances* to antidote or dilute the immediate depressing effects of the poisons absorbed from the peritoneum. Antistreptococcus serum and unguentum Credé were administered to our patients, on the conviction that they contributed to this result to some degree. We believe that time is saved by their administration, in counteracting the effects of the poison, and the patient's chances for recovery are, therefore, increased. Saline transfusions were given some of the patients for the same purpose, as well as to increase the arterial tension when low.

(*f*) *The length of time the patient is kept under the anesthetic* and the extent of manipulation of the intestines and other tissues to which the patient is subjected during the operation. The patients were not killed on the table. I believe a large number of lives are sacrificed in operations for general peritonitis by excessive manipulation of the infected tissues and by sponging and irrigation of the peritoneal cavity. If the patient becomes severely depressed, collapsed or shocked on the table, it is practically certain that death will ensue; and, therefore, no operation which produces these conditions is justifiable. In all of these cases a general anesthetic was used, as it is my belief that sufficient time can be saved by working under general anesthesia to more than compensate for the dangers attending its use, and time is of vital importance in operations of this character.

The following report will illustrate the various phases of the individual cases:

Case 1.—Mr. J. D., aged 35 years, laborer. Admitted to Mercy Hospital, Nov. 18, 1902. Patient referred to me by Dr. D. Collins, with diagnosis of typhoid perforation.

Present Illness.—The patient was in the third week of a well-defined attack of typhoid fever and was progressing favorably. At 3 p. m. on the day of admission to hospital he experienced a sudden, severe, sharp pain in the umbilical region. Soon after onset of pain it became general over the lower half of the abdomen, he vomited and a considerable degree of tympany developed. When I examined him at 8 p. m. he was in the semi-sitting position and the abdomen was moderately distended and tender all over. On percussion there was tympany over the upper part, with dullness in the right flank and lower portion of the abdomen. The line of dullness changed with change in position of the patient. Dr. Collins' diagnosis of typhoid perforation was sustained and patient immediately sent to hospital for operation. In conveying him from his house to the hospital he was kept in the semi-sitting position on the stretcher and this position was maintained on the table throughout the entire operation. Ether was the anesthetic used. The pulse before beginning the anesthetic was 130 and respiration 30, rapid, shallow and entirely costal in type. There was, however, in this case, an absence of the symptoms of collapse. Camphorated oil, minims 10 and strychnia sulph gr. 1/30 were given hypodermically before starting the anesthetic.

Operation.—10 p. m. Incision below the umbilicus and through the right rectus muscle was made in opening the abdomen. As soon as the peritoneum was incised a large quantity of yellowish green fluid containing flakes of lymph exudate, welled out of the opening. This fluid was free in the peritoneal cavity and there were no adhesions. The entire peritoneal surface was deeply congested and covered in places with white patches of exudate. The luster and gloss of the membrane were, however, preserved. The caput coli was first sought and drawn out of the wound, and the ileum traced from here. On drawing the latter out it was found greatly thickened in places and its peritoneal covering showed the most intense degree of congestion and infiltration. About twelve inches from the ilio-cecal valve a perforation of the intestinal wall was found, 4.5 m.m. in diameter, through which the contents of the ileum were escaping. The perforation was in the center of an indurated, infiltrated, Peyer's patch, and there were no evidences of the formation of adhesions in the neighboring intestinal coils. The perforation was closed by a double row of silk Lembert sutures, introduced in the healthy tissue, well to the side of the infiltrated Peyer's patch. In this way the bowel wall was folded inward longitudinally, from each side, and it completely buried the ulcer, with the perforation in its center. When the suturing was completed the lumen of the bowel was considerably narrowed, but this was unavoidable, as any sutures introduced into the infiltrated tissue would have torn through After closing the perforation the coil was dropped back into the abdomen and the incision closed in separate layers, catgut for the peritoneum and fascia of the rectus and horsehair for the skin. The fluid was not sponged out. Two rubber drainage tubes, ½ in. in diameter, were inserted deep into the pelvis, and came out through the lower end of the incision. Through these tubes the pelvis was irrigated with normal saline solution and a large quantity of greenish fluid escaped. The pulse became very weak and rapid towards the end of the operation, so a quart of normal saline solution was given intra-venously. Time of operation, 27 minutes.

Patient was returned to his room at 10:40 p. m. and placed in bed in a semi-sitting posture at an angle of 40 degrees. This position was maintained for ten days. After he was put to bed his pulse was 140 per minute and weak. Camphorated oil, minims 10 and strych. sulph. gr. 1/30 were given hypodermically. At 11:30 pulse was 140, very weak, and respirations 40 per minute. A second intra-venous transfusion of 20℥ normal saline solution was given and hypodermics of: caffein gr. 2, camphorated ether minims 10, strych. sulph. gr. 1/30, and digitalin gr. 1/50, ordered every four hours. At 12 p. m. 10 c.c. of antistreptococcus serum was given hypodermically and the dose repeated at 3 and 6 a. m. He rested quietly during the night except when disturbed to take his medicine; passed urine freely. The pulse gradually became slower and stronger and by 8 a. m. was 100 per minute, with temperature 99 (Ax) and respirations 34. Wound was dressed and the dressings found saturated. Inunctions of ung. Credé were ordered daily. At 11 a. m. pulse again became weaker and he was given a saline enema, which was retained P. m. temperature 100.6, pulse 100. Saline enemata were repeated after this every five hours and water given freely by mouth after 6 p. m. the day following the operation; the urine showed albumin and hyaline and granular casts.

November 20, a. m., temperature 101.4, pulse 96, respirations 26. He had a good night and expressed himself as feeling well. He vomited several times during the day, complained of some epigastric pain and slept at intervals. The camphorated ether and caffein which had been given hypodermically every four hours were stopped, but the digitalin and strychnin sulph. were continued. His pulse during the day decreased in frequency from 100 in the morning to 86 at 6 p. m., at which time his axillary temperature registered 100.6 and respirations 28. 1,300 c.c. of urine was excreted during the 24 hours. Bowels did not move, and he retained his enemata. Urine still contained albumin and casts (hyaline).

November 21, a. m., temperature 99 (ax.), pulse 68, respirations 30. Patient did not sleep much during the night, but rested quietly. He vomited several times during the day and developed a slight cough, with moderate amount of expectoration. During the afternoon two low enemata were given at intervals of four hours, and produced slight bowel movement. P. m., temperature 101 (ax.), pulse 88. Digitalin stopped. Urine abundant.

November 22, a.m., temperature 99.6, pulse 76; p. m, temperature 100.6, pulse 80. Bowels moved freely. Slight cough persists and sputum blood tinged.

November 23, a. m., temperature 98, pulse 70; p. m., temperature 99.6, pulse 74. From this date pulse and temperature remained practically normal and patient convalesced rapidly. He sat up in chair December 8. Drainage tubes were gradually shortened and diminished in size as the discharge lessened, and

were removed altogether Dec. 10. He was discharged from the hospital with wound almost entirely closed December 12.

Case 2.—Mr. F. B. T., aged 26 years. Admitted to Frances Willard Hospital July 12, 1902.

Previous History.—Negative. Family history, negative.

Present Illness.—Three days previous to admission to hospital patient was attacked with severe pain in the right iliac fossa, accompanied by nausea and vomiting. Temperature reached 100 on the evening of the attack. The next day the pain was more circumscribed and remained so until the morning of the third day, when it suddenly became general over abdomen, and considerable tympanitic distension of the abdomen developed at the same time. It was decided that the patient had a perforation of his appendix, with general peritonitis. He was transported seven miles in a wagon to the railway station and four hours on train to Chicago. When he arrived here his pulse was 130 and temperature 101.5. Abdomen was much distended and flat on piano percussion in the flanks and lower portion. Leucocyte count on the evening of the third day showed 50,000 per cubic mm.

A diagnosis of perforative peritonitis was made, though the patient was not vomiting and not in the least collapsed.

Operation.—July 12, 1902. Abdomen opened by ordinary appendiceal incision through outer edge of right rectus muscle. When the peritoneum was opened pus with gas shot out, so great was the tension. The appendix was gangrenous and perforated. Appendix removed and large drainage tube inserted into the pelvis and right iliac fossa. No abdominal sponging or irrigation was used. There was no attempt on the part of the intestines or omentum to wall off the infective process. The bowel retained some of its normal gloss, but the pus was very offensive and the case did not look promising. Abdomen closed by figure of eight sutures of silkworm gut down to the drainage tubes.

Patient was placed in his bed in the semi-sitting position, at an angle of 35 degrees. Repeated saline enemata were administered and large quantities of fluid given by mouth immediately after the patient regained consciousness. The tubes were left in for two weeks, but during this time were gradually shortened as the discharge lessened. The temperature rapidly subsided to normal after the operation and the patient made an uninterrupted recovery. In this case, as in most of the others, inunctions of ung. Credé were given daily for one week. Anti-streptococcus serum was not given.

Case 3.—Mrs. K., aged 50. Admitted to Mercy Hospital Oct. 12, 1902. Family history negative. Personal history negative.

Present Illness.—After breakfast, October 9, patient was taken suddenly ill with severe cramping pain in umbilical region. Soon after onset of pain she became nauseated and vomited freely. Pain continued general over abdomen for sixteen hours, when it became localized to the right iliac region and vomiting, which had been persistent, subsided. She had fever during this time, but does not know how much, and was very tender to pressure in the appendiceal region. After 36 hours pain lessened, but soon afterwards reappeared and was severe. It was now general over the entire abdomen and not localized to the right side. I saw the patient in consultation with Dr. George W. Webster on the evening of October 12, and concurred in the advisal of immediate removal to the hospital and operation.

Operation.—October 12, 10:30 p. m. Usual appendiceal incision through the right rectus muscle into the peritoneal cavity. On incising the peritoneum pus welled out. There were absolutely no adhesions anywhere in the peritoneal cavity, and the pus was distributed everywhere. The appendix presented considerable swelling and was perforated near its base, the perforation taking place into the free peritoneal cavity. No fibrinous exudate was found on the intestines, and there was no effort at agglutination. After ligating the mesentery and appendix, the latter was amputated. Two large rubber drainage tubes, ½ inch in diameter, were inserted, one deep in the cul-de-sac and one in the right iliac fossa. The abdominal wall was closed with figure of eight sutures of silkworm gut. No irrigation was used and the pus was not sponged out. In this case the peritoneum showed considerable congestion, but the normal gloss was retained, showing that the endothelial covering was intact. Patient was put to bed in sem-sitting posture at an angle of thirty-five degrees. With each inspiration the pus welled out of the pelvis through the tubes. At 11:15 p. m. pulse was 120, and at 12 126, with respirations of 40. As soon as she was put to bed she was given strychnia sulph. gr. 1/20, digitalin gr. 1/50, caffein cit. gr. 2 hypodermically.

October 13, patient rested quietly during night and vomited only a few times. She took water freely and retained much of it; a. m., temperature 99.8, pulse 98; p. m., temperature 101, pulse 104. Hypodermics of strychnia and caffein were continued every four hours. Dessertspoonful doses of the infusion of digitalis were ordered every three hours to increase the secretion of urine, which was small in quantity and contained considerable albumin and many hyaline casts. Patient vomited only once during the day and took water freely.

October 14, patient had good night; a. m., temperature 99.2, pulse 98, respiration 30; p. m., temperature 99.6, pulse 96. Urine now abundant, no albumin present, but hyaline casts still numerous. About noon patient was given a saline enema and this was followed soon afterward by a slight bowel movement. She had two more small passages during the afternoon. In the evening the following prescription was ordered every six hours: Ox gall grs. 5, ex. belladonna gr. 1/20, ex. nux vomica gr. ¼, aloin gr. 1/10.

October 15, a. m., temperature 99.2, pulse 96; p. m., temperature 99.4, pulse 88. Patient expelled considerable gas from bowels, but did not have a free movement. Wound was discharging freely.

October 16, during the preceding 24 hours patient passed 1,500 c.c. of urine, which contained no albumin and very few casts. The infusion of digitalin discontinued, as were also the hypodermics of caffein; a. m., temperature 99.8, pulse 90; p. m., temperature 99.6, pulse 96. During the day patient had five bowel movements and passed a good deal of gas.

October 17, a. m., temperature 99, pulse 96; p. m., temperature 100.2, pulse 84. From this date until October 21 temperature in the evening ranged between 99.6 and 100.4, with pulse 88 to 96. The discharge continued quite profuse and was somewhat offensive. Bowels moved daily during this time and she complained but little of pain in abdomen. From October 21 to November 4 p. m. temperature ranged from 99 to 99.6, with pulse from 82 to 90. During this time the discharge decreased in quantity and the wound was dressed with gauze soaked in a saturated solution of sodium bicarbonate to overcome the offensive odor. She complained little of pain; bowels moved freely daily and urine was abundant. The drainage tube in the right iliac fossa was removed October 25 and the pelvic tube four days later.

November 4, patient complained of pain and tenderness in the left iliac fossa and her temperature on this date went up to 101 in the afternoon. The next day a tender induration was palpable in this region and it was evident that pus was here retained. Induration and temperature persisted until November 8, when the accumulation discharged spontaneously into the canal left after removal of the drainage tube. After this her temperature rapidly descended to normal and continued so. Patient sat up in chair November 8, and was discharged from the hospital November 23, with the wound almost healed.

Case 4.—R. G., male, aged 16 years. Referred by Dr. Anna Dwyer.

Previous History.—During past three years had been subject to frequent attacks of abdominal pain, at times localized in right iliac fossa; no severe acute attacks. Present illness began October 18, 1902, with intermittent abdominal pain, which continued until next afternoon, when he vomited Pain generalized at first, later localized in right iliac region. Cathartics were administered by attending physician, but were not retained. Vomiting continued for 18 hours, when it became less frequent; the pain, however, remained severe. At 4 p. m., October 20 temperature was 101.2 and pulse 100. A well-

defined mass was present in the right iliac fossa. The author saw the case at 9 p. m. and advised immediate operation, but to this the parents would not consent. The next day the abdominal pain had increased greatly in severity and was generalized over the abdomen. Simultaneously with the increase and generalization of the pain the tumor mass became much less clearly defined and diffuse tenderness developed.

Operation.—Performed 7:30 p. m., October 21. The usual incision was made through right rectus muscle, into the peritoneal cavity. On incising the peritoneum the pus welled out and was free in the peritoneal cavity; with no adhesions except immediately around the appendix. The peritoneum was intensely congested and covered in places with fibrinous exudate. The gloss was preserved except in certain areas, where the congestion was most intense. The appendix was gangrenous and perforated on one side into the free peritoneal cavity. A large fecal concretion was present. Appendix was amputated and stump buried. Two large drainage tubes were inserted—one into the pelvis and the other into the right iliac fossa. Abdomen was closed with separate layers. No sponging or irrigation used. Patient placed in bed in semi-sitting position at 37 degrees.

At 8 p. m. pulse was 152. Strychnia sulph. gr. 1/30 given and repeated every three hours. At 9 p. m. 10 c.c. anti-streptococcus serum given hypodermically, and this dose was repeated at 11 p. m. and 2:30 a. m. Inunctions of ung. Credé given at 9:30 p. m. and 2:30 a. m. At 10 p. m. temperature 103 (ax.), pulse 140, respirations 24. Up to this time had drank five glasses of water since coming out of anesthetic. Rested quietly during the night and vomited only once.

October 22, a. m., temperature 102.6, pulse 120, respirations 36. Dressings saturated with discharge from tube. At 10:20 a. m. high saline enema given and ordered repeated every two to three hours. Water given freely. P. m., temperature 102.6, pulse 120, respirations 34. Patient given small dose of saline cathartic at 2:15 p. m., which was followed at 4:30 by a slight bowel movement and again at 7:30 in the evening. No vomiting.

October 23, patient had good night. A. m., temperature 101.4, pulse 100, respirations 28. Had one good bowel movement and expelled a great deal of gas from the bowels, both spontaneously and after enemata; p. m., temperature 101.4, pulse 92, respirations 30; wound discharging freely.

October 24, a. m., temperature 101.4, pulse 88, respirations 30. Wound dressed and 1½ inch of upper drainage tube removed. The gauze drain, which was left in with the upper drainage tube, was loosened. P. m., temperature 101.4, pulse 84, respirations 26.

October 25, a. m., temperature 100, pulse 80. Wound dressed and a portion of the gauze drain removed. P. m., temperature 100.6, pulse 80.

From this date until October 31 temperature ranged between 100 and 101 in the afternoon, with pulse gradually lessening in frequency from 80 to 76. After October 31 it remained normal morning and evening. October 28 sutures and gauze packing were removed. November 4 drainage tube was entirely removed and discharge was very slight. Patient was kept in bed in the semi-sitting position until November 7, when he first sat up. After this date wound healed rapidly and he made an uninterrupted recovery.

CASE 5.—Mr. E. H., aged 19 years, occupation printer. Admitted to Mercy Hospital Oct. 25, 1902. Family and previous history negative.

Present Illness.—Began suddenly four days before admission with severe cramping pains in abdomen. Pain at first was more or less general and was followed after a few hours by nausea, vomiting and temperature of 102 F. After 24 hours the nausea and vomiting subsided, but the pain persisted and gradually localized in the right iliac region, where it remained for 72 hours. Temperature at this time was 101 to 102 F. At the end of third day the pain suddenly became more severe and spread over the entire abdomen. He had a chill, followed by profuse perspiration and the temperature rose to 103 F. When admitted to the hospital the next day, abdomen was moderately distended and extremely tender all over. Breathing was almost entirely costal and the abdominal muscles held so rigidly that deep palpation was impossible. On piano percussion there was dullness extending up almost to umbilicus. An absence of peristalsis existed all over the abdomen.

A diagnosis of perforative appendicitis with general peritonitis was made and patient at once prepared for operation.

Operation.—Ether anesthesia. The usual appendiceal incision made through the outer margin of the right rectus muscle, into the free peritoneal cavity, which was found to contain a large quantity of yellowish pus, possessing a slight odor. The appendix was gangrenous and perforated. A circumscribed abscess had ruptured into the peritoneal cavity. The intestines were everywhere bathed in pus, but though considerably congested, they still retained their endothelial covering. Appendix was removed. Perforated rubber drain, one-half inch in diameter, inserted into most dependent portion of pelvis, and also into right iliac fossa. The pus was not sponged out, nor was the abdomen flushed. Time of operation 20 minutes.

Patient returned to his room at 1:30 p. m. in fair condition, pulse 128. Placed in semi-sitting position at 35 degrees and kept there for six days. When he regained consciousness three pints of normal saline solution was given per rectum and was retained. Temperature at 5 p. m. was 100 (ax.). At 6:30 p. m. 10 c.c. anti-streptococcus serum was given hypodermically, and this was repeated at 9 p. m. and again at 12. A second enema of normal saline solution was given at 7 p. m. and retained. At 9 p. m. temperature was 101 (ax.), pulse 120 and respiration 34.

October 26, a. m., temperature was 101.8 and pulse 106; p. m., temperature 100.6, pulse 112. Water was given freely and most of it retained. He vomited only twice during the day and his bowels moved freely three times, after being started by an enema given in the morning. One quart of saline solution was given per rectum every four hours, and 20 minims nuclein hypodermically at the same intervals. Urine was passed freely.

October 27, patient complained of some pain across abdomen; wound was dressed and a large amount of sero-purulent discharge found on the dressing. A. m., temperature 100 and pulse 100; p. m., temperature 100.8, pulse 100. Inunctions of 40 grains ung. Credé ordered daily. Bowels moved freely and urine was abundant. Patient complained very little of pain in the abdomen and rested well.

October 28, a. m., temperature 99.8, pulse 88; p. m., temperature 100, pulse 86.

October 29, a. m., temperature 98.8; p. m., 99.4. Ung. Credé stopped and soft diet ordered.

October 31, wound dressed and very slight discharge found on dressing. Nuclein discontinued.

Highest temperature 99.4 in the afternoon.

Temperature reached normal November 2 and remained so until the 10th, when he developed a slight pleurisy, which caused an elevation to 100 for four days. It then again dropped to normal. Patient made an uninterrupted recovery, sat up December 2 and was discharged well December 10. Drainage tube was gradually shortened and reduced in size as the discharge lessened. It was removed altogether November 19.

CASE 6.—Mr. F. McC. Admitted to Mercy Hospital Nov. 8, 1902. Family history negative. Personal history negative.

Present Illness.—About one month before onset of present trouble patient had a well-defined attack of appendicitis, lasting four days and from which he apparently completely recovered. He worked steadily from that time until onset of present attack. About 3 o'clock on the morning of November 8 patient was awakened by very severe, sharp pain in abdomen, about umbilical region. Soon after onset he became nauseated and vomited freely. Bowels did not move. He had no chill and temperature was not above 100 F. Symptoms continued until 8 o'clock a. m., when nausea and vomiting disappeared. He walked to the hospital, and was accompanied by his attending physician when admitted. Pain was still severe and abdominal muscles rigid, especially on right side. Tenderness to pressure was general over abdomen, but not very acute. A

diagnosis of acute appendicitis without perforation was made and patient persuaded to have an immediate operation. He came in during a clinic and one-half hour afterward was on the operating table.

Operation.—Nov. 8, 1902. Usual appendiceal incision through outer border of right rectus muscle, into peritoneal cavity. To our great surprise, on incising the peritoneum, it was found full of free pus with some gas. Examination revealed a perforation of the appendix. The perforation had been capped with the omentum, but through some accident on the night preceding his admission the cap was partially torn from opening and the contents had escaped into the peritoneal cavity. The probe could be inserted into the lumen of the appendix; the peritoneum was not "blistered," and its gloss was not seriously disturbed. The lower half of the abdominal and pelvic cavities contained large quantities of pus. Appendix was amputated; two large drainage tubes were inserted into pelvis. With each inspiration pus welled out of the tubes.

Patient was returned to his room at 1:15 and placed in bed in semi-sitting position, at angle of 35 degrees. Pulse 104 when he recovered consciousness. He vomited small quantity of greenish fluid, was restless and complained of pain in wound. At 6 p m. pulse was 78 and temperature 99.4. At this time he was given ½ gr. calomel and the dose was repeated at one-half hour intervals until 3 grains were given. At 6, 8 and 12 p. m. anti-streptococcus serum was given hypodermically in doses of 10 c.c. He slept some during the night, vomited once after taking ʒii mag. sulph., and at 4 a. m. was given a high rectal enema, which produced a free bowel movement. 300 c.c. of urine was passed.

November 9, a. m., temperature 99.4, pulse 92; p. m., temperature 100.6, pulse 108. Nuclein solution M. 20 was ordered every four hours, and inunctions of ung. Credé gr. 45, daily, Towards evening patient was restless and slightly delirious. November 10, a. m., temperature 98.8, pulse 88. Good bowel movement followed high enema. Still quite restless and slightly delirious at times. Complains of some pain. P. m., temperature 99.2, pulse 90. Calomel was given in divided doses, followed by mag. citrate, ʒi. Bowels moved twice. Wound was dressed and moderate amount of discharge found on dressing. November 11, a. m., temperature 99, pulse 76. Patient resting much more comfortably and bowels moved freely. P. m., temperature 100, pulse 84.

November 12, a. m., temperature 98.6, pulse 82; p. m., temperature 99, pulse 82. From this date until November 20 temperature ranged from 99 in the morning to 101 in the afternoon. On November 20 it reached normal in the afternoon and remained there until his discharge from the hospital. The drainage tubes were kept in for ten days, the tube being gradually shortened and diminished in size from time to time as the discharge lessened in amount. Dressings soaked in a saturated solution of sod. bicarb. were applied to the wound when the discharge was profuse to overcome the offensive odor, which persisted for six or eight days. Patient left the hospital December 6 cured.

This case illustrates forcibly what I have taught for years: That there is little or no depression immediately after perforation of the intestine and no collapse. In other words, collapse is a late manifestation and is the expression of the "blistering" of the peritoneum and absorption of the products of infection.

In this patient's case absorption did not have time to occur, as he was operated on ten hours after perforation took place. It will be noted that this patient was walking about the street with his physician, with his abdomen full of pus and a direct opening from his appendix into the free peritoneal cavity. Neither did I suspect the condition when I examined him before the operation.

No Medical Advertisements to the Laity.—A peculiar provision of Spanish law is that pharmacists are prohibited from advertising medicines or remedies in any papers but journals of medicine, surgery or pharmacy.

FUNCTIONAL TESTS OF HEARING: SOME OF THE PRINCIPLES ON WHICH THEY ARE BASED.*

WILLIAM LINCOLN BALLENGER, M.D.
CHICAGO.

The object of this paper is to call attention to the value of some of the functional tests of hearing and to the principles on which they are based. Wm. H. Thompson has recently made the significant statement that a knowledge of diseases of the ear is of more value to the general practitioner than that of all the other special senses put together. This being true, a knowledge of the more accurate methods of diagnosis and prognosis becomes a question of prime importance. The functional tests of hearing are of greatest value in that large and oftentimes perplexing group of diseases of the non-suppurative type which affect the middle ear and labyrinth.

No one doing ear work can claim to be abreast of the times if he does not have an intimate and comprehensive knowledge of the principles underlying these tests. They are to the otologist what the ophthalmoscope is to the oculist, or the stethoscope is to the one skilled in diseases of the chest.

It has been a source of some surprise to me to hear otologists of good repute refer to the functional tests of hearing as being of very limited value for diagnostic purposes. I may be pardoned, therefore, for making the following remarks on this subject:

In order to place it more clearly before us for discussion I will first state the principles on which the tests are based.

First Major Principle.—The range of hearing in adults under 55 years of age is approximately 16 to 48,000 vibrations per second. After the fiftieth or fifty-fifth year the hearing for the upper tones is somewhat reduced, as has been shown by Zwardemaker, Bezold and others. The very aged do not, as a rule, hear tones higher than 37,000 vibrations per second. This should be borne in mind, as the case might otherwise be mistaken for one with labyrinthine deafness.

Under the first major principle may be grouped two secondary principles which only serve the purpose of elaborating or elucidating it. They are as follows:

(*a*) Anything which disturbs the normal tension of the drumhead and ossicular chain will diminish or abolish the hearing for the two or three lower octaves.

(*b*) Any disease affecting the perception apparatus will diminish or abolish the hearing for the upper tones of the range of hearing.

Second Major Principle.—Hearing by bone conduction is approximately one-half as long as hearing by air conduction.

This rule is subject to considerable variation in normal ears, but for practical purposes in the study of these principles we do not need to make a closer analysis. The point to be borne in mind is that hearing by air conduction is longer than by bone conduction.

The second major principle may be still further elaborated or elucidated by two secondary principles, namely:

(*c*) Hearing by bone conduction is increased in those affections of the middle ear which disturb the normal tension existing between the drumhead and ossicular chain.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

(*d*) Hearing by bone conduction is diminished or abolished in affections of the labyrinth or perception apparatus.

Third Major Principle.—The intensity of hearing by bone conduction is either increased or diminished by morbid conditions within the middle ear or labyrinth. Two secondary principles may be given in this connection, namely:

(*e*) Any disturbance of the normal tension existing between the drumhead and ossicular chain will increase the intensity of hearing by bone conduction.

(*f*) Any disturbance of the perception apparatus will diminish the intensity of hearing by bone conduction.

With these principles in mind we are prepared to discuss their application to the purposes of diagnosis and prognosis.

After having made a careful history of the case, including all subjective and objective phenomena, it has been my custom in both clinical and private practice to test the range of hearing with tuning forks for the lower seven octaves, and with the Galton whistle for the remaining or higher limit of hearing. Note should be made as to whether the lower or higher tones are not heard. According to the secondary principles, *a,* if the lower tones are not heard middle ear or tubal disease is probably present. If the upper tones are not heard it is presumptive evidence of labyrinthine disease, as is shown in secondary principle *b*. Hence, the examination as to the range of hearing is of great value in determining whether the deafness is due to middle ear or to labyrinthine involvement. Thus, if a given case does not hear forks below, say 256 vibrations per second, we would be justified in assuming it to be one of middle ear disease; whereas, if the upper tones of the Galton whistle are not heard it is fair to assume that the labyrinth is involved.

There are exceptions to these conclusions, one being in those cases well advanced in years, when the upper tone limit is normally reduced; another is when there is marked retraction of the drumhead, forcing the footplate well into the oval window. The tension of the intralabyrinthine fluid is thereby increased, and may give the usual functional signs of true labyrinthine disease. The signs will quickly disappear, however, on inflation of the tympanic cavity, and thus clear the diagnosis.

As shown in the second major principle, hearing by bone conduction is approximately one-half as long as it is by air conduction. If, in a given case, bone conduction in the affected ear is relatively longer than hearing by air conduction, the disease is probably within the middle ear. If the Weber test is performed the sound will latteralize to the affected side; or if the Rinné test is made the result will be negative Rinné, i. e., hearing by bone conduction will be longer than by air conduction.

If, on the other hand, bone conduction in the affected side is relatively diminished in duration, it is probably one of labyrinthine involvement. The Weber tests will latteralize to the good or better ear rather than to the more affected side, while the Rinné and Schwaback tests will show a relatively diminished hearing by bone conduction on the affected side. In pronounced cases the hearing by bone conduction is entirely lost in the affected ear.

It is apparent, therefore, that a knowledge of the foregoing principles will render the functional tests of the organ of hearing comparatively easy to comprehend. It is easier to comprehend principles than it is to comprehend tests without a knowledge of the principles on which they are based. It is, therefore, well to group the tests under the principles which they elucidate. Thus, under the first major principle we may place the test for the range of hearing by the tuning fork and Galton whistle, making note as to whether the lower tones (subprinciple *a*) or the higher tones (subprinciple *b*) are lost.

Under the second major principle we may place the Weber, Schwaback and Rinné tests, as they show the relative duration of hearing by bone and air conduction.

Under the third major principle we may also place the Weber test, as it shows the relative intensity of hearing by bone conduction in the two ears.

And so we may classify all the functional tests of the ear under the various principles which they elucidate. Much confusion arises from a failure to comprehend the principles on which they are based, each test being used as an arbitrary or empyric method of determining the nature and location of the lesion causing the deafness. A better and simpler way to approach this subject is to first study the principles on which the tests are based and then group them according to the principle or principles they are supposed to explain. In this way the various tests and their individual and collective significance will afford a means of greater discrimination in the diagnosis and prognosis of many ear diseases which would otherwise be but partially understood.

There is not time within the limits of this paper to enter into a discussion of the relative merits or significance of the various tests. I wish to say, however, that it is rarely safe to draw conclusions from any single functional test. The composite of several tests, together with the history and clinical phenomena, should all be considered in making the diagnosis.

DISCUSSION.

DR. A. H. ANDREWS, Chicago—I think this is a good time to mention the importance of the entire subject of otology. I think that in most of the medical colleges of the United States it is a sadly neglected subject. I will say, further, that it does not seem to be the fault of otologists, but rather the fault of those who have the arranging of the curriculum of the various colleges that it is not given greater prominence. Medical students need not be specialists, but they ought to know enough to do something with diseased ears. The Doctor states that the relation between air conduction and bone conduction is approximately as 1:2. That is no doubt approximately true, but it makes a great difference on what part of the mastoid the handle of the tuning fork is placed. If it is placed immediately behind the auricle the patient will hear it much longer than if it is placed above or below. If the handle is pressed tightly against the mastoid he will hear it considably longer than if it is pressed lightly. All these things should be borne in mind in testing bone conduction. Another point is the importance of testing in the first examination both before and after inflation of the tympanic cavity. Sometimes the relation between air conduction and bone conduction will be reversed after inflation. In very many cases it will be materially modified. Not only is this important from the standpoint of functional examinations, but it is very important in making a prognosis. Further, in making tests of bone conduction we will sometimes find that one fork is not heard as well by bone conduction as another fork. I have often seen cases where the C 2, 512 vibrations was not heard as long as a higher fork or a lower fork. I mention the C 2 fork because that is the one most frequently used in testing bone conduction. I have never seen a case of labyrinthine disease in which the intensity of bone conduction was increased. In testing ears with tuning forks we should bear in mind the necessity of having accurate forks and forks that are free from overtones. A fork with overtones will often give very different results from a fork free from overtones. Hold the fork by the handle and strike with a pencil on about the middle of the

prong, and if it gives a ring it has overtones and is not desirable; but if it gives a dead sound, you will then probably get a pure, clear tone and the fork is of value in making these tests.

Dr. G. McAuliffe, New York City—In dealing with cases of neurasthenia or allied conditions of nerve exhaustion, we should not hold the tuning fork too long in front of the ear. After resting the nerve if we will again approach the ear they will again appreciate the sound. If we do not do this we would get a shortened perception. Another point, in trying the Weber test—which I find the most unreliable one—is to place the fork underneath the mastoid, at the beginning of the sternomastoid. I have been able to get the proper response to the Weber test by this procedure.

Dr. S. Voorhees, Elmira, N. Y.—I would like to ask the Doctor if he does not find, for instance in labyrinthine disease, the higher tones are lost and the lower tones only recognized.

Dr. B. A. Randall, Philadelphia—I think it is extremely important to get forks that are somewhere near what they purport to be. On testing on the kymographion the various forks furnished you will get some very peculiar results. It is very seldom that they will give the rapidity of vibration set down for them. Second, the value of the fork should be expressed in the frequency of the vibration and not by a symbol, which is so varying in its employment that the term "C fork" may represent at least three different octaves. It is better to employ the complete double vibration instead of the half vibration, as is done by most continental workers. Third, the blow struck should have some semblance to standardization, and in the tuning forks we should have some idea of the bulk of metal vibrating. Not too much of the metal should be in the handle, which should be long in high tuning forks, lest the fork be really heard largely through the air when resting on the head. If we are stating that a fork of, say, 213 1/3 d.v.s., is heard after a standard blow for so many seconds, let us have a standard that it has fallen its own height, that it is of such a length and such a weight. Then when men having different sized forks get different results we will have some clew as to why their results appear different when they are really the same. These things are extremely important; they are really fundamental to any understanding of the matter.

Dr. William L. Ballenger, Chicago—In reply to Dr. Voorhees, as a general proposition there will be a loss of hearing for higher tones. The paper I left at home is a discussion of just such subjects as have been brought up in the discussion. It gives the technic of observation and testing and is intended as an answer to such objections. This paper only deals with the general principles.

THE TREATMENT OF TRAUMATIC GANGRENE OF THE EXTREMITIES.*

VAN BUREN KNOTT, M.D.
SIOUX CITY, IOWA.

In this brief paper it is my aim simply to call attention to a procedure which, in my experience, has proven of great utility in the management of these very troublesome and too often fatal cases. I shall not take up the pathology of traumatic gangrene, for with that you are all familiar, but shall confine myself to its treatment.

On referring to the literature we find all authorities agree that the only treatment of this class of cases consists in early amputation above the gangrenous area.

How often are we able to determine accurately the limits of the disease, particularly in those cases of rapidly spreading moist gangrene? Too often we are disappointed by the continuation of the process after amputation, and are compelled to reamputate much higher, in spite of which the patient often dies.

Again, if the gangrenous process does not involve the entire limb the flaps frequently slough, necessitating another operation and the sacrifice of what is too often most valuable tissue so far as the future usefulness of the part is concerned.

In other cases I have been convinced by subsequent events that in my effort to get well above the disease I have sacrificed tissue which might have been saved. In other words, I have amputated at a higher point than necessary. The occurrence of any of these conditions neither contributes to the welfare of the patient nor to the peace of mind of the surgeon, and we are all anxious to avoid them as completely as possible.

In casting about for the probable cause of the unsatisfactory course pursued by many of these cases I became convinced that it was the attempt to form flaps from tissue the vitality of which is always seriously in question and the further impairment of that vitality by two procedures necessary to this method of operation. First, the dissection of the flaps; second, the introduction of sutures.

The dissection of the soft parts into suitable flaps necessarily interferes with its blood supply, which interference in the class of cases under consideration is often illy born and frequently resented by sloughing of the flaps or the rapid extension of the gangrenous process up the limb. The introduction of sutures at this time has two distinct disadvantages. The first is the retention within the wound of infectious elements which may have traveled up between the muscle planes or along tendon sheaths to a higher point than we believe probable.

The second is the further interference with the flap nutrition by the suture tension which, no matter how carefully they may be placed, can not entirely be avoided. Believing the statements above made to be true, and that the bearing of these facts on the results secured in these cases was most important, I began about two years ago to treat all cases of traumatic gangrene of the extremities by a method which was entirely original and of which I have been able to find no mention in the medical literature at my disposal.

The procedure is as follows: Being confronted with a case of traumatic gangrene of an extremity, estimate as exactly as possible the line between the diseased and healthy soft parts, and having first under anesthesia made a most careful and complete disinfection and cleansing of the skin, puncturing all bullæ and removing all discharges, envelop the gangrenous area in a sterile towel up to the line selected and at this point make a circular amputation, cutting through soft tissues and bone at the same level. Ligate carefully all bleeding points, including none of the perivascular tissue in the bite of either the forceps or the ligature.

Leave the wound absolutely open, not introducing a single suture, and apply moist dressings of gauze saturated with salt solution. The dressings to be changed two to four times in twenty-four hours, as the circumstances of the particular case demand.

After seven to ten days, if the wound is perfectly clean and the condition of the patient favorable, the classical circular amputation may be made by dissecting up the flap already outlined and sawing the bone at the proper level. If for any reason the circular method may seem undesirable, any other procedure may be substituted, but in the class of cases under discussion a typical circular amputation will be found entirely satisfactory.

I will not burden you with a report of cases, but will simply state that I have employed this procedure four times, once in the upper third of the thigh, once in the middle third of the forearm and twice in the upper third of the leg with uniformly good results.

* Read before the Iowa Association of Railroad Surgeons, Oct. 16, 1902.

CONCLUSIONS.

As my results by the old method can not be compared with these I have ventured to bring the procedure forward for consideration. Its advantages seem to me to be many and its disadvantages few.

1. By it we may speedily and with the minimum of shock remove from an enfeebled and exhausted patient the source of the infection, namely, the gangrenous tissue.

2. We may frequently make the amputation at a lower point than would be possible by the old method, because soft tissues whose vascular connections are left undisturbed are less apt to slough.

3. The freest possible drainage is provided for a sufficiently long time.

4. If the disease stops at the line first chosen no unnecessary sacrifice of tissue has been made, as the flaps have been defined at the lowest limit of safety and the bone would necessarily have to be sawn at the same point as at the second operation.

5. If the limits of the disease have not been placed sufficiently high the same procedure may be repeated with less danger to the patient than a typical reamputation.

6. Patients too weak and prostrated by sepsis to withstand a typical amputation may endure this much shorter procedure and be built up during the interval before the second operation is necessary.

I hope that use will be made of this method in the future management of these cases that its value may be more fully and satisfactorily proven or disproven.

POISONED WOUNDS BY THE IMPLEMENTS OF WARFARE.*

LOUIS A. LA GARDE, M.D.
MAJOR AND SURGEON, U. S. ARMY.

Mr. President and Fellows of the College of Physicians: In the first place allow me to thank you for permitting me to address the honorable College of Physicians in the capacity of Mütter lecturer. In looking over the names of the distinguished men who have preceded me in this function, I admit that your invitation was accepted with a great deal of hesitancy. I accepted the charge because of a sense of duty to my department, and because it has been my good fortune to serve in most of the principal seats of learning in this country, and my observations have led me to the conclusion that there is a deep bond of fellowship between the military surgeon and his brethren in civil life that is largely cemented by a mutual love of all that is lofty and inspiring in the healing art. Your opportunities to set the pace as we advance in scientific medicine are superior, and your liberality in imparting great truths as we come to drink anew at the fountain of knowledge are well remembered. In return for the kind attention which you are wont to bestow on us when we resort among you, I beg of you to accept this effort as a mark of the gratitude which the military surgeon owes his civil confrère.

In discussing poisoned wounds by the implements of warfare it will appear difficult to separate them from infected wounds by these implements, and justly so. The terms are considered interchangeable in this instance so far as they relate to the transmission of micro-organisms, and it was considered expedient to retain the former term in order to conform to the old idea of poisoned wounds from poisoned arrows, lances, etc.

I. HISTORICAL.

The poisonous nature of wounds by the implements of warfare—especially those from firearms—has been dwelt on by the majority of the older writers. Frequent reference is made to the subject by John de Vigo, and Ambroise Paré was so imbued with the venomous nature of such wounds by reason of the powder, that he was wont to "cauterize them with oil of elders scalding hot, mixed with a little treacle." His trepidations in one instance when his boiling oil mixture ran out are graphically told by his biographer. In the absence of anything more efficacious he was driven to the use of yolk of eggs, oil of roses and turpentine in the treatment of the remainder of the wounded. After a sleepless night spent in anxiety for those who had not been given the conventional treatment of the day, by hot burning oil, he found, to his astonishment, that they had suffered but little pain, and their wounds were without inflammation and swelling, having rested fairly well the night before; the others, on whom the boiling oil was used, were feverish, with great pain and swelling about the edges of their wounds. Thus disinfection by heat as he practiced it gave results rather confusing and conflicting.

On the other hand, Thomas Gale, in his treatise of wounds by gunshot, attempts to refute the erroneous notion of Ambroise Paré, Jerome Brunswicke, John de Vigo, Alfonse Terrius and others concerning the venomous nature of gunshot wounds.

It is seen, therefore, that, from the beginning, the belief in the septicity or asepticity of gunshot wounds was indulged in. As to the value of the heat of ignition, if any, to purify the missiles as they issue from firearms, we will speak later.

Poisoned wounds from the use of so-called sidearms, or more properly speaking, cutting and stabbing implements, like the spear, sword, arrow-heads, knives, javelins, etc., have a very interesting literature, dating back to the days of the Greeks and Romans. A practice that is abhorred to-day and classed among the most cowardly deeds in the list of crimes, seems to have been pretty generally adopted in ancient times. For a complete account of the use of poisoned arrows, including an outline of the toxicology of the substances employed for the purpose by the ancient peoples of Europe, we are indebted to Gustav Lagneau. He points out that specimens of arrows gathered from the later paleolithic periods give proof that the art of poisoning arrows was known to the inhabitants of prehistoric times. Arrows made of bone to serve the points of javelins, lances, etc., are to be found in numerous archeological collections, and they suggest by the method of preparation that they were designed to carry poisons. Their surfaces show furrows and grooves, disposed parallel to the sides; grooves are also found on the teeth or serrated margins, for the reception of the poisonous matter, similar to what we find on the arrows of more modern periods.

The literature of historic times gives ample evidence of the use of poisoned arrows against man and beast. Thus Aristotle relates that the Celts in the hunt used poison on their arrows which was called *toxic.* After wounding a deer, for instance, it was considered necessary to excise the seat of injury at once, in order to insure the safety of the meat as food and to prevent rapid decomposition. The Gauls, according to Pliny, dipped their arrows for the hunt in hellebore, which had the

* The Mütter Lecture, delivered at the College of Physicians of Philadelphia, Dec. 2, 1902.

effect to make the meat more tender after excision of the wound area. These same people used an herb called *limeum,* which was known among them as deer poison.

Lagneau again cites numerous references to show that the Franes of the Rhine district and beyond used arrows dipped in the juices of numerous herbs that were so deadly that death was sure to ensue though the wound was trifling and in non-vital parts. The practice of using poisoned arrows in war became so frequent among the Franes that a law was inserted in their code in the fifth century to prohibit their use; the penalty on conviction being a fine of sixty-two and a half sous, or about sixty cents in our money. The same proscription was embodied in the Bavarian law later, although the penalty was not so great—the fine being a maximum of twelve sous. The Vandals, who originally inhabited North Germany, used poisons on their war implements, knives, lances, javelins. Pliny considered aconite the most deadly among the poisons so employed. The Europeans must have continued the practice of poisoning the implements of warfare to a late day, because M. Claude Bernard is said to have observed that Alonzo Martinez Espinoz, Porte-Arquebuse to Philippe III, admitted that a poison was manufactured by the Spaniards at that time from the root of the hellebore with which their implements were treated. Without extending the subject further it may be admitted from the copious references at hand that the peoples of Europe, generally speaking, engaged in the practice of poisoning the implements used in the hunt and in war. The practice is even known to have extended to the Scythians and the people of the far East.

The number and nature of the various poisons thus used on missiles and weapons like arrows, darts, javelins, swords, lances, battle-axes, etc., are commented on by Lagneau quite extensively. Of the vegetable poisons most commonly employed were extracts of hellebore, aconite, yew, limeum, ninum, helenium and that of a certain fig tree. The poisonous nature of the former of these is recognized to this day, since we extract from them the powerful alkaloids, like veratrin, aconitin and taxin; while the nature of the latter, namely, limeum, ninum, helenium and the fig tree mentioned are unknown to us now. Some of these poisons were said, like curare, to cause death when introduced through a wound, while they remained innocuous when ingested *per os.*

The poison materials were not confined to vegetable products alone. Ovid, who lived in exile about the Propontis, in the ninth century of our era, wrote on the custom of the nations of Eastern Europe, who, like the Scythians, poisoned their war missiles with venom of the viper, as well as the bile and blood of this reptile.

If we pursue the subject to more recent times we find that definite methods of poisoning missiles in warfare and for the hunt abide to this day with certain aboriginal peoples on the west coast of Africa, the South Seas, India, Indo-China, etc. Blood, decomposing viscera, snake venom and plant extracts are the substances usually employed. Siegfried in a general way tells us that "in Oceanica and the East Indies the plants employed are cardiac depressants; in the New Hebrides and some of the South Sea Islands the poison is like strychnin in its effects; in Africa various poisons are employed, including anthrax; and in the tropical waterways of the Amazon and Orinoco, curare and similar plant extracts." Ledantec, whose personal experiences had led him to suspect the poisonous nature of the arrows used by the latter, conducted some interesting experiments in the laboratory at Nouméa, New Caledonia and at Bordeaux, the results of which confirm in a measure the presence and nature of certain poisons. The arrows of the natives of the New Hebrides are propelled from a bow. They are about three feet in length, composed of a shaft made of light material like reed cane, a middle part composed of a hard wood, with a sharp point fixed on the end of the latter. The point is made of a piece of human bone, usually from a long round hard bone like the ulna or fibula, brought to a sharp, slender point to invite fracture and lodgment of part of the missile on penetrating the tissues. These osseous points are coated with a dark substance resembling wet powder grains when they have been allowed to dry in mass. These powder-like bodies constitute the poison. In the Nouméa laboratory he used guinea-pigs. Under strict antiseptic precautions he inoculated the poison from old arrows previously moistened with bouillon, under the skin of the back and abdomen. His results were only partially successful; that is, he obtained the clinical picture of tetanus in some cases, such as contraction or extension of the posterior extremity, contraction of the muscles of the dorsal region, opisthotonos, etc. His later experiments at Bordeaux with the poison from fresh arrows, prepared only six months before, were attended with more definite results. A guinea-pig inoculated with the poison from the recently prepared arrows died very promptly, within twenty-four hours. The postmortem evidence, microscopic examinations of cultures taken from the blood of the heart, and subsequent inoculations into animals confirmed the presence of malignant edema. From this partial examination of the poison he concludes that: first, the bacillus of Nicolaier resides indefinitely in the arrow poison, because the clinical picture of tetanus was so clearly shown in the animal inoculated with the poison from the old arrows; and second, that the poison of the recently prepared arrows contains malignant edema in addition to tetanus, a supposition that is reasonable enough from his inoculation experiments as well as from our knowledge of the ready susceptibility of malignant edema to moisture.

The source of the poison is of itself interesting. From a native of the New Hebrides who resided at Nouméa the following method of preparing the arrows was learned: With a stone an incision is made in the bark of a tree called Dot. A milky fluid escapes, with which the arrow points are coated. This fluid, of rather thick consistency, serves the purpose of fixing the poison proper. The point of the arrow is now wrapped with thread, leaving a space between each round. The arrow thus prepared is dipped into the mud of crab-holes; after drying the thread is unwound, when the weapon is ready for use. It is supposed that the thread is removed to give the point a rough surface and to increase the area from which poison is absorbed.

The French have had occasion to observe the subject of poisoned arrow wounds a great deal in their Chinese possessions. Boinet and Hedón describe the arrows used by the Muongs in Tonkin, China, as made of bambco 40 cm. in length, half a cm. in diameter and weighing six grams. Their points are coated with a brownish poison soluble in water; the solution resembles that of curare. On each arrow it is possible to recover 50 cg. of the poison. They experimented altogether on twenty animals, and sum up their work as follows: Three drops of a solution of 50 cg. of the poison to 10 grams of water deposited on the heart of a frog stops its beat

in seven minutes, and a centigram of the same solution subcutaneously administered is sufficient to kill a guinea-pig. Examination of the poison shows it to be made from the leaves of the *Antiaris toxicaria* or *Upas antiar*, the Javanese poison tree, a cardiac depressant.

The English have referred a great deal to the subject of poisoned arrows in their Indian service. Waddell, while professor of chemistry at Calcutta, examined the arrows prepared by the Akos, who occupy the Assam valley to the north of the Bramaputra. They use their poisoned arrows for large game and most effectively in warfare, as was shown on the Sepoys who operated against them some years ago. The physiologic effects of the poison on the arrows were those of aconite and the roots from which the poison was obtained belonged to a species of aconitum.

According to the researches of Gley and Lapique, strophanthus is one of the poisons used by some tribes in the center of Africa. An injection of one or two milligrams under the skin of a frog of the crude substance obtained from arrows and reduced to an aqueous extract, or two or three centigrams under the skin of a rabbit or dog, arrested the heart in systole in six to seven minutes. Analysis of the poison showed it to be *Strophanthus hispidus*.

Fraser and Tillie, who have studied the chemical properties and pharmaceutical action of the wood from which arrow poison is prepared by the Wa Nyika and other tribes of east equatorial Africa, confirm the presence of strophanthin as the poisonous agent on the arrows of these people. On frogs the prominent effects which follow the subcutaneous injection of large lethal doses are: slowing and intermittence of respiration, gaping of the mouth, often accompanied with straining movements like those of vomiting; fibrillary twitchings of muscles, especially at the seat of injection; impairment of motor power and of co-ordination; disappearance of cardiac impact; cessation of respiration and gradual enfeeblement and loss of reflex and voluntary movements.

In specimens of arrow poison furnished Tillie from the Rio Verde tribe of Indians in New Granada he was able to extract curare as the basis of the active poison. This, as already stated, is the favorite poison used by the tribes in the South American districts bordering on the Amazon and Orinoco.

Gärtner has recently called attention to a heart depressant used as an arrow poison by the Negritos of the Island of Luzon of the Philippine group. The poison is obtained from the bark of a tree called abuhab by the natives, the scientific name of which is *Raboloisia philippinensis*, the botanic description of which is minutely detailed by the author. He was able to obtain an extract from the bark of great potency, 0.1 gram inserted under the skin of a frog arrested the heart action in eight minutes.

The methods pursued by the North American Indians are more varied and for the most part not so deadly. Hoffman tells us that the Comanches employed the juice of the Spanish bayonet (*Yucca augustifolia*), which they obtained by piercing the skin of the plant with the arrow points. The ceremony of thus preparing the arrows is directed by the war chief after a period of fasting and self-torture by the young warriors. The Lipans are said to plunge the points of their arrows in the menstrual blood of a woman, while the Apaches prepare their poison by grinding the heads of rattlesnakes with fragments of deer liver. After decomposition has been allowed to take place the arrow-heads are dipped in the mass and subsequently set aside to dry. The Moqui Indians of Arizona prepare a poison that is said to cause death in the course of three days, which they call Ti-ki-le-li-oui. It is prepared as follows: A rattlesnake is irritated to the point of madness, when it inflicts stings in its own body, from which blood begins to flow. At this juncture of the religious ceremony the high priest of the order of snakes dips the arrow points in the sanguineous fluid. The less deadly methods of preparing arrows by the same tribe is that of dipping them in a mixture of the bodies of bees or red ants ground in a stone mortar. The wounded from a missile thus prepared are said to suffer from pain and swelling about the pharynx and in the part hit, and subsequently with fever and delirium. Invalidism is said to persist for about one month.

II. THE COMPOSITION AND MANUFACTURE OF AMMUNITION WITH REFERENCE TO THE PRESENCE OF INFECTION.

The practice of poisoning missiles after the introduction of firearms became less frequent. The superior deadliness of these weapons over those of the sidearm class rendered the employment of accessory methods, like the use of poisons to ensure death, unnecessary.

In view of the amount of heat which is generated with the ignition of explosives, the possibility of poisoning bullets for the purpose of conveying infection has often been debated. In considering the septicity or non-septicity of projectiles, it may be stated, that until the formulation of our bacteriologic technic, as now practiced, it was impossible to accurately determine the pro or con of this interesting question. Those who in former times advocated the asepticity of projectiles did so on the evidence afforded by their uniformly good results in the clinical field; whilst those who opposed the idea did so on the evidence furnished by unfavorable results from the same quarter.

As a preliminary to some observations on the bacteriology of ammunition, it is proper to carefully investigate the method of manufacture of the different articles entering into the composition of ammunition, such as the explosives and the wadding, as well as the shells, and also the technic of loading. In this way only can we determine whether the methods employed are calculated to purify or contaminate the missiles that are concerned in the production of gunshot wounds.

Black Powder.—We are informed by prominent makers of powder in this country, notably the E. I. Dupont de Nemours & Co. of Wilmington, Del., that the purity of powder is assured by the high degree of heat to which the three ingredients of the powder are subjected before being incorporated in the form of an explosive compound. These ingredients, as is well known, are: saltpeter 15 per cent., sulphur 10 per cent. and charcoal 75 per cent. In refining saltpeter the saturated solution of the crude material is heated to a temperature of 250° F.; the sulphur is fused from the crude brimstone, in order to remove extraneous matter; and the charcoal is obtained from willow wood after being subjected to a high temperature in a retort.

Smokeless Powder.—The so-called smokeless powders are for the most part secret compounds divided into two principal classes, viz., those made up of guncotton and the others having picric acid as a base. The former of these are used almost exclusively in the military rifle. The Schultze Gunpowder Co. informs us that their

"E.C." powder has for its base guncotton of various nitrations, which, as is generally known, consists of treating cotton with a mixture of strong sulphuric and nitric acids. The guncotton so obtained is next thoroughly purified by washing with boiling water, the temperature being never less than 212° F. As to the subsequent processes only the purest of salts, such as nitrate of barium and potash, are used to be incorporated with the guncotton. The grain is next gelatinized with solvents, like alcohol, ether and acetone.

It would be trespassing beyond the limits of this lecture to detail the mode of manufacture of the many smokeless powders found in the market, but it is sufficient to state that the extra care undertaken to exclude impurities is calculated to render the powders sterile, as they issue from the factory at least.

Wads.—According to the Union Metallic Co., cardboard wads are manufactured from newspapers soaked in hot water, and when reduced to a pulp the material is run through a refining engine. It is then treated by machinery to convert it into a web of desired thickness. When taken from the machine the sheets are dried and finished with a hot roller. Wad-felt, another material used for wads, is, according to other manufacturers, made from wool, hair, soap, flour, glue and china clay. White paper is pasted on both sides of the felt. This wadding material is next subjected to hydraulic pressure, then dried and cut in strips, after which the strips are run through a cutting machine. The final step in the process consists in lubricating the edges of the wads with stearin heated at 130° F. As far as can be learned there is nothing in the process of manufacture to insure wadding material from contamination.

The Manufacture of Metallic Shells and the Process of Loading.—Ordnance Memoranda, No. 8, of the U. S. Army, describes the following method of manufacture of the center-fire metallic cartridge, which is about the same as that employed by private firms. Although there have been some improvements in the process of manufacture since the circular was issued, the employment of heat and the use of acids and alkalies remain about the same.

The cartridge consists of the following parts: (1) The case of copper or brass, (2) the cup anvil, (3) half a grain of percussion composition, (4) 70 grains of musket powder, (5) a lubricated bullet weighing 500 grains.

During the manufacture of the copper cases they are annealed once or twice by subjecting them to a red heat in a charcoal fire. They are subsequently treated once with a solution of sulphuric acid in water (1 to 15), and twice finally with a solution of caustic potash and caustic soda, one and a half pounds of each to five gallons of water, after which they are thoroughly dried in a drying room at a temperature of 125° F.

The lead of which the bullets are made is melted and skimmed of dross, after which it is cast in cylindrical molds of suitable diameter and length. The subsequent steps of compressing the lead and cutting the bullets into proper length is done entirely by machinery.

The act of loading is also accomplished by machinery, and before each bullet is pressed into its copper case its surface and cannelures are lubricated by a mixture of grease and wax which has been previously subjected to a high temperature.

The Union Metallic Cartridge Co. describe the method of loading metallic and paper shells as follows:

The shells, after being primed with fulminate of mercury, are placed in plates holding them securely and filled with powder; over these plates of charged shells another set of plates holding bullets or wads, as the case may be, is placed in perfect alignment with the shells beneath. By means of a pin-plate wads or bullets are forced in place, after which the shells are crimped. The paper shells are placed on a rotating dial, which deposits them singly in a receiving chamber, where by an intermittent action of the machine they are loaded with powder, wads and shot.

The cartridges are finally packed and hermetically sealed into paper boxes, the frames and skeleton divisions of which are made of tarred boards. The employment of heat, acids, alkalies and absolute cleanliness are said to be necessary by the manufacturers of ammunition to insure the keeping qualities of the powder and to obtain constant results in firing, precautions which doubtless add to the sterile properties of the cartridges.

Having in this way investigated the origin and preparation of ammunition, it was next considered proper to study its bacteriology.

III. THE RESULT OF BACTERIOLOGIC INVESTIGATION AS FAR AS IT RELATES TO BULLETS, GUNPOWDERS AND WADS, BEFORE AND AFTER FIRING.

1. *Bullets.*—In a bacteriologic study of bullets from original packages we found that the cleanly methods employed in the manufacture of ammunition tend to sterilize the projectile in a majority of cases. A score of bullets were extracted from brass shells by means of sterile forceps and dropped in as many tubes of gelatin. After the lapse of a few days 53 per cent. of the tubes failed to show any growth, and those containing colonies were found free from septic germs.

In order to ascertain the effect of firing on the bacteria that might be found lodged on a contaminated bullet, a six-chambered 38 caliber Colt's revolver was sterilized for one hour in an Arnold's sterilizer before firing. At a range of 13 feet 12 cartridges that were lying on the floor of an unswept room were fired from the sterile pistol into an iron target enveloped in a wire screen, the target and the screen having been previously sterilized by the flame. As each shot was fired the target was sterilized anew. The projectiles and fragments of the same were collected as rapidly as they were fired, from the sterile screen, and dropped in agar-agar tubes at 42° C., and converted into Esmarch rolls. At the end of 48 hours, at the ordinary room temperature, all the tubes showed growth and the majority of them contained scores of colonies.

2. *Black Gunpowder.*—(*a*) The components of black gunpowder (sulphur, saltpeter and charcoal) obtained from the Dupont Powder Works, Wilmington, Del., were separately examined by placing a few grains of each in a half dozen bouillon tubes. Under favorable conditions of temperature growth only occurred in those containing charcoal. This was undoubtedly the result of contamination in handling, as the charcoal was obtained loose, wrapped in a piece of newspaper. Otherwise, as already intimated, charcoal is sterile from the high degree of heat to which the willow wood is subjected in the retort. The antiseptic property of the other components accounts for the negative results with them, no doubt. The saltpeter was the subject of special study, because the crude material is obtained from saltpeter beds in the earth where every opportunity might exist for the introduction of tetanus and other impurities. Still, as already noted, the refining process employs such an amount of heat, 250° F., as must preclude the persistence of the most resistant spore-forming bacteria, so that the heat and antiseptic value of the chemical product together most likely account for the absence of growth in the bouillon tubes belonging to this series.

(*b*) We next examined the powder charge of blank cartridges from three different makers, viz.: the Domin-

ion Cartridge Company, the Eagle Metallic Cartridge Company and the Union Metallic Cartridge Company. Every precaution was observed to prevent contamination during the operation of unloading the shells. The latter were immersed in a 1/1000 solution of mercury bichlorid for sixty minutes before the wadding, which was non-absorbent, was removed with a sterile pin. The full charge of powder was added to a tube of bouillon, and altogether 41 tubes were thus prepared from the different ammunitions. Placed in the incubator at 37° C. aërobically and anaërobically at the end of 24 hours 12 per cent. of the tubes showed growth. The contaminated tubes might have been the result of accident in the technic, but more probably some of the cartridges were normally contaminated in the process of loading. Although powders are generally found pure for the most part, yet some samples are often very trashy, as those used in the manufacture of firecrackers. Tests made with the latter show that contamination is present in 76.6 per cent.

(*c*) To determine the value of powder as a disinfectant, we dropped 12 grains of sterile powder in each of twelve tubes, and having found no growth at the end of 24 hours under favorable conditions of temperature, we inoculated each tube with a culture of colon bacillus. The growth of the latter was not interrupted, showing that black gunpowder *per se* does not destroy or restrain the growth of this organism.

(*d*) The next step in our experiments had reference to the potency of the heat generated in the chamber of a gun to sterilize the unburned grains of powder at the moment of ignition. It is of interest to know in this connection that in firing an ordinary hand rifle only 43 per cent. of the amount of powder is consumed in the generation of the gases. The remaining 57 per cent. of the charge is propelled at distances varying with the amount of the charge, the standard of the powder and the caliber and length of the barrel. The grains of powder that are imbedded in the tissues to produce what we generally designate as powder-burn are not consumed in the act of firing. This is well shown by firing into blotting paper and collecting the grains that are caught in the latter. When placed in a saucer they are easily ignited by a burning taper. It was natural at this point that we should inquire into the fate of organisms that might be accidentally or otherwise placed on the unburned grains of powder that go to make tattoo marks or "powder-burn." We purposely contaminated the powder charge of 24 Springfield carbine cartridges and fired these into 24 targets of agar-agar and gelatin plates at five feet. Each target contained four of the plates secured in place by wires. Out of eighty plates thus prepared—the others having been destroyed by the ball or the force of concussion—growth was present in every instance at the end of 48 hours. In order to determine the likelihood of contamination by the disturbance of the intervening air, twelve shots were fired with sterile powder into twelve targets of four gelatin plates each. Growth only appeared in 5 per cent. of the 48 plates when placed in the incubator, showing that the opportunity for contamination by currents of air that are forced against the target by the propulsion of the charge is very small.

3. *Smokeless Powders.*—The bacteriology of smokeless powders was next considered. The experiments about to be described were conducted with the "Peyton powder"—a compound of nitro-cellulose—now used by the U. S. Army in the military rifle. Although we have every reason to believe that this powder is contaminated by handling in the same way that the old black powder is, we fail to obtain growth when we place a few grains of it in media like bouillon, gelatin or agar-agar, etc. This powder imparts a yellowish color to the media. After repeated trials I have failed in cultivating *B. prodigiosus* in bouillon to which a few grains of the powder had been added. It would seem from this that the Peyton powder contains a substance which inhibits the growth of certain bacteria in the media mentioned. On the other hand, if a bouillon tube containing a few grains of Peyton powder is inoculated with anthrax spores, growth will be noticed at the end of 24 hours under favorable conditions of temperature, showing that the restraining influence of the powder does not apply to the more resistant forms of germ life.

If the experiment of firing black powder into agar-agar or gelatin plates be repeated with the Peyton powder, whether this be sterilized or not, the powder grains which are caught on the media impart no growth as a rule. The yellowish discoloration already mentioned is invariably noticed around each grain. If, however, we purposely mix earth in the proportion of 10 to 20 per cent. with the powder before firing, colonies will appear in great numbers in the media beyond the area of discoloration, and sparingly, if at all, within the latter.

Out of six gelatin plates fired into at ten feet with the Peyton powder, which was previously contaminated with dust, colonies were observed in two of the plates. More recently on working with the Dupont brand of smokeless powder we have observed growth in a small percentage of the samples examined. Nimier and Vincent, in their experiments with the explosive used by the French, and Deubler, while experimenting with the smokeless powder of the Austrians, established that their smokeless powders were contaminated, although they failed to isolate pathogenic cocci.

4. *The Wads.*—The wads were examined as follows: Twelve pasteboard wads from as many .22 caliber cartridges used in the toy pistol manufactured by the Dominion Cartridge Company, were removed with an aseptic pin from their shells and dropped into separate tubes of bouillon. Growth was present in every tube, both aërobically and anaërobically in the Novy jar. These tubes were then examined for tetanus and malignant edema, by animal inoculations, with negative results.

Similar examinations were made of wads composed of felt and cardboard from other firms, with evidence of contamination in every case. The results are not surprising, in view of the source of the material entering into the composition of the wad as well as the absence of anything in the technic of manufacture which is calculated to destroy infection.

The influence of the heat of ignition was tested by firing wads into plates of gelatin and agar-agar. Sterile wads were contaminated with dust within and without, on the surface next to the powder and that facing the target, and in every instance the result proved that the wad remained contaminated.

Having shown that the act of firing failed to destroy micro-organisms that were casually placed in the ammunition, we next proceeded to experiment with distinct bacteria.

IV. THE TRANSMISSION OF DISTINCT BACTERIA BY VARIOUS MEANS IN FIRING: B. ANTHRACIS, B. RUBER, B. COLI, STREPTOCOCCUS PYOGENES AND B. SUBTILIS.

In 1892-5 we were able to show the effect of firing bullets and powders that had been previously contam-

inated with distinct bacteria. For this purpose we infected bullets and powders with anthrax and fired them from different weapons with the following results:

Bullets.—Before we undertake a recital of these experiments it may be well to recall the fact that we have already demonstrated that unclean bullets, such as those taken from the floor of an unswept room, the ammunition belts of soldiers, etc., when fired in sterile cotton, are not purified by the act of firing. To make this more apparent we conducted additional experiments as follows: From a sterile .38 caliber Colt's revolver, at ranges varying between five and ten feet, we fired 17 shots into baskets of sterilized jute or cotton. Each ball was previously infected with anthrax spores in a small hole drilled into the point of the missile and the hole sealed with yellow wax. After each shot the bullet was taken from the sterile cotton and the wax removed. The ball was dropped in a tube of bouillon, agar-agar or gelatin, and, in the case of the latter, it was converted into Esmarch rolls. Of the 17 tubes thus prepared, the *Bacillus anthracis* was recovered from 16, the failure being an instance where the ball was split into two parts by striking the basket. The focus of infection was very likely destroyed. We next infected the surface of the conical ends of five bullets of the same revolver with anthrax spores mixed with grease and wax 1-4. They were fired into a sterile iron target properly screened at a range of thirteen feet. The bullets made a regular impact in every instance, striking point on. They were recovered, as a rule, in a number of fragments with sterile forceps and dropped into tubes of nutrient media. Two days later every tube bore colonies of *Bacillus anthracis*. In order to better test the efficacy of the heat generated by the ignition of the powder, we infected four of the bullets with a culture of anthrax spores in the concave base next to the powder. They were fired into the same target and collected under the precautions already mentioned. Each bullet, or the pieces thereof, was dropped in bouillon. Every tube showed growth of the *Bacillus anthracis* at the end of three days. In order to determine this point with regard to the vegetative form of the organism, we infected 11 bullets in their concavity next to the powder with the blood of a mouse that had died of anthrax the night before. The projectiles were fired into the same target at the same range from the sterile revolver. They were dropped in as many tubes of bouillon with positive results in nine of the tests.

The outcome of these four sets of experiments shows that 92 per cent. of the projectiles remained infected after firing.

So far the experiments have reference to low velocity projectiles, impressed by 16 grains of black powder. The amount of heat imparted to the bullet is necessarily very small compared to that which is imparted, for instance, to a .45 caliber projectile of the Springfield rifle, or to the high velocity jacketed projectiles of reduced caliber like those of the Krag-Jorgensen, Mauser, Mannlicher or Lebel type.

The fate of anthrax spores on the Springfield rifle bullet was tested as follows: The bullets, weighing 500 grains, impressed by 70 grains of black powder, were fired into a target of pine boards, one inch thick, disposed at intervals of an inch. Three of the bullets were infected in depressions made by the pressure of a knife blade on the conical end of the lead. The firing was done at a distance of ten feet. The bullets penetrated 17, 18 and 19 boards respectively. As soon as recovered with a pair of sterile forceps, each bullet was dropped in a tube of bouillon. The bullets were very much set up, the grooves already mentioned were entirely effaced, and the tubes were all negative after the lapse of three days, which could only be attributed to the severe friction and mechanical effect to which the projectiles were subjected in traversing the wood fiber.

Three other bullets were infected with anthrax spores, in this instance in the concavity of the base next to the powder, and fired into a target of boards at a distance of ten feet as before. The penetration was 19, 23, and 18 boards in the order of shots fired. The bullets were recovered with sterile forceps and dropped in bouillon as before. The results were positive in two of the tubes at the end of 48 hours.

Along this line of work Dr. Pustoschkin has more recently demonstrated the effects of firing sterile bullets through infected clothing before and after the barrel had become heated from a succession of shots, as well as the effect after contaminating the ball or the barrel of the gun. She experimented with the Swiss military rifle of 7.5 mm., propelling a steel-clad bullet possessed with an initial velocity of 600 meters. (1) The firing was done at 7 meters through pieces of cloth that had been saturated with cultures of 1, *Bacillus ruber;* 2, *Bacillus coli;* 3, *Streptococcus pyogenes;* 4, *Bacillus subtilis.* In every instance the results were positive; that is to say, a sterile ball from a sterile barrel became infected with each of the micro-organisms mentioned when it traversed the infected cloth as shown by cultures of gelatin subsequently pierced by the ball. The experiments prove that a bullet even though possessed with high velocity can become infected in transit; and that the heat imparted to the ball from a heated barrel in addition to what may be acquired by the ignition of the powder is not sufficient to prevent said infection. (2) In this series she infected the body of the bullet with the same organisms. The results in gelatin were again positive, showing that the heat from the friction in the barrel in addition to that derived from the explosion of the powder is not sufficient to destroy micro-organisms placed on the body of the ball. (3) She next infected the conical ends of the bullets with organisms already mentioned. The gelatin was infected with one after the other of these organisms, but it was noticed that the number of colonies was far greater when the point of the ball was infected as compared to the preceding series in which the organism was placed on the body of the bullet. This is properly attributed to partial destruction of the germs by friction, whilst others remained adherent to the inside of the barrel. (4) The last of the series of experiments by Dr. Pustoschkin had reference to the fate of the organism when placed in the barrel of the gun. Sterile balls were fired through the infected barrel with positive results.

Black Powder.—The subject of the transmission of distinct bacteria by powder was undertaken by us at Fort Logan, Colorado, in 1895. We used an old culture of anthrax from an agar slant as follows: The spores were mixed with 55 grains of powder from the shell of the 45 caliber Springfield carbine. The charge of the powder was emptied on a sterile sheet of white paper, and a platinum needle, sterilized by the flame, was passed once into the culture of anthrax spores, and then a number of times into and through the powder until the grains of the latter no longer adhered to the needle. The needle having been again sterilized, it was once more passed through the culture, thence through the

powder as before. This was repeated four or five times for each charge of powder, six in all. The powder, thus infected, and the ball, which had in the meantime been sterilized in the flame, were replaced in the shell. Two Petri dishes containing agar-agar were placed in wire frames and the latter were suspended against a wooden target, four inches apart. The marksman was directed to place the ball as nearly as possible in each target midway between the two plates. In this way a number of powder grains were collected on each of the twelve plates, in four of which the *Bacillus anthracis* developed colonies.

Smokeless Powder.—The experiments herewith were conducted with the Peyton powder, already referred to. The powder was contaminated with anthrax spores as before. Out of six gelatin plates fired into at ten feet colonies of the *Bacillus anthracis* were observed in two of the plates.

(To be continued.)

Clinical Reports.

UNCINARIASIS—REPORT OF A CASE.

GEORGE H. EVANS, M.D.
Visiting Physician to St. Luke's Hospital.
SAN FRANCISCO.

Medical literature during the past year has been prolific with reports of uncinariasis in the United States, and a consideration of these cases would seem to infer that the nematode causing this malady is indigenous to this country. The uncinaria are found in several of the lower animals, as dogs, sheep and cattle in different parts of this country, and the investigations of Stiles[1] of the cases submitted to him for examination have caused him to base a new species on them, which he has named the *Uncinaria americana*, the new-world hookworm, in contradistinction to the *Uncinaria duodenalis*, or old-world worm. The chief mark of distinction lies in the fact that the new species presents the buccal capsule with a dorsal pair of prominent semilunar plates or lips and a ventral pair of slightly developed lips of the same nature, instead of two pair of ventral teeth curved like hooks, and the pair of dorsal teeth, as seen in the old-world form.

It is not intended in this report to enter into the natural history of the hookworm. The reader is referred to the recent articles of Stiles,[1] Clayton,[2] Capps[3] and others who have exhaustively reviewed the subject.

The following case is interesting, bringing up, as it does, the question of the geographical distribution of the *Uncinaria americana:*

NARRATION OF CASE.

David B., age 35, a native of Canada, was admitted to my service at St. Luke's Hospital, June 11, 1902.

Family History.—Father alive and well, mother died of some bowel trouble.

Previous History.—He had had diphtheria, luxation of left shoulder, white swelling of the knee. Previous to going to the Philippines he had spent his life in Canada, Alaska and the Puget Sound region. He was captured by the Filipinos and held captive for fifteen months, during which time he suffered great privation and physical hardship. After regaining his liberty he began to have diarrhea, with painful passages, and his tongue became sore and took on the raw, beefy appearance characteristic of sprue. He became progressively weaker and emaciated. His treatment during this time consisted of internal medication, enemas and light diet, later opium suppositories and morphin for the pain. His stools were irritating to the anus and of very offensive odor, numbering, occasionally, as many as thirty a day. There was no vomiting, but the slightest indiscretion in diet would cause considerable gastric distress and belching of gas. He gradually got worse and, after several months of this treatment, went to the Philippine Civil Hospital, where his stools were examined for the first time, and *Amœbæ dysenteriæ* were found. He was then treated with quinin enemas. Subsequent examination of the stools were negative, but he became worse and finally was put on the transport for San Francisco, arriving here May 23, 1902.

Examination.—Patient was thin, poorly nourished, skin sallow and of cachectic appearance. His tongue was of a raw, beefy appearance, with superficial ulcerations on the margins, and very sore. Buccal surfaces were also eroded and sore. Examination of the heart showed normal area of cardiac dulness; hemic murmur at pulmonary cartilage. Lungs negative. Examination of abdomen negative, with the exception of tenderness on deep pressure over small intestines and colon. Temperature at entrance 96.8, pulse 80. He was having several stools a day, which were light yellow, with considerable mucus. He was given the regulation doses of calomel and put to bed on an exclusive milk diet. As a result of this diet stools became lighter in appearance and less frequent. Several stools were examined for *Amœbæ coli*, with a negative result. Culture plates were made at different times, revealing only colonies of the colon family, no *Bacillus dysenteriæ*; patient's blood did not give agglutination test with a culture of Shiga's bacillus. Subsequent examinations were also made for Shiga's bacillus, but without result. A blood count at this time revealed 3,360,000 red cells; hemoglobin 70 per cent.; differential leucocyte count not made.

Treatment.—July 3, after continued search of the stools, ova of uncinaria were found by the pathologist of the hospital, Dr. Mary Halton. The blood count showed at this time 2,290,000 red cells, 3,150 white cells and 55 per cent. hemoglobin. Differential count: polynuclears, 40 per cent.; large mononuclears, 17 per cent.; small mononuclears, 19.5 per cent.; eosinophiles, 23.5 per cent. The next morning he was given one gram of thymol in capsule, followed at 1 p. m. by a similar dose, later in the afternoon giving him one ounce of castor oil. This was followed by several liquid passages, which were all examined, revealing ova of the uncinaria and one worm. About this time his tongue, which had improved very much on the milk diet to which he was subjected, became decidedly worse and caused him a great deal of pain.

July 12, ova persisting in his stools, he was given four doses of thymol during the day, consisting of one gram each. Following this another hookworm was found in one of the stools.

July 21 there were 2,500,000 red cells, 5,300 leucocytes, 50 per cent. hemoglobin. Differential count: polynuclears, 33 per cent.; large mononuclears, 8 per cent.; small mononuclears, 24 per cent.; eosinophiles, 35 per cent.

July 25, as the ova were still present, larger doses of thymol were given. After a preparatory cleansing of the bowels, four doses of two grams each were given in capsule at intervals of three hours. Examination of the stools following this last administration was negative. There was considerable reaction as the result of this rather vigorous treatment, and he was temporarily put on small doses of strychnin. His condition from July 28 steadily improved. His tongue also became less sore and lost the raw, beefy ulcerated appearance.

August 1 there were 2,450,000 red cells, 5,520 leucocytes, 60 per cent. hemoglobin. Differential count: polynuclears, 43 per cent.; large mononuclears, 5 per cent.; small mononuclears, 21 per cent.; eosinophiles, 31 per cent.

August 6 hemoglobin had increased to 60 per cent. and the cosinophiles had decreased to 24.5 per cent.

August 15 there were 2,660,000 red cells, 7,800 white cells, 65 per cent. hemoglobin, eosinophiles being up to 38 per cent.

September 7 the red cells numbered 3,200,000, leucocytes 5,200, hemoglobin 65 per cent., polynuclears 48 per cent., small mononuclears 24 per cent., large mononuclears 6.4 per cent., eosinophiles 21.6 per cent.

He left the hospital on September 20, promising to return regularly for blood counts. On October 24 blood count revealed 3,300,000 red cells, 7,000 leucocytes, 70 per cent. hemoglobin. Differential count: polynuclears, 58 per cent.; large mononuclears, 5 per cent.; small mononuclears, 17 per cent.; eosino-

philes, 20 per cent. He has failed to report for examination since that date. After the third administration of thymol, though the stools were examined for several days, no further evidence of the presence of uncinaria or its ova was observed.

COMMENTS ON THE CASE.

Though the increase in the number of red cells and the amount of hemoglobin, and the decrease in the eosinophiles were very slow, and, in fact, were far from normal at the time he left the hospital, still the man's rapid improvement from the time of the third administration of thymol and his steady increase in weight, increasing as it did from 105 to 140 pounds when he left the hospital, can scarcely leave any doubt that he has entirely recovered from his malady. This man has disappeared, but careful inquiry of his relatives and friends has elicited the fact that he has, in all probability, never been in other localities than those mentioned in the report.

The uncinaria found in his stools were submitted to Dr. Stiles for classification, who determined them as belonging to the species *Uncinaria americana* (number 9412, parasite collection of the United States Public Health and Marine-Hospital Service). From the fact that the patient was well until after a sojourn of fifteen months in the Philippines, it is hardly probable that he contracted his disease in this country. The inference would seem fairly clear that the *Uncinaria americana* is indigenous to the Philippines. Dr. Capps' case contracted his disease in Panama, and was an infection with the *Uncinaria duodenalis*, or old-world species. Thus we have both species found on the American continent, and, admitting that my case originated in the Philippines, certainly both forms are found there. It is important that these cases should all be properly classified, and it is very important that they should all be diagnosed. That a very large number of cases of extreme anemia with intestinal symptoms are due to this nematode is unquestionably true, and too much stress can not be laid on the necessity of examining the stools in all such cases. Such examinations, carefully made, will not fail to find the ova, if this disease be present.

The symptoms of sprue in this case make it more interesting. There is a dearth of literature on this subject. Manson describes the condition in his "Manual of Tropical Medicine," and it was the topic of discussion in the Section on Tropical Diseases at the annual meeting of the British Medical Association in 1899, where Thin considered the disease as of a specific nature.

Has sprue or psilosis a distinct entity as a disease, or does it exist merely as a group of symptoms in intestinal affections? This question has recently been raised by Musgrave,[4] who autopsied sixteen cases, in thirteen of which it existed as a symptom group in other diseases, and in two of which the uncinaria were found in the intestines, postmortem. His investigations, however, lead him to conclude that "it is more rational to consider sprue as a state or symptom-group occurring in the tropics in chronic diseases, especially those affecting the gastrointestinal canal." Manson[5] also considers it, not as one disease, but a variety of diseases with a series of symptoms in common. That my patient's sprue symptoms disappeared with the disappearance of the uncinaria is unquestionable, whether the disappearance is permanent, however, can not at present be known. An exclusive milk diet will often clear up these symptoms, only to return when mixed diet is resumed. Further researches will be necessary in order to establish the status of this interesting symptom-group.

BIBLIOGRAPHY.

1. Eighteenth annual report of the Bureau of Animal Industry, 1901. American Medicine, May, 1902.
2. American Journal of American Sciences, January, 1902.
3. The Journal A. M. A., Jan. 3, 1902.
4. American Medicine, March 8, 1902.
5. British Medical Journal, volume 2, 1899, page 637.

Blindness in France.—In a report to the Ophthalmological Society, Dr. Trousseau states that the number of blind in France reaches 31,966; a proportion of 8 in 10,000. This proposition is considerably in excess of that in Denmark, Switzerland, Austria and, above all, Holland, where it is exactly 4.46 in 10,000.—"Medical News."

A CASE OF MYCOSIS TONSILLARIS AFFECTING BOTH TONSILS.

COMPLETELY CURED BY REMOVAL OF THE TONSILS BY ELECTRO-CAUTERY DISSECTION.

RICHMOND McKINNEY, M.D.
Laryngologist to East End Dispensary and to Presbyterian Hospital.
MEMPHIS, TENN.

Miss A. B., aged 23, concert pianist, came to me, Sept. 26, 1902, with a history of having suffered more or less with her throat for the last ten years, the first attack of "sore throat" having begun in Boston while en tour; recurrences having been frequent since. February, 1902, she noticed a whitish formation on both tonsils. This could not be removed by the ordinary means resorted to, such as gargles, sprays, etc. She consulted several specialists in different portions of the country, but none vouchsafed an opinion as to the nature of the disease, nor advised anything in the way of radical treatment.

Examination revealed in the sulcus forward of the posterior pillar of the right tonsil a fan-shaped, whitish growth, apparently fungoid in character. This growth extended from about midway of the tonsil up to the supratonsillar fossa. The tonsil was not hypertrophied to any considerable degree. The left tonsil presented practically the same condition, the growth occupying an identical relation to the organ, but was not so extensive, being perhaps only half the size of the other.

A portion of the growth was removed from the right tonsil for microscopic examination, my opinion being that it was a case of mycosis. The patient was also told that the best treatment would be to remove the tonsil by electro-cautery dissection, thus eradicating completely the source of origin of the growth. Since she was desirous of immediate relief, and had but a short while to remain in town, she consented to immediate operation. After cocainizing the right tonsil thoroughly with a 10 per cent. solution of cocain, followed by an application of adrenalin chlorid, 1/2000, the right tonsil was dissected away with a cautery point in one sitting. I barely had time to complete the operation before the patient, who was of a highly nervous temperament, had a hysterical attack of exceeding severity, accompanied by weeping, numbness of the extremities and tonic spasms of the fingers of both hands. Three weeks later she returned for removal of the other tonsil, and this was done with great rapidity in order to avoid, if possible, another hysterical attack. This was barely escaped, as hysterical symptoms began to manifest themselves toward completion of the operation.

A careful microscopic examination made in the interval between the operations showed an abundance of filaments of *Leptothrix buccalis* and mycelial threads, in various teased specimens that were prepared from the portion of the growth removed from the right tonsil.

This patient was seen twice after the last operation, the most recent examination of her throat having been made early in the present year (1903), and there was no indication whatsoever of a return of the growth of either tonsil.

Mycosis of the tonsils is not a specially uncommon disease, but it is infrequent enough to justify the reporting of such cases as are encountered in which there is no question of the diagnosis. This case, moreover, is unique in at least two respects. First, in that the growth did not consist of discrete rods or tufts, which usually is the case, but of conglomerate patches of fungus. Second, its complete cure by electro-cautery dissection, which must be accounted for by the thoroughness of removal of the organs from which the growth sprang, since it is the experience of every writer on this subject and of all observers of cases that the treatment of mycosis tonsillaris is very unsatisfactory, Grayson stating in his recent textbook on the diseases of the nose, throat and ear, that "Even with the greatest care, the cure of a well-developed case in less than six weeks or two months will be a credit to the practitioner."

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THE DANGERS IN COMPETITIVE COLLEGE ATHLETICS.

Recent statements by prominent educators opposing modern tendencies in college athletics have been accompanied, it happens, by numerous publications with a similar tendency based on considerations of the purely physical dangers. As baseball has been displaced from its pinnacle of student adoration by the more violent football, and as the annual growth in the fierceness of competition is leading to more and more protracted training of the athletes in all competitive lines, whatever serious results may follow are likely to be greatly increased. From the standpoint of the educator the great question lies in the moral effect on the student body as a whole, and on the individuals participating, of the intensity of emotion and of interest that the great intercollegiate contests engender. For a large part of the year the interest of the athlete is centered on athletics at the expense of the many other things that go to make up the college career and training; for a number of weeks the same condition affects the entire mass of students. That both good and bad results may come is evident, and the effort of those in authority will probably be directed to so altering conditions that the good may increase as the bad diminishes, rather than to entirely cut out all intercollegiate contests, as some have urged. Intercollegiate athletic contests have too strong a hold on the public to be exterminated by faculty authority. But in addition to the pedagogic features of the question there are matters of pathologic interest and physiologic development that concern both the student of physical culture and the medical adviser. To the former the burning question is the tendency to center all effort on the team, or nine, or crew, that is to represent the institution in competition, and to which all eyes are turned through profusely illustrated newspaper reports as well as by appearances in public. The result is that a minute fraction of the university population, generally the part that already has through natural endowment or previous training the best physical development, is singled out for all the care, advice and training, while the average student who needs the attention far more is left more or less to his own devices. What should be the great aim of the school, to bring all to a proper degree of general development, is sacrificed to carry a very few to the utmost limits of power in some special line.

The results of excessive development of the few are of more immediate interest to the physician. During the process of training a few conditions are prominent: one is the hypertrophy of the heart, often with periods of dilatation; another is a greatly increased metabolism, attested to by the great fluctuation of weight which often amounts to several pounds during a single contest, and the enormous meals consumed at the training table. A study of the competitors in the annual "Marathon runs," held at Boston during the last few years, has just been reported. It is of much interest.[1] The men were examined just before and just after a run of twenty-four miles. While in some the pulse rate was not much increased, it usually was high, even 180 being recorded. In practically all cases the hearts, already hypertrophied from training, became more or less dilated, often with systolic murmurs. The temperature was invariably raised, and a leucocytosis corresponding in intensity and type with that observed in inflammatory diseases, generally over 20,000, was constant. The urinary examination indicated an active renal hyperemia, albumin, casts and blood being found at first, but these abnormal substances all disappeared in a week. An interesting finding was the decrease of urea for the first twenty-four hours following the race.

All of these changes indicate that in violent athletic exercise there is produced a great mechanical strain on the heart, and the presence in excessive amounts of the "toxins of fatigue" that cause much the same results as acute infection, namely, leucocytosis, fever, and renal injury. That repeated exercise, such as prolonged training in successive years, may lead to permanent injury of the heart or kidney is unquestionable—how frequently such is the case is altogether a different question, needing statistics of athletes after their period of active training, which statistics are obviously difficult of accumulation. The pathogenesis of interstitial myocarditis is too obscure to permit of dogmatic statements, but we know that when a tissue suffers atrophy of its parenchyma cells the interstitial tissue usually takes their place, and this fibrous tissue in contracting lessens the blood supply so that further atrophy follows, and thus a vicious circle is established. When an athlete subsides into a quiet life his hypertrophied heart muscle may readily undergo such change, and there is abundant evidence that it does. Constant hammering of a hypertrophied heart on the arteries can not well help shortening the existence of the "vital rubber" in their coats. G. Frank Lydston,[2] writing under the title of "Briefs on Physical Training," calls attention forcefully to the grave results that have been observed to follow in later years the athletic excesses of youth, not only in damaged cardio-vascular systems, but also in disturbed metabolism as manifested in "lithemia," whatever that may be. "The man who gets a great deal out of himself physically before the age of 30 is bound to 'go back' after

1. Observations on Long Distance Runners, edited by J. B. Blake and R. C. Larrabee, Boston Med. and Surg. Jour., 1903, exlviii, 195.

2. American Medicine, Feb. 21, 1903, et seq.

that period. The man who attains supremacy on borrowed energy—energy borrowed from his physiologic bank—is called on to pay his note sooner or later. He can not do so and goes into physiologic bankruptcy."

If in our fondness for the excitement of athletic contests we are leading to injury of the vital powers of young men, if we are encouraging a system that decreases their prospects of longevity, we may seriously stop to consider if the game is worth the candle. If we must have the excitement we can turn to other fields—the shortening of the life of a race horse, or of a game cock, or even of a professional pugilist, need not concern us much, but perish the thought that modern civilization countenances any form of public amusement that may impair the futures of our best of young men, the college graduates!

MEDICAL SCHOOLS OF LOW STANDARDS.

The rapid development toward higher things in medical education during recent years is most gratifying. The future historian of medicine in this country no doubt will be struck with the general elevation of requirements for admission to medical study as well as the improvement and arrangement according to approved pedagogic principles of the medical curriculum that he will note have been and are taking place in so many medical schools of our time. It is probable, too, that he will trace much of this development to the influence of a few schools that had the wisdom to set their standards at what at one time may have seemed unattainable and impractical heights, but with the very practical outcome that there were disclosed a much greater number of young men anxious for that sort of a medical education than even the most sanguine enthusiast had anticipated. This gave medical educators the highest standards for actual comparison and not merely mediocre ones, and a general movement away from low standards started. This movement is still in its inception.

Much discussion of the many and difficult problems involved in a comprehensive elevation of the standards of medical education is still before us. The burning question for some time will be how best to deal with the manifestly inferior schools, the schools with low entrance requirements, low standards of teaching and low standards for graduation. The normal death rate among these institutions is still very small, but with a decreasing birth rate and, let us hope, a surely but slowly increasing death rate, their period of greatest harmfulness has probably reached its climax to enter on a gradual decline. There are, however, various methods by means of which the harmful influence of these schools can be curtailed still further.

In the first place it seems to us that the various state boards can do more than has been done to raise the standards of medical education of the applicants admitted to state examinations by specifying more exactly the minimum standards of entrance requirements to be adopted and followed by so-called recognized schools. Surely the very least that must be demanded by way of entrance requirements is a good high-school education or its equivalent, and after adopting some such standard, whatever it be, the higher the better, the state boards should demand that applicants for state examination furnish unquestionable proof of their having fulfilled this requirement before entering on the medical courses. In connection with this it must be said that high schools and other schools differ most widely in the quality of the work they do; hence the state boards should adopt regulations specifying exactly the amount and may be the kind of work that must have been done in order to satisfy their demands as to the applicant's fitness to begin the study of medicine. In the next place, the state boards could do a great amount of good by changing the character of the examination they now give applicants for license to practice. The examination now is written. The questions asked are such that the answers form no real test of the fitness to practice of those examined. A vigorous spell of cramming quiz-compends enables any medical student of ordinary mental ability to pass the examinations as now given in many states. As has been pointed out before in these columns, the examinations for license to practice should be practical; they should include practical work at the bedside, in the dissecting room and in the laboratory. The superiority of this kind of examination over the ordinary written examination in testing the real qualifications of applicants is so self-evident that no further discussion is necessary at this time.

Something would be accomplished, too, if the American Medical Association were to demand a certain definite minimum of premedical education as a qualification for membership after a certain period of reasonable length. This requirement would have manifold increased force if it were adopted also by the affiliated state societies and the respective local societies.

If decided steps were taken in the directions indicated the general effect would be, first, greater discretion on the part of medical students in the selection of the schools at which to take their medical courses; second, a determined effort on the part of the low-standard schools to rise from their present low estate, and in this invigorated process of differentiation the law of the survival of the fittest would be felt in full strength.

The discussions concerning the needed elevation of the standards of medical education in this country have dealt so far almost exclusively with the purely educational and technical features of the medical schools in preparing future physicians for their life work. It is to be hoped that some thought may be given also to the moral welfare of medical students. Will the moral atmosphere and influence of the low-standard school, especially in the large cities, be better or worse than that of the school with high educational standards? This is a question that medical men in general are competent to answer. Let each answer it to himself according to his light and use his influence accordingly.

TRUTH AND FALSEHOOD IN MEDICINE.

In a very interesting paper Dr. Richard C. Cabot[1] discusses the use of truth and falsehood in medicine. He calls it "an experimental study" and gives his own experience. It is generally held by physicians, we presume, that truth can not always be told, and many even hold that actual fiction is often justifiable.

There has developed a sort of popular medical casuistry which makes us sometimes step down from the high moral plane of absolute truth-telling as an almost necessary course of conduct. Dr. Cabot admits that he has told many lies that he has thought necessary, but he also shows from his own personal experience how practically useless this has been to him, and he has learned how much easier it is to tell the truth. The temptations to do otherwise are often great, and it would seem absolutely a risk in some instances to follow the straight path. Nevertheless he has found the innocuousness of truth, when reason and experience would lead one to believe it must do harm, more surprising to him than the remarkable tolerance of the febrile patient for alcohol. Of course, the truth does not necessarily always mean the blunt and naked truth, but simply the conveyance of a true impression and the avoidance of anything that is liable to produce a false one. It is not necessary to go at length into the details. The patients understand that themselves. They do not expect it. What we should do is make the patient understand in a general way the actual condition and at the same time to put before him the better possibilities. The confidence of the patient is a very important thing in medicine, and certainly that is not gained or retained if he finds the physician is withholding facts or trying to mislead.

A lie, understanding by this a misrepresentation intended to deceive, is an ugly thing to let loose, and one never knows what will be the consequence, especially the remoter ones. It is astonishing how negligent of this truth many people are and how much evil is being daily done by this negligence. One of the most striking instances of this, perhaps, which is not referred to by Dr. Cabot, is in the management of the insane. A large part of the difficulties and work of the physicians and asylum officers is in judiciously correcting false impressions which have been made on the patients before their admission. In many cases the after-effects can not be altogether removed.

There may be cases, Cabot admits, where patients do not react from the shock of the cruel truth, and he asks whether we are to persist in telling the truth, even when we believe it may kill the patient. His answer to this question seems perhaps a little harsh. He says, if it lay in our power to let loose in the atmosphere a poisonous gas that would vitiate the air so that the whole community would suffer in physical and moral fiber, would it not be worth a human life to save the whole community from such a deterioration. A lie seems to him to be something like that. We doubt whether many physicians will be in a position, even when they review all the facts of the case and look at it from a judicial standpoint, where it will seem necessary to them to often try to save a life by a lie or it will seem possible to them to prove that the truth can kill a patient. There are many ways of avoiding harsh truths and of so telling them that it will render them comparatively harmless. We have never yet been in a position where it seemed absolutely necessary and morally right, however convenient it might be, to tell a downright lie.

Dr. Cabot also extends his idea to deceptions in treatment, and urges the omission of placebos. No patient, he says, whose language we can speak or whose mind one can reach needs a placebo. He gives them now and then to patients with whom he can not communicate, but refuses to give them when an interpreter is to be had. He sums up the results of his experiments with truth and falsehood that he has not found the case where a lie did not do more harm than good. His belief is that anyone repeating the experiments will have the same experience. Truth-telling is not always so easy as lying, but its results are infinitely better. The article is one that could be well reprinted and circulated as a part of the ethical instruction of the candidates for medical practice.

1. American Medicine, February 28.

MENTAL CONDITION OF THE HABITUAL CRIMINAL.

While there are, unfortunately, some regrettable abuses in the good that the medical profession has accomplished by pointing out that crimes against life are often committed by those who are not responsible for their actions, there is no doubt that one of the greatest humanitarian advances of our time has been secured in this matter. Medical men must not be content with this, however, but must extend still further their influence over public opinion and legislative action so as to secure greater amelioration in a proper spirit of the present attitude toward the criminal and his punishment. Crimes against property are undoubtedly often committed by those who have no proper moral responsibility for their acts and who, though they may have to be taken care of by the state in order to prevent further depredations on the property of others, are yet in no condition of mind to deserve, or be benefited by, punishment properly so-called. For all punishment should imply at least the hope of reform, and many of those who commit crimes against property are incapable of moral improvement. This fact is recognized frankly with regard to certain classes of these unfortunate persons who are known as kleptomaniacs. But there are others for whom an improvement in the present legal method of treatment is specially eminently desirable and can probably only come through the wisely directed influence of the medical profession.

The histories of burglars and thieves are very common in the columns of our daily newspapers. It is unusual

to find an arrest made for a first offense. There is usually the story of previous crimes or robbery and of repeated convictions. Four or five previous convictions are not unusual, with several escapes from sentence because of legal quibbles, or because the injured party refuses to prosecute. In two recent cases of burglary that have been prominent in the newspapers each of the accused has been previously convicted in three of the large cities of the country. There is no doubt in the minds of those familiar with the psychology of criminals and their ways that when these prisoners have served the next sentence to be inflicted on them they will return to their old method of life. The fact of the matter is that they are not so constituted mentally as to be deterred by the disgrace of conviction for felony or be reformed by the supposed punishment of imprisonment.

A little over a year ago Sir Robert Anderson, K.G., who was for many years chairman of a parliamentary committee for the supervision of criminal affairs in England, deprecated this state of things in a striking article in one of the prominent London magazines.[1] He said:

> The widely circulated advertisement of one of the burglary insurance companies contains the startling statement that there are 70,000 thieves known to the police. I am speaking seriously and deliberately and I appeal to all who have any confidence in my judgment and knowledge of the subject to accept my assurance that if not 70,000 but SEVENTY known criminals were put out of the way the whole organization of crime against property in England would be dislocated and we should, not ten years hence, but immediately, enjoy an amount of immunity from crimes of this kind that it might seem Utopian to expect.

Almost needless to say, the same condition of criminal affairs holds in this country as in England. The measures of reform that Sir Robert suggests have as great an interest for us as for the people of Great Britain. His conclusion is:

> No one need be either a Solon or a Fouché to understand that if the fear of consequences will avail to deter from crime, the consequences should be made adequate to that end. And if there are those whom no fear of punishment will restrain, they should be treated as lunatics and caged in a suitable asylum.

The present trend of improvement in the treatment of criminals whose crimes are against property is towards the recognition of their previous record as the only possible method of determining an adequate sentence. After such a criminal has shown the virtual improbability of reform and the non-deterrent effect of punishment by a second offense of the same kind, he should never be allowed to be out of the close surveillance of the authorities until he has proved his capacity for moral reformation. A few years ago it would have seemed absurd to promise that the great commercial ports of the world could be made absolutely free from danger of invasion by such epidemic scourges as cholera and plague that had been so dreaded in the past. That promise has been fulfilled, however, by a careful investigation of the elements of danger and a rigid enforcement of the quarantine regulations necessary to secure cities against incoming infection. It looked originally as though all commerce would have to be excluded for a considerable time if security were to be assured during the prevalence of an epidemic. Now we know that a short detention of comparatively very few vessels gives absolute safety. So, too, it would seem that the frank recognition of the pathologic side of crimes against property would give a new aspect to the punishment of such criminals and the sequestration or persistent surveillance of a comparatively few criminal natures would give us almost complete relief from the worst of present conditions.

1. Nineteenth Century and After, December, 1901, p. 960.

CENTENARIANS IN THE UNITED STATES.

According to newspaper statements, the U. S. Census for 1900 finds 3,536 persons in the United States who are 100 or more years of age. The value of these figures may be questioned, and perhaps may be best estimated by the fact that 72.8 per cent. of the whole number are negroes, many of whom undoubtedly have but very remote ideas of their own age. There are persons of comparative intelligence who can take care of themselves in the ordinary pursuits of life in the society where they find themselves and yet have but the vaguest notions of their early years and of the date of their birth. We remember meeting one such person, not exactly a civilized individual, but an aborigine and one of sufficient intelligence and influence to be a sort of chief among his fellows, who, according to his own figuring, was 268 years of age, but actually was probably about 70. Probably many of the colored centenarians whose names have been collected by the census agents would reveal a similar state of things by careful examination. It seems improbable, too, that this country should have over 3,500 when Germany with a population of nearly 55,000,000 has only 778, and England with 32,000,000 only 146; and France with 40,000,000 has only 213. Among the foreign born the largest number of the alleged centenarians are Irish. Some aged Irish women (for most of these are females) have often a wonderful imagination, and sometimes their ideas are not entirely in accordance with facts. They may honestly believe that they are 100 years of age, but this does not prove it to be true. Of course, there are many centenarians, but each case should be thoroughly scrutinized and accepted only with strong corroborative evidence. While we have no doubt that the United States will show as many centenarians, and probably more, than most other countries, the census figures seem to us rather unreliable.

"DIED AS THE RESULT OF AN OPERATION."

How many people annually lose their lives because the popular dread of the surgeon's knife has prevented them from submitting to necessary operative treatment? Obviously it is impossible to answer this question with any certainty, for the number of patients who refuse operation after being informed of its necessity probably constitutes but a small fraction of the total, the larger part consisting of those who keep away entirely from the

physician, or who fly to the quack with whom "curing without the use of the knife" has always been the most alluring of baits. We have indeed heard of a widely advertised "eye specialist" who accomplishes feats in the way of straightening crossed eyes "without the knife" by simply using scissors, to which the knife-dreading patient readily submits. And how many patients will suffer terrific tortures from indiscriminating and ineffective caustics rather than undergo a painless operation under anesthetic for malignant growths? One of the many factors responsible for this mistaken fear has always seemed to us to be the frequent, almost constant form adopted by the lay press in reporting deaths following operative intervention of whatever kind, in the words: "Mr —— died yesterday as the result of an operation for," etc. In a great part of the cases the correct wording would have been: "Mr. —— died *in spite of* an operation," etc. For example, deaths following operation for appendicitis almost invariably are reported in the manner above described, although the operation for appendicitis *per se* would have but a most minute mortality. In many instances the error becomes extreme, as in the report of a death "from an operation for blood poisoning," when the operation in question consisted merely in draining the primary suppurating focus in the hand or foot. "Continual dropping will wear away," etc., and the natural outcome of the reiteration of this stereotyped expression is a popular misunderstanding of operative results that leads to a fear that is often fatal. Yet what can we say of the lay press in the face of the fact that the same unthinking phrase far from rarely makes its way into medical journals? If the operation did cause death, well and good—we wish nothing but the bare truth—but when death has been in spite of operation, and in many instances because this very fear has led to its postponement, then let us again have the fact stated truthfully and accurately.

THE "BATTLE OF THE CLUBS" IN GERMANY.

The Deutsche Aerztetag, which, we believe, is made up of delegates from the German medical unions (Aerztevereins), recently held a special (ausserordentliche) session at Berlin. It appears from the more or less complete reports published in the German weeklies, to have been of unusual interest. The subjects discussed were those relating exclusively to the material and social interests of the profession and largely matters concerning the German workingmen's relief and insurance associations (Krankenkassen) and actual and proposed legislation in regard to them and their relations to the profession. Evidently our German confrères have many reasonable grounds for complaint; the same tendency of the benefit societies to exploit the medical profession that is the cause of so much trouble in Great Britain is only too apparent in the German empire. Thousands of the Krankenkassen, according to one speaker, pay as little as 8, 6 or even 4 pfennigs for a physician's call. Over half of the Krankenkassen practice may be considered as charity work on the part of the physician, and most of these institutions have as their obvious object only the reduction of the physicians' fees. Instead, moreover, of being the resource of the really poor, to whom a reduction of the medical charges would be justifiable, these societies are utilized also by the well-to-do, thus defrauding the profession of its legitimate earnings. The Gera case, which has been mentioned in this journal two or three times, was, of course, discussed, as well as other attempts to degrade the profession by the association in these societies with quacks. Misleading statistics and misrepresentations in the press have helped to prevent the due attention of the legislators to the recommendations of the profession, and it was recognized that only through the organized effort of a united profession could the needed reforms be secured. The speakers saw encouraging signs in certain recent events, among them the Gera incident, the harmonizing of factions in the profession at Munich and its increased influence as brought out by thorough union and organization elsewhere. The discussion shows that the same problems exist in Germany as in Great Britain, and we can profit by watching how our brethren meet them in those lands. We have troubles of our own that we must meet in our own way, but there are others we share with the rest of the world, and it is only by organization and united effort that we can prevent the disastrous exploitation of the profession here that is already so strongly in evidence elsewhere. As we have said before, club practice is not yet a serious problem in this country except in a few localities, but it is a very threatening one.

Medical News.

CALIFORNIA.

Smallpox.—Smallpox is said to be raging among the Digger Indians of Long Valley and threatens to exterminate the tribe. ——A case of smallpox has been discovered at the Napa State Hospital.

Retired After Long Service.—Dr Charles A. Ruggles, Stockton, who has served for fifteen years as a member of the State Board of Health, and for four years as its president, was retired from the board recently by order of the governor.

German Hospital for Los Angeles.—The "Deutscher Hospital Verein" has recently been organized in Los Angeles, with Dr. Joseph Kurtz, president. The object of the organization is to build a new hospital in the city, using as nucleus $20,000 bequeathed for this purpose by Mrs. Werner, who died last year in Germany.

Split in Hospital Staff.—Four of the original incorporators of the Clara Barton Hospital, which was founded two years ago in San Francisco, owing, it is said, to disagreements regarding the management of the institution, have resigned. The new president is Dr. Emmet L. Wemple and the new secretary, Dr. J. Henry Barbat.

New State Board.—The new State Board of Health appointed by Governor Pardee met at Sacramento, April 1, and organized by electing Dr. Matthew Gardner, San Francisco, president, and Dr. Newel K. Foster, Oakland, secretary. The other members of the board are Drs. Oscar Stansbury, Chico; W. Lemoyne Wills, Los Angeles; Wallace A. Briggs and Aden C. Hart, Sacramento, and Martin Regensburger, San Francisco.

Under the Law.—G. W. Richmond, Los Angeles, a member of the "Anti-Drug Association," a magnetic healer and vice-president of the Spiritual Society of Truth Seekers, convicted of practicing medicine without a license, refused to pay the fine of $100, and languishes in jail.——The case against John Miller, alias "Dr. Miller the divine healer," of Bakersfield, charged with illegal practice of medicine, has been dismissed on condition of his leaving Bakersfield for ever.——Dr. J. Carl Bainbridge, Santa Barbara, charged with failure to report a case of contagious disease was found not guilty.——Dr. Samuel R. Chamlee, a "cancer specialist" of San Francisco, has been held to the Superior Court in bonds of $10,000 on the charge of manslaughter. It is alleged that while he was operating for cancer

he severed an artery and allowed the patient to bleed to death ——Dr. Sarah J. Tedford, San Jose, classified by "Polk" as a lung specialist, was acquitted on March 18 of the charge of practicing medicine without a state certificate.

ILLINOIS.

Epidemic at Greenfield.—It is reported that smallpox is epidemic in Greenfield, where 50 cases are said to exist.

Fee-Bill for Waukegan.—The physicians of Waukegan have formed a defensive union, with Dr. William C. Bouton, president, and Dr Edward F. Gavin, secretary, and have adopted a fee-bill.

New Hospital at Rockford.—The new St. Anthony Hospital, erected by the Sisters of St. Francis, at Rockford, at a cost of $50,000, was formally dedicated by Archbishop Quigley of Chicago, March 29.

Scarlet Fever, Not "Philippine Itch."—As certain citizens of Lake Forest have declared that the epidemic from which the town is suffering is a disease brought from the Philippines and transmitted from the troops at Fort Sheridan to the town, Dr. George W. Webster, president of the State Board of Health, and Walter S. Christopher of Chicago visited Lake Forest, examined a number of patients and pronounced the disease scarlet fever. The quarantine period has been extended until to-day. It is reported that there are 150 cases of the disease in Lake Forest and the neighboring towns.

Chicago.

Personal.—Dr. Theodore J. Bluthardt has been appointed United States Consul at Barmen, Germany.

Again Exonerated.—Dr. T. Jordan Balhatchett, who was acquitted of embezzlement, and was thereafter charged with larceny as bailee, was exonerated a second time April 2.

Mortality of the Week.—During the week ended April 4, 549 deaths occurred, equivalent to an annual death rate per 1,000 of 15 18, a substantial reduction from the high death rate of the previous week. Pneumonia again leads with 105 deaths; then follow consumption with 68; heart disease with 50; nervous diseases with 39; Bright's disease with 33 and violence with 31.

Influenza and Complications.—Regarding the influence of this disease on the mortality rate, the health department makes the following statement:

> Influenza has been more prevalent during the first four months of 1903 than at any time since 1891, and of the 350 deaths last month in excess of the number for March, 1902, 330 are shown by the physicians' certificates to be due—not to influenza direct, but to influenza as a fatally complicating cause of death from pneumonia, consumption, Bright's disease, heart diseases, bronchitis, measles and whooping cough, in about this order of frequency.

Deaths in March.—With one exception—that of March, 1895—last month's death rate was the highest since March, 1893, and the excess is accounted for by the mortality from influenza. The average March death rate for the previous ten years was 15.93 per 1,000 of population; for this March it was 16.94, or 6.3 per cent. higher than the ten-year average. In 1893 it was 19.18, in 1895 it was 17.88, and in 1899 it was 16.75 The total deaths from all causes was 2,703; 728 of these were under 5 years, and 573 over 60. Pneumonia heads the list with 582 deaths; consumption was the cause in 280 cases; heart disease in 207; violence in 153; Bright's disease in 142; nervous diseases in 132, and bronchitis in 127.

MARYLAND.

Baltimore.

The Deaths.—The deaths for last week were 187, 17.66 per 1,000; 20 were from pneumonia, 19 from consumption, and 5 from grip. One case of smallpox was reported.

Trachoma Excludes.—The special board of inquiry of the United States Immigration Bureau decided on the exclusion of 12 immigrants, with trachoma, who were landed here. They will be returned at the expense of the steamship company.

Toward Tuberculosis Sanatorium.—The Quarter Club has collected $3,000 toward the tuberculosis sanatorium and about $4,000 of the $25,000 necessary to secure a gift of $25,000 by some unknown benefactor has been raised. It has been determined to open a sanatorium in the Blue Ridge this summer, a cottage and a number of tents being used for the accommodation of patients.

MASSACHUSETTS.

Conditional Constitutionality.—The Supreme Court of Massachusetts has decided that their compulsory vaccination law is constitutional, but that a man who thinks vaccination is unnecessary can not be treated by force. He would, however, be liable to a fine of $5.00 for each such refusal.

Typhoid at Lawrence.—Lawrence, Mass., is in the midst of an epidemic of typhoid fever, apparently due to the practice of operators of the Pacific Mills of drinking unfiltered river water. This they do because the water running in the canal is cold, while that furnished for them to drink is unpleasantly warm.

Staff Changes.—The following changes have taken place in the staff of Noble Hospital, Westfield: Drs. George W. Brace and Fred. P. Lowenstein were appointed to the medical staff; Dr. James S. McLaughlin succeeded Dr. Edwin D. Hutchinson, resigned, on the surgical staff, and Dr. Hutchinson was appointed consulting surgeon

Dread State Institution.—The manufacturers of diphtheria antitoxin and vaccine virus have offered to furnish to the State Board of Health the products at a price lower than the cost of production to the state, and of a standard quality verified by governmental inspection, provided the legislature will refrain from appropriating money for a new state institution for their production.

Disease and Death in Boston.—For the week ended April 4 there were 214 deaths in Boston, an annual death rate per 1,000 of 19.04. There were reported 44 cases of diphtheria, with 3 deaths; 30 cases of scarlet fever; 20 of measles, with 1 death; 10 of typhoid fever, with 2 deaths; 18 cases of tuberculosis, and 24 deaths from this cause; 2 cases of smallpox, with 1 death. Pneumonia caused 29 deaths, whooping cough 8, heart disease 20 and bronchitis 5.

Street-Car Regulations.—Regulations forbidding spitting in street cars are common about Boston. Cambridge has taken another step: "Every street railway passenger car (closed) operated in Cambridge shall, while so operated, be properly ventilated; such cars shall be thoroughly aired at the end of each round trip; every such car shall be thoroughly cleansed at the end of each day's service and shall be disinfected once each week." A violation of these city ordinances involves a fine not to exceed $100.

NEW YORK.

The Situation at Ithaca.—The death-roll at Ithaca from typhoid fever now numbers 65. Only 3 new cases have been reported since the issue of last week.

Coroner's Bill.—At last, after a sensational political fight, the bill of Senator Elsberg, abolishing the office of coroner in New York City has been passed, and in its place is to come a system of medical examiners connected with the health department.

Prisoners Tuberculous.—Dr. Julius B. Ransom, physician of the Clinton State Prison, Dannemora, is reported to have said that one-fourth of the prisoners in that institution are afflicted with tuberculosis There are 250 prisoners thus affected, with hospital accommodation for only 54.

February Deaths.—The state health commissioner reports 10,826 deaths during February, which compares unfavorably with the average of 10,492, which has prevailed for the corresponding month in the previous five years. Influenza caused 1,500 deaths, pneumonia 1,223 and Bright's disease 802.

New York City.

Surgeon in Accident.—Dr. Francis W. Murray, one of the surgeons of the New York Hospital, narrowly escaped severe injury from the wrecking of his carriage by collision with an electric car. As it was, he received several minor injuries, and his coachman is not expected to live.

Ophthalmia Among Teachers.—It is said that two school teachers have developed a virulent and specific form of ophthalmia, supposedly from the handling of public school books. Details are lacking, but it seems strange that should be the case unless the same disease were very prevalent among the schools where the books are constantly handled by the teachers.

TENNESSEE.

Medical Staff Election.—The medical staff of Knoxville City Hospital met, March 23, and elected Dr. Benjamin D. Bosworth, president; Dr. Claudius M. Capps, vice-president, and Dr. Charles H. Davis, secretary.

State Board Examinations.—The first general examinations of applicants for license to practice medicine, since the law came in force, were held at Memphis, Nashville and Knoxville, March 30 and 31. About one hundred applicants were examined, fifty-nine of whom were examined in Nashville and thirty-two in Knoxville.

Medical Students Die.—Charles S. Lewis, one of the senior class at Chattanooga Medical College, recently died, and the combined classes of the college passed resolutions expressive of their sorow and eulogizing their deceased colleague.——Mr. Clements, a student in the medical department of the University of Tennessee, Nashville, died, March 10, aged 36.

Personal.—Dr. G. Chris Savage, Nashville, was operated on for appendicitis a few days ago and is making a good recovery. ——Dr. Fleetwood Gruver, Nashville, has been appointed assistant surgeon in the U. S. P.-H. and M. S. Service and assigned to duty at Port Limon, Costa Rica.——Dr. John R. Parker, Sideview, has been appointed assistant surgeon in the Navy with the rank of ensign.

Half a Century in the Society.—The Nashville Academy of Medicine and the Davidson County Medical Society gave a banquet April 7 in honor of Dr. Thomas L. Madden, Nashville, celebrating the completion of fifty continuous years of membership in the Tennessee State Medical Society. The committee in charge of the banquet consisted of Drs. W. Frank Glenn, D Bigelow Blake and Deering J. Roberts.

New Physicians.—The fifty-second annual commencement of the medical department of the University of Nashville was held March 31. Chancellor James D. Porter conferred the diplomas on a class of forty-nine and Hon. A. B. Anderson delivered the faculty address.——The University of Tennessee held its closing exercises April 3. A class of thirty-six was graduated. Dr. D. Bigelow Blake delivered the charge to the graduates and Gen. Harvey H. Hannah delivered the address of the evening.——Tennessee Medical College, Knoxville, graduated a class of eight, March 31. The charge to the graduates was given by Dr. Samuel L. Jones and the dean, Dr. Charles P. McNabb, conferred the degrees.——The medical department of Walden University, Nashville (Meharry Medical College), graduated a class of forty-one, March 2 President L. M. Dunton of Claflin University, Orangeburg, S. C., delivered the address of the evening. President J. Benson Hamilton conferred the degrees.

TEXAS.

Made Chief Surgeon.—Dr. James A. Moore, Marshall, has been made chief surgeon of the Texas and Pacific system, vice Dr. Benjamin F. Eads, Marshall, deceased.

Public Hospital at Waco.—The Sisters of Charity of St. Vincent de Paul have agreed on a site in Waco whereon they will build and equip a public hospital. The plans for the hospital are almost completed.

Hospital Car.—The medical department of the Southern Pacific has secured the car "Nacogdoches" and is having it fitted up as a hospital car. It will be kept in Houston, but will be ready to go promptly when and where needed.

Dallas Medical College.—The commencement exercises of the medical department of Trinity University, Dallas, were held April 1. A class of twenty-nine was graduated. Dr. Hugh L. McNew, dean of the faculty, presided and awarded the prizes; Rev. R. C. Kirkes, president of the university, conferred the degrees, and Rev. D. C. DeWitt delivered the address to the class.

VIRGINIA.

New Hospitals.—The new Protestant Hospital at Norfolk was opened to receive patients March 25. The formal opening will occur in about a week.——Winchester Memorial Hospital was opened March 18. Dr. Hunter H. McGuire is president of the institution.——Richmond Hospital, designed for the especial care and accommodation of colored patients, and purchased and equipped at a cost of more than $9,000, was opened for the reception of patients February 16

Personal.—Dr. Ballard R. Smith of Greenville, Va., has moved to Baltimore.——Dr. William Wertenbaker, physical director and laboratory assistant in biology at Washington and Lee University, has resigned and located at Ansted, W. Va. ——Dr. William F. Creasy, Newport News, has been appointed quarantine officer of the port, vice Dr. Samuel W. Hobson, term expired.——Dr. John T. Graham, Wytheville, fell recently in his office and fractured his arm.

Dr. Drewry Vindicated.—The Senate Committee on Public Institutions met March 26 and adopted a report in relation to the charges made against the management of the Central State Hospital, Petersburg, by Dr. Richard T. Styll, Newport News. The committee found that the charges were groundless and adopted resolutions praising the administration of the affairs of the hospital by Dr. William F. Drewry, the superintendent, and stating that the business and financial affairs of the institution have been administered in a way deserving of the highest commendation.

Eddyites and Osteopaths and Faith-Healers Defeated.—By the terms of a bill relating to the practice of medicine, as amended by the Senate and which the House passed with only one dissentient vote on March 27, healing by prayer for pay in Virginia will be unlawful and punishable by fine and imprisonment. Eddyites and osteopaths joined hands in the lobby for a bill amending the general law requiring the examination by the state medical board of all who practice medicine. The Senate's action of March 6 is a complete defeat for them. The Eddyites held that healing by prayer for pay should be licensed; the osteopaths wanted representation on the board, but failed to secure it.

GENERAL.

Mexico Quarantine Raised.—The quarantine against San Francisco has been raised by Mexico and many fully-loaded ships have hastened to resume the trade that had been interrupted. Guatemala has quarantined against all Mexican ports.

Diphtheria at Navy Yard.—An epidemic of a severe form of diphtheria has broken out at the Norfolk, Va., Navy Yard. One man has died, about 10 are sick and some 50 are suspects. There are 1,500 men on the receiving ships. Antitoxin is being freely used and all precautions taken.

Vigorous Plague Investigation in San Francisco.—A thorough exploration of Chinatown is being made by the allied health authorities. Drs. Glennan, Currie and Lloyd have had attacks of influenza, to which they were said to have predisposed themselves by their prolonged faithful work under unsanitary surroundings.

Diphtheria on Transport.—The long fight of the officials of the U. S. Transport "Buffalo" against the epidemic of diphtheria has ended. Over 150 out of over 400 were sick with the disease, but only 3 died. The outbreak was in December and the ship went to Port Royal, S. C., to establish quarantine and free the ship of the disease.

Mazatlan Plague Subsides.—On March 29 there were only 8 patients left in the lazaretto at Mazatlan. They are convalescing. The outbreak at Villa Union seems to have been suppressed, no case having occurred for almost two weeks. Two sanitary inspectors of the Mexican government were assassinated at Panuco, because of ignorant prejudice of the people.

CANADA.

To Limit Malpractice Suits.—The Council of Physicians and Surgeons of New Brunswick, acting for the New Brunswick Medical Society, has sent to the Provincial Legislature a bill with the object of securing a limit of one year to the time in which an action may be brought for injuries resulting from alleged malpractice.

Victoria, B. C., Isolation Hospital.—In 1902 the number of patients treated in the Victoria, B. C., Isolation Hospital was 92 and the total day's stay 2,101, as against 80 in 1901, with a total day's stay of 1,743. In 1901 the cost of nursing was $1,808.45, and in 1902 it was $3,274.75. The total cost of maintaining the Isolation Hospital was $9,279.44.

Banishing the Cigarette from Canada.—The cigarette was debated in the House of Commons during the past week, and apparently the cigarette must go, for a motion for the pro hibition of the manufacture, importation and sale of the cigarette was carried by a vote of 103 to 48. The motion simply points out public opinion on the subject, as the voting did not take place on any government legislation.

Physicians by Act of Parliament.—The "Montreal Star" states that a committee of the Quebec legislature is engaged in the benevolent task of making lawyers, druggists, dentists and physicians "by Act of Parliament." It is of course to be presumed that some of these rather fortunate individuals have found it inconvenient or impossible to pass examinations in the usual way, so they revert to the simple process of getting a bill passed by the legislature. Doctors "made-while-you-wait" is a dictum in Quebec which will no doubt produce a faction of strong force in opposition to the adoption of any such legislation as outlined in the bill now before that house seeking ratification of the Roddick law.

Regulations Concerning Diphtheria and Scarlet Fever in Ontario.—The Provincial Board of Health of Ontario has issued a special pamphlet to physicians calling direct attention to the acts as regards diphtheria and scarlet fever. As regards diphtheria the regulations require that all persons suspected of having diphtheria shall be promptly isolated until a swab has

proved the absence of the disease. Medical health officers are empowered to appoint sanitary policemen where necessary on the outbreak of either diphtheria or scarlet fever, and if these are not sanctioned by the municipality the Provincial Board of Health will then make the appointments. The minimum period of isolation for any case of scarlet fever is put at six weeks. In the case of diphtheria, the time limit shall be twenty-eight days unless swabs shall sooner show the absence of the disease.

Dominion Registration in Quebec Legislature.—Mr. Hutchison, M.L.A., has moved the second reading of his bill to amend the law regarding physicians and surgeons. It provides that whenever there is established under the Canada Medical Act of 1902, a register for Canada of medical practitioners under the said act, any person duly registered shall be deemed qualified and entitled to be registered in the Quebec register on payment of such fees as may be required In explaining the provisions of his bill, Mr. Hutchison said that there were French-Canadians all over Canada who wanted to have physicians of their own nationality and language, and that, therefore, Quebec province had more to gain by the measure than any other. The bill was opposed by Dr. Pelletier on the ground that it was not for the good of the profession and that the other provinces were not up to the standard of Quebec. This is as far as ratification legislation has got in the Quebec legislature.

FOREIGN.

A London Military Hospital, to cost over half a million dollars, is planned, because present quarters are not adequate.

Plague in Egypt.—A reappearance of bubonic plague is reported from some parts of Egypt and cholera is reported at Alexandria.

New Medical and Hospital Facilities at Copenhagen.—The Danish government has appropriated nearly $2,000,000 for the construction of a new general hospital and medical department for the university. The buildings are to be erected on a large plot of ground in the northern part of the city and to be completed in six years.

Endowments at Frankfurt for Scientific Purposes.—Nearly $200,000 has been collected for the erection of a zoologic museum and physico-chemical institute at Frankfurt a. M. This brings to $2,000,000 the total amount raised there during the last five years for the enlargement and endowment of scientific institutions connected with the scheme of a great university. The valuable land on which now stands the Senckenberg Hospital, etc., is to be sold and the city will donate lands on some of the newer streets in its place, which will add much to the fund.

Antituberculosis Serum from Fowls.—A prominent physician of Nimes, France, Dr. Viguier de Maillane, having been impressed by the resistance to human tuberculosis displayed by poultry, tested the serum from fowls and found that the Koch bacillus will not grow in it, while it has a marked protecting and attenuating effect on tuberculosis in guinea-pigs. After tests on himself and another healthy person to determine its harmlessness, he applied the serum as a therapeutic measure in six cases of tuberculosis. In a communication on the subject to the Paris Académie de Medecine, he reports that the serum had an unmistakably beneficial effect. Three of the patients were very much improved; two practically cured, and only one failed to benefit from the injections. The results indicate that this new serum is most effective in the torpid form of the disease, but that it acts like a powerful tonic in all cases, reducing the cough and expectoration and improving nutrition in general.

Campaign Against Charlatans in Germany.—During the recent trial of the magnetopath Pohl at Berlin, a number of witnesses testified that they had signed testimonials, stating falsely that they had been cured or wonderfully improved, in return for a reduction in the price of treatment. Pohl claimed to heal disease by his personal magnetism which he transmitted to the patient, assuming himself in return the disease. The suffering which this entailed on him compelled him to charge unusually high for his services, about $7.50 for a sitting. He also made use of carbonated baths. He was known to have received $200 from one consumptive who has since died. He was condemned, for "promising the impossible," to a fine of $250 and publication of the decision of the court. Our Berlin exchanges remark that it is a very significant fact that the newspapers which are read most extensively among the working classes entirely ignore these proceedings against charlatans which are written up in detail for the better class of lay papers.——The Posen courts have condemned a "Wonder Doctor," Scholz, to eighteen months' imprisonment for his quack practices and the injuries that have resulted therefrom.

Correspondence.

Michigan Students Protest.

DETROIT, March 24, 1903.

To the Editor:—In an editorial entitled the "Michigan Students' Protest," you took a most commendable view, but were misinformed about the students protesting. The students of the Detroit College of Medicine are in favor of the bill, and I understand that the students of Michigan University at Ann Arbor are also. In fact, the students of reputable colleges have no fear of being able to pass, and are always in favor of a higher standard. J. H. CARSTENS.

To the Editor:—In view of the editorial which appeared in THE JOURNAL, March 21, we wish to state that we regret sincerely that the article was so worded that the impression might be given that the medical students of the University of Michigan are opposed to the passage of the Nottingham bill.

We wish to state that the medical students of the University of Michigan have done nothing, either collectively or individually, to oppose this bill or any of its provisions.

Furthermore, we are unanimously in favor of any means which will tend to raise the standard of medical practice in Michigan, and, believing that the Nottingham bill, if enacted, will have this effect, we are heartily in favor of its passage.

Unanimously adopted by class of 1903. President, F. C. Penoyar; secretary, Maude G. Hinman.

Class of 1904. President, W. A. Scott; secretary, Curtis Evans.

Class of 1905. President, C. W. Merkel; secretary, D. E. Burnett.

Class of 1906. President, J. F. Hastings; secretary, Z. K. Brinkerhoff.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

THE SOURCE OF VACCINE.

EVANSVILLE, IND., Feb. 27, 1903.

To the Editor:—From what source do vaccine laboratories or vaccine farms obtain their original vaccine virus? Do they use the smallpox lymph, or the cowpox lymph, which comes originally from the "grease heal" of the horse? A scientific question of inestimable value is herein to be considered and should be known by every physician. The safe preventive from smallpox would be to vaccinate with the vaccine obtained from cows that had been inoculated by lymph originally obtained from smallpox. F. L. DAVIS.

ANS.—Following the receipt of the above, we wrote to a number of manufacturers of vaccine and quote below from certain of their replies.

The H. K. Mulford Company stated that vaccine virus employed by them is obtained at short intervals from several sources, namely:

"The Jenner Institute of Preventive Medicine, London, England; Chambon & Menard, Paris, France; Institute Vaccinale, Berne, Switzerland; Pasteur Institut, Lille, France, and in addition to these from two sources in the United States. The vaccine virus on receipt is tested and those strains which produce the most typical physiological effect are used in propagating the virus."

Parke, Davis & Co. said: "Our seed vaccine we have obtained from different sources, chiefly European. We have secured various supplies from the Imperial Vaccine Institute of Vienna. Some of the best seed has come from the fine establishment conducted at Berne, Switzerland. All the seed used by us has been, we are perfectly sure, the product of the calf or heifer—not in any instance the virus obtained from human smallpox pustules.

"It is, however, our conviction that smallpox and cowpox are one and the same disease, manifesting itself differently in the two animals under the profoundly modified biological conditions—smallpox in the man, cowpox in the animal. Several German investigators have repeatedly succeeded in directly inoculating calves with the human virus, thus obtaining bovine vaccinia which has in turn produced in human beings perfectly normal vaccinations, affording full protection. The great English authority, Copeman, stated last summer in person to our Dr. Houghton that he had repeatedly inoculated monkeys with the virus of human smallpox, passing it along from one monkey to another, and with the virus thus obtained he has produced in calves genuine vaccinia vesicles, the pulp of which has proved an effective means of inoculating and

protecting human beings. Copeman added that hundreds of people vaccinated with lymph obtained from calves which in turn had been inoculated with virus secured from these monkeys, had exhibited typical 'takes' and many of these people had been subsequently exposed to smallpox without contracting the disease—a fact which would seem to establish the immunizing power of the particular lymph. Clearly, then, cowpox is the result of the direct introduction of smallpox virus into the animal organism, or else the two parallel maladies emanate from the same common cause. The identity of their source is to our mind established by the great preponderance of evidence and authority."

Frederick Stearns & Co. say:

"The original source of our vaccine virus was from vaccine obtained from heifers that had been previously inoculated with smallpox lymph taken from a human being and that too, not indirectly as from cow-pox or from 'grease heal' in some mysterious roundabout way, but directly from human being to heifer, thus modifying it by its passage through the bovine so that it will no longer produce smallpox by direct contagion, but a modified form of it known as vaccine vesicle which confers immunity to the smallpox disease.

"There may be a natural cow-pox, but in our opinion there is no such thing as a cow-pox which will confer immunity to smallpox which had not originally the human source, and as for 'grease heal' it is utterly absurd and unscientific to think of such a thing. We think you will find that the best authorities and the best masters of the art agree with us on this point."

H. M. Alexander denies most emphatically that vaccine is cowpox and affirms that cow-pox is smallpox. He says further:

"My experiments proved to me beyond any reasonable doubt that vaccine virus was simply smallpox passed through the cow and that it was at first very weak in its action, the first animal inoculated from smallpox direct always taking in a very uncertain manner; but the contagious character so far as the human family was concerned was lost at once. When passed through a second animal it began to assume many of the characteristics of the vaccine disease as seen in the stables. The third and particularly the fourth in all instances was so characteristic of kine pox that it was used and successfully used in a great many experimental cases.

"My continued experience with horse grease has caused me to believe that there is no such thing as horse-grease cow-pox; or, if there is, then the horse grease as we know it to-day is not the horse grease referred to by Jenner."

DYNAMITE HEADACHE.

RUSSET, W. Va., March 26, 1903.

To the Editor:—In your query column, I should be obliged if you would suggest some remedy for what is known here as "dynamite headache." This is caused by the inhalation of the fumes from the dynamite which is used in blasting. I have tried acetanilid in doses of 7.5 to 10 grains combined with caffein cit. and monobromate of camphor, but in a great many cases this has no effect and I am compelled to use morphin before any relief is obtained.

JOHN W. BROWN.

ANS.—On the theory that dynamite cephalalgia is a congestive headache due to vasomotor (arterial) paralysis of the cerebral vessels, hypodermic injections of ergotin, atropin and strychnin, and cold applications to the head have been recommended. The best remedies, however, according to Key (Oliver: "Dangerous Trades," p. 614) are strong coffee, and a linseed poultice to the back of the neck. This is probably a deduction from practical experience, and there may be still others used in dynamite works. Most persons soon become habituated to the fumes and cease to suffer, but there is a great difference in the susceptibility of different persons. We would not suppose acetanilid to be a very satisfactory remedy.

State Boards of Registration.

New Law in Nebraska.—A new law has just passed the Nebraska legislature which requires an examination as well as a diploma, of all applicants for license to practice medicine in the state. Heretofore a diploma from a recognized and approved college was all that was necessary. We shall publish a full abstract of the law next week.

Alabama Law.—The recent law defining the divisions of practice and exemptions from examination therein in Alabama is as follows:

An Act to prescribe the branches of medical learning upon which applicants for the privilege of treating the diseases of human beings in this state must be examined, and to provide for the issuance of certificates of qualification therefor.

Section 1. Be it enacted by the legislature of Alabama, That any applicant for a certificate of qualification to treat the diseases of human beings by any system of treatment whatsoever shall, according to rules prescribed and standards established by the Medical Association of the State of Alabama, be examined by one of the authorized boards of medical examiners of this State in the following branches of medical learning, to-wit: Chemistry, anatomy, physiology, the etiology, pathology, symptomatology and diagnosis of diseases; obstetrics and obstetrical operations, gynecology, minor and major surgery, physical diagnosis, hygiene, and medical jurisprudence, and should said applicant be found proficient in said branches of medical learning a certificate of qualification in such form as shall be prescribed by the said Medical Association of the State of Alabama shall be issued to him, which shall entitle him to treat any and all diseases of human beings in this state in any manner that he may deem best.

Sec. 2. Be it further enacted, That when any applicant states in writing that he has neither studied nor proposes to practice major surgery, said applicant shall be exempt from examination in said branch of major surgery, and should he be found proficient in other branches of medical learning named in Section one (1) of this Act that a certificate of qualification in form to be likewise prescribed by the Medical Association of the State of Alabama shall be issued to him, which shall entitle him to treat all diseases of human beings in this state in such manner as he may deem best except by the practice of major surgery.

Sec. 3. Be it further enacted, That all laws and parts of laws in so far as they conflict with the provisions of this act be and the same are hereby repealed.

Marriages.

R. B. BELL, M.D., to Miss Julia M. Stewart, both of Nashville, Tenn., March 26.

ROBERT M. STONE, M.D., Omaha, Neb., to Miss Belle Noxon of Bee, Neb., April 5.

EDGAR M. HERMANCE, M.D., to Miss Mary Ellerington, both of Yonkers, N. Y., March 27.

MEYLER D. GIBBS, M.D., Willow, N. M., to Miss Grace Wilson of Colorado Springs, Colo., March 9

D. EDWIN STONE, JR., M.D., Emmitsburg, Md., to Miss Elizabeth Hammond Downey, at New Market, Md., March 25.

Deaths.

James A. Steuart, M.D., died at Baltimore, from pneumonia, March 27, aged 74. He was the son of Dr. Richard Steuart, founder of Maryland Hospital for the Insane and grandson of Dr. James Steuart, a graduate of Edinburgh University. Dr. Steuart graduated in medicine from the University of Maryland in 1850. From 1850 to 1854 he was physician to the Baltimore General Dispensary and from 1854 to 1861 assistant physician at the Maryland Hospital for the Insane. From 1873 to 1889 he was health commissioner of Baltimore, and by his energy was instrumental in arresting several threatened epidemics of smallpox and yellow fever. He was secretary of the State Board of Health from 1894 to 1897. He was surgeon to the First Maryland Infantry, a member of the American Public Health Association and of the Medical and Chirurgical Faculty of Maryland.

John P. Wood, M.D. Transylvania University Medical Department, Lexington, Ky., 1828, the oldest practicing physician in the United States, if not in the world, of Coffeeville, Kan., died at the home of his brother in Thomas, Okla., March 28, from paralysis, after an illness of one week, aged 101 years, 2 months and 24 days. Dr. Wood served as surgeon of Henry Clay's regiment in the Mexican War, in which he was seriously wounded. At the close of the war he settled in Danville, Ill., and in 1853 moved to Kansas.

Goronwy Owen, M.D. University of Pennsylvania, Philadelphia, 1857, professor of obstetrics and diseases of women and children, Medical College of Alabama, a surgeon in the Confederate Army during the Civil War, a recognized authority on obstetrics, died at his home in Mobile, March 30, from paralysis, aged 69.

Frank Van Schoiack, M.D. University Medical College, Kansas City, Mo., 1901, for many years at Ottawa, Kan., more recently at Ponca City, Okla., died recently at the latter place, from pulmonary tuberculosis, following pneumonia.

James Jones Singer, M.D. Jefferson Medical College, Philadelphia, 1871, for 26 years surgeon of the Baltimore and Ohio Railway at Connellsville, Pa., died at his home in that place, March 28, after a long illness, aged 53.

Donald Gilbert Gordon, M.D. Trinity Medical College, Toronto, 1886, professor of hygiene in Trinity Medical College, died at Church Home Hospital, Baltimore, March 28, aged 44, of tubercular peritonitis.

Walter S. Leaming, M.D. Jefferson Medical College, Philadelphia, 1882, postmaster of Cape May, N. J., formerly state assemblyman and senator, died at his home in Cape May, March 30, aged 48.

Richard Johnson, M.D. Harvard University Medical School, Boston, 1865, ex-president Prince Edward Island Medical Society, died suddenly a few days ago at his home in Charlottetown, P. E. I.

George B. Mott, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1869, who practiced for a number of years at Petrolea, Ont., died at Wallaceburg, Ont., January 17.

W. Frank Lee, M.D. Kansas City (Mo.) Medical College, 1900, of Beatrice, Neb., died at Las Cruces, N. M., March 23, from tuberculosis, after a long illness, aged 26.

Andrew Halliday, M.B. Glasgow University, 1891, associate professor of pathology in the Halifax Medical College, died at Halifax, from tuberculosis, March 10, aged 36.

George H. Perrin, M.D. University of Maryland, Baltimore, 1895, died from diabetes, March 30, at his home in Durand, Mich., after an illness of one month, aged 35.

David H. Stever, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died from pneumonia, at his home in Fairfield, Iowa, March 26, after a short illness.

Robert M. Bostwick, M.D. University of Louisville, 1857, a veteran of the Civil War, died at his home in Memphis, Tenn., March 28, after a brief illness, aged 69.

William H. Tutt, M.D. Kentucky School of Medicine, Louisville, 1890, of Campton, Ky., died from paralysis at Jackson, Ky., after a short illness, March 31.

Robert M. Cooper, M.D. Western University Medical Department, London, Ont., 1889, of London, Ont., died suddenly, March 21, from epilepsy, aged 33.

George Stewart, M.D. University of the Victoria College, Cobourg, Ont., 1869, of Port Rowan, Ont., died January 28, from apoplexy, aged 62.

A. M. F. Hawkins, M.D. Atlanta (Ga.) Medical College, 1876, died at his home in Ball Ground, Ga., March 29, from pyemia, after a short illness

Kenneth D. McKenzie, M.D. Halifax (N. S.) Medical College, 1887, Medical Health Officer of St. Johns, Newfoundland, died December 24, 1902.

Alvin W. Tyler, M.D. St. Louis Medical College, 1878, died at his home in Tulare, Cal., March 18, from heart disease, aged 71.

Deaths Abroad.

Dr. Salomon, vice-president of the Union des Syndicats Médicaux de France and author of a number of works on trade intoxications, etc., died at Savigné.

J. Deutsch, M.D., publisher of the "Aerztliche Zentralzeitung at Vienna.——**Dr. J. Gine y Partagas,** professor of pathology at Barcelona.——**Dr. Didiot,** formerly chief of the French military sanitary department.

E. Bottini, M.D., Pavia, professor of surgery at Pavia and senator of Italy, died at his villa at San Remo, March 11, aged 66. His family is indissolubly connected with the Bottini operation, and he was one of the most advanced surgeons of his day and country.

G. Bouilly, M.D., professor agrégé of surgery at Paris, died in that city, March 14, aged 55 He had the reputation of being the busiest surgeon in Paris, and was appointed president of the Société de Chirurgie last year. Abdominal surgery and gynecology were his specialties and he was a frequent contributor to medical periodicals devoted to these branches.

Miscellany.

Hydrophobia.—From the extended comment recently in the public press one might infer that there was a genuine epidemic of rabies in New York City. Such is not the case, although special attention has been directed to the fact that this disease is present at all seasons by the recent sad death of Dr. H. P. Loomis' child. According to the statistics of the health department, there have been, on an average, in recent years about 7 deaths annually from hydrophobia. On the other hand, Dr. H. D. Gill, a veterinary surgeon, asserts that the dumb form of rabies is quite common among animals, and that unless it happens that a person has been bitten by an animal so affected the case does not come to the notice of the board of health laboratory. He finds that about a dozen cases of rabies were observed in the past year by each of several well-known veterinarians. Because of the rarity of the disease in the human being very few physicians have had an opportunity of becoming familiar with its symptomatology. To facilitate the detection of rabies in dogs Dr. Gill offers the following suggestions:

> Beware of a dog when it becomes dull and hides away; appears restless; always on the move and prowling; whose countenance is sombre and sullen; walks with head down like a bear. Beware of one who barks at nothing when all around is still. Beware of a dog that scrapes incessantly and tears up things. Look out for the dog which has become too fond of you and is continually trying to lick your hand and face. Beware above all of the dog which has difficulty in swallowing, which appears to have a bone in its throat, and one that has wandered from home and returns covered with dirt, exhausted and miserable.

It is generally agreed, says Dr. Gill, among physicians who have studied the subject, that the disease is readily controlled by the enforcement of a muzzling ordinance, but unfortunately the control of dogs in New York City is in the hands of the Society for the Prevention of Cruelty to Animals, whose president declares that, in his large experience of thirty years, he has not seen a single case of rabies, and that muzzling a dog makes him sick and cross and much more likely to bite.

American Medical Temperance Association.—The twelfth annual meeting of this association will be held in New Orleans, May 6 and 7, 1903, each session beginning at 9 a. m. An address will be given by the honorary president, Dr. N. S. Davis, Chicago, and the annual address by the president, Dr. Winfield S. Hall, Chicago. Papers will be read by Dr. H. O. Marcy, Boston; H. D. Didama, Syracuse, N. Y.; J. W. Grosvenor, Buffalo, N. Y.; T. D. Crothers, Hartford, Conn.; T. A. MacNichol, New York; C. E. Stewart, Battle Creek, Mich.; John Madden, Milwaukee, Wis.; D. S. Reynolds, Louisville, Ky., and others. This association was organized in Washington, May 7, 1891, and holds its annual meeting at the same time and place as the American Medical Association The following extract from the constitution of the Association will indicate its plan and purposes:

> The object of this association is to encourage and promote the clinical, therapeutic, pharmacologic, and chemical study of alcohol in health and disease. It also aims to gather, compile, and make available the studies and experiences of medical men in all parts of the country concerning the use of alcohol and to formulate such definite facts as can be utilized and made available in the practice of medicine. It is assumed that all physicians interested in the study of alcohol should approach it from the scientific side alone, unbiased by any personal considerations of custom or habit, and with no object other than to ascertain the facts concerning this question irrespective of all possible conclusions. This is the spirit and purpose of the association, and it is entirely independent of any other object except the purely scientific question of the nature and character of alcohol.

All regular practitioners of medicine may become members by making application to the secretary. It will be evident to every one that the field of this association is rapidly widening and the demand for studies in this direction is constantly increasing. A very cordial invitation is extended to all persons interested in this subject to unite with this organization and lift the whole subject out of the plane of quackery into the atmosphere of clear science. All communications addressed to the secretary, T. D. Crothers, M.D., Hartford, Conn., will receive prompt attention.

CLIPPINGS FROM LAY EXCHANGES.

Easter Lays.

MASSAGERY IS GOOD.

"Dr. —— has removed her massagery and beautifying business to Chicago, where a wider field awaits her."—"Monroe (Wis.) Sentinel."

WANTED—A DOCTOR TO BURY.

"We are hoping a lively hustling 'Doc.' will settle in our township. Our much lamented citizen Doc —— was buried over a year ago and we think it a good place for one."—Tylersville Topics, "Oneida (N Y.) Despatch."

GASTRIC VISCERA RUPTURED.

"August —— was kicked in the abdomen by a horse on Tuesday and is in grave danger of losing his life. . . . A severe rupture of the internal organs of the stomach is feared and an operation will be necessary."—"Denver Times."

WHY NOT RIDE?

"Dr. ——, we understand, has been made a member of the International Medical Congress, which meets in Madrid, Spain, in April. The doctor says he will be unable to go, on account of the bad condition of the roads."—"Tell City (Ind.) Journal," March 18, 1903.

PIE BACTERIOLOGY.

"Dr. Klein is an expert on the Government Medical Board. After investigating pies on behalf of the Government he reports: 'All contained the spores of anaerobic non-pathagenic bacillus balyricus, the spores of bacillus mesentericus vulgatus and slaphylococcus albus of at least two different kinds.'"—"Wilmington (Del.) Republican."

IMPORTED FÆCES, ET AL.

The program of the twenty-eighth semi-annual meeting of the District Medical Society of Central Illinois, as published in the "Jacksonville (Ill.) Courier," Oct. 30, 1902, contains the following interesting titles of papers: "Esfilogg of Typhoid Fever; Saconea; Serrectory Neuroses of the Stomach; Prostateeromy; Leukemia and Pesendo Lukemia; Imported Fæces; Theuterine Curelte; Notes from New York Roby Clinic."

COMPLETE GASTRO-ENTERECTOMY.

In a report of a gunshot-wound case, the "Norfolk (Va.) Despatch" thus describes the operation. . . . "The stomach and bowels were taken completely out of the negro, all of the food was taken from the stomach and the perferaations in it dressed. The stomach was then put back in the body and the incission through which it was taken out stitched up, leaving a short opening through which the wound might be allowed to bleed."

FOREIGN BODIES IN THE LEGS.

The following advertisement appeared in the "Westminster Gazette," last September: "An aged Gentleman (widower, no children) will be requiring soon an experienced Pensioned Army or Navy Valet. His health is perfectly good, but he has been severely injured by the upsetting of an express train in his legs. He wishes help when he gets out of his bath, and dresses, and also in undressing at night. Any applicant must be a member of the Church of England, and state whether married or single.—Apply, &c."

PULMONARY JERKS.

"Shot Through Air with Bullet's Speed—Man's Lungs Were Jerked From Their Fastenings—Pneumonia Developed in Few Hours—Victim Lives. The condition of —— who fell from . . . railway train . . . presents an interesting study. . . . The young man was injured internally and in an extremely unusual way. His lungs were literally torn from their fastenings, besides other injuries received. . . . His frontal bone was fractured. . . . In addition . . . his inner organism was badly shocked, particularly his lungs."—"Atlanta (Ga.) Journal."

NATIONAL MEDICINE AND FOOD BUREAU.

Proposed to Secure Pure and Honest Drugs, Chemicals and Foodstuffs.

The following statement in regard to the proposed National Bureau of Medicines and Foods has been sent us by those who have been giving the matter thought: The subject will be brought before the House of Delegates of the American Medical Association at New Orleans by a provisional committee appointed for the purpose of enquiring into the subject. The committee consists of Drs. E. Eliot Harris, New York; Solomon Solis Cohen, Philadelphia; N. S. Davis, Jr., Chicago; H. Bert Ellis, Los Angeles, and Philip Mills Jones, San Francisco.

The idea of establishing a board of qualified experts who should represent the interests and the support of the professions of medicine and pharmacy, and through the medium of such a board secure: 1. More general conformity to the standards of the pharmocopeia; 2, drugs, chemicals and foodstuffs that will be actually as labeled and can be relied on; and 3, deal in a proper professional and ethical manner with the large and ever-increasing number of proprietary preparations and mixtures that are being presented to the medical profession, was first suggested by Dr. F. E. Stewart at the meeting of the American Medical Association in 1881.

This idea has been elaborated and plans have been formulated which it is thought will secure the objects desired. These plans have been approved by a number of representative manufacturers, physicians and pharmacists, and it is evident that if the professional interests and the people of this country (and especially the members of the American Medical and the American Pharmaceutical Associations) really desire relief from the present unfortunate and distressing condition of materia medica and pharmacy, and of adulterated and dishonest foodstuffs, such relief is at hand.

Primarily, this plan contemplates the voluntary association of honest manufacturers and pharmacists who will agree with the board of experts representing pharmacy and medicine, on standards of identity, purity, quality and strength, to which their products shall comply, and will further agree to carry out these standards and to comply with the necessary rules governing manufacture, etc.

Organization for the purposes indicated will be begun by the formation of a corporation on the membership plan—no stock issued and not for profit—under the name of the National Bureau of Medicines and Foods, and all the members of the American Medical and the American Pharmaceutical Associations are made members of this bureau. It is proposed that the board of directors governing this bureau be elected by these two associations, each having five directors, one from each association retiring annually and a successor elected for five years.

In order to indicate to the physician, the pharmacist or the purchaser such articles as comply with the standards of identity, purity, quality and strength, and may, in consequence, be relied on to conform truthfully with the labels affixed, and also to reward the honest manufacturer and pharmacist for his honesty and aid him in competition with dishonest or impure products, those manufacturers and pharmacists who affiliate with the bureau in this work will be authorized to print on the label of such of their products as are placed under the supervision of this bureau a certificate of identity, purity, quality and strength, of a form to be indicated by the board or directors.

All possible precautions in the way of frequent inspection, analysis or assay will be taken by the bureau in order to keep certified products up to the standard and to protect the bureau certificate from fraud. In addition to the original analysis of each "batch," every article bearing the bureau certificate will be purchased in open market from time to time and submitted to analysis, assay or comparison with standard samples.

The bureau will also gather and diffuse reliable information relative to materia medica products, chemicals and foodstuffs and to those who manufacture or deal in the same, and it is believed that in a comparatively short time such information will replace and do away with the one-sided and unreliable trade literature, which is at present, in many instances, the only available source of information.

The work of the bureau will be purely commendatory and not in any way condemnatory, so that it can in no event become an agent of blackmail.

As the bureau is not a commercial enterprise, is not organized for profit nor for money making, only the actual expense of doing the work required will have to be defrayed. It is proposed to assess this actual cost on the various manufacturers and producers whose goods are certified by the bureau, each in proportion to the amount and value of the goods so certified. This feature of the plan has been considered satisfactory by those who have signified a willingness to affiliate with the bureau.

In addition to the two associations already mentioned, any scientific society that may vote to affiliate with the bureau may do so, and its members then become members of the bureau; and, further, any person who so desires or who is willing to signify his approval of the aims and objects of the bureau, may become a member on the payment of $1 per year.

CERTIFICATE OF INCORPORATION.

We, the undersigned, all being persons of full age, and at least two-thirds being citizens of the United States, and at least one of us a resident of the State of New York, desiring to form a corporation, pursuant to the provisions of the Membership Corporations Law of the State of New York, do hereby make, acknowledge and file this certificate for that purpose, as follows:

First. The particular object for which this corporation is to be created is: To determine on and fix standards of identity, purity,

quality and strength and to secure adherence to prescribed formulas of all drugs, chemicals, foodstuffs, and of all articles intended for use in the arts and sciences or for human consumption; to diffuse accurate and reliable information as to such articles, preparations or products and as to those making or dealing in the same; to procure uniformity and certainty in the customs, usages and methods of manufacture of those engaged in the foregoing or allied trades; to supervise the manufacture, preparation or production and distribution by its members of all commodities, articles or preparations mentioned, and, on sufficient evidence that the standards of identity, purity, quality and strength, as well as adherence to prescribed formulas have been maintained, and that all requirements for manufacture, preparation or production, as set forth in the by-laws, rules or regulations made and provided have been complied with by the member manufacturing, preparing, producing or distributing such commodities, articles or preparations, to issue to such member a certificate of identity, purity, quality or strength and compliance with prescribed formulas, which certificate shall be of the form and nature and shall be used in the manner set forth in the by-laws, rules or regulations for that purpose made and provided; provided, however, that no medicinal preparation shall be so certified unless the formula, couched in the ordinary terms of chemistry and pharmacy, and giving the qualities of the active ingredients, shall have been or shall be published; to settle differences between its members, and to promote a more friendly intercourse between business men and between its members; to aid, stimulate and encourage research, investigation and study that will tend to enlarge, improve or increase and diffuse knowledge and information of materia medica, chemistry, pharmacy, pharmacology, pharmacognosis, pharmacodynamics, therapeutics and all arts and sciences allied thereto.

Second. The name of the proposed corporation is the "National Bureau of Medicines and Foods."

Third. Its principal office is to be situated in the City of New York.

Fourth. The number of its directors shall be ten.

Fifth. The names and places of residence of those persons to be its directors until its first annual meeting are as follows:

Sixth. The annual meeting shall be held on the ————.

Book Notices.

The Proceedings of the Charaka Club. Volume I. 8vo. Pp. 97. Price, $3.50 net. Printed for the Club by William R. Jenkins. New York: William Wood & Co. 1902. Limited Edition.

One of the most select clubs of which we have read was the X Club founded in 1864 and which existed for twenty-nine years. It consisted of Huxley, who was responsible for its creation; George Burk, secretary of the Linnear Society, and at one time president of the Royal College of Surgeons; Edward Frankland, the chemist; Hirst, the mathematician; J. D. Hooker, the great botanist; Sir John Lubbock, William Spottiswood, Herbert Spencer and John Tyndall.

These nine at one time tried to elect a tenth member, but failed, hence probably it was called the X Club. Huxley called it a scientific caucus or ring, but that it had no raison d'être beyond the personal attachment of its original members.

The Charaka Club goes the X Club one better, as far as the number of members is concerned, for it has ten. They are Drs. Pearce Bailey, John S. Billings, John Winters Brannan, Joseph Collins, L. Dana, Arpad G. Gerster, Ward A. Holden, Frederick Peterson, B. Sachs and George F. Shrady, with one lonesome honorary member, William Osler. The raison d'être is "a number of medical men of this city who were interested in the literary, artistic and historic aspects of medicine, and who hoped to find some recreation, if not profit, in dealing with this, the less serious, side of their art," concluded to be a club. We are not told that one of the objects is the publication of books, but its first venture in this line is before us, and it is something of which its members may be proud, not alone for its value from the literary viewpoint; but for its uniqueness and for its typographic make-up.

The first article is on Hindoo Medicine. In this Dr. Sachs tells us about the medicine of the Hindoos, and presents a very interesting, although brief, account of our professional Indian brethren of long ago. The club was named after one of the Hindoo medical writers, Charaka, whose work is still extant and from which Sachs quotes freely. Three poems by Peterson follow, one on "Heredity," one on "Environment," and one on "Solitude." A. G. Gerster writes "On the Hippocratic Doctrine of the Injuries of the Cranium." Dr. Dana tells us about Æsculapius, giving a biographic sketch, as it were, "correctly as anything not the least true can be correct." This article is accompanied with fifteen full-page plates illustrating the statues, etc., of the God of Medicine, together with a double-page plate showing "The Hieron, or Sacred Grove," and two half-page plates of the Temple of Æsculapius at Epidauros. Dr. Dana also writes very entertainingly of "The Evil Spoken of Physicians," and makes some happy quotations. He thinks that our profession is not deserving or receiving as many gibes as has been the case in the past.

Dr. Collins makes two contributions: one about a man who was in love with his typewriter, and didn't know it. He wanted Collins to hypnotize her, and although he, Collins, cruelly refused to do so, nevertheless charged him for doing it. The other contribution is also a story of love, but not a love story, and bears the title "A Contribution to Ethics."

"The Ophthalmology of the Greeks," by Dr. W. A. Holden closes.

The book is issued in a limited edition, of which only 257 copies are for sale.

Twentieth Century Practices. An International Encyclopedia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. Volume XXI. Supplement. Cloth. Pp. 845. Price, $5.00. New York: Wm. Wood & Co. 1903.

While only two years have elapsed since the completion of this series the advances have been sufficiently marked in many branches in medicine as to justify already a supplementary volume. In this one the articles have been prepared by men of first-class standing, Europe as well as America being liberally drawn on. As instances of this we may note Carl Beck on the Roentgen ray, Reginald Harrison on kidney disorders, Lydston on prostatic and urethral diseases, von Noorden on diabetes, Allen on skin diseases, Einhorn on diseases of the stomach, Vaughan on ptomains, toxins, etc., Sternberg on yellow fever, Shiga on bacillus dysentery, Babes on tetanus, etc., etc. Everyone who possesses the original series will want this volume as a compendium of the best data that have been accumulated since the beginning of its appearance and those who have not, will find it, in the main, an excellent statement of the progress of medicine during the past few years. One or two of the articles are almost too brief to be satisfactory, as that of Blandford on insanity, which touches only on the question of the autotoxic theory of Ford Robertson. There has been more progress even in this much abused subject that might have been noticed. The work is beautifully gotten up and elegantly illustrated.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume V. Illustrated by Chromolithographs and 576 Half-tone and Wood Engravings. Cloth. Pp. 873. Price, $7.00. New York: Wm. Wood & Co. 1902.

This fifth volume of the new edition of Wood's Handbook is one of the best that has appeared. Besides a series of articles on subjects which form in themselves a very valuable composite text-book, it contains many other valuable monographs, such as that on the larynx by Makuen, on the liver by Musser, on the lymphatic system by Gage, on milk by Kober, and a vast number of others equally worthy of notice, but which, from their very number, prevent specification.

Association News.

ENTERTAINMENTS AT NEW ORLEANS.

Provisional List of Events Arranged by the Entertainment Committee.

From the "New Orleans Picayune" of April 1 we clip the following paragraphs:

Tuesday, May 5, in the evening, there will be a reception at the Palm Garden of the St. Charles Hotel which will cost about $1,000, exclusive of the music. The object is that the visiting physicians and ladies shall become acquainted with New Orleans people and that the ladies of the city shall assist in receiving. The reception will last from 5 to 7.

On Wednesday two large private receptions will be given, one an afternoon tea and one at night. On Thursday there will be a grand fête champêtre at the City Park, with music and refreshments, and on Friday there will be a boat ride on the river at which about 2,000 people will be entertained, and the ride will end at 6 p. m. and finish the social features of the convention.

There will be at the fête champêtre brilliant illuminations. Skiffs will be lighted with gay lanterns and flit about among the lakes, and the night will be made gaudy with color and pleasure.

Three or four physicians have promised receptions for various sections of the convention.

A trip to Cuba and fishing trips are contemplated.

Mrs. Samuel Delgado has been made chairman of a ladies' committee, and sixty or seventy-five ladies have been asked to serve on

the committee, which will undertake the general charge of the ladies who come with the physicians, at times when they are not at any entertainment given by the Entertainment Committee, and they will supervise entertainments, sightseeing, etc., in the mornings. Notices have been sent to these ladies, and as soon as a sufficient number of answers is received the committee will be called together to discuss plans.

It was reported that Dr. Rudolph Matas will have charge of a smoker for the Section on Surgery at the West End Hotel on Tuesday night. Dr. Dyer will have charge of the reception for the Section on Dermatology, and Dr. De Roaldes for the Section on Laryngology, and Dr. Henry Dickson Bruns that of the Section on Ophthalmology.

Dr. J. D. Bloom intends giving a yacht ride to special guests.

It was decided that all the smokers for the sections be referred to the Chairman, who will refer them to the physicians who will have charge, thus relieving the Banquet Committee, which will have charge of the arrangements of all banquets which sections or organizations desire to give.

Excursions.

The excursions, which are always such an enjoyable feature of the meeting, are briefly mentioned on page 1047 of this issue. Especial attention is called to the trip to San Antonio, because that city was a candidate last year for the privilege of entertaining the Association in 1903. Doubtless many will wish to take this trip through the oil and rice fields of Louisiana and Texas to the historic, quaint and beautiful city of San Antonio.

REGISTRATION OF MEMBERS.

The registration of members at the annual session is always a simple matter, to those who understand what is required.

Those registering come under one of three classes, 1, those who have already paid the annual dues for the current year; 2, those who have not paid the dues, and 3, those who join the Association at the session.

1. Those who have paid for the current year—and these have the least trouble—have been supplied with a small pocket card to take to the session, which is also a pocket certificate. To register one will fill out a registration card, found at the place of registration, and present this with his pocket card at the indicated window, where he will receive his badges, etc.

2. Those who have not paid their dues will fill out card as above and present it, with the annual dues, at the "Cash" window and receive their badges, etc. (Those who are behind in their dues must pay the back dues as well as those for the current year.)

3. Any one desiring to join the Association must have a certificate showing that the applicant is a member in good standing of an affiliated association in the state in which he resides. He will also fill out the registration card and present it, with his certificate and five dollars, at the window marked "New Members."

RAILROAD RATES.

SUMMARY OF THE TRANSPORTATION ARRANGEMENTS FROM ALL POINTS OF THE COUNTRY.

A résumé of the announcements that have been made from time to time in THE JOURNAL concerning transportation to New Orleans will show the following facts for the guidance of those who will attend the session: One fare for the round trip has been granted by the South Eastern, South Western and Central Passenger Associations, and also by roads covering a portion of the Western Passenger Association. This territory comprises Louisiana, Texas, Oklahoma, Indian Territory, Arkansas, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, Tennessee, Virginia, Kentucky, Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, and a portion of West Virginia, S. Dakota and Kansas.

From all western states not mentioned above, the regular summer excursion arrangements will prevail. From the eastern and New England states not mentioned, those who attend the session will have to pay a fare and a third rate in New England and the regular excursion rates through New York and Pennsylvania. This will take them to Washington or to Pittsburg or to Charleston, W. Va., or to such other point at which they will enter the Central or South Eastern Passenger Association territory. From these points on to New Orleans, half fare for the round trip will be the rate

As a further guide to indicate the railroad expenses, we give the following rates for the round trip from some principal cities of the United States:

Austin, Tex.	$17.80	St. Augustine, Fla.	$20.60
El Paso	31.90	Cincinnati	21.00
St. Paul	34.00	New York City	37.50
Minneapolis	34.00	Philadelphia	33.50
Chicago	23.00	Pittsburg	29 35
Omaha	29.50	Indianapolis	22.25
St. Louis	18.00	Nashville, Tenn.	16.75
Des Moines	27.85	Cleveland	28.25
Sioux Falls, S. D.	34.84	Baltimore	29.50
Buffalo	31.85	Washington	27.50
Boston	42.15	Louisville	19.00
Richmond, Va.	26.50	Evansville, Ind.	17.75

Extension of Limit of Ticket.

The regulations governing the round-trip-for-one-fare rate are as follows:

RATE.—One lowest regular first-class tariff (not temporarily reduced) fare to New Orleans and return.

DATES OF SALE.—Tickets to be sold on May 1-4, inclusive.

LIMIT OF TICKET.—Tickets to bear final limit of ten days from date of sale, except that by depositing tickets with joint agent not later than May 12, 1903, and on payment of fee of fifty cents at time of deposit, final limit may be extended up to and including May 30, 1903. Tickets to be limited for continuous passage in each direction, going trip to commence date of sale and return trip date of execution.

FORM OF TICKET.—Ironclad signature form of ticket to be used, providing for punch description of passenger going and return transit limits and execution by agent limit by depositing tickets with joint agent and payment of terminal line at New Orleans, also for extension of fee of fifty cents at time of deposit. Exchange orders must also require execution at New Orleans.

JOINT AGENCY.—The joint agency for deposit and extension of tickets will be located in Room 204, No. 204 Camp Street. The agency will be open from 8.00 a. m. to 8.00 p. m., and will be conducted in the name of Joseph Richardson, special agent. Tickets must be deposited personally by original purchaser. Tickets will be extended by means of an extension paster printed of perfect safety paper of the American Association of General Passenger and Ticket Agents, the signature of special agent, Mr. Richardson, being affixed by means of facsimile embossing stamp.

CONNECTING LINES.—The above rate and arrangement to be tendered to connecting lines for basing purposes. The sale of tickets or exchange orders to be so regulated as to require presentation at our gateways on the dates of sale authorized therefrom.

SPECIAL TRAINS.

LIST OF SPECIAL TRAINS FROM VARIOUS POINTS TO NEW ORLEANS.

CHICAGO.—The Chicago Medical Society is making arrangements with the Illinois Central to run a special train to New Orleans. The time of departure is expected to be about 12 o'clock noon, Sunday, May 3. The train will be a fully equipped and most comfortable one. Exact announcement will be made later. Those who find Chicago on their route to the session are invited to join this party. The train will also take on members from points along the line at which the train stops.

NEW YORK AND PHILADELPHIA.—A special train over the Southern Railway will leave New York City Saturday, May 2, at 4:25 p. m. and Philadelphia at 6:55 p. m. going to New Orleans, via Washington, Atlanta and Montgomery. The train will be composed exclusively of Pullman, dining, drawing room, sleeping, library and observation cars. Those desiring Pullman reservation should send in their names as soon as possible to Dr. F. H. Wiggin, 55 W. Thirty-sixth Street, New York City, or to agents of the Southern Railway.

Another train is planned over the New York and New Orleans Short Line. If enough do not reserve accommodation to warrant a special train, special cars will be used on a regular train, since many members have reserved berths. The majority of these will leave New York 3:25 p. m., Philadelphia 6:05 p. m. and Washington 10:01 p. m., May 2. The route is via Wash-

ington, Lynchburg, and Chattanooga. Further details and reservation of berths may be had from Eastern Passenger Agent L. J. Ellis, 398 Broadway, New York.

St. Louis.—A special train will leave St. Louis via the Illinois Central, Sunday, May 3, at 2:44 p. m. This train will be made up of sections from Chicago, Omaha, Des Moines and perhaps other points and will consist of Pullman palace cars, diners and the other equipments of comfortable travel. Further information and reservation of berths from St. Louis may be obtained from C. C. McCarty, 308 N. Broadway, St. Louis.

Omaha.—The delegation from Omaha may obtain further information from Dr. W. H. Brill, Omaha.

St. Joseph.—Those desiring to join the party from St. Joseph or vicinity should write Dr. Chas. Wood Fassett, St. Joseph, Mo.

Des Moines.—Arrangements, as mentioned above, have been made for the Iowa contingent to travel together over the Wabash, leaving Des Moines Saturday evening, May 2, arriving in St. Louis Sunday morning, where they will join the other delegations and spend the morning in St. Louis. Further details may be had of Dr. J. W. Cokenower, Des Moines.

Indianapolis.—The Hoosier special via the Big Four and Illinois Central railways will leave Indianapolis for New Orleans, by way of St. Louis, at 3:25 p. m., Sunday, May 3. This train will arrive at New Orleans early next morning. Requests for reservations of berths may be sent to Dr. J. F. Barnhill, 144 N. Penn Avenue, Indianapolis. A large delegation from Indianapolis is already made up.

Detroit.—A special train or else special cars on a regular train will run from Detroit to Cincinnati, where it will connect with the Q. and C. train mentioned in the next paragraph. Information may be had from Dr. A. P. Biddle, Detroit.

Cincinnati.—The Queen and Crescent Route will carry a special party from Cincinnati to New Orleans. We have been sent no details of the Detroit and Cincinnati excursions.

Kansas City.—A party is being made up of physicians from Kansas City, perhaps including Omaha, Lincoln, Sioux City and St Joseph physicians, who will have special cars attached to the Southeastern Limited of the 'Frisco system, leaving Kansas City Sunday, May 3, 6:30 p. m., via Memphis, 8 a. m. Monday, arriving in New Orleans Monday, May 4, at 7:40 p. m. Berths should be reserved early. Address Dr. J. V. Greene, 317 Rialto building, Kansas City, or reserve through agents of the 'Frisco System. The Omaha passenger agent is W. C. Melville, 205 S. 14th Street, Omaha. This route gives a daylight trip from Memphis to New Orleans.

Louisville—Special Pullman service has been arranged to New Orleans, via the Illinois Central Railroad from Louisville, Ky., and vicinity. Special arrangements have been made for connections between parties from Cincinnati, Evansville and Indianapolis (via the Big Four route), and the party from Louisville at Fulton, from thence proceeding as one train on the Illinois Central. The special party will leave Louisville at 12:55 p. m., May 4, arriving in New Orleans at 11 o'clock the next morning, but those who desire to reach New Orleans at an earlier date may do so, tickets being on sale from the last day of April at the reduced fare of one fare for the round trip. The advantages of making the trip in company with a congenial party are obvious, and it is hoped the delegates and members will join this party. Sleeper reservations can be made by addressing Dr. Henry Enos Tuley, 111 W. Kentucky Street, Louisville, Ky.



The New St. Charles Hotel.

WATER ROUTES TO NEW ORLEANS.

Atlantic Ocean Trip Details—No Mississippi River Arrangement.

The Southern Pacific line of passenger steamers (5,000 tonnage) between New York and New Orleans has made the rate of $50 round trip or $60 to go one way by rail and one way by water. Tickets will be good for three months, and this rate will apply to ships leaving New York April 18 and 25. The time in transit by water is about five days. The rates include room and board. The dates of return from New Orleans are May 6 and 13 at 9 a. m., and every seven days thereafter. This will be an opportunity for members to go by rail May 1 to 4, attend the meeting, take a trip to San Antonio, Texas, or some

other point and then sail for New York May 13. Further particulars may be had of L. H. Nutting, 349 Broadway, New York.

Another route to New Orleans, part land and part water route, is from Boston to Norfolk, Va., by steamer and thence to New Orleans by the Seaboard Air Line. The return will be by the same route. This round trip may be made for $41.75, including meals and stateroom while on steamer. Particulars may be had of C. L. Longsdorf, 360 Washington street, Boston.

The Mississippi River route plan has not materialized. Dr. Otho F. Ball, St. Louis, investigated the matter and reports that the effort to form an excursion on the river had to be abandoned because there seemed to be no direct line of boats in operation. A party may go from some other point, however, if arrangements can be made. We have received a number of requests for information about this route. It is not too early for houseboat parties to float down the river. This method would prove a delightful method of recreation.

BAGGAGE AND HOTELS.

ANNOUNCEMENTS OF NEW ORLEANS BUREAU OF INFORMATION AND OF HOTEL COMMITTEE.

For the convenience of those in attendance at the New Orleans Session the Bureau of Information has arranged with the Parcel Delivery and Express Company to handle baggage. Messengers of this company will be on special trains, but not on regular trains entering New Orleans. Members and others who arrive on the regular trains may, if they wish, keep their checks until their arrival at the Bureau of Information, Washington Artillery Hall, and have their baggage transfer orders made from that point. This company will charge 25 cents for each piece delivered anywhere in the city. The charge of the other principal companies of the city is 50 and 75 cents per piece.

Employment Bureau.

The Bureau of Information's arrangement with New Orleans-Crescent Information and Employment Bureau places the resources of that organization at the service of visitors to New Orleans. Trained clerks, stenographers, bookkeepers and office assistants of every description, they say, will be furnished, baggage insured, river excursions arranged, information given as to Louisiana or other resorts, hotels, etc., and accommodations reserved thereat. We suggest that those desiring stenographers, etc., by having the same engaged in advance, will secure the best service.

Hotels and Boarding Houses.

All the rooms at the St. Charles Hotel have been reserved already. The Committee on Hotels has 5,000 rooms available in other hotels and boarding houses. They recommend that those who wish accommodations write for them in advance, addressing Dr. E. D. Martin, 810 Common street, New Orleans, and stating what sort of accommodations are desired, whether with meals or bath, how far from the meeting places, etc.

SECTION BANQUETS.

ELABORATE PLANS.—ANNOUNCEMENTS.—MENTION OF MISCELLANEOUS MATTERS.

The Section on Diseases of Children will have no Section banquet at New Orleans.

Five or more stereopticons have been provided for the use of different Sections at New Orleans.

The Section on Cutaneous Medicine and Surgery will have a smoker in lieu of a banquet Tuesday, May 5, 1903.

The Fête Champêtre in the City Park, with the elaborate decorations and illuminations and music, will be a grand event.

The National Conference of State Medical Examiners and Licensing Boards will meet on the morning of May 4, at 9:30.

The officers of the Section on Ophthalmology announce a fine program of toasts at their Section banquet, Tuesday evening.

The courtesy of Messrs. Hansell, Tennisson and Belloeq and Dr. J. A. Storck in furnishing some of the illustrations of New Orleans and vicinity is acknowledged.

Special attention is being given by the New Orleans committee to the matter of a river excursion. Other smaller excursions on Lake Ponchartrain have been arranged.

Dr. F. H Wiggin, Secretary of the Judicial Council, desires us to announce that the Council will hold a meeting immediately after the adjournment of the first general meeting on Tuesday morning.

Unusual interest is being taken in special trains and in the arranging of parties to make the trip together. This is a delightful feature of each annual session, and members are this year planning to make the most of it.

The courtesies of the Boston Club and the Chess, Checkers and Whist Club have been extended to visiting members of the American Medical Association while in New Orleans. Membership badges will be all that is necessary to obtain admission.

The Section on Obstetrics and Diseases of Women will have a banquet Tuesday evening, to which members of the Association are invited. Plates will be $3. Those desiring to attend the banquet should notify the secretary, Dr. C. S. Bonifield, Cincinnati, as soon as convenient.

Prof. W. Uhthoff of Breslau, Germany, whose writings and work in ophthalmology are well known throughout the world, will be the guest of the Section on Ophthalmology. He is to take part in the work of the Section, and is expected to deliver a short address at the Section banquet.

The dedication of the Louisiana Purchase Exposition at St. Louis by President Roosevelt, April 30 to May 2, is conveniently on the path of many who go to New Orleans and affords an excuse for making St. Louis a rendezvous, from which the special trains should be well filled and a pleasant trip result.

The members of the Committee on Scientific Exhibit are making great efforts to have a creditable exhibit at this session. They announce that some features of the exhibit will be of especial interest and value to the general practitioner, while the specialists are taking much interest in their representations as well.

The officers of the Section on Laryngology and Otology desire that an announcement be made that anyone having anything to exhibit of special interest to laryngologists or to otologists, especially new instruments or apparatus, should communicate at once with the chairman, Dr. George L. Richards, Fall River, Mass., or with the secretary, Dr. J. F. Barnhill, Indianapolis.

The Chairman of the Section on Surgery announces his expectation of a very large attendance. Mikulicz of Breslau will be present and take part in the scientific work. Professor Krause of Berlin has been invited, but on last report it was feared he could not be present, owing to illness in his family, although it is probable that he may attend. Professor Moynihan of Leeds, England, is expected, but no final answer has at this time been received.

SCIENTIFIC EXHIBIT.

THE EXHIBIT OF PATHOLOGIC, PHYSIOLOGIC AND OTHER SPECIMENS AND APPARATUS.

The unavoidable delay incident to the organization of the Committee on Scientific Exhibit has been a serious drawback to the prosecution of the work. Many of those who contributed previously find it impossible this year owing to the limited time remaining. Remoteness of the place of meeting from sources of abundant material has also been urged as an excuse for not participating. There is, however, more than a saving remnant of those, recognizing the great practical value of the work, who are determined that the future of the movement shall not be jeopardized by any lapse at New Orleans. Such have come nobly to the rescue.

Although in the totals presented the showing may not equal that of the two previous meetings, the exhibit will be particularly interesting and instructive, because certain phases of pathology will be fully illuminated. An especial effort will be made to illustrate tropical diseases by means of gross anatomic as well as microscopic demonstrations. This will give to our southern colleagues an opportunity not so well afforded in the north. Such specialization is a natural evolution in the further conduct of the exhibit. Its scope and character will vary from year to year according to the place of meeting and the topics prominently considered in the sections. The committee has made strenuous endeavor to correlate the work of the exhibit with that of the Sections. Some of the officers have entered heartily into co-operation, with the result that we have been assured very complete groups of specimens illustrative of intestinal parasites, bacillary and amebic dysentery, malaria, yellow fever, surgical diseases of the kidney, ectopic pregnancy, fibroid tumors and other topics scheduled on the program.

It is hoped to have these groups demonstrated at stated hours indicated on the published program. In this way the exhibit will become educationally more efficient. The membership of the organization will thus be brought to realize that the exhibit belongs to the whole Association, and that it is not, as many are prone to suppose, merely an adjunct of the Section on Pathology and Physiology.

The local Committee of Arrangements has provided an ample hall for the exhibit, advantageously located and well lighted, in Washington Artillery Hall. Those who contemplate taking exhibits but have not yet made known the fact, should communicate at once with the chairman or nearest member of the committee.

Frank B. Wynn, Indianapolis, chairman; E. R. LeCount, Chicago; Harry T. Marshall, Baltimore; O. L. Pothier, New Orleans; Willard Bartlett, St. Louis, committee.

ASSOCIATION COMMITTEES.

The following list of committees and sub-committees and their officers and members is given here as of interest:

Committee on Award of Association Medal.—Lewis S. McMurtry, Louisville, Ky.; Burnside Foster, St. Paul; M. H. Fussell, Philadelphia.

Committee on Award of N. Senn Medal.—James H. Dunn, Minneapolis; M. L. Harris, Chicago; Floyd W. McRae, Atlanta, Ga.

Committee on Scientific Exhibit.—Frank B. Wynn, Indianapolis; E. R. LeCount, Chicago; Harry T. Marshall, Baltimore; O. L. Pothier, New Orleans; Willard Bartlett, St. Louis.

Committee on Scientific Research.—Alfred Stengel, Philadelphia; William Osler, Baltimore; L. Hektoen, Chicago.

Committee on Organization.—J. N. McCormack, Bowling Green; P. Maxwell Foshay, Cleveland, Ohio; George H. Simmons, Chicago.

Committee on Revision of Code of Ethics—E. Elliot Harris, New York; William H. Welch, Baltimore; T. J. Happel, Nashville, Tenn.; Nicholas Senn, Chicago, and Joseph D. Bryant, New York.

Committee on Reciprocity.—W. L. Rodman, Philadelphia; William H. Welch, Baltimore; Joseph M. Mathews, Louisville, Ky.; Henry Beates, Jr., Philadelphia, and T. J. Murray, Butte, Mont.

Committee on Public Health.—Charles O. Probst, Columbus, Ohio; J. N. Hurty, Indianapolis; W. H. Sanders, Mobile, Ala.; H. A. West, Galveston, Tex., and W. C. Gorgas, U. S. A.

Committee on Medical Education.—Arthur D. Bevan, Chicago; F. W. McRae, Atlanta, Ga.; Rudolph Matas, New Orleans; R. A. Marmion, U. S. N., and C. A. Daugherty, South Bend, Ind.

Committee on Prophylaxis of Syphilis.—Henry D. Holton, Brattleboro, Vt.; George M. Kober, Washington, D. C.; W. H. Sanders, Mobile, Ala.; Ludwig Weiss, New York, secretary; L. D. Bulkley, New York, and Louis E. Schmidt, Chicago.

Committee on Credentials and Registration.—George H. Simmons, Chicago; P. Maxwell Foshay, Cleveland, Ohio, and H. O. Walker, Detroit.

Notice to the Members of the House of Delegates.

The members of the House of Delegates are requested to meet in New Orleans, Monday, May 4, at 2 p. m. This meeting will be informal and no official business can be transacted.

Its purpose is to consider unofficially the business which must be transacted by the House of Delegates and to consider the result of the work of the several committees.

It is believed that this informal meeting on Monday will so fully acquaint the delegates of the work to be done that one meeting each morning will be sufficient to accomplish all the business of the Association. Thus the delegates will be free to attend the afternoon scientific work of the Sections.

FRANK BILLINGS, President.

PRELIMINARY PROGRAMS

Of the Sections of the American Medical Association, New Orleans Session, May 5-8, 1903.

The following lists of papers to be read in the various Sections are preliminary, and the order given is not necessarily to be followed in the official program. The official program will not be ready for distribution till the session.

Write to the secretary of the Section in reference to these programs, and not to THE JOURNAL.

Section on Practice of Medicine.

Chairman, W. S. Thayer, Baltimore; Secretary, James B. McElroy, Stovall, Miss.

Chairman's Address, W. S. Thayer, Baltimore.

The So-called Spotted Fever of the Rocky Mountains, Louis B. Wilson and William Chowning, Minneapolis.

Continued Fever—Neither Malarial nor Typhoid; A Clinical Study, T. J. Happel, Trenton, Tenn.

Typhoid Fever, with Especial Reference to Therapeutic Fasting, R. M. Harbin, Rome, Ga.

Abdominal Pain in Pleurisy and Pneumonia, James B. Herrick, Chicago.

Typhoid Fever at High Altitudes, with Résumé of 600 Cases, J. N. Hall, Denver.

The Diagnosis, Prognosis, and Treatment of Pneumonia, Edward F. Wells, Chicago.

The Boys' Venereal Peril, Ferd. C. Valentine, New York.

The Occurrence of Strongyloides Intestinalis in the United States, M. L. Price, Baltimore.

Uncinariasis in the United States, Allen J. Smith, Galveston, Texas.

Clinical Diagnosis of Intestinal Parasites, with Lantern Demonstration, Charles Wardell Stiles, Washington, D. C.

Treatment of Uncinariasis, Thomas A. Claytor, Washington, D. C.

A Contribution to the Study of Summer Diarrheas of Infancy, J. H. Mason Knox, Baltimore.

Malarial Dysentery, Wm. Britt Burns, Memphis, Tenn.

The Pathology and Clinical History of Amebic Dysentery, H. F. Harris, Atlanta, Ga.

A Study of the Cases of Amebic Dysentery Occurring at the Johns Hopkins Hospital, T. B. Futcher, Baltimore.

Treatment of Acute Dysentery, Jas. M. Anders, Philadelphia.

The Circulatory Element in Acute Disease and Its Treatment, L. F. Bishop, New York.

Sources and Methods of Infection of Typhoid Fever, William H. Welch, Baltimore.

Prophylaxis of Typhoid Fever, J. S. Fulton, Baltimore

Sources and Methods of Infection of Yellow Fever, James Carroll, U. S. A.

Prophylaxis of Yellow Fever, John Guiteras, Havana, Cuba.

Sources and Methods of Infection of Plague, W. S. Calvert, St. Louis.

Prophylaxis of Plague, Lewellys F. Barker, Chicago.

Arthritis Deformans, Thos. McCrae, Baltimore.

Diabetes Mellitus, Arthur R. Elliott, Chicago.

Heredity as an Etiologic Factor in the Production of Appendicitis, William H. DeWitt, Cincinnati.

Traumatic Pneumonia, William T. English, Pittsburg.

Historical Sketch of the So-called Consumption Cures, J. Edward Stubbert, New York.

Should the Tuberculous Patient Know His Condition? C. P. Ambler, Ashville, N. C.

Clinical Aspects of Tuberculous Peritonitis, Joseph Eichberg, Cincinnati.

Tuberculosis in the Negro, Seale Harris, Union Springs, Ala.

The Passing of Chronic Rheumatism, J. J. Walsh, New York.

Limitations of Non-Surgical Treatment in Obstruction of the Bowels, Joseph Rilus Eastman, Indianapolis.

Hemoglobinuric Fever: Its Etiology and Treatment, Walter Shropshire, Yoakum, Texas.

Southern Fevers, Wm. Krauss, Memphis, Tenn.

The Nature of Scurvy, Robert B. Preble, Chicago.

The Restorative Influence of Ozone on the Blood, G. Lenox Curtis, New York.

Section on Obstetrics and Diseases of Women.

Chairman, A Palmer Dudley, New York; Secretary, C. L. Bonifield, 432 W. 4th Street, Cincinnati.

Chairman's Address, A. Palmer Dudley.

The Advisability of Vaginal Explorative Puncture and and Celiotomy in Cases of Doubtful Diagnosis in Diseases of the Female Genital Organs, with a Report of Three Instructive Cases: (A) Round Cell Sarcoma of Ovary; (B) Infected Retrouterine Hematocele; (C) Pelvic Abscess and Pyosalpinx, C. O. Thienhaus, Milwaukee, Wis.

The Exclusive Use of Electrothermic Hemostasis in Abdominal Surgery, J. W. Keefe, Providence, R. I.

Non-Absorbent Gauze: The Proper Material for Tamponades for Hemorrhage, with Special Reference to Obstetrics, Rudolph W. Holmes, Chicago.

The Technic of Cataphoric Sterilization in Cancer of the Cervix Uteri, G. B. Massey, Philadelphia.

The Repair of Cystocele by Utilization of the Anatomically-Fixed Points in the Anterior Vaginal Wall, E. Reynolds, Boston.

Laceration of the Cervix; When Shall They Be Repaired? Daniel H. Craig, Boston.

A Further Report on Operations on the Uterosacral and Round Ligaments for Retroversion of the Uterus, J. Wesley Bovée, Washington, D. C.

Retroversion of the Uterus; A Clinical Study of the Symptoms, Complications and Treatment, L. H. Dunning, Indianapolis.

Pathologic Exhibit, one hour.

Gastric Ulcer: Some Clinical, Pathologic and Surgical Phases, A. H. Cordier, Kansas City, Mo.

Appendectomy from the Standpoint of the Gynecologist, H. P. Newman, Chicago.

Relation of Appendicitis to Pelvic Disease, F. H. Wiggin, New York.

A Consideration of the Various Methods of Hysterectomy for Myomata, Thos. B. Eastman, Indianapolis.

Sarcomatous Degeneration of Myomata, T. S. Cullen, Baltimore.

Calcification of Uterine Myoma; An Unusual Case, W. H. Humiston, Cleveland.

Ectopic Gestation: Inhibited Tubal Peristalsis a Cause; Report of a Case, with Remarks, O. G. Pfaff, Indianapolis.

The Vaginal Incision in Septic Cases of Abortion, Hunter Robb, Cleveland

Acute General Staphylococcus Infection Through the Puerperal Breast, W. P. Manton, Detroit.

Shall We Remove the Uterus When It Is Necessary to Remove Double Pus Tubes? C. C. Frederick, Buffalo.

Improved Technic of the Author's Operation for Suprapubic Colohysterectomy for Carcinoma of Cervix, X. O. Werder, Pittsburg.

Transplantation of the Ovaries, F. H. Martin, Chicago.

Typhoid Perforation, W. D. Haggard, Nashville.

Fixation of the Prolapsed Kidney, A. H. Goelet, New York.

Infected Gall Bladder Contents with or without Gallstones, E. W. Ricketts, Cincinnati.

A Combined Clinical and Experimental Study Concerning Peritoneal Saline Infusion, J. C. Clark, Sykesville, Md.

The Early Recognition of Impending Obstetric Accidents, J. B. De Lee, Chicago.

Operations on Diabetics, C. P. Noble, Philadelphia.

The Hygiene of Young Girls, J. H. Carstens, Detroit.

Section on Surgery and Anatomy.

Chairman, James E. Moore, Minneapolis; Secretary, John C. Munro, 173 Beacon Street, Boston.

Time limit of papers, 15 minutes; time limit of discussions, 5 minutes.

If an essayist is not present when his name is called his paper goes to the end of the session's program.

Each paper must be delivered to the secretary immediately after being read.

Sessions will commence promptly at 9:30 a. m. and 2 p. m.

Chairman's Address, James E. Moore, Minneapolis.

Suppression of Urine ;Report of a Case Enduring Five Days, Relieved by Decapsulation of the Kidneys, H. J. Whitacre, Cincinnati.

Fat Necrosis of the Kidney, J. R. Guthrie, Dubuque, Iowa.

Indications and Technic of Nephrectomy, Ramon Guiteras, New York.

The Surgical Treatment of Nephritis, A. H. Ferguson, Chicago.

Indications for Cholecystectomy, B. B. Davis, Omaha.

Cholecystectomy versus Cholecystorrhaphy and Cholecystostomy, F. D. Smythe, Memphis, Tenn.

The Call for Exploratory Operation in the Gall Bladder Region, F. A. Dunsmoor, Minneapolis.

A Contribution to the Surgery of Gastric Ulcer, Van Buren Knott, Sioux City, Iowa.

Surgical Conception of Pyloric Obstruction, H. D. Niles, Salt Lake City.

Surgical Treatment of Gastric Tetany and Gastroptosis, Robert F. Weir, New York.

The Single Cuff Method of Circular Enterorrhaphy: A New Method, O. Beverly Campbell, St. Joseph, Mo.

Intestinal Resection with Report of Fifteen Cases, Nine with the Button and Six with Suture, James H. Dunn, Minneapolis.

Osteomyelitis, Edward H. Nichols, Boston.

Multiple Osteomyelitis, John T. Bottomley, Boston.

The Physiologic Principles Underlying Operations on the Head and Neck, G. W. Crile, Cleveland, Ohio.

Treatment of Vascular Tumors by the Injection of Boiling Water, John A. Wyeth, New York.

Further Experience with the Vertical Overlapping Method for the Radical Cure of Umbilical Hernia, Wm. J. Mayo, Rochester, Minn.

Evolution of the Mammalian Straight Gut, with Special Reference to Peritoneal Changes Incident to Rotation: Illustrated by Dissections and Mechanical Devices, W. T. Eckley, Chicago.

The Value of Enterostomy in Selected Cases of Peritonitis, Fred B. Lund, Boston.

Clinical Observations in Stomach Surgery, A. J. Oschner, Chicago.

Post-Operative Treatment of Gangrenous Appendicitis, Ernest Laplace, Philadelphia.

Dangers Attendant on Attempt at Gaining the Period of Interval in Operation for Appendicitis, Richard H. Gibbons, Scranton, Pa.

The Treatment of Fractures as Indicated by the Roentgen Rays, Carl Beck, New York.

Sunshine and Fresh Air versus Roentgen and Finsen Rays in the Treatment of Tuberculosis of Bones and Joints, De Forest Willard, Philadelphia.

Epithelioma Under the *X*-Ray; A Preliminary Report of the Histologic Changes, J. Clark Stewart, Minneapolis.

Contributions to the Therapy of Surgical and Other Diseases with X-Rays, Rudolph Matas, New Orleans.

The Surgical Treatment of Ascites due to Cirrhosis of the Liver, M. L. Harris, Chicago.

Varix of the Inferior Mesenteric Vein Complicated by Chronic Ulcerative Colitis; Operation, John E Summers, Jr., Omaha.

Congenital Dislocation of the Radius, Charles A. Powers, Denver.

Acute Epiphysitis of the Head of the Femur, Causing a Condition Subsequently Simulating Congenital Misplacement, John P. Lord, Omaha.

Necessity for more Care in the Treatment of Skull Fractures, W. H. Earles, Milwaukee, Wis.

Epispadias: Report of a Case Treated by a Modification of Caulwell's Operation, James B. Bullitt, Louisville, Ky.

Diverticulum of the Esophagus, A. E. Halstead, Chicago.

Cicatricial Ankylosis of the Jaws; a Contribution to Its Operative Treatment, Rudolph Matas, New Orleans.

Further Contribution to the Surgery of Undescended Testicle, Arthur Dean Bevan, Chicago.

Surgery of the Urinary Tract in the Female, Experimental and Clinical, J. B. Murphy, Chicago.

Consideration of Mammary Cysts in the Early Diagnosis of Breast Tumors, Robert Abbe, New York.

Tuberculosis of the Mammary Gland, A. H. Levings, Milwaukee, Wis.

The Closure of Wounds, Miles F. Porter, Fort Wayne, Ind.

Operative Treatment of Exophthalmic Goiter, T. C. Witherspoon, St. Louis.

Subcutaneous Injections of Paraffin for Deformities of the Nose, F. G. Connell, Leadville, Colo.

Abscess of the Spleen, Walter M. Spear, Rockland, Me.

Stricture of the Esophagus Following Typhoid Fever, Illustrated by Three Cases, James E. Thompson, Galveston, Texas.

A Case of Gas Bacillus Infection, Joseph Ransohoff, Cincinnati.

Section on Hygiene and Sanitary Science.

Chairman, H. M. Bracken, Minneapolis; Secretary, G. T. Swarts, Providence, R. I.

Address of Chairman.

Co-operation Methods for Improving the Usefulness of Statistical Classification of Causes of Death, Cressy L. Wilbur, Lansing, Mich.

Relation of Physicians to Correct Registration of Vital Statistics, W. A. King, Washington, D. C.

Present Status of the Filtration of Water, George W. Fuller, New York.

Drainage, Sewerage and Water Supply of New Orleans, Geo. G. Earl, New Orleans.

Leprosy from a Sanitary Standpoint, Isadore Dyer, New Orleans.

Tent Life in the Treatment of Pulmonary Tuberculosis, R. W. Craig, Phoenix, Ariz.

Where Under Our Form of Government Do Public Health Powers Reside and How Should They Be Exercised? W. H. Saunders, Montgomery, Ala.

The Future of Preventive Medicine, H. A. Moody, Mobile, Ala.

Thursday Morning and Afternoon, Joins Session with the Section on Practice of Medicine.

Discussion of the Manner of Infection and Prophylaxis of Typhoid Fever:

On the Source and Manner of Typhoid Fever, Wm. H. Welch, Baltimore.

Prophylaxis, John S. Fulton, Baltimore.

Discussion, John H. Musser, Philadelphia.

Discussion on the Manner of Infection and Prophylaxis of Yellow Fever:

Sources and Manner of Infection, James Carroll, U. S. A.

Prophylaxis, John Guiteras, Havana, Cuba.

Discussion, Stanford E. Chaille, New Orleans.

Discussion on the Manner of Infection and Prophylaxis of Plague:

Sources and Manner of Infection, W. J. Calvert, St. Louis.

Prophylaxis, Lewellys F. Barker, Chicago.

Discussion, F. G. Novy, Ann Arbor.

Section on Ophthalmology.

Chairman, John E. Weeks, New York; Secretary, Frank C. Todd, Minneapolis.

Address of the Chairman.

Vernal Conjunctivitis, Wm. Campbell Posey, Philadelphia.

Subtropical Trachoma, with Special Reference to a New Therapeutic Agent, Ruffin A. Wright, Mobile, Ala.

The Treatment of Trachoma, Edgar Doak Capps, Fort Worth, Texas.

The Action of Adrenalin in Acute Conjunctival Inflammation, Louis J. Lautenbach, Philadelphia.

Experimental Study on Some Methods of Combating Post-Operative Infection of the Anterior Segment of the Globe, E. C. Ellett, Memphis, Tenn.

Ocular Complications of Bright's Disease, Louis Stricker, Cincinnati.

Subconjunctival Medication with an Especial Reference to the Use of Salt-Sugar Solution in Acute Affections of the Anterior Portions of the Eye, Howard M. Morton, Minneapolis.

Albuminuric Retinitis and the Decapsulation of the Kidney, George F. Suker, Chicago.

SYMPOSIUM ON THE INFLUENCE OF THE CERVICAL SYMPATHETIC ON THE EYE.

(A) Experimental Researches Regarding the Influence of the Cervical Sympathetic on the Eye, Geo. E. de Schweinitz, Philadelphia.

(B) The Influence of Resection of the Superior Ganglion of the Cervical Sympathetic in Glaucoma, Wm. H. Wilder, Chicago.

(C) Influence of Resection of the Cervical Sympathetic in Optic Nerve Atrophy, Hydrophthalmus and Exophthalmic Goiter, James Moores Ball, St Louis.

(D) Pathology of the Cervical Sympathetic, John E. Weeks, New York.

Arteriosclerosis (Endarteritis) and Its Bearing on Retinal and Choroidal Lesions, Chas. Stedman Bull, New York.

Study of the Nerve Head in Relation to Certain Other Fundus Anomalies, Chas. H. Beard, Chicago.

Retinal Disease Limited to the Region of the Macula Lutea, Henry Gradle, Chicago.

Address: Congenital Total Color Blindness, Based on a Study of Nine Cases, Prof. Wm Uhthoff, Breslau, Germany.

Pathologic Exhibit, prepared by a committee consisting of Casey A. Wood, Chicago; Edward A. Shumway, Philadelphia, and H. V. Würdemann, Milwaukee, Wis.

Report of committee:

Methods of Preparing and Preserving Ophthalmic Specimens for the Museum. Address by Chairman, Casey A. Wood.

Some Points in the Pathology of the Eye. Illustrated by the Present Exhibit of Morbid Growths, Edward A. Shumway.

SYMPOSIUM ON THE BACTERIOLOGY OF THE EYE.

Bacteriologic Exhibit, prepared by a committee consisting of R. L. Randolph, Baltimore; Brown Pusey, Chicago; and Edgar Thompson, New York.

(1) The Bacteria Concerned in the Production of Eye Inflammations; address by Chairman, Robert L. Randolph.

(2) Bacteria in the Conjunctiva, Cornea, Iris, Ciliary Body and Choroid, and Changes Caused Thereby. (Illustrated by projection with a lantern of sections and lantern slides.) Brown Pusey, Chicago.

(3) The Essentials and Unessentials of Ophthalmic Asepsis, Harold Gifford, Omaha.

Development of the Fusion Center in the Treatment of Strabismus, Nelson M. Black, Milwaukee, Wis.

A Set of Charts for Stereoscope To Be Used for an Amblyopic Eye or for Treatment of Squint, Albert B. Hale, Chicago.

Cramp of the Ciliary Muscle Due to Eye-strain, J. W. Wright, Columbus, O.

Skiascopy as a Method of Precision, Edward Jackson, Denver.

Some Observations on the Eye Complications of Smallpox During the Recent Epidemic in Cleveland, A. R. Baker, Cleveland, O.

Some Rare Corneal Complications in Ophthalmia Neonatorum, A. A. Hubbell, Buffalo, N. Y.

Skin Grafting on the Eyelids, Oscar Dodd, Chicago.

Entropion and the Operations Employed for Its Relief, John O. McReynolds, Dallas, Texas.

Sympathetic Ophthalmia as the Result of Trauma in the Ciliary Region, John Sabert Mott, Kansas City, Mo.

A Case of Syphilitic Orbital Periostitis and Optic Neuritis, in which Vision Was Nearly Extinguished But Fully Restored, F. C. Hotz, Chicago

Traumatic Lesions of the Ocular Adnexa; with Report of a Case of Contused Wound of the Eyebrow Resulting in Complete Monocular Blindness Unaccompanied by Ophthalmoscopic Changes, Ellet O. Sisson, Keokuk, Iowa.

Exhibition of Specimens and New Instruments.

Extraction of the Crystalline Lens in High Myopia, H. V. Würdemann and Nelson M. Black, Milwaukee, Wis.

The Management of Myopia, J. H. Claiborne, Jr., New York.

Suggestions on the Pathogenesis of Glaucoma, N. J. Hepburn, New York.

Report of a Case of Complete Absence of Both Eyeballs at Birth, Lawrence R. Ryan, Galesburg, Ill.

Calcareous Degeneration of Corneal Cicatrices, H. Moulton, Fort Smith, Ark.

Ocular Incoördination and Cerebral Reflexes, F. Park Lewis, Buffalo, N. Y.

The Voluntary and Involuntary Brain Centers Controlling the Ocular Muscles, G. C. Savage, Nashville, Tenn.

Remarks on the Horopter, Geo. T. Stevens, New York.

Our Present Knowledge of the Cerebral Centers of the Eye, C. Barck, St. Louis.

Section on Diseases of Children.

Chairman, John C. Cook, Chicago; Secretary, Thos. S. Southworth, New York.

Address of Chairman.

Anatomic and Physiologic Correspondence of Child and Adult, William T. Eckley, Chicago.

The Treatment of Scarlet Fever; Its Complications and Sequelæ, H. M. McClanahan, Omaha.

Acute Fatty Degeneration, Probably Phosphorus Poisoning, in an Infant One Year Old, Isaac A. Abt, Chicago.

Hydronephrosis in a Child Four Years Old, with Operation and Recovery, S. W. Kelley, Cleveland, Ohio.

Acute Suppurative Cervical Adenitis of Infancy, Thos. S. Southworth, New York.

Rheumatism of the Appendix in Childhood, Frank X. Walls, Chicago.

Some Considerations in the Treatment of Broncho Pneumonia in Children, William Edgar Darnall, Atlantic City, N. J.

Belladonna in the Broncho-Pneumonias of Children, D. A. Hodghead, San Francisco.

Observations on Breast Feeding From an Obstetrician's Point of View, with Report of Cases, Effa V. Davis, Chicago.

Retained Intubation Tubes, with a Method of Treatment of the Larynx, Leading to Their Final Extraction, B. R. Shurly, Detroit.

The Infant Digestive Disturbances, A. C. Cotton, Chicago.

Observations on Prolonged Withdrawal of all Food in the Management of Certain Cases of Intestinal Disorders, Thomas D. Parks, Birmingham, Ala.

Infant Feeding; Its Relation to the Diarrheal Diseases of Infancy, J. G. Mastin, Chicago.

Case of Probable Gumma of the Liver in a Child of Six, J. P. Crozer Griffith, Philadelphia.

Every-day Problems in Infant Feeding, Henry Enos Tuley, Louisville, Ky.

The Special Value of Adrenalin in Acute Inflammations of the Mucous Membranes of Children, Louis J. Lautenbach, Philadelphia.

The Causes of High Mortality Among Infants in Institutions, with Considerations on Its Possible Reduction, Charles O'Donovan, Baltimore.

Otitis Media in Infancy, John Lovett Morse, Boston.

Capillary Bronchitis, Philip F. Barbour, Louisville, Ky.

Is the Study of Pediatrics Worth the Attention It Gets, and Does It Get the Attention It Deserves? C. F. Wahrer, Fort Madison, Iowa.

The Modern Treatment of Diphtheria, Louis Fischer, New York.

The Inherent Reaction of the Organism in the Diarrheas of Childhood, John Madison Taylor, Philadelphia.

Chorea, W. C. Hollopeter, Philadelphia.

Fresh Air in the Treatment of Children's Diseases, Robert W. Hastings, Boston.

Infant Feeding, Alex. McAlister, Camden, N. J.

Management of Catarrhal Pneumonia in Infants and Young Children, Charles G. Kerley, New York.

Grip in Children, William C. Williams, Chicago.

The Feeding of Healthy Infants, Charles Douglas, Detroit.

The Safranin Reaction in the Urine of Children, W. S. Christopher, Chicago.

Some Suggestions in the Therapy of Infancy, E. W. Saunders, St. Louis.

Aphthæ and Herpes Contracted by Children Drinking Milk from Cows Suffering from Foot and Mouth Diseases, E. F. Brush, Mount Vernon, N. Y.

Suggestions for Reducing the Prevalence of Summer Diarrhea, J. Ross Snyder, Birmingham, Ala

The Pathology of Summer Diarrheas of Children, G. W. Boot, Evanston, Ill.

Section on Stomatology.

Chairman, M. L. Rhein, New York; Secretary, Eugene S. Talbot, 103 State Street, Chicago.

Chairman's Address, M. L. Rhein, New York.

SYMPOSIUM ON DENTAL PULP.

Notes on Pulp Technic, Martha Anderson, Moline, Ill.

Minute Structures of the Dental Pulp, Vida A. Latham, Chicago.

The Vasomotor System, Eugene S. Talbot, Chicago.

The Dental Pulp Viewed Without the Microscope, T. E. Constant, Scarborough, York, England.

The Development of Hard Tissue in the Pulp, D. E. Causch, Brighton, England.

Some Histologic Facts Contradictory to the Theory of Odontoblasts, Michael Morganstein, Strassburg, Germany.

Pulp Hypertrophy of the Teeth, Oskar Romer, Strassburg, Germany.

Tolerance of Tissues for Foreign Bodies, with Special Reference to the Pulp and Peridental Membrane, M. H. Fletcher, Cincinnati.

Professional Responsibilities, A. E. Baldwin, Chicago.

The Dental Symptoms of Diabetes Mellitus, Hermann Prinz, St. Louis.

Germicides, A. H. Peck, Chicago.

A System for the Correction of Hare-lip and Cleft Palate, G. V. I. Brown, Milwaukee, Wis.

Is the Accomplishment of Reasonable Ideals in Dental Education Near at Hand, Chas. Chittenden, Madison, Wis.

The Influence of Local and General Disturbances on the Oral Secretions, Geo. F. Eames, Boston.

The Dentist in the U. S. Navy, Richard Grady, Baltimore.

Methods of Controlling Hemorrhage of the Oral Cavity, H. E. Belden, New Orleans.

Empyema of the Maxillary Sinus, O. N. Heise, Cincinnati.

Medical and Dental Libraries, Alice M. Steeves, Boston.

Orthodontic Facial Orthopedia, W. E. Walker, New Orleans.

A paper is also to be read by J. Choquet, Paris, France.

Section on Nervous and Mental Diseases.

Chairman, F. W. Langdon, Cincinnati; Secretary, F. Savary Pearce, 1407 Locust Street, Philadelphia.

Address of Chairman, F. W. Langdon, Cincinnati.

Some Graphic Observations on Ankle-Clonus, A. A. Eshner, Philadelphia.

Penetrating Wound of Both Cerebral Hemispheres, with Recovery, W. S. Lindsay, Topeka, Kan.

Trend of Modern Psychiatry and Its Relation to General Medicine, John Punton, Kansas City, Mo. Discussion opened by F. Savary Pearce, Philadelphia.

A Contribution to the Study of Visual Disturbances in Brain Injury, William E. Gamble, Chicago.

Epilepsy; A Clinical Study, J. G Biller, Cherokee, Iowa.

Pathology of Inebriety, T. D. Crothers, Hartford, Conn.

Ambulatory Automatism, Hugh T. Patrick, Chicago.

Relation of Epilepsy to Chronic Gastro-Intestinal Diseases, G. W. McCaskey, Fort Wayne, Ind.

The Use of the Ultra-Violet Ray in the Treatment of Functional and Organic Nervous Diseases, Albert E. Sterne, Indianapolis.

SYMPOSIUM ON RELATION OF PUBLIC SCHOOL METHODS TO PSYCHOSES.

Causes, Predisposing and Exciting, Herman H. Hoppe, Cincinnati.

Relation of the Public School to the Seminary and College as to Psychoses, F. Savary Pearce, Philadelphia.

Best Methods of Counteracting Psychoses Due to Strain and Stress, William J. Herdman, Ann Arbor, Mich.

Discussion to be opened by (1) H. N. Moyer, (2) John Punton, (3) F. W. Langdon.

Therapy of Insanity, Orpheus Everts, Cincinnati.

A Consideration of the Neuroses of Status Lymphaticus, A. P. Ohlmacher, Gallipolis, Ohio.

Some Unusual Cases of Paralysis Agitans, Philip Zenner, Cincinnati.

Report of Two Cases of Cerebral Hematoma, H. A. Tomlinson, St. Peter, Minn.

The Nervous Phenomena Associated with Movable Kidney, Wharton Sinkler, Philadelphia.

Relation Between Neurasthenia and General Paresis, E. D. Bondurant, Mobile, Ala.

Atrophy of Hand Muscles with Localized Sensory Disturbances; Possibly Early Syringomyelia, D. I. Wolfstein, Cincinnati.

Carcinoma of Spine and Meninges Secondary to Cancer of the Breast, F. Savary Pearce and A. C. Buckley, Philadelphia.

Ten Cases of Chronic Morphinism and Results of Treatment, A. J. Pressey, Cleveland, Ohio.

Some Toxemias in Relation to the Production of Nervous and Mental Disease, Samuel Bell, Detroit.

Treatment of Nervous and Mental Diseases of Toxic Origin, F. P. Norbury, Jacksonville, Ill.

Tabes in the Negro, D'Orsay Hecht, Chicago.

Treatment of Emotional Disturbances, Howell T. Pershing, Denver.

Climatology, etc., of the Insane, John W. Robertson, Alameda, Cal.

Section on Cutaneous Medicine and Surgery.

Chairman, John A. Fordyce, New York; Secretary, R. R. Campbell, 204 Dearborn Street, Chicago.

The Modern Conception of Eczema, John A. Fordyce, New York.

Larva Migrans, Henry W. Stelwagon, Philadelphia.

The Influence of the Menstrual Function on Certain Diseases of the Skin, L. Duncan Bulkley, New York.

Results in Radiotherapeutics and Clinical Conclusions, Dr. H. R. Varney, Detroit.

Fibroma Molluscum, Henry G. Anthony, Chicago.

Diagnosis of Cutaneous Syphilis, Isadore Dyer, New Orleans,

Treatment of Syphilis by Injections, M. L. Heidingsfeld, Cincinnati.

Syphilitic Fever, Eugene Carson Hay, Hot Springs, Ark.

Papilloma of the Sole, Douglass W. Montgomery, San Francisco.

Diagnosis of Smallpox, A. W. Brayton, Indianapolis.

Morbid Anatomy and Treatment of Smallpox, N. D. Brayton, Indianapolis.

Some Clinical Observations on Chickenpox, Jay F. Schamberg, Philadelphia.

Pityriasis Rosea, L. Weiss, New York.

Report of a Case of Pemphigus Chronicus, William Frick, Kansas City.

Tuberculosis Cutis Frambesioides, William S. Gottheil, New York.

Two Cases of Pemphigus Foliaceous, David Lieberthal, Chicago.

The Bacillus of Syphilis, Justin de Lisle, New York.

The Treatment of Leprosy, A. H. Ohmann-Dumesnil, St. Louis.

Atrophia Cutis Idiopathica; A Study of Two Cases, W. S. Gottheil, New York.

Notes on the Treatment of Lichen Planus, Joseph Zeisler, Chicago.

Clinical Results Obtained in the Use of Finsen's and Other Lights, L. E. Schmidt, Chicago.

Notes of An Interesting Case of Lupus Vulgaris, R. R. Campbell, Chicago.

The Consideration of Scarlet Fever, William L. Baum, Chicago.

Differential Diagnosis of Pemphigus and Dermatitis Herpetiformis, L. Blake Baldwin, Chicago.

Thursday morning, May 7, will be devoted to clinical demonstrations or rare skin diseases, with presentation of cases at Charity Hospital.

Section on Laryngology and Otology.

Chairman, Geo. L. Richards, Fall River Mass. Secretary, J. F. Barnhill, Indianapolis.

Address of Chairman.

Report of Cases Showing Instrument and Technic in the Cure of Deaf-Mutism, Maury M. Stapler, Macon, Ga.

The Treatment of Chronic Otitis Media, A. T. Mitchell, Vicksburg, Miss.

The Necessity of an Early Diagnosis and Treatment in Acute Suppurative Affections of the Middle-Ear, Frank D. Boyd, Fort Worth, Texas.

Nasal Polypus; Origin and Treatment, Chas. H. Baker, Bay City, Mich.

Diphtheria of the Nose, W. Scheppegrell, New Orleans.

Membranous Pharyngitis, John McReynolds, Dallas, Texas.

Report of a Case of Empyema of the Frontal Sinus, C. A. Thigpen, Montgomery, Ala.

Some Reasons for Past Unsatisfactory Results in the Treatment of Chronic Empyema of the Maxillary Sinus, Redmond Payne, San Francisco.

Malignant Diseases of the Nasal Passages, Francis J. Quinlan, New York.

Paraffin Injected Subcutaneously for the Correction of Nasal and Other Deformities, Harmon Smith, New York.

Paraffin in Nasal Deformities, P. J. H. Farrell, Chicago.

Some Observations on the Removal of Diseased Tonsils, Charles M. Robertson, Chicago.

(Note: Dr. Robertson will give a clinical demonstration of his method of removal of tonsils.)

The Special Influence of the High Altitude on the Nose and Throat, S. E. Solly, Colorado Springs.

A General Consideration of the Diseases of the Ethmoid Bones and Cells, Robert C. Myles, New York.

Non-Tubercular Hemorrhages of the Air-Passages, L. F. Page, Indianapolis.

The Resection Operation for the Correction of Deflections of the Nasal Septum, Otto T. Freer, Chicago.

How Far Should the Specialist in Rhinology and Otology Presume to Treat the Systemic Condition? C. M. Cobb, Lynn, Mass.

Non-Operable Catarrh, Fayette C. Ewing, St. Louis.

Exhibition of Author's Electro-Motor Nasal Saw, with Remarks, Melville Black, Denver.

Report of Three Cases: Case of Prolonged Intubation, Peculiar Symptoms Following Middle-Ear Operation and Case of Esophageal Obstruction Due to an Upper Alveolar Plate, Geo. F. Cott, Buffalo, N. Y.

The Early Manifestations of Laryngeal Tuberculosis: Their Recognition and Treatment, H. H. Briggs, Asheville, N. C.

The Teaching of Otology to the Undergraduate Medical Student, B. Alex. Randall, Philadelphia.

Auscultation of the Mastoid Process, A. H. Andrews, Chicago.

Proof of the Efficacy of Treatment by Aseptic Drainage in Acute Suppurative Otitis, H. Gradle, Chicago.

The Present Status of Ossiculectomy, J. A. Stucky, Lexington, Ky.

Treatment of the Eustachian Tube, Geo. B. McAuliffe, New York.

Some Recent Experiences with Chronic Suppurations of the Ear, Philip Hammond, Boston.

The Distribution of Blood Vessels in the Labyrinth of the Ear, with Exhibition of Preparation and Drawing, and (b) Wood's Metal Casts of the Middle-Ear with the Exhibition of Preparation and Lantern Demonstration, Geo. E. Shambaugh, Chicago.

Perisinusal Abscess of Lateral Sinus with Metastasis in Liver and Sterno-Clavicular Arthritis, Gordon King, New Orleans.

Otitis Media Catarrhalis Chronica, S. McCuen Smith, Philadelphia.

Mastoid Diseases and Meningitis, Seymour Oppenheimer, New York.

The Immediate Relief of Hysterical Manifestations in the Larynx by Suggestion, H. W. Loeb, St. Louis.

The Great Value of Drainage and Ice in the Early Stages of Mastoiditis, Sargent F. Snow, Syracuse, N. Y.

Deformity of the Nasal Septum in Atrophic Rhinitis: Shall We Operate? Kate W. Baldwin, Philadelphia.

Note: The pathologic and anatomic exhibit of specimens pertaining to the work of this Section, and new instruments will be continued Members are requested to bring with them any unusual or interesting specimens or instrument. An interesting collection is already promised.

J. F. BARNHILL, Secretary.

Section on Materia Medica, Pharmacy and Therapeutics.

Chairman, Solomon Solis-Cohen, Philadelphia; Secretary, C. S. N. Hallberg, 358 Dearborn Street, Chicago.

Address of Chairman.

Report of Committees on Papers presented at the last annual session:

On Dosage of Liquid Medicines, Frank Woodbury, H. C. Wood, Jr., and A. A. Eshner.

On Nerve Nostrums and Drug Addiction, A. W. Baer, W. J. Robinson and H. C. Wood, Jr.

Is Pharmacologic Action Determined by Chemical Structure or by Physical Characters? Arthur R. Cushney, Ann Arbor, Mich.

Research Problems of Pharmacology, Torald Sollmann, Cleveland, O.

The Physiologic Effects of the Ions, Ralph N. Webster, Chicago.

The Chemistry of Ergot, Albert B. Lyons, Detroit.

Mercury, Laura House Branson, Iowa City, Iowa.

The Absorption of Iron from the Alimentary Canal, Winfield S. Hall, Chicago.

Drugs Used in Nervous Diseases, George F. Butler, Alma, Mich.

The Mind as a Causative and Therapeutic Factor in Medicine, Bittle C. Keister, Roanoke, Va.

Limitations of the Dietetic Treatment of Diabetes, Arthur R. Elliott, Chicago.

Intestinal Antiseptics, Their Uses and Limitations, J. A. Storck, New Orleans, La.

Remedies for the Relief of Dropsy, Egbert LeFevre, New York, N. Y.

Demonstrated Pathologic Effects of Alcohol, T. D. Crothers, Hartford, Conn.

The Legitimate Therapeutic Uses of Alcohol, O. T. Osborne, New Haven, Conn.

The Management of Fever in General, Augustus A. Eshner, Philadelphia.

The Usefulness and Limitations of Drugs on Pyretic Conditions, Robert Reyburn, Washington, D. C.

The Therapeutic Value of Spinal Puncture for the Cerebral Symptoms of Typhoid Fever, J. H. Musser, Philadelphia.

The Limitations and Use of Aconite and Veratrum Viride, Warren B. Hill, Milwaukee, Wis.

Venesection: Its Use and Abuse, C. F. Wahrer, Fort Madison, Iowa.

Exercise as a Mode of Treatment of Heart Diseases, N. S. Davis, Jr., Chicago.

The Control of Hemorrhage by Drugs, with Particular Reference to Gelatin, Edward F. Wells, Chicago.

The Morphin Series, Smith Ely Jelliffe, New York.

The Composition of Some of the Lately Introduced Nostrums and So-called Synthetics, William J Robinson, New York.

The U. S. Pharmacopeia of 1900, Carl S. N. Hallberg, Chicago.

Advance in Electric Therapeutics, A. W. Baer, Chicago.

Recent Advances in Actinotherapy, William S. Gottheil, New York.

Dry Superheated Air in Therapeutics, Clarence E. Skinner, New Haven, Conn.

Section on Pathology and Physiology.

Chairman, Victor C. Vaughan, Ann Arbor, Mich.; Secretary, Joseph McFarland, 442 W. Stafford Street, Germantown, Pa.

The Chemistry of the Bacillus Coli Communis, Mary F. Leach.

The Chemistry of the Bacillus Typhosus, May Wheeler.

The Toxicity of the Intra-cellular Substance of Bacillus Typhosus, Louis M. Gelston.

The Anthrax Toxin, J. Walter Vaughan, St. Louis.

The Intra-cellular Toxin of Bacillus Pyocyaneus, Daniel McIntyre.

A Preliminary Chemical Study of the Hepatic Cells of the Ox, Frank Spencer and Frederick Munson.

The Toxicogenic Bacteria Found in Drinking Water, William G. Carhart.

The Chemical Tests for Morphin in the Presence of the Products of Bacterial Decomposition, Myron W. Clift.

Endothelioma of the Uterus, F. Robert Zeit, Chicago.

Condition of the Endometrium in Cases of Uterine Myomata, Thomas S. Cullen, Baltimore.

Demonstration of a "Mixed Tumor of the Kidney (Wilms), E. R. LeCount, Chicago

Multiple Periosteal Sarcomata of the Cranium, with Involvement of Retroperitoneal Lymph (Hemo-lymph) Nodes and Attending Severe Anemia, Walter L. Bierring, Iowa City, Iowa.

Primary Intestinal Tuberculosis, with Organism Pathogenic to a Calf, H. Gideon Wells, Chicago.

The Apparent Immunizing Value of Attenuated Tubercle Bacilli, E. A. de Schweinitz, Washington, D. C.

Studies of Antirennene, Joseph McFarland, Philadelphia.

A Case of Short-limbed Dwarfism, L. Hektoen, Chicago.

A Case of Giantism and Leontiasis Ossea, in the Lantern Slide Demonstration, E. R. LeCount for Peter Bassoe, Chicago.

Tissue Changes Under X-Ray Influence, W. S. Newcomet, Philadelphia.

The Protoplasmic Activity of the Renal Epithelium, as Determined by the Elimination of Pigments Injected Into the Circulation, W. S. Carter, Galveston, Texas.

Demonstration of New Physiologic Apparatus, Winfield S. Hall, Chicago.

The Working Capacity of a Muscle, J. G. Holmes, Chicago.

The Neuralgia and the Ependymal Epithelium of Teratoid Tumors, Henry A. Christian, Boston.

The Morphology and Biology of the Parasites of Blastomycetic Dermatitis, F. J. Otis and Newton Evans, Battle Creek, Mich.

The Principle of Invalid Feeding, L. Breisacher, Detroit.

The Biologic Aspects of Motion, Guido Bell, Indianapolis.

The Influence of Consanguinity on the Organs of Special Sense, L. W. Dean, Iowa City, Iowa.

The Cultivation of Trypanosoma Lewisii, F. G. Novy and W. J. McNeal, Ann Arbor, Mich.

A Study of the Influence of Blood Letting on Metabolism, also the Influence of Chinic Acid on Uric Acid Output, William Gies, New York.

Precision in the Determination of Human Parasites, Henry B. Ward, Lincoln, Neb.

Aerogenes Capsulatus Infection of the Neck, Louis Leroy, Nashville, Tenn.

New Members.

For the month of March, 1903:

ALABAMA.	ARKANSAS.
Snyder, J. Ross, Birmingham.	Gill, John M. F., Prescott.
Bancroft, Marion J., Mobile.	Allen, Kotz, Wheatley.
May, Wm. L., Sandusky.	Weaver, J. H., Hope.
Wright, Ruffin A., Mobile.	Smiley, John L., Robinson.
King, Goldsby, Selma.	Wilson, Olive A. Chas., Paragould.
Peerson, J. M., Florence.	Bradford, T. B., Cotton Plant.

McCallum, John A., Arkadelphia.
Pettey, Geo. E., Searcy.

CALIFORNIA.

Willard, Wm. P., San Francisco.
Brill, Wm., Los Angeles.
Topping, Frank Pixley, San Francisco.
Ardenyi, Jos., San Francisco.
Tower, Franklyn J., Pasadena.
Roblee, W. M., Riverside.

DISTRICT OF COLUMBIA.

Carroll, Jas., Washington.
Lawrence, Albert L., Washington.
Dufour, Clarence R., Washington.
Merrill, Walter H., Washington.
Richardson, Edw. E., Washington.
Ward, Wm. Krafft, Washington.

FLORIDA.

Grantham, J. M., Tampa.

GEORGIA.

Green, Wm. L., Point Peter.

IDAHO.

Harshbarger, Miller M., St. Anthony.

ILLINOIS.

Schneider, G. J., Elgin.
Bates, Frederick H., Elmhurst.
Chester, Paul, Chicago.
Watson, H. A., Chicago.
Badgley, John A., Malta.
Campbell, John T., Chicago.
Brophy, Truman W., Chicago.
Kimmet, Wm. Alex., Chicago.
Beck, Emil G., Chicago.
Mahoney, Jas. Burris, Chicago.
Schmidt, Marie S., Chicago.
Craig, D. W., Chicago.
Klein, Henry, Chicago.

INDIANA.

Crawford, E. F. W., Hanna.
Bryan, T. L., Evansville.
Dippell, Emil T., Huntington.
Tindal, Edw. F., Muncie.
Brayton, Nelson D., Indianapolis.

INDIAN TERRITORY.

Woodson, Benj. D., Monroe.

IOWA.

Hogie, Kate Anna M., Mt. Vernon.
Lehon, Jas. W., Dunlap.
Bowen, Chas. P., Centerville.

KENTUCKY.

Coldwell, Thos. P., London.
Mobley, J. C., Elizabethtown.
Gardner, W. E., Glendale.
Willis, S. N., Vine Grove.
Allen, M. S., Stilton.
Gray, Jas. R., Elizabethtown.
Stone, Daniel Boone, Hydro.
Bailey, Steele, Stanford.
Sprague, Geo. P., Lexington.
Lewis, John C., Georgetown.

LOUISIANA.

Gaudin, Louis A., Convent P. O.
Jones, Edw. W., New Orleans.
Mioton, S. F., New Orleans.
Huhner, E. J., New Orleans.
Stafford, S. W., New Orleans.
Lynch, W. M. New Orleans.
Hebert, J. S., New Orleans.
Yenni, A. S., New Orleans.
Horton, Clarence L., New Orleans.
Theard, Sidney L., New Orleans.
Elliott, Jno. B., New Orleans.
Nolte, Arthur, New Orleans.
King, Gordon, New Orleans.
Logan, Samuel, New Orleans.
Michinard, Paul, New Orleans.
Dupuy, Homer, New Orleans.
Gates, Sterling J., Franklin.
Smith, Beverley W., Franklin.
Patterson, O. M., Bastrop.
Hope, Chas. L., Oak Ridge.
Williams, Sidney L., Oak Ridge.
Porter, S. D., Moreauville.
Newell, E. Dunbar, St. Joseph.
Dortch, Fred'k Wm., Barham.

MARYLAND.

Cotton, Albertus, Baltimore.
Abercrombie, John R., Baltimore.
Frames, W. Wayland, Baltimore.
Bishop, John S., Baltimore.
McGlannan, Alexius, Baltimore.
Gabriel, Calvin L., Baltimore.
Cole, J. Wesley, Baltimore.
Knox, Jr., J. H. Mason, Baltimore.
Price, Marshall Layton, Baltimore.

MASSACHUSETTS.

Clark, Frederick T., Westfield.
Washburn, Frank H., Jefferson.

MICHIGAN.

Tapert, R. T., Detroit.
Ingleright, Leon R., Rose City.
Nelson, E. B., Chassell.
Eggleston, Elmer L., Battle Creek.
McGee, Harry S., Jackson.
Bush, Adelbert G., Grand Rapids.
Fleming, Wm. E., Detroit.

MINNESOTA.

McLean, Thos. Nicol, Fergus Falls.
Weeks, Leonard C., Detroit.
Linton, Wm. B., Minneapolis.
Anderson, A. E., Minneapolis.
Oliver, Clifford Irwin, Graceville.
Tanner, Andrew F., Ely.

MISSISSIPPI.

Yandell, Wm. M., Canton.
Sims, Walter Scott, Jackson.
Rowan, Jas. Albert, Wesson.

NEBRASKA.

Malster, John Chas., Stromsburg.
Pinkerton, W. J., Mead.
Lewis, Alfred, Valentine.

NEW HAMPSHIRE.

Noyes, Edmund Herbert, Plaistow.

NEW JERSEY.

Canaway, Walt Pouder, Atlantic City.

NEW YORK.

Knapp, Wm. H., Binghampton.
Raud, H. W., Keene Center.
Rambaud, Geo. Gibier, New York.
Fridenburg, Percy, New York.
Ellison, Chas. Ruxton, New York.
Billings, Jr., John S., New York.
Smith, Harmon, New York.
Ayvazian, Antranig, New York.
Cassell, Jas. Wilson, New York.
Heuel, Frank, New York.
Brouner, Walter Brooks, New York.
Gallagher, Edw. J., New York.
Brunner, Wm. J., New York.
Chauveau, Jean F., New York.
Kirchhof, Chas. Geo., New York.
Flint, Jr., Austin, New York.
McAuliffe, Denis A.
Lurie, Jos. H., New York.
Pettit, Louis C., Ward's Island, New York.
Piper, Chas. W., Wurtsboro.
Parmenter, John, Buffalo.
Nour, George Elias, Niagara Falls.
Ransom, David H., Buffalo.
Dumond, Marcus Abner, Ithaca.
Myers, John Franklin, Sodus.
Tremaine, Annie M., Sonyea.
Clark, Geo. W., Waterloo.
Beers, Jr., Nathan Thomas, Brooklyn.
Ross, Wm. Jas., Clayton.
Crosby, Alex. H., Leonville.
Donohue, F. O., Syracuse.
Carroll, Jane W., Buffalo.
Bassett, John N., Canton.
Carpenter, Eugene H., Oneida.
Nevin, Ethan A., Ogdensburg.
DeCeu, Robt. E., Buffalo.
Ayer, Warren L., Owego.
Schroeter, Ludwig, Buffalo.

NORTH CAROLINA.

Williams, John A., Reidsville.

OHIO.

Forchheimer, Fred'k, Cincinnati.

OKLAHOMA.

Munger, G. D., Oklahoma City.

PENNSYLVANIA.

Rea, Jas. L., Scranton.
Sajous, C. E. de M., Philadelphia.

SOUTH CAROLINA.

Culbertson, John R., Replay.
Hill, L. T., Abbeville.
Pressley, E. W., Clover.

SOUTH DAKOTA.

Cruickshank, Thos., Vermillion.
Scofield, Henry B., Scotland.
Edward, Geo., Lake Preston.

TENNESSEE.

Cook, Maximillian Montrose, Santa Fe.
Williams, D. H., Knoxville.
Clarke, Claude Y., Mt. Pleasant.

TEXAS.

Van Zandt, I. L., Ft. Worth.
Mathews, John Owen, Howe.
Clough, Ernest Linwood, Beaumont.
Wheat, M. H., Marshall.
Vermillion, John W., McDade.
Burke, Henry Sothoron, Corpus Christi.

UTAH.

Root, Emerson Frank, Salt Lake City.

VIRGINIA.

Sparks, Geo. H., Crooked Run.

WASHINGTON.

Thomson, Curtis H., Seattle.
Falk, Frederick, Seattle.

WEST VIRGINIA.

Canaday, John Egerton, Paint Creek.

WISCONSIN.

Caswell, Harlow O., Ft. Atkinson.
Casey, Merle, Almond.
Ballard, J. A., LaCrosse.
Gregory, W. W., Stevens Point.

PROPOSED CODE OF ETHICS

Offered at Saratoga Springs, 1902, and to Be Acted on at New Orleans.

At the last session of the American Medical Association the following action was taken:

Dr. E. Eliot Harris, New York, presented the following resolution:

For more than a year some of the members of the Council of the New York State Medical Association have been engaged in a critical examination of the ethical part of the laws of the American Medical Association, resulting in the preparation of a revision of the Code of Medical Ethics. This revision has been approved by the Council of the New York State Medical Association, and the delegates have been instructed to present it to the House of Delegates at this session.

Resolved, That the President appoint a committee of five to examine and report for final action at the annual session in 1903 the proposed revised Code of Medical Ethics which is herewith submitted in writing;

Resolved, That the proposed revised Code of Medical Ethics be published in the Association's JOURNAL three times before the meeting in 1903.

On motion of Dr. C. A. L. Reed, Cincinnati, the resolution was adopted.

The following constitute the committee: Dr. E. Eliot Harris, New York, chairman; Dr. William H. Welch, Baltimore; Dr. T. J. Happel, Tennessee; Dr. Nicholas Senn, Chicago, and Dr. Joseph D. Bryant, New York.

CHAPTER I.—OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.—DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1.—Physicians should not only be ever ready to obey the calls of the sick, but should be mindful of the high character of their mission and of the responsibility they must incur in the discharge of momentous duties. In their ministrations they should never forget that the ease, the health, and the lives of those entrusted to their care depend on skill, attention, and fidelity. In their deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for carelessness or neglect is their own conscience.

SEC. 2.—Every case committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SEC. 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required to do so by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SEC. 4.—Frequent visits to the sick are generally requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. But unnecessary visits are to be avoided, as they give undue anxiety to the patient.

SEC. 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really exists; and even to the patient, if absolutely necessary. This notice, however, is often so peculiarly alarming when given by the physician, that its deliverance ought to be declined whenever it can be assigned to any other person of good judgment.

SEC. 6.—The physician should be the minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7.—The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SEC. 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of vicious conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.—OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1.—The members of the medical profession, on whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease, and health, for the welfare of those who avail themselves of their services, are surely entitled to the highest private and public recognition.

SEC. 2.—The first duty of a patient is to select as medical adviser one who has received a sound general and special education, whose habits are good, and who is not devoted to any pursuit incompatible with professional obligations.

SEC. 3.—The sick should always apply for advice in what may appear to be a trivial case, for the slightest accident may result gravely. It is also important that the patient seek assistance in the forming stage of a violent disease and communicate unreservedly to the physician its supposed cause.

SEC. 4.—The patient should be on friendly terms with the medical adviser and bear in mind that physicians are under the strongest obligations of secrecy.

SEC. 5.—Women should never allow feelings of delicacy to prevent their disclosing the seat of their peculiar complaints. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with serious consequences, and a patient may sink under a painful disease which might have been prevented had timely intimation been given to the physician.

SEC. 6.—The obedience of a patient to the directions of the physician should be prompt and implicit. Failure in one particular may render an otherwise judicious treatment dangerous and even fatal. This remark is equally applicable to the unauthorized renewal of prescriptions, and to diet, drink, raiment and exercise.

SEC. 7.—As patients become convalescent they are apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse of the disease.

SEC. 8.—Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors who are so frequently met with and who pretend to possess infallible remedies for every disease. However simple some of their prescriptions may appear to be, it often happens that, besides being in themselves injurious, they are productive of much mischief by contravening the plan of treatment adopted by the physician in attendance.

SEC. 9.—Whenever possible, the patient should avoid even friendly visits of a physician who is not the regular attendant. But when such visits are received, there should be no conversation on the subject of the patient's disease, as a word may be spoken, without any intention of interference, which may destroy confidence in the course pursued and induce the patient to neglect the prescribed directions.

SEC. 10.—The patient or relatives should never send for a consulting physician without the express consent of the medical attendant.

SEC. 11.—Patients should, whenever practicable, send for their physicians in the morning, before the usual hour for going out, and this gives them the opportunity to so apportion their time as to prevent interference of engagements.

SEC. 12.—Except in emergencies patients should avoid calling on their medical advisers during the hours devoted to meals or sleep.

SEC. 13.—The sick should be always in readiness to receive the visits of the physician, as detention, even for a very short time, is often of serious import to some other sufferer.

CHAPTER II.—OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION 1.—Every individual on entering the profession, and thereby becoming entitled to all its privileges and immunities, incurs an obligation to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness.

SEC. 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; and, by unwearied diligence, should resort to every honorable means of enriching the science, and, at the same time, entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SEC. 3.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to these, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles.

SEC. 4.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare, and even to the life, of a human being.

SEC. 5.—It is derogatory to the dignity of the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases, offering advice and medicine gratis and promising radical cures; or to publish cases and operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success; or to employ any of the other methods of charlatans.

SEC. 6.—Equally derogatory to professional character it is for a physician to hold a patent for any surgical instrument or medicine; or to dispense, or promote the use of, a secret medicine, whether it be composed by this physician or the exclusive property of others, for if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone give it public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or of any of the other substances that may be used medicinally.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1.—All practicing physicians and their immediate dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

SEC. 2.—Physicians afflicted with disease should not, as a general rule, undertake the treatment of their own sickness, nor of that of members of their family, for obvious reasons. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such civility may give rise to embarrassment or interfere with that choice on which confidence depends.

SEC. 3.—When a physician is summoned, from a distance, to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

ARTICLE III.—OF THE DUTIES OF PHYSICIANS AS RESPECTS VICARIOUS OFFICES.

SECTION 1.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time.

SEC. 2.—The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period half of the pecuniary obligations for such services should be awarded to the acting physician.

ARTICLE IV.—OF THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet emergencies occasioned by disease or accident.

SEC. 2.—The good of the patient being the sole object in view, any physician having a license to practice medicine conferred by a medical board authorized by the state may be aided in consultation.

SEC. 3.—No physician who indicates to the public that his practice is based on a sectarian system of medicine shall be entitled to professional fellowship or to recognition in medical bodies.

SEC. 4.—Consultations should be promoted in difficult cases, as they give rise to confidence and more enlarged views in practice.

SEC. 5.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others and to be a good reason for the relinquishment of any present occupation.

SEC. 6.—As professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SEC. 7.—In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

SEC. 8.—The attending physician should be the first to question the sick, after which the consultant should have the opportunity to make such further inquiries as may be necessary.

SEC. 9.—After due examination of the patient, both physicians should retire to a private place for deliberation; and the one first in attendance should communicate the directions, agreed on, to the patient or friends, as well as any opinion which it may be thought proper to express.

SEC. 10.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 11.—The opinion of the physician in attendance should be delivered first to the patient or friends; and when there are several consultants they should deliver their opinions in the order in which they have been called.

SEC. 12.—No decision should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 13.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In case of emergency the consultant should do what is needed, and in the other case should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 14.—In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded not on hypothesis, but on experience and observation.

SEC. 15.—All discussions in consultation should be held as confidential. Neither by words nor manner should any of the parties to a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SEC. 16.—Should an irreconcilable diversity of opinion occur when several physicians are called on in consultation, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician.

SEC. 17.—It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in and, if circumstances prevent the adoption of this course, the patient or friends should make the selection. The physician so designated should take charge of the case and the other should then gracefully retire from any further deliberation in the consultation, or participation in the management of the case.

SEC. 18.—As circumstances sometimes arise to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the physician whose

assistance is required in such cases should sedulously guard against all future, unsolicited attendance. Such consultations requiring an extraordinary portion of time and attention, at least a double fee should be expected.

Sec. 19.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE V.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

Section 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice entirely on the extent of their medical education.

Sec. 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of this physician directly or indirectly tend to diminish the trust reposed in the attending physician.

Sec. 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

Sec. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

Sec. 5.—Placed in the position stated in the preceding section, the physician should never throw out damaging insinuations on the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of knowledge or skill.

Sec. 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, this physician should resign the care of the patient immediately on the arrival of the family physician.

Sec. 7.—It often happens, in cases of sudden illness, or of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should cause the family physician to be called, and should withdraw unless requested to continue in attendance.

Sec. 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be surrendered on the return of the absentee.

Sec. 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient in consequence of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

Sec. 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to half the fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE VI.—OF DIFFERENCES BETWEEN PHYSICIANS.

Section 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur and can not be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

Sec. 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VII.—OF PECUNIARY ACKNOWLEDGMENT.

Section 1.—There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to their performance.

Sec. 2.—Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2 of Article 1, of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, or any profession or occupation, can be admitted to possess such privilege.

Sec. 3.—It can not be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary acknowledgment. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

Sec. 4.—Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

Sec. 5.—It is derogatory to professional character for physicians to pay or to offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to demand or to receive such commissions.

CHAPTER III.—OF THE DUTIES OF THE PROFESSION TO THE PUBLIC AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.—DUTIES OF THE PROFESSION TO THE PUBLIC.

Section 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

Sec. 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the sanitary police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

Sec. 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects, strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

Sec. 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of these artful impostors.

Sec. 5.—Physicians ought to use all the influence which they possess to discourage pharmacists from vending the secret or other medicines of charlatans, or from being in any way engaged in their manufacture.

ARTICLE II.—OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

Section 1.—The benefits accruing to the public, directly and indirectly, from the unwearied labors of the profession, are so numerous and important that physicians are entitled to the utmost consideration and respect from the community.

Sec. 2.—The public ought to entertain a just appreciation of medical qualifications, to make a proper discrimination between true science and the assumptions of ignorance and charlatanism; and to afford every encouragement and facility for the acquisition of thorough medical education.

Medical Organization.

The Reorganized States.

It is now less than a year since any of the states adopted the plan of organization, but the progress made in each of them even in that short time has been so marked as to be worthy of special mention.

Michigan.

Michigan accepted the new plan in June, 1902, with only such changes as were necessary to adapt it to local conditions. Dr. Connor informs me that at that time they had but 10 recognized societies, only 5 of which were active, 7 medical clubs, and 5 district societies. The total membership in the state society was 610, of whom 100 were so in arrears for dues that they were practically out.

Much enthusiasm was manifested from the outset and, under the able leadership of Drs. Connor, Bulson, Haughey, Biddle and others too numerous to mention, 70 counties, out of 83 in the state, have been organized and chartered, and missionary work is being actively pressed in each of the others. The paid-up membership has been increased in ten months to over 1,600, and is expected to reach 2,000 before the annual meeting, new members being reported daily. Prominent members from all over the state write that the hopes, aspirations and good fellowship have increased even more than the membership.

Michigan has gone farther than any other state in making its council a strong executive body, with full authority to act for the society in the interim of meetings. The results achieved, as well as those in process of fulfillment, clearly demonstrate the wisdom of this policy. The council held frequent meetings and soon had the state divided into districts, with an active councilor in each who called the physicians together in county after county, brought to their attention the evils which have resulted to both the profession and the public from dissensions in its own ranks in the past, and the good which must result to all from such harmony and co-operation, which can only be brought about by local organizations. These

efforts have been well supported by the journal of the state society, which was established by the council as soon as possible after the re-organization, is the property of the society, is sent free to every member in lieu of the volume of transactions, and is already on a paying basis.

Tennessee.

The Tennessee State Society adopted the Association plan, practically without change, in May, 1902. At that time 14 county societies existed, some active, some more or less dormant, and the total membership in the state body was about 280. During the ten months 49 county societies have been organized and chartered and the membership in the state body has been increased to over 800, with promise of five or six more counties, and a total membership of over 1,000 before the next annual meeting. Drs Miller, Savage, McSwain, Happel, Roberts and many others have been untiring in their efforts to bring about these results, and a revival of interest in professional affairs is manifest in almost every section.

Kentucky.

Kentucky was the second state to adopt the Association plan without change. Twenty county societies then existed, several of them dormant. The total membership in the state association was 551, and about 25 per cent. of these were in arrears for dues. In ten months 72 county societies had been organized and chartered, and 20 more have appointments for organization. Reports from county secretaries are not yet due, and the total membership can not be known accurately until these come in, but it is believed it will be increased to over 1,500 paid-up members. The president of the state association has visited and organized every county in his large district not already in line, as have Drs. Shirley and Wells in their respective districts. Other councilors especially active have been Drs. Frank, Sory, A. T. McCormack, and Steele Bailey, who is also secretary of the association.

OTHER STATES.

Data in regard to Ohio, Colorado and Arkansas, could not be obtained in time for this issue, but active, systematic work is being done in these states, of which full details will be supplied later.

Pennsylvania and Connecticut were previously organized on lines similar to those of the Association plan, and excellent work is going on in these states. It is believed, however, that they would be especially benefited by incorporating the essential features of the uniform system.

Several other states reorganized last year and thought they were adopting the plans of the Association, but in practice it was found that they had modified it almost beyond recognition. So much trouble and confusion has resulted in these states that most of them will probably substitute the uniform system at their coming annual meetings. In the future it will doubtless be better for the friends of a systematic organization of the profession to advise that existing constitutions and by-laws be retained, rather than go through a form of reorganization in which the essential features of the Association plan are ignored. There are sparsely settled districts in nearly every state in which the rank and file of the profession has never been reached in the past, and this has been and will continue to be a difficult problem, but the uniform system proposed is susceptible of infinite and easy modifications as experience may develop the necessity for them, and the results in the states first named above show that it meets the conditions more fully than any other plan which has yet been tried.

This whole question is so important that it is earnestly suggested that representatives to the House of Delegates at the next session come to New Orleans with the facts and figures in regard to all these matters in their respective states well in hand, and that one or more days be given to the consideration of the subject.

J. N. McCORMACK.

Bowling Green, Ky.

Omaha-Douglas County (Neb.) Medical Association.

At its meeting, March 27, the new constitution suggested by the American Medical Association for county organizations was formally adopted. The reorganized society has a membership of 114 out of a possible 125 eligible physicians in the county.

Iosco County (Mich.) Medical Society.

The physicians of this county met at East Tawas, March 25, and organized this society as a branch of the Michigan State Medical Society, with the following officers: Dr. Henry A. Goodale, East Tawas, president; Dr. George S. Darling, Tawas City, vice president, and Dr. Frederick C. Thompson, East Tawas, secretary.

Marinette County (Wis.) Medical Society.

Pursuant to a call from Theodore J. Redelings, eleven physicians met at Marinette, March 24, and organized a county society on the lines proposed by the American Medical Association. Dr. Theodore J. Redelings, Marinette, was elected president; Dr. William Sellars, Wausaukee, vice-president, and Dr. A. T. Nadeau, secretary and treasurer.

Medical Society of the Tenth Councilor District of Arkansas.

The Northeast Arkansas Medical Society met at Fort Smith, March 24 and 25, and reorganized as the Medical Society of the Tenth Councilor District of Arkansas. Dr. E. G. McCormick, Prairie Grove, was elected president; Dr. John S. Shibley, Paris, vice-president; Dr. Frank B. Young, Springdale, secretary, and Dr. Buchanan Hatchett, Fort Smith, treasurer. A strong representation from every county in the district was present, and the society starts with the most flattering prospects for its future. This is the first councilor district medical society organized in Arkansas. It is to meet semi-annually, in March and September. The next meeting will be held in Fayetteville, September 29 and 30.

Denver Academy of Medicine.

After a year's preliminary work and agitation carried on by a few prominent members of the profession, the organization of the Denver Academy of Medicine was consummated Tuesday, March 31, 1903. The object of the academy, as expressed in its constitution is "the promotion of the science and art of medicine, co-operation among local medical organizations, the maintenance of a place for medical gatherings and the support of medical libraries." It is expected that in the near future the medical profession of Denver will possess a home of their own, where the various medical libraries and collections now scattered will be united under one roof, where all the medical societies of the city will meet, and a museum and laboratory for investigation and research will be maintained. The election of officers resulted as follows: President, Dr. Henry Sewall; vice-president, Dr. George B. Packard; trustees, 3 years, Drs. W. A. Jayne and W. W. Grant; 2 years, Drs. Thomas H. Hawkins and L. E. Lemen; 1 year, Drs. W. H. McLauthlin and I. B. Perkins; secretary, Dr. C. K. Fleming; treasurer, Dr. Frank E. Waxham; librarian, Dr. C. D. Spivak.

Kentucky County Societies.

The work of organization progresses in Kentucky, as is shown by the following record:

The physicians of Bailey County organized at Middlesboro, March 23, electing Dr. Leslie L. Robertson, president, and Dr. Macauley Arthur, secretary, both of Middlesboro.

The physicians of Taylor County met at Campbellsville, March 25, and after an address by Dr. Robert C. McChord, Lebanon, councilor of the district, organized a county society. Dr. Jefferson L. Atkinson and James B. Buchanan, both of Campbellsville, were elected respectively president and secretary.

The physicians of Knox County met at Barbourville, March 23, and after an address by Dr. Steele Bailey, Stanford, secretary of the Kentucky State Medical Society, organized a county society. Dr. Benjamin F. Herndon was elected president, and Dr. Granville H. Albright, secretary, both of Barbourville. This society promises to have every physician in the county enrolled in its paid-up membership before the meeting of the state society.

The physicians of Pendleton County met at Falmouth, March 31. After an address by Dr. J. E. Wells, councilor for that

district, a society was organized with Dr. J. H. Barbour, Falmouth, president, and Dr. John E. Wilson, Falmouth, secretary. The constitution proposed by the American Medical Association was adopted without change, and it was promised that every physician in the county would be enrolled in the membership before the next meeting.

The physicians of Simpson County met at Franklin, March 30, and after a talk by Dr. J. N. McCormack, Bowling Green, organized a county society, which promises soon to enroll in its membership every physician in the county. Dr. George W. Duncan, Franklin, was elected president; Dr. Morton M. Moss, Franklin, secretary, and Dr. James C. Douglass, delegate to the state association.

The physicians of Spencer County met at Taylorsville, March 26, and after listening to a talk by Dr. J. N. McCormack, Bowling Green, organized a county society, electing Dr. Henry C. Mathias, president, and Dr Wiley Rogers secretary, both of Taylorsville. All but three of the physicians in the county were present.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL MEETING, NEW ORLEANS, MAY 5-8.

Tennessee State Medical Society, Nashville, April 14-16.
Medical Association of Georgia, Columbus, April 15.
South Carolina Medical Association, Sumter, April 15-16.
Iowa State Medical Society, Sioux City, April 15-17.
Mississippi State Medical Association, Vicksburg, April 15 17.
Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.

Iowa State Medical Society.—The annual meeting will be held in Sioux City, April 15 to 17. At this meeting the adoption of the constitution suggested by the American Medical Association for state societies will be an important order of business.

Comanche County (Texas) Medical Society.—At the regular meeting held in De Leon, March 14, Dr. T. P. Weaver, De Leon, was elected president; Dr. Leven B. Thomas, Comanche, vice-president, and Dr. John D. Moorhead, De Leon, secretary and treasurer.

Breckenridge County (Ky.) Medical Society.—Physicians of Breckenridge County met at Hardinsburg, March 18, and effected a reorganization of the society, electing Dr. Robert T. Dempster, Glendeane, president, and Dr. Milton Board, Jr., Hardinsburg, secretary.

Westchester County (N. Y.) Medical Association.—At the annual meeting held at White Plains, March 26, Dr. Thomas J. Acker, Croton-on-Hudson, was elected president; Dr. William D. Granger, Bronxville, vice-president, and Dr. Donald T. McPhail, Purdy Station, secretary and treasurer.

Shawnee (Okla.) Physicians' Club.—About 20 physicians of Shawnee met, March 26, and organized a medical society whose principal object is the building of a hospital in the city. Dr. John A. Walker was elected president; Dr. Hugh Goodwin, vice-president, and Dr. A. T. Grayson, secretary and treasurer.

Woman's Medical School Alumnae Association.—The twenty-third annual meeting of the alumnæ of Woman's Medical School (Northwestern University) will be held April 29 in Chicago. The meeting has been so arranged as to allow the members to attend the meetings of the Illinois State Medical Society and the American Medical Association.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held March 25, 1903.

The President, Dr. William A. Evans, in the Chair.

Pneumococcus Septicemia.

Dr. J. L. Miller said that bacteriemia was a more suitable term than septicemia. Whether an infection remains localized or becomes generalized depends largely on the resistance of the individual and the virulence of the infectious agent. The *Diplococcus pneumoniæ* inoculated into a highly susceptible animal, as the mouse and rabbit, does not manifest itself as a localized process, but becomes a bacteriemia. In less susceptible animals, when inoculation is made directly into the lung, a process resembling pneumonia follows. Pathologic findings, animal inoculations and clinical observations indicate that pneumonia is often a septicemia before blood cultures actually demonstrate the organism. Two investigators report positive cultures from the blood in all cases examined; 154 cases collected from other reports show positive results in 24 per cent. The earliest positive results were obtained on the second day of the disease. Blood cultures will be of little diagnostic aid, as the disease is easily recognized from the physical findings. From a prognostic standpoint it is of value, a bacteriemia indicating a grave infection. Eighty-seven per cent. positive cases died, and only 22 per cent. of the negative cases.

The Diagnosis of Pneumonia.

Dr. Arthur R. Edwards read this paper. He said that mistakes are rare in the diagnosis of primary frank pneumonia in adults. They occur mostly in the aged, alcoholics, children, and in pneumonia secondary to cancer, nephritis, diabetes, etc. Therefore, the physician should watch all diseases when the respiration, pulse and temperature rise, or when, even without these or other symptoms, the subject of chronic disease is not doing well The onset symptoms, the chill in adults, convulsions in children, vomiting in the very young or in adolescents, suggest at least the possible onset of lobar pneumonia. Chill, pain in the side, sudden high fever and rusty sputum are almost positively final, since pneumonia is practically the only disease where they occur, guarding against the chief diagnostic confusion, infarct of the lung, in which the same symptoms may obtain, although here the sputum is reddish, but is not viscid, and is usually far more abundant than in pneumonia.

As to diagnosis from the physical findings in the lungs, these findings are usually detected in the frank case of pneumonia on a thorough thoracic examination, and, as a rule, appear within two days after the characteristic symptoms of onset. These physical findings were detailed and a table was presented differentiating pneumonia from effusive pleurisy.

Pneumonia in children occurs with an abrupt onset without chill (before the seventh year), but with vomiting or convulsions or other cerebral or meningeal symptoms. Cough is absent, since the bronchi are not involved; no sputum appears, and pain from the third to the fifth year, or, indeed, later, and also in adults, is referred to the abdomen, but without tenderness there. Pain is more important than increased respiration, which occurs with any elevation of temperature. Respirations number 80 under 2 years; in older children 50 or over. Crepitant râles are usually absent because of the superficial breathing caused by pain. Latency of signs is sometimes noted, as no bronchial breathing, no bronchophony, no dulness. Localization is more often central, in the upper lobes or migratory. Lysis is more frequent than in adults. In children pneumonia may be mistaken for abdominal disease, for pleurisy or brain affections. In alcoholics the disease is insidious, often without pain, cough or sputum, etc., and the lung symptoms may be overlooked, since the clinical picture of delirium tremens masks the signs of pneumonia.

Pneumonia secondary to tuberculosis, emphysema, arteriosclerosis, hepatic cirrhosis, nephritis, diabetes, typhoid influenza, diphtheria, anesthesia by ether, etc., is most frequently overlooked and the greatest care in chronic cases is necessary. Sudden death here and in general is often pneumonic.

Of other variations in the clinical course, the author mentioned the rarer forms, as abortive pneumonia, ephemeral pneumonia, relapsing or recurrent pneumonia. He discussed delayed or imperfect resolution; also local variations, massive pneumonia, etc., and as a final general statement he said that few diseases are recognized as easily as is fibrinous pneumonia, when careful consideration is given to its onset, symptoms, signs and evolution, and when, no symptom of pneumonia presenting, the patients with other disease are carefully, systematically and repeatedly examined.

Treatment of Pneumonia.

DR. JAMES B. HERRICK referred particularly to certain erroneous practices in the treatment of pneumonia, and argued for a simpler therapy and less free use of drugs. The expectant and symptomatic treatment is, for the present, seeing no specific remedy is known, the only rational one. The physicians can educate the laity to a knowledge of the self-limited nature of pneumonia, and a treatment as scientific as that in typhoid will be possible. He urged that oxygen be allowed to come in through the window, and not given entirely from the tank. No hard and fast rule as to diet should obtain; there should be individualization in this regard. Alcohol is seldom necessary. Hydrotherapy is proper for the reduction of temperature. Salt solution is of value, but its use ought not to be deferred until the patient is in extremis. Morphin is the best remedy to relieve pain and induce sleep, though it should, of course, be used with caution. Local applications are of doubtful value. They should not be so heavy or so light as to embarrass respiration. Bleeding is occasionally of benefit. The giving of many drugs for each trifling symptom is not indicated, and is often harmful. There is danger in the too free use of stimulants.

Discussion.

DR EDWARD F. WELLS stated that he had collected series of cases from the literature, which have been recorded during the past one hundred years, this table embracing at the present time about 400,000 cases, with a mortality rate of 22 per cent. or more. He believes the mortality of pneumonia is understated rather than over-stated.

In speaking of the diagnosis of pneumonia mention is frequently made of central pneumonias and the difficulty attending the diagnosis of these forms of the disease. A patient in full health is stricken by disease which prostrates him. He may lack cough and expectoration, still there may be fever, which is usually present. The prostration, the increased respiratory ring, the presence of leucocytosis of a peculiar character, the leucocytosis being due to an increase of polynuclear cells, would make the diagnosis clear to his mind in many cases in which the physical signs are in abeyance. He called attention to one observation which he has made, namely, that in cases of delayed physical signs, in the so-called central pneumonia, when the signs appear, one would find that almost invariably they are a little in front and just below the angle of the scapula. Casts are frequently found in the urine in pneumonia. Granular casts of pneumonia are remarkably uniform in size. He believes patients are usually fed too much in pneumonia. Pain in pneumonia declines in about three days, or subsides, regardless of what is done to relieve it.

DR. E. FLETCHER INGALS said the importance of not cutting off air is a point that should be impressed on all physicians in treating pneumonia. Pneumonia patients should not be fed in a routine manner. The proper administration of food is often neglected, and physicians frequently overlook the matter of feeding of the patient. He agreed with the essayist that opiates must be given if pain can not be relieved in some other way. Ordinarily, he believes bromid of ammonium will relieve insomnia if the drug is given early enough.

DR WALTER M. FITCH asked whether the antitoxin of pneumonia was of any value. Also, whether nuclein preparations are of any value in pneumonia other than producing a leucocytosis.

DR. EDWARD H. OCHSNER spoke of systematic strapping of the affected side in cases of pneumonia. In the great majority of cases that are thoroughly strapped early in the disease, the pneumonia disappears by lysis and not by crisis. His explanation is that the intoxication is not so sudden and severe, and it gives the patient a chance to produce immunity before he is completely intoxicated so as to cause death.

DR. M. HERZOG stated that pneumococcus septicemia is difficult to diagnose, but that this difficulty is largely done away with if a blood examination is made early, and attempts made to obtain pure cultures of the pneumococcus in the blood.

DR. B. W. SIPPY stated that cases that have the normal number of leucocytes, or less, were more likely to run a serious course.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 19, 1903.

The President, Dr. Andrew H. Smith, in the Chair.

Fetal and Infantile Typhoid Fever.

DR. J. LOVETT MORSE, Boston, said that conclusions could not be considered trustworthy that were founded on cases in which the diagnosis of typhoid fever had not been confirmed by a positive Widal reaction or the finding of the typhoid bacilli. Of fifteen cases, proved by autopsy and cultures to be genuine typhoid, ten were born dead or died at birth. Several persons had succeeded in proving experimentally the possibility of bacilli passing through the placenta, though it was not yet definitely known whether this could occur in a healthy placenta. Of twelve cases in which the organs were examined, the spleen was enlarged in four; in one there were healed ulcers and enlarged mesenteric glands; in one there was marked swelling of the liver with hemorrhages beneath its capsule. Intestinal lesions were not found in cases of intrauterine typhoid unless the infant lived for some time after birth. Infection of the fetus was not a necessary result of typhoid in the mother. The high mortality was explained by the septicemic nature of the infection. Statistics seemed to show that typhoid was uncommon at the age of 2 years, and that when it did occur at this early age it was in connection with other cases in the same house, or as a part of a large epidemic, thus suggesting that repeated exposure to severe infection was necessary for its production. Of thirty-two cases, twenty-three gave a positive Widal reaction, five were diagnosed positively by a bacteriologic examination, while in four cases both methods were employed. Sixteen of these cases giving a mortality of over 50 per cent. Of these sixteen, a typhoid eruption was present in sixteen, eleven showed abdominal distention, nineteen had diarrhea and five constipation.

Occurrence of Typhoid in Infants and Young Children.

DR. J. P. CROZER GRIFFITH, Philadelphia, presented this paper. He said the opinion was gaining ground that typhoid was not rare in infancy and childhood, and he had personally reported eighteen cases occurring in infants under two years and a half. Its onset and course were less characteristic than in the adult, and there was a tendency for the nervous symptoms to overbalance the intestinal symptoms. Walking typhoids were very common among these little patients. Vomiting was a comparatively common initial symptom, and epistaxis occurred about as often as in adults. Abdominal pain was common, rose spots were present in the majority of cases, and the spleen was probably always enlarged Desquamation often occurred, but there was nothing characteristic about it. Meningeal symptoms were often so marked as to confuse the diagnosis. The rise in temperature was rapid, with but little variation between the morning and evening, and the final fall was often so sudden as to appear critical in type. Both the mesenteric and the solitary glands were enlarged and elevated, but the tendency to intestinal ulceration was slight, which apparently explained the short duration of the disease. The value of the Widal reaction was inestimable in doubtful

cases occurring among infants and young children, but the failure to obtain this reaction did not necessarily exclude typhoid. It was particularly difficult to differentiate between influenza and typhoid. Intestinal hemorrhage was an infrequent complication and intestinal perforation was a great rarity. Relapses occurred about as often as in adults. Of 137 cases occurring in the Children's Hospital in the ten years prior to 1898 the mortality was 2.9 per cent., and in 295 cases occurring since 1898 it was 6.7 per cent. On the other hand, in a large series of cases of typhoid occurring in infants under two years and a half the mortality was 51 per cent. The Brand baths could not be fully employed in young children; even a plunge at 85 or 90 F. was often not well borne. Sponging should be tried first, and, if not sufficient, resort should be had to the graduated bath, beginning with a temperature of 90 and cooling it down to 85 F.

Symptoms and Etiology of Typhoid in Children.

Dr. A. D Blackader, Montreal, read this paper. He said that hand to hand infection was particularly prone to occur among young children. Out of 398 cases entering the Montreal General Hospital since 1900, 4 were below the age of 5 years, 19 were between 5 and 10, 32 were between 11 and 15, 89 were between 16 and 20, and 92 between 21 and 25 years of age. Only 3 cases occurred in persons over 50 years old. Of 100 cases reported by him in 1900, 4 were under 2 years, 13 were over 2 and under 6, 40 were over 6 and under 11, and 43 were over 11 and under 15 years old. The disease in children was milder in type and shorter in duration than in adults. The onset sometimes simulated pneumonia, but usually it was insidious. The temperature curve was usually atypical, and the continued fever of short duration. Abortive cases were not infrequent. The mortality was low; only one death occurred in his series of 100 cases, and in 50 consecutive cases in hospital there were only three deaths. Death usually was caused by some intercurrent affection. About the end of the first week the spleen could usually be palpated, and the typhoid roseola would be found in a large proportion of cases between the tenth and fourteenth days. Large ecchymotic spots on the skin justified an unfavorable prognosis. The pulse was usually rapid, but dicrotism was hardly ever observed in children under 10 years old. True meningitis in the course of typhoid was extremely rare. Ehrlich's diazo reaction, when present, was often an early help to diagnosis. The Widal reaction should be looked for every second day in doubtful cases. It was frequently not positive until after the tenth day.

Discussion.

Dr. L. Emmett Holt said that Dr. Griffith's opportunities for observing typhoid in infancy and childhood were exceptional. For example, in his hospital service at the Babies' Hospital, although examinations for the Widal reaction and cultures were made as a matter of routine in cases of continued fever, only three cases of typhoid fever had been encountered in a period of fourteen years. Undoubtedly typhoid was more a nervous than an intestinal disease in infants, and, hence, it was well to think of typhoid in every suspected case of meningitis. He had seen two or three cases in which the typhoid eruption was so profuse as to lead to the diagnosis of measles.

Dr. W. P. Northrup spoke of the great rarity of typhoid fever in infants, as shown by the fact that not a single undoubted case of this disease had been encountered at the New York Foundling Hospital in twenty-eight years. Moreover, Dr. Griffith had only succeeded in collecting from the literature of the whole world a comparatively insignificant number of cases.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, held March 3, 1903.

President Dr. William Egbert Robertson in the Chair.

The retiring president, Dr. Wendell Reber, made an address, in which he reviewed the work of the society during the past year.

The Early Diagnosis of Pregnancy.

Dr. J. J. Gurney Williams directed attention to the frequency with which this condition is overlooked during the first ten weeks, owing to the atypical symptoms presented. He recommended careful bimanual examination and observation of both the objective and the subjective signs. In the majority of cases he feels that the patients are led to consult the physician on account of the amenorrhea, for which there are many other causes than pregnancy, which causes he considered under three heads: 1. Those cases in which menstruation has never taken place, which, he felt, was most likely to be caused by some defective development of the uterus or ovaries or some constitutional states, such as chlorosis, anemia or phthisis. In many of these cases menstruation does not begin until the assumption of marital relations.

2. In the second and the largest class of cases the menstruation has been suppressed. Previous regularity or irregularity and a history of any pelvic operations should be considered, as even dilatation and curettement may cause one or two periods to be missed.

3. In the third class the blood is retained within the uterine cavity or vagina, as from atresia or imperforate hymen, and a physical examination will reveal the condition. Among the various causes for the suppression of menstruation are change of climate, as the country girl coming to the city and starting to work in a mill, fear of illicit pregnancy, desire for offspring, great mental activity, catching cold or getting the feet wet just prior to an expected period. The use of bromids in epilepsy is also said to cause this condition, and two cases had come under the author's observation which had suffered from amenorrhea for two months after using a mixture of zinc sulphate and digitalis "to prevent smallpox." Supra-involution following labor or miscarriage and injections to prevent conception may also cause this condition, and, as a point of diagnostic import, it should be borne in mind that amenorrhea arising from any other cause than pregnancy usually manifests itself in some constitutional disease, such as anemia, general debility and weakness.

The mammary signs are not constant and often misleading, but in pregnancy the nipple is usually more prominent, the areola darker, and Montgomery's tubercles enlarge, and if, in combination with these symptoms, there is frequent micturition, this is a valuable adjunct to diagnosis. Nausea varies greatly in time and severity.

The author felt that the most important reliable objective symptom is the change in the shape of the uterus, which in the virgin is pyriform, but when pregnancy occurs the fundus rapidly enlarges and changes in form, and, as this examination can only be made between uterine contractions, repeated examinations may be necessary to find the uterus at rest. Hagar's sign in conjunction with the other symptoms is very valuable after the second month; softening of the cervix is not constant and may be caused by metritis. The bluish discoloration of the vagina just posterior to the urethra can be observed as early as the fifth week and is of considerable value, and when produced by a fibroid or pelvic congestion is of a lighter blue. A cervix lower than normal and increase in weight of the uterus are important symptoms, and salivation, stimulated or perverted appetite, a feeling of drowsiness and constipation are common symptoms, although valueless except in conjunction with others

In regard to the diagnosis of ectopic pregnancy, in every case in which there is vaginal bleeding, or abdominal or pelvic pain, and the woman is presumably pregnant, a careful bimanual examination should be made, as the cases of this condition in which the diagnosis is not made are those which do not present the typical symptoms, such as sudden onset of pelvic pain, accompanied by a bloody discharge, with shreds, a leaky skin, rapid pulse and, probably, tympanites

Discussion.

Dr. Walter F. Woods directed attention to three classes of cases, in which he had found it exceedingly difficult to make an authentic early diagnosis of pregnancy: 1, Pregnancy occurring during lactation; 2, amenorrhea occurring during the progress of some debilitating disease; and 3, where the patient

intentionally tries to deceive the physician. The cause of the difficulty in the first group is that the uterus is somewhat involuted following delivery, requiring from six weeks to three months to return to normal, and if amenorrhea occurs during this period, the abnormal position of the uterus is apt to conflict with the differential diagnosis. In the second class of cases, it is necessary to study all the symptoms which the primary disease might produce and make a diagnosis chiefly by exclusion. Cases of the third class require careful investigation, as they are prone to give a false history of the menstrual periods and other symptoms. The patient's history should be carefully noted and considered in conjunction with the physical examination, which should be made in all cases, and a familiarity with the patient's habits, mode of thought and the physical condition of her genital organs is of value, which places the family physician in a better position to make the diagnosis than one who is called in for that especial purpose.

The nervous phenomenon manifested should be given consideration, as in many instances a naturally nervous patient will become of a composed temperament during the first few weeks of pregnancy, and one who usually has a placid disposition will frequently become very irritable. The reflex gastric disturbance which may occur at different times during the day is a valuable symptom, and usually before the morning sickness appears there is an undue craving for certain articles of food, while the appetite, as a whole, may remain about normal. In many instances flesh is assumed quite rapidly. To the family physician who is familiar with the shape and position of the patient's uterus, the change in the position and size during the first few weeks of pregnancy may be an important aid in diagnosis. Another important factor is the softening of the cervix, and, while this occurs at each menstrual period, it disappears shortly thereafter unless a pregnancy has taken place, in which event it is continuous. This sign is especially valuable in primipara, while in multipara the variation in the cervix from lacerations, etc., frequently obscures the Hagar sign. The condition of the mammary gland, such as deepening of the color of the nipple and enlargement and pricking sensation in the gland are signs which should be studied in conjunction with the others.

One of the most valuable signs, he considered, was the irritable bladder, and, although the menstruation frequently causes a more frequent desire to pass urine, the condition is continuous if caused by pregnancy. The purplish or bluish condition of the vagina should be looked for, and although this may be brought about by pathologic states, it usually occurs earlier in pregnancy than in the other conditions, the reason being that in pregnancy the blood is brought to the uterus primarily, while the pathologic conditions simply dam up the blood in the uterus so as to produce this sign. Shaeffer's sign, he stated, he had never been able to demonstrate.

DR. J. THOMPSON SCHELL viewed as the most important symptom the marked anteflexion of the uterus which is usually present. He felt that by carefully considering the added weight to the uterus, the increased amount of vaginal and cervical secretion, with beginning softening of the cervix, the fact that the cervix is generally partially prolapsed, the uterus further down in the pelvis and heavily supported, and by careful vaginal and rectal examination and the so-called Hagar's sign one can say that the woman is probably pregnant. The beginning of a violet color in the vagina later becoming blue is of value, and by three or four examinations, at intervals of a week, the diagnosis should be made with reasonable certainty.

In ectopic pregnancy, an early diagnosis is of vital importance, and this condition may exist without the presence of any of the customary signs, and the only symptom may be shock. It was recommended that in all cases where the patient complains of amenorrhea, pain in the abdomen and a little leaking from the vagina, that she be examined under an anesthetic. A case was reported of a woman who had been married for a number of years; had been sterile for seven years, and up to one month prior to the time she was seen had menstruated regularly without pain, at which time she missed a period. There was some pain in the lower portion of the abdomen, but no great evidence of shock and her temperature was normal. An examination under an anesthetic was decided on, a vaginal examination made, and an ectopic pregnancy discovered.

In regard to Shaeffer's sign, it was considered absolutely unreliable, except in conjunction with other symptoms, and in the majority of cases was believed to be absent.

DR. SAMUEL WOLFE believed it practically impossible to make a positive diagnosis in the early months, but felt that the family practitioner who was more or less familiar with the physical condition and history of his patients could generally be fairly certain of his diagnosis.

DR. W. WAYNE BABCOCK reported cases, the first of which was a woman who had been sterile for eight years, and had been operated on for laceration of the cervix, after which she developed retroversion of the uterus, which gave her a great deal of trouble, operation being advised to relieve this condition. This was, however, deferred for a number of months, and finally she missed a period and passed eight weeks over her time, when an examination revealed the uterus in a retroflexed position, with the fundus very large and soft and the cervix very small, leading to the conclusion that she was pregnant. On re-examination a week or two later, the mass was found to be somewhat larger, but, by feeling carefully, could be felt what appeared to be the normal fundus, and a division was apparent between the mass behind the uterus and the cervix. Pain in the pelvis was complained of and a week or two later, extra-uterine pregnancy being suspected, an operation was suggested. On opening the uterus what was supposed to be the fundus of the uterus was found to be a small fibroid, the whole uterus being studded with fibroids and, as they were directly in the path of the child and were growing rapidly, the whole organ was removed.

Another woman had been wearing a stem-pessary for two years to prevent conception, removing it during the menstrual period. The pessary was slightly longer than was necessary. She complained of constant bleeding, which she seemed unable to stop. She had a distinctly enlarged and soft uterus, but pregnancy was not thought of. A curettement was done, and the character and amount of material removed indicated that a pregnancy had taken place, in spite of the precaution, which the speaker thought would create a good field for the development of malignant disease.

DR. WILLIAM L. PEPPER stated that he had frequently noticed that women in whom sexual desire is very great before pregnancy will lose all desire during gestation, while those in whom sexual desire is not usually so great, will become abnormally sexually excited during pregnancy.

DR. J. EDWARD WALLIS felt that there were no signs sufficient to make a positive diagnosis until the end of the third month.

DRS. L. C. PETERS, I. C. GERHARD, W. H. THOMAS and HUGH P. MCANIFF also took part in the discussion and reported cases. One of these was of menstruation throughout pregnancy, others were of difficult diagnosis in wasting diseases.

DR. CARLE LEE FELT reported the case of a woman who had borne three children, examination after the birth of the third child revealing laceration of the cervix. A curettement was done, and a short time afterward she stated to her physician that she was two months pregnant. Seven months after this she was delivered of a full term child, which proved that she must have been pregnant at the time of the operation.

DR. J. H. GURNEY WILLIAMS stated that he had made a number of observations with the urine of pregnant patients, and had found that after the first twenty-four or forty-eight hours a skin-like substance would form on the top of the urine, and if it was held up to the light particles could be seen rising therefrom. This he had not observed in any urine except in cases of pregnancy. The history and symptoms he believed to be practically worthless, unless confirmed by the examination. Pinkish vaginal discoloration just posterior to the urethra is a sign of considerable value.

The vaginal incision in ectopic pregnancy is not wise, as in the majority of cases it necessitates two incisions in order to control the hemorrhage.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pruritus.

Leredde, in the "Journal des Praticiens," advocates the use of acetic acid in the following combinations:

℞.	Acid. acetic.....gr. xx	1	30
	Lanolin.....3i	4	
	Vaselin.....3iii	12	
M. Sig.: Apply locally; or:			
℞.	Acid. acetic.....gr. xx	1	30
	Vaselin.....3ii	8	
	Lanolin.		
	Pulv. amyli, āā.....3iii	12	
M. Sig.: Paste; apply locally.			

He also suggests the use of carbolic acid in one to three per cent. solutions on compresses.

Tincture of benzoin may also be employed in the following combination:

℞.	Lanolin.....ʒi	30	
	Vaselin.....3iv	15	
	Aquæ.....3i	4	
	Tr. benzoini.....3i	4	
M. Sig.: Ointment; apply locally.			

Camphor is an excellent anti-pruritic and may be used in either of the following prescriptions:

℞.	Chloral hydratis.....gr. xv	1	
	Linimenti camphoræ.....3ii	8	
	Lanolin.....ʒiii	90	
M. Sig.: Ointment; apply locally; or:			
℞.	Zinci oxid.		
	Cretæ		
	Linimenti camphoræ		
	Aq. calcis, āā.....3vi	25	
M. Sig.: Apply locally.			

The author also recommends a weak watery solution or ointment of ichthyol, one or two drams to the ounce. He has also found resorcin a remarkable anti-pruritic when employed in watery or alcoholic 2 to 5 per cent. solution.

Cough.

A prescription which has proved valuable, especially in case of young children, is as follows:

℞.	Codein. sulphatis.....gr. vi		40
	Sp. aeth. nitrosi		
	Syr. ipecac., āā.....3ii	8	
	Syr. lactucarii (Aubergier) q. s. ad....ʒiii	90	
M. Sig.: Half teaspoonful to one teaspoonful as required for cough.			

In the irritating cough which so often follows influenza the following preparation is recommended in the "Canadian Journal of Medicine and Surgery":

℞.	Heroin. hydrochloratis.....gr. iii		20
	Syr. acaciæ.....3vi	25	
	Aquæ q. s. ad.....ʒiv	120	
M. Sig.: Two teaspoonfuls 3 or 4 times a day.			

Alcohol in Fevers.

Martinet, in "La Presse Médicale," gives a formula which is intended to serve as a guide in the rational administration of alcohol in fevers, whereby the tissue waste may be forestalled:

℞.	Tr. cinnamomi.....3i	4	
	Sp. sacchari (old)		
	Syr. simplicis, āā.....ʒiii	90	
	Aq. tileæ (Linden water).....3x	40	
M. Sig.: Tablespoonful every two hours.			

The "Canadian Journal of Med. and Surg." recommends this editorially and urges that it certainly would be satisfactory to the practitioner, and should be in the best interests of the patient and his family, if alcohol, accurately measured according to the requirements of the individual, were administered as carefully as any other medicine. If the patient has scruples against liquors, medicinal dosage, as in the prescription quoted, may avoid unpleasantness.

Carbolic Acid for Erysipelas.

Seneca D. Powell, New York, applies 95 per cent. carbolic acid in erysipelas, and as soon as the skin turns white he applies alcohol to check the action. Large surfaces may be thus treated without harm. Temperature and other symptoms are rapidly and markedly alleviated. This treatment also lessens the danger of infection to others.

The "Dietetic and Hygienic Gazette" describes another treatment for erysipelas. It is to cover the area and a margin on the surrounding skin with a thick layer of white vaselin, cover this with linen and bandage to hold it in place. Apply twice daily. Its advantage over iodin applications is the absence of pain and irritation.

Removal of Odors from Hands.

Dr. Powell also recommends carbolic acid to remove the foul odors that cling to the hands after opening abscesses or after work in autopsies. The acid should be used in the strength of a dram to the ounce of water.

Typhoid Fever in Infants.

J. P. Crozer Griffith, in the "Medical Record," says: The bath method of Brand carried out with exactitude is not applicable to young children. Even a tepid plunge of 85 or 90 F. is often not well borne by older children. His custom is to employ sponging first, because it is often sufficient; if not, a graduated bath is used, beginning at 90 F. and cooling it down to 85 F. This is the safer plan. Sometimes a warm bath of 95 or 100 F. is useful, and the same is true of the abdominal ice-bag. Hydrotherapy should never be used in young children as a necessary routine, and the prolonged sponging of a struggling child is neither useful nor judicious.

Codein in Insanity.

In a recent Paris thesis by Jules Clausse, says the "N. Y. Med. Jour.," the author sets forth the great advantages of the employment of codein as a calmative in cases of melancholia and in those of any psychical disturbance characterized by derangement of the general sensibility, by anxiety, and by moral suffering. Its effect, he says, is soon manifested in the improved facial expression and the subsidence of the feelings of moral anguish. For melancholiacs it is the hypnotic par excellence, since it overcomes the causes of their sleeplessness. Moreover, it is devoid of the unpleasant after-effects of opium and morphin. It does not diminish the secretions or cause constipation or the impairment of appetite or the unpleasant sensations on waking that opium and morphin are prone to give rise to. The dose, however, must be scrupulously regulated to suit the case, and the drug is positively contraindicated in cases of intense excitement and in maniacal conditions.

A Mouth Wash.

Pruyn recommended to the Illinois Dental Society the following as a mouth wash:

℞.	Boracic acid.....3iii	12	
	Oil cassia		
	Carbolic acid		
	Chloroform, āā.....3i	4	
	Alcohol.....ʒiiiss	105	
	Oil peppermint, ...drops x		65
	Glycerin, to make..... fl. ʒviii	240	
M. Sig.: Add one-half teaspoonful to one-half glass tepid water as a mouth wash.			

This is recommended in inflammation of the mucous membrane wherever located, but if used through the nose it should be weaker than for a mouth wash.

The Abuse of Lavage of the Stomach.

The "N. Y. Med. Jour." says: New therapeutic measures that in the least answer the purposes they are alleged to serve are too apt to be carried to extremes, and it is well when modera-

tion in their employment is advised. This may be said, we think, of lavage of the stomach. It is not always the innocent procedure that it passes for, as it occasionally gives rise to collapse. It should be resorted to only on definite indications and employed in moderation.

Influenza.

Hare's text-book on therapeutics, last edition, gives a valuable summary of the treatment of influenza. Some of the suggestions are as follows:

To abort the attack in first few hours:

℞.	Tr. aconit. rad.	℥ss	2
	Spts. ætheris nitrosi	℥iii	4
	Potassii citrat	ʒiii	4
	Aquæ q. s. ad	℥i	30

M. Sig.: One teaspoonful every four hours, during first day of the attack.

For the irritative cough in first stage:

℞.	Tr. benzoini comp	℥i	4

Sig.: Add to one pint of boiling water, and inhale the steam.

For the cough in the height of the attack:

℞.	Ext. cannabis ind	gr. ¼-i	.015-.6

Or:

℞.	Codeinæ sulph	gr. ¼-i	.015-.6

Sig.: Every three or four hours.

For the bronchitis in the early stage:

℞.	Vini ipecac	℥ii	8
	Potassii citratis	℥ii	8
	Syr. pruni virg	℥ii	60

M. Sig.: One teaspoonful every two hours.

For the bronchitis in the later stages:

℞.	Ammon. chlor	gr. xl	3
	Tr. cubebæ	℥i	30
	Syr. pruni virg. q s. ad	℥iv	120

M. Sig.: One tablespoonful every three hours.

For the insomnia:

℞.	Chloral hydratis	gr. xv	1

Or:

℞.	Chloralamid	gr. xxx	2

Or:

	Sulphonal	gr. xx	1.3

Sig:. At one dose.

For stimulation, throughout the attack:

℞. Strychninæ sulph. up to .03 (gr. 1/20).

Sig.: Every four hours. (It is preferable to use smaller doses more frequently, e. g., gr. 1/40 every two hours.)

For the vertigo and dizziness:

℞.	Ext. ergotæ fld	℥ss	2
	Sodii bromidi	gr. xx	1.4

M. Sig.: Take at one dose; repeat q. 3 hours.

For the constipation in the early stages:

℞.	Castor oil	℥ss	15

Or:

℞.	Magnesii sulph	℥ss	15

Or:

℞.	Magnesii citratis	℥ss	15

Sig.: at one dose.

For the constipation after the attack: One teaspoonful of fluid extract of cascara at night.

Anders suggests for the laryngobronchial irritation of influenza:

℞.	Codeinæ sulph	gr. iv	.25
	Ammon. chloridi	ʒxv	20
	Syr. pruni virg	℥ii	60
	Spts. junip. comp. q. s. ad	℥iv	120

M. Sig.: One teaspoonful every two or three hours.

The Internal Uses of Potassium Permanganate.-

A. Khoury reports, in the "Jour des Praticiens," as quoted by "Amer. Med," four patients with painful dysmenorrhea who were cured, and three patients with anemia greatly improved by the administration of potassium permanganate. It was given in doses of from 5 centigrams to 0.26 gram. (5/6 to 4 grains) usually in pills, which have the advantage of not staining the mucous membrane of the mouth. In all cases this drug was well borne by the stomach. It caused no constipation or diarrhea; in only one case was the urine tinted a light pink. Menstruation does not counterindicate its use.

Medicolegal.

Reading or Proving Contents of Medical Works to Jury.—The furthest that the Supreme Court of Illinois has gone in respect to reading medical works to the jury, the Appellate Court of Illinois, First District, says, is to hold that if an expert bases his opinion on the work of an author, the work may be read in evidence to contradict him. And if it would not have been competent for counsel to produce and read to the jury medical books, much less was it competent, the Appellate Court holds, in the case of the Chicago City Railway Company vs. Douglas, to attempt to prove the contents of such books by witnesses testifying solely from memory. The testimony of medical expert witnesses as to what others had written or spoken in regard to the subject matter of the inquiry, was mere hearsay, and incompetent.

Care of Soldier in Private Infirmary.—The case of Davis vs. United States was brought in the United States District Court in Alabama to recover the reasonable value of the board, lodging, medicines, medical attention and nursing of a soldier in the service of the United States who was taken ill with typhoid fever and was by the direction of his captain conveyed to a private infirmary for medical treatment and attention, there being no army surgeon near the place whose medical services could be obtained for him, and no army hospital to which he could be sent. Section 1452 of the army regulations, promulgated Oct. 31, 1895, provides that: "When medical attendance is required by an officer or enlisted man on duty, and the attendance of a medical officer can not be had, the officer, or if there be no officer present, then the enlisted man may employ a civilian physician. and a just account for his services and the necessary medicines will be paid by the medical department." Section 1457 provides that "accounts for board, lodging, nursing and medical attendance of sick soldiers in private hospitals will be sent to the surgeon-general for settlement." But in this case there was no valid express contract, as required by act of June 2, 1862, for the services rendered. However, the court is of the opinion that the captain acted within the line of his authority under the army regulations, in sending the sick soldier to the infirmary, from which there arose on the part of the United States government an implied contract to pay the fair value of the services rendered, as claimed.

Not Required to Have Limb Rebroken and Reset.—In the malpractice case of Morris vs. Despain, where a judgment for damages is affirmed by the Appellate Court of Illinois, Second District, a woman 69 years of age, in good health, fell and suffered an oblique fracture of the left femur, two or three inches below the hip joint. Two physicians attended her. They reduced the fracture and put on a roller splint. When they discharged her the injured limb was inverted or turned in toward the other, according to her proof, ninety degrees, but according to that of the physicians only twenty-five or thirty degrees. She claimed that the condition of her leg was brought about by careless and unskilful treatment. The physicians claimed that they exercised care and professional skill, and that what they did was good practice; that prior to the use of the fracture box they desired to use a system of weights to avoid the injury complained of, but that the patient would not permit them to do so, and that she also disobeyed their instructions. Two trials were had; the first resulting in a verdict for $1,000 damages; the second for $950. On the questions whether she obeyed instructions, and whether the treatment pursued was the proper treatment to prevent inversion or not, the court says that the evidence was in hopeless conflict, but that there was abundant to sustain the verdict. After the union between the bones was complete and the patient had discovered the condition of her leg, she requested that an-

other physician be called in. This physician being called, advised that the only way by which the limb could then be straightened would be by breaking the bone and resetting it, but this the patient declined to allow to be done. The trial judge gave an instruction for her which told the jury that even though they should believe, from the evidence, that the limb might have been straightened by being broken again and reset, yet if the evidence showed that by reason of the want of ordinary care and skill on the part of the two physicians, the limb was permitted or caused to be crooked, and that ordinary skill and care on their part would have avoided the injury, her refusal to have her limb rebroken and reset was no defense to any injury caused by their want of ordinary skill or care. The Appellate Court holds that the instruction was properly given. It holds that she was not required to submit to have her limb rebroken in order to relieve them from liability for lack of ordinary care and skill. Moreover, there was evidence tending to show that such an operation would be attended with great pain and that at her age and in her physical condition there was great danger that it would prove fatal to her. The law did not require her to risk such danger before she could sustain her suit.

Mississippi Medical Practice Act and Osteopathy.—In the Mississippi case of Hayden vs. State the former party was indicted for practicing as a physician without first having been examined and obtained a license so to do. The admitted facts were that he was a graduate of a school of osteopathy and practiced it. That in treating diseases, and in his treatment of the witnesses for the state in this case he did not use any drug or medicine, but his treatment consisted of manipulating scientifically the limbs, muscles, ligaments and bones which were pressing on the nerves of the blood supply. This treatment was had so that Nature would have free action. That in his treatment of diseases or pains he was confined solely to his manipulation as above described. That for said services to said witnesses he received pay. That the witnesses were being treated for rheumatism, and claimed that they had entirely recovered as a result of that treatment. The circuit judge instructed the jury that, if they believed the admitted facts, they should convict the party. This they did, and thereon the judge imposed a fine of $20 on him. The Supreme Court of Mississippi says that the sole question was whether, under Chapter 68, Acts 1896, an osteopath is required to be examined and licensed for the practice of his branch of the healing art. The act of 1896 provides: "That the practice of medicine shall mean to suggest, recommend, prescribe or direct for the use of any person, any drug, medicine, appliance or agency, whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound or fracture or other bodily injury or deformity or the practice of obstetrics or midwifery, after having received, or with the intent of receiving therefore, either directly or indirectly, any bonus, gift, profit or compensation." It was perfectly manifest, the court thinks, from the agreed statement of facts, that the party used neither drug nor medicine, as meant by the act. It was equally manifest that the legislature, by the use of the words "appliance and agency," did not intend to include such treatment as he gave the state witnesses. Continuing, it says that its attention has been called to no statement of osteopathic treatment in all the literature on this subject which characterizes the treatment of an osteopath of his patient as an appliance or agency. There is an incongruity in such application of such words. Osteopaths themselves do not speak of their manipulation of the nerves, ligaments, bones and other parts of the human body as being agencies or appliances of any sort or in any sense. In any strict and proper use of such words they can not be so denominated. If one not an osteopath directs a blow at their art it is becoming that he use a term of description not to be mistaken. The Supreme Court concludes that the act of March 19, 1896, was not intended to regulate the practice of osteopathy in Mississippi. It says that the course of study and examination prescribed in the law of that state on this subject seems to mark it out as curriculum of the allopaths. It at least suits them in many respects, but its chemistry and materia medica are not specially adapted to assist the practice of osteopathy. They make no use of the immense learning contained on these subjects, so highly valued by the regular physician. It appears to the court that the Mississippi legislation on the subject of the practice of medicine has been framed by the allopaths to suit their views of the medical art, and with the laudable design of excluding from the practice the unskilful and the ignorant; and it was not intended to set up a universal standard of therapeutics, from which none could depart. Courts in other jurisdictions where similar statutes prevail have led the way for the decision in this case. And the court says that while its own views of the subject would probably have led it to the conclusion it has reached, yet, if the case had been otherwise, it should have felt itself strongly constrained by the authority and reasoning contained in them. It refers to State of Ohio vs. Liffring, State of Rhode Island vs. Mylod and Nelson vs. Board (Kentucky). Alabama, with a statute widely divergent from that of Mississippi, it says, holds another view. But Bragg vs. State of Alabama sheds no light on the construction of the Mississippi statute. It adds that a wise legislature some time in the future will doubtless make suitable regulations for the practice of osteopathy, so as to exclude the ignorant and unskilful practitioners of the art among them. The world needs and may demand that nothing good or wholesome shall be denied from its use and enjoyment.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

March 28.

1 *The Psychic Nature of Some Disturbances of the Acts of Urination and Defecation. Charles J. Aldrich.
2 *The Prevention and Outdoor Treatment of Pulmonary Tuberculosis. Frank Warner.
3 Postpartum Subinvolution. James E. King.
4 *Course of Diseases During Pregnancy. E. Castelli.
5 *Gastroptosis and Gastrectasis. E. S. Fogg.
6 A Diagnosis by Postmortem Laparotomy. C. A. Drew.
7 Glimpses of the Practice of Medicine and Diseases in the West Indies. (To be continued.) Nicholas Senn.

1. **Psychic Disorders of Urination, Etc.**—In this article Aldrich reports a number of cases of curious psychic embarrassment connected with the acts of urination and defecation, the latter being far less frequent than the former. He thinks innate modesty may be sufficient to explain the condition in some of these cases, but others are not so readily explained.

2. **Tuberculosis.**—The subject of tuberculosis is reviewed by Warner, who notices the theory of its contagion, though with proper care, this can be of but little importance. The lowering of vital resistance is undoubtedly the greatest cause of vulnerability to the infection which few altogether escape. He reviews the various methods of treatment, and notices the arguments that would make bovine tuberculosis infectious to human beings. There is a good deal of hopefulness in Behring's antituberculosis vaccination, though as yet it is too early to decide in regard to its efficacy.

4. **Diseases of Pregnancy.**—Castelli reviews the circulatory and heart lesions that may be associated with pregnancy and thinks that the physiologic condition may possibly explain the tendency to primary heart lesions, hence, we should adopt prophylactic measures during pregnancy to guard against their possibility. The patient should have a great deal of rest, especially if weak and anemic, and lack of exercise must be substituted by massage. To counterbalance the impaired respiratory power of the blood corpuscles and the consequent hemolysis, a cytogenic treatment could be adopted during the last months of pregnancy. The influence of pregnancy on any coexisting heart disease is also noted. It renders the existence of these disorders more serious and often disastrous. He would be inclined to advise against marriage more in case of mitral than aortic lesions, not giving harsh opinions, but talking sensibly to the patient, showing the dangers, prescribe a program of life, and if necessary, caution her against child-

bearing. If the cardiac troubles become dangerous to the life of the pregnant woman labor should be accelerated or brought about prematurely. In conclusion he speaks of the varicose veins of the pregnant condition.

5. **Gastroptosis and Gastrectasis.**—In these conditions Fogg thinks the two operations most rational and efficient are the Beyea operation in gastroptosis and gastroplication for gastrectasis. He reports a successful case of the former.

New York Medical Journal.

March 28.

8 Syphilitic Pseudotabes—Report of a Case; the Differential Diagnosis of Tabes. (To be concluded.) Joseph Collins.
9 *Streptococcus and Staphylococcus Bronchitis. Joseph M. Patton.
10 *Intestinal Resection and End-to-End Anastomosis, with the O'Hara Forceps, in a Case of Tubo-ovarian Abscess with Appendicitis; Recovery. George G. Ward, Jr.
11 *The Special Dispensary as a Factor in the Combat of Tuberculosis as a Disease of the Masses. S. A. Knopf.
12 *Opium in Surgery. Edward W. Lee.
13 *Retinoscopy. Daniel H. Wiesner.
14 *On the General Characteristics of Corneal Astigmatism. H. Davison Sarll.

9.—See abstract in THE JOURNAL, Feb. 14, p. 464.

10. **Intestinal Resection.**—Ward reports a case, calling attention to the advantages of the O'Hara forceps first described in the "American Journal of Obstetrics" for July, 1900. Their advantages are summed up by him as: 1. Only one forceps is required for any size of intestine; 2, it is not necessary to ligate or clamp the bowel as in the button or other methods, as the forceps keep the intestine closed at the site of resection throughout the operation; 3, no manipulation or work inside the bowel is done, so that the advantage of cleanliness is one of the strongest points in its favor. Lastly, the perfect control of the work, the slippery intestine being held with ease and allowing accuracy of suturing, and the general simplicity of the apparatus.

11. **Tuberculosis.**—Knopf is in favor of special provision for tuberculous patients in existing dispensaries, but still more for special tuberculosis dispensaries after the pattern of the Emile Roux foundation at Lille, France, and the one esablished in Havana by the United States government. He thinks there may yet come a time when with the modern sanatoria and some seaside sanatoria for tuberculous children, the tuberculosis dispensaries he advises will be valuable distributing and diagnosing points.

12. **Opium in Surgery.**—This article is a plea for opium in many conditions in surgery. Lee holds that while it should be used judiciously and its injudicious administration is injurious, it has special indications. In fractures, for example, and in severe burns, in trauma or surgical shock, if accompanied by pain or hemorrhage, and also before the administration of anesthetics. This is particularly true, he says, if the individual is addicted to the use of alcoholic stimulants or suffering from fever or nervousness. He notes the tendency to prejudice against it in abdominal surgery, but where it is possible to clean out the intestinal tract, relieve the lungs, kidneys, and liver of any co-existing congestion, he does not believe a little morphin to stop pain is going to do the harm credited to it. Of course, great caution should be used. It is the best internal hemostatic in the treatment of hemorrhage, and it often relieves obstinate and exhausting vomiting after anesthesia. In the first twenty-four hours after operation the pain becomes so severe it causes uncontrollable restlessness, and morphin should be used to relieve it. In certain conditions he believes in judicious administration of opium in peritonitis regardless of its cause. He gives examples of the reversal of the opinion in regard to opium when the surgeon is himself the operated on instead of the operator.

13. **Retinoscopy.**—Wiesner's article describes the conditions of the eye which may come before the practitioner, and endeavors to present a test for refractive conditions, calling attention to the abuses of refraction in the hands of unskilled and ignorant opticians.

14. **Corneal Astigmatism.**—Sarll describes the conditions of astigmatism, noticing some of the salient features, subjective symptoms, methods of diagnosis and correction.

Philadelphia Medical Journal.

March 28.

15 *The Increase of the Use of Cocain Among the Laity in Pittsburg. Thomas G. Simonton.
16 *The Use of the Electrothermic Angiotribe in Lieu of the Employment of Ligatures in the Open Operation for the Relief of Varicocele. Orville Horwitz.
17 Additional Notes on Organacidia Gastrica. Mark I. Knapp.
18 *Mouth Infection, Due to Natural Teeth. (To be continued.) D. D. Smith.
19 *Psychopathic Epidemics. (Continued.) John B. Huber.

15. **Cocain Addiction.**—The increase of cocain addiction is noticed by Simonton, who gives some of his own experiences, mentions symptoms and treatment. He finds that the drug produces an exhilarating effect which rapidly disappears, followed by increase audition and in habitues by auditory hallucination. He believes the habit is one of the most difficult of all drug habits to cure, and from his investigations in drug stores he finds that the sale is very largely increasing, especially among the colored population who are the largest users of it at the present time. It is his honest belief that 3,000 ounces is not an unusual amount to pass over a single counter in a year, but actual figures are hard to obtain. One druggist admitted, in the presence of witnesses, that he sold 40 to 50 ounces a month. He suggests a strict law against the sale of cocain, except on prescription of reliable physicians, who are personally known to the druggist, and prohibiting physicians from giving it to those who are thought to be drug fiends.

16. **Varicocele.**—Horwitz recommends the Downes' electrothermic angiotribe as described in THE JOURNAL for Aug. 17, 1901, for the open treatment of varicocele, reporting a case of unusually large varix, thus treated. He says it has decided advantages over the simple angiotribe in being less crude and dangerous, in less danger of secondary hemorrhage and thrombus, lack of pain after operation and less danger of orchitis.

18.—This article has appeared elsewhere. See THE JOURNAL of March 14, ¶83, p. 739.

19. **Psychopathic Epidemics.**—Huber notices in this article the Schlatter, Francis Truth, osteopathy, Eddyism and other delusions. He considers that Schlatter was probably honest, but insane. He remarks as to the factors which produce these psychopathic epidemics, that imitation is far the most potent. He has investigated Eddyite cures and has not come across a single one of a serious disease, which they claimed to have thus relieved.

Medical News, New York.

March 28.

20 *Spinal Concussion, So-called. Carl E. Black.
21 A Brief Consideration of the Mechanism of Mental States Encountered in Alcoholic Insanity, with Illustrative Cases. W. K. Walker.
22 *Scope of Vaginal Section. H. J. Boldt.
23 *The Scope of Vaginal Section. Hiram N. Vineberg.
24 *How Easily We Can be Mistaken in the Diagnosis of Cancer of the Stomach. Mark I. Knapp.
25 *The Operative Treatment of Fracture of the Patella. Russell S. Fowler.
26 Some Physiological Observations on a Crustacean Heart. George V. N. Dearborn.

20.—See abstract in THE JOURNAL, xxxix, p. 1,132.

22. **Vaginal Section.**—Boldt's article is the same in substance as that abstracted in THE JOURNAL of March 28, ¶84, p. 875.

23. **Vaginal Section.**—Vineberg considers this subject exclusive of vaginal hysterectomy and also of operations performed for the correction of uterine displacements by this route. Excluding these, he finds the scope of the operation in pelvic abscess, pyloroplasty and ovarian abscess, conservative surgery in diseased adnexa, in cases of ovarian cyst, in myomectomy for small fibroid growths of the anterior wall or the fundus of the uterus, in ectopic pregnancy under certain conditions, as: 1. In obscure cases to aid in forming the diagnosis, and 2, in cases where there is no further hemorrhage and the already effused blood has formed a hematocele in the Douglas cul-de-sac or at the base of one of the broad ligaments. In many of these cases vaginal section and drainage prove to be curative. In others, again, the affected tube is the source of future trouble which may require its removal with the corresponding ovary. In case of pyosalpinx and ovarian abscess he would operate by this

method only when the sac is easily reached and can be removed entire, and when it is not large and can be removed readily by the anterior incision, and sometimes in the acute stage to tide the patient over the dangerous period. The locality of the pus collections, in abscess and salpingitis, of course, must guide the operator.

24. Cancer of the Stomach.—Knapp gives a hypothetical and two actual cases, one of his own observation and one taken from Obrastzow's experience, which show the difficulties sometimes encountered in recognizing the true condition of things in certain cases of gastrosia fungosa.

25. Fracture of the Patella.—Fowler considers a certain number of cases in which operative treatment is contra-indicated such as when there is intercurrent disease of such a nature as to prohibit operation, and when the patient prefers to pass the remainder of his life partially disabled rather than to take the chances of a certain amount of risk of life. Longitudinal fractures do not require operation. In comminuted fractures it is unjustifiable except in selected cases when circumsuture may be employed; neither do transverse fractures in which rupture of the capsule has not occurred, require operation. This alone, however, is very rare and is revealed by slight separation of the fragments, absence of tilting of the fragments, and but slight effusion in the joint. The aponeurotic structures on either side of the joint will also be found intact. In ordinary transverse fractures, bony union is prevented by separation due to muscle contraction and the interposition of periosteum and torn capsule between the fragments, and also by tilting of the fragments, all three of which are hindrances to proper approximation, and one of which, the interposition of periosteum and torn capsule, forms an unsurmountable obstacle to bony union. The pathologic conditions, therefore, are absolutely in favor of operation. Treatment by apparatus is, moreover, unsatisfactory. There is a constant tendency to stretching of the fibrous structures causing weakness in the extension of the limb and inability to walk except on the level. Adhesions are apt to persist and cause pain, hence, the advisability of operative interference in all these cases. The amount of coincident traumatism and synovitis must determine the time of operation. If there is slight injury to the surrounding structures it may be immediate. If, however, the traumatism and synovitis are marked, it is best to allow a few days to elapse so as to give the system a chance to meet more effectively the additional traumatism of operation. This period varies from five to fourteen days. Over-separation of the fragments should be guarded against and effusion controlled by elevation, fixation, evaporating lotions, ice pack, etc. In case of extreme distension of the joint, aspiration may be performed aseptically. In his operations he makes it the rule not to allow the hand to touch the wound, using two knives, one for the skin and one for the deeper tissues, to protect against infection. The details of operation are given. The surfaces are freshened with a sharp curette, all the blood clots removed, the bone is drilled, the drill provided with an eye forming a carrier for the suture. He uses a medium-sized chromicized kangaroo tendon for suture. A light dressing is applied and the ends secured by the Volkman splint. In the later treatment he sometimes uses a light plaster cast if necessary. Cases are reported.

Boston Medical and Surgical Journal.

March 26.

27 *Extensive Cavity Formation in the Central Nervous System, Presumably Due to Bacillus Aerogenes Capsulatus. Emma W. Mooers.
28 *Bacillus Shiga in an Epidemic of Diarrhea. Lawrence W. Strong.
29 *Systemic Infection Due to Natural Teeth Conditions. D. D. Smith.
30 *Suppuration of the Frontal, Ethmoid and Sphenoid Sinuses. (Concluded.) Edgar M. Holmes.

27. Cavity Formation in the Central Nervous System.—Mooers describes a case of very extensive "Gruyère cheese" brain and cord, of which the illustrations are very striking. The patient was an old paretic, profoundly demented. He died suddenly with signs of increased restlessness, abdominal distension, a temperature of 104 and respiration of 48 to 58. The autopsy showed the condition as mentioned and revealed in the cavities great numbers of bacilli about the size and appearance of anthrax bacilli, and morphologically and in staining reaction identical with the *Bacillus aerogenes capsulatus* of Welch. To these she attributes the cause of the condition and thinks it is probable that it existed before death as there was no other demonstrated cause and the invasion of the circulating blood by the bacilli might be assumed to account for the symptoms.

28. Bacillus Shiga in the Epidemic of Diarrhea.—Strong reports an epidemic of diarrhea, with many cases of ileocolitis in a seaside summer resort where sanitary conditions were almost ideal. The water supply seemed to be well isolated, there was nothing to credit it with the disorder. The milk supply was also apparently as good as could be expected. The bacillus isolated seemed to be identical with that of the *Bacillus dysenteriæ* of Shiga and its reaction in cultures was identical. The strongest suspicion as to cause of the disorder seems to have been from milk infection.

29.—This article has appeared elsewhere. See THE JOURNAL of March 14, ¶83, p. 739.

30. Sinus Suppuration.—Holmes' article is concluded in this issue. He notices the symptoms of nasal sinusitis at length, whether located in the anterior, ethmoid or sphenoid cells. Prognosis and treatment are also detailed. He thinks the prognosis is generally fair, though considerable care and attention should be given to the after-treatment, and some relics of the disorder may remain. The article with the preceding issues should be thoroughly read for its full understanding.

Medical Record, New York.

March 28.

31 *Renal Decapsulation for Chronic Bright's Disease. George M. Edebohls.
32 *Specific Treatment of Diphtheria. George B. Philhower.
33 *The Psychical Element in Hay Fever. Raymond Wallace.
34 On the Biological Relationship of Proteids and on Proteid Assimilation. P. A. Levene.

31. Renal Decapsulation.—Edebohls reports his experience with his method of renal decapsulation for chronic Bright's disease, including a total of 51 cases. A number of these are reported in detail. There were 14 deaths; 7 of them within fifteen days of operation and 7 at later periods. Three of the 7 deaths of the operative mortality were due to uremia, 2 to acute dilatation of the heart, 1 was caused by pneumonia and one by combined uremia and cerebral hemiplegia. He was obliged to take cases almost moribund. He does not consider the mortality a serious one, in fact, the greatest peril to the patient is from the anesthetic. Of the remaining patients, 2 patients did not show satisfactory improvement; 22 are in various stages of satisfactory improvement and progress toward health at periods varying between two and fifteen months after operation. They have not, however, passed the probationary period of six months of normal urine, before the expiration of which no patient is entitled to a place on the list of cures. Nine patients were cured and remained cured in periods varying from one year, nine months to ten years. One patient operated on with one kidney had a repetition of chronic Bright's disease after four years. He thinks there are two important facts to be recognized, first, that chronic Bright's disease in its early stages, at least before serious and fatal damage has been done, is curable or susceptible to amelioration by renal decapsulation. The second is that renal decapsulation in the early stages of chronic Bright's disease is attended in competent hands with little or no risk of life.

32. Diphtheria.—Philhower advocates the use of antitoxin in all cases of diphtheria and would have it required by law. Since 1895 antitoxin has saved for him 28 children and given him just about one year's more sleep than he would otherwise have enjoyed without its use. He prefers to use in tonsillar cases 2,000 units, 10 c.c. in quantity. Nasal cases require two to three times as much and the laryngeal cases should receive from three to five times as much. If there is a great amount of glandular swelling, very large doses of 4 to 6,000 units should be used as the swelling indicates extensive poisoning. He prefers 2,000 units strength, in 10 c.c. and would stick to one reliable manufacturer.

33. **Hay Fever.**—The psychical element in this affection is noted by Wallace, who reports several cases where, he thinks, it was an important element. There is hardly another disease in which it is so important as in this.

Cincinnati Lancet-Clinic.
March 28.

35 *The Removal of the Appendix as an Incident in Abdominal Operations. J. F. Baldwin.
36 Enuresis. F. H. Darby.
37 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.
38 A Combined Serum, Obtained from the Jackass and the Billy-goat. Brose S. Horne.

35. **Removal of the Appendix in Abdominal Operations.**—Baldwin has examined his cases for some time to see the condition of the appendix, and in a total of 636 he found it normal in only 27 cases. This, he thinks, is an overestimate, as external examination does not give a good idea of the internal conditions. He advises removal in all cases, and in nearly all of these the appendix was removed by his method of inversion, consisting in first ligating the meso-appendix close to the bowel, then cutting it across beyond the ligation and stripping it away from the appendix clear to the tip with the fingers or forceps. Then inverting the appendix commencing at the tip, and when concluded, a single stitch of catgut is taken across the inverted base and the operation is finished. The inverted appendix, he says, drops off in a few days and is evacuated. This takes one or two minutes of time, and he would not advise it in cases where great expedition is required on account of an alarming condition of the patient.

St. Louis Medical Review.
March 28.

39 Clinical Report of Cases (Appendectomy, Hemiglossitis, Abdominal Hysterectomy). R. M. Funkhouser.
40 Acute Articular Rheumatism, with Serious Complications. Edmond J. Melville.

University of Pennsylvania Medical Bulletin, Philadelphia.
March.

41 A Report of Two Cases of Trephining for Jacksonian Epilepsy. Charles K. Mills and J. William White.
42 *Dementia Precox (Dementia of Adolescence). Charles W. Burr.
43 *A Physiological, Anatomical and Pathological Study of the Glossopharyngeus and Vagus Nerves in a Case of Fracture of the Base of the Skull. William G. Spiller.
44 The Effects on the Nervous System of Electric Currents of High Potential, Considered Clinically and Medicolegally. Charles K. Mills and Theodore H. Weisenburg.
45 A Case of Intradural Spinal Cyst, with Operation and Recovery. W. G. Spiller, J. H. Musser and Edward Martin.
46 A Case of Progressive Muscular Atrophy Occurring in a Man Who Had Had Acute Poliomyelitis Nineteen Years Previously. Charles S. Potts.
47 *The Skiagraph in Gross Brain Lesions. Henry K. Pancoast.
48 The Changes in the Peripheral Nerves Produced by Toxic Substances Applied to the Skin—A Medicolegal Study. D. J. McCarthy.
49 The Use of Respiratory Exercises in the Treatment of Neurasthenia and Allied Conditions. J. W. McConnell.
50 Traumatic Musculospiral Paralysis, Cured by Operation Releasing the Nerve from the Cicatricial Tissue. Charles J. Mills. Operation by J. William White.

42. **Dementia Precox.**—Burr reviews the history of this form of mental disease remarking that hardly any of its symptoms are characteristic in its early stages, and that it is especially a disorder of bad organization. No one will get dementia precox except those who are preordained. He reports several cases to give the clinical picture of the disease and remarks that while the onset was said to be sudden, this is due to lack of careful observation in the preceding stages. Apart from heredity it is probable that a fetal disturbance may be largely its cause. The age of onset with marked symptoms varies within large limits. He includes here, rather provisionally, the original paranoia, reporting one case of this type The symptoms are nearly all mental. There may be emaciation, poor circulation, dermographia, etc., in the early stages, but there are never evidences of organic brain or spinal disease. There are no pathognomonic symptoms. The patient generally keeps his consciousness in the early stages of the disease, but can not control his hallucination or delirium. In stuporous cases unconsciousness may be apparent, not real, and during that stage there may be the increased muscle tension known as catatonia. Remissions are common. The prognosis is bad. The paranoid form is never recovered from. A few, 8 or 10 per cent., of the hebephrenics and a slightly larger number of the catatonics recover. Many go on to absolute dementia and some become quiet, chronic patients of the asylum. The treatment is not very hopeful in the well-pronounced disease, but careful attention to early training and environment may have very good results.

43. **Glossopharyngeus and Vagus Affections.**—Spiller reports a case in which there was an extensive softening involving the roots of the glossopharyngeus and vagus, and he remarks in regard to the functions of these nerves as indicated by the symptoms during life, especially the taste sensations. They were intact in the anterior portion of the tongue, hence, he concludes that they must pass through the chorda tympani, but whether through the portio intermedia or the trigeminus he is not prepared to say. As for the posterior portion of the tongue he is inclined to think that the glossopharyngeal nerve controls the function of that region. He also discusses the mode of innervation of the soft palate and the origin of the accessorius as illustrated by this case.

47. **The Skiagraph in Brain Lesions.**—From a number of cases here reported, McCarthy concludes that the value of the Roentgen rays in brain lesions is at present dubious, but it may yet be an important point in the diagnosis. To gain such experience no case should be allowed to escape the skiagrapher.

Journal of Cutaneous Diseases, New York.
March.

51 *The Etiology of Acne Vulgaris. T. Caspar Gilchrist.
52 Report of a Case of Systemic Blastomycosis, with Multiple Cutaneous and Subcutaneous Lesions. Oliver S. Ormsby.
53 Acne and Its Treatment. George H. Fox.

51. **Acne.**—Gilchrist has studied the etiology of acne vulgaris, including in this paper the results of his previous observations, and finds that a definite bacillus, which he had already named the *Bacillus acnes*, was present in all smears taken from 240 typical acne lesions in 85 patients. Pure cultures were obtained from 62 lesions in 29 patients. The others were failures largely because the proper media were not used. Others showed the *Staphylococcus pyogenes albus* or *epidermidis albus*. Sections of an excised comedo, of an early acne papule, of an acne pustule and of five acne nodules from 6 patients demonstrated the stages of the disease, consisting in changes extending deep into the corium surrounding in some nodules a magnified and markedly hypertrophied follicle. The lesion was made out of cell masses, many giant cells, plasma cells or connective tissue cells and many polymorphonuclear cells were present, massed in some sections so as to form miliary abscesses; numerous phagocytes and many pigment cells were also seen in some cases. The blood vessels were numerous and dilated. Some of the giant cells contained bacilli. *Bacillus acnes* was found pathogenic in mice and guinea-pigs. It is a short, thick bacillus in the smears, but in culture it often becomes much longer and thicker; and in old cultures assumes distinct branching forms. The clumping of *Bacillus acnes* by the sera of the patients affected with acne vulgaris suggests a specific toxic body derived from the presence of the bacilli and absorbed by the blood, resulting in a specific agglutination. Gilchrist thinks it is a question whether we are not taking a wrong view in considering the anemia, constipation, headache, coated tongue, etc., as always predisposing causes of acne vulgaris, whereas these may be the result of the absorption of toxins from the bacilli. He compares the disease with erysipelas. While there are predisposing causes such as age, diet, etc., there are many cases where all that is advised is carried out without results. In its severer forms acne vulgaris is a serious disease, not dangerous, but one that affects the whole system. He notices in conclusion Sabouraud's recent article and discovery of a microbacillus, which, he thinks, looks like his findings, but he remarks that it is curious that Sabouraud has observed no branching forms.

Interstate Medical Journal, St. Louis.
March.

54 *Remarks on the Significance of Some Nervous Signs and Symptoms. Charles G. Chaddock.
55 *Tobacco Poisoning. A. C. H. Friedmann.
56 Laboratory Diagnosis—Its Relation to the General Practitioner. Raymond Wallace.
57 Appendicitis. H. L. Nietert.

54. **Significance of Nervous Reflexes.**—From his observations, and he criticises the text-books, Chaddock deduces that alterations, that is, exaggeration or diminution of the deep reflexes are almost always indicative of organic nervous disease; that the Babinski sign (the physiologic presence in infancy excepted) and foot-clonus are always signs of organic nervous disease, and lastly, anomalies of pupillary reaction to light have the same significance. There is only one exception to these deductions: disease of a joint may cause atrophy of muscles about it and with this, exaggeration of related deep reflexes. He doubts the pathologic exaggeration or diminution of deep reflexes during fatigue.

55. **Tobacco Poisoning.**—Friedmann thinks that the smoking of tobacco is especially injurious if excessive, as also is tobacco chewing, which may give rise to tobacco psychoses. Snuff-taking does not affect the general health, but may injure the middle-ear and set up a distinct form of chronic otitis media. The relation of alcohol to tobacco as a cause of amblyopia is discussed, but he thinks the effects of alcohol on the eyes are decidedly different, and as a rule not half as serious. The great danger of this is in the general poisoning of the nervous system and there is no such demoralizing effect after tobacco use. The danger, of course, lies in the fact that both are usually practiced by the same individual and he has to combat them both together.

Journal of Medical Research, Boston.

March.

58 *Observations on the Morphology of Bacillus Diphtheriæ, Bacillus Pseudo-Diphtheriæ and Bacillus Xerosis. Francis P. Denny.
59 A New Technic in Metabolism Experiments. Francis H. McCrudden.
60 An Encapsulated Diplococcus in Mastoiditis. Mary S. Packard.
61 A Study of the Necroses Occurring in the Livers of Experimental Animals After Inoculation with Hog-Cholera Bacilli. Charles H. Boxmeyer.
62 On the Multiplicity of the Serum Hemagglutinins of Cold-blooded Animals. Hideyo Noguchi.
63 On the Heat Lability of the Complements of Cold-blooded Animals. Hideyo Noguchi.
64 The Period of Development, the Time of Greatest Accumulation, and the Persistence of Diphtheria Antitoxin in the Blood of a Series of 100 Horses. James P. Atkinson.
65 *The Presence of the Shiga Variety of Dysentery Bacilli in an Extensive Epidemic of Dysentery, with Notes upon the Serum Reactions Obtained. Wm. H. Park and H. W. Carey.

58. **The Morphology of Bacillus Diphtheriae.**—Denny has investigated this bacillus and its allied forms, and finds that the three forms, the *Bacillus diphtheriæ*, the *Bacillus pseudo-diphtheriæ* and the *Bacillus xerosis* are similar in young cultures. In older cultures differences are seen. The *Bacillus diphtheriæ* has a more marked development as a higher form, showing clubbed, barred and filamentous forms, and occasionally true branching. The *Bacillus pseudo-diphtheriæ* has no such development, but the *Bacillus xerosis* has a higher development, characterized by the elongation of the rods and the breaking up of the protoplasm into segments. He suggests that the diphtheria bacillus and that of xerosis have developed by evolution from simple forms like *Bacillus pseudo-diphtheriæ*, each passing through, in its early life, a stage of development corresponding to the early development of the race, or it is possible that the *Bacillus pseudo-diphtheriæ* represents a reversion from a higher type.

65. **Dysentery Bacilli.**—Park and Carey describe an epidemic of dysentery occurring in a town of about 3,000 population, a little north of New York City. There were about 350 cases with a mortality of 6 per cent., the average age of fatal cases being a little less than three years. The epidemic was most severe among the class of people living in filthy surroundings. There was no sewage system and the well water was badly contaminated. The onset in all cases was sudden, with cramps, diarrhea and tenesmus. The stools were at first feculent, then sero-mucous, then finally bloody and mucous. Blood was present in considerable quantity for two or three days and then disappeared. It disappeared entirely in most cases in six to ten days. Temperatures were low. The mild cases lasted generally two weeks, the severe three to four, the malignant a few days. In one fatal case of a child aged one year and four months, an autopsy was obtained and the Shiga bacillus isolated. Dysentery-like bacilli were also found in the feces of several convalescents. The difference was in the indol formation and the manit fermentation, also in their agglutination reaction. The authors hold that there may be more than one form of bacillus responsible for dysentery epidemics. It is extremely probable that if Shiga carries out his culture and agglutination tests as far as is now known to be necessary in order to differentiate the varieties, it will be found that in Japan, as well as in America and elsewhere, not one, but several varieties of this group of bacilli are present.

Annals of Ophthalmology, St. Louis.

January.

66 Report of Two Cases of Congenital Anomalies of the Eyes, Illustrating the Transmission of Such Defects from Mother to Daughter. Wm. Campbell Posey.
67 *The Conservation of Binocular Single Vision. Eugene R. Lewis.
68 *Paraffin—Its Use in the Formation of a Stump After an Enucleation. George F. Suker.
69 *An Examination, Personally Conducted, of 4,608 Railroad Employes for Acuity of Vision, Hearing and Color Perception. Gilbert D. Murray.

67. **Lack of Binocular Single Vision.**—This condition is much more common than is usually supposed, according to Lewis' observations. He summarizes his conclusions on the subject in the following: "1. The only congenital attribute of vision is proper light perception. All other visual attributes depend on learning on the part of the child. 2. In many cases certain influences cause this learning to be directed into other than normal paths, in which event the act of binocular single vision is not learned. 3. Lack of binocular single vision is a very prevalent condition. 4. This lack represents great loss to the individual. 5. Cases in which the causal influences can be removed may be differentiated from those in which such removal is impossible. 6. Proper measures adopted at the right time will result in conservation of binocular single vision in a large number of cases."

68. **Paraffin for Eye Stumps After Enucleation.**—Paraffin prothesis for making a stump is recommended by Suker, who uses a mixture of white paraffin and pure vaselin, 3/5 of the latter and 2/5 of the former. This gives a mixture which melts at 102 F. Later the vaselin is absorbed, leaving the hard paraffin, with a higher melting point. This has been proven in cases of furnace workers. The melting point of paraffin can be regulated by the amount of vaselin added; the more vaselin the lower the melting point, and vice versa. He would preferably inject the paraffin about one week after evisceration. It is still more useful for restoration of a sunken socket after a remote enucleation. The details of the procedure are given:

> After thoroughly cocainizing the socket, as well as having freely used adrenalin (1/1000), with a pair of tissue forceps you pick up the apex of the socket-pit: then with a narrow scalpel you enter the subconjunctival space at the apex to the extent of 3 millimeters, then make an elliptical cut about the point of entrance. This will give you a pocket in both culs-de-sac, with but a single opening. The entire anterior flap of this pocket will be approximately 3 mm. thick, and the size of the pocket will be in accordance with the size of the socket to be filled out. The higher you cut into the cul-de-sac, the more prominent will the stump be after the injection of the paraffin. After checking the trivial hemorrhage, you inject about a dram or so of properly prepared paraffin through this small opening, or enough to give you the desired fulness. However, be careful not to overdistend the cavity as this will produce not only great pain but even sloughing of the flap with the ultimate expulsion of the paraffin. Before introducing the paraffin it is advisable to place a suture so as to be able to close the opening after the injection, it being rather difficult to do it afterward.

The reaction is usually quite severe, but can be controlled by a cold pack for several hours and repeated as needed. The artificial shell can generally be inserted in one week to ten days later.

69. **Railroad Employes' Examinations.**—Murray reports the results of examination of something over 4,000 men for the Delaware, Lackawanna & Western Railroad for vision, hearing and color perception. He found about 3.01 per cent. were color blind; 2.58 per cent. had weak chromatic sense; 9.44 per cent. were in need of glasses or other means to improve their vision for distance. He suggests discouraging the use of tobacco and making frequent examinations on account of the dangers of acquired color blindness; that the employes should have at least eight hours of sleep, as loss of sleep leads to intemperance, smoking and nervous irritability.

American Journal of Obstetrics, New York.
March.

70 *Report of Three Cases of Rupture of the Uterus During Labor and a Consideration of the Treatment Based on Ten Cases. Joseph B. De Lee.
71 The Treatment of Placenta Previa. Chauncey D. Palmer.
72 *The Relation between Uterine and Gastric Diseases. Tuszkai Odön.
73 *Puerperal Eclampsia, with Report of Nineteen Cases. H. G. Partridge.
74 Carcinoma of the Large Intestines, with Special Reference to von Mikulicz's Method of Resection. M. Stamm.
75 A Review of Some of the Older Writings on Maternal Nursing. Samuel McC. Hamill.
76 *Celiotomy During Pregnancy. J. H. Carstens.

70. **Rupture of the Uterus.**—De Lee reports a case and reviews the treatment. He remarks that it is not always possible or advisable to attempt to deliver a child by the natural route on account of the danger of hemorrhage. In case of uncontrollable hemorrhage or highly contracted pelvis, laparotomy may be imperative. What to do with the uterus depends on the conditions. In hospitals and under aseptic treatment the uterus may be closed with a suture or drained from below, but if there is any suspicion of sepsis, the whole uterus should be removed, the peritoneum closed and the subperitoneal space drained per vaginam. It is an accident which usually occurs at home and has to be treated where it occurs. The conditions do not permit of transportation, as a rule, and since laparotomy is a formidable operation requiring much preparation, the method of treatment that brings about the quickest delivery, stops hemorrhage and gets the patient into bed is the correct one. Of the four methods of treatment, delivering the patient from below, that is, expectancy and symptomatic treatment, tamponade, with or without suture, or extirpation of the uterus per vaginam, the best one is the partial suture and drainage of the peritoneal cavity and site of rupture. In septic cases drainage offers much hope, but vaginal extirpation of the uterus is coming into vogue and when hemorrhage is not too severe it may be practiced.

72. **Uterine and Gastric Diseases.**—The relation of uterine and gastric diseases are summarized by Oedö as follows:

1. Uterine and gastric troubles may be in close reciprocal relation. 2. In making a diagnosis of reciprocal action, merely coincident affections of these organs must be strictly excluded. 3. The first medium of reciprocal action is the nerve path, the center of which for the genital is to be sought, not in the brain or spinal cord, but in the sympathetic system. The ventral center of this is the solar ganglion, by means of which the uterus, through the inferior hypogastric plexus, is brought into reflex association with the anterior and posterior gastric plexuses. The reflex paths are called spermatic, pudendo-hemorrhoidal, cutaneo-cavernous, utero-celiac, and utero-spinal anastomoses. The more direct reflex paths are direct connections of the vagus with the sympathetic nerve system without entering the solar plexus, especially with the utero-vaginal plexus and with the parauterine ganglia, which are connected with this (genito-orural anastomosis). 4. The other mode of origin of reciprocal action must be sought in changes of the common statical relations of both organs. 5. Dislocations of the stomach cause uterine displacement through reciprocal action of the statical mechanical forces (secondary uterine trouble); whereas primary displacements of the uterus produce secondary gastroneurosis or actual gastric disease, the reciprocal action in these cases being brought about through nerve reflexes. 6. The blood path plays a rôle of only tertiary rank in regard to this reciprocal action.

73. **Puerperal Eclampsia.**—The theories of eclampsia are noticed by Partridge, who considers the albuminuric theory insufficient. The thyroid theory may be correct in some cases, but the most generally accepted one, and the one that best explains the condition, is the toxemic or metabolic theory, and he is inclined to follow Dorland's suggestion that acetone may be responsible, though other toxic agents also have an action, and there is a promising field of researeh here. He considers that in treatment, chloroform, while it controls the attacks, is only treating a symptom. Morphia dries up the secretions, though this objection is often more theoretical than practical. Venesection and veratrum viride are mentioned as of use in certain cases, and pilocarpin is occasionally of much value, though it is liable to produce edema of the lungs, a danger to which the patient is already only too subject. Chloral and the bromids are the sheet anchors as far as controlling convulsions are concerned. They should be preferably given by the rectum. Diuretics and cathartics should be given in every case until both the kidneys and the bowels are thoroughly active. For bowel action croton oil or saline cathartics are preferable. Hot baths, hot packs or hot air are of value, and one or the other should be used in every case to produce sweating. When the temperature is rising, a cold tub bath may do good, as in one case reported. The use of normal saline solution is becoming more and more popular, and deservedly so. The last and most important method of all is emptying the uterus. The method of procedure must vary with the case, using the dilator if necessary. Undue force and too great haste must be avoided, however.

76. See abstract in THE JOURNAL, xxxix, p. 854.

Therapeutic Gazette, Detroit.
March 15.

77 The Treatment of Typhoid Fever with Benzoyl-Acetyl-Peroxid or Acetozone—A Clinical Study of Its Action in 128 Cases in the Cook County Hospital. Frederick G. Harris.
78 *The Effects of the Inhalation of Smoke and of Irritating and Poisonous Gases by Firemen, and the Proper Treatment of Results. J. Chalmers Da Costa.
79 Treatment of Prostatic Hypertrophy. (Continued.) Edward Martin.
80 *A Critical Study of Tuberculin and Allied Products Based upon a Collective Investigation. F. M. Pottenger.
81 Observations upon the Hypnotic Action of Hedonal. Frederick L. Hills.
82 *An Inquiry into the Value of the Irrigation Method as a Means of Aborting and Treating Acute Specific Urethritis. Orville Horwitz.

78. **Smoke Inhalation.**—The danger of inhaling smoke, according to Da Costa, is very serious. There is a great difference among men in their tolerance of it, alcoholic cases and fat people with heart disease can not stand much. There is a great difference also in the various kinds of smoke. In all cases it contains some carbon monoxid. Some smoke is merely irrespirable, some is not only irrespirable, but poisonous and irritating. Cold smoke is much less troublesome than hot smoke. Among the worst forms of plain smoke may be mentioned smoke from lumber, furniture, barrel-staves, peach baskets and paper, which is suffocating and irritating to the eyes and respiratory organs. Smoke from oil, varnish or paint is hard to tolerate, while that of rags, hay, pitch and petroleum is not so offensive or so irritating. The density must be taken into account. Comparatively innocent smoke if very dense will be equally bad. The theory that smoke is only irrespirable when a lamp will not burn in it is not correct, as a lamp will burn in smoke that a man can not breathe. Smoke containing ammonia or sulphuric acid is especially bad. Illuminating gas is very dangerous, especially water gas which is at present so much used and can not be detected by its odor. Smoke containing acid fumes is very bad, as shown by the recent experience at Milwaukee where the chief of the fire department and three of his men died from the inhalation of nitric acid fumes. A man generally knows when he is going to be overcome, by the tendency to breathe with his mouth open, to take deeper and more frequent breaths, and by the development of singing in the ears, oppression in the chest, etc. He often falls when he gets out into the fresh air, but ordinarily recovers, though he is more likely to be overcome the second time. In very severe cases consciousness may be lost, the extremities become cold, muscles relaxed and delirium may follow the unconsciousness. The milder cases recover in the open air. In the actual cases of unconsciousness there is danger. Firemen believe in yeast beer as a remedy which causes a gaseous distension of the stomach, with belching and sometimes vomiting. Dr. Da Costa is not able to show how this benefits, but they have great faith in it. In treatment, artificial respiration, the administration of oxygen, rubbing the extremities and later hot applications and further symptomatic treatment. The surgeon should always ask whether the smoke is clean smoke or not, in treating these cases. The victims of "back drafts" are usually scorched and shocked. Men who inhale hot smoke should be given stimulants at once and removed to a hospital. The coal gas effects are especially bad, and a man will generally have warning of it in headache and great muscle weakness before he is overcome. In these cases when a man is overcome with illuminating gas, artificial respiration should be practiced and continued until satisfactory results have been obtained; rubbing the extremities, a mustard plaster over the heart, hypodermic injections of strychnin or atropin and as soon as safe to move the patient, he should be taken to a hospital. In cases of inhaled ammonia the inhalation of vinegar is advisable, and very

dilute ammonia may be given after the inhalation of acid vapors. Vomiting should be encouraged. If chlorin or hydrochloric acid has been inhaled, the best treatment is the inhalation of steam. If these have been inhaled to any great extent, the man's life is in danger from glottic edema and an immediate tracheotomy may be required.

80. **Tuberculin.**—The literature is first noticed by Pottenger, who deduces, in substance, the following conclusions from the answers received in his investigation: I. The profession, especially in Europe, is becoming less hostile to tuberculin and its allied products. The greatest opposition is from those who were unfortunate in their first experience. All who have used it later in suitable cases have observed a benefit, and those who have studied the remedies most carefully and used the greatest care and judgment in the selection of cases, have found almost without exception that they are of value. In 1,200 first stage cases, 610 treated in sanatoria by the usual hygienic methods and 589 under the same careful management plus tuberculin, 20.2 per cent. more of the latter were cured than of the former. Tuberculin checks the tendency of the disease to spread to new tissue, and there is less danger of relapse. He therefore concludes that tuberculin and the allied products are therapeutic measures in tuberculosis that are worth our earnest attention.

82.—This article has appeared elsewhere. See THE JOURNAL of March 28, ¶67, p. 874.

Kansas City Medical Index-Lancet.
March.

83 Report of a Case of Intestinal Anastomosis Following Strangulated Inguinal Hernia. C. Lester Hall.
84 Acute Appendicitis and Its Treatment. (To be continued.) John B. Deaver.
85 *Some Clinical and Operative Phases of Appendicitis. A. H. Cordier.
86 *Apomorphia and Some of Its Uses. W. H. Middleton.

85. **Appendicitis.**—Cordier advocates operation in nearly all cases. The clinical history is often misleading. The temperature is not so very important as an operation indicator as has been held. The pulse is, as a rule, increased, and can be relied on more in prognosis than can the temperature. This is especially true in the later stages of general peritonitis, but as long as the trouble is confined to the appendix proper, or its immediate vicinity, its behavior is often misleading. There may be a pulse of 140 from ptomaine absorption without any peritonitis at all, and this is often lost sight of by the practitioner. The rapidly constitutional septic cases are the most fatal of all. Pain is always present at some stage, yet its character and intensity is as variable as any other symptom. To rely on it would often be disastrous. He thinks the McBurney point is the most unfortunate discovery ever made. The appendix points according to its location, length and to the location of the pathology of the organ, and dependence on this point will lead to error. The most trustworthy indication of the true condition is, he thinks, tenderness located at the point nearest the site of that portion of the appendix diseased. Intestinal gaseous distension as a symptom of danger is valuable, but its absence is often misleading. The main point in his paper is to lay stress on the fact that to expect to find typical smyptoms and be governed by their presence or absence, is a mistake and will cause delays and fatal errors. The presence or absence of leucocytosis is also too uncertain and misleading to be taken seriously.

86. **Apomorphia.**—The value of apomorphia in various conditions is insisted on by Middleton, who finds it one of the best emetics, acting directly on the vomiting center and producing but little nausea and usually no depression. He has seen it act in one or two minutes. While it is generally considered harmless, idiosyncrasy should be regarded. Death has occurred from the hypodermic injection of 1/15 of a grain. When necessary to evacuate the stomach no remedy acts so well. It has no irritating effect on the mucosa. Some authors say that the emetic action of apomorphia is hindered by chloroform or chloral and intensified by morphin. If this is so, it would seem that the drug is especially adapted to cases of morphin narcosis. Nothing arrests the hysterical paroxysms so quickly. He often gives it for various purposes in non-emetic doses, and in combination with codein and white pine mixture it forms an ideal cough mixture, and it has no rival in post-grippal cough. As an expectorant, it takes a prominent position and in croup it has given him splendid results.

Vermont Medical Monthly, Burlington.
February 25.

87 Puerperal Septicemia. M. F. McGuire.
88 *Family History in Tuberculosis. A. B. Bisbee.
89 Acute Confusional Insanity. G. G. Marshall.
90 A New Method of Treatment for Chronic Anterior Urethritis and for the Declining Stage of Acute Urethritis. William W. Townsend.

88. **Family History in Tuberculosis.**—The modern tendency to attribute everything to germs and neglect heredity is opposed by Bisbee in the case of tuberculosis. He thinks importance should be laid on a number of conditions, especially by life insurance examiners. Contagion is only one; age, occupation, habits, personal history, weight and especially the family history are insisted on. The points, he says, on which we should lay strong emphasis are that there is nothing in the modern doctrine of tuberculosis or any recorded experience of life insurance companies justifying the conclusion that a consumptive family history can be neglected; that, while the death of a parent, or brother, or sister from consumption increases the liability to disease, it is possible to get a proper understanding of the degree of impairment only by giving attention to the applicant himself, his environments and his personal health record, as well as his family history. There should be no fixed rules. An active outdoor life, temperate habits and a robust physique may be looked on as compensating features when there is an inherited tubercular tendency, while the opposite conditions affect the risk adversely.

American Practitioner and News, Louisville, Ky.
January 1.

91 Otitis Media. Hugh N. Leavell.
92 Report of Cases of Gallstones. William Moore.
93 Inevitable Abortion, with Report of Case. W. E. Gardner.

Nashville Journal of Medicine and Surgery.
March.

94 Gastric Carcinoma. David R. Nell.

Pediatrics, New York.
March.

95 *Observations on the Micro-organisms in the Water of Public Swimming Baths, and a Suggestion. E. E. Glynn.

95. **Micro-organisms in Public Baths.**—Glynn has investigated the water of various Liverpool swimming baths at different periods of the day and finds a vast increase in the number of bacteria towards the close of the day. He describes his methods, which seem to be satisfactory; taking an average of five observations on separate days of first class baths, it was found that the number of bacteria per c.c. in the water at night was 4,676; deducting 200 for those already present in the bath and 400 for multiplication, we find that 292 bathers introduced in round numbers 4,000 bacteria per c.c. Therefore, each individual introduced 13.7 bacteria per c.c. The water removed from the skin and hair of each bather in about ten minutes, approximately gave 4,000,000 germs. He says it is a great and glorious thing to wash, even in a swimming bath and without soap. In the second-class bath each bather contaminated the water with 6,000,000,000 bacteria. They are mainly small boys, which implies that the skin of the small boy in the second class is at least twice as dirty as that of the more respectable bathers in the first class. One has only to see the small boy before and after bathing to be convinced of this fact. He describes the methods in which the contamination takes place, and suggests an ideal bath where this might be avoided. The bacteria that were found were mostly the white staphylococci, and colon bacillus at the end of the day. He thinks the feeling of stupor and fatigue after swimming in a public bath, as felt by some persons, is not due to the numerous microbes contained in the water, but to defective ventilation.

Medical Review of Reviews, New York.
March 25.

96 *Rudolph Virchow; An Appreciation. C. A. L. Reed.

96.—This article has appeared elsewhere. See THE JOURNAL of February 28, title 30, p. 606.

Cleveland Medical Journal.

March.

97 Some Remarks on Hypernephroma or Adrenal Tumor of the Kidney. A. P. Ohlmacher.
98 Two Cases Illustrating Certain Relations of Syphilis and Epilepsy. H. S. Allen.
99 A Case of Lead Poisoning and Epilepsy, with Remarks on Saturnine Epilepsy. W. C. Gill.
100 Annual Address of the President of the Academy of Medicine of Cleveland. F. E. Bunts.
101 The Chemical Characters of the Fluid of a Cystic Kidney. Torald Sollmann.
102 The Symptoms and Diagnosis of Rhino and Laryngeal Diphtheria. E. L. Mather.

American Medical Compend, Toledo.

March.

103 Graves' Disease. B. B. Leonard.
104 Variola, Varioloid and Varicella. J. T. Woods.
105 The Oligemic Uterine Zones. Byron Robinson.

Occidental Medical Times.

March.

106 Report of an Epidemic of Acute Anterior Poliomyelitis. Alice M. Woods.
107 Gonorrheal Rheumatic Purpura. George L. Eaton.
108 The Ocular Manifestations of Syphilis. Wm. Ellery Briggs.
109 Some Interesting Cases of Insomnia. Francis Crosson.

New England Medical Monthly, Danbury, Conn.

March.

110 Compound Fractures of the Bones of the Hand or Foot. Thomas H. Manley.
111 Preventive Medicines and Measures. J. R. Hayes.
112 Lung Affection and Wasting Diseases. S. E. Fowler.
113 Report of a Case of Typhoid Fever Treated with Acetozone. Joseph A. Frasier.

Journal of Medicine and Science, Portland, Me.

March.

114 Recent Development in the Study of the Relationship between Chemical Constitution and Physiological Action of Organic Compounds. Virgil Coblentz.
115 Report of Part of the Operative Cases Treated at the Maine Eye and Ear Infirmary During December, 1902. E. E. Brown.

Medical Herald, St. Joseph, Mo.

March.

116 Gallstones; Their Pathology, Diagnosis and Treatment. W. J. Alexander.
117 Compulsory Vaccination. John D. Seba.
118 Case of Acute Catarrhal Cholangitis, with Remarks on Jaundice. J. S. Triplett.
119 The Pennyrile Doctor. I. R. Coleman.
120 A Case of Fibroid Tumor with Pyosalpinx and Ovarian Abscess. Herman E. Pearse.
121 *Hyperplasia and Hypertrophy of the Uterus. Charles G. Geiger.
122 The Possibilities of the Normal Salt Solution. L. Clyde Davis.
123 The Treatment of Septic Peritonitis. J. B. Boucher.

121.—See abstract in THE JOURNAL of January 17, p. 189.

Albany Medical Annals.

March.

SYMPOSIUM ON ARTERIOSCLEROSIS.

124 The Early Diagnosis and Symptoms of Arteriosclerosis. De Lancey Rochester.
125 Arteriosclerosis and the Heart. Glentworth R. Butler.
126 Arteriosclerosis and the Kidney. Irving P. Lyon.
127 Arteriosclerosis and the Digestive System. Charles G. Stockton.
128 Arteriosclerosis of the Nervous System. William Browning.
129 Arteriosclerosis and Mental Disease. Adolf Meyer.
130 Pulsus Infrequens. Thomas E. Satterthwaite.

Iowa Medical Journal, Des Moines.

March 15.

131 The Mastoid. F. E. V. Shore.
132 Typhoid Fever. T. J. Snell.
133 A State Board of Medical Examiners. L. W. Littig.
134 Reports on Compound Fracture of Skull. J. W. Starr.
135 Formalin Injections in the Des Moines Hospitals. Lewis Schooler.

Canadian Journal of Medicine and Surgery, Toronto.

April.

136 Congenital Dislocation of the Hip. B. E. McKenzie.
137 Medicine in China. James Menzies.
138 Resuscitation of Newborn Infant After Thirty-five Minutes' Immersion. A. J. Harrington.

Carolina Medical Journal, Charlotte.

March.

139 Cornual Pregnancy, with Report of a Case. Stuart McGuire.
140 The Causes and Complications of Gout. John M. Upshur.
141 Glycocholate of Soda. Charles I. Hill.
142 The Mechanics of Mercury in Syphilis. Thomas W. Murrell.

Medical Sentinel, Portland, Ore.

March.

143 Acute Inflammatory Rheumatism and Its Treatment. J. S. Kloeber.
144 Obstetric Anesthesia. W. H. Ewin.
145 A Brief Review of the Recent Literature on Typhoid Fever, and Some Notes on the Treatment of the Disease. Wm. O. Spencer.
146 Adenoids and Their Treatment. J. F. Dickson.
147 General Paresis. Henry W. Coe.
148 Tuberculosis. W. C. Buchly.

Canadian Practitioner and Review, Toronto.

March.

149 Tic Douloureux (Trigeminal Neuralgia) Removal of the Gasserian Ganglion; Recovery. Herbert A. Bruce.
150 Premonitory Symptoms of Failure of the Heart in Diphtheria. Frederick Fenton.
151 Mastoiditis Due to Gonococcus. Charles Trow.
152 Three Cases of Pyloric Obstruction. George A. Bingham.

Medical Age, Detroit, Mich.

March 25.

153 A Case of Diabetes Mellitus with Autopsy. T. E. Oertel and E. E. Murphey.
154 Insanity in Children. M. R. Crawford.
155 Remarks on the Relation of Eye-Strain to Epilepsy, Insanity, etc. William Cheatham.

Southern California Practitioner, Los Angeles.

March.

156 Robert R. Dorsey, M.D.—Tribute from Friend and Classmate. LeMoyne Wills.
157 A Review of Recent Progress in the Surgery of the Gall Bladder and Bile Ducts. Andrew S. Lobingier.
158 Cholelithiasis. George H. Scott.
159 Mineral Waters in Medicine. C. E. Winslow.
160 Notes on Medical Study in Vienna. W. W. Roblee.
161 The Pestis Bacillus. Ernest S. Pillsbury.
162 The Ideals of Citizenship. J. H. McBride.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

March 21.

1 *Theories of Immunity and Their Clinical Application. A. S. Grunbaum.
2 The Conditions Which Modify the Characters of Inflammations of the Skin and Their Influence on Treatment. H. Radcliffe Crocker.
3 Congenital Goiter. John T. Hewetson.
4 Six Cases of Goiter, One Associated with an Attack of Acute Myxedema and Five Successfully Treated with Thyroid Extract. Ed. Marten Payne.
5 *The Morbid Anatomy of Erythromelalgia Based upon the Examination of the Amputated Extremities of Three Cases. H. Batty Shaw.
6 Prevaccinated Smallpox. J. Duncan Howe.
7 *Note on the Detection of Raw Milk and Formaldehyd. J. E. Saul.

1. **Immunity.**—This first lecture by Grunbaum gives the theories of immunity and a detailed description of Ehrlich's theory with schematic illustrations, showing the different active elements assumed to exist by the theory. The article requires close reading for a proper understanding of it.

5. **Erythromelalgia.**—In three cases of such severity that amputation had to be performed the feet were carefully studied by Shaw, who finds that the changes in the nerves described by some writers were not present, but there were decided vascular changes, which were present in all. These were mostly an increase in the intima of the arteries, and occasionally thrombosis and changes in the inner coat of the veins. There was no nerve degeneration or any suggestion of increased fibrous tissue in the nerve trunks. He thinks, from a consideration of the reported cases that it would appear that erythromelalgia when occurring independently of central nervous change is associated with but one morbid picture, that of local vascular change.

7. **Raw Milk and Formaldehyd.**—Saul reports an interesting reaction of raw milk, which he thinks may be practically useful. On treating milk with a solution of orthomethylaminophenol sulphate and then adding a hydrogen peroxid solution a very vivid red color is produced. Milk that has been previously boiled and cooled remains uncolored, a faint pink only developing on standing. The red color is so marked that as little as 1 per cent. of raw milk if added to heated milk can be detected at ease. A convenient way to apply this is as follows: To 9 or 10 c.cm. of the milk add 1 c.cm. of a recently prepared 1 per cent. aqueous solution of orthomethylaminophenol sulphate and then one drop of commercial hydrogen peroxid solution (about 3 per cent.). The red color develops within 30 seconds if there is any raw milk present in the

sample. There should be no excess of hydrógen peroxid, as it tends to weaken the color. Dilute acids do not affect, caustic alkali destroys the color. The presence in the milk of boric acid, borax, formaldehyd, or sodium carbonate or bicarbonate does not interfere with the reaction. If the milk has become sour, the acid should be neutralized. The temperature was noted at which the active agent in the reaction was destroyed. The milk maintained at 70 C. for one hour reacted readily, but if kept at 75 C. for half an hour, it failed to give the color. It would appear that milk loses its power to react at about the temperature at which enzymes are destroyed. It may be difficult to get the aminophenol derivative above mentioned. He thinks it might be convenient to use the photographic developing agent sold under the name of "ortol," which appears to be a mixture of orthomethylaminophenol sulphate with quinol. The latter body may be removed from it by extraction with ether, but the presence of a small quantity would not interfere with the test, and might even slightly assist it. On adding nine or ten volumes of milk to a 1 per cent. solution of the salt and allowing the mixture to stand, a pink color is gradually produced in the presence of formaldehyd. The reaction is distinct where the milk contains a 1 per cent. solution in 100,000 of formaldehyd or more. The time necessary for the reaction varies with the temperature. It is really an acceleration of the development of a color which ultimately is produced in milk free from formaldehyd. This and the fact that formaldehyd shares the property with other aldehydes and ketones seriously diminishes its value as a test. One, therefore, can not compare it with the modified sulphuric acid reaction of Hebner or the recent "amidol" test of Manget and Marion.

The Lancet, London.

March 21.

8 Theories of Immunity and Their Clinical Application. A. S. F. Grunbaum.
9 *Some Points in the Anatomy and Pathology of the Vermiform Appendix. W. McAdam Eccles.
10 *The Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment. H. Radcliffe Crocker.
11 A Case of Acute Splenic Anemia Terminating Fatally with General Bacterial Infection. Herbert P. Hawkins and C. G. Seligmann.
12 *The Height of the Diaphragm in Relation to the Position of Certain Abdominal Viscera. Charles T. Andrew.
13 Angina Pectoris: A Criticism and a Hypothesis. E. H. Colbeck.
14 A Climatological Aspect of the Nauheim Treatment of Diseases of the Heart. Leslie C. Thorne.
15 Diabetic Gangrene of the Toe; Amputation of the Toe; Recovery. Charles Fisher.

9. **The Appendix.**—The Hunterian lectures, the first two of which appeared in the "Lancet," March 14, describe the anatomy of the organ, the characters of the normal appendix and the theories of its physiology. Eccles thinks that probably the real function is in part absorptive and in part excretive. In the second lecture the etiology of the inflammation is discussed and he believes that every case of so-called appendicular colic, slight appendicitis, etc., is in truth an actual inflammation of the appendix of bacterial origin. He finds from many authorities that the colon bacillus is the most common infecting agent, 94 per cent., tubercle bacillus 2 per cent., staphylococci and streptococci each 1.5 per cent., and in still lesser proportions the pyocyaneus and prodigiosus. Tuberculosis of the appendix may be only a part of a general infection. Its secondary occurrence is by no means rare. He holds that calculi and concretions are always formed within the lumen. Actinomycosis may occur. One effect of the inflammation is obliteration of the lumen of the appendix, and this may produce a spontaneous cure and is a normal tendency in later life. In order to bring about immunity to a recurrent appendicitis the whole of the lumen should be obliterated. This is not by any means always the case. Secondary abscesses may be due to leaving behind some foci of infection and may occur after complete removal of the organ. The anemia in the appendicitis patient is, he thinks, due to the same cause as the appendicitis, a disordered state of the alimentary tract. He thinks leucocytosis has a certain value in the diagnosis.

In this third lecture, the association of appendicitis with joint lesions and the complications of pregnancy and parturition are first noted. Its association with the latter condition is by no means uncommon and is of very serious import. The diagnosis is seriously embarrassed in the later months of pregnancy and the history of a previous attack is of the greatest assistance here. Miscarriage or premature labor is almost certain to occur and this brings about a danger to both mother and child. The wisest course, he thinks, is to operate on all cases or those suspected cases in pregnancy at the earliest possible moment, disregarding the fact of the gravid uterus. He does not see any use in artificial emptying the uterus before operation. The somewhat difficult question as to the relation of appendicitis to life insurance is discussed briefly. New growths are described. These are more commonly malignant than innocent, though neither are frequent. Secondary neoplasms are not so rare. The question arises whether previous attacks of inflammation predispose to their occurrence, but the records are deficient as regards this point. While there is scanty evidence of appendicular calculi being a predisposing cause of carcinoma, as biliary calculi are supposed to be, there is something in favor of the theory that previous attacks of appendicitis may have their influence. Hernia of the appendix is discussed at some length. It is probably connected with elongation. Adhesions are common and inflammation of the appendix in the hernial sac is decidedly common. Usually on opening the sac the appendix is readily recognized, but at times, owing to adhesions which are very common and locking together of tissues, it is difficult to be sure what structure is being dealt with. If operation for a radical cure of a non-strangulated irreducible hernia is undertaken and the appendix found in the sac it may be returned to the abdomen or amputated in the usual manner and the stump returned, which is a better plan. If the tube is found adherent, and especially if not of natural size, it is well to free it from its attachments and to remove as much as can be readily drawn down into the sac.

10. **Skin Inflammations.**—This third lecture by Crocker treats of the action of arsenic, which has its inconveniences in producing pigmentation and even keratosis, but it is valuable in many conditions, among which he enumerates certain forms of angioneuroses, recurring sweat eruptions, pemphigus, dermatitis herpetiformis, etc. He thinks its indiscriminate use, however, makes it more important to point out where it is useless. He sees no good of it in discharging eczemas or wherever there is gastric irritation. He prefers in giving it in liquid form, such as Fowler's solution. Salicin and the salicylates have their value in many conditions and are most likely to be successful in cases of microbic origin, such as psoriasis, lichen planus, pityriasis rosea. In psoriasis the salicylate should be given in dilute doses of 15 gr. three times a day, then increased to 20 or 30 grains, though hardly ever so much as the latter is required. In the majority of cases its action is quicker and it is more successful than arsenic. In some cases of lichen planus it is of use. He thinks it is likely that some drugs breaking up in the organism, like aspirin, may have some similar effects. Thyroid extract has not met expectations, but he has found it decidedly useful in some cases of psoriasis and in Willan's and Hebra's prurigo, eczema on a congenitally ichthyotic skin and lichen acuminatus and has found it more valuable in lupus vulgaris than any internal medication he has given. Ichthyol is sometimes beneficial in hyperemic diseases like acne and in some sweat eruptions. In extensive dermatitis there is no drug he has a higher opinion of than quinin in good-sized doses of 5 to 10 gr. and in an effervescing citrate of potassium mixture. He remarks in regard to subcutaneous and intermuscular injections and says there are certain measures that ought to be adopted in all cases of widespread skin inflammation. These are rest, equability of temperature; sudden changes of temperature are bad in certain cases. For local treatment he thinks we should have a definite aim. Is it the hyperemia that is to be subdued, the exudation to be dried up or the suppuration to be stopped, or is it some microparasite that is to be destroyed without increasing the inflammation? Regard should be paid to idiosyncrasy, and he gives, in conclusion, some general deductions: That a large proportion of skin inflammations is of mixed origin, frequently a microbic element exists, and some microbes may pro-

duce different forms, according to the mode of attack. It requires a suitable soil, which varies with the age of the individual and the character of the skin. Intestinal and other visceral toxins and ptomaines play an important and often unsuspected part, acting through the vasomotor nerves rather than directly through the skin. The cerebral nervous system acts chiefly as a control influence over the sympathetic system as regards the intensity of the eruption, but, with few exceptions, the nervous system, whether vasomotor or cerebral, has but little influence on the character of the eruption, though it does on its distribution and intensity. The character of the eruption is mainly due to individual peculiarities or proclivities not always explainable. Many general eruptions are for a short or long time of local origin, occupying only a small area, therefore early treatment is desirable. The principles of treatment depend mainly on an appreciation of the relative importance in any one case of the microbic, the personal, the nervous and the toxic elements. The most reliable and comprehensive specifics are arsenic, salicin, thyroid extract, quinin in large doses and iodid of potassium. The first two have a wide range. Except as regards pus eruptions and those demonstrably of micro-parasitic origin the character of the local treatment depends comparatively little on the diagnosis of the particular kind of dermatitis, the extent, intensity and localization being the most important elements. The microbicide should be non-irritating, or should at least be capable of being at once neutralized, otherwise it may set up more inflammation than it controls. It is in comparatively few circumscribed microbic diseases, such as impetigo contagiosa, boils and carbuncles, that the microbicide is the sole curative agent. In all widespread forms of dermatitis rest and equability of temperature are most important and often the essential curative agents. Finally, as we study diseases of the skin as we do those of other organs, we will find that their treatment can be carried out best on the sound basis of pathology and that species will have a diminishing importance.

12. **The Height of the Diaphragm.**—Andrew has studied the height of the diaphragm in nine cases, and finds a wide variation which is well marked in female subjects. In two females the height of the dome in the right mammary line varied from the fourth rib to the sixth interspace, whereas in the two males it did not extend down lower than the fifth rib. Secondly, it is remarkable that so many abnormalities in the position of the viscera should have existed in such a small number of cases and chiefly in females. In the 7 cases examined there were 2 distinct and 2 indistinct cases of Riedel's lobe of the liver; 2 affections of the gall bladder and 1 gastric abnormality. The measurements of the recti muscles as an indication of the strength of the abdominal muscles are interesting. In every case they were smaller in the females than in the males and especially where Reidel's lobe was present. The distance of the great curvature of the stomach and the transverse colon below the xiphoid cartilage was also greater in the females than in the males.

Intercolonial Medical Journal of Australasia, Melbourne.

February 20.

16 Insanity in Its Relation to the Practitioner, the Patient, and the State. W. Beattie Smith.

Presse Medicale, Paris.

17 (No. 15.) *Pseudarthrose flottante (floating) de la hanche (hip) consecutive à une pyarthrite ostéomyélitique du jeune age (in early childhood). Ducroquet and Bezançon.
18 Les épidémies de colique saturnine. L. MacAuliffe.
19 *Agrafes osseuses (staple clasps for fractures). Jacoel.
20 *Une des causes de la crise médicale. E. De Lavarenne.
21 (No. 16.) Importance de certains signes (rheumatisme monoarticulaire) et réactions (épreuves des vésicatoires—blister test) dans le diagnostic de la tuberculose latente. J. Hobbs.
22 *Traitement de la phlébalgie. L'effleurage des veines. H. Hannequin.
23 *Action pathogène des rayons émis par le radium. J. Danysz.
24 Etiologie et prophylaxie du paludisme en Algérie. H. Soulie.
25 (No. 17.) Capacité fonctionelle du coeur (of heart) dans les affections valvulaires. P. Merklen.
26 Des troubles cardio-vasculaires d'origine digestive. G. Lyon.
27 Traitement de l'hydrocèle par le procédé de Doyen modifié. G. Faugère.
28 Traitement des métrorrhagies par l'adrénaline.
29 (No. 18.) L'alcool considéré comme aliment. H. Roger.
30 *La cryoscopie du lait (of milk) et ses applications. E. Parmentier.
31 Affections des oreilles (of the ears) et aptitudes au service militaire. G. Mahu.
32 (No. 19.) A propos de la crise medicale. E. De Lavarenne.
33 Assurances sur décès d'enfants (life insurance on children). P. Budin.
34 Clinique des maladies cutanées et syphilitiques. E. Gaucher.
35 *Rétrécissement (stricture) congénital de l'urètre chez l'homme (in man). P. Bazy.
36 *Visite aux musées (to the museums) d'Italie. Impressions médicales. F. Jayle and A. Gottschalk.
37 La médecine et l'art en Normandie. P. Desfosses.
38 *Technique de la chloroformisation.

17. **Floating Pseudo-Arthrosis of the Hip.**—A child sometimes presents the appearance and gait of congenital luxation of the hip joint, but palpation shows that there is no trace of a neck to the femur and it feels as if it had been decapitated. Radiography confirms this absence of the neck and also of the upper epiphysis of the femur. A scar is also found and the parents relate that in early infancy the child had a period of fever and restlessness terminated by the development of an abscess in the hip which opened spontaneously or had to be incised. As soon as it was evacuated the child appeared restored to normal health. The rapid recovery excludes the idea of tuberculosis. In one of the 4 cases described the mother had an abscess at the time and in another a vaccination pustule had become secondarily infected. In one of the cases abscesses developed simultaneously in several joints. The prognosis of this floating pseudo-arthrosis is very grave. There is no ankylosis and no tendency to the formation of a socket in the ilium owing to the absence of the neck and otherwise defective development of the head of the femur. One of the cases was treated on the mistaken diagnosis of congenital luxation, with the inevitable result of total failure of all attempts at reduction. The only treatment is the appliance devised for inoperable congenital luxation on the principle of Dupuytren's girdle. In taking the cast a socket for the top of the femur must be made in it and in the appliance, to hold the head of the femur down. Another important point is to hold the shoulder and pelvis at the proper distance apart. This is accomplished by having the corset reach to the axilla and making it a little higher on this side than on the other.

19. **Staples for Fractures.**—The agrafes described are of metal and resemble a broad U in shape or a letter E without the central projection. The shanks are pointed, with 4 projecting flanges so as to afford a strong hold in the bone. The secret of success in applying them in a case of fracture is to have the agrafe perpendicular to the line of the fracture. This prevents any pivoting on one shank and consequent displacement of the stumps. (See pp. 892-894, THE JOURNAL, April 4.)

20. **Newspapers and Fraudulent Advertisements.**—De Lavarenne comments on the way in which newspapers are penetrating to the remotest hamlets and the avidity with which they are devoured. Especially in country towns and villages the daily or weekly paper is read from beginning to end and the advertisements of nostrums, the seductive descriptions of the infallible cures and suggestion of symptoms have great influence over the reading public. Why apply to a physician and pay his fee and pay for his medicine when here is just the remedy the reader wants, the price is known beforehand, and a guarantee to cure is given? It is much cheaper and simpler to buy a bottle of the advertised nostrum. This evil is constantly assuming larger and larger dimensions in France, as elsewhere, with the colossal development of the daily press and the means of advertisement it offers. De Lavarenne hails with delight the recent legal decision at Breslau already mentioned in these columns in which an advertiser who promised to cure all cases of stuttering, under written guarantee, was fined and further advertising of such claims prohibited. The physicians who instituted the suit testified that in the present state of medical science it was impossible to cure, much less guarantee a cure every time. The suit was brought in the civil court, as a damage suit, not as usual in procedures against charlatans in the criminal court for illegal practice of medicine. He urges physicians in France to follow the example of their German confrères.

22. **Treatment of Phlebalgia by Effleurage of the Veins.**—Neuropathics and varicose subjects, as also those convalescing from phlebitis, are liable to suffer from "venous neuralgia," and

the best treatment is by light massage or effleurage. The strokes should be upward, and if very painful, they should be done in the bath. This treatment should not be instituted until after all inflammatory manifestations have long subsided. The hand is oiled with vaselin and under the light manipulations the part grows warm while the pain subsides. The pain is liable to recur after four or five hours, but repetition of the effleurage the next and following days will favor the resolution of the inflammatory exudate which causes the pain. Baths in case of phlebalgia should not cause a sensation of either heat or cold; the neutral temperature is peculiarly soothing. The effleurage prevents congestion and thus obviates recurrence of the phlebitis. The patient can apply it himself in time at the slightest intimation of congestion or pain and thus ward off recurrences or prevent phlebitis.

23. **Pathogenic Action of Radium.**—Danysz reported at the Paris Académie des Sciences that the radium rays have an intense action on the skin but that the underlying tissues were very little affected by them in his tests on animals. He, therefore, ascribes their action to the susceptibility of the nerves in the skin. The solutions of radium salts produced the same effect as the metal in tests on certain of the lower animals. Caterpillars became paralyzed and died when exposed to their radiations and the development of the anthrax bacillus was checked.

30. **Practical Application of Cryoscopy of Milk.**—Parmentier remarks that of the 350 millions of quarts of milk consumed annually at Paris, nearly 5 millions are taken by the hospitals and public charities. The purity of milk is, therefore, a peculiarly important question for the members of the profession connected with the hospitals. He has been making a very extensive study of the practical application of cryoscopy as a means of detecting adulteration and has become convinced that it is a simple, practical and reliable means of testing the quality of the milk. He has found that the freezing-point of milk is a constant figure, .55 to .56 C., whether Pasteurized or not, and milk with this freezing-point when drawn from the cow should have the same when delivered to the consumer. If the freezing-point is .52 the milk has been manipulated somewhere. The age, breed, food, etc., of the cow do not affect the freezing-point in normal milk, but it varies in case of disease in the animal or merely with a local inflammatory process. The freezing-point of both cream and skim-milk is the same, consequently cryoscopy does not reveal fraud in this respect, but it invariably indicates if the milk has been watered, and is the most exact and rapid method of determining this yet discovered. If the milk were adulterated with water containing just the right proportion of salts to keep the freezing-point at the right spot—which would be a difficult matter—the fraud then would be revealed by the taste, or by simple chemical tests. The research described was made with the ordinary technic of cryoscopy, not using an instrument of precision, as the aim was to bring this simple method of testing milk within the reach of every practitioner.

35. **Congenital Strictures of the Urethra.**—Bazy gives illustrations of the conditions observed in certain strictures of the urethra and a diagrammatic representation of the way in which they are probably formed. There are evidently some congenital bands or valves in the bulbar portion of the urethra which form the stricture. They are relics of the uro-genital membrane of embryonal existence. As in the rectum and elsewhere, the stricture may therefore be congenital, pathologic or traumatic.

36. **Medical Impressions of the Museums of Italy.**—Twenty fine photogravures illustrate this article, reproducing some of the famous paintings which portray medical or surgical scenes, the birth of Eve, the Circumcision, hospitals, miracles, etc. A preliminary sketch made by Raphael for his famous "Transfiguration" shows that he drew all the figures nude to study the muscular action before draping them in the finished picture. The group in the foreground is a mother and father bringing their son, "possessed of a devil," to be healed. The disciples, by gestures, express their inability to help her and point to the transfigured Lord above while the father supports the youth in the throes of an attack of convulsions. Another interesting picture from a medical point of view is "La Gravida," at Florence, one of Raphael's earlier works. In his great painting of the "Visitation," lifesize, at Madrid, the Virgin is also represented in an advanced stage of pregnancy. A work by Lorenzetti at Pisa portrays "The Triumph of Death." Three coffins lie open in the foreground, the cadavers within in various stages of decomposition, while seven cavaliers, their horses and dogs, inspect them.

38. **Technic of Chloroformization.**—The preparations, technic of anesthetization and the accidents and measures to prevent and treat them, are listed in a large table convenient to hang up for hasty reference.

Semaine Medicale, Paris.

39 (XXII, 8.) *Instruction in Neurology in U. S. G. Guillain.—L'état actuel de l'enseignement de la neurologie aux Etats-Unis.

40 (No. 9.) *Un nouveau procédé de cure radicale de la hernie inguinale par occlusion partielle du canal inguinal et réduction de ses dimensions à celles du cordon spermatique. E. Estor (Montpellier).

41 Letter from America. Le traitement chirurgicale de la lithiase biliaire. F. Munch.

42 (No. 10.) L'edème dur (hard) traumatique du dos de la main (of the back of the hand). L. Cheinisse.

39. **Neurologic Instruction in This Country in Comparison with Europe.**—Guillain remarks that in Europe neurology is too often regarded as a special branch of medicine, rather in the line of a luxury, a superfluity that can be dispensed with, while in this country the student is expected to study it as part of the regular course. He lauds the practical way in which it is taught and the unexcelled facilities for instruction here, remarking in conclusion: "While fifteen or twenty years ago neurology did not exist in the United States or scarcely existed here, now there is such activity in it that we can foresee the day, and not very distant, when the new generations will take the rank in the international scientific movement justified by the intelligent methods of instruction and the energy in their work which distinguish the American race." Guillain has been visiting the leading medical centers from Boston to San Francisco, and draws a very attractive picture of the present status of instruction in neurology and psychiatry in the hands of our leading men, whom he cites in turn, knowing that their names are almost as familiar in Europe as at home.

40. **Estor's Method of Radical Treatment of Inguinal Hernia.**—The sac is detached as high as possible and resected without previous incision of the aponeurosis of the oblique muscle. Two wire threads are then inserted in the pillars from the front backward, crossed in the aperture of the ring and passed then through the abdominal wall, from the rear forward, emerging well above and outside of the external inguinal orifice. The entire abdominal wall, comprising all the layers, is then drawn down and fastened over the inguinal ring, forming a solid wall of muscle and aponeurosis over the inguinal ring, leaving only the opening absolutely necessary above the pubis for the emergence of the spermatic cord. Five parallel catgut or silk threads are then woven in, about 1 cm. apart, to strengthen the aponeurosis, and the skin is sutured. Estor has performed this operation 24 times. The immediate results were perfect except that in a few cases the testicle and cord appeared to be swollen for a few days, but this soon subsided without further symptoms. There was an insignificant catgut stitch abscess in three cases, but he never found it necessary to reopen the wound. The re-enforced abdominal wall is even more solid than the normal wall, and the results to date have been fine in every respect, nearly two years in his oldest cases. Eight of his patients were children. The article is accompanied by five cuts.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed, p. 134.

43 (LVI, 6.) *Ein Schaukelsessel (rocking chair) für kleine Rachitiker und Schwächlinge (for weakly children). A. Epstein.

44 Ueber die Auslösung der Milchsecretion (lactation) bei Mutter und Kind. W. Knoepfelmacher.

45 Ueber Wundscharlach (wound scarlet fever) bei Verbrennungen (burns). C. Leiner.

46 Ueber Isolyne bei Infections-Krankheiten der Kinder (in children's infections). Ibid.

47 Meningitis beim Neonatorum. L. Goldreich.

48 Zur Schwellung der peripheren Lymph-Drüsen im Säuglingsalter (swelling of glands in infancy). A. Baer.

49 Functions of Child's Stomach in Digeative Affections. T. v. Hecker.—Ueber die Functionen des kindlichen Magens bei Verdauungskrankheiten. Tables to accompany article in No. 5. Fifty-four cases.
50 (LVII, January.) *Abnormal Chondral Ossification in Rachitis. D. Pacchioni.—Beschreibung und Pathogenese der Veränderungen der chondralen Verknöcherung bei der Rachitis.
51 *Influence of Sterilization of Milk on Infant Metabolism. W. Cronheim and E. Müller.—Untersuchungen über den Einfluss der Sterilisation der Milch auf den Stoffwechsel des Säuglings, under bes. Berücksichtigung der Knochenbildung.
52 *Diagnostische Betrachtungen über 3 seltene Formen infantiler Cardiopathien. C. Hochsinger.
53 Seltener Fall von Erythema nodosum. E. Führmann.
54 Anaerobic Butyric Acid Bacteria in Normal Stools. F. Passini. Ueber das regelmässige Vorkommen der verschiedenen Typen der streng anaerobischen Buttersäurebakterien im normalen Stuhl.
55 *Zur Casuistik der Phosphaturie im Kindesalter (in a child). Cornelia de Lange.
56 (February.) Ueber die Behandlung des Scharlachs mit einem Scharlach Streptokokkenserum (serum treatment of scarlet fever) I. Moser. (Commenced in preceding number.) Preliminary report mentioned in THE JOURNAL, xxxix, p. 1145.
57 *Ueber Sauerstoff- (oxygen) Inhalationen bei Kinderkrankheiten (in children's diseases). A. Hecht.
58 *Eine Scharlach- (scarlet fever) endemie auf der Masern- (measles) Station. A. Doebert.
59 *Ueber den Werth der systematische Lumbal-Punktion bei der Behandlung des Hydrocephalus chronicus internus bei Kindern. J. v. Boky.

43. Rocking Chair for Weakly Children.—Epstein urgently recommends a low rocking chair with arms and a broad open space between the back and the seat, for children between 1 and 3 years old as a remarkably effective means of developing the muscles and especially strengthening the back. The child sits in it, facing the back, his feet hanging or touching the floor, or resting on a step made for the purpose on the long rockers. He soon learns to balance himself and rock, and, as he holds on by the back and arms, he acquires an actual military attitude, head up and spine straight, while his delight in the rocking movement inspires him to constantly renewed exercise.

50. Morbid Process in Rachitis.—Pacchioni asserts that the fundamental morbid process in rachitis is not in the bone but in the cartilage, in the protoplasm and in the nuclei of the cartilage cells.

51. Effect of Sterilization of Milk.—Cronheim publishes his research, which confirms the fact that the biologic properties of milk are impaired by the process of sterilization. The exact mechanism is not known, but clinical experiences have established that the lime metabolism is unfavorably influenced. Sterilized milk is not a suitable food for infants for long periods at a time.

52. Rare Forms of Infantile Cardiopathy.—Radioscopy explained the contradictory symptoms in the cases described. In one they were due to defective development of the septum in the common arterial trunk. The infant was 11 months old, and exhibited congenital cyanosis. The origin of the arteries was also on the opposite to the normal side, and the first portion of the aorta was rudimentarily developed, with vicarious enlargement of the pulmonary and permeable ductus arteriosus, with resulting hypertrophy of the heart. In the second case, the boy of 13 had still an opening in the ductus arteriosus, with an aneurismal dilatation of the pulmonary artery and congenital stenosis of the isthmus of the aorta. In another case a boy of 9 had an enormously hypertrophied heart, with adhesions between the pericardium and chest wall, signs of obsolete tuberculous pleurisy. The mitral and aortic valves were also insufficient, and the entire heart was displaced to the left and fastened by tuberculous bands.

55. Phosphaturia in a Child.—The little patient was a girl, not quite 5, and phosphaturia was pronounced for the nine months during which she was under observation. She suffered from helminthiasis, and there is a possibility that this fact may have had some connection with the phosphaturia

57. Oxygen in Diphtheric Stenosis.—In Hecht's experience with 9 cases of diphtheric laryngeal stenosis, the respiration was favorably affected in 2. Study of the details of these cases shows that inhalation of oxygen is always indicated when the heart action is growing weak, manifested by tachycardia. It should be kept up until the beat grows slower and, of course, be suspended if it increases the tachycardia.

58. Simultaneous Scarlet Fever and Measles.—In the epidemic of 10 cases of scarlet fever in the measles ward, it was noticed that diarrhea preceded the exanthem in 6. The fleeting character of the eruption was also noticeable and the severity of the complications. Doebert's experience warns that the simultaneous occurrence of these two diseases must be carefully guarded against.

59. Value of Systematic Lumbar Puncture in Hydrocephalus.—When the hydrocephalus is congenital, the alterations in the parts are usually so severe that merely a palliative effect is to be hoped for. But in cases of the condition following meningitis or other cause, it may be possible to realize a complete cure by this means. In one case described all symptoms of the chronic hydrocephalus had vanished by the end of eight months, during which time 283 c.c. of cerebrospinal fluid had been withdrawn in eleven punctures. In another case a boy of 2, with hydrocephalus consecutive to cerebrospinal meningitis, showed remarkable improvement until his death from an intercurrent infection. He was treated in the course of two years by lumbar puncture repeated fifteen times, with escape of 660 c.c. of fluid. Concetti repeated the puncture fifty-three times in two years in one case with marked benefit.

Muenchener Med. Wochenschrift, Munich.

60 (L, 8.) *Prognosis of Gin Liver. H. Ehret.—Zur Kenntniss der Prognose der atrophischen Leber-Cirrhose.
61 Ueber die Wiener'sche Methode zur Virulenz-Steigerung (increasing) der Danysz-Bacillen. M. Oettinger.
62 *Zur mikroscopischen Technik. T. Sato.
63 *Laryngeal Tuberculosis in Pregnant Women. Löhnberg.—Die Kehlkopfschwindsucht der Schwangeren.
64 Electric Appliance for Inspecting the Eye. Von Ammon.—Eine einfache elektrische Beleuchtungsvorrichtung für Augenuntersuchungen.
65 *Training and Treatment of Hereditarily Burdened Children at Home and in the School. H. Pfister.—Die Erziehung und Behandlung seelisch Belasteter in Haus und Schule. (Commenced in No. 7.)
66 (No. 9.) *Ueber die mechanische Sterilisierung der Gummihandschuhe (of rubber gloves) und ihre Verwertung in der Praxis. O. Wandel and O. Hoehne.
67 *Splnalgie als Früh (early) Symptom tuberkulöser Infektion. J. Petruschky.
68 Theocin (theophyllin), ein neues Diureticum. C. Doering.
69 *Ein Beitrag zur Casuistik der Pankreas-Geschwülste (tumors). C. Ehrlich.
70 *Die Skopolamin- (Hyoszin) Morphium-Narkose. Schneiderlin.
71 *Suture of Femoral Vein and its Indications. A. Schönwerth.—Ueber die Naht der Schenkelvene am Leistenbande und ihre Indikationen.
72 Ueber Salmiakgeistvergiftung (intoxication with water of ammonia). Reckzeh. One case.
73 *Behandlung der fibrinösen Pneumonie mit Hetol-Injectionen. Krone.
74 Ueber Hautgeschwüre (cutaneous ulcers) gonorrhoischer Natur. O. Salomon.
75 Ist der Lupus erythematodes ein Tuberkulid? A. Gunsett.—Argues No.
76 Zur Ätiologie der professionellen Erkrankungen (affections) im Medianus-Gebiet (domain). Steiner.
77 Casuistischer Beitrag zur urämischen Amaurose. Roscher. One case.
78 (No. 10.) *Movability of Grooved Liver. Penzoldt.—Ueber die Beweglichkeit des abgeschnürten rechten Leberlappens.
79 Fall von "interstitieller Gravidität" geheilt durch Operation. Von Holst.
80 *Wie lässt sich die Rectum-Exstirpation zu einer aseptischen und unblutigen Operation gestatten? F. Wenzel.
81 *Indikationen für operativen Eingriffe beim Rektum-Carcinom. O. Witzel.
82 Beitrag zur Ovariotomie in der Schwangerschaft (pregnancy). W. Thomass. One case.
83 Comparative Tests of Disinfecting Power of Old and New Preparations of Mercury and Phenol. F. Hammer.—Vergleichende Versuche, etc. Quecksilber und Phenol-Präparate.
84 Ueber die Beziehungen zwischen (relations between) Epilepsie und Migräne. W. Strohmayer. Frequent coincidence.
85 Anomalies in the Cardinal Veins. S. Oberndorfer.—Varietäten im Gebiete der unteren Hohlvene.
86 *Beitrag zur Symptomatologie des Prostata-Carcinoms. H. Doerfler.
87 Zur Kasuistik der Prostata-Geschwülste im Kindesalter (tumor in a child). L. Levy.
88 Outline of Plan for Organization of the Profession in Bavaria for Economic Purposes.—Entwurf des Planes einer Organisation der bayer. Aerzte bezw. Aerztevereine zu wirtschafti. Zwecken.

60. Prognosis of Gin Liver.—The postmortem findings in the case described revealed unmistakable evidence of old liver cirrhosis with atrophy, confirmed also by the history of an abrupt, stormy attack of the symptoms familiar in this affection. The man was 42 years old at the time and an immoderate drinker. He abandoned the use of alcohol on his physician's advice, and all the symptoms gradually retrogressed, until he

had clinically recovered. Thirty years later he succumbed to a rapidly developing carcinoma of the esophagus, without ever having exhibited any further symptoms of a liver affection in the interim. The liver was found adherent to the spleen and the development of collateral circulation through this organ may have been responsible for the absence of congestion and ascites. If the morbid process is arrested before all the liver tissue is destroyed, it is evidently possible for the remaining portion to compensate it and for the patient to clinically recover. Total abstinence from alcohol is the *sine qua non*. The morbid process is liable to continue even with small amounts of alcohol, and it is far more difficult for a drinking man to restrict himself to continual small amounts than to accustom himself once for all to total abstinence. Besides abstention from alcohol, small doses of digitalis and potassium iodid will be found useful, the former improving the arterial circulation through the liver and the latter stimulating the metabolism in general. Congestion in the portal region is best combated by laxative salts (Carlsbad, Marienbad, Vichy, Vittel), or by calomel. Withdrawals of small amounts of blood over the region and at the anus are also useful. The ascites should be treated by puncture, systematically repeated whenever the accumulated fluid reaches a certain amount, as only under these conditions is puncture really curative. It is very rarely that the puncture can be substituted by diuretics, although the latter should be tried and also sweat baths in certain cases. The peritonitis, which so frequently accompanies liver cirrhosis, is an important aid in the cure, as it results in adhesions which in turn aid in collateral circulation. If the congestion and ascites can not be conquered in any other way, Talma's operation should be performed. The physician should be convinced that liver cirrhosis is far from having the hopeless outlook formerly attributed to it.

62. **Technic of Microscopy.**—Sato has found that a sheet of colored glass interposed between the mirror and condensor will render the microscopic field as clear and distinct by artificial light as by daylight. The complementary color to the stained preparations is usually the best, but others are frequently equally effective. He has found gelatin paper very nearly as good as glass, and adds that unstained gelatin paper will be found a useful substitute for cover glasses.

63. **Laryngeal Tuberculosis in Pregnant Women.**—Löhnberg has had occasion to observe 5 cases of laryngeal tuberculosis in pregnant women in the course of two years. In 2 there were no indications of tuberculosis elsewhere, and in the rest and in those reported by Türk the laryngeal lesions far overshadowed the others. He has collected 21 similar cases in the literature. The evidence is in favor of the assumption that pregnancy affords a predisposition to this affection and whips into a gallop a latent process. Further, that every pregnant woman with diffuse laryngeal tuberculosis is irremediably doomed, and possibly also those with merely a single tubercle. The only treatment is the palliative use of a menthol-orthoform emulsion, but this lost its efficacy after a time in his cases, and relief was obtained with morphin and tablets of cocain alone. The only effective measure against the hopeless laryngeal tuberculosis of pregnant women is that tuberculous women should not marry, and, if married, should not conceive. Pregnant women should be carefully examined at the slightest suspicion of trouble in the throat, and should be placed in the most favorable conditions of nourishment and hygiene. In case of advanced laryngeal tuberculous lesions, extensive use of every means to allay the pain is certainly indicated.

65. **Training and Treatment of Inherited Nervous or Mental Weakness.**—Serious injury may be inflicted on a child with a hereditarily weak nervous system by even a moderate box on the ear. The concussion of the brain may have a long train of effects, especially when combined with the pain, mortification and anger usually accompanying such a scene. Plutarch used to complain that the slaves that were not good for anything else were made teachers for the children, and Martin Luther and other writers since have echoed his experience in regard to teachers. A Suabian writer named Häberle kept a record of the number of blows he received during his childhood, and he states that they reached a total of 911,527 with a cane, 124,010 with a switch and 1,151,800 boxes on the ear. At the present day the children suffer more from overtaxing of the brain than from corporal punishment. What is easy for the normal child is a direct strain on children with a nervous or mentally defective heritage. Koller found 59 per cent. of such children among 370 supposedly healthy school children, and Benda 50 per cent. in the upper grades. The mental work required of such children should be graduated to their capacity, and even physical exercise should not be allowed to fatigue them. They should have frequent but brief exercise in the open air, with rest afterward. In selecting an occupation, young people with an overburdened heredity should be guided away from those requiring much nervous or mental strain. In regard to marriage, young men showing only moderate effects of such heredity should be advised to marry young, while those with pronounced manifestations should be warned against matrimony, as the cares of married life outbalance for them its advantages. Girls of this class should marry late, not until after 24 or 25, to allow them to attain their full physical development before encountering the stress of pregnancy and childbirth. In all cases, marriage into a healthy family is indispensable. The crossing of two such morbid strains is disastrous. The above are only a few points out of Pfister's long article, which is based on his extensive experience as assistant physician to the psychiatric clinic at Freiburg.

66. **Mechanical Sterilization of Rubber Gloves.**—Experiments at Kiel have demonstrated that rubber gloves can be effectively sterilized after using by washing them, still on the hands, with soap and water for a few minutes. It is not necessary to use a brush or antiseptics. After washing them on the hands they are pulled off wrong side out and washed on this side, and filled with water to discover any crack. They are then dusted with talcum powder and wrapped separately in a sterile cloth, when they are ready for use again at any time. The tabulated tests showed that the smooth surface of the rubber does not retain germs like other substances, but allows of perfect cleansing by merely mechanical rinsing. The tests were made with staphylococci and streptococci, the colon, prodigiosus and other pathogenic bacteria.

67. **Spinalgia as Early Symptom of Tuberculous Infection.**—Petruschky has noticed that "pains between the shoulder blades" is a frequent complaint of persons who later exhibit symptoms of tuberculosis. He thinks that they have some connection with a primary tuberculous inflammation of the bronchial glands, and can, therefore, be accepted as one of the earliest signs of the infection. At a recent autopsy he discovered recent secondary infection of one apex, with evidences of old tuberculous lesions in the bronchial glands, although nothing during life had suggested the possibility of tuberculous infection, and the child had died from scarlet fever. He affirms that it is possible to detect the presence of the primary bronchial involvement by the spinalgia referred to above, the typical sensitiveness to pressure of certain vertebræ between the second and seventh dorsal. They show a trace of lordosis usually, and appear to the finger to be a little broader, softer and more elastic than their fellows. The symptom is valuable only when these spinous processes are distinctly more sensitive to pressure than the others. The diagnosis of tuberculosis was confirmed by the tuberculin test in all but 2 out of 79 cases of this spinalgia, while none of them developed a spinal affection; 32 were children under 16, and 45 were adults. In only 14 were any signs of tuberculosis to be discovered in the lungs at the time. On the other hand, spinalgia was scarcely ever observed in advanced tuberculosis. Primary infection of the bronchial glands is a more dangerous lesion than when the glands in the neck are affected, although infection from the latter is liable to spread to the bronchial glands at puberty. Petruschky is an advocate of tuberculin treatment as the most rational and certain of all means of preventing general infection from glandular lesions.

69. **Tumors of Pancreas.**—Ehrlich illustrates a case of endothelioma and of sarcoma of the pancreas, both diagnosed as an ordinary cyst. He emphasizes that the most apparently

harmless cyst in the pancreas may prove to be a malignant tumor when there is no history of trauma to explain it, and exploratory puncture should therefore be systematically avoided on account of the danger of disseminating particles of malignant tissue. Both patients died, one in a few days and the other in less than four months. The first was a woman of 57 and the second a man of 66. Neither presented the appearance of malignant disease except that they were somewhat pale and thin.

70. **The Scopolamin-Morphin Narcosis.**—Schneiderlin was the first to systematically apply this method of narcosis, and he here relates his later experiences with it. The patient is in a tranquil, drowsy state and thus is obviated the psychic shock which is frequently an important factor in the by-effects of anesthesia. Another advantage is that the anesthetizer is dispensed with, while the method is free from danger if correctly done. The susceptibility of the patient is tested by a preliminary dose which causes some delay, and the respiration must be supervised for some time after the operation. These are the only drawbacks. His technic, except for emergency cases, is as follows: He tests the patient with a preliminary dose of first .8 to 1 mg. scopolamin (hyoscin) and then 2 cg. of morphin, usually on separate days. On the day of the operation he gives .8 to 1.25 mg. of the scopolamin and 2 to 3 cg. of morphin an hour and a half before commencing the operation. If, fifteen minutes before the operation, the narcosis is not sufficiently profound, he continues with .2 to .4 mg. of scopolamin and .5 to 1 cg. of morphin. Neither of the drugs alone produces insensibility, while the combination of the two at half the dose is followed by complete anesthesia. He gives a table of a number of cases in which extensive tests of the drugs were made with several days' interval at times between them so as to exclude the influence of after-effects. He also reports some emergency cases in which he operated at once. In one, for instance, he removed the glands in the axilla from a physician. At 12:30 he gave 1 mg. Sc. and 2 cg. Morph. At 1:45 he gave .8 mg. Sc. and 2 cg. Morph. At 2:15 the insensibility was complete and the operation was commenced. A similar operation on another patient was undertaken at 1:30 after an injection at 12 of 1 mg. Sc. and 3 cg. Morph. An abdominal hernia on a third patient was treated by radical operation commencing at 2 after giving at 12:30 an injection of 1 mg. Sc. and 4 cg. Morph., and at 1:45 another of .4 mg. Sc. and 1 cg. Morph. The patient must naturally be supervised afterward until return of consciousness, that asphyxia may not follow the falling back of the tongue or blood flowing into the throat. One of his patients was left alone, contrary to directions, after extraction of teeth, and the larynx became obstructed from hemorrhage, causing a condition of asphyxia requiring artificial respiration for several hours. When this method of narcosis has failed in the hands of the few others who have reported such an experience, the failure was due to the lack of preliminary testing, or too large doses were injected, or the stage of insensibility was not waited for. Fully an hour and a quarter to an hour and a half must elapse after the first injection before complete insensibility is attained and sometimes longer. It is tested by passing a needle through the lip or sticking it in the finger tip or region of the lower lid.

71. **Suture of Femoral Vein Near Poupart's Ligament.**—Schonwerth incised the femoral vein in operating on septic lesions in the inguinal region in 3 young soldiers. Instead of ligating the vein, he sutured it at once. Notwithstanding the suppuration in the glands, the lesions healed without evident thrombosis, edema or hemorrhage. He, therefore, recommends suture instead of ligature when the suppuration is of a more or less chronic character and restricted to the glands and their vicinity, as in his cases. The after-results are much better than when the task of establishing collateral circulation is imposed on the system.

73. **Treatment of Pneumonia with Cinnamic Acid.**—Krone was Landerer's assistant at one time, and regards the treatment of tuberculosis with cinnamic acid as a valuable progress. It induces a counter-irritation at the inflamed points, attracts leucocytes to the spot and conquers the primary inflammation, with a tendency to prevent general infection. By tests on himself he established the harmlessness of this medication to his complete satisfaction, and soon queried whether it were not possible to attain equally favorable results in fibrinous pneumonia. He has thus applied it in intravenous injections, strictly according to Landerer's technic, in 18 cases. In 14 the pneumonic inflammation reacted promptly to the injection, retrogressing rapidly and smoothly and in none of the cases was there general infection. In 2 of the 4 cases in which it failed to exert a favorable influence the patients were alcoholics, with degenerated hearts. He describes several cases in detail. Krone concludes that his unfailing success in the 14 uncomplicated cases indicates that cinnamic acid has an unmistakably favorable effect on fibrinous pneumonia if administered according to rule and in the early stages. It works against the inflammation in its early phases, reduces the fever, facilitates prompt and easy resolution and thus renders the breathing easier and quieter, while it prevents general infection.

78. **Movability of Grooved Liver.**—Penzoldt has had occasion to see four cases recently in which an apparently movable tumor proved to be a part of the liver separated by a deep groove from the rest, and so movable that it could easily be pushed up into the epigastrium. He thinks it probable that this condition is comparatively frequent, but has been mistakenly diagnosed. The patients complained of discomfort during stooping or working, and the groove was visible on the outer wall of the abdomen. He recommended them to suspend all their lower garments by buttoning them to a stout waist, made like a man's vest, broad on the shoulders and without any tightness around the waist. If the disturbances had been very severe he would have ordered a bandage around the trunk and, in extreme cases, anchored the movable lobe to the abdominal wall. He found that the movability and the disturbances became less as the women took on flesh, and he, therefore, advises fattening the patients as a systematic adjuvant in treatment.

80. **Aseptic and Bloodless Extirpation of Rectum.**—Wenzel describes Witzel's method of operating in case of carcinoma of the rectum, and states that he has not lost a single patient by sepsis or collapse and has had no recurrences. The indications for operation are given by the fascia recti propria. If the carcinoma has invaded this or passed beyond it, recurrence is almost inevitable, but if it is still limited by the fascia the intervention has every prospect of success. Resection of the rectum is almost certain to be followed by extension of the malignant disease from disseminated particles, and the only advantage is the retention of the natural anus. But as the anus has lost its nerve connections, it very rarely retains its functions and, consequently, any advantage from its retention is usually delusive, while those from extirpation of the rectum as a whole, with the carcinoma closely enclosed in it as in a tight bag, are so obvious and positive that there can be no comparison between the two methods. He prepares the patient for eight to ten days with light food, leaving little residue, fluids alone the last few days, with castor oil and high enemas daily until noon of the day before the operation, after which no fluids are introduced into the rectum. Fifteen drops of tct. op. spl. are given immediately after the last injection, again at evening, the next morning and again one hour before the intervention in a cup of equal parts of tea and brandy. The region is disinfected with a daily sitz soft-soap bath, with a full bath the day before and the day of the operation. The narcosis is according to his morphin and ether by the drop method. This allows an operation of several hours' duration. A soft catheter is inserted and left permanently in the bladder, and the anus is plugged with a small tampon coated with iodin and fastened with two tiers of silver wire sutures, the ends tied in a long loop, which proves a convenient handle later. The operation comprises, 1, extirpation of the coccyx and presacral detachment of the rectum; 2, mobilization of the rectal ampulla and opening of the peritoneum; 3, detaching the anal portion after ligature of the inferior hemorrhoidal artery; 4, ligature of the middle and superior hemorrhoidal arteries in the mesorectum and its

detachment up to the flexure, and 5, amputation of the rectum and making the gluteal anus. He describes in detail the reasons for further particulars of the technic. The deaths in the experience of other operators are due, in the majority of cases, to wound infection or to collapse from hemorrhage, both of which are entirely avoided by this method. The gluteal anus works so satisfactorily by its inherent elasticity and the anatomy of the parts that nearly all his patients have been able to resume their previous occupation.

81. **Operative Intervention in Carcinoma of Rectum.**—Witzel's first gluteal anus was made seventeen years ago, to remedy a stump too short to bring down to the natural anus. The nurse in attendance was overheard to murmur to herself: "He will be surprised to find it there," and Witzel states that he has been continually surprised since at the excellent functioning of the new anus. He calls it, by the way, gluteal proctostomosis. He has not lost one of the 17 patients operated on by his method from loss of blood or sepsis, and proclaims the principle: small carcinomas, extensive operations; large carcinomas, small operations; that is, merely palliative. He laments that digital examination of the rectum on complaints of "internal hemorrhoids" was neglected until too late for a carcinoma to be operable in 80 per cent. of all that applied to him. One special advantage of his method (see above) is that if the first steps of the operation show that the growth is inoperable or more accessible through a laparotomy, these indications can be complied with before injury has been inflicted on the patient. Among the various palliative operations he has tried he prefers subsartorial colostomosis, that is, he reaches the flexure through an incision above Poupart's ligament, close to the iliac crest. The flexure is drawn out through the aperture under Poupart's ligament and under the sartorius muscle, fastened to the peritoneum and to the skin and then opened after the abdominal incision has been sutured. Still another method is to make an oblique fistula similar to his stomach fistulas which close spontaneously in a few days after the tube is removed.

86. **Symptomatology of Carcinoma of Prostate.**—Doerfler reports a case which demonstrates that a carcinoma developing in the prostate, of such extent that it grows up to the orifice of one of the ureters and breaks through into the bladder, may run its course without inducing any local symptoms, especially any disturbances in urination. The rather frequent micturition observed for a year, but without any symptoms, could scarcely be regarded as pathologic, and could readily be explained by slight hypertrophy of the prostate. The case also demonstrates that a carcinoma in the prostate may cause inflammation of both Poupart's ligaments and extend to the adjacent peritoneum, simulating a periappendicular inflammation with exudate. Evidently these inflammations were transmitted by way of the involved ureter. Differentiating points are the closer vicinity of such exudates to the ureter, possibly also the lesser participation of the general health and of the intestines in the local manifestations. The later course of the malignant disease in this case was completely dominated by the symptoms of an intermittent pyelitis, intermittent accumulations of urine in the renal pelvis. An important point for the etiology of such an intermittent hydronephrosis was the fact noted that the urine collected when the patient stood and vanished on reclining. The tumor in the prostate probably pressed on the ureter when in the erect position while it sank away in the dorsal decubitus. Death was due in this case to total anuria a few days after operation, which indicates that the chronic congestion in the ureter and renal pelvis had impaired the vitality of the kidney.

Therapie der Gegenwart, Berlin.

Last indexed, p. 681.

89 (March.) *Ueber eine neue Klasse von Schlafmitteln (hypnotics). E. Fischer and J. von Mering.
90 *Ueber die Behandlung von Leber (liver) Affectionen mit Quecksilber, nebst Bemerkungen über fieberhafte Leberaffectionen (febrile liver affections) und den etiologischen Schluss (conclusion) ex juvantibus. O. Rosenbach.
91 *Die Behandlung der Perityphlitis. Ch. Bäumler.
92 Bemerkungen über den Werth des Theocin. H. Schlesinger.
93 Klinische Erfahrungen (experiences) über Rhizoma scopoliæ carniolivæ. L. v. Ketly.
94 Gelatine, ihre Gefahren und ihr Werth (its dangers and value) in der Therapie. H. Doerfler. Critical Review.
95 Zur Kenntniss der Borsäurewirkung (effect of boric acid). M. Cloetta.
96 Statistische Beitrag zur Wirksamkeit des Heilserums bei Diphtherie. G. Bundt.
97 Ueber Ichthalbin. J. Marcuse.
98 Beiträge zur Wirkung der Moorbäder and Moorumschläge (peat baths and packs) bei Exsudat-Resten nach (relics after) Perityphlitis. F. Straschnow.
99 *Gleichzeitige Gewinnung mehrerer Actinogramme (manifolding radiographs). Schuppenhauer.
100 *Zur Heilbarkeit (curability) der Tuberculose. Meissen.

89. **New Class of Hypnotics.**—The researches of Fischer and Mering establish an intimate relation between the chemical structure and the hypnotic action of drugs. The urea group is requisite but does not suffice alone. It must be in combination with some alkyl containing carbon. The nature of the alkyl is also important. Out of the entire group answering to these conditions the chemical most powerful in its hypnotic effect while most suited for therapeutic purposes, is diethyl-malonyl-urea, which in the intensity of its action surpasses all other hypnotics hitherto known. It has a slightly bitter taste; is readily soluble and in numerous tests on dogs and in the clinic proved remarkably effective in the therapeutic dose which has been established to be .3 to .5 gm. for insomnia and 1 g in agrypnia and extreme agitation. For convenience its long name is to be supplanted by "veronal."

90. **Mercury in Liver Affections.**—Klemperer has established by the two cases he published in the January number that severe liver affections may be cured by subcutaneous injection of mercury. The effect was so striking that he assumed that the lesions in the liver must have been syphilitic, but Rosenbach protests against ascribing to syphilis every lesion cured by mercury. Their occurrence in a syphilitic is a casual coincidence in many instances. Mercury is not specific against any special virus or microbe, he asserts, but is specific in the sense that it is the means of maximal stimulation or inhibition of abnormal functioning of the liver. By subcutaneous administration we avoid the deleterious action on the intestines. Too strong intestinal reaction interferes with the effect of mercury on the liver. In future he urges that all cases of acute or subacute liver affections should be treated with mercury as soon as possible, in doses too small to be laxative, or by subcutaneous injection. Considerable or continuous fever speaks against lues.

91. **Medical Treatment of Appendicitis.**—Bäumler has treated medically 187 patients with appendicitis in the last twenty-five years; 124 were men and 63 women. The recoveries were 93.6 per cent. of the men and 90.5 per cent. of the women. The severity of some of the cases can be deduced from the fact that 9 per cent. of the men and 15 per cent. of the women were compelled to remain in the hospital (Freiburg), from 60 to 200 days. He concludes from his experience that a small proportion are doomed unless promptly operated on, but recovery is possible without surgical intervention in the overwhelming majority, even in cases of large pus collections as they may empty themselves spontaneously into the intestine, bladder or vagina and if small may be absorbed. If, after complete subsidence of the attack, local phenomena still are noted, even if only occasionally, the appendix must be removed.

99. **Manifolding Radiographs Without Plates.**—The Journal has mentioned a recent suggestion that it is possible to dispense with the plate in radiographing and make the exposure directly on the photographic paper. Schuppenhauer has found that two to four thicknesses of the paper can be used and several radiographs taken at once.

100. **Curability of Tuberculosis.**—Out of the 1,731 tuberculous subjects received at the Hohenhonnef sanatorium in Germany, 208 have been cured for three to eleven years. Of the 278 dismissed as cured, 248 have been followed. Only 40 have grown worse again, and in nearly every instance this could be directly traced to the stress of poverty or overwork. All the others are permanently well. They belong to all classes of society; some of the women have married and borne children. Some have been accepted by the life insurance companies as ordinary risks.

THE NEW ORLEANS SESSION

Description of the Crescent City and Its Environs, Points of Interest and Details of the Preparations for the Fifty-fourth Annual Session of the American Medical Association, May 5 to 8, 1903

NEW ORLEANS.

"Rede the rede of this old roof tree;
Here be trust fast, opinion free,
Knightly right hand and Christian knee;
Worth in all, wit in some,
Laughter open, slander dumb;
Hearth where rooted friendships grow,
Safe as altar, even to foe."

The Crescent City bends and turns with facile form to meet and follow the Father of Waters as it runs in each direction of the compass as it surrounds, almost, the metropolis of the south. We might, in the same breath, say cosmopolis of America, for in its many variants New Orleans bears the earmarks of a foreign people, while in its modern trends it voices the note which the whole United States is to-day sounding for progress. In many ways New Orleans deserves the commentary that she is fifty years behind the times—the truth is one of which many of the multityped population are proud.



French Market.

How can one best know New Orleans? Baedeker takes a foreign city and classifies it into hotels, restaurants, museums, picture galleries, principal streets, shopping places and suburbs, and after that one changes cars for another burg. Above all New Orleans is different. It is in this that the local color has grown into almost fame. One can not see New Orleans between trains nor over night without having a certain indigestion afterwards. It needs more than just a guide book, too, and as yet the ubiquitous cicerone is a rara avis in the Crescent City. This is hardly the place to make full description, but the intending visitor should get a mind's picture of what is before him—the medical man especially, as he deals so much in analysis and the speculative.

Let us be like the guide book for a moment, to digress as we make the reader interested; and we may not forget that we are writing to advise members of the American Medical Association who are coming to New Orleans.

ARRIVAL IN NEW ORLEANS.

The first thing to do is to find lodgment. If you have reserved accommodations through the Arrangements Committee or not, you should, on arrival, go to the Bureau of Information, at the Washington Artillery Hall, and there find your location at hotel or boarding house. If you have already received explicit notification of your location, go at once to the address sent you. The Committee on Hotels and Boarding Houses, together with the Information Bureau, will have systematic arrangements for the disposition of all comers, and the bureau will be open from 8 o'clock a. m., Monday, May 4, to the end of the session. It will help the committee if each member will write in advance, stating the number of persons in the party, men, women and children.



The Levee.

The immense crowds at the 1903 carnival were excellently disposed of, and we hope to do better by the American Medical Association.

HOTELS AND BOARDING HOUSES.

Hotel rates have been considered, on both the European and American plans. With boarding houses, it is far better to arrange for bed and breakfast and to lunch at the Artillery Hall, where lunch will be daily provided. Dinner at the famous restaurants of New

Orleans should, by all means, be considered. Many of the boarding houses on the list of the committee will only have rooms without meals, so, in writing,* specific advice should be given if meals and bath are desired with rooms. Remember that the hotels can not accommodate all Association members and their families and outside quarters must be depended on.

The following hotels have rates of $1.50 and up:

New St. Charles Hotel—Between Common and Gravier streets on St. Charles street. Headquarters of the Association. (See illustration under Association News.)

Cosmopolitan Hotel—Bourbon street, between Canal street and Customhouse street. European plan.

Commercial Hotel—Corner Royal and Customhouse streets. European plan.

Grunewald Hotel—Baronne street, between Canal and Common streets. European and American plan.



Light House at West End.

St. Charles Mansion—826 St. Charles street. European and American plan.

Denechaud Hotel—Corner Carondelet and Perdido streets. European and American plan.

The following hotels have rates of $1 and up:

Fabacher's Hotel—Royal and Customhouse streets. European plan.

Louisiana Restaurant and Hotel—Customhouse street, between Royal and Bourbon streets. European plan. A few rooms only.

Antoine's Restaurant and Hotel—713 St. Louis street, between Royal and Bourbon streets. European plan. A few rooms only.

Park View House—616 Camp street (Lafayette square).

Osborne Hotel—Carondelet and Poydras streets.

Christian Women's Exchange (ladies only)—Camp street (Lafayette square). Rooms and meals.

Hotel Bero—226 Bourbon street.

The rates at boarding houses will be $1 to $2 a day, per person, for rooms only.



United States Mint.

In taking apartments at hotels or boarding houses, state in advance who you are, member of American Medical Association, and arrange rates. This saves trouble. If any discrepancy arises, report the matter



Residences on St. Charles Avenue.

to the Bureau of Information promptly and they will take the matter up for you.

All hotels are convenient to one another and, while the headquarters of the meeting will be at the New St.



Tulane University.

Charles Hotel, the Sections are as near one hotel as another.

The center of all meetings will be at the Washington Artillery Hall, on St. Charles street, seven blocks from Canal street, the main thoroughfare. The Postoffice,

* Write to Dr. E. D. Martin, care Crescent Information Bureau, 810 Common Street, New Orleans.

Registration Bureau, Bureau of Information, General Exhibit, Scientific Exhibit, and several General Sections will be found here. A complete list of Sections and their places of meeting will be found below.

THE FRENCH MARKET.

Once housed, the visitor to New Orleans has much to see and much to do to see it all. There are old places and new places of interest. There are time-worn battlefields, bits of Spain and France of the eighteenth century, traditions galore, and tastes of Creole life and customs, both in the streets and in the shops, much behind closed doors. And where do you wish to begin?

"A line of crimson, low in a gray sky, a ball of fire resting on cypress trees. Long lagoons stretching to the



Washington Artillery Hall.

river's edge; a green, idly flowing river, with its silent cargo of sleeping ships; the levee rising against the old market place, with orange boats unloading and fishermen throwing out glistening masses of pompano and red snappers; a warm, soft air from the sea, an old building looming up into the clear light from the fog, a babble of voices, and odor of many things"—so writes a press visitor of the French Market, "the most characteristic and interesting thing to see in this queer town, built in a crescent around a masterful green river."

It is a good place to begin, for here is cosmopolis itself. The butcher may cry his trade with teutonic accent, while his neighbor truckles to his patronage in gascon French; across the road, the gentler Creole accent sweetly persuades the purchaser of excellence in wares; while yet again, not a voice's length away, Italian, Sicilian, Indian, Mexican and Cajan (Acadian) tones are heard.

A stranger in the old French Market looks askance at the coffee stands, with their primitive service, but the cleanliness, first, and the appetizing odor of the fresh crullers and French *café au lait* soon make the



Court House.

desire, which comes again the next visit. Much of New Orleans and its traditions center near the French Market, Jackson square, the old cathedral and Cabildo and, on a moonlight night, which we find in May, this *vieux carré* looks like some bit of old Provence, or Tours, transported, with all its Balzacian coloring, to act as the focus for a new Latinity in a newer world. The French quarter of New Orleans has its own traditions, but it is the legendary coloring which makes each of these the



Charity Hospital.

more *genre*. Even to-day the moss-grown courtyards harbor love cotes and, in the same old way, Cupid sends the sparrows by day and the mocking bird by night. But the ghosts of Mme. Delphine, of the Royal street haunted house, of Pere Antoine, all seem to shadow modern innovations as if the city there, at least, were part of an *ancient régime*.

The doorway of some breaking house-front tells of former splendor, in every line telling of the ancestral well-being and, perhaps, opulence. The romances lie

beyond the door, and we find them now and then; amidst poverty there rests an heirloom in some bit of ivory, carved many decades since; a bit of brass, bearing noble arms; a portrait worthy Cousin Pons' collection, a dash of color on a whitewashed wall. The casual visitor does not see all these things, but to one who loves the air, the spirit hovers everywhere in the *vieux carré*.

The very streets in the old quarter are full of the spirit of things. By night the dulcet chime of the old St. Louis cathedral times the echoing footstep of the late pedestrian, who half stops in the shadowing light, as if the very walls should render up some vibrant soul among the old traditions, as the note of some old violin



Canal Street.

is roused from a buried past by a sympathetic harmony of some companion note, which passes as it sounds.

By day the balconies bear witness to a foreign land, and beneath them old-fashioned shops invite the passer-by. In Chartres street, hard by, are the stores with birds and beasts and curios of mongrel source. In Royal and Bourbon streets are shops of antiques, of books, of masks and costumes for the carnival—

"Satans and saints and painted clowns
Meet and smile in the motley throng;
And nuns and friars in sober gowns
Lift their chants with a siren's song;
For all the world is akin, and laid
Under the spell of the masquerade."

There are historic points of interest in the old quarter and of a sort to demand some pause. The guide books must tell the detail, but the suggestion may find place here.

The Place d'Armes, now Jackson square, is the point of history for those interested, for it was in one of the old buildings nearby that the Louisiana purchase was ratified. In early times there were no handsome edifices, but a simple church, on the site of the present cathedral —in which to-day rest the remains of the early priest fathers, as well as those of Don Almonester de Roxas, the founder of charities, hospitals and leprosarium. Across the alleyways, on either side, stand the Cabildo and ancient court buildings—to-day sadly in need of care and repair.

Not far down on Royal street, which passes by the old cathedral garden, the iron fret spells the name of the "St. Louis Hotel," latterly the Hotel Royal, for many years a famous hostelry; once the state capitol building, and before the war the place where slaves were sold.

At Royal and St Peter the pink house, that of "'Sieur George," "with its stucco peeling off in broad patches, has a solemn look of gentility in rags, and stands, or, as it were, hangs about the corner of two streets, like a faded fop who pretends to be looking for employment."*

* George W. Cable's "Old Creole Days."

At Hospital and Royal streets stands the "Haunted House," which by night seems to show its ghostly character; shunned by passersby as if still the shrieks and chains might be heard, or the swish, swish of silken garments speeding through the solitary street.

In the neighborhood are the house of "Mme. Delphine," the United States mint, the archbishop's palace, the famous French Opera, and the Absinthe House, which for many years served as the afternoon and evening club for the professional men of the city, and even to-day preserves its architectural and other pristine qualities.

THE RIVER AND SHIPPING.

Canal street is one of the avenues of the world; broad, with central paved portion for cars, not obstructing traffic, it presents a fine appearance.

The beginning of Canal street at the river presents a fair idea of the local river business; the shouts of the



Haunted House.

ship's mate, whose invectives are often far more forceful than polite; the running roustabouts, the hurly burly of a varying crowd; the note of a shrill whistle, or some siren sounding down the stream; the gong of the ferry, and the sights of a levee covered with all sorts of things from barrels to bales and from boxes to huge hogsheads.

On the ferry in midstream an excellent view of the foreign shipping may be had: A long line of slanting levees, here and there broken by the expanse of some ocean liner, trimmed in red, or gray, or yellow, with smaller vessels of coastwise proportions between, the snorting of some egoistic steam tug, pushing or dragging some belated burden into port.

Across the stream, with a background of green cypress, two of New Orleans districts, Algiers and Gretna, lie; the former made prosperous by the Southern Pacific railroad and remaining so on its merits; the other half sleepy in its primitiveness, but kept awake by a mill or two puffing away day and night.

Yonder building, tall, on the right as your ferry comes in again, is the sugar refinery, which must be seen from the river on a foggy night to remark its



Eye, Ear, Nose and Throat Hospital.

myriad star-like windows sparkling out in the quiet darkness.

The Louisville and Nashville depot, the Fourteenth of September monument, the customhouse, a row of wholesale houses and retail stores, the Boston Club, the Chess Club, the Grand Opera House, the shopping dis-

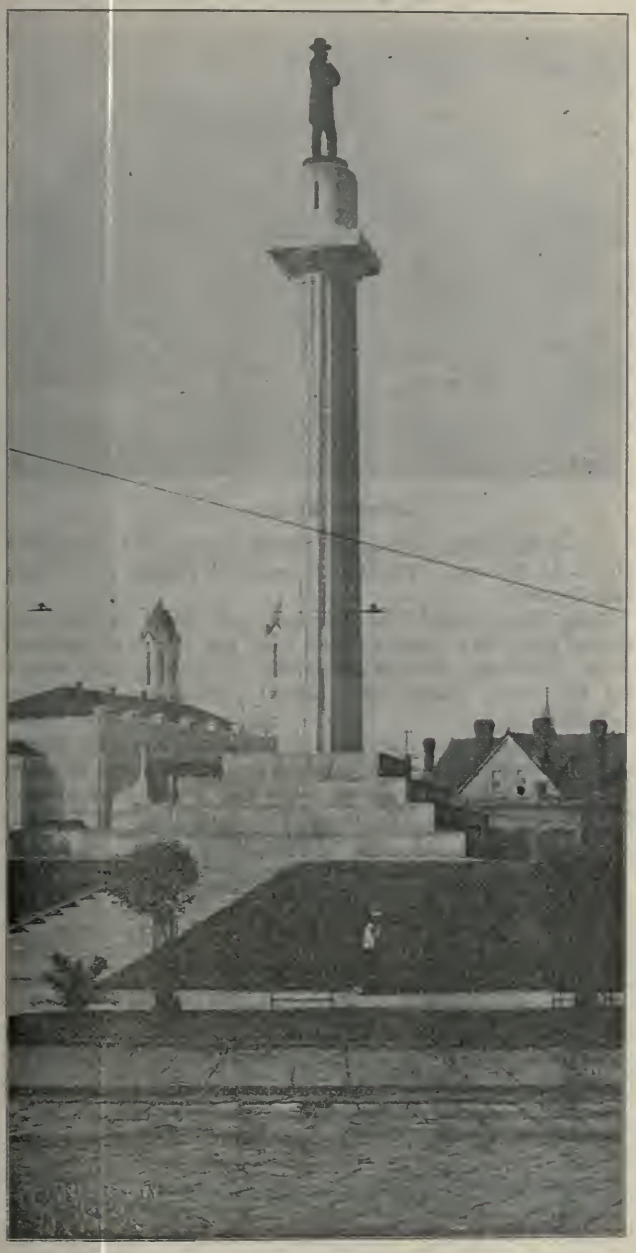


Esplanade Street.

trict, the Pickwick Club, old Rampart street, Elk place, the court house, and, straight out Canal street all the way to the beautiful cemeteries, this broad highway runs, passing the Tulane Medical College, Claiborne avenue, the Straight University (colored), a lot of middle-class

homes, until the bayou is reached, the Half Way House and the homes of the dead. Just a bit away is the famous City Park and duelling grounds, and straight on the same electric road lies West End, the breathing spot of the city during the summer months.

This is reached through a picturesque ride past a bit of Louisiana swamp, in which the iris blooms with the dogwood, and where honeysuckle and magnolia flower together. The palms are thick among the moss-covered



Lee Circle.

trees, and the far note of the wandering crane is sometimes heard.

THE CAR LINES.

Back to Canal street again, one must be struck with the multitude of cars and the ringing of gongs. All cars center in Canal street, and the destination of each and every one is plainly marked. These are the pleasure wagons of New Orleans, and any one of the several lines will show a new part of the Crescent City.

Tulane Belt leaves Canal at Rampart, turns out Tulane avenue, passing by the court house, the New Orleans Polyclinic, and the world-famous Charity Hospital, and the Milliken Memorial Hospital for children, on and out by the baseball park and Athletic Park Casino, where, in summer, comic opera holds the boards. You round a curve and then are in Carrolton avenue for a



Richard Milliken Memorial Hospital for Children.

long and pleasant suburban spin. Then you enter the farthest extreme of St. Charles avenue, having, by a series of curves, turned until you are headed in the direction of Canal street again. This is the main uptown fashionable thoroughfare, and along it you will see every variety of southern home. You pass by Tulane University and Audubon Park, the Harmony Club, the Atheneum, Lee Circle, Howard Library, and, reaching



Audubon Park.

Canal again, have traveled a distance of about eleven miles.

St. Charles Belt covers the same ground, only moving in the opposite direction, starting from Canal and Baronne streets.

Esplanade Belt, car going away from the river, goes down Rampart street, past the Ear, Nose and Throat

Hospital, and down a double track for a distance of over a mile is a grove of trees, old as the lordly mansions lining the street on either side. This is the downtown fashionable thoroughfare, and presents the residences of the Creole families; notable in these is the home of the present mayor. Past the Jockey Club the car goes, along Bayou St. John, by the City Park, and into Canal street again and to the point of starting.

The Canal Belt makes the same circuit, in the opposite direction.

Other lines of cars,* with interesting sights, are:

CLAIBORNE AVENUE.—From the river to Claiborne. Points of interest: St. Louis cemeteries; St. Roch shrine; St. Vincent de Paul's cemeteries.

DAUPHINE LINE.—From the river to Rampart. Points of interest: Postoffice, Custom House; through the old French quarter; Ursuline convent; United States garrison; Slaughter



Cotton Exchange.

House. (This car takes you within a short walk of the Chalmette Cemetery.)

LEVEE AND BARRACKS.—Canal and Camp to North Peters. Points of interest: Postoffice and Custom House; St. Louis Cathedral; the Cabildo; the famous old French market; full view of river front; Northeastern dépot; transfers to Dauphine car at Poland, which takes you to barracks, Chalmette cemetery and Slaughter House. Also passes Jackson square and United States Mint.

PRYTANIA.—Canal and Basin to Camp. Points of interest: Margaret's monument; through resident section of the city and to Audubon Park; Howard Memorial, Howard's Library, Fisk Library, St. Patrick's Church.

MAGAZINE LINE.—From Basin and Canal out Canal to Camp, up Camp to Audubon Park. Points of interest: Boston and Pickwick clubs; through business section; Lafayette square; Fisk Free and Public Library; Margaret's Monument; Coliseum Square; St. Patrick's Church; Howard Library; Howard's Memorial; Audubon Park.

VILLERE.—From head of river, out Canal to Villere. Points of interest: Direct line to St. Roch's shrine.

TCHOUPITOULAS.—From Canal and Decatur up Tchoupitoulas to Audubon Park. Points of interest: Full view of river front; and along cotton presses; U. S. Marine Hospital; Audubon Park; also Stuyvesant docks and grain elevators.

ERATO.—Carondelet and Canal. Points of interest: New Orleans Cotton Exchange; Margaret's Monument; Annunciation and Clay Squares; Lafayette Square; City Hall; Orpheum and Audubon theaters; St. Charles Hotel; Masonic Temple.



Howard Memorial.

BAYOU ST. JOHN.—Canal and Royal, out Canal to Dauphine. Points of Interest: Passing through old French quarter and Fair Grounds.

WEST END.—Canal and Baronne, out Canal to Half-way House; along New Basin to West End; and return by the same route. Headway, summer and winter schedule varying according to travel. Points of interest: Cemeteries and Lake Pontchartrain.

NEW ORLEANS AND PONTCHARTRAIN.—From Napoleon avenue and St. Charles avenue, out Napoleon avenue to Broad; Broad to Washington avenue; Washington avenue to Carrollton avenue; Carrollton avenue to New Basin, and along the New Basin to



New Orleans Polyclinic.

the Half-way House. Returning by the same route. Points of interest: Ride through the suburbs; direct line to cemeteries.

THE RESTAURANTS.

Near Canal street and in the heart of the city is a number of points of interest to be mentioned. The famous Sazerac saloon, where cocktails are brewed, the cuisines of Lamothe's (St. Charles street near Common), of the Gem, and the Cosmopolitan restaurants on Royal and Bourbon streets are to be mentioned.

Around the corner on Custom-house, between Royal and Bourbon, the Restaurant de La Louisiane modestly

* We are indebted to the Feb. 24, 1903, edition of the N. O. Harlequin for this street car guide.

awaits you. On Bourbon street Victor affably bids you be seated and invites you to cultivate the gout he shuffles for you. The Absinthe room is just a block away at Bienville street, and it is worth while to try the poison as it is concocted by Felix.

Down by the French Opera, not far away, is Antoine's. When Jules tucks the corner of his immaculate apron in his girdle and pretends to wipe his unsoiled hand, just from his kitchen, to greet his friends' guests, he only shadows the interpretation of a gastronomic genius. There are many things at Antoine's—rather at Jules Alciatore's—to tempt Epicurean taste. Will you try a bit of cuttle fish, or a soft-shelled shrimp, a sliver of true Strasburg pâtè, a *bouillabaisse a la maitre d'hotel,* some eggs *matalengua,* a fillet in a casserole, or a chicken trussed and cooked past recognition? Jules knows how it is done. Modest withal, but sure in that art and skill which is as much deserving as the touch of a music stroke, or a tint in flesh tones on a vacant canvas.

Above Canal street, the Cotton Exchange, Board of Trade, and the theaters, five in all and in the season, prosperous enough. But sights are not hard to find.



City Park.

MEDICAL INSTITUTIONS IN NEW ORLEANS.

One always thinks of the Charity Hospital first, and really this is just, for from this old institution have arisen all of the younger hospitals and educational institutions of to-day.

In 1737 Jean Louis, sailor, bequeathed about 12,000 livres to found a hospital ("Hospice des Pauvres"), and this was the beginning of the Charity Hospital.* Subsequently Don Andres de Almonester rebuilt it, and it was subsequently destroyed in 1779. Almonester again rebuilt the hospital, the "New Charity Hospital of St. Charles," completing it in 1784, "a commodious, substantial edifice, built of brick and mortar, surrounded by suitable dependencies and provided with a chapel."

On Sept. 23, 1809, the Charity Hospital of Almonester was burned to the ground. The patients were temporarily quartered in the City Hall, afterward being removed to a country plantation, where they all but died of neglect and starvation. After a varied and tragic career, having been conceived in many sites, the New Orleans Charity Hospital arose on its present site in 1815. From that time the institution has grown in size and importance, until to-day it covers acres of ground, accommodates nearly 1,200 patients and provides facilities for the students of Tulane and of the New Orleans Polyclinic. In 1895 a new amphitheater was completed, modern in its equipment and more recently have been added a complete nurses' home and a hospital for babies and children.

The system of administration consists in a board of administrators, with a vice-president at the head (the governor of the state being the nominal president of the board). The members of this board are appointed by the governor, and have successive terms. The domestic management is in the hands of the Sisters of Charity, while the medical and surgical control is under a resident surgeon and two assistants, the interne and externe services being still further administered by a staff of undergraduates selected by competitive examination from the third-year class of Tulane.

The visiting staff have supervision of the wards and



St. Louis Cemetery.

have control of the out-door clinics, both of which are used for teaching purposes by the Polyclinic and Tulane, under provisions expressly enacted by the state legislature. Besides the Charity Hospital, the Eye, Ear, Nose and Throat Hospital and the New Orleans Polyclinic conduct free out-door clinics for the poor only; the Touro Infirmary also conducts a clinic and hospital, at which those are treated gratis who can not pay.

The Eye, Ear, Nose and Throat Hospital came into existence in 1887 as a necessitous institution for this class of patients, hitherto treated perfunctorily in a limited way at the Charity Hospital. The whole success of the institution is due to one man, Dr. A. W. de Roaldes, who has devoted himself to developing what is the best special hospital of its kind in the South.

The New Orleans Polyclinic arose contemporaneously with this hospital, originally devised to provide a post-graduate institution for upper-class students and doctors. Now in its sixteenth year, with a faculty of seventeen professors and some thirty lecturers and assistants, the Polyclinic owns a handsome building of its own and

* The early Charity Hospital, Dr. J. J. Castellanos, N. O. Med. and Surg. Journal, July, 1897.

draws a large class from the south and southwest annually. Afternoon free clinics are held in all departments.

The Touro Infirmary is a sectarian institution, doing considerable charity aside from its conduct as a private hospital. Afternoon clinics are held in all departments.

The New Orleans Sanitarium and Training School for Nurses, now erecting a new and handsome additional building, originated as a training school for nurses in 1889, the first in New Orleans and in the south. It still holds its position among the best training schools in the country while the sanitarium feature has outgrown the space and accommodations. The unsectarian character probably adds to its popularity.

The Hotel Dieu is a private hospital, owned and managed by the Sisters of Charity. The building is imposing and the institution is now very old and well known.

Tulane Medical College, or the Medical Department of Tulane University, has its building on Canal street, and is admirably equipped for its purposes. This department usually numbers about 400 students, chiefly from the south and southwest. The school is old and too well known to need detailed remarks. The building is known as the "Richardson Memorial," indicating the fact that it was built and donated by the widow of Dr. T. G. Richardson, at one time dean of the school and prominently connected with medical progress in the community.

The Orleans Parish Medical Society modestly holds out at 163 University Place. The rooms of the society are by no means indicative of the work accomplished by this body, which numbers about 200 members. Meetings are held twice a month and are usually full of interest.

The *New Orleans Medical and Surgical Journal* has its office at the Polyclinic. It was established in 1844 and is the fourth oldest medical journal in the United States. It is the official organ of the Orleans Parish Medical Society and the Louisiana State Medical Society.

PLACES TO FIND SOMETHING TO EAT.

Antoine's, 713 St. Louis street.
Begue's, Madison and Decatur.
Mayer's, Jackson Square.
Louisiana Restaurant, Custom House street.
Victor's, Bourbon street.
Cosmopolitan Restaurant, Bourbon or Royal, near Canal.
Lamothe's, St. Charles street, near Common.
Lopez's, Canal street.
Pizzini's, Canal street.
Domecq's, Canal street.
Janssen's, Canal street.
Brasco's, Gravier street, near Carondelet.
Vonderbanck's, Common street, near St. Charles.
Fabacher's, Royal and Custom House.
West End Hotel, West End.
Renaissance des Chenes Verts, at City Park.
Hotel Denechaud, Carondelet and Perdido.
Hotel Grunewald, Baronne, near Canal.
Commander's, Washington and Chestnut streets.
And a number of small restaurants on St. Charles avenue.

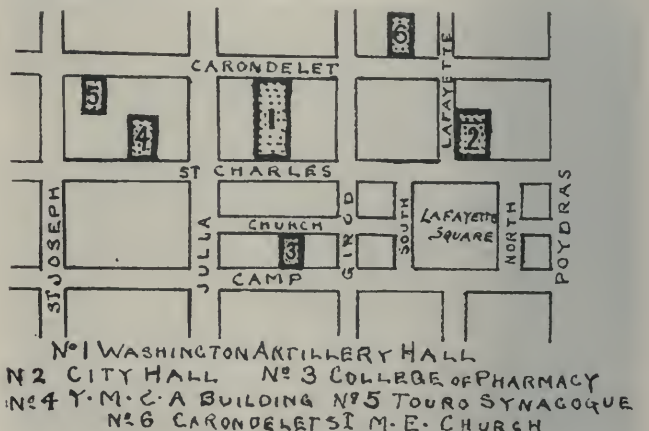
DISTRIBUTION OF SECTIONS.

1. Practice of Medicine, Washington Artillery Hall, second floor.
2 Pathology and Physiology, Washington Artillery Hall, first floor.
3. Ophthalmology, College of Pharmacy.
4. Laryngology and Otology, College of Pharmacy.
5. Surgery and Anatomy, Young Men's Christian Association, Auditorium.
6. Diseases of Children, Young Men's Christian Association.
7. Cutaneous Medicine and Surgery, Young Men's Christian Association.
8. Obstetrics and Gynecology, Touro Synagogue.
9. Nervous and Mental Diseases, Touro Synagogue.
10. Stomatology, Carondelet Street Methodist-Episcopal Church.
11. Hygiene and Sanitary Science, Carondelet Street Methodist Church.
12. Materia Medica, Pharmacy and Therapeutics, Carondelet Street Methodist-Episcopal Church.

HOUSE OF DELEGATES, Council Chamber, City Hall.
GENERAL SESSIONS, Tulane Theater.

The Washington Artillery Hall, the main building for the exhibits, postoffice, etc., was originally erected as an exposition building, and has been used for such purposes ever since. Conventions of all sorts are held here and the commodious rooms are excellently adapted. It is central and convenient to a number of car lines.

Arrangements have been made for five daily mails at the postoffice, and a news stand and telegraph and telephone station will be found there.



Location of Meeting Places.

POINTS OF INTEREST NEAR NEW ORLEANS.

The immediate suburbs of New Orleans are West End, Spanish Fort and Milneburg; West End we have already referred to. The restaurant here is one of the best in New Orleans and a delightful place to breakfast. Spanish Fort and Milneburg used to be famous resorts, but have of late years dropped into mediocrity.

Lake resorts are Covington and Mandeville, reached in a couple of hours by boat or rail.

The Louisville & Nashville runs along Mississippi Sound and touches the summer homes of the New Orleans and Mobile people. Some of these are only fishing resorts while others are well inhabited, places like Biloxi, Bay St. Louis, Mississippi City, Pass Christian and Ocean Springs being of considerable size and afforded modern convenience in the way of electric lighting and modern home facilities.

Over the Southern Pacific one quickly reaches the sugar-cane and rice countries, and in St. Mary's Parish and in the Lafourche district find the great Teche country, made classic in the beautiful references in Longfellow's Evangeline:

"Slowly they entered the Teche, where it flows through the green Opelousas."

Regular river boats make this trip in the season and the overhanging Spanish moss veritably shelters the throat-singing mocking bird, where

" . . . The line of shadow and sunshine
Ran near the top of the trees
Swinging aloft on a willow spray that hung o'er the water,
Shook from his little throat such floods of delirious music
That the whole air and the woods and the waves seemed to listen."

TRIPS TO CUBA AND ELSEWHERE.

Regular steamers run to Cuba, leaving New Orleans Saturday and reaching Havana the Monday following. Rates to Havana and return: $50 for party not less than 20; there are no steamers that can accommodate more than 60 or 80 passengers.

The Galveston steamboats no longer ply, but river boats go to Natchez and to Vicksburg, and these are interesting trips for those who wish them.

Lookout Mountain, Tennessee—Excursion rate $25, good for 90 days; if large number goes special rate will be made.

River trip to Natchez, $12 round trip; Vicksburg, $16.



Sugar-Cane Fields.

Excursion to San Antonio, Texas: Dr. J. M. Head of San Antonio has arranged a special rate of $10 for the round trip from New Orleans to San Antonio and back, if 500 members will go. Stop-over privileges will be granted for any point along the line. The entire cost round trip for 3 days, including sleeper but excluding meals, will be $17. All desiring to take advantage of this trip are urged to correspond with Dr. Head at once.

New York steamers (Cromwell line) leave New Orleans every Wednesday.

MISCELLANEOUS.

There is more than the detail of sightseeing that is interesting in New Orleans. Club life reeks with the glamour of provincial existence, and there is yet time to taste the flavor of *bien aise* after the tasks of the day are done. The stray sound of soft notes on some violin, or a gentle voice in song breathes on the night air in the springtime, and one misses quite the atmosphere of a truly great city.

Some day New Orleans will touch the higher planes of civilization, and what with modern play houses, sensational newspapers and rapid transit we may look in the near future to the destruction of some of the sentiments which still linger even in the every-day life.

Now and then the merry laugh in the tuneful voice of some gentle Creole, or the curious paraphrasing of simple English causes introspective reflection on the trend of the times, and it makes us wonder if after all the new way is really the best.

Congo Square has changed its name; the *vieux carré* is about to have the new court house and modern hotels, perhaps the postoffice, and that with the new paved streets will say good-by to the shadows which make the sentiment of the Crescent City—because they make the romances. Some old courtyards will remain, and in them the sacredness of their Latinity, but these will be like the atria of ancient Rome, full of the souvenir but barren of the spirit.

So what we may have left unsaid you will see for yourselves, for everyone makes his own pictures, and when the days are gone, besides the fruit gathered in the halls of science, we hope that you may carry away some-



Ruins at Old Spanish Fort.

thing besides the pictures and something besides the sights, for we of the Southland are like the children who beg the kindly stranger to love us just a little.

Isadore Dyer.

124 Baronne Street.

[Further announcements are made under Association News on another page of The Journal this week.]

Acute Alum Poisoning.—Dr. Julius Kramolik reports the case of a young man, aged 30, who by mistake drank a swallow of an approximately 10 per cent. solution of alum which he had prepared as a gargle for a sore throat. Neither the mouth nor the throat showed any marked reaction to the irritant, but the patient vomited thirty-nine times within the forty-eight hours following. Palpation of the stomach was painful. Mucus was found in the vomitus, mingled with blood, imparting a chocolate color to the mass. The urine was stained by blood, and showed morphologically numerous red blood cells, few leucocytes and few hyaline casts. Traces of albumin were also present. The patient was ill at least thirteen days.—*Pester Medicinisch-chirurgisch Presse.*

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

ANATOMY OF THE BRAIN AND SPINAL CORD, with Special Reference to the Grouping and Chaining of Neurones into Conduction Paths. For Students and Practitioners. By Harris E. Santee, M.D., Ph.D., Professor of Anatomy in the College of Physicians and Surgeons; with a Preface by William T. Eckley, M.D., Professor of Anatomy in the Medical and Dental Departments, University of Illinois. Third Edition. Revised and Enlarged. Cloth. Pp. 226—xxxvi. Price, $2.00 net. Chicago: E. H. Colgrove. 1903.

A SYSTEM OF CLINICAL MEDICINE, Dealing with the Diagnosis, Prognosis and Treatment of Disease for Students and Practitioners. By Thomas D. Savill, M.D. Lond., Physician to the West End Hospital for Diseases of the Nervous System. Volume I. Local Diseases and Microbic Disorders. Cloth. Pp. 702. Price, $4.38 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

PHYSICAL CHEMISTRY for Physicians and Biologists. By Dr. Ernest Cohen, Professor of General and Inorganic Chemistry in the University of Utrecht. Authorized Translation from the German. By Martin H. Fischer, M.D., Instructor in Physiology in the University of California. Cloth. Pp. 343. New York: Henry Holt & Co. 1903.

A POCKET BOOK of Infant and Childhood Dietetics, with Directions for the Home Modification of Milk. [Duplicate blanks, detachable, for giving to parent or nurse.] By A. B. Spiich, A.M., M.D., Instructor in Medicine, Medical Department of the University of Illinois. Pasteboard. Price, $0.50. Chicago: E. H. Colgrove.

BACTERIA IN MILK AND ITS PRODUCTS, Designed for the Use of Students in Dairying and for All Others Concerned in the Handling of Milk, Butter or Cheese. By H. W. Conn, Ph.D., Professor of Biology. Wesleyan University. 43 Illustrations. Cloth. Pp. 306. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A LABORATORY TEXT-BOOK OF EMBRYOLOGY. By Charles Sedgwick Minot, LL.D. (Yale), D. Sc. (Oxford), Professor of Histology and Human Embryology in the Harvard Medical School. With 218 Illustrations, Chiefly Original. Cloth. Pp. 380. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co. 1903.

THE ELEMENTS OF PATHOLOGICAL ANATOMY AND HISTOLOGY for Students. By Walter Sydney Lazarus-Barlow, B.A., B.C., M.D. (Camb.), F.R.C.P. (Lond.), Pathologist and Lecturer on Pathology at the Westminster Hospital. Cloth. Pp. 705. Price, $6.50. Philadelphia: P. Blakiston's Son & Co. 1903.

THE EVOLUTION OF MAN AND HIS MIND. A History and Discussion of the Evolution and Relation of the Mind and Body of Man and Animals. By S. V. Clevenger, M.D., Author of the Medical Jurisprudence of Insanity, 1898. Cloth. Pp. 615. Price, $5.00. Chicago: Evolution Publishing Co. 1903.

HYGIENE AND PUBLIC HEALTH. By Louis Parkes, M.D., D.P.H., Lond. Univ., Fellow of the Sanitary Institute and Henry Kenwood, M.B., D.P.H., F.C.S., Fellow of the Sanitary Institute. With Illustrations. Cloth. Pp. 763. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

THE PREVENTION OF DISEASE. Translated from the German with an Introduction by H. Timbrell Bulstrode, M.A., M.D., D.P.H. In Two Volumes. Cloth. Pp. 1,063. Net Price, $3.75 per Volume. New York: Funk & Wagnalls Company. 1903.

REPORTS OF THE SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN. Volume II, Session of 1901-1902. Edited by George Carpenter, M.D. Cloth. Pp. 310. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co.

MATERIA MEDICA FOR NURSES. By John E. Groff, Ph.G., Apothecary in the Rhode Island Hospital. Second Edition, Revised and Rewritten. Cloth. Pp. 169. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1903.

THE MANUAL TREATMENT OF DISEASES OF WOMEN. By Gustaf Norström, M.D., of the Faculty of Stockholm. Paper. Pp. 230. Price, $2.25. New York and London: G. E. Stechert. 1903.

THE INTERNATIONAL MEDICAL ANNUAL: A Year-Book of Treatment and Practitioner's Index. 1903. Twenty-third Year. Cloth. Pp. 739. Price, $3.00. New York: E. B. Treat & Co.

CHRONIC HEADACHE AND ITS TREATMENT BY MASSAGE. By Gustaf Norström, M.D., of the Faculty of Stockholm. Paper. Pp. 59. Price, $1.00. New York and London: G. E. Stechert. 1903.

BULLETIN OF IOWA INSTITUTIONS (Under the Board of Control) January, 1903. Published Quarterly. Paper. Pp. 141. Dubuque, Iowa: Telegraph-Herald Printing Co. 1903.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. For the Year 1902. Volume XVIII. Cloth. Pp. 270. Philadelphia: Printed for the Association. 1902.

SUPERIOR BOARD OF HEALTH, San Juan, P. R. Rules and Regulations for Guidance of the Health Authorities. Paper. Pp. 93. Puerto Rico: Tip. Boletin Mercantil. 1902.

PROCEEDINGS OF THE SECOND ANNUAL MEETING OF THE MEDICAL AND SURGICAL ASSOCIATION OF MISSISSIPPI at Vicksburg, Miss., April 23 and 24, 1902. Paper. Pp. 18.

REPORT OF THE COMMISSIONER OF EDUCATION for the Year 1900-1901. Volume II. Cloth. Pp. 2512. Washington: Government Printing Office. 1902.

ALBUM OF THE FELLOWS OF THE AMERICAN GYNECOLOGICAL SOCIETY, 1876-1900. Cloth. Pp. 356. Philadelphia: Wm. J. Dornan. 1901.

THE TRANSACTIONS OF THE SOCIETY OF ANESTHETISTS. Volume V. Pp. 203. London: John Bale, Sons and Danielsson, Ltd. 1903.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 28, 1903:

P. A. Surgeon W. B. Grove, detached from treatment at Naval Hospital, New York, and ordered to duty at Naval Dispensary, Washington, D. C.

P. A. Surgeon R. W. Plummer, detached from Navy Yard, New York, and granted sick leave for three months.

Asst.-Surgeon J. F. Murphy, detached from the *Glacier* and ordered to the *Monocacy*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended March 26, 1903:

Surgeon G. W. Stoner, to proceed to Washington, D. C., for special temporary duty.

Surgeon John Godfrey, Department letter of Nov. 22, 1902, granting extension of leave of absence for three months, amended so that said extension shall be for two months and twenty-five days from Dec. 13, 1902.

Surgeon F. W. Mead, granted leave of absence for five days from April 13.

P. A. Surgeon A. C. Smith, granted leave of absence for 15 days from April 8.

Asst.-Surgeon D. E. Robinson, granted leave of absence for two months and fifteen days from April 1.

Asst.-Surgeon J. W. Schereschewsky, granted leave of absence for one day.

Pharmacist R. H. Gibson, Department letter of March 18, 1903, granting leave of absence for twenty-three days, amended so that said leave shall be for eight days from March 9.

Pharmacist Carl Stier, granted leave of absence for one day, under paragraph 210 of the regulations.

PROMOTION.

Asst.-Surgeon M. H. Foster commissioned as passed assistant-surgeon to rank as such from March 11, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended March 28, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 14-21, 2 cases.
California: Berkeley, March 4-11, 1 case; Los Angeles, March 7-14, 4 cases; San Francisco, March 8-15, 6 cases.
Colorado: Denver, March 7-14, 22 cases.
Delaware: Wilmington, March 14-21, 1 death.
Florida: Jacksonville, March 14-21, 3 cases.
Illinois: Chicago, March 14-21, 12 cases.
Indiana: Elwood, Jan. 15-22, 7 cases; Indianapolis, March 7-21, 29 cases, 7 deaths.
Iowa: March 14-21, Davenport, 3 cases; Dubuque, 1 case.
Kansas: Wichita, March 14-21, 3 cases.
Kentucky: Newport, March 14-21, 1 case.
Louisiana: New Orleans, March 14-21, 4 cases, imported.
Maryland: Baltimore, March 14-21, 2 cases.
New Jersey: Camden, March 14-21, 2 cases.
New York: New York, March 14-21, 1 case.
Ohio: Cincinnati, March 13-20, 17 cases; Cleveland, March 14-21, 1 case; Hamilton, March 14-21, 1 case.
Pennsylvania: March 14-21, Altoona, 2 cases; Erie, 2 cases; Johnstown, 1 case, 1 death, imported; McKeesport, 1 case; Philadelphia, 26 cases, 1 death; Pittsburg, 29 cases, 4 deaths, imported, 3 cases.
South Carolina: Charleston, March 14-21, 5 cases, 1 death.
Tennessee: March 14-21, Memphis, 1 case; Nashville, 1 case.
Texas: San Antonio: Jan. 1-Feb. 28, 5 cases.
Utah: Salt Lake City, March 7-21, 53 cases.
Washington: Tacoma, March 1-16, 4 cases.
Wisconsin: Green Bay, March 15-22, 6 cases; Milwaukee, March 14-21, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Feb. 14-21, 2 cases, 1 death.
Brazil: Rio de Janeiro, Feb. 20-27, 5 deaths.
France: Lyons, Feb. 21-28, 1 death; Paris, Feb. 28-March 7, 1 death.
Great Britain: Feb. 28-March 7, Dublin, 5 cases, 1 death; London, 2 cases; Manchester, 19 cases; Sunderland, 1 case.
India: Bombay, Feb. 17-24, 74 deaths; Calcutta, Feb. 14-21, 6 deaths.
Mexico: City of Mexico, March 1-8, 9 cases, 5 deaths.
Straits Settlements: Singapore, Jan. 31-Feb. 7, 1 death.
Turkey: Alexandretta, Feb. 21-28, 3 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 20-27, 40 deaths.
Colombia: Panama, March 10-17, 3 cases, 1 death.
Ecuador: Guayaquil, Feb. 14-21, 8 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Feb. 14-21, 68 deaths.
Straits Settlements: Singapore, Jan. 31-Feb. 7, 1 death.

PLAGUE—INSULAR.

Hawaii: Hilo, March 7, 2 deaths.

PLAGUE—FOREIGN.

Africa: Durban, to Feb. 23, 83 cases, 50 deaths; Pietermaritzburg, Feb. 26, 1 case.
Brazil: Rio de Janeiro, Feb. 20-27, 1 death.
India: Bombay, Feb. 17-24, 1,054 deaths; Calcutta, Feb. 14-21, 277 deaths; Mauritius, Feb. 12-19, 4 cases, 1 death.
Mexico: Mazatlan, to March 20, 313 cases, 254 deaths.

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Original Articles.

TREATMENT OF PUERPERAL FEVER.*

C. S. BACON, M.D.

CHICAGO.

The mortality from puerperal fever can be reduced to almost nothing by the proper management of labor and childbed. This has been proven by the results obtained in the best maternity hospitals. Mild cases of infection can not be entirely prevented, but they cease to be a source of great anxiety to the physician and of danger to the mother.

In private practice these encouraging results due to the aseptic management of labor are not obtained because labor is not managed aseptically. In Chicago the mortality from puerperal infection has remained about stationary for the last ten or twelve years. From 5 to 7 per cent. of all deaths of women of child-bearing age are from puerperal infection. It is probable that the same ratio holds all over the state and country. Hence it appears that puerperal infection carries off more women in the prime of life than any other disease except consumption. How much sickness not fatal is due to the same cause can be easily imagined.

These discouraging conditions are due in part, no doubt, to the fact that a considerable number of confinement cases are still in charge of incompetent midwives and women with no training whatever. So far as the responsibility of the profession is concerned the trouble is that the matter of the aseptic management of labor is not taken seriously enough. The frequently repeated observation that many women get along all right in the worst surroundings seems to create a doubt in the minds of many whether all the bother required to manage a labor aseptically is necessary. Then the frequent internal examination and the early and unnecessary operative interferences without proper preparation increase the dangers manifold. The source of all the trouble is, I believe, the failure of both the laity and the profession to recognize the importance of labor and its management. So long as obstetrics is the poorest paid department of medicine, so long will it be the most neglected.

Since the prophylaxis is unsatisfactory the treatment of puerperal fever continues to be an important subject. Ever since the demonstration of the microbic origin of this disease the principles and methods of treatment have changed considerably from time to time. At first much was expected of the antiseptic applications and irrigations. Many of you will remember that fifteen years ago sublimate vaginal and intrauterine douches were generally recommended in all cases of infection. Experience soon proved their uselessness as well as danger. Not only were serious and fatal cases of general intoxication reported, but the local effect of the solution on the vaginal and uterine tissues was detrimental. The hope of killing the germs with the microcidal solution was vain, because, as we soon learned, the sublimate had very little penetration and the great mass of bacteria was beyond its reach.

The direct application of antiseptics or caustics to the infecting germs and the dead and ulcerated tissues is possible only in the vulva, the vagina and the vaginal portion of the cervix. Here nitrate of silver, carbolic acid and other milder caustics may be applied to the well-exposed puerperal ulcers with the effect of hastening the separation of the sloughing tissue and limiting the amount of absorption of toxins and favoring and shortening the inflammatory process. If these applications be made with care so that not too much injury be done to healthy or uninvolved tissue they may be of value. We must remember that the most radical treatment can not destroy all microbes. The best we hope to do is to assist in removing contaminated and sloughing tissues. Keeping this principle in mind some effort may be made to treat antiseptically the accessible vaginal and vulvar infected wounds.

When the uterus is infected we can only hope to remove, first, decidual and placental debris in which microbes find a favorable soil for growth, and second, the toxic products which, if absorbed, caused the general systemic disturbance. Two kinds of microbic disease are generally recognized. One is a true infection, caused usually by streptococci and staphylococci, which may invade living tissues and not only produce poisons that cause general intoxication, but also injure the local tissues and by means of the circulation migrate and cause remote injuries. The other microbic disease is called a sapremia or saprophytic disease, and is due to germs that live only on dead or dying tissues. This disease is largely an intoxication from absorbed products of these saprophytes. Considerable doubt has been thrown on the reality of this distinction. First, it has been shown that in many cases diagnosed clinically as saprophytic, parasitic bacteria have been found. Secondly, supposed obligate saprophytes have been found to invade the uterus like true parasites.

The view that a true infection is always very dangerous and attended with serious symptoms is disproved by bacteriologic examinations. Staphylococci, and even streptococci, are found in very mild cases where there is only fever for a day. Very serious symptoms often mark a saprophytic intoxication. The diagnosis can be made positively only by a bacteriologic examination, and then is often uncertain on account of the presence of both

* Read before the Southern Illinois Medical Association, Nov. 6, 1902.

parasites and saprophytic germs. Without an examination we can only assume that a given case is a sapremia when there is a stinking discharge, because many of the saprophytes produce a foul-smelling gas while the parasites do not. If all symptoms disappear permanently after the removal of the uterine contents we can then say that the case was probably one of saprophytic disease.

In the case of puerperal saprophytic intoxication, it is only necessary to remove the debris in which the germs live to cure the disease. If there be free drainage from the uterus to carry off the products and the debris as it is gradually formed, the disease will terminate spontaneously with few symptoms beyond the foul-smelling lochia. If, as often happens, drainage is interrupted by occlusion of the cervical canal, it should be restored or the debris should be mechanically removed. This may be accomplished either by irrigation or by the use of the curette.

If irrigation be employed sterile water or normal salt solution should be used. Since the only object of irrigating is to remove debris a harmless is as good as an antiseptic fluid and to be preferred because of the danger of poisoning from the latter. One intrauterine irrigation of two to three quarts may bring away considerable debris and so re-establish drainage that it suffices for a cure. Frequently, however, the decaying decidual masses are not removed, and the cervical canal is again occluded and repeated irrigation becomes necessary. This fact, and also the danger of carrying the infection into and through the tubes, and the danger of injuring the uterus with the douche tube, constitute the objections to irrigation.

A suitable curette properly used may be of great value in removing mechanically the contaminated decidual and placental debris. The proper construction of the instrument is determined by a consideration of its dangers. The chief objection to it is the danger that it may perforate or injure the uterus. To avoid this danger it should be of ring or loop shape, and the shank should be sufficiently flexible so that it will bend before it penetrates normally resisting living uterine tissue. One edge of the ring must be sharp enough to cut soft tissue. Such a curette in the hand of one who recognizes its dangers is fairly safe. The surface of the uterine cavity should be carefully gone over with this instrument while the irrigation washes away all debris removed. The application should be so thorough that it need not be repeated. So used, once for all, the curette has its place, and a valuable one, in the treatment of sapremia.

After curetting should the uterus be tamponed? I believe the common idea that a tampon is a drain to be incorrect. It is rather a plug which stops up the cervical canal. An intrauterine tampon stimulates the uterine contractions and its circulation. In this way it helps in the shedding of adherent pieces of decidua and placenta which come away with the tampon on its removal. These facts established by clinical observations determine the rule for the employment of a tampon. When a curettement can be done thoroughly, so that all debris is certainly removed, omit the tampon. When it is impossible to curette thoroughly or even at all on account of weakness of the patient or lack of anesthetics or for other reason, tampon the uterine cavity with sterile gauze, which should be removed in twelve hours.

In the local treatment of true puerperal infection we have to rely on the same measures, drainage, irrigation and curetting. The object of the curette is here, as in sapremia, to remove intrauterine debris, which forms a good culture medium for the parasitic germs. A special danger pertains to its use in this case which should be considered. Nature combats the parasitic invasion by the establishment of an inflammation which is a preservative process. It consists essentially in the formation in front of the invading microbes of a wall of leucocytes whose function it is to destroy them and neutralize their poisons and thus expel them or limit their advance. This opposition of Nature will be successful unless the parasites are too numerous or too virulent or the resistance of Nature too feeble. In this latter case no local treatment can help. In the former there is the danger from the curette that the instrument will break through the leucocytic wall and give the microbes a free passage into the vessels and tissues of the formerly protected zone. Hence in a true infection the curette should be used with unusual care not to wound healthy uterine tissue.

In a true infection drainage and irrigation remove the parasitic products, as in the case of saprophytic disease. Some of the dangers of irrigation have been mentioned. Another danger in cases of puerperal infection is that of washing out thrombi from the veins and forcing the fluid into the circulation. For these reasons the usefulness of irrigation is limited.

This study of the conditions for the employment of these measures prepares the way for the practical rules to be observed in managing cases of puerperal fever as they arise. When the temperature of the puerpera rises above 100, whether this rise be accompanied by a chill or not, we first examine the vulva and introitus vaginæ. If this region be inflamed and gray patches appear where tears had existed, local applications may be made as previously suggested.

If the vulva is normal we note the condition of the lochia. If it is offensive we diagnose a sapremia either alone or accompanied by an infection. If the lochia is scanty or absent when it has previously been free we consider the lack of uterine drainage to be an important factor in the causation of fever. In this case we seek to re-establish drainage perhaps by massage of the uterus or by changing its position or by securing free catharsis. This last measure is, as you all know, very often efficacious. Sometimes, no doubt, the fever is due to intoxication from bowel contents, and this, of course, is best treated by securing catharsis. In other cases, however, a uterine infection is favorably affected by catharsis, and probably by the effect of the intestinal movement in starting up uterine drainage.

When the fever continues in spite of a thorough trial of these measures for twelve to thirty-six hours, we will have to consider the advisability of intrauterine irrigation and curettement. If the lochia does not reappear in spite of our manipulations we have good reason to attribute the fever to lack of drainage and anticipate favorable results from irrigation. When we know that the afterbirth came away complete there is less indication for curetting. If we see the patient first after the fever has existed for some time and the probability is great that considerable intrauterine debris is present we waste no time, but proceed at once to clean out the uterus with the technic before suggested.

Whenever the uterus is invaded, either with the douche tube or the curette, it is very desirable to obtain a specimen of the uterine contents for microscopic examination and, if possible, for a culture growth. The presence or

absence of parasitic germs not only influences the prognosis but occasionally the treatment.

After the uterus has been once thoroughly cleaned, a continuance of the fever indicates an extension of the infection beyond the surface of the endometrium. Further efforts at local treatment are in vain. When the uterus and adnexa are tender the trouble may be localized or confined to their region. The appearance of peritonitis shows the extension of the infection through the uterine walls. In the not uncommon condition of absence of local tenderness, with symptoms of profound general intoxication, we have to do with bacteriemia.

Cases of pelvic and general peritonitis are best treated with hot moist dressings to the abdomen and measures to overcome distension and paralysis of the intestines. Local treatment of the uterus should be at once suspended. General septicemia or bacteriemia is also quite beyond the reach of any local treatment. Here we should institute tonic supporting treatment, with most careful attention to nutrition and protection from all waste of energy.

It is necessary to refer to two measures to combat sepsis that have been recommended for use in puerperal fever or that are more or less in vogue, viz., the antistreptococcus serum of Marmorek and the silver preparations of Credé. It is only necessary to say, in regard to the former, that experience with it has been unsatisfactory. Reports from the Credé treatment of sepsis are much more encouraging. Both the unguentum Credé and the more recent collargol used hypodermically have proved of value and are not dangerous in their employment.

Finally, I must say a word about the subject so often discussed at present: hysterectomy for puerperal fever. I believe its field is exceedingly limited. It is indicated only when the infection is confined to the uterus and when Nature is incompetent to combat the infection. It is evident that the difficulties in diagnosing this condition are so great that they are practically insurmountable. Therefore, I believe this operation may be omitted from our list of measures to be employed in the management of puerperal fever. The surgical treatment, consisting in the evacuating of a puerperal abscess, whether located in the abdominal cavity, the pelvic connective tissue or elsewhere, is, of course, indicated whenever this condition is determined.

FLATFOOT IN INFANTS AND CHILDREN.

ROBERT W. LOVETT, M.D.
BOSTON.

The subject of flatfoot in children has received but little attention and the condition is often overlooked. The former opinion that all children were flatfooted at birth has been rendered untenable by the investigations of Dane, who demonstrated that a normal arch exists at birth, but that in well-nourished children a pad of fat is present in the sole of the foot which fills up the natural hollow of the foot and leads to the appearance of flatfoot. In thin children this pad does not exist and the imprint of the foot then resembles the adult type. Section of the bones shows that the arch of the foot exists from birth.

FLATFOOT IN INFANTS.

Heavy children who walk early, and especially if they have any grade of rickets present, are apt to show soon after beginning to walk a tendency to tread on the inner border of the foot, which is likely to attract attention. The boots are run over to the inside and the leather of the upper is soon brought in contact with the ground, and the whole boot, being of soft and yielding leather, is twisted to the inside and its abnormal shape is noticeable. This, of course, makes the inner malleolus more prominent than it should be, and seen from in front the foot is markedly displaced outward in its relation to the leg. Children of this age rarely complain of pain, but they walk with the feet wide apart, with a somewhat unsteady gait; they are obviously clumsy and they trip easily and have many falls. On examination the foot is normally moveable in all directions and can be readily put back into the normal relation with the leg. There is no tendency toward fixation in the abnormal position as in flatfoot of the same grade in adults. The knees are generally lax and when fully extended permit marked lateral mobility. When the child stands, on account of this lateral mobility the tendency to flatfoot is exaggerated. The combination of lateral mobility in the knees with the tendency to walk with the legs apart it is easy to see tends to exaggerate the disposition to throw the weight onto the inner border of the foot. When seen standing without shoes or stockings such children present an appearance of marked flatfoot with a suggestion of knock-knee.

Such children are not necessarily feeble or debilitated, but often of the most robust and heavily-built type. The cause of the difficulty is obviously a disproportion between the weight to be borne and the muscular power, and even a slight grade of rickets seems to relax the muscles and ligaments to an extent which strongly predisposes to it.

The affection is invited by the bad shape of many children's shoes. Until lately they were all made the same for each foot, rather narrow in front, wide and roomy at the middle of the foot, with no support to the arch and little or no heel. Of late years shoes have been made better suited to the foot, but still far from perfect. These shoes have a straighter inner edge, with more room in front, and tend to hold the foot adducted rather than in a position of abduction. They are still deficient in having little or no support for the arch of the foot and of being so yielding that they afford little assistance to the muscles.

To diminish in children with this trouble the support to the muscles by prescribing the use of moccasins or by ordering walking in the bare feet seems unphysiologic, because the weight comes on a foot still less supported to bear weight than if a fair boot is worn. The same is true in a measure of the use of low shoes and slippers when there is a tendency to flatfoot. A lacing about the ankle makes it easier for the muscles to exert their force, and a good boot will improve a flatfooted child's standing position as soon as it is put on and hold the foot in better position as long as it is on. The argument that the muscles should be left free to develop in the feet of such children is negatived by the fact that the muscles in question are already stretched and overfatigued and require support rather than further freedom and increased demand on their energy.

In the treatment of these cases the mildest measure that will suffice to hold the foot in a correct relation to the leg is the best suited to the case. The muscles should be as little cramped as possible and rigid support is to be avoided if possible. In the mildest cases the use of a proper shaped boot may be enough to correct the trouble if the child has been wearing boots of the old pattern, but such boots are easily stretched out of shape.

and new boots correct much better than old ones. Making the inner edge of the sole and heel thicker than the outer edge by ⅛ or ¼ of an inch will in some cases throw the weight more onto the outer border of the foot and correct the deformity, but this method is open to the objection of throwing the outer border of the foot strongly against the outer leather of the boot and often causes a corn on the little toe, the foot simply sliding down the incline onto the outer side of the boot.

The most generally useful method of correction in infants is by means of a graduated pad of leather or felt incorporated in a thin leather inner sole, which raises the arch of the foot and holds the foot on its outer border. It has the advantage of not making the sole of the boot rigid and allowing a proper use of the muscles on which the ultimate cure depends. This pad should reach at the inner border of the foot from just behind the ball of the great toe to a point in front of the heel. It should extend the whole width of the foot. At its edges it should rise gently to its greatest height along the middle section of the inner border.

In the severer cases a flatfoot plate of metal or celluloid is required; celluloid is preferable as being lighter and less rigid and generally is sufficiently resistant to last a reasonable time.

In the severest cases of all some outward pull on the inner malleolus is required, and in these cases a steel sole plate jointed at the ankle to an upright running up the outer side of the leg to the upper part of the calf is necessary. From this upright a circular leather strap runs around the inner malleolus to pull it outward. Fortunately, this apparatus is seldom required.

The length of time that treatment will be required varies. In the milder cases the use of a pad for a few months will often effect a cure. In the severer cases it is likely that some form of support will be required for several years.

Massage to the muscles of the calf and sole is of much benefit in the treatment.

FLATFOOT IN CHILDREN.

In older children the treatment does not differ essentially from that of adults, inasmuch as plates are generally necessary as a means of support rather than the soft pads described for infants. In children, however, rigid flatfoot is rare, and the lax and yielding foot is the rule, which requires accurate and definite support.

Pain is rarely complained of by children in flatfoot or pronated foot, and the commonest symptoms are prominence of the inner ankle, bending over of the boots or uneven wearing of the heels. Knocking one ankle against the other is often found. Corns and calluses are rare.

In children from 5 to 15 the occurrence of lax pronated foot should lead to an inspection of the back, as scoliosis very frequently coexists as a result of the same muscular laxity that causes the deformity of the foot.

Two matters in treatment are essential: The foot should be supported in the correct position and the child should be trained in the use of the muscles supporting the arch and should be drilled in correct standing.

For the support a light steel plate is most often useful, although celluloid is more serviceable in children than in adults. This plate is most often to be made with an outside as well as an inside flange to keep the foot from slipping off, and the plate must be seen every four months if it is to be kept efficient as the child grows.

The prognosis in both infants and children is in general excellent as to complete recovery, but exercises must form a part of the treatment to bring about this result.

THE PRESENT POSITION OF GALLSTONE SURGERY.*

WILLIAM WOTKYNS SEYMOUR, M.D.
SURGEON TO THE SAMARITAN HOSPITAL.
TROY, N. Y.

Over a quarter of a century has passed since Marion Sims did the first planned operation for gallstones, and sufficient time has now elapsed to permit a fairly correct judgment as to the present position of gallstone surgery. But before gallstone surgery will show its best results the profession as a whole must recognize that there are no solvents which will dissolve gallstones in the gall bladder and bile ducts, and must, furthermore, recognize their own culpability if operative interference is delayed until the vital powers are exhausted. No field of surgery gives greater relief from agonizing pain, or gives greater capacity to do one's normal work than judicious early operations for gallstone disease. Not for an instant would I be understood as advocating operation in every case of pronounced gallstone colic. But when the attacks recur frequently, show a tendency to increase in severity, and become more and more incapacitating, then an operation is imperative and should be done before the recuperative powers are greatly impaired.

THE FALLACY OF INTERNAL MEDICATION.

In the advance which gallstone surgery has made in the past 26 years, the surgeons have been obliged to lay several popular and professional errors. The first in magnitude and, unfortunately, still prevalent among the profession is that stones can be dissolved by internal medication—a heretical doctrine which yearly claims its hecatombs of misguided victims. It is the more deplorable because any one with an extensive experience knows that long periods of time sometime elapse between attacks. I know of one case of over 19 years' interval and another in which six weeks before his fatal attack a brother physician boasted to me that he had dissolved, by daily doses of soda, the gallstones from which he had formerly suffered, and for nine years had been absolutely well. Within six weeks of that day he died from perforation of the gall bladder, and 153 stones were found therein.

THE REAL CAUSE OF THE COLIC.

Right here it is well to recall the present teaching that it is the associated inflammation which occasions the pain and cramp and not the mere presence of the stones. This seems a rational explanation of the quiescence of stones found at autopsy in so many persons who never have suffered from gallstone colic or other condition commonly associated with gallstone disease. It furthermore explains the fact of putty-colored stools often preceding for a day or two the appearance of gallstone colic. This last fact I, with apprehension, noticed many times in my own case. The profession is and has been slow to learn that pronounced jaundice is not a common symptom of gallstone disease. On this Lawson Tait laid great emphasis, and also that when jaundice was very deep and persistent it pointed rather to a malignant complication. This experience of Tait has been borne out by that of Mayo Robson

* Read at the meeting of the New York State Medical Association, New York City, Oct. 21, 1902.

and Kehr. Kehr declares that jaundice is absent in 80 per cent. of gallstone cases. Even when large stones are in the common duct, the jaundice is never so deep and persistent as in malignant diseases. Another important diagnostic factor is that in case of stone in the common duct the gall bladder is usually contracted and often a mere rudiment, whereas a very largely distended gall bladder, accompanied by jaundice, is almost invariably due to malignant obstruction. Courvoisier, who first statistically demonstrated this fact, claims that the repeated attacks of inflammation necessary to extrude a stone of any size from the gall bladder into the common duct, lead to thickening and contraction of the walls of the gall bladder.

OPERATIVE RELIEF.

Now, if gallstone disease is a surgical affection, what are the operative procedures which offer the best chances of cure? Lawson Tait commonly did a simple cholecystotomy, incising the gall bladder, evacuating the stones and then stitching the gall bladder to peritoneum and aponeurosis with temporary drainage by rubber tube. This operation in the hands of Tait, Mayo Robson and Kehr has proved curative in the vast majority of cases with a mortality of less than 2 per cent. Tait was accustomed to crush stones in the cystic and common ducts by fingers or padded forceps, and Thornton commended breaking up common duct stones by passing needles through the ducts into the stones. When Courvoisier and Marcy deliberately excised stones from the common duct a new era dawned on gallstone surgery, for it not only showed that stones could be safely excised from any portion of the common duct, but that in cases of severe infection the common and hepatic ducts could be drained for weeks to the relief of patients previously at death's door.

REMOVAL OF THE GALL BLADDER.

With the improvement in technic in common duct cases the removal of the gall bladder has steadily gained in favor. The removal of the gall bladder commonly removes the laboratory in which the stones are formed and does away with the fixation of the gall bladder in an abnormal position, to the increased chances of adhesions and to kinking of the common duct. While commonly no great inconveniences may result from the suture of the gall bladder to the parietes, occasionally the traction on the adherent gall bladder may be very painful. For years after Tait operated on me I was able to row, box and fence without a particle of inconvenience, but an attack of pneumonia last February, with the coughing attending it, made me feel like cursing the fact that my gall bladder was so firmly attached to the parietes. With our increased knowledge of common duct stones and the methods of dealing with them, we need no longer be deterred from excising the gall bladder if the stones are found only in it and the common duct seems free. Kehr, from his enormous experience, believes excision of the gall bladder or cholecystectomy to be the method of choice, and his cholecystectomies have given only a mortality of 3.3 per cent.

DRAINAGE.

Kehr has added another valuable procedure to our means of relief—the drainage of the common and hepatic ducts, which he frequently executes after removal of stones, or even when no stones are present, if there is evidence of infection of the bile ducts. In this way he has succeeded in saving many cases which otherwise would have been hopeless. The same thing may be done at times with less danger even though with diminished certainty of drainage by cholecystostomy. Only recently I had from the operator an account of the case of a very prominent politician who some months after an apparent recovery from typhoid, developed a grave cholangitis accompanied by intense jaundice and high fever. The condition of the patient was so very grave that the gall bladder was simply incised and stitched into the wound. Typhoid bacilli were found in the bile evacuated at the operation, but no stones. Now, a year after operation, bacilli are still found in the bile from the fistula, which is not allowed to close, any attempt at closure being followed by a recrudescence of the old symptoms. In a similar case it would be better if the condition of the patient admitted to open the common duct, stitch in a large rubber tube passed well up to the hepatic ducts, and after tamponing for a few days the belly as a safeguard, irrigate the bile ducts with repeated irrigations of warm normal salt solution. Kehr, in his admirable clinical histories, repeatedly mentions removing in this way most offensive bile, with the result invariably of a marked diminution of sepsis. The neglected cases of gallstone disease by reason of their complications, such as innumerable adhesions, fistulous communications with other organs, obstruction of the pylorus and duodenum by kinking, will demand the most resourceful and skilful surgery, and will even then have a high mortality. In addition with long-continued gallstone disease cancer is not infrequently associated, and then all efforts of relief are futile. However, we can, in the present state of gallstone surgery, promise in uncomplicated cases almost certain cure; in cases of stones in the common duct, unless in persons with other complications, but a slightly increased mortality. While the neglected cases, the cases in which patients and attendants have procrastinated and frittered away time and recuperative powers, the mortality will be high; how high one can not say, but in Kehr's cases this class gave a mortality of 47 per cent.

It therefore becomes our duty when face to face with recurring severe gallstone attacks which threaten to incapacitate or kill the patient, to urge early operation and let the patient bear the onus of the delay, if there is any.

REMARKS ON THE CASES OF THE AUTHOR.

Of 44 gall bladder operations which I have done 6 have proved fatal, as follows: Of 34 uncomplicated cholecystostomies, one died.

Case 1.—A young woman, aged 30, weighing about 240 pounds, died on the third day when the heart gave out. Only a partial autopsy was allowed, and no peritonitis or hemorrhage was found.

Two complicated cholecystostomies died. They were as follows:

Case 2.—A woman of 55, a sufferer for 15 years, had vomited almost continuously for three weeks before operation. The stomach was very much enlarged, and I intended to do a gastroenterostomy, but after breaking up adhesions of the gall bladder to the transverse colon, stomach and duodenum and removing 35 stones, the patient was so feeble that I had not the courage of my opinion and the patient died 14 days later, having repeatedly vomited retained food and occasionally blood, gradually becoming weaker. No autopsy allowed.

Case 3.—The second case was a woman, 54 years of age, who had been ill five weeks before I first saw her, at which time she was deep gold color, septic and constantly vomiting. I could feel an enlarged gall bladder, which was very tender and contained stones which actually grated under my touch. Operation was urged and declined for three weeks. When I then did it I removed 115 gallstones weighing exactly 2 troy ounces. The patient's fever disappeared, the stools contained bile, and appetite was reëstablished, when she suddenly col-

lapsed on the fifth day and died. A partial autopsy showed no hemorrhage nor peritonitis.

In 8 cases I have met with stones in the common duct, in 5 stones were also found in the gall bladder. In 3 of these cases I opened the gall bladder, removing the stones by a cholecystostomy and crushing stones in the common duct by fingers or padded forceps—all three recovered. In 2 cases I opened the common duct only; first finding from exploration through the common duct a rudimentary or contracted gall bladder and after draining the common duct with rubber drainage—both cases recovered.

In 3 cases I opened both the gall bladder and common duct to remove stones. Two died.

CASE 4.—One a woman, 49 years of age, a sufferer for nine years, and intensely jaundiced for nine months before operation. Two stones were removed, one a centimeter in diameter, from the gall bladder, and one slightly larger from the common duct. The common duct was drained, but the patient died from cholemic hemorrhage the second day.

CASE 5.—The second death was in a feeble Armenian, 39 years of age, who had suffered fifteen years and had been deep bronze color for months. I removed from him also one stone from the gall bladder and one from the retroduodenal portion of the common duct. During the month he lived after operation his temperature remained normal or slightly below, and on the thirtieth day he suddenly died from heart collapse, due as much to innutrition as anything. The autopsy showed no peritonitis nor hemorrhage, but great wasting of all tissues.

Of 2 cholecystectomies which I have done on patients who had suffered from gallstones one died.

CASE 6.—The patient was a man 55 years of age, whom I saw in consultation eight years ago, at which time I urged him to have an operation. At that time the attacks of pain were of great severity and recurred very frequently, but he would not entertain the thought of operation. During the eight years which elapsed he was frequently incapacitated by pain and jaundice from labor, and increasing doses of morphin became necessary to give him any comfort. Just before operation he had required one-half grain doses of morphin every three or four hours. I urged operation, and removed a gall bladder, pear-shaped, and about six inches long. The gall bladder contained no stones, but its walls were very much thickened and the mucous membrane very much thickened, inflamed and in some places necrotic. No stone could be detected in the common duct. The cystic duct was ligatured and overcast and the abdomen tamponed. His vessels were sclerosed. During the ten days he lived he had, with increasing frequency, attacks of lividity of hands and weak pulse, but practically a normal or slightly subnormal temperature. The stools, previously white, became normal after operation and he had absolutely no pain. His appetite was fickle and death came with a collapse. No autopsy was allowed.

BROMID OF ETHYL IN ADENOTOMY AND TONSILLOTOMY.*

A. R. SOLENBERGER, M.D.
COLORADO SPRINGS, COLO.

GENERAL STATEMENTS.

I wish to preface this study on bromid of ethyl with a few statements, which, though they apply to the use of any one of the general anesthetics in adenotomy and tonsillotomy, yet they more naturally formulate and have particular application in the use of bromid of ethyl in the operations we wish to consider. They will not only serve the operator as guiding principles, but will foreshadow the general limitations of ethyl bromid in operations on adenoids and diseased tonsils.

* Read before the El Paso County Medical Society, Colorado Springs.

1. If an indication is found for the removal of tonsillar or adenoid tissue, a minute differential diagnosis of the pathologic condition is absolutely imperative. Otherwise there can be no scientific remedial disposal made of it. There will be selected an improper method of operation, either in the choice of the most suitable anesthetic or of the instruments best adapted. Not only must the eye make an exact measurement of the diameters of the tonsil in its largest dimensions, but it must determine the degree in which the tonsil is sessile or pedunculated, adherent to or free from the faucial pillars, soft, with a tough fibroid frame work or hard fibroid throughout, and whether the peritonsillar areas, including the accessory glands, contain any products of old inflammations.

Of the products of the pharyngeal vault, the mind must not only be ready for an impression of a possible enlarged third tonsil, but for the probability of scattered adenoid crypts, extending around and into the eustachian orifices and down the posterior pharyngeal wall, and even into the posterior nares. Then, and only then, can the operator select the proper anesthetic and the proper instruments.

2. When the indication for operation has been found, the operation should meet completely the indication, that is, it should be done thoroughly.

3. The pain, excitement and shock incident to tonsillotomy and adenotomy make general anesthesia necessary in the large majority of children, and very desirable in all.

4. Even in the former class, that is, in phlegmatic or robust children, local anesthesia does not entirely relieve pain nor insure against undue shock and subsequent prostration.

5. I wish this present study to apply to children only between the ages of 1 and 12; since before the age of one and after the twelfth year, local anesthesia usually suffices.

AN IDEAL ANESTHETIC DEFINED.

From these prefatory statements, I think it will naturally follow that the thoroughly scientific operator will choose between one of the several anesthetics, just as he will select from the many kinds of instruments those which are most suitable to the particular kinds of pathologic tonsillar or adenoid conditions in hand, as well as to adapt the anesthesia and instruments to the age and temperament of the patient.

The properties of an ideal anesthetic should possess:

1. The element of perfect safety.
2. The element of endurance; should benumb long enough to admit of a thorough operation.
3. The element of rapidity of action.
4. Should be pleasurable, non-excitant, a muscular relaxant and respiratory sedative. The latter element should not be so complete as to abolish entirely the respiratory reflexes.
5. Should allow the patient to be placed in the sitting position.

BROMID OF ETHYL IN THE LITERATURE.

Such an ideal anesthetic has not yet been found, but in bromid of ethyl we have, perhaps, one that satisfies these demands more nearly than any other in operations on a certain class of cases of adenoids and diseased tonsils of children.

The use of bromid of ethyl, while it meets these demands perfectly only in properly selected cases, must therefore have definite limitations.

It will be the object of this paper to point out these

limitations and endeavor to establish its legitimate place among the general anesthetics.

The safety of an anesthetic is no doubt always of the first importance. Everything else should be sacrificed for this. Ether is, of course, generally understood to have the best statistic record for safety. Yet mortality reports for bromid of ethyl seem to have in recent years been as favorable as for ether.

Gurlt[1] (1892) finds one death in 4,550 cases against one death for A.C.E. in 4,118 cases. Later (1894) the same author reports one death in 3,662 cases. Chisholm[2] (1895) used it in 3,000 cases without a death. Gilles[3] (1896) collected 20,000 cases of its administration without a fatality. Hoddes[4] (1899) reports 40,000 cases, in most of which there was no previous examination of the patient and in some enormous doses were given, yet not a single death occurred. Reich[5] (1900) in a most comprehensive survey of the literature found 16 deaths in 60,000 cases. In some of these he found the deaths were due to some of the mistakes of administration, which will be referred to later in this paper.

Theime[6] and Hoffmann[7] each reports cases of death in which toxic symptoms began 24 hours after administration when the autopsy showed parenchymatous degeneration of the heart.

However, in nearly all of the fatal cases from the full record it will be seen that the autopsy revealed pathologic conditions which were present before the anesthetic was administered, either in heart, kidneys or liver. Again, all of these fatal cases were above the age of 20 years.

In all the literature at my command I have not been able to find a death in a child. My own experience with its use covers a period of five years, having administered it in 50 cases in the clinics of the laryngologic department of the Northwestern University, and in about the same number of cases in private practice. I have seen only two cases in which the symptoms were at all alarming, and in one of these I could attribute them to faulty administration and the other to the impurity of the drug.

On surveying the earlier literature it will be found that some fatalities are recorded, but that the number decreases as the proper methods of its administration were learned and proper limitations to its use were made, until in recent years there seem to have been a few deaths as there also have been with ether and chloroform.

PRECAUTIONS TO BE OBSERVED.

I have thus come to believe that bromid of ethyl is a perfectly safe anesthetic when given to a healthy child and under certain precautions. To insure the maximum of safety:

1. There should be a reasonable certainty of the healthiness of the lungs, liver and kidneys. The fact that the child is delicate does not contraindicate its use. Such a child needs simply a smaller dose and will come under anesthesia quicker. The stomach must be empty and the chest unrestricted by the clothing or the arm of the assistant. The precautions necessary to eliminate all danger are based on the known characteristics and physiologic action of the drug; therefore,

2. The drug should be pure. The mistake of using bromid of ethylene should be avoided. This mistake has unfortunately been made. The free bromin which the ethylene specimen contains was responsible for the death of Labardio's[9] case, in which death was due to syncope occasioned from reflex nasal and bronchial irritation of the bromin. The pure specimen is only to be found in seal-brown glass tubes, which were sealed instantly, perfectly volatile, sweet (not garlicky), colorless and non-residuous. I always make it a practice to test the specimen even from these tubes by pouring the proper quantity in a graduate and a little of it on the hand before its administration.

3. It should be given *en masse*. This is imperative, as will be seen from a study of its physiologic action, for it acts directly on the nerve centers, not as an irritant like chloroform, but paralyzes these centers almost immediately. Hence there is no stage of excitement and no initial laryngeal reflex, and little or no muscular rigidity. The brain paralysis is at once followed by dilatation of the cerebral vessels, producing congestion of the brain for a certain period before the heart can be affected. This explains why the sitting posture, so frequently desirable in these operations, is not only perfectly admissible, but an element of safety.

But if now the anesthesia is pushed beyond this brain congestion limit or the brain condition in which the sensitive reflexes are abolished, quite another state is induced which becomes dangerous. This more prolonged cerebral paralysis favors the formation of chemical toxic compounds with the protoplasm of the cortex and other centers, which may prove rapidly fatal, especially when there is organic disease present.[9]

Then, as its safety and success depends on the power of the anesthetic to produce prompt and uninterrupted but limited paralysis, the cone containing the drug should exclude all air and be kept in position till cerebral paralysis and relaxation is complete, and under no circumstances should the cone be reapplied. If air is at all admitted, excitement and rigor result, and if reapplied it is apt to act as an irritant to the brain instead of a sedative, and finally result in dangerous paralysis of the respiratory centers.

4. Time required for anesthesia: No hard and fast rules can be given as to the length of time the cone should be held in place, nor the exact quantity poured into the cone. Both will depend on the temperament of the patient or nerve tone. I have found 5 gm. sufficient for children under 5 years, and 10 gm. the maximum dose up to the age of 12 years, and the time of administration from 20 seconds to 40 seconds. At least operations can always begin one minute after the beginning of administration.

I prefer to give it myself, keeping hold of the disengaged arm with finger on pulse, watching respiration and tone of the arm and neck muscles, but more especially of the eyes, which remain open, for dilitation of the pupils and suffusion of the conjunctivæ. If then the proper moment is chosen for commencement of operation the operator can count on about two minutes for work, after which the patient becomes almost immediately conscious and is able to walk and has no uncomfortable sensations.

RULES FOR USE.

In tracing the causes of the fatal cases recorded, we then have formulated in a negative way the rules for its administration:

1. Do not use bromid of ethylene.
2. Do not use an old or impure solution.
3. Do not administer it in repeated and small quantities. Give *en masse*, admit no air.
4. Do not continue its administration longer than one minute.

The utility of such an ephemeral anesthetic, aside

from its safety, will depend largely on three other conditions:

1. On the dexterity of the operator.
2. On the nature of the pathologic structures.
3. On the possibility of constructing instruments to thoroughly remove the diseased tissues in the given time with the least number of assistants.

The dexterity necessary is perhaps greater than the ordinary operator possesses or one who is not accustomed to cavity operations, but some possess this dexterity by nature, and all those who work in cavities can acquire it.

As to the diseased structures of the tonsils and pharyngeal vault, if both operations are in question and are to be thoroughly done with this anesthetic, the tonsils must be pedunculated, or at least not adherent to the pillars of the fauces, nor must they be entirely submerged under thickened columnar folds. The adenoids must be located in the vault centrally or *en masse*. If the tonsils are sessile or very soft and their frame work toughly fibroid, and the adenoids projecting into the posterior nares, the crypts scattered or actually growing around the eustachian orifices and extending down the posterior wall of the pharynx, as is not infrequently the case, then a thorough removal is not possible with the two-minute anesthesia of bromid of ethyl.

Here, then, comes the limitation of its use, even when the single operation is desired, viz., in the case of the tonsils when they are small sessile, adherent or submerged, and in the case of the adenoids when they are growing from many points and are of such consistency as makes it impossible to remove them with three or four sweeps of the curette.

Yet the somewhat large opportunity I have had for the study of these pathologic adenoid tissues has convinced me that the number of cases suitable for this rapid operation are quite large enough to stimulate careful differential diagnosis, and to justify the construction of instruments, especially adapted for the use of this simple and brief anesthetic. Our endeavors to thus enlarge the use of this anesthetic should be further stimulated by the assurance that many more children who are now suffering from the numerous pernicious deformities occasioned from mouth breathing could be made to submit to this comparatively inexpensive and simple operation, while they now too often are allowed to shrink from the more formidable one of a prolonged anesthetic.

THE INSTRUMENTS NEEDED.

For the removal of the tonsils with bromid of ethyl I have not found an instrument (admirable as some are under other forms of anesthesia) which I could work rapidly enough, especially when the double operations of adenoids and tonsils are to be done. There is not time to empty the forked instruments of the cut-off tonsils. If these were used two of the same size would be required, and all other forms of guillotines would require a third assistant to depress the tongue.

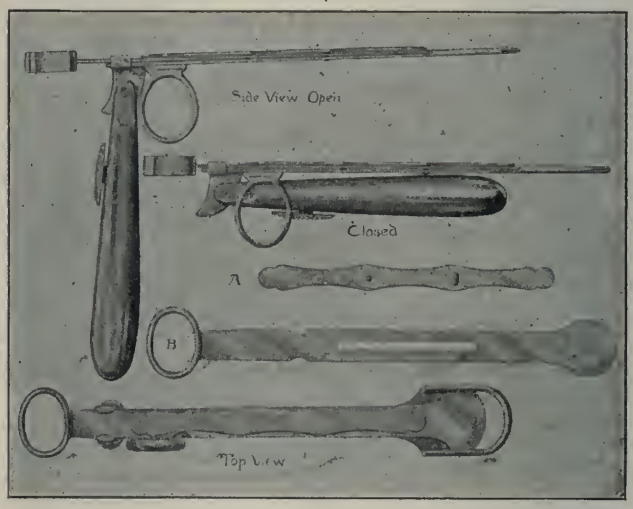
To make bromid of ethyl practical and simplify the whole operation, an instrument is needed that can not only be worked rapidly, but worked with one hand, leaving the other free to depress the tongue, thus dispensing with a third assistant and one which could be directly transferred to the opposite tonsil, completing the excursion of the tonsils in 45 seconds.

I think I have succeeded in modifying the McKenzie guillotine so as to practically fulfill these conditions. I have placed a thumb ring on the heel of the blade and a counter support ring beneath the frame for the index finger to enable the operator to open the fenestrum with one hand. I have also reduced the thickness of the blade and the thickness of the fenestrum ring, thus allowing the ring to burrow more deeply and to more completely surround the tonsil and securing a much closer shave. Then, besides the advantage of rapidity of execution, the pressure one can exert in getting around even a partially submerged tonsil and forcing them into this thin fenestrum ring is much greater and more accurate than is possible with any self-acting forked guillotine.

There are other features of the instrument which have a wider application than its use with bromid of ethyl, features which apply to construction of tonsillotomes in general. The father of English laryngology conceived the true mechanical principles of tonsillotome construction for all time, viz.:

1. That in all cavity work the hand power should be applied at a point parallel to but out of the way of the visual line and the axial line which carries the exerted force.
2. Simplicity of construction, necessary to instrumental asepsis.

While it is true that successful cavity work depends much on the man behind the instrument, yet the instrument which is constructed in accordance with true scientific principles is the best, alike for the hand of the beginner and the experienced operator, and while this guillotine is presented on the merits of special adaptation, it has also the utility of a very broad application.



Not many years ago one heard frequent discussions as to how much of the tonsillar stumps ought to be left. Now the pathologist says, "Leave no stump," "enucleate the tonsil." Surely in all cases all the diseased tissue should be removed, and that means all the enlarged adenoid tissue, and that means all the tissue which by reason of its being diseased more easily absorbs microorganisms and all tissues which interfere with normal nasal respiration. It is not good science to leave any of this behind in the hope that if a part is removed the remnant will "shrink up." This applies both to the lean, nervous, poorly nourished, as well as to the lymphatic or phlegmatic child. The adenoid base should in most cases be removed. This is what is meant by the "operation completely meeting the indication." This is what is meant by thorough work. This can be done with this guillotine under bromid of ethyl, if we limit

its use to the fairly free pedunculated cases; in these one can shave through the pedicle beyond the crypts.

SUMMARY.

To epitomize: For the brief anesthesia of bromid of ethyl all of the forked guillotines and the old patterns of McKenzie are too slow and too clumsy, and those which are intended for the associate use of the vulsellum and the cold snare, while they are the most scientific under chloroform or ether, are not practical under bromid of ethyl.

To make bromid of ethyl thoroughly effective it must be limited to certain carefully selected cases and the use of a guillotine whose fenestrum can be opened with one hand, and the blade and fenestrum ring as thin as adequate strength will permit, and to allow of a hand grasp at once comfortable and so firm that the tonsil can be crowded into the fenestrum to its fullest extent with a precision and quickness commensurate with the ephemeral nature of the anesthetic. To insure this thorough work it will be readily seen that the fenestrum ring must exactly fit the tonsil; hence at least three children's sizes of this tonsillotome are necessary.

The child is wrapped in a stout sheet, firmly pinned, with one arm free and held by the assistant in the intubation position, the gag is then placed and the cone immediately applied. When the anesthesia is complete, as indicated by the above-mentioned signs, and the first 45 seconds have been consumed in excising the tonsils, at least one minute of unconsciousness is left to clear the vault.

For the removal of the adenoids I have found Dr. Casselberry's guillotine as modified by Dr. Gradle quite satisfactory when the growth is simply the enlarged third tonsil centrally located in the vault. When, however, the adenoids extend slightly beyond this area I use the Delstaunch modification of the Gottstein curette, making a central sweep, securing the greater part of the mass in its teeth, then follow with the Kirstein curette. With the latter one can lift up the soft palate to secure a large view of the vault and shave more safely and close to the eustachian orifices. The head of the patient is then quickly brought forward while there is usually still time to enter the vault with the finger to remove any possible remnants.

Finally, as to the technic this method demands: While it is true that it requires great dexterity and accuracy, yet if this is once acquired it seems to me it is more simple than any other method.

Certainly the operator who can do well this double operation with bromid of ethyl would extend the beneficence of these operations to a much greater number of sufferers, for many of the profession and laity who know the baneful consequences of mouth breathing shrink from the remedy, because of the formidableness and great expense of other methods.

But suppose the operator has not this dexterity or the pathologic structures are not suited to the use of ethyl bromid, or this particular structure of instrument is not at hand, then either the tonsillotomy and adenotomy may still be done at two different sittings with bromid of ethyl, since this anesthetic causes so little inconvenience; so I would still speak for bromid of ethyl, but not necessarily for this particular instrument. On the other hand, if the tonsils are sessile or submerged, and require drawing out with the vulsellum, and therefore another anesthetic which will insure longer time, this instrument will still prove more accurate than any with a self-acting fork like the Mathieu's, for the operator can perfectly control and measure with the vulsellum, in the presence of the firm and steady grasp which this instrument gives to the operator, the exact quantity of tonsillar tissue to be removed.

LITERATURE.

1. Gurlt, E.: Arch. of Clin. Chir., 1892, vol. xlv, pp. 55-113.
2. Chisholm: Med. Standard, October, 1900.
3. Gilles: Turnbull's Artificial Anesthesia.
4. Hoddes: Deutsche Monatsschrift für Zahnheilkunde, 1892, vol. x, October, 1892, pp. 411 to 435.
5. Reich: Wiener Med. Woch., 1893, vol. xliii, p. 1090, etc.; Dr. Ernst Hankel's Handbook Artificial Anesthesia. Leipzig, 1898.
6. Theime: Deutsche Med. Ztg., 1890, No. 57.
7. Hoffman: Prager Med. Woch., 1899, vol. xxiv, p. 243, etc.
9. Hagges: Or Vose Helilof. No. 2, 1890. (*b*) Thornton and Meixell: The College and Clinical Record, Phila., 1892, vol. xiii, p. 245, etc. (*c*) Hoddes: Same as above. (*d*) Marvel: American Medicine, 1901, vol. ii, p. 657. (*e*) Golden: N. Y. Med. Journal, 1901, Dec. 14.

RUPTURE OF GALL BLADDER OR DUCT FROM VOMITING.

WITH RUPTURE OF APPENDIX IN SAME PATIENT; TWO CASES OF APPENDICITIS; ACUTE YELLOW ATROPHY OF THE LIVER.*

W. W. GRANT, M.D.
DENVER.

RUPTURE OF GALL BLADDER OR DUCT.

Case 1.—A. C. D., aged 53. Four years ago, I am informed, he had two attacks of colic. Aug. 1, 1902, had an attack that resembled biliary colic. In each instance recovered promptly, with no evidence of gallstone in the intervals.

On September 1 last I was called at 2 a. m. to see this patient, who was suffering severely from colic, with greatest pain over gall bladder. He was given a hypodermic of morphia and atropia, hot applications to abdomen. He became easier and I returned home. Two hours later I was again called. He had been vomiting and his pain was now excruciating, and there was marked rigidity of abdominal muscles, with decided localization of pain under the right costal arch. I believed perforation of gall bladder or duct was imminent or had occurred. I returned at 8 o'clock, when his temperature was 102½; rigidity of muscles increased, with increasing tenderness over right epigastrium to vicinity of appendix. I advised immediate operation, but called Dr. Leonard Freeman in consultation. He thought there was evidence of gall bladder disease, but that the appendix was the main source of trouble, and also urged immediate operation, but I could not get the patient on the operating table before 3 p. m., when patient's temperature was 103½. Appendix was first removed. It contained no pus, but was cystic and ruptured at apex. Bile flowed freely from this wound as soon as peritoneum was opened, which demonstrated what I suspected. An incision was made immediately over gall bladder and bile escaped freely in larger quantity, with some thick grumous bile-stained material. Several gallons of warm salt solution were used in the abdomen through both wounds before the water escaped free from bile. The abdominal wall was fat and very thick. The gall bladder was collapsed completely and could not be brought into the wound nor into good view. No stone could be felt in the ducts. The patient had a weak (probably fatty) heart, and his condition was so bad under anesthesia that death seemed imminent; so the operation could not be prolonged, though he was on the table little less than an hour. The exact location of the rupture was, therefore, not determined. Dr. Freeman held the fundus of the bladder with forceps while I packed gauze well around it. His extreme condition necessitated great haste and an unsatisfactory conclusion of the operation. In fact, we were greatly relieved that he did not die on the table. He reacted fairly well. His temperature declined to 99 for two days and then fluctuated between 99½ and 101½ for two days more, when he died from septic peritonitis. His heart remained weak, and nausea vomiting prevented any nourishment by stomach. I regret very much that

* Read at the twelfth annual meeting of the Western Surgical and Gynecological Association, held at St. Joseph, Mo., December 29 and 30, 1902.

I did not have the privilege of a postmortem to complete this report.

The fact that the pain was greatly increased immediately after the severe spell of retching (due partly to drinking warm water), with increased local tenderness, rigidity of abdominal muscles, increased frequency of heart action and fever, strongly indicates that the vomiting was the cause of the rupture.

If Courvoisier's law be correct, that obstruction of the common duct by a stone does not, as a rule, produce distension of the gall bladder, but that obstruction from other causes does, then this case must, in all probability, be regarded as an exception; for the large quantity of escaped bile observed shows there was marked distension. The history of the case, with which I have been quite familiar for several years, has never indicated malignant disease of the parts nor complete obstruction from stone or other cause for any great length of time. The attacks of colic certainly indicated stone, but, as is well known, it may not have caused complete obstruction, unless of a very recent date. There was never decided icterus, but at times slight digestive troubles, with staining of the conjunctiva.

Obstruction of the cystic duct alone would have shown, of course, simply a clear secretion of the gall bladder. Acute cholecystitis does not usually produce jaundice, but does cause distension of the bladder. A stone in the common duct might by ball-valve action, as shown by Fenger, permit intermittent evacuation of the bladder, and this was probably an instance. There were no symptoms of an inflammatory or ulcerative condition preceding the illness.

The recent interesting experiments of Erhardt on animals in dividing the common and hepatic ducts and permitting the bile to discharge freely into the peritoneal cavity show conclusively that healthy, sterile bile will not produce peritonitis, and that bile infected with the colon bacillus does. In the former case the animals finally died of cholemia; in the latter from septic peritonitis. These conclusions are sustained by clinical experience in the reports of cases of traumatic rupture of gall bladder and hepatic and common ducts in man.

Many individuals live for years or a life time with bladder stones without pain or indication of their existence. But when their presence is indicated by attacks of colic or jaundice, no time should be lost in operating, as early operation is more favorable to recovery.

APPENDICITIS.

I report briefly two recent cases of appendicitis because of the interest connected with drainage and phagocytosis.

CASE 2.—W. Y., aged 37, affected with general abdominal pain at 3 a. m., Aug. 14, 1902. I saw him at 7 p. m. of same day. Pains very acute; abdomen not distended and all muscles hard and rigid. Sent to hospital and I operated at 9, eighteen hours from beginning of sickness. As soon as peritoneum was opened, half a pint of sero-purulent fluid escaped. Appendix was strictured by band near cecum and ruptured at apex. It was removed and stump pouched. With long forceps I pushed sterile gauze to the vesico-rectal cul-de-sac and as much more sero-purulent liquid escaped from the wound, none of it offensive. The cul-de-sac and region of the stump were cleaned with dilute peroxid of hydrogen, followed by salt solution—lymph being wiped from coils of the ileum with gauze. A strip of iodoform gauze was applied to the most dependent part of the pelvic cavity and another from the stump, and the small wound closed around the gauze strips.

The gauze was removed at the end of 36 hours. There was not a drop of pus anywhere. Two stitches were now inserted and the wound closed perfectly. From the hour of the operation his recovery was rapid and uneventful, without a single untoward feature, and not a dose of medicine was given. The post-operative history would indicate that drainage was not necessary.

CASE 3.—O. H., Quester, N. M., aged 22, taken with appendicitis Nov. 11, 1902, brought to Denver by his physician, Dr. R. R. Green, and placed in my charge. Patient much better on arrival. Pulse and temperature normal, no tympanitis, tenderness over appendix, but no tumor perceptible on palpation. I have not infrequently found that when an appendicitis patient is manifestly better on the third or fourth day that it was good policy to defer the operation a short time. This was done in this case. His bowels were evacuated with enemas and no food given by the stomach for three or four days. He had vomited considerably in the first two or three days of sickness. He was fed lightly by rectal enemas of peptonized food.

I operated on the 17th of November, when there was not a single symptom of appendicitis except a slight tenderness on deep pressure, yet the appendix enveloped in omentum contained a small quantity of pus and was gangrenous, the gangrene involving a spot of the cecum at base of appendix as large as the little finger nail. The stump was pouched by a double purse-string suture, the first perfectly inverting the gangrenous spot of cecum. The omentum removed with the appendix and abdomen closed without drainage. Examined wound on the fifth day, though pulse and temperature were normal, and finding evidence of pus, opened skin wound when fecal matter was freely discharged, I infer, from sloughing of the small spot of gangrene. Fecal discharge ceased in two or three days, wound soon healed, and patient returned home in three weeks.

This was a fortunate termination and not devoid of a useful suggestion. Drainage from the stump, though it was perfectly inclosed, would have been a safeguard. But it would be better surgery, in a similar case, to remove all gangrenous tissue by excision, even though it involved the entire thickness of the intestinal wall, closing the gut in the usual way. Drainage would not then be indicated.

When in doubt, in a dirty case, with perforation and extravasation, as to whether the abdomen is perfectly cleaned, is it wise to dispense with drainage? Some surgeons, under the teaching of Metschnikoff, now insist that drainage material is more damaging to peritoneal resistance than a little pus, which can safely be entrusted to the battle of the leucocytes. I am not satisfied with the soundness and wisdom of this teaching, though the purpose and action of leucocytosis is admitted. There is always interest in the warfare of pathogenic bacteria when invading the territory of the phagocytes. A wise general will always attack the enemy's base of supplies, knowing that if he succeeds the army will be starved or whipped to death. The wise surgeon will always cut off the march of bacteria by destroying their source of supplies, the focus of infection, and the phagocytes will do the balance. This is Nature's weapon of defense. If drainage forces an outlet to offensive bacteria in accordance with well-defined surgical principles, it must still be used in appropriate cases. If the material used should impair the power of the phagocytes, though in a relatively less degree, it would be no argument against drainage in certain abdominal operations. I do not think it has been shown that the evil is equal to the benefits. I am satisfied that I have saved some patients after peritoneal extravasation by the liberal use even of gauze for drainage. In abdominal operations drainage imperils the integrity of the abdominal wall, therefore predisposes to hernia. It should consequently be dispensed with as soon as possible. But in the enthusiasm for new

theories and facts, in a justifiable belief in the efficacy of hyperleucocytosis, it is not wise to hastily discard surgical procedures which have stood the test of abundant experience.

ACUTE YELLOW ATROPHY OF LIVER.

The following case of acute yellow atrophy of the liver I report in the hope of promoting interest in a disease so very rare that Osler, in a recent work, declares that in a "varied and extensive postmortem and clinical experience no instance has fallen under my observation"; and so fatal that in a recent bibliography of the subject it is stated that reported recoveries were more probably mistaken diagnoses. It occurs usually between 20 and 30 years of age.

Case 4.—K. M., aged 20. Married 18 months previous to confinement, which occurred in September, 1902, two weeks sooner than expected. Membranes ruptured 36 hours before; presentation and labor were normal. Infant well formed and healthy, weighing seven and one-half pounds; appetite, pulse, temperature, in fact, all conditions local and general seemed perfectly normal until the third day, when appetite disappeared, stomach irritable, with nausea and vomiting on taking food; and in the evening of the day slight momentary wandering, delirium was reported by the nurse; temperature 99 and heart action slightly increased in frequency, though at all times it was slightly weaker than usual. There was no evidence whatever of peritonitis or inflammatory trouble in pelvis or elsewhere. There had been no history of liver disease at any time, nor any evidence of it at the present hour. The next morning at 9 o'clock general icterus was manifest, the patient decidedly weaker, objecting strenuously to being disturbed for any purpose whatever, complained only of being tired, disposed to sleep, with growing stupor or coma. While the nature of the disease was now suspected, the lochia being quite offensive and temperature 99½, it was deemed a prudent measure to irrigate the uterus. This was done in a few hours, but did not affect the steadily increasing coma, and the patient died at 9:30 p. m., the fourth day after confinement.

In consultation with Drs. W. A. Jayne and E. A. Scherrer during the day it was the consensus of opinion that malignant jaundice existed. Postmortem 16 hours after death. Every tissue and organ was stained a deep lemon color; the liver atrophied, weighing two and a half pounds; and the heart soft and fatty and walls thin. Kidneys and spleen practically of normal size and consistency; gall bladder very small, containing hardly a teaspoonful of liquid; the large ducts unobstructed.

Following is the report of the pathologist, Dr. W. C. Mitchell:

"The heart muscle, kidney and portion of liver which were received from you on Sept. 15, 1902, were carefully examined and I have the following to report:

"Heart: Portions of the heart muscle teased out, stained with osmic acid and examined in salt solution showed distinct fatty degeneration of the muscles.

"Liver: The liver cells showed all stages of degeneration from granular cloudiness to complete fatty degeneration.

"Kidneys: No change observable other than the intense yellow staining of the sections as observed in salt solution preparations.

"The heart and liver findings correspond exactly with those found in acute yellow atrophy of the liver."

The real cause of this disease is not known. I can vouch for the natural, healthy childhood of this patient. She never before had a serious illness. Her brief married life was one largely of travel, ease and luxury. Her form was slight and delicate, and her appearance indicated anemia. Her pregnancy was not attended with albuminuria, stomach disorders nor any known diseased condition whatever.

It is a fact that of the two or three hundred reported cases, 60 or 70 per cent. occurred in women, 50 per cent. pregnant, usually resulting in premature labor and the death of the child as well as the mother. The child in this instance is living and healthy. There is no specific history in this case. In the September issue of *Progressive Medicine,* page 211, the statement is made that in 42 cases reported the disease occurred during treatment for secondary syphilis and was due to the specific infection. With our present knowledge the value or truth of this statement may be questioned. The size of the liver is no indication as to the duration of the disease, though it is the chief organ involved.

Whether the condition is primarily a general infectious disease of a rare and unusual nature, or primarily a local infectious disease of the liver is not known. The suggestion of an intestinal origin has no distinct foundation. The resemblance to phosphorous poisoning is striking, though differing in important particulars; and while the urine of both may contain leucin and tyrocin, they are more constant in the former disease. Evidently the disease is rapidly diffused through the circulation, and future investigations will probably disclose a bacterial origin and nature.

ACCESSORY PANCREAS.*

G. F. RUEDIGER, M.D.
CHICAGO.

Anomalies in the development of the pancreas are rather rare occurrences, but when met they may be of practical importance to the clinician.

TYPES OF PANCREATIC ANOMALIES.

Pancreatic anomalies are divided usually into five types:

1. One of the commonest types embraces the abnormalities of the excretory duct, of which Sappey[1] describes the following five varieties: (*a*) The accessory duct of Santorini may be entirely absent. (*b*) The duct of Santorini sometimes is the main excretory duct and the duct of Wirsung the smaller accessory duct. (*c*) The duct of Wirsung occasionally does not pass through the ampulla of Vater, in common with the ductus choledochus, but empties into the duodenum independently. (*d*) Very rarely there are two excretory ducts of about equal size. They run parallel to each other through the entire length of the gland and, at the level where the accessory duct usually joins the duct of Wirsung, they are connected by an anastomosing branch. (*e*) One case has been described in which there were three excretory ducts.

2. The rarest and perhaps the most important type is the "pancreas annulare," first described by Ecker[2] in 1862. In this case the descending portion of the duodenum was encircled by a band of pancreatic tissue which was continuous, on either side of the intestine, with the head of the gland. The annular portion had an excretory duct, which, taking its origin in front and running from before backwards, emptied into the duct of Wirsung. Similar cases have since been reported by Auberg,[3] Symington,[4] Genersich,[5] Summa[6] and Tieken.[7] The head of the pancreas is usually somewhat hypertrophied and the annular portion causes more or less constriction of the intestine, with consequent dilatation above the constricted part.

3. A third variety is described by Hyrtl[8] and called by him "pancreas divisum." It consists of a partial separation of the head from the body of the gland, the two portions being connected only by the duct of Wirsung. This separation he supposes to be caused by pressure of

* From the Pathological Laboratory of Rush Medical College.

the mesenteric vessels on the gland substance during development.

4. A fourth variety is the "pancreas minus" of Winslow, which consists of an accessory pancreatic lobule, springing from the head of the main gland and extending along the anterior wall of the duodenum.

5. The fifth and last variety of pancreatic anomalies, and the one with which we are concerned here, is the "pancreas accessorium," first described by Klob[9] in 1859.

CASES OF ACCESSORY PANCREAS REPORTED.

This abnormality of development is also rare. In a careful search of the literature I was able to find only 20 authenticated cases. Of these 5 were located in the wall of the stomach, 2 in the duodenum, 9 in the jejunum and 4 in the ileum; 3 of them were associated with a diverticulum; 1 in the stomach, and 2 in the ileum.

Klob[9] reported two cases in 1859 and he was the first to give a histologic description of an accessory pancreas. In one of his cases the accessory pancreas was situated in the wall of the greater curvature of the stomach, midway between the fundus and the pylorus. It is described as a lobulated, pale yellow, rounded, glandular swelling, lying between the serosa and muscularis and having the same histologic structure as normal pancreas. In the other case the accessory mass was situated in the posterior wall of the jejunum, about four inches from the point of entrance of the intestine into the mesentery. In neither of these accessory masses could an excretory duct be found, although numerous small ducts were seen between the lobules.

In 1860 Montgomery[10] reported two cases, one of which was situated in the upper part of the jejunum and the other in the middle of the ileum. No detailed description is given of either of these cases, but he states that no excretory ducts could be found.

Zenker[11] reported six cases in 1861. One of these was in the wall of the duodenum, 2.5 cm. from the pylorus of the stomach. Three were in the first coil of the jejunum; two of them close to the duodenum and the other one 16 cm. away from it. In one case two accessory glands were found, one 16 cm. and the other 48 cm. from the duodeno-jejunal junction. The other case presented a diverticulum 5 cm. long and situated 54 cm. above the ileocecal valve. It had a narrow mesentry, rich in fat; and in this adipose tissue, close to the tip of the diverticulum, was found a small nodule of pancreatic tissue, which was connected with the diverticulum by a small excretory duct.

Wagner[12] (1862) reported two cases, one of which was in the small intestine and the other one in the anterior wall of the lesser curvature of the stomach. The latter was elevated 4 mm. above the normal level of the mucosa, which was continued normally over it. In this case no excretory duct was found and no detailed description is given of the case in the intestine.

Gegenbauer[13] (1863) reported a case in the wall of the stomach, near the lesser curvature and 2 cm. from the pylorus. It was slightly elevated above the normal level of the mucosa and was situated between the latter and the muscularis. There was an excretory duct leading into the stomach.

In 1865 Hyrtl[8] described a case which was situated in a fold of the peritoneum (plica pancreatico-lienalis). It had a small duct which communicated with the duct of Wirsung in the tail end of the main gland, and between it and the main gland lay the left gastro-epiploic vessels, both of which were abnormally enlarged.

This case, as was pointed out by Glinski,[14] was probably a case of "pancreas divisum," and not a case of "pancreas accessorium." The tail end of the pancreas, during development, was divided by the abnormal size of the left gastro-epiploic vessels, and thus this case corresponds to the description given by Hyrtl of "pancreas divisum."

Neuman[15] described a case in connection with a diverticulum of the ileum. The diverticulum was situated two feet above the ileocecal valve, was 1¼ inches long and ½ inch in diameter, and in shape resembled the finger of a glove. At its tip was a small nodule of pancreatic tissue about as large as a pea, which was connected with the diverticulum by means of a short excretory duct.

Weichselbaum[16] reported two cases in 1883. One of these was in the wall of the stomach, at the tip of a diverticulum, and the other was in the anterior wall of the descending portion of the duodenum.

Nauwerk[17] reported an accessory pancreas in the wall of the ileum, 2.3 meters above the ileocecal valve. It was 9 cm. in length, rather narrow, and slightly enlarged at the distal end, and was covered by the serosa of the intestine and a layer of subserous fat. At its base of attachment the wall of the intestine was slightly drawn out, forming a shallow depression on the mucous surface, in the center of which was found the opening of an excretory duct. This duct was traced through the center of the entire length of the gland tissue.

Letulle[18] published an article on accessory pancreas in which he makes the statement that they are not at all rare, but may be found in about three out of every one hundred autopsies. He does not, however, give a description of any case, neither does he state how many have come under his observation.

Nicholls[19] has described a case which was found in the beginning of the jejunum. It was roughly oval in shape, measured 1.5 by 1 cm. at the base and was elevated above the general level of the serosa. It also projected slightly into the lumen of the intestine. It was composed of multiple lobules of an acinous structure, which were separated from one another by septa of connective tissue and smooth muscle fibers. These lobules had small excretory ducts.

Glinski[14] described a case occurring in the upper portion of the posterior wall of the stomach, 2 cm. from the pylorus. It formed an oval swelling on both the mucous and the serous surfaces of the stomach wall, and the serosa and mucosa were perfectly normal over it. It measured 4.5 by 3 cm. and was 1 cm. thick at its thickest part. It was composed of lobules of pancreatic tissue, which were identical with normal pancreas. They were embedded in the muscular coat of the stomach and were separated from one another by septa of connective tissue, with here and there a septum composed of smooth muscle fibers. In the connective-tissue septa were numerous small ducts, but no excretory duct was found, although it is believed that there was one. The mucosa was normal, but in the submucosa were glands which appeared to be identical with the glands of Brunner of the duodenum.

Wright[20] has recently reported an interesting case in connection with a congenital umbilical fistula, in a girl 12 years of age. The fistulous tract was removed with the idea of effecting a cure, and the operation was perfectly successful. There was no connection between the fistula and the intestine. In the tissue removed from this tract was found a small spherical nodule of pancreatic tissue, which was arranged in lobules and

identical with normal pancreas. In the septa between the lobules were small ducts, but no excretory duct was found, although it is supposed that there was one and that it communicated with the exterior. As there had always been a clear serous discharge from the fistula it is supposed that this nodule of pancreatic tissue had a secreting function and that its secretion formed the discharge from the fistula.

A CASE OF RECENT OCCURRENCE.

The specimen now under consideration was found by Dr. Le Count in the course of an autopsy of the body of a young woman. The accessory pancreatic mass was located in the wall of the jejunum, about 15 cm. from the duodeno-jejunal junction. It presented itself as a small, yellowish, slightly raised nodule elevated (at its thickest part) 5 mm. above the general level of the serosa; at its base it measured 17 by 22 mm. Sections show the nodule to be composed of pancreatic tissue, which is embedded in the muscular coat of the intestine and in structure identical with normal pancreas; it contains typical islands of Langerhans. In the connective-tissue septa between the lobules are numerous small ducts, lined with a single layer of columnar epithelium, and here and there are bundles of smooth muscle fibers, ramifying through the gland. The ducts, studied in serial sections, are found to run toward the center of the nodule where they form a large duct which takes almost a direct course toward the mucosa and apparently empties into the intestine. The latter point, however, could not be demonstrated positively, because several sections from this region cut unsatisfactorily.

INVESTIGATIONS AS TO DEVELOPMENT OF PANCREAS.

It is evident that we are dealing here with an accessory pancreas which has an excretory duct and is located in the muscular coat of the jejunum. Cases of this kind are not very common, and the question arises, what is the cause of the occasional multiplicity of the pancreas which normally is single? In attempting to answer this question it is necessary to review briefly the early development of the gland. Here we find that investigators differ somewhat, especially as regards the number of original outgrowths (*uranlagen*) from the intestinal tract. All the later investigators agree, however, that it is developed from at least two or more solid diverticula which go out from that part of the primitive foregut which later becomes the duodenum.

Zimmermann[21] made a reproduction of human embryos measuring 7 mm. in length, and found that at this stage the pancreas is represented by two outgrowths, one dorsal and one ventral. The latter, which is found a little more distant from the pylorus than the former, he believes to be an outgrowth from the ductus choledochus and not directly from the foregut.

Hamburger[22] also found two diverticula, which, in the earliest stage studied by him (four weeks) were placed nearly opposite the ductus choledochus and not in connection with it. One of these, the smaller of the two, was placed a little more distant from the pylorus than the other, and in the fifth week was found to have united with the ductus choledochus. In the sixth week the smaller one emptied into the duodenum in common with the ductus choledochus, and its blind end had united with that of the larger (dorsal) one. The small (ventral) outgrowth now begins to grow more rapidly than the dorsal one, the conditions are soon reversed, and the main portion of the pancreas and the duct of Wirsung are developed from the ventral diverticulum, while the dorsal one gives rise to the accessory duct of Santorini and the head of the gland.

Wlassow[23] and Hammar[24] likewise found two diverticula in embryo pigs and squirrels respectively, and Kollmann[25] also is of the opinion that there are two. The latter, however, states also that, according to the latest investigations, it seems quite probable that there are three.

On the other hand, we find that Goeppert,[26] Felix,[27] Kupfer,[28] Stöhr,[29] v. Brunn[30] and Jankelowitz[31] claim to have found three pancreatic diverticula in human embryos and in embryos of cats and some of the lower vetrebrates, as trout, frogs, toads, etc.

Jankelowitz[31] studied human embryos and found that, at an early stage (embryos 4.8 mm. long), the pancreas is represented by a dorsal and a right and a left ventral outgrowth. The ventral, which are in connection with the ductus choledochus, unite early to form one bud, and therefore only two diverticula are found at a little later stage of development. This fact he believes to be sufficient to explain why some investigators have found only two *anlagen* for this gland. In support of this view he points out that the embryo studied by Zimmermann[21] was 7 mm. long and those studied by Hamburger[22] were estimated to be four, five and six weeks old, and represent a stage of development after the fusion of the two ventral diverticula has taken place.

THEORY OF ETIOLOGY OF ANOMALIES.

This seems a reasonable solution of the difficulty, and I believe we are justified in concluding that the pancreas is developed from three embryonal matrices, one dorsal and two ventral. As development goes on the two ventral outgrowths fuse and finally give rise to the greater portion of the gland and the main excretory duct. The dorsal one also develops slowly, fuses with the now single ventral diverticulum and gives rise to the head of the gland and the duct of Santorini. If now for any reason one of the original diverticula fails to unite with the others, but goes on in development, we can easily understand how that would give rise to an accessory pancreas. It is also conceivable that all three diverticula may develop separately and thus form two accessory glands in the same body.

This explanation, which was advanced by Zenker[11] as early as 1861, is now quite generally accepted, and seems to be free from any serious objections. At that time, however, it was supposed that the pancreas develops from a single diverticulum, and Zenker assumed that, under certain abnormal conditions, there might arise two or more outgrowths and give rise to accessory glands. Glinski[14] carefully reviewed the literature on the early development of the gland, and advanced the theory in regard to the origin of accessory pancreas as it is stated above.

Endres,[32] on the other hand, is of the opinion that the pancreas is always developed from a single diverticulum, and that this outgrowth may sometimes be divided by pressure on it from the omphalo-mesenteric vein, the right gastro-epiploic or the inferior pancreatico-duodenal artery, and thus give rise to an accessory gland. This view is now no longer tenable, as it has been shown almost conclusively that the pancreas is not developed from one, but from three diverticula. It is quite probable, however, that the vessels mentioned by Endres may, by abnormal development, prevent the fusion of these diverticula and thus play a very important rôle in the development of accessory pancreas.

The fact that the accessory gland is sometimes found at so great a distance from the main gland can be explained by assuming that the *uranlagen* become separated very early, and one, or two, of them are carried away by the intestine as it increases in length (Glinski).

SLIGHT CLINICAL INTEREST.

In regard to the clinical importance of the pancreatic anomalies just described, the following can be said: The pancreas minus and divisum, although interesting from an anatomic standpoint, are of little practical importance, as they do not bring about any serious pathologic conditions, nor can they be detected during life. Abnormalities of the duct may occasionally be a factor in causing hemorrhagic pancreatitis from impaction of gallstones in the ampulla of Vater (Opie[33]). Annular pancreas may so constrict the bowel as to cause marked dilatation above the point of constriction, as in Tieken's interesting case, or perhaps even complete obstruction. Accessory pancreas may sometimes be a causative factor in the production of diverticula of the intestine, by exerting continuous traction on the intestinal wall, during development (Neumann[15]); or, it may at any time become the starting point of a carcinoma (Nicholls[19]). This has, however, never been observed. If the swelling protrudes into the lumen of the bowel, and attains a considerable size, it might produce some obstruction to the movement of the intestinal contents; or, perhaps it might cause an intussusception by continuous traction on the inner surface of the intestinal wall, from the passage of the contents over it.

BIBLIOGRAPHY.

1. Traité d'Anatomie Descriptive, 1889, iv, 274.
2. Henle u. Pfeufer's Zeitschrift f. rat. Medicin, 1862, xiv, 354.
3. Auberg, quoted by Genersich.
4. Journal of Anatomy and Physiology, 1885, xix, 292.
5. Internat. Med. Cong., 1890, ii, 140.
6. The Journal A. M. A., 1900, xxxv, 43.
7. American Medicine, Nov. 23, 1901.
8. Berichte der Wien Akad., 1865, lii, 275.
9. Zeitschr. d. Ges. d. Wien Aerzte, 1859, xivi, 732.
10. Transactions Path. Soc. of London, 1860-1, xii, 130.
11. Virchow's Archiv, 1861, xxi, 369.
12. Archiv d. Heilkunde, 1862, iii, 283.
13. Reichert u. du Bois-Reymond's Archiv, 1863, 163.
14. Virchow's Archiv, 1901, 164, p. 132.
15. Archiv d. Heilkunde, 1869, xi, 200.
16. Bericht d. K. K. Krankenanstalt Rudolf-Stiftung in Wien (1883), 1884.
17. Ziegler's Beiträge, 1893, xii, 29.
18. Gaz. Hebd. de Med. et de Chir., 1900, New Series, vol. v, 243.
19. Montreal Medical Journal, 1900, xxix, 903.
20. Jour. of Boston Soc. of Med. Sciences, 1901, v, 498.
21. Verhand. d. anatomischen Gesellschaft, Berlin, 1889, p. 139. Supplement to Anatom. Anzeiger, 1889, iv.
22. Anatom. Anzeiger, 1892, vii, 707.
23. Morph. Arbeiten von Schwalbe, 1895, iv, 67.
24. Anatom. Anzeiger, 1897, xii.
25. Entwickelungsgeschichte des Menschen, Jena, 1898, 369.
26. Morphol. Jahrbuch, 1891, xvii, 100.
27. Archiv f. Anat. u. Physiologie, Anat. Abth., 1892, p. 313.
28. Münch. Med. Wochenschrift, 1892, xxxix, 487.
29. Anatom. Anzeiger, 1893, viii, 205.
30. Ergebn. d. Anat. u. Entwickelungsgeschichte, 1894, iv, 78.
31. Archiv f. mikroskopische Anatomie (Schultz), 1895, xivi, 702.
32. Archiv f. mikroskopische Anatomie, 1892, xi, 473.
33. Johns Hopkins Hospital Bulletin, 1901, xii, 185.

POISONED WOUNDS BY THE IMPLEMENTS OF WARFARE.

LOUIS A. LA GARDE, M.D.
MAJOR AND SURGEON, U. S. ARMY.

(Concluded from p. 990.)

V. INFLICTION OF POISONED WOUNDS OR SEVERE INFECTIONS INTO ANIMALS BY VARIOUS MEANS IN FIRING.

The work narrated in the preceding experiments by foreign workers refers to the transmission of bacteria by the act of firing when the organism is placed on the projectile, in the barrel or on cloth. My earlier experiments, already cited, proved the transmission of bacteria when placed on the ball or in the powder. The experiments to be referred to now were undertaken to show whether transmission could be effected when the organism is placed at any point from the explosive to the point of impact, namely, in the powder, on the wad, on the projectile, in the barrel, on cloth in the trajectory and lastly on the integument at the point of entrance.

Anthrax.—Infection by the implements of warfare was incidentally touched on when we were considering poisoned arrows. It will be remembered that Siegfried mentions that the nations of East Equatorial Africa were said to poison their arrows with the *Bacillus anthracis*. In the references at my disposal I am unable to verify the statement.

Those who will recall the tragedy at Buffalo last year may remember the account of the press reports which referred to the circular found on the assassin's body, which read in the form of instructions on the method of taking life, as recommended by the Nihilists, of whom the perpetrator was said to have been a follower. Among the methods of poisoning, to more effectually insure death, the use of anthrax was noted. If this method of adding to the chances of death in a criminal attempt was ever practiced there is no record of it, to my knowledge, in the literature, yet the septicemia from this source is so similar to that from other micro-organisms that such an infection contracted in the manner mentioned would necessarily remain undetected unless bacteriologic examination of the blood and other tissues were made; on the other hand, the clinical features of malignant edema, tetanus, and the gas bacillus infection are so striking that they have served to identify those infections in a certain percentage of gunshot wounds, long before their biologic features had been determined. It follows, therefore, that to determine the relative frequency of anthrax and all other infections after gunshot wounds, we must depend henceforth on a proper examination of the tissues. Again, whether such an infection through the medium of a poisoned bullet fired from a weapon was a possibility, constituted a source of much doubt before the experiments which I am about to detail were undertaken. This skepticism was more than likely the outcome of the erroneous notion formerly entertained that bullets were purified by the heat of firing. It is interesting to note that Noble and Abel give the amount of heat generated in the chamber of weapons as follows: Krag-Jorgensen, .30 cal., 2,600° C.; Springfield, .45 cal., 2,400° C. This notion also found ample clinical evidence because we know that the majority of gunshot wounds when treated with a clean surgical dressing exhibit few or no signs of sepsis, and, to speak generally, we regard the wounds of this class as surgically pure. Again, when precautions to prevent sepsis have been observed, cases have exhibited some of the most virulent forms of infection, such as those of tetanus, malignant edema, gas bacillus, etc.

Formerly, when bullets were supposed to have been entirely disinfected by the heat incident to the ignition of the powder charge, the source of infection was only supposed to occur: (*a*) from the clothing when this was first penetrated by the ball, and (*b*) from the skin at the point of impact, which, as we know, is never clean. Whether infection could come from the ball or other sources remained to be solved. The following experiments at the proximal ranges were done in 1892: Two white rabbits were shot with a .22 caliber revolver. The projectiles were previously infected by smearing the conical end with a culture of anthrax germs from a slant of agar-agar which was prepared from the blood of a

gray mouse that had died from the effects of this micro-organism the day before. In the case of the first rabbit the ball passed through the left ear near the skull. The animal died three days later, and the presence of the *Bacillus anthracis* was confirmed in the blood of the heart, spleen, liver, etc. In the second animal the missile entered the external surface of the left thigh and lodged under the skin of the sacrum. Although droopy on the fourth day, he made a gradual and complete recovery.

We next shot a bull calf with a .38 caliber double-action Colt's revolver, the projectile having been infected with anthrax culture, as in the case of the rabbits. The ball entered the outer aspect of the left thigh and lodged in the perineum. The animal died on the third day, and cover-slip preparations from the blood of the spleen, liver and heart showed the presence of anthrax bacilli.

The next experiments were conducted with the high velocity modified Springfield rifle of .30 caliber, propelling a German-silver-clad bullet weighing 230 grains, with an initial velocity of 2,200 foot seconds. It was impressed with 36 grains of smokeless powder. Four rabbits were used altogether. They were shot through the ears at a distance of ten feet. The projectiles were in each instance infected, at the conical end, with a fresh culture of the *Bacillus anthracis* on agar-agar. The first animal died from shock two hours after the injury, the ball having penetrated both ears low down and the intervening scalp. Twelve cover-slip and two agar-agar slants prepared from the blood in the track of the bullet twenty-four hours after death failed to show the presence of anthrax. The results were likewise negative in rabbit No. 2, and positive in 3 and 4.

As stated, the foregoing experiments were conducted at the relatively short ranges. It was next in order to show the fate of micro-organisms on projectiles when fired at the actual ranges of, say, 300 and 500 yards. The following experiments were undertaken at Fort Logan in 1895, as follows:

Five sheep were shot at 300 and 500 yards with the 230-grain steel-jacketed bullet of the .30 caliber Krag-Jorgensen rifle. The projectile was propelled by 37 grains of Peyton smokeless powder. The point of each projectile was infected a few moments before the firing took place with a recent virulent culture of the *Bacillus anthracis* on an agar-agar slant. Four of the animals were wounded. One was killed outright; the bullet from the 500-yard stand passed through the large vessels of the neck and caused death by hemorrhage in a few minutes. Of the wounded animals, No. 1 received a wound at 500 yards on the inside of the right ham near the shank. The projectile passed out, fracturing the ham bone. Death ensued 60 hours after the injury. Cover-slip preparations from the blood of the liver, spleen and heart, stained with a watery solution of gentian violet, revealed the *Bacillus anthracis*. No. 4 was hit at 300 yards in the left shoulder, the projectile making its exit on the right side of the neck. The animal never recovered from the effects of the injury sufficiently to enable him to regain his feet. He refused food and drink from the time he was shot until he died, on the fifth day. Cover-slips prepared from the blood of the spleen, liver and heart showed anthrax bacilli in nearly every field. The other two animals, shot in the skin of the abdomen and in the right foreleg, respectively, at 300 yards, recovered entirely.

These results show conclusively that the infection of anthrax can be carried at long range and that it is possible to thus infect susceptible animals.

Following on the evidence that unconsumed grains of black and smokeless powders carry specific micro-organisms into media, it was of interest to know if there was enough of a culture so carried to communicate infection, or whether the modifying influences of heat caused attenuation enough to prevent the typical picture of a given infection. For this purpose we infected black and smokeless powders with a culture of anthrax and fired into rabbits as follows:

Black Gunpowder.—We loaded six shells with 18 grains of powder in each shell. The powder was infected with a culture of anthrax. The weapon used was a .38 caliber Colt's revolver, range one foot. Six animals were selected, and each animal was shot in one or both ears. In four of the animals the unburnt grains of powder failed to penetrate the skin entirely, the grains projected above the surface, while in the other two the powder grains were for the most part well embedded in the skin and areolar tissue. The latter two animals sickened on the third day. One of them died on the fourth day, while the other recovered entirely. Cover-slips prepared from the blood of the heart, spleen and liver of the dead animal stained in a watery solution of methylene blue revealed anthrax bacilli in nearly every field.

Smokeless Powder.—Of three rabbits shot in the ears at a distance of four feet by the Krag-Jorgensen rifle loaded with 37 grains (blank) of the Peyton powder, which had previously been contaminated with anthrax spores in the manner already described when speaking of infection of black gunpowder, one of the animals sickened on the third day and died on the fifth day. Cover-slips properly prepared from the blood of the heart, liver and spleen revealed the presence of anthrax bacilli, though but few in number. Sections of the liver and spleen, stained by Gram's method, exhibited the presence of the organism in the vessels.

Streptococcus of Marmorek.—Müller has lately worked with infected bullets to show whether micro-organisms carried by a ball still retain their virulence. With this object in view he used rabbits. They were shot in the fleshy part of the ham under strict precautions. The part to be traversed was shaved, washed with soap and water and treated with an antiseptic poultice before the firing commenced, and the wounded animals were taken to a dressing room and their wounds attended to with scrupulous care to prevent other infection. The balls of the steel-clad type from the military rifle of the Swiss were infected with the *Streptococcus of Marmorek* which kills rabbits in 20 to 48 hours. In the first series of experiments he inoculated the projectiles on the point; in the second, the organism was placed on the body of the bullets. In the first series the animals, four in number, succumbed to the infection in less than 24 hours; in the second series the animals, three in all, died in 30 to 36 hours. The greater length of time required to kill in the latter cases is attributed by the author to the reduction of the dose by loss in the friction of the projectile against the inside of the barrel. He next placed the organism on the inside of the barrel, and then again on cloths, in order to learn whether infection might be carried by a sterile ball in its passage through an infected barrel, or infected cloth. He demonstrated by firing into rabbits as before that infection was carried from both the barrel and cloth, the animals dying from the streptococcus infection. It would seem from the foregoing experiments that the heat imparted to the ball by the act of ignition and the friction in the

barrel, although the projectile is impressed with a velocity of 600 m.s., is not enough to entirely destroy the streptococcus nor to modify its virulence.

Tetanus on Projectiles.—In experiments conducted in 1892 with bullets of various calibers, we failed to communicate tetanus to horses. On the other hand, as will be shown later, Strick has more recently demonstrated that five out of six rabbits died from tetanus communicated by bullets infected with a culture of the organism, also Nimier and Vincent succeeded in transmitting tetanus to a rabbit with fatal results by shooting with smokeless powder previously infected with a culture of tetanus.

In recent experiments on animals we succeeded in communicating tetanus in 69.5 per cent. of the cases by methods as follows: The experiments were conducted with the .22 caliber toy pistol. An artificial tetanus earth was made by mixing one quart of sterile earth with one agar-agar culture, after the toxin had been destroyed by heating at 65° C. for five minutes. The animals were shot in the fleshy part of the thigh.

(*a*) *Transmission by Infecting Black Gunpowder.*—One-half grain of tetanus earth was mixed with the powder in each of three blank cartridges with which three white rats were shot at a distance of two inches. Two out of the three animals developed tetanus and died on the fifth and sixth day respectively.

(*b*) *Transmission by Infecting the Wads with the Tetanus Earth.*—Four wads were infected on their outer surface with a half grain each of the earth. Four rats were shot into as stated above. Two died immediately from shock and the other two succumbed five days later from tetanus.

(*c*) *Transmission by Placing the Earth on the Projectile.*—These were infected by placing the earth in three grooves running parallel with the long axis of the bullet. Three rabbits shot died with typical symptoms of tetanus on the sixth, seventh and eighth day respectively. Out of three guinea-pigs shot in the same way, two died on the sixth and seventh day.

(*d*) *Transmission by Placing One Grain of the Tetanus Earth in the Barrel.*—Three white rats were shot at two inches with blank cartridges. Two of the animals died from tetanus on the fifth day.

(*e*) *Transmission by Shooting a Blank Cartridge Through a Piece of Gauze Previously Contaminated with the Tetanus Earth, the Gauze Lying Against the Part.*—Out of five white rats shot in this manner three succumbed to tetanus on the fifth and sixth day.

(*f*) *Transmission by Placing One Grain of Wet Tetanus Earth on the Skin of the Animal at the Point Penetrated by the Charge.*—Four animals were thus shot with blank cartridges, two dying of typical tetanus on the fifth and sixth day.

(*g*) *Transmission by Infecting Smokeless Powder.*—The powder was infected as before. Three white rats were shot at a range of two inches. One of them developed tetanus on the fifth day and eventually recovered. The other two were negative.

The control animals shot in the above manner without the use of tetanus earth gave negative results without exception. As stated already the fatality from tetanus attending these experiments aggregates 69.5 per cent. It is fair to assume that this percentage would have been greater with a pure culture of tetanus. The artificial tetanus earth was used to simulate the actual conditions under which tetanus infections usually occur.

Bacillus Aerogenes Capsulatus.—Welch has shown in his Shattuck Lecture that infection from this organism is most frequently seen in compound fractures, and next in gunshot wounds. In recent experiments to demonstrate the transmission of this bacillus we obtained positive results. We infected three guinea-pigs by shooting them with an infected bullet from the toy pistol at close range. One died on the second day from general peritonitis, the ball having penetrated the abdomen; we killed the other two on the third day. They were placed in the incubator for twelve hours, when the typical emphysematous appearance was noted. The bacillus was obtained from the blood, serous membranes and subcutaneous tissue. The identity of the organism was established by means of the rabbit test described by Welch. Two control animals shot in the same manner were negative. The possibility of transmitting this organism by the various other means in shooting was taken for granted.

To determine the effect of firing on vegetable poisons we conducted the following experiments with curare and ricin as examples of powerful poisons when introduced into wounds.

Curare: Rats were shot in the thigh with a .22 caliber pistol loaded with blank ammunition. About one-fortieth of a grain of the sulphate was used in each experiment.

In Black Gunpowder: Out of four animals thus inoculated two died immediately with typical symptoms of the drug. The other two recovered.

On the Wad: Two animals thus inoculated died immediately.

In the Barrel: Two of the four animals inoculated died.

On Cloth: Of the two animals experimented on one died and the other recovered.

On the Skin: Of two animals thus shot both died.

Control animals inoculated with a similar dose subcutaneously administered died without exception.

Ricin: Two rats were shot as above stated, the ricin being placed on the wad; one recovered, and one died in the same time as the control animal, with the usual typical lesions.

The foregoing results with vegetable poisons were so convincing that the possibility of inflicting poisoned wounds with firearms in the various ways mentioned was considered certain, and pursued no further.

That poisoned wounds or infections can be communicated by the implements of warfare into susceptible animals and into man is well established by experimentation. In order to emphasize these facts let us take tetanus as an example of the infections in general and let us consider its occurrence in wounds, and in gunshot wounds in particular, as shown by clinical evidence.

VI. CLINICAL EVIDENCE OF POISONED WOUNDS, AND THE CHARACTER OF THE LESIONS AS A PREDISPOSING FACTOR.

Before we enter on a more extended discussion of the transmission of tetanus by the missiles from firearms as shown by clinical evidence, we may recall the fact that tetanus earth was a favorite poison among the substances used to poison arrows, notably by the inhabitants of the New Hebrides. We may recall the fact also that the occurrence of tetanus after gunshot injuries was so frequent, and the fatality attending this complication was so large, that few of the infections in war wounds have been more extensively dwelt on by the older writers on military surgery. Surgeons in civil and military practice have seen the disease follow gunshot wounds so frequently that a conviction has

existed in the minds of many that these wounds possess an etiologic factor of their own, which has been variously attributed to the ball, the powder, the wad or the character of the lesion made by the mechanical effects of the projectile on the tissues. Of 246,712 gunshot wounds which occurred during the Civil War, Otis informs us that 505 of these were complicated by tetanus, or one case of tetanus to every 500 cases of injury.

Its frequency in war wounds has been attested by many writers besides Otis. Table A from Nimier and Laval by Mathieu, shows its occurrence in a number of the great wars, the general average being about one case of tetanus in every 300 wounded.

TABLE A.—TETANUS IN WAR. (BY MATHIEU.)

Wars.	Cases of Tetanus.	No. of Wounded.	Percentage.
British Army in India (1782)	20	810	1/40 or 2.47
British Army in Spain (1811-14)	263	20,683	1/78 or 1.25
British Army in Crimea	26	12,094	1/465 or 0.21
Spanish Army in Morocco—wounded cared for in Africa	1	56	1/56 or 1.78
Spanish Army in Morocco—wounded cared for in Spain	4	3,920	1/980 or 0.10
French Army in Cairo (1798)	7	200	1/28 or 3.50
French Army before Constantinople (1836)	10	176	1/17 or 5.68
French Army in Crimea	120	39,868	1/332 or 0.30
French - Sardinian Hospitals (1859)	153	21,967	1/143 or 0.69
Prussian Army (1864)	14	1,968	1/140 or 0.71
Hanoverian Army after Langensalza (1866)	13	1,092	1/84 or 1.20
German Army (1870-71)	350	99,566	1/285 or 0.35
Austrian Army in Bosnia (1878)	16	3,878	1/234 or 0.41
United States Army, Civil War	505	246,712	1/488 or 0.20

In this country the frequency of the affection after wounds by the toy pistol has called forth renewed attention to the etiologic factors involved. The wounds referred to are usually inflicted by the ordinary .22 caliber revolver, carrying six blank cartridges, loaded with an average of three grains of black powder held in place by a pasteboard wad. The custom of celebrating the anniversary of our national independence by the use of explosives has grouped these cases very much in the same way that we find them in the statistics of the different wars. Until the use of the toy pistol was prohibited by a number of the state legislatures, the infection from this source was striking in frequency. Thus Park, whose attention was specially called to the subject, informs us that sixty cases of tetanus followed toy-pistol injuries in Chicago during the month of July, 1881. There were 38 cases of tetanus in New York City in 1899; 33 cases in 1900, and 27 cases in 1901—making a total of 98 cases. The health reports show that 35 per cent. of the cases occurred in the month of July. The reports of the last three years from the Board of Health of Philadelphia show that of 29 traumatic cases reported in males, 12 of them, or 41 per cent., were from some form of gunshot injury, the toy pistol being the most frequent offender.

The occurrence of tetanus after injury by blank ammunition has been the subject of special study by a number of investigators. The work has been directed towards the bacteriology of the powder and the wad, by means of cultures and inoculation into animals. The possible presence of the *Bacillus nicolaier* in either or both of these (the powder and the wad) should not be considered improbable. In the former, such a contamination might easily be the result of accident in the same way that dust containing the spores of the organism finds its way into the explosive by the ordinary operations of handling. As to the wads, our investigations go to show that in the process of manufacture the cardboard and other materials for wadding undergo no treatment that is calculated to destroy resistant bacteria that primarily exist in the trashy materials employed, viz.: dirty rags, old paper, wood pulp, wool, etc.

Wells of Chicago had his attention drawn specially to the epidemic of tetanus which followed July 4, 1899, having noted five cases in the Cook County Hospital and private practice together. All the cases were the results of wounds from blank cartridges, 60 per cent. of the injuries being in the left hand.

In order to determine the possible presence of tetanus in the cartridges, 200 rounds of the ammunition were examined by him from five different manufacturers with negative results. Cultural inoculation experiments were made as follows: The wads, powder and shells were treated by the Kitasato method for isolating the tetanus bacillus, i. e., by heating to 85° C. for 45 minutes to kill all but resisting spores. Glucose agar was generally used, but bouillon, glycerin agar and gelatin were tried. These cultures failing to show the organism sought, others were made without the preliminary application of heat, with the same negative results. A series of inoculations of guinea-pigs and house mice followed. Some deaths from pus infection were noted, but the tetanus bacillus was never found. The inoculations were made in various series with wads, powder, agar and bouillon cultures with and without preliminary heating.

The negative results of his well-directed efforts were in the nature of a surprise, and naturally disappointing, since he had good reason to suspect the source of infection to come from the ammunition as a result of accidental contamination at least.

In the report of the Health Department of Boston, Mass., for 1900, reference is made to the occurrence of seven cases of tetanus following July 4 of the same year. The director of the laboratory made many ineffectual attempts to locate the tetanus bacillus in the ammunition. "The method consisted in: (1) separating the wads, powder and shells of 350 cartridges of different calibers; (2) injecting these directly, or extracts and anaërobic cultures made from them, into guinea-pigs and rabbits; (3) microscopic examination of the cultures, extracts, etc. Nothing resembling the tetanus bacillus was observed, nor did any of the animals exhibit signs of tetanus." In his conclusion the author attributes the occurrence of the infection to the serious nature of the injury and the circumstances under which it occurs.

In our experiments we examined:

1. Forty-one samples of powder obtained from cartridges of varying calibers.

2. Thirty samples of powder from six different kinds of firecrackers.

3. Twenty-four wads from the toy-pistol ammunition.

4. Thirty samples of cardboard from the different kinds of firecrackers above cited.

Attempts were made to determine the presence of tetanus or malignant edema by inoculation directly into animals, by anaërobic cultures and by inoculation of these cultures. Inoculations were also made into hematomata, which will be shown later to give a special predisposition to infection. In no case were we able to determine the presence of the organisms mentioned.

We find, then, that out of 675 samples of powders and wads examined, the *Bacillus of Nicolaier* was absent in every instance. From the foregoing it is apparent that we must look to other sources of infection than those suggested in the ammunition.

In considering the source of infection in gunshot wounds which, reasoning by exclusion, can only arise from, (1) the integument at the seat of injury, (2) the

clothing traversed by the missile, (3) accidental and criminal contamination of the ammunition, (4) infection of the gun barrel; there are certain special features in these wounds that favor the development of tetanus and other infections to a marked degree, and these features deserve special consideration.

We may start out with the proposition that all wounds are more or less infected; that is, that no wound is bacteriologically clean. Such an assumption is even true of operative wounds done under the strictest technic. Notwithstanding this fact, we know that these wounds, though contaminated, for all practical purposes in surgical practice heal perfectly, without pus, and give the best of results. The factors of a suitable soil, on the one hand, and a proper degree of virulence, on the other, play an important rôle in the development of infection in all wounds; and, as we will show, the former of these factors has a special application in gunshot wounds.

The experiments of Lwowitch, Strick and Dorst on the development of infection in the presence of hematomata have an interesting application in this instance, because we know that hematomata, more or less extensive, frequently accompany the lesion in a gunshot wound.

Lwowitch obtained the spores of the *Bacillus nicolaier* from a bouillon culture. After subjecting them to a temperature of 70° C. for an hour he injected an aqueous solution of one-half to one c.c. under the skin or in the muscles of the thigh of a rabbit without effect. If, on the contrary, the injection was preceded by creating a hematoma by cutting the femoral artery near the knee and the same amount of the aqueous solution was then injected in the hematoma, tetanus developed, at first localized, then general in character, finally ending in death. This showed that the hematoma favored the development of tetanus to a high degree.

The work of Strick was projected on the same lines. He produced a hematoma by cutting the femoral artery in five rabbits, and he injected a certain spore mass of tetanus in each hematoma. All of the animals developed tetanus in five to six days, and death followed in one to two days later. As a control he injected ten times the known amount of tetanus directly into the thigh muscles of six animals with negative results. He found that a hematoma favored the development of tetanus so much that 50 times the spore mass could be placed in the tissue of the control animals without any reaction taking place. In order to prove that the development of the infection was the result of the hematoma and not to the loss of resistance incident to shock or hemorrhage, he produced a hematoma in one of the thighs of six control animals, and in the other thigh he injected 20, 40 and 100 times the spore mass; whilst in six other animals he injected the regular amount of the spore mass into the hematomata. The animals directly injected in the hematomata died of tetanus in six to eight days, whilst in those animals with a hematoma in one leg and the injection in the other, there was no reaction. In his final experiments he found that the predisposition to tetanus from a hematoma was so great that a dose 1,000 less than that which produces tetanus in a sound animal was sufficient to provoke tetanus when it was injected in a hematoma.

In order to show the relative predisposition to the development of tetanus between a hematoma and the lesion found in a gunshot wound, he shot six rabbits with bullets primarily infected with tetanus. The animals developed tetanus on the third day and died on the fifth. He concludes that gunshot wounds, in consequence of the tissue lesion, offer an unusually favorable soil for the development of tetanus. Compared to the infection developed by injecting in hematomata the onset of symptoms is twice as quick and death ensues earlier.

Dorst has shown that the coefficient of susceptibility increases in hematomata when other organisms than tetanus are employed. He demonstrated this as follows: he made 34 experiments on rabbits with staphylococcus aureus and pneumococcus. He found that one-eighth of a platinum loop of the former caused an abscess in a hematoma, whilst it required one-fourth of a loop to produce death. The controls injected with the same dose in the muscle tissue or subcutaneously showed no reaction. The controls showed reaction, however, with four loops, and it required as much as eight loops to cause death. He next employed the pneumococcus, to which the rabbit is specially susceptible. He used an aqueous solution of the organism of which one-fourth to one-tenth c.c. produced no effect when injected in muscle tissue; and yet one-hundreth of a c.c. of the same solution produced death when injected in a hematoma.

The results of the experiments by Lwowitch, Strick and Dorst show conclusively that hematomata augment the susceptibility to infection. In regard to the susceptibility conferred by hematomata and the lesion in gunshot wounds, we find that they confer great susceptibility, and we may recall that Strick goes so far as to say that the onset of symptoms in animals shot with tetanus balls is twice as quick as it is after injecting the spore mass into hematomata. If all the pathogenic microbes were as virulent as tetanus, and all gunshot wounds presented suitable hematomata, it follows that infection would occur in every instance. We are aware of the varying degree of virulence of different bacteria and we can demonstrate also the varying degrees of hematomata and other lesions in gunshot wounds which account in great measure for the occurrence of infection in some cases and its absence in others.

Another condition entering into the question of susceptibility to infection is that of necrosis arising from burning. The following experiments were suggested because clinically tetanus is often seen to follow a burn from various causes, and also because of its frequent occurrence in powder burn, in which there is more or less burning or singeing in addition to the lesion that the force of the explosion confers. We experimented on eight guinea-pigs by inoculating tetanus earth into incised and burned wounds. In four of the animals we made a wound by burning through the skin of the thigh with a red-hot knife, and in the other four we made a simple incised wound. An amount of the tetanus earth that could be held on the end of a hat-pin was placed in each wound of the two series of animals. Those having burned wounds sickened on the third day and died on the fifth day after inoculation, with typical symptoms of tetanus. The animals inoculated into simple incised wounds all recovered, at no time manifesting any symptoms of tetanus. It is thus seen that experimentally, as well as clinically, we must consider burning as an additional factor in augmenting the susceptibility to infection, and one that necessarily enters into gunshot wounds at close quarter.

The extent of the lesion in gunshot wounds, as we know, is modified by a number of factors, and these are

well exemplified by comparing the character of the wound conferred by the reduced caliber bullet of the present military rifle, which is so often referred to as the humane bullet, with that inflicted by the larger caliber bullet of the military rifle in use two decades ago. In order to show the difference in the susceptibility of the lesion to infection, let us again take up tetanus as an example of the infections. I believe such a study will convince us that the reduction in the amount of infection in recent wars is not altogether due to antisepsis, and that much of the credit should be attributed to the change in the armament.

VII. DIFFERENCE IN THE LESION OF THE OLD AND NEW ARMAMENT ONE OF THE PROBABLE CAUSES OF THE REDUCTION OF TETANUS IN WAR.

The humane features of the new military rifle are so generally accepted that it will suffice to review briefly the differences in the old and new armament that have led to the material reduction of destructive effects in the latter. From 1886 to 1893 all the armies of the world, one after another, proceeded to change their military rifle, which formerly employed a cylindro-conoidal lead bullet, weighing approximately 500 grains and of about .45 caliber. The projectile was impressed by a velocity of translation of about 1,300 f.s., with a velocity of rotation on its long axis something like 800 turns per second. The explosive charge for our own army rifle was 70 grains of black powder, which approximated very nearly that of other armies. Between the dates above mentioned all the governments except China changed their armament to the reduced caliber rifle of a type corresponding to the Krag-Jorgensen, in use at present in the United States Army, the chief features of which are, so far as the surgeon is concerned, as follows: The projectile is .30 calibers, composed of a lead nucleus enclosed in a hard steel armor. Its weight is 220 grains, and it is impressed by a velocity of translation of 2,200 f.s. The velocity of rotation on its long axis at the muzzle is 2,400 turns per second. It is thus seen that the bullet of the military rifle of to-day as compared to that of a generation since has been reduced 15 calibers in diameter and 280 grains in weight, while the velocity of translation has been nearly doubled and that of rotation has been trebled, and it has this additional feature: on account of its hard steel envelope it is not susceptible to deformation by any amount of resistance in the human body. Because of these striking differences in the two projectiles, the character of the lesion in gunshot wounds in war has been very much modified. The so-called humane effects of the reduced caliber bullet have been specially noted in the wounds of (1) soft parts, (2) joint ends of bones, and (3) shafts of long bones.

Soft Parts.—With the old 500-grain bullet, in the soft parts the wounds were more liable to be lacerated at all the ranges, and this was especially so in the middle and remote ranges as the remaining velocity diminished, or when the projectile was deformed by ricochet against resistant structures before impact. Such wounds were always infected by the large, irregular surface of the lead which afforded every opportunity for the lodgment of dirt. The local destruction of tissue was not only marked in the limits of the channel track, but the resulting traumatism was evident in hemorrhages and conditions inviting necrosis of the parts beyond.

The extent of the traumatism by the hard, steel-clad bullet with polished exterior is much less when the normal bullet impressed with superior velocity traverses soft parts only. The lesion partakes more of the character of an incised wound. The area of destruction about the channel track is much less; the opportunities for necrosis are practically *nil.* The amount of infection is less because the steel mantle retains its smooth exterior better than the lead, which was easily indented. In ricochet, if the projectile encounters much resistance, it disintegrates into small fragments which readily lose their velocity and therefore their value as missiles. A slight amount of resistance only serves to flatten or indent the conical end of the steel mantle without grooving or furrowing, which is so apt to be the case with the softer metal, while the amount of infection transported by the steel-clad bullet is at all times less than one finds in the case of the lead bullet.

The experiments of Karlinski have a special bearing on the amount of lesion inflicted and dirt carried by the two bullets. By shooting in gelatin cylinders he noticed more extensive fissuring with the large caliber leaden bullet. Particles of cloth, thread, etc., carried by the ball penetrated into the fissures, eccentrically disposed about the channel track, to a distance of 13 cm. The experiments were repeated on a dog whose hindquarters were enveloped in a green cloth. At 100 meters the 6 mm. jacketed bullet passed through the hams and carried particles of cloth to a depth of 2 cm. about the channel track.

Schwarzenbach has experimented on animals in the same direction with similar results, and his views of primary infection which are entertained by Brunner, Karlinski and others, are based on experimental proof. We know to-day that enough extraneous matter enters a gunshot wound at the time of its occurrence to account for all the phenomena of infection that often develop. We are no longer justified in stating that the fate of a patient who has sustained a gunshot wound is in the hands of the one who applies the first dressing. Such teaching is not only erroneous, but it is misleading and dangerous. In speaking thus we surmise that the surgeon has taken the usual precautions to prevent additional infection. We must take for granted, also, that he has refrained from using so much as a clean probe or his clean finger to explore the wound, a procedure which, in either case, is apt to add to the lesion and render the soil more favorable to the development of existing infection. Unless the reasons for interference are urgent, we should remember that the less we do the more we accomplish, or as Koller, one of Tavel's collaborators, has aptly put it, "moins on fait, mieux on fait."

Joint Ends of Bones.—Here the amount of destruction generally corresponds to the sectional area of the bullet. The lesion is marked by a clean-cut perforation which tends to heal rapidly with a clean dressing and fixation.

Shafts of Long Bones.—When the shafts of the long bones are traversed in the ranges extending to about 300 yards, the superior velocity and resistance together cause great destructive effects, and for these so-called explosive ranges the character of the injury is quite similar to that observed in the case of the old ball. One sees in a wound like this an amount of lesion that is no longer limited by the channel track. Fragments of bone, ranging from very small sand to spiculæ half an inch or more in size, have been driven into the soft parts by the energy transmitted from the projectile. Such a wound affords ample opportunity for the development of infection because of the large extent of the traumatism. In the middle and remote ranges, however, the lesion to the diaphyses again takes the char-

acter of clean-cut perforations with possibly long subperiosteal fissures.

It is reasonable to suppose that a great deal of the absence of infection in the war wounds of to-day, including the rarity of tetanus, is due to the change in character of the wounds in war, which in turn depends on the modifications in the armament of the nations. The amount of destructive effects, as already noted, is specially shown within the zone of explosive effects—up to 300 yards, and, depending on the resistance encountered —up to 500 yards. The large majority of the battle wounds of to-day are seldom inflicted within the former of these ranges, namely, 300 yards. We might also say that the reduction of infection, including tetanus, in war wounds, is incidentally due to the alteration in battle tactics. In the days of low velocity weapons propelling large leaden bullets, the tactician was prone to marshal his forces *en masse* in all frontal attacks, the last act in the struggle being a charge with fixed bayonets. The wounds at these proximal ranges were attended with extensive lesion which favored infection to a marked degree. To-day, owing to the extended range of the new armament and the deadliness of the fire at proximal ranges, the tactician deploys his soldiers in the form of patrols composed of a few men in groups. His efforts on the terrain are directed toward flank movements. Frontal attacks end so disastrously, as a rule, that they are no longer practiced except in those cases where the advantage is manifest. As a result of this change, the large majority of battle wounds are received at middle and remote ranges, namely, from 800 to 2,000 yards, where the humane features of the small jacketed bullet are specially shown.

Our experience in Cuba sustains this view. The cases of infection were very few, and out of 1,400 wounded at El Caney and San Juan, there was not one case of tetanus noted. The range in both engagements was at all times beyond the zone of explosive effects, as noted by the reports of the participants and the absence of extensive lesions so characteristic of wounds inflicted at close quarter. On the other hand, out of 3,401 cases of gunshot injury reported from the Philippine insurrection, including the advance on Pekin, there are 8 cases of death from tetanus reported. It will be seen by the tabular statement that five of the cases occurred in men wounded by our own service rifle.

CASES OF TETANUS FROM GUNSHOT WOUNDS, 1898 TO 1901, INCLUSIVE.

Status: Regulars, 6; volunteers, 3. Total, 9.

Place: United States, 1;* Philippines, 8. Total, 9.

Missile: Krag-Jorgensen, 5; Mauser, 0; Remington, 1; pistol, cal. .30, 1; shrapnel, 1; undesignated, 1. Total, 9.

The cards show that the wounds were inflicted mostly by accident at close range. The lesion, as a rule, was more than likely lacerated by the superior energy of the missile near the muzzle and the explosion of the powder gases, thus causing a wound with special predisposition to the development of tetanus.

The rarity of tetanus in the Anglo-Boer war has been touched on by the English surgeons. Their list of casualties is much larger than that from any war since the adoption of the reduced caliber weapon, viz.:

ANGLO-BOER WAR, BRITISH ARMY.

Total killed	5,774
Wounded	22,829
Ratio of killed to wounded	1 to 3.9
Died of wounds	3.7 per cent.

* This case occurred at Fort Ringgold, Texas, the character of bullet not designated.

This war set aside forever the doctrine that frontal attacks *en masse* could ever again be practiced in battle. With rare exceptions the engagements were waged at the middle and remote ranges.

Although it is yet early to speak positively, Surgeon-Colonel W. F. Stevenson, of the English army, professor of military surgery at Netley, who was engaged in the line of communication during the entire war, informs me, under date of Oct. 1, 1902, "that not nearly all the returns had as yet been received from the Cape, but so far as returns had come to hand no case of tetanus had been recorded." He saw no cases himself, nor did he hear of any. Doubtless the full report when published will show some cases, but they will be few as compared to the number in former wars, or even to the number noted in the gunshot injuries in civil practice to-day.

Although it seems well established that the lesion conferred by the reduced caliber bullet does not predispose to infection as much as that from the old leaden bullet, still the blank ammunition used in the new armament appears to confer a lesion that gives a definite predisposition to the development of tetanus at least.

Deubler records 20 cases of tetanus occurring in recent maneuvers of the Austrian army. Of this number 17 occurred from accidental gunshot injuries by blank cartridges loaded with smokeless powder. The author points out the increase of tetanus since the introduction of the new explosive, but he attributes this to the wadding, which is larger and more carefully packed in the smokeless powder cartridge to insure a louder report when the rifle is discharged, the object being to simulate the conditions in war. Investigation showed it to be contaminated, although it is not stated that tetanus spores were present. We believe that it would be more correct, in view of recent investigations, to attribute the occurrence of the tetanus to special features in the lesion conferred by the new explosive as well as by the wad, and to take for granted that the source of infection was from dirt in the barrel, the clothing or the skin.

VIII. CONCLUSIONS.

The literature of poisoned wounds gives ample evidence that the custom of poisoning the implements of warfare, such as arrow heads, lances and swords, has been practiced from prehistoric times to the present day. From the state of our present knowledge of the potency of certain chemical and bacteriologic poisons we have reason to believe that the custom mentioned of thus adding to the deadliness of the injuries inflicted in war, in the hunt and in criminal attempts, was undoubtedly successful in a large percentage of the cases. From the description of the poisons used and the sources of the same, it is evident that not only vegetable, but also bacterial poisons were employed, as shown by the experiments of Ledantec.

The transmission of poisons into wounds by the old implements was easily accomplished. The introduction of firearms in about the fourteenth century threw much doubt on the possibility of still continuing the practice of the ancients.

Although the composition and manufacture of ammunition, with the exception of the wad, rather negative the presence of bacteria in original packages, we must admit that the explosive and the ball are contaminated, as shown by our observations, in 12 per cent. and 47 per cent., respectively; and further, that they become contaminated invariably by handling. The wad and wadding materials are always contaminated. There is noth-

ing in the act of firing, either from the heat generated by the explosive, or that due to friction, to destroy bacteria existing in the powder, in the wad, on the ball or in the barrel of a gun; and, when distinct bacteria are placed anywhere in the ammunition, including both black and smokeless powder, or in the barrel before firing, they can be invariably recovered when shot into media, as we were able to prove in our early work with anthrax, and as has been more recently demonstrated by Pustoschkin while working with the *Bacillus coli, Bacillus ruber, Bacillus subtilis* and *Streptococcus pyogenes.*

The results in the foregoing experiments warranted the belief that poisoned wounds could be inflicted by firearms when specific pathogenic bacteria were placed in the ammunition or in the barrel, and, as a matter of fact, in 1892 we demonstrated this with anthrax placed on bullets, and again, in 1895, when the organism was placed in either smokeless or black gunpowder. With the exception of infecting the powder, the experiments referred to by us have been confirmed and elaborated by Probst, Dorst, Strick and others working with various bacteria. Taking tetanus as the ideal organism with which a wound may be poisoned, we have seen in our later experiments that the organism can be transmitted into animals with fatal results when it is placed at any point from the powder to the point of impact on the skin. It follows from the work of the different observers that all forms of bacterial life can be transmitted by portable firearms, and that gunshot wounds can be infected or poisoned when virulent pathogenic organisms are designedly employed. We should bear in mind, however, that when a gunshot wound is found to be primarily infected, the infection may have come from other sources than those mentioned in the ammunition or barrel, because infected clothing or skin may be carried into the wound by a sterile missile.

Aside from the rôle that is played by the resistance of the individual and the virulence of the organism in the infection of wounds, the character of the lesion, so far as this relates to the local resistance, is of prime importance. We know now that hematomata confer a special predisposition to infection, and as the lesion of a gunshot wound often partakes of the nature of a hematoma, in addition to lacerations and other injuries leading to a condition of necrosis, we must regard the wounds from firearms, everything considered, at least as susceptible to infection as hematomata, and Strick's experimental work goes to show that they are even more so. We have shown also that necrosis caused by burning is an additional predisposing factor in wound infection, and one that we may consider with propriety in toy-pistol tetanus, as well as the tetanus from powder burn occurring with other weapons, when the shot is received at contact or thereabouts.

Concerning the possibility of transmitting vegetable poisons into wounds, if we take curare and ricin as examples of such poisons we find that there is nothing in the act of firing to destroy their lethal properties, and that they are readily conveyed into wounds when placed in the powder, on the ball or in the barrel. Toxins and animal poisons, like snake venom, can undoubtedly be conveyed in the same manner.

Finally, we have to conclude that all forms of bacterial life and animal and vegetable poisons may be conveyed into wounds made by firearms, and that the clinical evidence of poison in the case of bacteria depends on the variation of the factors already mentioned. The clinical evidence of vegetable poisons, on the other hand, is not so dependent on the amount of the lesion; in fact, our experiments show that clean incised wounds absorb the poison more readily than other wounds, and that death is more rapid.

Considered in the light of our present knowledge, the facts mentioned are so susceptible of proof that it becomes the duty of the surgeon in all criminal attempts to make a thorough examination of the ammunition and weapon. This should include a bacteriologic and chemical study of the powder, the bullet and the barrel as follows:

1. If powder grains are found in the clothing or wound they should be carefully collected for examination.

2. The projectile inflicting the wound when recovered should be at once dropped into media with sterile forceps.

3. If the wound has been the result of a ricochet shot, the point of impact before penetrating the skin should be examined for the presence of poison.

4. The inside of the barrel of the weapon should be examined for specific micro-organisms.

5. The examination should also include a thorough study of all the ammunition remaining in the weapon.

6. The same steps should be observed in examinations for the presence of toxins, animal and vegetable poisons. In this connection the following passage from the Huxley Lecture by Welch describes the method of identification: "The only certain means of detecting toxins of the class of diphtheria or tetanus toxin, snake venom and certain vegetable poisons of the same category is their neutralization by the corresponding antitoxic sera. Occasion may arise where such detection is of practical and even medicolegal importance, as has been exemplified in India, where the criminal use of cobra venom is not unknown."

When the evidence of poisoning has been shown, the prosecution should endeavor to establish the absence of the poison found: 1, on the instruments; 2, the dressings; 3, the hands of the attendants; 4, the clothing, and 5, the skin of the patient. This part of the evidence can be readily gathered if the surgeon in charge is on the alert and acts at once. In all the examinations for bacteria special attention should be paid to the identification of strict anaërobes by animal experimentation as well as by culture methods.

I desire, in conclusion, Mr. President, to express my sincere thanks to Prof. William H. Welch for many valuable suggestions while working out some of the problems in this lecture, and I also desire to mention the name of Dr. A. B. Herrick, clinical assistant and pathologist to the Barnes Hospital, for material aid in all the recent laboratory experiments which were found necessary. His judgment was at all times valuable, and his unfailing willingness made the preparation of the most important part of the work a genuine pleasure.

Hair on the Face Among Insane Women.—A Paris exchange brings statistics collected among 1,000 women in the insane asylums and the same number in the general hospitals. An excessive growth of hair on the upper lip was noted in 497 insane women out of the 1,000, while only 290 were found in the 1,000 in the general hospitals. It was noticed that the latter very frequently had a personal or family record of neuropathy or mental degeneration. Among the insane women the proportions were 64 per cent. of the cases of senile dementia; 56.6 per cent. of those with general paralysis; 42.1 per cent. of those with dementia precox; 38.8 per cent. of the idiots and imbeciles; 37 per cent. of the epileptics, and 47.8 per cent of those with various other mental affections.

TRANSPLANTATION OF OMENTUM IN THE OPERATIVE TREATMENT OF INTESTINAL DEFECTS; A CLINICAL AND EXPERIMENTAL CONTRIBUTION.*

EMANUEL J. SENN, M.D.
Assistant Professor of Surgery, Rush Medical College, in Affiliation with the University of Chicago; Assistant Surgeon, Presbyterian Hospital.
CHICAGO.

The omentum plays a great rôle in the reparative process following traumatic injuries of the abdominal cavity, both in the destruction of microbes and protection of the general peritoneal cavity by reason of adhesions with intestines and the parietal peritoneum. It has even spontaneously closed up small perforations of the stomach and intestines and thus saved lives without surgical intervention. That the omentum has some property in conveying immunity to the general peritoneal cavity has been shown by the interesting experiments of Roger. He demonstrated that the omentum is a lymphatic ganglion. In rabbits and guinea-pigs, he removed the entire omentum and then injected pus organisms into the abdomen. All the animals died in a few days, while those in which the omentum remained survived, although inoculated with the same microbes. Since Nicholas Senn proved by his experimental work the adaptability of omental transplantation, as well as omental grafting over the line of intestinal suture, thereby securing greater security against a subsequent perforative peritonitis, surgeons have, to a great extent, made it a routine practice to transplant omentum when available in such work.

While omental transplantation is a recognized operation as a reinforcement to intestinal suture, I was impressed with the possibility of the use of omentum for directly covering an intestinal defect. Such a pathologic condition following a duodenal ulcer, intestinal tuberculosis, gangrenous cecum, the result of an appendicitis, where enterorrhaphy could not be resorted to, by reason of the unreliability of surrounding tissues in withstanding tension. Also where suturing would cause too great narrowing of the intestinal lumen; or where the condition of the patient or extensive adhesions would not permit an enterectomy.

The omentum has been transplanted over perforations in the stomach, both in experimental work and in man.

William Bennett, in 1896, in a case of perforating ulcer of the stomach, one-half inch in its longest diameter, covered the perforation with an omental plug, as he termed it; that is, he sutured omentum into the perforation the same as a cork fits in a bottle, after all attempts at direct closure failed. The patient made a good recovery.

H. Braun, in 1897, successfully used the great omentum in closing a perforative ulcer of the stomach in a case where the use of the suture was out of the question.

A. Tietze made a number of experiments demonstrating the advantages of omentum for reinforcement of suture. He also made experiments on two dogs, proving the possibility of directly grafting omentum over a defect in the stomach. The dogs were denied food for twelve hours before operation. He made an opening in the anterior wall of the stomach the size of a five mark piece and sutured omentum in three layers over the defect. The animals were placed on a liquid diet for one week after operation. Both dogs recovered from the operation and were killed two months later. There was great shrinkage of the omentum, the stomach walls being almost in contact, being separated only about two or three millimeters. Microscopic examination showed epithelization of the omentum on its internal surface, and the formation of the glandular elements well developed.

Enderlen experimented on cats and dogs. He incised a portion of the stomach and closed the opening with omentum. The latter gradually assumed the characteristics of gastric mucous membrane. It was found that glands developed in the transplanted portion of the omentum.

Reering performed operations on five dogs, grafting a portion of the colon into a defect of the stomach. The transposed portion of the colon became digested, but three of the dogs lived, due to spontaneous transplantation of the omentum. In other experiments, where the transplanted flap had a pedicle for nutrition, all the animals recovered. The following case is a clinical demonstration of the value of omental transplantation over an intestinal defect:

Mr. F. H., age 58, married; mother living; father dead. Previous good health. His present illness began on July 4, 1902, with a sudden pain in the abdomen. Mustard plaster applied and pain disappeared in the course of three days. Recurrence of diffuse pain in abdomen August 25, which became localized in the right iliac fossa.

Patient admitted into the Passavant Hospital August 29. Temperature 100.8; pulse 102. Operation Aug. 30, 1902. Abdomen slightly tympanitic. Great rigidity of the abdominal muscles. Percussion revealed a circumscribed area of dulness in the right iliac fossa.

Incision made over the area of dulness directly through the muscular structures; the muscle splitting operation not being deemed advisable, as a suppurative appendicitis was diagnosed. On opening the peritoneal cavity there was an escape of a considerable amount of pus. The general peritoneal cavity was packed off with gauze pads and search was made for the appendix. The longitudinal white band of the colon was found and traced in a downward direction to a hard mass situated deeply in the iliac fossa. After breaking up surrounding adhesions the appendix was liberated. On examination it was found gangrenous, with a perforation near its extremity. The cecum was of a grayish-black color. The assistant, on making slight traction on the appendix during the act of ligation, tore the appendix from the cecum, thus leaving a large ragged hole. The necrotic condition of the cecum prevented all efforts in closing the perforation being successful. A portion of omentum was stitched over the opening with interrupted catgut sutures. The abscess cavity was carefully sponged out and gauze and tubular drainage inserted. The external wound was closed in the usual manner.

The following day the temperature arose to 103, pulse 140. Bowels moved with a turpentine enema. The temperature dropped in the course of a few days. Drainage removed five days after operation. There was considerable discharge of pus, which required daily irrigation. The drainage wound healed by granulation. At no time was there escape of feces or pus with a fecal odor. The patient was discharged from the hospital Oct. 17, 1902.

This case illustrates one of the many instances where a fecal fistula is so often the result of a gangrenous appendicitis. Although fistulæ are prone to heal in a short time, a great many lives are made miserable by the permanency of this complication.

Having secured such a favorable result in a case where an intestinal fistula appeared inevitable by the usual surgical treatment, I concluded to resort to animal experimentation in order to investigate the possibilities of omental transplantation. The following experiments are placed in two series:

* Read before the Chicago Surgical Society.

SERIES A.

Experiment 1.—Black terrier, ten pounds weight. Incision made in right iliac fossa. Colon found ingested with a hard substance. Opening made in the colon size of a dime. Extravasation of feces, which was carefully sponged away. Omentum placed over wound and united to intestine with one row of continuous Lembert sutures of silk. The line of suture was one-quarter of an inch from the cut mucous membrane of the intestine.

Experiment 2.—Water spaniel, seven pounds weight. Median incision. Colon filled with fecal material. Opening made in colon size of a nickel, over which the omentum was sutured with one row of continuous Lembert sutures.

Experiment 3.—Black dog, seven pounds weight. Median incision. Opening the size of a nickel made in a loop of small intestine. Extravasation of fluid feces containing bile. Omental transplantation made with a double row of continuous Lembert sutures. Dog collapsed from anesthetic and prolonged artificial respiration was twice required. Dog in bad condition when taken off the table.

The results were uniformly fatal, the dogs in Experiments 1 and 3 dying during the night following the operation, while the dog in Experiment 2 lived only until the following day. Death was due to perforative peritonitis. Thinking that the mortality was due to inefficient suturing, I concluded to do another series of experiments with the continuous Czerny-Lembert suture; also to exercise more care in the technic and prevent extravasation of intestinal contents during suturing by tying off the proximal and distal side of the wounded intestine with strips of gauze.

SERIES B.

Experiment 1.—Dog, weight ten pounds. Median incision. Segment of small intestine seized and fecal contents stripped along the lumen on the distal side. Mesentery perforated with hemostatic forceps in two places. Gauze tapes were introduced and the intestine tied. A portion of omentum was puckered with a mattress suture of catgut to make it a more compact mass. An incision was next made in the intestine the size of a nickel. The omentum was now sutured to the serous surface of the bowel on the posterior side of the perforation, with a continuous Lembert suture. A continuous Czerny suture was next inserted all around, uniting the mucous membrane of the intestine to the omentum, thereby closing the lumen. The Lembert suture was now continued on the anterior surface, completing the operation. The technic corresponds to that of a lateral anastomosis. The temporary constriction of the intestine was removed, the abdominal cavity sponged, and the external wound closed.

Experiment 2.—Dog, weight nine pounds. Median incision. Opening in the small intestine the size of a nickel. Operation same as in Experiment 1.

Experiment 3.—Small dog. Median incision. Opening in the small intestine the size of a nickel. Technic same as in the previous two experiments.

Dogs 1 and 3 died the same day. Dog 2 lived fifteen hours. Death was caused by a perforative peritonitis, as in Series A.

The experiments were done under the most favorable circumstances, as regards the surroundings for doing aseptic work. However, no pretense was made to clear out the intestinal tract by restricted feeding before operation, as was done in the series of experiments performed by Tietze.

The unfavorable results of the foregoing experiments are no criterion of the future value of omental transplantation.

The omentum in the dog is thinner than in man, and the adipose tissue is not as abundant nor as vascular; therefore, not as favorable for plastic work. The stomach is apparently the most favorable portion of the alimentary tract for omental transplantation. By reason of its fixed position, the gastric movements do not place as much tension on the transplanted omentum as is the case with the peristaltic wave of the intestines. The great omentum in this region is also found near its attachment; which may also be a favorable factor. The experimental and clinical evidence, although scanty, is abundant proof of this fact. The cecum is the most favorable portion of the intestinal tract by reason of its slight mobility. It lies in one of the regions most frequently attacked by pathologic processes, and the future will demonstrate the adaptability of omentum for defects which can not be closed by suture. Resection of the cecum or a lateral anastomosis are formidable operations as compared with omental transplantation. Primary transplantation of the omentum in gangrenous appendicitis will greatly obviate fecal fistula, which so often follows the operation.

Until more clinical evidence accumulates, showing that reliable suturing can be done, intestinal transplantation of omentum should not be resorted to unless there is abundant drainage down to the seat of suture, besides walling off the general peritoneal cavity.

I intended to perform a series of experiments making omental transplantation with abdominal gauze drainage, but found it was impossible to do such work humanely, as the dogs would gnaw away such dressings unless they were restrained in a cruel manner.

In operations on the small intestine, the latter should be anchored to the abdominal wall, thereby preventing the peristaltic wave making traction on the line of suture before adhesions have formed. The rapid, violent peritonitis, with the subsequent postmortem findings, showed that this was the cause of death in my six experiments.

The microscopic sections of specimens examined by Tietze and Reering showed that omentum transplanted over stomach wounds would act as structure, over which epidermization would take place from the contiguous mucous membrane. There was also development of glandular elements. In the course of time cicatrization of the mesoblastic omentum diminished the area of the defect to a great extent. Unfortunately, I could not secure a specimen for microscopic demonstration, but believe the same reparative process takes place in the intestine as in the stomach.

CONCLUSIONS.

1. Transplantation of omentum over defects in the stomach is an established operation.
2. Transplantation of omentum over intestinal defects is recommended, but is still in the developmental stage.
3. Transplantation of omentum over defects in the cecum is the most favorable portion of the intestinal tract.
4. Transplantation of omentum over defects in the small intestine should only be done after fixation of the segment of intestine to the abdominal wall.
5. Gauze drainage should be resorted to, excluding the general peritoneal cavity.

BIBLIOGRAPHY.

1. Senn, N.: Experimental Surgery, 1889.
2. Bennett, Wm. H.: Lancet, 1896.
3. Braun: Centralblatt für Klin. Chir., 1897.
4. Roger: Sem. Med., Feb. 23, 1898.
5. Tietze: Beitrage zur Klin. Chir., 1899.
6. Enderlen: Deut. Zelt. für Chir., April, 1900.
7. Reering: Deut. Gesellschaft für Chir., 1902.

A zealous sanitarian says that for every case of typhoid fever some one should be hanged.

FIBROSIS OF THE LARYNX AND TRACHEA.

RALPH W. SEISS, M.D.
PHILADELPHIA.

A fairly extensive search through modern literature has given the writer the impression that the sclerotic type of chronic laryngo-trachitis has received very meager attention, and that most text-book sections on the subject are decidedly hazy in tone. It may be simply said that the condition has long been known to laryngologists under various names, but has been much confused with wholly separate pathologic states, and has but rarely been definitely described. A review of the literature of the subject does not therefore seem specially desirable.

ETIOLOGY.

Laryngo-tracheal fibrosis may be regarded as the final stage of every case of progressive chronic inflammation of this region—but the element of progression is fortunately absent in the great majority of examples. We know practically nothing of the etiology of sclerosis in this, or indeed in any other region of the body. While the causes of ordinary chronic inflammation may be fairly well established, the rapid, steady and inevitable progression of fibroid changes in typical examples of sclerosis is as yet totally unexplained. Its causes originate far back in the molecular life of the individual, and are at present absolutely unknown.

PATHOLOGY.

The pathology of the disease is that of fibroid degeneration of tissues in general; the slow migration of leucocytes, their aggregation and subsequent fibrillization into new connective tissue, the atrophic changes due to pressure which necessarily follow. The movable structures of the larynx are thus rendered more or less stiff, the muscles incapable of performing their work and the characteristic voice is the result. The epithelium lining the larynx becomes squamous and stratified not only on the vocal cords where it normally exists, but on the surfaces which in health are covered with cylindrical cells. This is the dermoid metamorphosis of Foerster, and is characteristic of long-continued inflammation of mucous membranes generally. The close adherence of mucus to the surfaces during life, and the extreme difficulty experienced by the patient in clearing the throat, are, of course, fully explained by these changes. Proliferation of the epithelia may be so pronounced that marked papilla are formed, and these inflammatory papillomata, which usually appear late in the history of chronic laryngitis, are the small laryngeal warts which come on in middle life. This is also the pathogenesis of the pachydermia laryngis, of which so much has been written; the proliferated squamous epithelium being piled up in plates and nodes on the fibrosed submucous tissue.

SYMPTOMS.

The clinical history of the disease is that of long-continued pharyngo-tracheal annoyance, consisting in the early stages of the usual symptoms of ordinary acute, subacute and chronic inflammation in the upper respiratory tract. As fibrosis becomes well established a different train of symptoms begin. Most characteristic is vocal weakness, pure and simple, not due to the presence of mucus or to local swelling, or erosion of cords, but to pure inability to use the larynx in a normal manner for longer than a few minutes at a time. The voice is thin and weak, but not at first hoarse; speaking is soon troublesome or painful, annoying cough appears, and rest is demanded. This laryngeal incapacity is undoubtedly due to the general stiffening of the whole larynx, and direct interference with muscular action by the pressure of new-formed fibrous tissue. Slight cough with purely mucous, rarely purulent expectoration, is a constant symptom in laryngo-tracheal sclerosis; it is most marked on waking in the morning, and in early cases may not again appear during the day. Vague but often very annoying, painful sensations about the larynx and trachea are quite constant. They range from mere paresthesia, described as dryness, stiffness, tickling, etc., to a constant sense of weight and pain. Extreme vulnerability to acute inflammatory attacks is one of the commonest signs of sclerotis laryngitis, and is the usual cause of the patient seeking relief. It seems to be present in all cases, and is so marked at times as to practically invalid the subject. Chronic bronchitis is present in about 20 per cent. of the cases and where it exists cough and expectoration are usually distressing features. Spasmodic asthma is found to some extent in about 10 per cent. of all cases, and fibrosis is more rapid in these than in other subjects. Sclerotic changes may begin in the larynx at any age, but are rare in the young; patients applying for relief are usually in middle life.

DIAGNOSIS.

Direct examination by inspection under modern conditions is the most instructive in this as in other laryngeal diseases. The nasal cavities and pharynx will show more or less fibrosis, generally very marked about the lateral pharyngeal walls. In the laryngoscopic mirror the picture is characteristic, the whole region appears much larger than usual, the larynx capacious and especially easy of examination; the region of the arytenoids and folds are narrowed and thinner than normal, and prominent varicose vessels are often present. The condition of the mucous membrane varies if epithelial changes have been marked, crusting and erosion of the membrane are prominent, but this is less common than the purely interstitial form and the epithelial surface may be but little changed. Any amount of papillation, bosselation or epithelial aggregation may exist, giving the appearances described as pachydermia, the region between the arytenoids is especially apt to show minute papillomata. Very rarely the epithelia may break down over a limited area, giving very shallow erosions or ulcers, but these are by no means characteristic. The trachea is usually very easy of examination by the mirror, and shows widening, yellowish coloration, and often striation, from the characteristic changes. No other throat conditions present appearances in the least similar. The active inflammation and hyperemia of ordinary chronic laryngitis are absent, and the "graying," swollen arytenoids and ulceration of tubercular laryngeal disease are conspicuously absent. The deep red color islets of intense congestion of chronic lithemic laryngitis are not present after fibrosis has well advanced. Auscultation of the trachea and bronchi may show harsh breathing and coarse râles, and cog-wheel respiration is very common.

TREATMENT.

As to the treatment of fibrosis of the larynx and trachea, if any curative measures have been employed the inventors have kept the information to themselves, and the prognosis is always unfavorable as to cure in the present state of our knowledge. Palliation of the symptoms, possibly arrest of the pathologic process, is all that can possibly be secured. New tissue elements

can not, of course, be formed, and therefore restoration of function is not possible. As in sclerosis elsewhere the problem is to prevent further migration of leucocytes and to secure the maximum of efficiency from the remaining normal tissue.

Local applications in the form of sprays or vapors are certainly of benefit; medicines which act as mucous membrane stimulants, but not as irritants, are most efficient. Chloretone, many of the volatile oils, carbolic acid and iodin are most useful; mild alkalies, such as sodium benzoate and borate, are efficient in weak solution for dislodging adherent mucus. All mineral astringents, especially silver nitrate, so long lauded in the treatment of chronic laryngitis, are out of place in this disease, and their use in any condition is exceedingly limited in the practice of the writer. The rather old-fashioned and now much-neglected steam atomizer is especially efficient, and is generally the only apparatus safe to trust to the hands of patients. Internal medication as far as the laryngo-tracheal disease is concerned is idle toil, not the slightest good ever having resulted from such treatment, used alone, under the writer's observation.

Massage, our most valuable agent when dealing with sclerosis higher up in the air passages, can scarcely be used even in the upper regions of the larynx, but may be cautiously attempted in very tolerant subjects. Faradism is of distinct value, the positive pole against the pharyngeal mucous membrane, and the negative over the sternum or held in the patient's hand, is the usual method of employment. A combination of external massage with faradization is very beneficial, one pole being held by the patient, the other by the surgeon, while with his other hand the latter carefully palpates the whole exterior of the larynx. Exercise of the upper respiratory organs by breathing and vocal exercises often does great good, and the improvement of the whole bodily muscular tone by properly directed general exercise is here, as in other forms of fibrosis, often singularly beneficial. Climatic change is always, if well directed, of use, sometimes arresting the sclerosis for a long period. A high altitude commonly answers best, and these cases are nearly always worse at the seashore.

The writer would urge greater frankness to ourselves as well as to our patients in dealing with these and other incurable cases, but believes that very great comfort, lasting for many years, can be secured in even some of the worst examples of chronic fibrosis of the air passages.

THE PATHOLOGY THAT REMAINS AFTER THE NON-SURGICAL TREATMENT OF PERITONITIS.*

H. D. NILES, M.D.
SURGEON TO THE HOLY CROSS HOSPITAL.
SALT LAKE CITY, UTAH.

Faithful followers of the teachings of rational medicine believe that actual disease within the abdomen, as in other parts of the body, always means a pathology, the removal or correction of which is essential to the restoration of normal health; and that the efficiency of any treatment for disease in this region, as elsewhere, should be estimated chiefly by the effect it has in removing or modifying the pathology which produces the symptoms. In the management of peritonitis, where the morbid processes are concealed beneath a rigid or distended abdomen, there are many temptations to lure us from these teachings; and doubtless at times we all find ourselves reading, discussing, or perhaps practicing treatments which, in the light of the revelations of the modern operating-room, we must know are contrary to sound surgical principles and common sense.

I believe that we are especially prone to fall into these errors in our consideration of the remote dangers and distresses of peritonitis. Absorbed in our efforts to avert the immediate danger from sepsis, we are inclined to forget that the sufferings and deaths from recurrent attacks and adhesions are, in the aggregate, vastly greater than those occurring in primary attacks of acute peritonitis; and that the pathology remaining after the non-surgical treatment of peritonitis is not a myth, but a distinct, definite reality, which is directly responsible for this mortality and misery.

Bedside, laboratory and dead-house studies of this pathology and its causative relation to abdominal symptoms are instructive and interesting; but I believe that our most impressive and convincing lessons are to be learned in the operating-room, and that our perfected treatment of the future will be evolved from the gradually accumulated findings and conclusions of those who have frequent opportunities for observing these morbid processes in life.

The conclusions, briefly stated below and offered for your consideration, have been suggested or confirmed by my own operating-room observations. For the sake of brevity and clearness, these conclusions are compressed into the fewest possible words, free from statistics, case-notes, or quotations from authorities.

Ninety-five per cent. of all the survivors of the non-surgical treatment of peritonitis are left with infection without the peritoneal cavity and adhesions within the peritoneal cavity. Well-known anatomic peculiarities of the gall bladder, appendix, and fallopian tubes favor the reception and imprisonment of infection from the alimentary canal and endometrium and its extension to the peritoneum. Consequently, it is about one of these organs that we usually find the pathology, unless it has been mechanically removed. The greatest amount of infection comes from a sudden rupture of an appendiceal or tubal abscess, or a perforation of the stomach, an intestine, or the gall bladder. The most virulent infection is either appendiceal or from a pyosalpinx, following a puerperal endometritis; the mildest is from a cholangitis, or a gonorrheal salpingitis.

Since the infection of an appendicitis or a pyosalpinx has no outlet through natural channels, and in inflammation of the bile ducts and gall bladder there is usually some drainage through the common duct, we usually find in the first mentioned diseases the local and general symptoms are pronounced and unmistakable, while in the latter (in the absence of gallstone seizures) the symptoms may be very obscure and misleading. When the infection reaches the outer coat of one of these organs, peritoneal adhesions are formed as a part of Nature's defense against the invasion of a microbic foe.

My own experience would lead me to believe that about 40 per cent. of the possessors of this pathology (infection and adhesions) suffer from recurrent attacks of acute and subacute peritonitis, and less than 1 per cent. from mechanical obstruction of the bowels.

It is to the remaining 59 per cent. that I invite your particular attention at this time; for, while it has been customary to point to these cases as sufficient proof of the efficiency of the drug treatment of peritonitis, I believe that all fair-minded, thoughtful observers are learn-

* Read at the twelfth annual meeting of the Western Surgical and Gynecological Association, held at St. Joseph, Mo., December 29 and 30, 1902.

ing to regard the pathology these patients carry within their abdomens as responsible for much distress and many deaths that we all formerly attributed to other causes, or were unable to trace to any well-defined cause.

It is difficult to conceive how this or any other pathology within the abdomen and outside of the alimentary canal can be removed or permanently modified by the application of drugs to the inner coat of the stomach or intestines or to the skin covering the abdomen; and, to my mind, it seems unreasonable to assume that the gall bladder, appendix, or the fallopian tube can continue to harbor infection and the patient be exempt from those general and local symptoms that accompany imprisoned infection in other parts of the body. Among the results that are commonly overlooked or misinterpreted are subacute local inflammations, mild systemic infection, chronic rheumatism affecting the joints, tendon sheaths, and, occasionally, the pleura, endocardium, and pericardium, and metastatic abscesses.

If we should make it a rule in examining every patient who has had peritonitis and apparently recovered without the mechanical removal of the primary cause, to drawn a line from the end of the tenth rib on the right side to the umbilicus, and another line from the anterior superior spine of the ilium to the umbilicus, and a third (if the patient is a female) from the middle of the second line to the spine of the pubes (each side), and then apply deep and direct pressure over the center of each of these lines, the existence and situation of a pathology would be, in nearly every instance, demonstrated. Such information would furnish us with an explanation of the symptoms of mild systemic infection, from which such patients often suffer.[1]

Just how much and how little general absorption may take place from a low-grade infection of the appendix, gall bladder or fallopian tube is impossible to determine, but that some lives are shortened in this way and many made miserable, is undoubtedly true. When we meet with patients suffering from symptoms that may be due to a mild toxemia of obscure origin, such as febrile and circulatory disturbances, gastro-intestinal disorders, headaches, fugitive pains, malaise, and others equally significant, we should always include in our examination those organs which are most likely to harbor the source of such a systemic infection.

For example, we know that rheumatism is often associated with appendicitis and peritonitis as well as with posterior urethritis; and, of late, we frequently hear of a rheumatic peritonitis or a rheumatic appendicitis, but never of a rheumatic gonorrhea. The fact is that rheumatism is not an uncommon consequence of septic absorption, and must be counted as one of the not infrequent remote results of the non-surgical treatment of peritonitis. It is surely inconsistent to conclude that infection in one part of the genito-urinary tract is a cause of rheumatism, and that in another or even in the gall bladder or appendix, it is the result of uricacidemia.

To perform their physiologic functions perfectly, the stomach and intestines require the greatest mobility their anatomic attachments permit, and any band of adhesion that fixes, binds, or drags on them or that impedes or prevents their free movements always means a departure from health, and is usually attended by more or less distress and danger.

Post-operative adhesions, however firm and strong, are usually absorbed if the primary infection is completely removed; but no dietetic measures, drug treatment or rest cure will prevent the formation of adhesions or materially influence the absorption of those already formed, so long as the original infection is retained. In other words, the presence or absence of infection determines whether existing adhesions shall be absorbed or strengthened and multiplied. In operative work, the presence of adhesions about the gall bladder, appendix or fallopian tube is more reliable and tangible evidence of existing infection than any available microscopic or bacteriologic proof.

Guided alone by our observations during operations, I think that we may assume that either in the right upper quadrant or in one of the two lower quadrants of the abdomen, adhesions remain and produce symptoms more or less grave, in nine-tenths of all the cases after the non-surgical treatment of peritonitis. This pathology produces symptoms so variable in intensity and so misleading in character that unless one is impressed with its frequent occurrence and bears well in mind the anatomic relations and physiologic functions of the near-by organs, he is almost certain to attribute the symptoms to other and wrong causes.

Gastric symptoms are rarely absent, since the omentum is almost invariably involved in a way to drag on the stomach. Constriction about the pylorus with dilation of the stomach is not an infrequent result of gall-bladder adhesions with a long list of gastric and reflex symptoms. In the majority of these cases, the true condition is not suspected, or, at least, demonstrated, since, unless life is in jeopardy, one does not often feel justified in opening the abdomen except the diagnosis be quite clear. Within the past few years, however, in a number of cases where the symptoms have been especially striking, the true diagnosis has been made, and the patient relieved by surgical measures. I have recently operated four times with satisfactory results, where the symptoms, produced by adhesions, pointed strongly to cancer or ulcer of the stomach.

Partial occlusion of the colon with or without a connecting sinus may occur when the gall bladder becomes attached to the hepatic curvature of the colon.[2] Bands from diseased uterine appendages may encircle or angulate the ileum, when perhaps no history of recent pelvic disease exists to guide one. Involvement of the cecum and ileum are common after appendicitis and right pyosalpinx; while the sigmoid is nearly always implicated when the primary peritonitis has arisen from a left pyosalpinx.

It can not have escaped the observation of operators that ulcers of the stomach and intestines occur almost invariably in those parts that are most dependent or in those that are dragged on by adhesions. Doubtless long-continued functional inactivity detracts from the vitality of the part and favors degenerative changes. It is equally true that the preferred site of malignant disease is about the former situation of an inflammatory process. Just as the cracked lip, the fissured nipple and the lacerated cervix seem essential to the development of cancer in those parts, so the selected regions for inflammation in the abdominal cavity seem to mark the favored sites of malignant disease, as the pylorus, duodenum, rectum, sigmoid, cecum, hepatic curvature, etc. If these facts be as true as operative experience would seem to indicate, we must count the pathology that remains after the non-surgical treatment of peritonitis as a

1. I reported one such case in the March Annals of Surgery, where the infection came from a gall bladder filled with gallstones so situated as not to produce any characteristic paroxysms of pain.

2. One case of my own of this kind was reported in the March Annals of Surgery.

strong predisposing cause of ulcer and cancer, and in estimating the advantages and disadvantages of either method of treatment, due weight should be given these facts.

As in my recent work, I have compared the opinions formed at the bedside with the actual conditions disclosed on the operating table. It has seemed to me that we are only just beginning to comprehend the remote results that may follow the non-surgical treatment of peritonitis and that no itemized list of symptoms produced by this infection and these adhesions will serve to give us an adequate idea of this pathology and its ill consequences; but that our clearest conception must come from a realizing sense of its relative frequency, as compared with other morbid conditions within the abdomen, the history of one or more attacks of peritonitis, the results of palpation, and the exclusion of other causative factors, combined with our familiarity with the anatomy and physiology of the parts involved.

Beyond the reach of drugs, electricity, massage, or dietetic measures, more common than cancer and ulcer combined, often mistaken for either, a predisposing cause of both, capable of producing any abdominal symptom or set of symptoms in the category from those of the mildest functional disturbance to those of well-advanced malignant disease, surely we have here a pathology that needs to be taken into the strictest account not only by surgeons who undertake the rational treatment of acute peritonitis, and are often called on to decide for or against operative interference, but by all of us when we are striving to search out the primary causative factors and associated symptoms of any obscure chronic disease or distress within the abdomen.

THE USE OF A MYDRIATIC AFTER THE AGE OF FORTY-FIVE.*

HORACE M. STARKEY.
CHICAGO.

In discussing this topic it will be well to keep in mind the distinction between mydriatics and cycloplegics, remembering that the former, in so far as they are mydriatics only, dilate the pupil without affecting the ciliary muscle, and that the effect desired in the latter is to suspend the action of the ciliary muscle and so paralyze the accommodation. While there is no known cycloplegic which does not at the same time dilate the pupil, there are mydriatics which have but little effect on the accommodation.

It is probable that our committee, in arranging the subjects for special discussion at this time, had more particular reference to the use of a cycloplegic in refraction work after the age of 45, but the writer has had no intimation that this is the case, and the topic will receive a somewhat broader treatment. While the main discussion will center about such use of cycloplegics, the use of both mydriatics and cycloplegics for various purposes after middle life will be briefly considered.

THE USE OF A MYDRIATIC.

a For ophthalmoscopy and *b* for retinoscopy.

a Concerning the use of a mydriatic for making more thorough examination of the peripheral portions of the lens, the other media and the fundus there is perhaps no difference of opinion. We all probably use a mydriatic for this purpose at any age without the slightest hesitation, unless we find symptoms of glaucoma present. In the latter case even we may consider the additional information gained of sufficient importance to warrant the use of a mydriatic for a sufficient time to make an examination and then follow it with a myotic, which shall counteract any unpleasant effect that might follow dilatation of the pupil.

b The same rule of action probably governs the use of mydriatics in making the shadow test to determine the refraction. This is, in the writer's judgment, by far the most valuable objective test for refraction at our command, and yet in many cases, particularly in old people in whom the pupil is apt to be small, its accurate application without artificial mydriasis is impossible. In such cases, with the precautions mentioned above, a mydriatic is indicated.

NECESSITY OF A CYCLOPLEGIC IN CERTAIN CASES BEYOND THE AGE OF 45 FOR ACCURATE REFRACTION.

On this point one would expect to find differences of opinion, as there are differences of opinion concerning the necessity of using a cycloplegic for refraction work at any age. To test their theory and practice in this regard the writer sent one hundred letters of inquiry to prominent ophthalmologists throughout the country. The number and promptness of the replies and the interest shown in the subject are most gratifying.* To those who so kindly contributed to this paper the writer wishes at this time to express his sincere thanks.

The writer has for many years believed that better and more accurate refraction work can be done for most patients under 30 by putting the accommodation entirely at rest at some time during the examination, and it is his practice to urge this procedure in all but the most simple cases. Beyond the age of 30, the proportion for whom a cycloplegic is required rapidly diminishes, and by the time 45 is reached such cases are exceptional, and yet in the exceptional cases the indication is as positive for cycloplegia as in those of any age. Since the suspension of accommodation in the aged is due to hardening of the lens and not to paralysis of the ciliary muscle, it is difficult to fix a time beyond which a cycloplegic could never be of advantage. We occasionally find the ciliary muscles of eyes that have lost practically all accommodation still tugging away in an effort to correct an annoying astigmatism, and the suspension of the function of these muscles will sometimes disclose conditions not otherwise discoverable.

The writer did not suppose that a cycloplegic is used in more than 1 or 2 per cent. of his refraction cases after the age of 45, but on running back over his records he finds that of 194 such cases seen in private practice in the past two years a mydriatic was used in 38 cases and a cycloplegic in 14. Of the latter scopolamin was the cycloplegic employed in 9 cases, none over 50 years old, while homatropin and cocain were used in 5 cases, one of which was 55. Homatropin and cocain were used in one patient aged 50, and as the accommodation was not entirely suspended scopolamin was employed later. That there are such cases that can not be as well corrected with all available tests without cycloplegia he is fully assured. It is possible that if patients could be seen and studied repeatedly that proper correction might

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

* Since we all like to have others think as we do, it is an additional source of gratification to know that the practice of so large a proportion of those replying coincides as closely as it does with that of the writer. The abstract of this paper [in the program of the Saratoga meeting] was sent to the Editor of The Journal before those answers were received, but a very large proportion of them show a practice almost identical with that outlined in that abstract.

in all cases be ultimately given. But a large proportion of the writer's patients come from a distance, observation is only possible for a day or two, and the patient can not return in a few weeks for change if the first lenses are not satisfactory. Hence it is necessary that he should learn all that he can about the eyes at once, and this can not be done in these exceptional cases without cycloplegia.

INDICATIONS FOR CYCLOPLEGIA.

The indications for cycloplegia in these older patients are asthenopia, inability to secure as good vision as the condition of the eye would seem to warrant, lack of agreement between the results obtained by the test lenses, the ophthalmometer and the shadow test and general uncertainty of tests for astigmatism and hyperopia. It has seemed as if cycloplegia were more apt to be required in anisometropia than in other cases, and also in very nervous patients.

THE USE OF A CYCLOPLEGIC IN PATHOLOGIC CONDITIONS.

There are other cases where doubt as to the desirability of using a cycloplegic is put at rest by the condition of the fundus, when, as has been so well shown by Dr. Risley, the eyes are irritable, the choroid and retina showing slight changes and the edges of the discs blurred, the accommodation should be put completely at rest, not only for a most careful study of the refraction, but also for the good effect that this rest will have on the general condition and nutrition of the eye. In some of these cases seen long ago, where cycloplegia had been used as a therapeutic rather than as a diagnostic measure, such a difference was found between the apparent and the real refraction as to demonstrate conclusively to the writer that the suspension of accommodation is sometimes necessary for accurate refraction work after the age of 45.

Of the necessity for a cycloplegic in cases of iritis and similar inflammatory diseases even after 45, there is no question, and yet many of these cases are among the most perplexing that come before us. Given the symptoms of a moderate iritis in an elderly person, the eye having shallow anterior chamber and rather high tension, one is under the greatest anxiety as to what it is best to do at first. The writer's practice in such cases is to instill a weak mydriatic and if the pupil responds readily and is round he concludes that iritis is probably not present, and so at once uses eserin. If this is followed by relief of the symptoms present the myotic is continued; otherwise homatropin or scopolamin may be used and the effect closely watched.

A word as to the drug habitually used by the writer and his associates in inflammatory conditions requiring a cycloplegic in elderly people. Some six or eight years ago we commenced to employ scopolamin solution in some of these cases because of its supposed freedom from danger. While it is uncertain that there is less danger of increasing tension with scopolamin than with other active cycloplegics, it has been found to produce less irritation and so is used in preference to atropin in most cases in elderly people, and in many cases of traumatism, of ulceration of the cornea and of kerato-iritis even in the young.

THE DANGER OF INCREASING THE TENSION OF THE EYE BY THE USE OF CYCLOPLEGICS.

That the use of a cycloplegic in a perfectly healthy eye has ever induced glaucoma has long been considered very unlikely by the writer. But that such use will induce in a mild, chronic glaucoma a severely acute attack, or that even a weak mydriatic will increase tension in an eye tending to glaucoma he has not the slightest doubt. The writer has not been so unfortunate as to have had a case of acute glaucoma follow the use of a mydriatic or cycloplegic at his hands, and the only case of increased tension recalled is one that he has had under observation for the past sixteen months, a case of chronic glaucoma where the tension was marked + ? at the first examination, where the anterior chamber was rather shallow and where the pupil was so small that no adequate study of the interior of the eye could be made. In this case it was deemed advisable to instill a weak mydriatic that the internal conditions might be studied. Such instillation, while not causing unusual dilatation of the pupil, was followed at once by decided increase in tension, which increase was very hard to reduce by eserin and pilocarpin. There had been no pain in the eye before, nor has there been any since. The tension has tended toward +1 most of the time since, though fairly controlled by eserin, and the sight has gradually failed. Operative interference has been steadily refused. The writer has always exercised and taught others to exercise the greatest care in regard to the tension of the eye even in the young when cycloplegia is necessary either for diagnosis or treatment.

CURRENT LITERATURE.

Reference to current text-books shows remarkably little written about the advantages of the use of mydriatics or cycloplegics in those over 45 years old, and relatively little on the dangers of such use. Below is given either in full or in abstract all the references found in a somewhat careful search.

1. FUCHS, in his text-book, page 372, says mydriatics can excite an inflammatory attack in eyes already predisposed to it, and that not only the powerful mydriatics, like atropin, but also homatropin, and even cocain. On page 387, he says mydriatics are as prejudicial in glaucoma as the myotics are useful. On page 281, he also refers to the intolerance to atropin observed in many persons. It may manifest itself by 1, the development of toxic symptoms, such as dryness in throat, nausea, etc.; 2, by the production of so-called atropin catarrh; 3, by marked swelling and redness of eyelids, resembling erysipelas, even from minute doses in some cases.

2. CLARKE says positively mydriatics should not be used in acute glaucoma. He refers especially to the frequent confusion of glaucoma and iritis, remarking that many a glaucoma which might have been cured in its early stages had it been recognized, is treated with atropin and the eye irretrievably lost. He gives a table of the differential signs between glaucoma and iritis. In glaucoma with secondary iritis we do not see the acute form, he says, and atropin will probably do little, if any, harm, as the pupil will probably not dilate because of adhesions. In such cases use homatropin carefully. If it is necessary to dilate the pupil in elderly persons in order to make a more thorough examination of the lens, etc., it is wisest not to use atropin. Homatropin will answer the purpose just as well and is much safer.

3. SWANZY: The only reference to action of mydriatics in old persons in Swanzy's recent text-book is on page 340, where he says that atropin and all mydriatics bring on glaucoma when there is already a tendency to it.

4. CHAS. H. MAY, speaking of mydriatics and cycloplegics, says (page 328), that a cycloplegic is indicated in the estimation of the refraction in all cases of children and young adults, in many cases between the ages of 35 and 45, and occasionally between 45 and 50, when the previous determination of the refraction without paralysis of accommodation has been unsatisfactory. Before using these agents in elderly persons any suspicion of glaucoma must be excluded.

5. NETTLESHIP says (page 299), atropin has sometimes caused an attack of glaucoma, because, by lessening the width it increases the thickness of the iris and so crowds it into the angle of the anterior chamber.

6. Chalmers Watson says (page 104), mydriatics are contraindicated where there is the least tendency to increased tension. This must be particularly attended to, especially in elderly subjects. In a second place (page 897) he states that they are contraindicated in inflammation accompanied by glutinous secretion. In such cases atropin does not act well.

7. Snellen (in Norris & Oliver's System, Vol. II, page 36), says of atropin, that, in normal eyes, it hardly if ever affects intraocular tension. In glaucomatous ones it may produce an attack of glaucoma. Great care, therefore, should be taken not to employ atropin too freely in eyes that are predisposed to glaucoma, as in old people with shallow anterior chambers.

8. Geo. M. Gould, in an article on "The Ophthalmoscope and the Art of Ophthalmoscopy," in Norris & Oliver's System, page 79, says that after the eyes have been examined by other simple methods we have to decide whether or not we shall use a mydriatic before proceeding with the examination by aid of instruments. This decision will be governed by many considerations. In patients over 50 years of age we really do not need to use a mydriatic in order to diagnosticate the existing errors of refraction, and in such cases, therefore, we shall rarely need to widen the pupil for purposes of ophthalmoscopy.

9. Priestly Smith, in his article on glaucoma in the same system (Vol. III, page 672), remarks that atropin is harmful precisely in those conditions in which eserin is useful; it induces high tension by dilating the pupil, slackening and throwing the iris into folds and thereby helping to obstruct the filtration angle. The choice between a myotic and a mydriatic is not always easy to be made; one or the other must be employed tentatively, re-examining the eye at intervals.

10. E. Jackson (article on "Methods of Determining the Refraction of the Eye) says, page 210, that as cocain possesses little or no power to paralyze the ciliary muscle, it may be useful to dilate the pupil in persons over 50 years of age, whose pupils are small and whose power of accommodation is not sufficient to interfere with tests for refraction.

11. Terrier: There are cases to be met with in practice where it is clear that atropin is absolutely contraindicated on account of the fact that this mydriatic tends to raise ocular tension. Notwithstanding the experiments of Pflüger, Wagner, Adamück and Grünhagen have shown that on animals or the normal eye this does not hold, nevertheless clinical experience teaches that unfortunate results follow the use in inflamed and glaucomatous eyes. Wherefore, we have to be extremely cautious in its use always for fear of stumbling on such a case. Atropin is to be interdicted in glaucoma of all forms. If in doubt, it is better not to use atropin, or at most to use cocain, which, while dilating the pupil will not have regrettable result of increasing tension and inducing a subacute attack of glaucoma.

In old persons, also, in whom the sclerotic has become very rigid, the use of mydriatics will have the same tendency to provoke glaucomatous complications; we should, in such cases, abstain from use of atropin, especially when we have to do with a hypermetropic eye—this being the kind particularly exposed to this danger.

As to the employment of atropin for ophthalmoscopic examination, our author remarks that in certain persons, especially in aged subjects, it is very difficult, sometimes, on account of the small punctiform pupil, to see all the details of the fundus without their use. The use of atropin in such cases is common, but it is a bad practice. In all such cases if a mydriatic must be used it should be cocain.

12. Peltier lays stress on the dangerous effects of atropin in producing glaucoma. It causes the condition, he thinks, by its influence on nutrition or on the blood supply of the eye, producing a venous stasis and augmentation of intraocular tension, and not by constituting a simple obstacle to the filtration of liquid, as some hold.

13. Kalb says the physician must never forget that in prescribing atropin he is making use of a drug not without its dangers. In old persons great care must be taken not to confuse iritis and glaucoma, and it must be remembered that glaucomatous symptoms sometimes supervene in the course of an ordinary iritis.

14. Satterlee reports a cases (age not stated) in which glaucoma of both eyes was produced evidently from misuse of atropia instillation, and remarks that indiscriminate use of atropia is dangerous, for it must be remembered that glaucoma may occur at almost any age after puberty and following injury even younger. He had once a case of glaucoma in a boy of 9.

15. Grimsdale reports two cases of glaucoma following instillation of atropin which he thinks are interesting for the reason that the increase of tension did not come on while the atropin was being instilled, but at a period of considerable number of days after the drug had been discontinued, when in fact the physiologic effects must have been passing off. Grimsdale could find no other such reports in history, but thinks they are common, as his two cases occurred within nine months. This may explain his cases: Excretory channels were contracted under atropin; on stopping its use the ciliary glands resumed their normal output and the efferent channels were no longer sufficient.

16. H. Knapp reports a case in which two drops of 7.5 per cent. solution of hydrochlorate of euphthalmin brought on a more immediate and pronounced attack of glaucoma than the author had ever seen follow the instillation of any other mydriatic. The patient was a man aged 62, left eye blind from absolute glaucoma; right V.=20/40 with +1C ax. horizon 20/20; pupil, field of vision and tension normal, noticed diminution of sight recently in R., and pain in L. eye; lately had seen blue rings around lights; found anterior chamber of right eye shallow. Used 2 minims of solution mentioned in each eye. During next 15 minutes tension increased in both eyes; in right it was +2 fully, cornea steamy, eye painful, pupil dilated ad maximum, optic disc distinctly but not completely cupped, and marked halos were seen around light. The glaucomatous symptoms in right eye disappeared in about 30 minutes under the use of 2 per cent. solution of pilocarpin, followed by 1 per cent. solution of eserin; the left blind eye was also relieved. A few days later he performed glaucoma iridectomy on right eye. Knapp found euphthalmin up to this time generally free from hypertonic action and used it indiscriminately on glaucomatous eyes.

17. J. M. Hull reported the case of a man (age not stated) who had been injured about the eye by a blow. Physician who had been consulted ordered a solution of atropin grs. ii to ℥i, two or three drops in eye three times a day. Maximum dilatation was produced within 30 minutes after first instillation. The drops were kept up for six weeks. At the end of that time examination showed right (injured) eye had fixed pupil, glazed appearance, cloudy aqueous, sensibility of cornea diminished and globe distended and hard, vision diminished to light perception, ophthalmoscope revealed a cupped and white nerve. Vision of other eye good.

18. E. J. Brown reported the case of a man aged 61, with asthenopia and nervous symptoms, who had had trouble with eyes since childhood.

V.O.D. 20/200 with —2⌒50 cyl. ax. hor. =20/20.

V.O.S. 20/50 with —2 cyl. ax. 60 degrees nasal =20/30.

Right hyperphoria 1 degree, esophoria 5 degrees at 13". exophoria 6 degrees.

Prescribed one drop of solution of atropin, 4 grs. to ounce, morning and evening. When seen three days later no change except a change in axis of right cylinder from horizontal to 60 temporal. After four days he was seen again and complained of colored halos around light; prescribed 2/5 per cent. solution of eserin. Both fields slightly contracted, especially upper and lower quadrants; L. more than R. Seen again four days later, pupils still moderately dilated, L. cornea less sensitive than right. Arterial pulsation (not venous) on pressure and slight increase of tension in left. Symptoms subsided under use of eserin.

19. Coggin: Patient, woman aged 68, complained of failing sight for one year. No pain. Pupils and fundus normal. Field of vision good. Instillation of drop of atropin solution (gr. ½ to ounce), with improvement in right eye, and patient was advised to use same solution whenever she liked. Four

days later patient had all symptoms of glaucoma in right eye. Iridectomy was declined, 2 per cent. solution of eserin was used and within half hour pupil was well contracted. Four days later eye was quiet, still red. T. +1. V. fingers at 0.75. Pupil irregularly contracted with +1.50=Sn. VI at 4. with O.S. and again since consultation.

20. W. J. CANT: Patient, a nervous woman aged 65, who had severe pain in head and right eye, preventing sleep. On examination eye was found to be quite blind and tension greatly increased. T. +3; two iridectomies had already been performed without relief; then excision performed by author. Occasionally slight pain in left eye, with rainbow rings round a light; relieved by solution of eserin.

A few weeks later he found lens opaque, but no glaucomatous symptoms. Iridectomy; cornco-sclerotic. Section was made in upper segment and large piece of iris removed; eye few days after free from irritation.

Eleven days after operation patient, by mistake, used atropin drops, which happened to be in the house, with result of bringing on acute glaucoma. Seen next day, tension increased, sclerotic injected, violent pain in eye and head with constant feeling of sickness. Eserin again was ordered and in a few days all glaucomatous symptoms disappeared.

21. HINSHELWOOD: If we may believe Hinshelwood, who substantiates his opinion by the recital of an interesting case, it is not atropin only that can precipitate an attack of glaucoma. Most of the authors have spoken of cocain as a safe mydriatic as regards this affection. It was advocated by Groenouw of Breslau, at a meeting of the Ophthalmological Society at Heidelberg in 1897—not as a substitute for iridectomy, but as a useful symptomatic remedy, which combined the mydriatic action of atropin with the tension-reducing action of eserin. In the discussion which followed this paper his views received a certain amount of support.

The patient was a woman aged 50, with six diopters of hypermetropia, very contracted pupils, headaches, neurotic, used 2 per cent. solution of cocain. The same evening she began to have intense pain in right eye, vomiting, and next day right eye was found to have all symptoms of glaucoma. Author thinks no doubt dilatation of pupil was immediate cause of glaucoma in the eye already predisposed to it.

Holocain is advocated by him as the drug to use in glaucoma; it is an anesthetic which neither elevates tension of globe nor dilates pupil, and is, therefore, especially fitted for treatment of such cases, having all the pain-relieving qualities of cocain without its dangerous effects.

22. DYER, in "On the Use of Atropia in Diseases of the Eye" (1882), says: "Atropia is not a panacea and can not be used freely in all inflammations of the eye. It is often a decided irritant to the inflamed conjunctiva and should never be used without positive indications."

23. ROBERTSON, in "Sulphate of Atropia and Its Uses in Eye Diseases by the General Practitioner" (1893), quotes Fuchs as saying: "Too much caution can not be inculcated in regard to the senseless employment of atropin, which, unfortunately, is still carried on by many general practitioners, who instill atropin in every kind of eye disease. In many cases, i. e., conjunctival catarrh, atropin is not only superfluous, but also causes the patient annoyance through disturbance of vision, connected with its use; and in eyes which have a tendency to glaucoma, atropin may actually inflict a great injury by determining an attack of acute glaucoma. Accordingly, atropin should be employed on quite specific indications, should be applied no oftener than is requisite to obtain just the results desired. Even in iritis, atropin is useless if the pupillary margin is adhesive to the capsule throughout, and the iris hence can not retract."

Robertson says: We are hereby warned on such good authority in regard to the senseless employment of this valuable drug, but after sixteen years of daily experience in treatment of eye diseases, we have failed to see the first instance of fatal injury from its use. While on the other hand, all have seen eyes partially or totally deprived of sight by seclusion of the pupil and other inflammatory sequelæ that might have been prevented by the timely use of atropin.

On the head of the general practitioner usually falls the blame when an individual by any chance loses the sight of one or both eyes. The blame is laid on him by the people who claim they consulted the physician and the eyes were allowed to go blind; by the specialists who assert that had the eyes been treated properly blindness would not have occurred.

Inquiry would elicit the fact that the iris is allowed to contract and form adhesions in all parts, when an early dilatation would have resulted in ultimate cure, or in a condition in which an operation might alleviate.

Atropin accomplishes several things. It dilates the pupil, and so prevents adhesions; it paralyzes accommodation; it relieves neuralgic pain, promotes absorption of inflammatory exudate, reduces capillary congestion and frequently cuts short the disease. It may tear loose recent synechia. The writer advises atropin in all injuries involving cornea, iris, sclera, lens capsule, lens, ciliary body and choroid. He sums up his article by stating that too little rather than too much atropin is used; that it is better to err on the side of using it when not needed than vice versa.

(To be continued.)

PRESCRIPTION REPETITION AND ITS DANGERS.

WILLIAM C. ALPERS, Sc.D.
NEW YORK CITY.

If there is any part in the physician's vocation where ethics and commercialism may conflict it is in the writing, dispensing and renewing of prescriptions. The prescription forms a bridge from the one to the other and, after leaving the office, is apt to remind the writer that pure ethics are good theory but sometimes poor practice. The piece of paper that the patient receives has a positive value; it may be negotiable and bring success or failure. It may be a source of profit to the pharmacist, a fountain of relief and comfort or disaster to the patient, and a means of building up a new reputation or shattering an old one to the physician. It is therefore natural that all three, the physician, the pharmacist and the public, should largely be interested in the prescription, and each one watch over it in his own way.

The question who owns the prescription after it has passed into the hands of the patient is one that has been argued many times, and a satisfactory solution has not yet been found. The physician who writes a prescription does not intend to give his advice forever, or to put on paper some new and finite product of his brain, as, for instance, the architect does when he sells the plan of a house. The prescription is given for one certain case only, and is not intended to apply to any other case. It goes to the pharmacist, who, according to custom, keeps it on file. In some countries it is compulsory for the pharmacist to keep the original for a certain number of years. In the United States the pharmacist generally keeps the prescription, but returns it to the customer, if the latter so desires, and always makes a copy when requested. The pharmacist may therefore be called the guardian of the prescription, but can make no claim to its ownership. The patient, as a rule, believes that the prescription is his property; in his mind it is the thing he paid for, and he claims to have the right of renewal whenever he pleases. To tell the patient that he has no claim of ownership would be resented most decidedly in most cases, and result in the withdrawal of his patronage if enforced. Custom, the most powerful factor in many economic arguments in the United States, certainly is on the side of the patient in this question.

There is a number of judicial decisions on record about the ownership of prescriptions; but far from set-

tling this vexed question to anybody's satisfaction, they rather increase the confusion by their contradictions. In one state the pharmacist was declared to be the owner, in another the physician, in a third the patient. Nor was the train of logic by which the learned judges arrived at these decisions always the same, and in some instances contrary to the arguing of ordinary mortals. In one case the judge decided that the evidence shows that the patient received a piece of paper from the physician, for which he paid a fee. He therefore became the owner of the piece of paper and has the right to do with it whatever he pleases. It would be interesting to hear this judge's decision on the question, "Who owns a prescription that was remitted to a druggist by telephone, the druggist or the telephone company?"

It is the writer's opinion that the physician alone can be called the owner of the prescription, and he is the only one to decide about its renewal or copy.

The query as given by the committee reads "Prescription Repetition and Its Dangers." The word "dangers" is unrestricted, it must therefore be applied to all three parties interested, the physician, the pharmacist and the public. That, under certain conditions, there is much danger for the physician in the indiscriminate renewal of prescriptions needs no argument. As was stated before, the prescription is, as a rule, given for a certain case, the physician not only determines the nature of the medicine, but also the quantity, and an excess can not only interfere with the progress of convalescence, but often cause serious damage. There are a number of drugs in our materia medica whose action will be beneficial if used under certain conditions, but injurious if continued indiscriminately. Every practitioner knows the beneficial influence of digitalis in certain cardiac disorders, but is also aware of the great danger attending its continued use. Nor is this all. Patients sometimes have the same prescription renewed after a long lapse of time, thinking they are ailing from the same trouble as before. And more than that, some of their friends may complain to them and they at once assume the right and ability to diagnose the case, and tell them to get such and such a prescription that their physician gave them, and that worked a wonderful cure.

In the renewing of prescriptions the pharmacist is often accused by the physician to be only too willing to consent to a renewal. Now it may be that some pharmacists are so mercenary that they will do anything for the sake of earning a few cents, but it is also true that the better class of pharmacists is not inclined to renew prescriptions indiscriminately, particularly where they are of a dangerous nature. The pharmacist is, however, between two fires. If he positively refuses to renew a prescription he is sure to lose trade, and he is not always sure that he does the physician a favor by so refusing. The writer, in his long career as pharmacist, has met many a physician that told him distinctly never to renew a prescription without his consent; but nearly without exception the physician would some day come into the pharmacy, asking, "Do you know that you did me great harm by offending Mrs. Blank. She wished the renewal of a prescription, and was much offended by your refusal." "Why, Doctor, but you told me yourself never to renew a prescription without your consent." "Yes," he would say, "but you must use discrimination. This lady is one of my best patients, and it will not do to offend her." It must also be said that in many cases the physician will give a prescription to a patient and state distinctly, "If your trouble returns have this renewed." It is therefore very unfair to expect a pharmacist to refuse renewal of prescriptions, for as long as the custom for renewal is so prevalent as it is in this country it is impossible to fight against it.

The greatest danger in prescription renewing lies with the patient. Only too often the sick will persuade himself for the sake of saving a physician's fee that his ailment is the same as the one of six months ago, and simply have his old prescription renewed. Or he noticed a temporary relief and foolishly considers this a cure, taking the medicine again and inclining naturally to gradually increased doses. Thus drug habits are formed, and the supposed blessing of the renewal of prescriptions is in reality a hidden curse that slowly but surely undermines his health. How many opium fiends have thus been made, how many cocain victims have thus been created, is beyond possibility of computation; but that much misery has been spread and nourished in this way is without question.

It will thus be seen that but little, if any, benefits can be ascribed to the renewing of prescriptions, but the dangers are manifold to all, the physician, the pharmacist and the patient.

If the renewal of prescriptions is an evil, the remedy alone lies with physicians. They should bring sufficient influence in the legislature to prevent by law the renewal of prescriptions without the prescriber's consent, and the pharmacist would willingly follow. With the refusal to renew should also go the refusal to give a copy, for as long as a copy is given, or the original returned to the patient, he may get the medicine from some other druggist, and accomplish his object in that way. Some physicians would answer that the best remedy lies in self-dispensing and avoid the writing of prescriptions entirely, and let the patient return when he wants more medicine. This argument, however, works both ways. The busy practitioner has no time to prepare his own medicine, and many physicians are not sufficiently trained in pharmacy to do so; they would therefore depend on ready-made tablets and pills. Scientific prescription writing would by this method become extinct, and the diagnosis of a case largely be guided by the tablets or the pills that the practitioner happens to have in stock; expensive drugs and chemicals would be banished and cheapness rather than efficacy be the leading motive to use a new remedy. Nor is there any safety for the physician or the patient in self-dispensing. The physician often accuses the pharmacist of not preparing a prescription properly or making a mistake. We will admit that this is sometimes the case; but if it is true that men who have devoted their whole lifetime to the preparing of prescriptions are apt to make mistakes, how much more is the physician subject to make mistakes, who is not particularly trained for such work and is from morning to night rushed for time.

In the state of New York there exists a law that a prescription containing a certain dose of opium, morphin or any similar preparation must not be renewed more than twice. This law was passed with the consent and knowledge of the physicians, who thereby admitted that the renewal of prescriptions is an acknowledged custom in the state, and put a check on indiscriminate renewals of certain prescriptions only. If, however, a restriction can be put on renewals of opiate prescriptions, it should not be difficult to pass laws against the renewal of any prescription unless the physician's consent is expressed. This consent can easily be given by a

short line on the prescription stating "The prescription must not be renewed or copied," the lines crossed out with the physician's initials written through it if the physician consents to the renewal.

It should be the object of the American Medical Association to institute a propaganda for the restriction of prescription renewal and thereby remove the danger that lies in such practices for the physician, the pharmacist and the public.

Clinical Report.

SALICYLATE OF SODA IN THE TREATMENT OF BASEDOW'S DISEASE.

CHARLES GILBERT CHADDOCK, M.D.
Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of Medicine.
ST. LOUIS.

In the fall of 1900 my attention was called by Dr. J. Babinski of Paris to the treatment of exophthalmic goiter by the administration of salicylate of soda. At that time he saw, in consultation with me, a young man, aged 27, who had developed a goiter during the spring and summer of that year. The tumor presented pulsations like those seen in frankly developed Basedow's disease, but there were no other symptoms proper to that neurosis. Additional symptoms consisted of great lassitude, marked mental depression, lack of ambition and interest in intellectual work, and an expressionless countenance quite foreign to the individual. The patient had been treated with iodid of potassium and tincture of iodin externally without effect. On the advice of Dr. Babinski three grams of salicylate of soda were administered daily. In less than a month, to use Dr. Babinski's expression,[1] the goiter had almost entirely disappeared. Two months later it could not be detected, the treatment having been continued without interruption. With the disappearance of the goiter there was a complete transformation of the mental condition and appearance of the patient; he gained in weight, and dyspeptic symptoms, which had been troublesome for months, quite disappeared or became insignificant. The patient resumed his work, and, during the two years that have since elapsed, there has been no recurrence of any of the symptoms which were so marked during the year 1900.

In the published notes of the use of salicylate of soda in Basedow's disease, Dr. Babinski refers to this case as one in which the diagnosis was doubtful, but he precedes his reference to it with brief reports of two other cases in which all the classical symptoms of exophthalmic goiter were present, and which were practically cured by the administration of salicylate of soda. Thus familiarized with the possible utility of this drug in the treatment of Basedow's disease, I began its administration in a case which came under my observation in February, 1901, the clinical notes of which follow.

Miss X., aged 28, consulted me Feb. 22, 1901. She presented a marked fine tremor of the hands and arms; the pulse was 130; a goiter of moderate size was very apparent, in which pulsation was visible, and the peculiar thrill of vascular overaction was easily felt. The large vessels of the neck could be felt pulsating unduly. There was no exophthalmos. The heart sounds were normal, and there was no evidence of other abnormality in the nervous system or the vegetative organs. It may be added that some slight choreiform movements were noticed later from time to time.

Subjectively the patient complained of lassitude and very annoying cardiac palpitation, augmented to an extreme degree on exertion and immediately after taking food; of mental depression and lack of ambition; of inability to control herself, and attacks of prolonged laughing under circumstances that distressed her extremely; of excessive and very annoying perspiration; of tremor that interfered with her work; of disturbed and unrefreshing sleep. Food usually caused distress, and constipation was more or less troublesome. All unpleasant symptoms were augmented at the period of the menses. There was no history of attacks of diarrhea.

The patient's family history presents a pronounced neurotic element. Both parents are "nervous"; one younger brother has been treated by me in two attacks of insanity, the first presenting maniacal symptoms some time after typhoid fever, the second, one year later, with delusions of a depressive, persecutory type that have never been fully corrected, though he is now (after one year) able to follow his usual occupation (bank clerk). Another brother and a sister present no mental or nervous abnormalities.

The patient had typhoid fever in 1890; in the summer of 1895 she went to Colorado for rest and change. At this time she had completed her third year in the university. In Colorado she was troubled by cardiac palpitation and breathlessness on the slightest exertion, doubtless owing to the elevation, and when she returned to her college work she found that marked tremor of her hands made it impossible for her to continue her work in the chemical laboratory. She graduated, notwithstanding her relative incapacity due to palpitation and tremor, and the year following was spent in Mississippi as a teacher. She continued to teach without interruption in her native place, to which she returned in 1898. She was finally led to consult me because of the aggravation of the tremor, pulsation and palpitation and the discovery that her neck was enlarging.

The patient was placed on salicylate of soda, gr. 30 daily, glycero-phosphate of calcium, gr. 15 daily, with a galvanism to the cervical sympathetics (5 milliamperes) three times a week. Diet and rest were regulated, but work was not interrupted. Other occasional measures were directed to digestion and the bowels.

Improvement was immediate and continuous. The treatment was uninterrupted through the months of March, April and a part of May, 1901. In May the electric treatment was stopped, but the salicylate was continued throughout the summer with occasional interruptions of two weeks' duration. In the following October electric treatment was resumed and continued, more or less regularly, through the winter and spring, and the salicylate was taken as before.

Before the end of three months of treatment tremor had disappeared, the heart was beating at the rate of 80, and there were few nervous symptoms. The goiter was still present, though reduced in size. During the winter and spring of 1901-2 the improvement was maintained under trying and annoying conditions of occupation.

At the present time there are no symptoms of Basedow's disease. The neck is a little larger than normal, but this would not be noticed without a knowledge of the history.

The patient states that she never expected her heart to become so calm as it is now. Influences that formerly excited her heart to extreme over-action are now without such an effect.

This case is entirely similar to two reported by Dr. Babinski.

A case of exophthalmic goiter seen in consultation in a woman over 50 years of age was much benefited by the salicylate of soda, but I am unable to give a subsequent history, beyond the statement that she has not been so well in years.

In October, 1902, Mrs. P., aged 46, consulted me for general "nervous" symptoms, congestive headaches and inability to endure or perform her ordinary household duties. She had a large goiter that had first appeared in her fifteenth year and had increased in size since. Originally large on the left side, for some months it had been increasing rapidly on the right side, and she attributed some of her difficulty in breathing to this. She had developed insomnia, because the increasing size of the goiter made it necessary for her to lie in a fixed position, for any change from it immediately aroused her with a feeling of suffocation.

The heart sounds were normal; she complained of occasional palpitation and a feeling of congestion and pulsation of the neck, with flushing of the face at such times.

Her mother had a goiter that came on in girlhood and disappeared some time after the menopause.

1. Du Traitement de la Maladie de Basedow par le Salicylate de Soude, Extrait des Comptes Rendus de la Société de Neurologie de Paris, Scéance du 7 février, 1901.

Thirty grains of salicylate of soda daily were ordered. Two weeks from the beginning of the medication the tumor on the right side of the neck had disappeared. Three months later the large tumor on the left side was decidedly reduced in volume. From the beginning there was an immediate change for the better in the "nervous" symptoms, and at the present time the patient feels perfectly well and capable of doing all that her circumstances of life demand. She can now walk blocks, whereas before she could not walk one without distress.

It should be remarked that the doses employed in these cases were far below those given in those reported by Babinski. In some cases now under observation I shall not hesitate to increase the dose should improvement fail to occur.

The precautions to be observed in the administration of salicylate of soda are: a pure salt, care to observe the condition of the kidneys, and care to avoid irritation of the stomach.

In the absence of any proof of the manner of action of salicylate of soda in Basedow's disease it is unnecessary to indulge in speculative theories to explain its effect.

3750 Lindell Boulevard.

New Instrument.

A NEW SELF-HOLDING RETRACTOR FOR USE IN GENERAL SURGERY.*

WILLIAM S. THOMAS, M.D.
Surgeon-in-Chief Out-Patient Department, St. Luke's Hospital.
NEW YORK.

Although specialists have devised many forms of specula, there does not seem to have been made heretofore a practical self-holding retractor for use in general surgery. The simple instrument here presented has proved of frequent practical use during five months.

Perhaps its principal field of utility will be found in emergency operations where the desired number of assistants is not available. Even where the usual number of assistants is at hand the use of this instrument may be preferable to



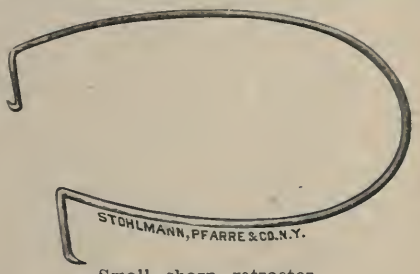
Large blunt retractor.

manual retraction, as this would permit the assistants to aid the operator in some other way.

It will never take the place of a hand retractor with an experienced brain behind it; nevertheless, it is easily applied and quickly shifted, and will stay where it is put. Beside steadiness and accuracy of strength, it possesses another advantage of no little importance at times, and that is that it takes up almost no room when in use. The circular spring rests flat on the surface of the skin, and there are no screws or handles on which ligatures will catch. The curve at the end is arranged to prevent the circle from rising above the surface and getting in the way.

The instrument is of nickel-plated steel wire, bent into three-quarters of a circle, with its ends turned aside into sharp or blunt retractors. To insert it, the ends of the wire are brought together by grasping them in thumb and fingers. The retracting ends are then put into the wound and the edges are pulled apart by the spring of the wire when released. Where the field of operation is especially large, it is sometimes convenient to use two of the retractors, their openings facing each other. In order to get different degrees of strength of pull, various calibers of wire and sizes of circles are provided, and for variety in the depths of wounds several sizes of retracting ends are made. For small or superficial wounds there are the simple sharp hooks, and for larger and deeper wounds the square-faced blunt ends. The complete set of these retractors consists of a nest of twelve—six sharp and six blunt ones, in graded sizes—which have been determined by experience to be of practical use.

The strength of pull used in retraction is generally proportionate to the size and depth of the wound, but varies, of course, with the nature of the tissues involved For instance, a pull of from four to ten pounds is commonly required in retracting wounds through the abdominal wall. A corresponding strength of pull will be found in the large blunt retractors.



Small sharp retractor.

On the other hand, a pull of but a few ounces, as is given by the smaller sharp retractors, will retract a wound through the skin alone. But in dense tissues, as of scalp or sole, a surprising resistance to retraction is offered. To meet such conditions the larger sizes of the sharp retractors exert a pull of from three to five pounds when their ends are together.

One or both of these nests of six large and six small sizes may be handily tied together and boiled with the rest of the instruments required in an operation.

* Presented before the Surgical Section of the Academy of Medicine, New York City, Feb. 9, 1903.

Some Baruch Don'ts in the Hydriatic Management of Fevers.—First. Don't bathe in cold water to reduce fever, but to refresh the fever-stricken patient. Second. Don't permit cyanosis or chattering of teeth. Stop! Third. Don't stop bathing because patient complains of chilliness. Fourth Don't raise temperature of baths on account of chilliness. Shorten bath and increase friction. Fifth. Don't neglect friction during every cold procedure; it prevents chilling Sixth. Don't disregard the fact that the Brand bath at 65 to 70 degrees is the ideal bath for typhoid. Seventh. Don't use the Brand bath in a bathroom. Eighth. Don't give up bathing because the ideal bath is not procurable. Other procedures are useful. Ninth. Don't use ice coil to abdomen. It has no refreshing effect and renders skin cyanotic beneath it. Tenth. Don't lose sight of the fact that the chief aim of all cold procedures is reaction.—"Denver Med. Times."

Manual Compression of Uterus to Arrest Post-Partum Hemorrhage.—A recent Lyons thesis ("Journ. de Med. de Paris") describes the method of arresting hemorrhage in vogue in the hospitals there, attributed to Professor Fochier. After expulsion of placenta and membranes, if there is hemorrhage from the empty uterus, four fingers of the right hand are passed up behind the uterus, between it and the spine and exert pressure on the "contractible part" of the uterus, pressing it forward against the left hand, which is applied to the abdomen above the pubis. The uterus is not flexed forward by the procedure, but the whole organ is slid forward, without altering the direction of its axis. The result is a compression of the placental sinuses, which arrests the hemorrhage directly, and stimulation of the contractility of the muscular fibers, thus aiding indirectly in the desired purpose. The procedure is also valuable as a diagnostic measure, and does not interfere with ergot, hot injections or saline transfusion later if deemed necessary.

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THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

It is to the American medical profession matter for congratulation that the modest beginnings of the Rockefeller Institute for Medical Research of two years ago have so speedily been succeeded by a gift from its founder large enough to permit of the building of a central institute and the planning of medical research on a larger scale in the city of New York. This undertaking, while undoubtedly of the highest significance for New York, is not a project of merely local interest; on the contrary, it is one which is of especial moment to every medical man and woman in the United States; indeed, we shall be surprised if the attention paid to it is arrested at our national borders, for, by virtue of the nature of the problems with which it will try to cope, the institute and its work will be a failure unless it quickly assumes a position of international importance.

In view of the large ideas of Mr. Rockefeller's advisers, it is also peculiarly gratifying to the medical profession and the public at large that the authorities of the institute have so soon made known the general plan underlying the foundation. Medical men watch with critical eyes all influences which may tend to improve or mar their vocation; it is only right and just that they should do so. An open avowal of intentions and prospects, such as has been made, apparently authoritatively, by the secretary of the board of directors of the new institute, can only meet with general approval, and The Journal hopes that this proper regard for professional and public interest and opinion may characterize the institute in all stages of its subsequent growth. That kind of publicity which makes an institution open to the observation and inquiry of the medical fraternity must not only exercise a wholesome influence on those who work in the institute itself, but is likely also to go far toward establishing public confidence in it, and toward assuring the people that they are obtaining from it the greatest benefits of which it is capable.

The institute began about two years ago with a fund of $200,000, the income of which has been devoted to the making of grants of from $200 to $1,500 each to investigators working at American or foreign universities. These grants, or similar ones, for the furtherance of individual studies are, we understand, to be continued, and the new plans recently announced are for additional rather than for substitutive undertakings.

The most important feature, as we have already announced, of the new plans is the decision to erect a central research institution in New York City, overlooking East River, to equip it adequately and to provide permanent endowment for it. The land has been purchased, plans for the laboratory buildings, including a small hospital, are rapidly approaching completion, a scientific director has been appointed, the organization of an investigating staff is in progress, and the authorities hope to begin work in the Central Institute by Oct. 1, 1904.

In addition to the organization and endowment of the institute for investigation in New York, the board of directors assumes the responsibilities of publication of *The Journal of Experimental Medicine,* and of plans for a campaign of education of the profession and the public by means of lectures, publications and hygienic museums—all bearing on the general problem of the diffusion of knowledge regarding the prevention and cure of disease.

Convinced as we are of the grandeur of the opportunity which confronts the board of directors, we can not help being solicitous that nothing shall be left undone to secure the greatest advantages possible in the expenditure of the money already donated in order that the founder who has contributed this first $1,200,000 may feel fully justified in providing subsequently the very large amounts which will be necessary to permanently endow the work which has been planned. We confess that the names of the members of the board go far to quiet fears lest any unwise disposition of the funds should be made, though we should have been glad to have seen on that board in addition to the men chosen from the Atlantic seaboard other scientists of equal caliber, say one from the Gulf region, one from the Pacific coast and one from the great Middle West. We feel, further, that the scope of the institute might have been very properly broadened by the representation on the board, beside pathology and bacteriology, of the two most fundamental sciences of medicine, anatomy and physiology; too great a scattering of the interests of such an institute, however, should, of course, be guarded against, and the directors may be wise in concentrating their efforts at first in the narrower field, provided an ultimate expansion so as to include the study of problems in the more basal sciences is kept in mind. Pathology can not progress far without the continuous provision of new facts and principles for application from the sciences of normal structure and function, sciences which in turn are dependent for their advance on the progress of knowledge and speculation in the fields of chemistry and physics.

There can be no doubt that the trustees of the Carnegie Institution have had the air cleared for them in a remarkable way by the host of suggestions and criticisms

which they have elicited from scientific men all over the country. The value of these suggestive and critical contributions has, it is true, varied enormously; among them, it must be admitted, are to be found many that are extravagant and some that can not be classified as other than feeble-minded, but it is just as true that many of them have been original and constructive, and that the study of the whole mass can not fail to give important clues for the organization of the productive scholarship of the country and to exercise a wholesome restraint on those, if any, whose tendency would be to waste money and cerebral energy on travels along roads that the minds of our nation, most capable of judging, regard as impracticable. Might it not be wise if the directors of the Rockefeller Institute for Medical Research encouraged a similar frank expression of opinion from their confrères; the eminence of these directors is such that a request from them would insure placing at their disposition the maturest thought and the results of the most legitimate flights of the imagination of scientific medical men in every state of the Union.

BEHRING AND TUBERCULOSIS.

We have made a brief editorial notice[1] of some of the results obtained by von Behring and his coadjutors in their investigations of tuberculosis. The opinion was expressed then that some of the fundamental problems in tuberculosis were approaching solution, more particularly the problems in immunity to tuberculosis. Behring has succeeded in demonstrating that by injecting cattle, especially young, with small quantities of cultures of tubercle bacilli isolated from human tuberculous lesions, there is produced a complete immunity to bovine tuberculosis so far as may be determined by ordinary experimentation. He designated this method of immunization as "jennerization." It resembles in the essential points the method elaborated by the immortal Pasteur of immunization by "vaccinatic with attenuated virus.

Now the fact that cultures of human bacilli produce such solid immunity to virulent bovine bacilli can not be interpreted otherwise than as indicative of the close relationship between the tubercle bacilli from these two sources. Hence, Behring throws overboard Koch's dualistic theory, holding that the differences observable between bacilli of human and bovine origin are only such labile differences as are usually explainable on the score of special influences and modifications. Since Behring's first reports concerning successful immunization of cattle against tuberculosis, other investigators have published results which, though reached by slightly different methods, yet seem to substantiate the results he obtained. Thomassen, professor in the veterinary school at Utrecht, reports that under certain circumstances single injections of calves with cultures of human tubercle bacilli produce definite immunity to such quantities of bacilli of bovine origin as rapidly cause fatal miliary tuberculosis in control animals[2]—a brilliant confirmation of Behring's experiments. And on the heels of the Utrecht report comes one from Philadelphia by Pearson and Gilliland[3] of similar bearing. To quote one of the conclusions of these workers: "After repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures that are capable of causing death or extensive infection of cattle not similarly protected." In the meantime, Behring and the workers in his institute at Marburg have had further opportunity to extend their observations on cattle immunized in the manner just outlined. Several immunized animals that had been exposed for over a year to spontaneous tuberculosis, by close association with tuberculous cattle, have been killed, but in none had tuberculosis become established.

The practice of immunizing young cattle has been extended on a larger scale with a view to testing most thoroughly its economic value and practical applicability. Hence it may be said with Behring that the principle of antituberculous immunization is now established on a firm basis so far as cattle are concerned, and that time alone can tell whether the particular methods now employed will yield the best practical results. As pointed out in the former editorial on Behring's great work, "it will form a landmark in the history of tuberculosis second in importance to no other work in this field since the discovery of the bacillus of tuberculosis." The next question is, to what extent will this production of immunity to tuberculosis in susceptible animals like cattle help in the struggle against human tuberculosis? This side of the problem is discussed in an interesting manner in a recent address by Behring in Vienna.[4] After developing the reasons why he believes that the bacillus of bovine tuberculosis is infectious for human beings, Behring points out that it is in infants especially that we find tuberculosis of intestinal origin. This he believes is due largely to the fact that early in life the intestinal epithelium does not secrete mucus and other substances in sufficient quantities to protect against the invasion of tubercle bacilli from the intestinal tract, as there is reason to believe is the case in older persons. In order to protect against tuberculosis in children, Behring suggests feeding with milk from cattle immunized against tuberculosis. In this way the susceptible child would get the benefit, he thinks, of the protective substances present in the milk of the immunized cows. This deduction will receive further support when it is shown by experiments that the milk of immunized cows actually contains protective antituberculous substances in ap-

1. THE JOURNAL A. M. A., Nov. 1, 1902, p. 1118.

2. Recueil de méd. vetérin., Jan. 15, 1903.

3. Proceedings Phila. Path. Society, March, 1903, vi.

4. Wiener kl. Wochenschrift, 1903, xvi, 337-342. See also a review of Behring's work in Semaine Medicale, 1903, xxiii, 85-86. Behring's most extensive publication is in Beiträge zur Experimentelle Therapie, 1902.

preciable quantities. For various reasons direct immunization of human beings after the methods employed for cattle is not yet open for discussion. Then, again, it is self-evident that if immunization of cattle can be carried out successfully in actual practice on a well-nigh unlimited scale, it will result necessarily in restricting greatly the spread of tuberculosis at least among cattle and consequently of tubercle bacilli in nature. Finally, the discovery of a means to protect susceptible animals against tuberculosis by active immunization offers the greatest hope for the further discovery of curative substances and the development of a specific antituberculous treatment.

SURGICAL TREATMENT OF TYPHOID PERFORATION.

So long as the sanitary conditions in this country continue indifferent or bad as they are at present the question of treatment of typhoid perforation will continue to be of great importance, for typhoid fever is one of the most common diseases in many of our large cities. This interest in the subject of perforation will continue, not only because of the frequency of the complication, which has been estimated by various authors to occur in from 1.2 per cent. to 11.38 per cent. of all cases, but because of the almost absolute certainty of a fatal outcome unless operative treatment is adopted. Much of the recent interest in this subject must be credited to Keen, who, by his careful study of a large series of cases collected from the literature, was among the first to point out[1] the most important features in diagnosis, rational methods of treatment and the urgent necessity of surgical treatment in all such cases. The early diagnosis of perforation is undoubtedly of first importance, for unless the condition be recognized before general peritonitis has occurred the advantages of early operation are lost. One of the most satisfactory discussions of the diagnosis of typhoid perforation which has thus far appeared is contained in a paper by McCrae and Mitchell,[2] who report eight operations for perforation, two exploratory operations in cases in which no perforation was found, and eleven suspicious cases which were not operated on, out of 275 cases of surgical complications occurring during typhoid fever observed in the Johns Hopkins Hospital during two years.

Among the important points brought out in this paper are the dangers of masking symptoms by the use of opium. Too often the occurrence of abdominal pain is considered by the attending physician an indication for the use of opium in some form, and by its use the symptoms are masked until general peritonitis develops and a fatal outcome is almost inevitable. Much stress is laid on the importance of careful observation of all cases of typhoid from the beginning of the disease and watching carefully any abdominal symptoms. In this way the condition may be recognized at the time of onset of the symptoms. Notes on the patient's condition should be made on paper, and not left to the physician's memory. In case suspicious symptoms occur the condition should be carefully watched from hour to hour and the surgeon should be called at the time of onset of abdominal symptoms. No symptom was found constantly present in all the cases, and no significance is attributed to the absence of any one symptom. The occurrence of symptoms is important, their absence is not. The most important symptom is the sudden onset of abdominal pain. Other symptoms, such as nausea or vomiting, rise of pulse rate, change of temperature, impairment of respiratory movements, muscle spasm, decrease of liver dulness, leucocytosis, etc., may be of some significance, but no conclusion can be drawn from the absence of many of them. Later on the symptoms do not differ from those of general peritonitis. The difficulties of diagnosis are evident, and with the slight risk of an exploratory operation doubtful cases should not be allowed to go beyond the limit of recovery without operation. An exploratory operation was done in two cases in which no perforation was found. In one the symptoms were due to intestinal hemorrhage; in the other to low-grade peritonitis. The first patient died; the second recovered. Perforation occurred in eight cases, seven of which were operated on with two recoveries, a third patient dying of toxemia a week after operation. All of the cases, except two accompanied by hemorrhage, were recognized within nine hours of perforation. In one case operation was not advised because the patient was in extremis. Eleven cases with suspicious abdominal symptoms were not operated on. Of these two died and the necropsy showed no perforation; the remaining nine recovered. In the treatment of perforation closure with purse-string suture reinforced by two or three Halsted sutures is recommended. This is essentially the same treatment which has been recommended by Keen and most other writers on this subje

A new suggestion with regard to the treatment of these cases comes from Escher of the Triest City Hospital in Austria, who finds from a study of the literature records of ten cases of typhoid perforation treated by enterostomy with 40 per cent. of recoveries. This is in striking contrast to the 20 to 25 per cent. of recoveries following the usual method of suture of the perforation, and it led Escher to adopt this method of treatment as a routine. Of 4 cases treated by bringing the perforation up into the abdominal incision and suturing it there, which Escher treated personally, only one died. He believes that this is the method of choice, for not only is much time saved, but threatening symptoms of paralytic ileus and unfavorable symptoms of distension caused by paralysis of the intestine are avoided in this way. Suture is advised only in the most favorable cases, late in the disease when the general condition is good, the operation early and no distension present.

Whatever method of treatment may be adopted, physicians should always keep in mind the importance of

1. Surgical Complications and Sequels of Typhoid Fever, Philadelphia, 1898, and THE JOURNAL A. M. A., Jan. 20, 1900.
2. Johns Hopkins Hospital Reports, vol. x, Nos. 6, 7, 8 and 9.

early diagnosis, and to this end every abdominal symptom should be observed and noted with greatest accuracy. If typhoid fever cases are thus carefully observed and operated on early when operation is indicated valuable lives will be saved every year. Perforation is probably as common in the hospitals of this and other countries as in those few hospitals from which yearly reports of successful operations are coming. The remarkable success which Escher reports from the treatment of these cases by using the perforation as an enterostomy opening would certainly seem to encourage the further employment of this method.

A COMPREHENSIVE DEFINITION OF THE PRACTICE OF MEDICINE.

We published in our last issue[1] the law recently passed amending the medical practice act of the state of Alabama. Alabama in the past has had an advantage over most other divisions of the country in that its medical law recognized no schools. All that is required is a knowledge of the essentials of medicine. In this way they have been able to keep out quacks and faddists who can not meet the requirements of the law by passing an examination in the fundamental branches. Recently an attempt was made to establish a board of osteopathic examiners, and the bill was at first favorably reported on in the legislature. After due discussion a substitute—the amendment published—was adopted and carried. In the framing of this it has seemed fit to the Alabama legislature to be a little more concise in its statement of the qualifications required for certificates to practice medicine, and in the new law it is worded "an applicant for a certificate of qualification to treat diseases of human beings by any system of treatment whatsoever," which permits all schools to practice provided they meet the requisite conditions. This is still further specified in the close of the paragraph, which states that a certificate shall be issued which shall entitle the applicant "to treat any and all diseases of human beings in this state in any manner that he may deem best." Neither homeopaths, osteopaths, Eddyites or any other class can claim that they are excluded, except it be by their own deficiencies. We believe that a simple statement such as the above is better in every way than the more elaborate definitions. The more verbiage that is expended on the subject the greater the chance for some error to slip in, or some legal evasion to be employed. Treating diseases of human beings "by any system of treatment whatsoever" covers the subject as comprehensively and fairly, it seems to us, as any combination of words that could be used.

INSANITY CAUSED BY "MORALITY."

A writer in a popular review,[2] studying the occurrence of insanity in a limited locality in the north of Ireland, reaches some rather remarkable conclusions. The chief causes of insanity are, he claims: 1, Intermarriage of predisposed persons; 2, the postponement of marriage to the age at which the sexual function is enfeebled; 3, marriages where children are produced as fast and as long as the natural process allows. This last is, he thinks, the greatest and most common cause of insanity, idiocy and neurasthenia. Reasoning from these assumptions, he declares that modern morality and marriage laws are directly opposed to the welfare of the race; that the normal physiologic condition is one in which apparently any kind of temporary contract would be permissible, and that all the social regulations which the experience of mankind has deduced are faulty from a biologic point of view. There is no doubt, of course, that rapid and excessive childbearing may have its effect on the offspring, and that some children born of aged parents are sometimes mentally handicapped in the struggle for existence. It is only the superficial observer, however, who sees in these conditions, especially in the limited region of a long-settled country depleted by immigration of its most vigorous population, any facts that will serve to formulate rules for the population in general. The cause of insanity is a complex one, and probably the great advance in civilization, invention, etc., acting on minds that are not prepared for it and the stress of modern conditions of living are far more effective, certainly as a general rule. He holds, also, that it is a generally recognized fact that those whose duties bring them in contact with the insane become predisposed to the disease. This is a popular error which can be easily refuted, but he takes it as a self-evident fact and basis for his remarks, holding that association gradually aggravated the conditions he describes. Therefore he attributes to two factors, conventional morality and association, the chief increase of insanity. The article is a pretty good example of false reasoning from defective data. The physiologic social conditions which the writer in question seems to think would be a preventive of mental disease, are absolutely impracticable under modern civilization. It does not speak well for the bent of his mind that he should thus ignore actual realities in favor of a very strained and not very moral or edifying theory.

CHORIONIC STRUCTURES IN TUMORS OF THE TESTICLES.

The occurrence of chorionic epithelium and of syncytium elsewhere than in connection with pregnancy, normal and pathologic, at first thought seems entirely unlikely and paradoxic. There have been described, however, a considerable number of mixed or teratomatous growths of the testicle in which were contained large cells and syncytial masses similar to those of the placenta and of the interesting tumor that occasionally develops from the placenta, variously designated as chorioepithelioma, syncytioma, placentoma, etc. Peculiar testicular tumors of this kind have been observed from time to time and described under different special names—as angioplastic sarcoma by Malassez and Monod, who regarded the masses of anastomosing giant-like cells with spaces often filled with blood vessels as incompletely developed new vessels. Within the last year Wlassow[1] and Schlagenhaufer,[2] independently of each other, describe tumors in the testicle with syncytial masses and hydatidiform structures both in the primary

1. The Journal, April 11, p. 1000.
2. Westminster Review, London.

1. Virchow's Archiv, 1902, clxix, 220-240.
2. Wien. kl. Wochenschr., 1902, xv, 570-580 and 604-606.

and secondary growths. Wlassow calls such tumors *epithelioma syncytiomatodes testiculi*. In the metastases the appearances were quite identical with those of chorioepithelioma developing in connection with pregnancy. Schlagenhaufer makes the same observations, and states that had the source of the tumors been unknown they would undoubtedly have been referred to the placenta. Carey[3] also describes syncytial and decidual structures in a testicular teratoma. To complete this interesting demonstration there are described also testicular tumors with distinct chorionic villi undergoing myxomatous degeneration, i. e., tumors with structures corresponding to parts of hydatidiform moles. This, too, is an old observation. Curious formations, generally intravascular, have been likened by various authors to the myxomatous villi of hydatidiform moles. Schlagenhaufer demonstrates chorionic villi in the metastases of an early example of this sort of tumor first recorded by Breu. In order to explain this finding of chorionic structures in so unexpected a locality as tumors of the testicle Wlassow suggests that it concerns the chorion of an embryo which forms the testicular teratoma (embryoma), while Schlagenhaufer traces them to the inclusion within the testicle of remnants of fetal membrane, more particularly parts of the epithelial lining. Be that as it may, the observations noted certainly serve to excite wonder and increasing interest in the theories as to the origin of the teratomas (embryomas) of the testicle and ovary.

URBAN MORTALITY.

A recent weekly Bulletin of the Chicago Health Department contains a discussion of urban death rates that gives some encouraging indications of improved city sanitation. In 1893 the claimed Chicago death rate of 16.92 per thousand of population was denounced as an impossible figure for any city with over 1,000,000 inhabitants. No ratio less than 18 per thousand could be accepted was the verdict of an eminent sanitary statistician of that day. At the present time, according to the Bulletin, New York is the only city of the first class that still sustains the above assertion, its mortality in 1902 was 18.75, while that of London was 17.70, and that claimed for Chicago 14.53. The present health administration of New York City has, however, in one year reduced the death ratio more than 14 per cent., and therefore promises well to bring its statistics down below the alleged "impossible" figure of 1892. Of course, the statistics of a single year prove little, but if they are the latest figures showing a steady decline for years they suggest much, even the possibility of bringing urban mortality down to the figures of well sanitated rural communities. Chicago's low death rate is due probably more to the fact that it has a bordering area of 20,000 square miles of pure lake air, than to its own sanitary righteousness as so far perfected. This is shown in the death rate from typhoid fever and other disorders that depend largely for their prevalence on certain unsanitary conditions. The Bulletin gives some suggestive comparisons of the mortality in London and Chicago respectively from three of the notifiable diseases, diphtheria, scarlatina and typhoid, showing that the ratio in Chicago is almost double that of London. On the other hand, measles, whooping cough and diarrheal affections reverse the condition and the mortality in proportion to population in Chicago is less than half that of London. It is not exactly clear why this latter difference should exist, but very probably the pure air with the better ventilation of the "windy city" may have as much to do with it as any other one factor. Another matter, however, which may be a factor to some extent in causing the higher death rate from such compulsorily notifiable disorders as diphtheria and scarlatina, and which is so accepted by the Chicago health commissioner, is the hospital provision for such cases. With proper hospital care and isolation a lowered death rate from these disorders might naturally be expected, as well as much in the way of prophylaxis. This is shown particularly in such disorders as smallpox, in which case hospital isolation is the first resort after the recognition of the disease. It is very probable that similar brilliant results would follow isolation of other properly notifiable diseases.

3. Bull. Johns Hopkins Hospital, 1902, xii, 268-279.

Medical News.

CONNECTICUT.

Hospital for Greenwich.—It is announced that $30,000 has already been subscribed toward a hospital for Greenwich. It has been decided to raise $100,000 before any work is started.

Sanatorium Fire.—On March 16 the residence and sanatorium of Dr. George F. Converse, New Haven, were seriously damaged by fire, caused by an explosion of benzine. The family of Dr. Converse and the patients were removed from the building without casualty.

Infectious Diseases.—Smallpox was reported during February to exist in 6 towns, with 47 cases; there were 1,099 cases of measles, in 66 towns; 339 of scarlet fever, in 55 towns; 3 of cerebro-spinal fever, in 2 towns; 170 of diphtheria, in 43 towns; 344 of whooping cough, in 40 towns; 20 of typhoid fever in 12 towns, and 12 of consumption, in 6 towns.

February Deaths.—During February 1,294 deaths were reported in the state; 124 less than for the previous month; 170 more than for February, 1902, and 98 more than the average for February for the five years preceding. The mortality was at the rate of 17.1 per 1,000 per annum. Infectious diseases caused 312 deaths, or 24.1 per cent. of the total mortality. Diseases of the nervous system caused 144 deaths; pneumonia, 176; consumption, 101; influenza, 86; bronchitis, 55; heart disease, 134, and violence, 50.

GEORGIA.

Army Hospital at Chickamauga.—The contract for the post hospital at Chickamauga has been awarded at $52,561.

State Board of Examiners.—The board held its annual meeting at Atlanta, April 3, and elected Dr. Joses B. S. Holmes, Atlanta, president; Dr. Fred D. Patterson, Cuthbert, vice-president, and Dr. Isham H. Goss, Athens, secretary. Out of the 57 applicants for license to practice medicine in the state, 47 passed the examination; 5 out of 6 colored applicants passed.

Atlanta College Commencement.—The graduating exercises of the Atlanta College of Physicians and Surgeons were held March 31. Owing to the change in course from three to four years, the class was relatively small, numbering only 39. Hon. Hugh M. Dorsey delivered the address of the evening, and Judge Howard Van Epps, president of the board of trustees, conferred the degrees.

State Board of Health Needed.—Georgia is one of the few states which has no state board of health. Drs. Charles Hickes, Dublin, president of the Medical Association of Georgia, and George Brown, Atlanta, recently called on the governor to urge on him the necessity of the establishment of a state board of health, and obtained from him his endorsement and his promise

that he would send a special message to the legislature recommending the creation of the board.

ILLINOIS.

Quarantine Raised.—The town board of health of Lake Forest raised the quarantine which has existed for two months on account of the scarlet fever epidemic, April 10. In all, 101 cases were reported, a large proportion of the patients being children, and only two deaths occurred.

Births in 1902.—During the year just ended 76,608 births were reported to the State Board of Health. Of these 38,671 were males and 37,325 females, and the sex was not reported in 612 instances; 572 twins were born and 15 triplets. Stillbirths numbered 1,767. Cook County leads with 19,115 births; then follow La Salle County with 1,737; Will, with 1,481, Vermilion, with 1,418; Peoria, with 1,388; Sangamon, with 1,358; Kane, with 1,297; McLean, with 1,267; Madison, with 1,105; St. Clair, with 1,064, and Champaign with 1,057. These figures are not complete, and the births for the year are estimated at 85,000.

Chicago.

Personal.—Dr. Joseph Jeffrey, a colored physician, was adjudged insane, April 9, and committed to the Cook County Insane Hospital, Dunning.

Deaths of the Week.—The total deaths were 592; 43 more than for the previous week and 30 more than for the corresponding week of 1902. This represents an annual death-rate per 1,000 of 16.36. Pneumonia again heads the list with 135 deaths; consumption caused 59; nervous diseases, 45; heart disease, 41; bronchitis, 30; cancer, 28; Bright's disease, 27, and violence, 26. Measles is given as the cause of death in 10 cases, and whooping cough in 13 cases.

Smallpox.—The isolation hospital received 21 new cases of smallpox during the week ended April 11. Of these 5 were negroes; 6 were under 6 years of age; 18 had never been vaccinated, and the remaining 3 had old doubtful vaccination scars. The hospital record for the year is as follows: January, 50 cases; February, 55; March, 60; April, 26 cases to date; total, 191 cases received; deaths, 28; discharged recovered, 106; remaining under treatment at the close of the week, 57. Last year at this time there were 40 in the hospital.

Fear Rabies.—The Chicago Medical Society, at its meeting, April 8, considered the danger from hydrophobia. Dr. Arthur D. Bevan read a paper on the prevalence of rabies, which he said had caused at least 91 deaths since 1891. The society passed the following resolution:

> The Chicago Medical Society, through its board of councilors, calls the attention of the city authorities to the fact that the disease hydrophobia is prevalent in the city; that it is possible to practically eradicate it by proper dog laws properly enforced. Therefore it respectfully petitions the mayor and the common council to immediately take such steps as are necessary to accomplish this result.

Measles Not Light Disease.—In the Bulletin for the week ended April 11, the department of health earnestly warns the public against the prevalent idea that measles is a disease to be lightly considered. It says:

> Of the total 207 cases of the contagious diseases reported during the week 87, or nearly one-half, were of measles, and during the first three months of the year 69 deaths were reported from this disease as against only 20 during the corresponding period of 1902. This is two and a half times as many as last year, and in proportion to population it represents an increase of very nearly one-third over the average of the previous ten years—the ten-year average rate being 0.94 and the 1903 rate being 1.22 per 10,000 of population. . . . About 60 per cent. of all deaths from measles are among those between 6 months and 2 years of age. After the fourth year the mortality rate falls rapidly, but one out of every four infants attacked with the disease dies. . . . Only a relatively small proportion of the deaths from measles are reported as such—the immediate cause of death, such as broncho-pneumonia, capillary bronchitis, lobar pneumonia or similar grave affection developed during an attack of measles, being given as the actual cause. Next to scarlet fever measles is the most serious of the diseases of childhood in its after effects on many of those who recover.

KENTUCKY.

Asylum Investigation.—The committee on investigation from the board of commissioners of the Central Kentucky Asylum for the Insane, at Lakeland, has developed some startling facts in regard to alleged brutality on the part of the attendants, and as a result, in the past two weeks, three attendants have left, two having been dismissed.

Louisville.

New Jewish Hospital.—It has been practically decided that the new Jewish Hospital will be located on Barrett avenue, near the present St. Anthony's Hospital, and the construction will soon begin. The building is to be of ample proportions.

MARYLAND.

Smallpox at Homburgsville.—In a negro camp, on the line of the electric railway from Baltimore to Sparrow's Point, a water suburb, five cases of smallpox have been discovered. The negroes in the camp came from Virginia.

Hospital for Easton.—The physicians of Talbot County met at Easton, April 8, to discuss plans for a public hospital there. Dr. E. M Hardcastle presided. It was the sense of the meeting that each district of the county should be represented on the board of directors. The matter was further discussed at a public meeting April 16.

The Maryland Examination Record.—The statement regarding the highest honor in the state examinations having been carried off by a woman and a graduate of the Woman's Medical College (see issue of March 28) applies to the examinations of the Spring of 1902. There were then 105 applicants, of whom 88 were graduates eligible to examination for license to register as physician and surgeon. The woman in question (No. 57) received an average of 92¾. At the examinations held in December, 1902, of the 30 applicants for license the honors were taken by a Johns Hopkins graduate, with an average of 95¼. It is of interest to note the results of the above examinations. Of the 88, 64 received the average of 75 required to pass. Of the 17 second year students, 12 failed at the same examination. In the December examination, of 30, 9 only passed, and of the 11 who took re-examination at that time not one passed.

Baltimore.

Personal.—Dr. William H. Howell, dean of the Johns Hopkins Medical School, has been elected a member of the American Philosophical Society.

Crim Antiques Auction.—The collection of antiques left by Dr. Crim will be sold by auction, beginning April 22. The catalog lists nearly 3,000 articles.

Appointment.—The supervisors of city charities have appointed Dr. Henry D. Purdum resident physician to the insane department of Bay View Asylum for the ensuing year. Dr. Purdum has been acting as resident physician.

Sickness and Deaths.—The deaths last week were 164, an annual rate of 15.31 per 1,000. Scarlet fever is on the increase and influenza still prevails. Pneumonia has again come down below consumption, the respective figures being 17 and 21.

Suit Against Telegraph Company.—Dr. Howard A. Kelly has brought suit for $2,000 damages against the Western Union Telegraph Company, for alleged negligence to transmit two telegrams to him last October, whereby he was prevented from performing an important operation at Cambridge, Md.

Commitment of the Insane.—In an address before the Bar Association, Dr. George J. Preston, secretary of the Lunacy Commission, stated that the present commitments of the insane signed by two physicians are not legal and that persons so committed may be released under habeas corpus. He proposed an insane law providing for examination by two physicians, whose certificates shall be sworn and submitted to a judge of the Court of Records. He thought the lunacy board should have more power to move and transfer cases, and that all insane people should be under state control instead of in private institutions. Dr. E. N. Brush of the Sheppard and Enoch Pratt Hospital spoke on similar lines.

MASSACHUSETTS.

Personal.—Dr. Edwin Welles Dwight, Boston, has been appointed medical director of the New England Mutual Life Insurance Company, vice Dr. John Homans, deceased.

Smallpox Expense Not Limited.—The legislature has refused to set a limit to the expense incurred in the care of smallpox patients. A bill was urged limiting the liability of cities and towns to $35 per week.

Deaths of the Week.—The 219 deaths in Boston for the week ended April 11 make an annual death-rate of 19.48 per 1,000. Diphtheria caused 8 deaths; scarlatina, 3; typhoid fever, 3; tuberculosis, 26; pneumonia, 29; whooping cough, 2, and heart disease, 29. The number of children who died under 1 year was 36, and under 5 years 52.

Changes in Hospital Staff.—Further changes in the hospital staffs are made by the appointment of Dr. Daniel Fiske Jones as surgeon to out-patients of the Massachusetts General Hospital, Boston, and Dr. William H. Smith, physician to out-patients at the same institution, while Dr. Edwin A. Locke is appointed physician to out-patients at the Boston City Hospital.

NEBRASKA.

Asylum To Be Rebuilt.—The senate has passed the house bill appropriating $100,000 to rebuild the Norfolk Hospital for the Insane.

Fund Grows.—More than $40,000 has been raised toward the building fund of the Methodist Hospital, to be erected in Omaha.

Suit Dismissed.—The suit of Mrs. Sadie Coleman against Dr. John E. Summers, Jr., Omaha, alleging malpractice and claiming $20,000 damages, has been dismissed without prejudice.

New Building for Asylum.—The house committee on asylums has recommended the appropriation of $25,000 for a new building at the Institute for Feeble-Minded Youth, Beatrice.

Personal.—Dr. Daniel R. Brower, Chicago, has accepted the invitation to deliver the doctorate address before the medical department of the University of Nebraska at Omaha, May 14.

NEW YORK.

More Smallpox at Rochester.—Rochester has another epidemic of smallpox to combat. Within 24 hours 5 patients were sent to Hope Hospital.

Hospital Incorporated.—The Frederick Ferris Thompson Hospital, Canandaigua, has been incorporated. This hospital has been given to the village by Mrs. Thompson, in memory of her husband, and is now rapidly approaching completion.

Coroner's Bill Recommitted.—Senator Elsberg's bill abolishing the office of Coroner in Greater New York, which it was announced last week had been passed, was referred back to the Cities Committee by the Assembly, April 8, by a vote of 62 to 48.

Arrested.—Dr. George A. Lyons, New Rochelle, was arrested and held to the grand jury on the charge of manslaughter in the first degree. The arrest was the result of an investigation by the coroner into the death from blood poisoning, of Mrs. William Sears, of New Rochelle.

Approve Regents and Stevens Bill.—Physicians of Rochester have united in a petition to the senators and assemblymen from Monroe County, expressing their approval of the Stevens bill to unify the state's system of education and to place it all under the control of the Board of Regents, and furthermore, commending the board for its impartiality in the conduct of examinations for licenses to practice medicine.

Bill Against Consumptive Sanatoria.—Assemblyman Bedell has introduced a bill making it obligatory to have the consent of the county board of supervisors in order to institute a consumptive sanatorium or tent hospital. This action is taken in anticipation of Health Officer Lederle's desire to organize consumptive tent sanatoriums in selected places outside of Greater New York for the proper treatment of the consumptive poor of New York.

Parochial Schools Exempt.—Attorney-General Cumsen has decided that compulsory vaccination does not apply to the parochial schools. This is a step backward in the endeavor of the state to combat the smallpox epidemic. Had this ruling prevailed during the visitation of smallpox in Buffalo, where its spread was confined to the Polish district, where the children attended the Polish parochial schools, the spread of smallpox could not have been successfully combated in Buffalo.

Personal.—Dr. Luzerne Colville, lecturer on surgery, Cornell Medical College, Ithaca, has resigned on account of disagreements with the Infirmary Committee regarding the management of that institution.——Dr. Thomas L. Craig, Davenport, has contracted smallpox.——Dr. Henry C. Hendrick, McGrawville, was the guest of honor at a banquet given by the Cortland County Medical Society, April 9, in commemoration of his semicentenary of practice.——Dr. Floyd Palmer, East Meredith, has been appointed medical interne at the Matteawan State Hospital.——Dr. Wallace Clarke, has been appointed health officer of Utica, vice Dr. Peter J. Campbell, resigned on account of ill-health.

Buffalo.

Fraud Fined.—H. H. Bridgwater, who is said to have conducted business for the notorious Antonius during his confinement in jail, was arraigned on the charge of violating the health laws in assuming the title of physician and in practicing medicine without a license, and was fined $50.

Personal.—Dr. Herman E. Hayd has been elected attending surgeon to the German Hospital, vice Dr. Herman Mynter, deceased.——Dr. Augustus G. Pohlman of Buffalo, who has been studying for two years at Freiburg, has returned.——Dr. Chauncey P. Smith has been appointed surgeon of the Buffalo, Rochester and Pittsburg Railroad.

Antonius in Prison.—From time to time mention has been made in these columns concerning the operations in Buffalo of Antonius, a so-called healer, who, by paying large advertising rates to the public press muzzled them, and, by virtually making them accessory to his unlawful practices, swindled hundreds of sick and crippled victims, many of them giving up actual necessities of life in order to gather sufficient money to pay the exorbitant fees exacted by him. Antonius was sentenced to serve nine months in the penitentiary. In the case of his assistant, Dr. Frankius Temple, who pleaded guilty to conspiracy to defraud, sentence was suspended

Daily Press Censured.—The grand jury has censured the papers as follows:

> The grand jury of the County of Erie (Buffalo) for February, 1903, believing that the newspapers of Buffalo are and ought to be powerful factors in the improvement of existing conditions in matters affecting our moral and municipal life . . . does hereby express its emphatic disapproval of the course of some of our reputable newspapers in allowing the use of their columns for advertising transparent fakes and frauds for deceiving the public. The grand jury believes that in so doing these papers are lending their aid to schemes for fleecing the credulous and unwary instead of protecting the interests of the public by exposing such frauds or by refusing to publish such advertisements.

New York City.

Annex to Hospital.—Plans have been filed for a six-story brick hospital, 140 by 61, to be an annex to the Willard Parker Hospital. The Department of Health is the owner of the property. The building will be of limestone and brick and will cost $550,000.

Hospital Saturday and Sunday Collection.—The total collections will reach $82,000 and, after deducting $9,902.75 especially designated, along with the necessary expenses, there will remain about $68,000 for distribution to the hospitals of the association on the basis of the free work done.

Arrested and Discharged.—Dr. A. Palmer Dudley was arrested at the instigation of the husband of a patient on the charge of being a suspicious person. The reason for the action was that Dr. Dudley, after consultation with the physician of the patient, had operated in order to save her life. On hearing the evidence, the magistrate promptly discharged Dr. Dudley.

"Spit-Cards."—Beginning March 24, conductors of street cars were instructed to hand to violators of the ordinance against spitting a small yellow card on which the following notice is printed:

> You are violating the law against spitting. You are subject to a fine or imprisonment or both. By order of the board of health.
> E. J. LEDERLE, President.

Personal.—Dr. O. L. Mulot, Brooklyn, has resigned from the medical staff of the Bethany Deaconesses' Hospital and Home.——Dr. Charles Wesley Hall, who has been in charge of the quarantine station at Hoffman Island, has resigned and will resume practice in the west.——Dr. Frederick A. Dillingham, assistant sanitary superintendent for Manhattan, who has served in the department for twenty-one years, was retired, with an annual pension of $1,200.

OHIO.

Smallpox Alarming.—The smallpox situation in the state is causing alarm to the authorities. In the last 8 weeks 1,363 cases have been reported, with 73 deaths. The State Board of Health is vigorously urging general vaccination.

Personal.—Dr. James J. La Salle, Toledo, police surgeon and assistant health officer, has resigned and will study abroad.——Dr. William A. Ewing, Dayton, has been appointed jail physician.——Dr. Christian R. Holmes, Cincinnati, is visiting Denmark and will visit other points in Europe.——Dr. K. S. West has been appointed assistant physician at the Cleveland State Hospital for Insane.——Dr. Edward J. Wilson, Columbus, has been appointed a member of the Ohio State Board of Medical Registration and Examination for a term of seven years.

PENNSYLVANIA.

Hospital Contract Awarded.—The contract for building the Allegheny General Hospital has been awarded to a Philadelphia firm.

Hospital Appropriation Bills Signed.—Governor Pennypacker has signed bills appropriating $260,000 each to Jefferson Hospital and to Medico-Chirurgical Hospital, Philadelphia.

Embezzler Sentenced.—J. Howard Climenson, defaulting treasurer of the Pennsylvania Epileptic Hospital and Colony Farm at Oakbourne, having pleaded guilty to three indictments

charging him with embezzling $9,106 from the institution, was sentenced to serve eight years in the Eastern Penitentiary. His defalcations are said greatly to exceed the amount charged in the indictments.

Country Convalescent Home.—A new country home for convalescent children has been established at Gwynedd, Montgomery County. The institution is a large handsome mansion on the brow of a hill. Pure air, pure water, choice food and outdoor recreation are provided. A few philanthropists of Philadelphia have chartered the home and have thus far supported it. Its expenses are estimated at $4,000 a year.

State Board of Barbers.—A bill creating a state board of barbers awaits the action of the governor. The board would consist of two master and three journeymen barbers who should formulate sanitary regulations and rules for the conduct of shops. The bill would impose a license fee of $1 on every barber of first, second or third-class cities or in boroughs of 10,000 population. The bill is generally commended by the trade.

Bills Passed and Pending.—A bill appropriating $50,000 for combatting smallpox in Pennsylvania has been passed by the legislature and signed by the governor. The fight against smallpox is to be conducted under the direction of the State Board of Health, with headquarters, perhaps, at Johnstown. ——The bill introduced into the legislature providing for the licensing of osteopaths was defeated in the house by a vote of 89 yeas to 67 nays, 14 less than a constitutional majority.

Governor Wants Appropriation Bills.—The governor has asked that the bills passed on favorably in the legislature appropriating money for hospitals connected with medical colleges all be sent to him at once. The following, of such appropriations, are recommended: Medico-Chirurgical Hospital, $290,000; Jefferson Hospital, $260,000; University of Pennsylvania Hospital, $175,000; Hahnemann Hospital, $125,000; Polyclinic Hospital, $55,000; Garretson Hospital, $40,000; Women's Hospital, $25,000, all of Philadelphia, and Reineman Maternity Hospital, Pittsburg, $25,000

Public Health and Charities.—The bill providing for the department of public health and charities on Philadelphia has become a law. This new department supersedes the Department of Charities and Correction, which is abolished. The bureau of Correction is now placed in the Department of Public Safety. The bill provides that:

> The Department of Public Health and Charities shall be under the charge of a director and an assistant director, whom the mayor shall appoint, to which department shall be confided the care, management, administration and supervision of the public health, charities, almshouses, hospitals and all other similar institutions, the control or government of which is intrusted to the city.
>
> The director of public health and charities, as chief executive officer thereof, shall appoint, supervise and control all the subordinate officers and employes attached to the department, and shall appoint all vaccine physicians and health inspectors; and all hospitals belonging to the municipality where provision is made for the care of contagious diseases shall be under the immediate supervision and control of the director of public health and charities.
>
> The director of the Department of Public Health and Charities shall also be appointed by the mayor, but his term of office shall be four years from the date of his appointment if he shall so long behave himself well.

An ordinance has been introduced into councils providing for the new department, an appropriation being necessary. The annual salary of the director of the Department of Public Health and Charities is to be $10,000; assistant director, $4,000, and chief clerk, $2,500.

Philadelphia.

The New Jefferson Hospital.—The old buildings at Sansom and Tenth Streets are being torn down preparatory to the erection of the new Jefferson Hospital building.

Morbidity.—Typhoid fever still claims a large number of victims. For the week ended April 4 there were 184 new cases. There were 48 new cases of diphtheria, 105 of scarlet fever, and 27 of smallpox.

Infectious Diseases.—Typhoid fever still has a large number of victims. To the bureau of health for the week ended April 11, 204 new cases were reported; of diphtheria 50; of scarlet fever 70; and of smallpox 16 new cases.

Personal.—Dr. John Marshall, professor of chemistry in the University of Pennsylvania Medical College and dean for many years, has been granted a leave of absence owing to ill health. It is said that he will soon sail for Europe.——Dr. John I. McKelway, acting chief resident physician of the Philadelphia Hospital, has tendered his resignation, to take effect April 15. He has accepted a position as chief physician of the city hospital, at Binghamton, N. Y.

Evans Institute.—At a recent meeting of the directors of the proposed Thomas W. Evans Museum and Dental Institute the city solicitor announced that there is now available, from the estate of Dr. Evans, about $2,500,000 for building and endowment of the institute, which is to be located in West Philadelphia. The will provides that the institution shall give free instruction in dental surgery.

March Temperature.—The month of March was a record breaker as regards temperature in Philadelphia. The mean temperature for the month, 49.4, was 3.2 in excess of that for March, 1902; 8.5 in excess of the normal for the past thirty-two years, and 8 in excess of the previous record, which occurred in 1871. The temperature was as low as the freezing point on but two dates, and the mean temperature was above normal on all but two dates. The total rainfall was 4.38 inches, 1 inch in excess of the normal.

TENNESSEE.

Firm Sued.—Suit for alleged malpractice in an operation and after-treatment has been brought by J. W. Bowden against "Dr. Roland Register & Co.," Memphis, with damages of $10,000.

State Board Commended.—The house committee appointed to investigate the State Board of Health has reported that valuable service has been rendered and that the board has practiced splendid economy. It especially eulogizes the work of the secretary and executive officer, Dr. James A. Albright, and recommends that his salary be increased to $2,000 per annum. It also recommends an appropriation of $5,000 for the "prevention and suppression of human epidemic diseases."

Happel on Ethics.—In his address to the first class of medical students at Vanderbilt University, Nashville, who had completed the four years' course, Dr. T. J. Happel gave much practical advice concerning the ethics of the medical profession. The code of ethics, said he, should be to the student a pillar of cloud by day and a fire by night to guide him aright. He likened the relation of the physician to his patient to that of the priest to his confessor. A physician should at all times be ready to furnish to his brothers all information possible, and magnanimity should characterize his conduct at all times. All physicians except those who have a qualifying adjective before their vocation, may be called in consultation. The practice of advertising with flaming circulars and handbills is to be condemned. A young physician should be cautious in starting his professional career, and should avoid proclaiming from the court house and church that he has come to town, as he understood the place was in need of a live practitioner. He characterized the offering of expert testimony by a physician in court as the most thankless work that can be done by a physician. He gets a paltry sum for this trouble, loses time and money, and draws the ridicule of the opposing counsel. The compensation in such cases should be paid by the state. He urged his hearers to be men as well as physicians, and to make good citizens, not afraid to speak on matters of the day because they are physicians.

WISCONSIN.

Fear Hydrophobia.—On account of threatened hydrophobia, the mayor of Kenosha has ordered the police to kill all dogs found running at large.

Tuberculosis Sanatorium.—Dr. William B. Hopkins, Cumberland, is making arrangements to open a sanatorium for consumptives on the shores of Lake Nebagamon.

Gives House for Hospital.—H. H. Camp, Milwaukee, has deeded his residence to the Children's Hospital Association, and in addition has contributed largely to the endowment fund of the institution.

Women Want Spitting Stopped.—Milwaukee women have sent a petition to the city council requesting an ordinance prohibiting spitting on the floors of street and railway cars, public conveyances and buildings, etc.

Guilty, but Sentence Suspended.—In the case of Dr. B. Fowler Baker, Milwaukee, charged with violating the health laws by not reporting that he was ill with smallpox, was found guilty, but sentence was suspended without payment of costs.

GENERAL.

To Senn Prize Contestants.—Will the author of the article which was offered for the Senn prize of 1901, under the motto "Victrix Fortunae Sapientia," send his name and address to the Editor of The Journal?

Personal.—Major A. Gregory Hull, chief surgeon of the Soldiers' Home at Leavenworth, Kan., has been appointed chief

surgeon of the new Soldiers' Home Sanitarium at Hot Springs, S D. He will be succeeded by Dr. John L. Fryer, assistant surgeon at Leavenworth.

Fear Plague in Kansas.—A telegram in the daily press states that plague may exist in Rice County, Kansas. A tramp was hired to work with a section gang and is alleged to have been the cause of the death by disease of nine laborers. The possibility of ptomain or other method of poisoning is not mentioned. Dr. Charles Lowry, secretary of the State Board of Health, is said to have gone to Rice County to investigate the matter.

Navy Medical Corps' Increase.—The new law provides for 150 more physicians in the Navy, 25 of whom are to be appointed each year for 6 years. In addition, about 10 vacancies are caused yearly by casualties, retirements, etc., which makes a total of about 35 positions available yearly. The pay is from $1,400 to $2,300 during the first ten years, according to rank. Higher officers receive more. A new officer is first assigned to a naval hospital, of which there are fourteen. A course at the medical school follows, taking up work with which a civilian is not so familiar. After this the surgeon is assigned to sea duty. The equipments of hospitals, medical school and of most ships is ample and modern. Further information may be had of the Secretary of the Navy. Entrance requires no political or other influence. Candidates must be physically sound, aged between 21 and 30, and must pass an examination similar to that of a state board. The examiners are in continuous session at Washington, D. C., and Mare Island, Cal.

CANADA.

Montreal Civic Hospitals.—The erection of the new Protestant hospital for contagious diseases in Montreal will soon be started. The plans for the Civic Contagious Diseases Hospital are being prepared. These hospitals will be on similar plans.

Queen's University Medical Convocation was held April 9. The chancellor's prize of $70 was won by Mr A. H. Leonard of Kingston, but as he is unable to hold both it and a hospital house-surgeoncy, the honor passes to G. H. Ward of Napanee. The graduates were laureated by the chancellor and Dr. Herald, secretary of the medical faculty. Mr. J. L. McDowall was the valedictorian.

Suppression of Tuberculosis in Montreal.—The Montreal City Council will aid the recently inaugurated League for the Suppression of Tuberculosis in that city. The hygienic committee has decided to ask all physicians to report every case of consumption in their practices. The city inspectors will then be sent to the residence of the patient with printed instructions. Dr. Laberge, M H. O., intimated that within a short time a special hospital for tuberculosis would be erected either in or near the city.

Personal.—Dr. Augustus Robinson, after half a century's practice and residence at Annapolis, N. S., has decided to remove to the Canadian Northwest, where he intends going into the ranching business.——Dr. Wesley Mills, Montreal, professor of physiology in McGill University, is visiting in British Columbia, and on March 31, addressed the Medical Society of Victoria. The lecturer demonstrated with lantern slides how the more recent methods of studying the anatomic elements of the nervous system had resulted in a great increase of knowledge.

Few Anti-Vaccinationists.—A public meeting was held in Toronto one evening during the past week at which there were no friends of vaccination present. The proceedings began with the introduction of a resolution calling for the repeal of the vaccination act and the abolition of all regulations regarding vaccination as a condition of admission to educational institutions or employment in state departments. It can not be said that the anti-vaccination feeling in Toronto is a strong one, as only 150 people attended the meeting out of a population of a quarter of a million.

Medicolegal Case of Interest in British Columbia.—A charge of drunkenness was made against a Victoria physician who attended a confinement at which the woman died. The counsel for the husband sought a writ of mandamus to compel the College of Physicians and Surgeons of British Columbia to hear and determine a complaint against one of their members. The plaintiff first appealed direct to the medical council, instead of instituting a civil suit, on the ground that while he would not think of accepting any money consideration for the loss of his wife, he believes that the public should be protected from physicians rendered incapable by chronic indulgence in liquor. But the medical council refused to act in the matter, hence the proceedings before the court. Judgment was reserved.

The Lady Minto Cottage Hospital Fund.—Addressing a number of business men of Ottawa who were gathered at Government House one day last week, Lady Minto explained what had been accomplished in connection with the cottage hospital fund. About $20,000 had been raised and the districts most in need of hospitals had been assisted. Ten hospitals are now in working order. Four will be opened this spring; and there are now 68 Victorian nurses, of whom some were employed in hospitals and some in district nursing. Lady Minto explained that her object was to raise enough to create an endowment fund of $5000 a year. Dr. Gibson, honorary secretary of the Victorian order, explained that it was the desire of the Countess of Minto to have the endowment fund raised before her departure from Canada. The capital sum aimed at was $123,000; and toward that end a few gentlemen in Montreal had already raised some $36,500. The meeting decided to appoint a committee to begin the work of organization.

FOREIGN.

The German Society of Physicians and Naturalists will hold its seventy-fifth congress at Cassel, September 20 to 26.

The Seventh International Congress of Otology will be held at Bordeaux, April 1 to 4, 1904. Dr. Lermoyez is the secretary-general and can be addressed at Paris, rue la Boetie, 20 bis.

Congress of Sick Benefit Societies.—The second general congress of the "Krankenkassen" of Germany, at Berlin, March 15, was attended by 1,128 delegates, representing 5,300,000 policy holders.

The Dean of the Profession in France.—Dr. David of Montpellier celebrated his 102d birthday February 10. He retired from practice at 98, but still takes his daily stroll and regular meals. He has an especial reputation for the treatment of anthrax, and patients still come from a distance to consult him.

Charlatans in Germany.—Saxony has 945 charlatans to 1,957 regular physicians, and in some towns the former outnumber the latter. One at Leipsic has been fined $75 for advertising and selling several "infallible remedies" at exorbitant prices, proved to be merely a mixture of flours, salt, sugar, etc., or ordinary tea, etc.

Osiris Prize at Paris.—A Paris millionaire has endowed a prize of $20,000 to be awarded every ninth year for some valuable scientific work. The first award has just been made to Dr. Emile Roux, sub-director of the Pasteur Institute, who shares with Behring the honor of the discovery of serum treatment of diphtheria.

Suspension of Botkin's Gazette.—Our Russian exchange, the "Bolnitschnaya Gaseta Botkina," although well in its fourteenth year of publication, announces its impending suspension. This makes the third Russian periodical that has expired this year, the others being the valuable "Russki Arkhiv Pathologie" and the "Vestnik Chirurgii."

Bulletin de l'Institut Pasteur.—Six of the medical men connected with the Paris Institut Pasteur have commenced the publication of a fortnightly periodical. It is intended to be devoted to reviews and abstracts of works on bacteriology, medicine, general biology, biologic chemistry and physiology in their relations with microbiology.

International Health Resort Exposition.—This international exposition is to be held at Vienna September 12 to October 20. Panoramas and views, plastic representations and other interesting details of information in regard to the watering places and health resorts of the world will be exhibited, with displays of the waters, arrangements for sanitation and amusements, etc.

French Physicians Decorated by Emperor William.—The order of the crown, second class, has been conferred on Lannelongue, professor of surgery at Paris, and of the third class on Landouzy, professor of internal medicine. The decoration is a token of recognition of their efforts for science in general and in the prophylaxis of tuberculosis in particular. They were delegates to the Berlin Tuberculosis Conference.

Consent in Emergency Operations.—The military medical authorities at St. Petersburg have notified all the surgeons and hospitals under their jurisdiction that in emergency cases, when it is impossible to secure the consent of the unconscious subject and his family live too far away for their consent to be obtained, the official approval of the physicians of the hospital shall be regarded as equivalent to the consent of the interested parties.

Ethics of Treating the Patient of Another Physician.—A decision of the Prussian Medical Court of Honor in a recent case proclaimed that every physician is entitled to undertake treatment of all who apply to him in his office hours without regard to whether they have already consulted another physician or not. Also that there is no ground for a general obligation on the part of the physician that he must inform himself in regard to whether a patient applying is already under the treatment of another physician. Only when special circumstances arise that indicate previous application for medical aid, is such inquiry called for. When a physician knows that the applying patient is already in the care of another physician, it is obligatory on him to inform the latter that he has taken charge of the case.

The Promiscuity of the Madrid Congress.—The "Semaine Médicale" of Paris has long vehemently protested against the action of the executive committee in charge of the approaching international medical congress, in opening the congress to others besides physicians. "It is not a medical congress," it states, "but a congress of physicians, pharmacists, dentists, veterinarians, midwives, etc., etc" Under these circumstances the "Semaine" announces that, loyal to principle, it will abstain from publishing a report of this congress "for which history will doubtless reserve a blank page." The international congress of the medical press convenes at Madrid two days before the general congress, and the same rulings as to membership have been adopted by the committee in charge. It is open to "journals of medicine, pharmacy, odontology and veterinary surgery." The "Semaine Médicale" also comments with amazement on the fact that the general elections have been appointed for the same week as the congress, by royal decree published March 27. The excitement of a political campaign is not conducive to the success of a scientific gathering.

LONDON LETTER.

Cancer in Ireland.

The increase of cancer in England has been referred to previously in The Journal. Official figures just published bear out the same alarming result in the case of Ireland. They derive additional interest from the fact that the mode of life in the two countries differs widely. No increase of urban population at the expense of rural, with its associated development of factory life, which, in some indirect fashion, may be supposed to play a part in the increase of cancer, has taken place in Ireland. Since 1864, when the mortality from cancer was 2.7 per 10,000 living, it has steadily risen until 1901, when it reached 6.5. In 1891 it was 4.6 and in 1900 6.1. It varies considerably in the different counties. It is lowest in Kerry (2.54) and highest in Armagh (10.4). In the latter county it is highest in the parts without mountains The registrar-general issued a memorandum asking for particulars of any cases which might throw light on the origin of the disease. Analysis of the replies yields the following results: 1. In many cases cancer occurs in the same family; grandparents, parents and other relatives suffering. 2. Frequently there is also tuberculosis in the family. 3. It has occurred in those who have used tobacco pipes of persons suffering from cancer of the lip. 4. It has occurred amongst different families living in the same house, simultaneously or successively. Some of these facts point to a contagious origin of the disease.

The Antimonial Poisoning Cases.

The trial and conviction of Severino Klosowski, which has just taken place, discloses one of the most remarkable series of cases of poisoning in the annals of crime, which, moreover, presents points of medicolegal interest. The prisoner is a Pole who came to England in 1888. In 1897, having left his wife, he lived at Hastings with another woman. He purchased from a druggist an ounce of tartar emetic. The woman died in 1898. He then lived with another woman, who soon sickened and died. The symptoms appear to have been the same in both cases—persistent vomiting and exhaustion being the predominant ones. But in the one case the physician in attendance certified that death was due to phthisis, in the other to intestinal obstruction. He then lived with another woman, who soon became fatally ill. Fortunately, the physician who attended the last woman was again called in. His suspicions were aroused by the fact that the symptoms resembled those in the previous case, and he insisted on a necropsy being made. Antimonial poisoning was found to be the cause of death. The bodies of the other two women were exhumed and death in their cases was also found to be due to the same cause. Although one body had lain in the grave four years, it was in a remarkable state of preservation—the effects of antimony. The judge commented severely on the failure of the physicians to recognize the illness of the women whom they were attending The only point made by the defense was the absence of motive on the part of the prisoner, for, as he had not married any of the women, he could have got rid of them without killing them. Perverted sexuality seems to be the most plausible explanation.

Rare Form of Deposit (Calcium Carbonate) in Joints.

At the Royal Academy of Medicine in Ireland, Prof. E. H. Bennett showed specimens of a curious deposit he had found in the joints of the body of an aged male used in his class in operative surgery. There was trivial rheumatic arthritis in the joints of the hands and feet, elbows and knees. In the hips, shoulders and sterno-clavicular and tempero-maxillary joints were white markings. There was none in the balls of the great toes, nor any tophi in the pinnæ of the ears. Thus the position of the deposits was the reverse of that seen in gout. The murexid test failed to show the presence of uric acid. Chemical examination showed that the deposit consisted of calcium carbonate, which microscopic examination showed was present in the form of rhombic crystals.

The Physical Condition of School Children.

The physical deterioration of the town population, which ever increases at the expense of the country, has given rise to serious forebodings by those interested in the national welfare. A royal commission, appointed to inquire into the physical training of children in Scotland, has just presented its report. The principle that education should consist in training the body as well as the mind, though acted on in the schools of the upper classes and in the universities, is systematically ignored in the state-provided schools for the mass of the population. The commissioners ask for a more comprehensive conception of school life than prevails, and provision of larger playgrounds and exercise halls. They consider that too many subjects are attempted to be taught and that the children are too closely confined to their books.

The Plague in India.

The plague epidemic throughout India is steadily increasing. The deaths last week numbered 25,882, as against 25,870 for the previous seven days, and 12,695 for the corresponding week last year. In Bombay city there were 716 deaths; in Calcutta, 171; in Karachi, 25, and in Poona about 600. The Bombay presidency reported 10,835 deaths; the Madras presidency, 604; Bengal presidency, 2,941; the United provinces, 2,995; the Punjab, 3,581; the Central provinces, 1,203; the Mysore states, 526; the Hyderabad state, 1,640; Central India, 435; and Kashmir, 1,717. The increase is general, but Poona and some other places seem to suffer out of all proportion to the number of the population. During the past fortnight the death rate in Poona has been about 500 per 1,000 per annum. In Calcutta the rate has never reached 100, while even in Bombay it has not exceeded 150 in any of the outbreaks.

Smallpox in Dublin.

There is a smallpox epidemic raging in Dublin just now; no fewer than 53 cases being under treatment.

Correspondence.

Tropical Medicine.

Minneapolis, Minn., April 8, 1903.

To the Editor:—I note your suggestions on the study of tropical diseases, and I note Dr. Ashmead's reply to your suggestion in The Journal of April 4. I fully agree with you that the American Medical Association should give special attention to the study of tropical diseases. I do not believe that the Section on Hygiene and Sanitary Science is in itself the proper place for such subjects. They should be studied from the broader field of general medicine. At the same time, the sanitary feature should not be lost sight of, and if a joint meeting could be given by Sections on Medicine and Sanitary Science it would seem that the greatest amount of good might thus be accomplished. You will note that these two sections have arranged for one day's work in joint meeting this year, and we have arranged a program covering diseases that partly, at least, would be looked on as tropical, viz., yellow fever, plague, malaria and typhoid fever. I note that the Section on Medicine is also to have a very thorough discussion of dysentery. I believe that these subjects (communicable dis-

cases) should be studied first in joint meeting. To try to consider them from the sanitary side alone is a mistake. Sanitarians should be in the medical section largely and should be working from that point of view, so far as the American Medical Association is concerned in dealing with these diseases. It would seem to me that a committee might be formed from these two sections to look into this matter of a joint meeting during one day at least of this session of the Association each year. If it appears that the Section on Medicine is too heavily loaded already, then I would certainly feel that there should be a subsection under medicine to have charge of these matters.

I am rather inclined to think that the American Medical Association would get the greatest amount of good out of the Section on Hygiene and Sanitary Science if it were a subsection of medicine. Very truly,

H. M. BRACKEN.

Osteopathy and Legislation.

NEW YORK, April 10, 1903.

To the Editor:—My recent letter to THE JOURNAL on this subject has brought a number of letters from physicians who have been interested in the matter, and I have received voluminous literature in the way of arguments. Right here lies the weak point in our opposition. Arguments on both sides have been so extensive that they have sometimes become top heavy and have fallen by their own weight, toppling occasionally in the wrong direction. A very able lawyer who presented the interests of the osteopaths before one legislative committee told me afterward that he had no fear of the physicians or of their lawyers, but when he saw the osteopaths slip up on making a demonstration when opportunity was given them to move a few bones, he at once lost faith in his clients and would have nothing more to do with them. He told me that he had taken up their cause in perfectly good faith, and was convinced that he was to be a public benefactor.

If members of a legislative committee object to having specimens from human cadavers placed on the table before them the fresh rack of a sheep will always suffice. The fraudulent nature of the claims of the osteopaths will be so apparent to any laymen when the osteopaths are asked to "show the gentlemen" how they move bones, that the elaborate and convincing arguments on both sides can be dispensed with.

58 West 56th Street. ROBERT T. MORRIS.

Catgut Preparation.

BANGOR, ME., April 4, 1903.

To the Editor:—As soon as Claudius' method of preparing catgut appeared I carefully prepared some imported gut, Nos. 0, 1 and 2. On trial the gut was brittle and absolutely worthless. The solution is also offensive and black. The same lot of gut was prepared by Hofmeister's method, and is as good as gut can be. The solution is clear and sparkling, and the gut can be boiled without injury. It lasts too long in the tissues, which is a good fault and can be remedied by using the smaller sizes WALTER L. HUNT, M.D.,

Visiting surgeon E. M. G. Hospital.

Light on Lupus.

CINCINNATI, April 13, 1903.

To the Editor:—In your issue of April 11 there appeared an article on "Light in the Treatment of Lupus and Other Chronic Skin Affections," to which I wish to offer the following criticism, in order to correct some possible mistaken impressions, and any resulting deleterious influences: The four cases of lupus, reported cured by this method, bear no resemblance to lupus, either from the appearance of the pictures or from the clinical history. The process not only began too late in life, in adults from 21 to 52 years of age, but also pursued an entirely too rapid course, two weeks to one year in each individual case.

M. L. HEIDINGSFELD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

FETAL MORPHIN ADDICTION.

COLORADO, April 10, 1903.

To the Editor:—Concerning a very peculiar case in my regular work I wish a little information: April 3 I delivered a multipara of a nine pound boy. The mother had been addicted to the use of morphin for the past three years. The child appeared to be healthy and perfect in every respect with excretions normal. On the second day it began to cry, and cried continuously for two days and nights despite the free use of paregoric. At the end of that time the baby had become so weak that I saw no hope for it, but gave 1/120 gr. of morphin and got an immediate quieting effect. The baby is now eight days old and by the use of 1/120 gr. of morphin every other day it has begun to gain weight and strength, but if one dose of morphin is omitted it is immediately attacked with a crying spell and will not stop until it gets its morphin.

Now I would like to know if it is possible for a fetus to contract the morphin habit, and if there is any other similar case on record.

O. D.

ANS.—The case is not an extraordinarily unusual one, as the infant is often affected by the habits of the mother. The child should not be allowed to grow up a morphin habitué, and we advise discontinuing the opiate, carefully studying the symptoms and directing treatment thereto.

LANGENBECK'S TRIANGLE.

WASHINGTON, D. C., April 10, 1903.

To the Editor:—Please inform me where and what is "Langenbeck's triangle." R. S. PORTER, M.D.

ANS.—It is an isosceles triangle, of which the apex corresponds to the anterior superior iliac spine, the base to the anatomic neck of the femur and the external side to the external face of the great trochanter. Penetrating wounds within this triangle may be intra-articular.

State Boards of Registration.

Amended Nebraska Law.—The medical practice law of Nebraska has been amended by the legislature at its late session so as to make an examination, successfully passed, an essential before obtaining a license. The amended sections of the law now read:

Section 19.—Every holder of a diploma from a recognized medical college within the state of Nebraska, making application for an examination and a certificate under the provisions of this act, shall pay to the board of secretaries prior to his examination the sum of ten dollars ($10.00). All other persons making such application shall pay to said board the sum of twenty-five dollars ($25.00). All such fees shall be equally divided among the four secretaries of the board as full compensation for their services and expenses. For the taking of any testimony each of the secretaries shall be entitled to charge and receive such fees as are provided for notaries public for similar services. No part of such fees shall be paid out of the state treasury.

Section 7. It shall be unlawful for any person to practice medicine, surgery or obstetrics or any of the branches thereof, in this state, without first having applied for and obtained from the state board of health a license so to do. Application therefor shall be in writing, and shall be accompanied by the examination fees hereinafter specified and with proof that the applicant is of good moral character. Applications from candidates who desire to practice medicine and surgery in any or all their branches shall be accompanied by proof that the applicant is a graduate of a medical school or college in good standing, as defined in Section eight (8) of this Article. When the application aforesaid has been inspected by the board and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination at the time and place mentioned in such notice. Examinations may be made wholly or in part in writing by the board and shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner. The examination of those who desire to practice medicine and surgery in any or all their branches shall embrace those subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine, by reputable medical colleges in the United States. All examinations provided for in this act shall be conducted under rules and regulations prescribed by the board, which shall provide for a fair and wholly impartial method of examination. It is also provided that examinations on practice of medicine and therapeutics shall be conducted by the member or members of the board of secretaries who are of the same school of medicine as the applicant. And it is further provided, that the said state board of health may, at their discretion, admit, without examination, legally qualified medical practitioners, who hold certificates to practice medicine in any state with equal requirement to those of the state of Nebraska.

Section 10. If upon investigation of the proofs submitted to the board, and after the examination, as hereinbefore provided, the applicant shall be found entitled to practice, there shall be issued to said applicant the certificate of said board under its seal and

signed by its secretaries stating such fact, and it shall be the duty of the applicant before practicing to file such certificate or a copy thereof in the office of the county clerk of the county in which he or she resides or in which he or she intends to practice; such certificate or copy shall be filed by the county clerk and by him recorded in a book kept for that purpose, properly indexed, to be called the "Physicians' Register," and for such services the county clerk shall receive from the applicant the same fees as are allowed to the register of deeds for the recording of conveyances.

Montana Report.—Dr. W. C. Riddell, secretary of the board of Medical Examiners of Montana, reports the examination held at Helena, April 7 and 8, as follows: Number of subjects examined in, 10; total number of questions, 50; percentage required to pass, 75; written examination; total number examined, 25; passed, 17; failed, 8.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
12	H.	Chicago Homeopathic College.....	1901	80.2
9	R.	College of Phys. and Surgs., Chicago.	1902	76.5
15	R.	College of Phys. and Surgs., Chicago.	1902	75.2
5	R.	Coll. of Phys. and Surgs., Milwaukee	1900	84.2
2	R.	Harvard Medical School.....	1902	82.1
3	H.	Hahnemann Medical College, Phila..	1899	79.9
11	R.	Laval University	1884	75.1
7	R.	McGill University, Montreal.....	1902	75.1
13	R.	McGill University	1895	82.9
8	R.	Northwestern University, Chicago...	1897	75.3
1	R.	Northwestern University, Chicago...	1875	75.1
6	R.	Rush Medical College, Chicago.....	1900	76.8
16	R.	Rush Medical College, Chicago.....	1902	81.1
14	R.	Rush Medical College, Chicago.....	1901	76.3
4	R.	University of Minnesota.....	1900	82.5
17	R.	University of Michigan.....	1886	85.1
10	R.	Vanderbilt University, Nashville....	1899	80.1

FAILED.

20	H.	Boston University	1898	67.4
24	R.	College of Phys. and Surgs., Keokuk.	1875	22.6
22	R.	Coll. of Phys. and Surgs., Kan. City.	1902	47.3
27	E.	Eclectic Medical College of Maine...	1883	*
18	H.	Hahnemann Medical College, Chicago	1883	31.7
21*	H.	Hahnemann Med. Coll., Kansas City.	1899	58.2
25	R.	University Med. Coll., Kansas City..	1900	46.1
23	R.	University of Michigan.....	1891	50.4
19	R.	Vanderbilt University	1893	56.8

* Refused license because diploma is not recognized by this board. This college was organized in 1881 and its charter was revoked in 1887.

The board resolved to discontinue issuing temporary licenses, and not to reciprocate with any other state before the next meeting, Oct. 6, 1903.

New Jersey Improvements.—The State Board of Medical Examiners of New Jersey has secured amendments to the medical practice act of that state by which the academic standards for admission to the state examinations have been raised from a competent common school education to a diploma issued after four years of study in a normal, manual training or high school of the first grade in that state, or its equivalent. The medical requirements have been increased from three to four courses of medical lectures of at least seven months each, in different calendar years, prior to receiving the degree of doctor of medicine. The amendments go into effect July 4, 1903. After that date candidates for examination or for the endorsement of a license issued by a recognized examining board of another state, will be obliged to comply with the new standard of requirements for a New Jersey license.

Marriages.

JOHN F. SLOAN, M.D., Peoria, Ill., to Miss Mamie McDonough, at Chicago, April 4.

WESLEY T. MULLIGAN, M.D., to Miss Sallie Macy Brewster, both of Rochester, N. Y., April 1.

NICHOLAS IVANOVITCH ARDAN, M.D., to Miss Minnie Cabel Roberts, both of Richmond, Va., April 2.

WILLIAM CHAMPION DEMING, M.D., to Miss Imogen Hawthorne, both of New York City, April 15.

WILLIAM E. VADEN, M.D., Rich Creek, Tenn., to Miss Katherine Louise Cathey of Verona, Tenn., March 18.

Deaths.

George Anthony Collamore, M.D. Harvard University Medical School, Boston, 1859, one of the oldest, most successful and most prominent physicians of Toledo; a member of the American Medical Association; a charter member of the Toledo Medical Society and several times its president and secretary; secretary of the Ohio State Medical Society from 1882 to 1891, and for the following two years its president; major-surgeon of the One Hundredth Ohio Volunteer Infantry during the Civil War; from 1872 to 1876 coroner of Lucas County; health officer of Toledo in 1876, and from 1887 to 1891, died at his home in Toledo, April 8, from paralysis after an illness of ten days, aged 69.

Albert George Edwards, M.D. Missouri Medical College, St. Louis, 1859, University Medical College, Kansas City, Mo., 1892, formerly president of the Northern Kansas and Marshall County Medical societies, and of the Society of Surgeons of the St. Joseph and Grand Island Railway; member of the American Association of Railway Surgeons; a practitioner of Marysville, Kan., for more than forty years, and a veteran of the Civil War, died suddenly from heart disease at Perry, Okla., April 1, aged 65.

Hiram S. Roberts, M.D. Jefferson Medical College, Philadelphia, 1866; hospital steward of the Eighty-third Illinois Volunteer Infantry in the Civil War; for nearly forty years a practitioner of Manhattan, Kan.; some time president of the Kansas Medical Society, and member of the State Board of Health; formerly surgeon-general K. N. G., died at his home in Manhattan, April 1, from pneumonia, after an illness of ten days, aged 62.

Joseph Stanford Ames, M.D. Berkshire Medical College, Pittsfield, Mass., 1858, died, April 1, from mitral disease at his home in Holden, Mass. He had been a member of the Massachusetts Medical Society since 1860 and had been in active practice in Holden, Mass., for 44 years.

Sheldon Stringer, M.D. Tulane University, New Orleans, 1859, surgeon in the Confederate service during the Civil War; a member of the American Medical Association; member and ex-president Florida State Medical Association, died at his home in Brooksville, Fla., April 7.

John E. Sanborn, M.D. Harvard University Medical School, Boston; 1850, surgeon of the Twenty-Seventh Iowa Volunteer Infantry during the Civil War, mustered out as surgeon-in-chief of the Sixteenth Army Corps, died at his home in Melrose, Mass., April 1, aged 79.

William C. Fritz, M.D. University of Buffalo, 1892, a member of the American Medical Association, who had suffered for four or five years from heart disease, died suddenly in the home of a patient in Buffalo, N. Y., March 31, aged 36.

Charles Lawrence Siegel, M.D. Medical College of Virginia, Richmond, 1891, died at the home of his mother, near Richmond, Va., April 4, from tuberculosis of the throat, after an illness of two years, aged 33.

Joseph F. Harrell, M.D. Castleton (Vt.) Medical College, 1855, a member of the Medical Society of the State of North Carolina, died at his home in Whiteville, N. C., March 31, aged 70.

William B. Town, M.D., one of the oldest practitioners of Lenawee County, Mich., died at his home in Geneva, April 1, after an illness of several years, from dropsy and heart disease.

August Negendank, M.D. Philadelphia College of Medicine and Surgery, 1854, died at his home in Wilmington, Del., from paralysis, March 31, after an illness of three days, aged 79.

Edgar Perry, M.D. Harvard University Medical School, 1898, a member of the Massachusetts Medical Society, died at his home in Boston from paralysis, April 8, aged 48.

J. H. Bryant, M.D., formerly a resident of St. Paul, Minn., died at his home in Los Angeles, April 5, from cerebral embolism, after an illness of five days, aged 69.

E. H. Williams, M.D. Medical College of the State of South Carolina, Charleston, 1879, died at his home in Walterboro, S. C., March 31, from apoplexy, aged 45.

Reinhard H. Weber, M.D. Jefferson Medical College, Philadelphia, 1866, died suddenly from apoplexy at his home in Philadelphia, March 30, aged 59.

Russell P. Fay, M.D. New York Homeopathic Medical College and Hospital, 1887, died at his home in Yonkers, N. Y., from pneumonia, March 30, aged 39.

E. Darwin Ayres, M.D. New York University, 1852, died at his home in Little Rock, Ark., April 8, from paralysis, after an illness of five days.

Alfred L. Murtha, M.D. Baltimore University School of Medicine, 1901, died at his home in Brooklyn, N. Y., from pneumonia, March 22, aged 25.

I. H. Hand, M.D. Reform Medical College of Georgia, Macon, 1851, died at his home in Leary, Ga., March 22, from heart disease, aged 80.

William G. Allen, M.D. Albany (N. Y.) Medical College, 1857, died at his home in Mansfield, Mass., April 5, after a long illness, aged 69.

A. G. North, M.D. Atlanta (Ga.) Medical College, 1879, aged 47, was struck by a train at Hampton, Ga., March 29, and instantly killed.

William D. Hutchings, M.D. Indiana Central Medical College, Indianapolis, 1851, died suddenly at his home in Madison, Ind., April 3.

John Maclay, M.D. Jefferson Medical College, Philadelphia, 1882, died suddenly at his home in Richmond, Kan., April 5, aged 55.

J. L. Rowland, M.D., a surgeon on the Federal side in the Civil War, died suddenly at Salyersville, Ky., April 4.

John W. Hodgkinson, M.D., formerly a well-known physician of Toronto, died in that city January 29, aged 78.

John A. Edmiston, M.D. Rush Medical College, Chicago, 1866, died at his home in Clinton, Ill., April 5.

Stephen R. Gray, M.D., died recently at his home in Lansingburg (Troy), N. Y.

Deaths Abroad.

Francesco Randacio, M.D., professor of normal human anatomy in the University of Palermo, Sicily, died from cerebral hemorrhage, February 23, aged 81. He was graduated from the University of Turin in 1853, and two years later began his life work as a teacher of anatomy. He rendered inestimable service to the city of Palermo during the cholera epidemic of 1866 and 1867, at which time he was sanitary director of the city. In appreciation of his work, he was given a silver medal by the municipal authorities.

Miscellany.

Books Without Indices.—A writer in the "New York Medical Journal" expresses "grievous disappointment" over a text-book which "has not even the pretense of an index." He considers that it is "an imposition on an unsuspecting purchaser to offer for sale a scientific work which has absolutely no index at all." He is right.

Exploration Justified.—Let us put this question to the practitioner of medicine: Can you cure a case of cancer of the stomach? If not, why withhold the only known means of effecting such a cure—a surgical operation? Again, let us ask, can you diagnose a case of cancer of the stomach early enough for surgical relief? If not, why withhold an exploration, the only certain means of diagnosis.—W. J. Mayo.

Association News.

THE NEW ORLEANS SESSION.

QUOTATIONS FROM OTHER JOURNALS CONCERNING THE PROSPECTS FOR A GOOD MEETING.

The "Fort Wayne Medical Journal-Magazine" says: "The coming session of the American Medical Association should be, and we believe will be, one of the largest in the history of the organization. There are many reasons why this should be so. . . . New Orleans is the metropolis of the south, and contains many things of more than usual interest. The time of the session is the most pleasant of the year. To the northern contingent especially, the prospect of warm sunshine, balmy air, fragrant flowers and green leaves after a winter of more than usual vigor, accompanied by a scarcity of fuel, will be unusually pleasing. That the session is to be held in the south, the hospitality of whose people is proverbial, is a sufficient guarantee that the social features will equal, if not surpass, those of previous sessions."

The "New Orleans Medical and Surgical Journal" says: "From all accounts, the New Orleans session promises to be well attended, and from no section more than the south should this be true. For the future of local organization, for the future of protection against the enemies of an ideal profession, the medical men of the south should come and drink deeply of the spirit which is always a part of such a crystallization of science and advancement as the national body represents. New Orleans is ready to receive all that come, and if those from far away find us lacking in some things, we will have a warm enough heart to make compensation in others The Arrangements Committee have made such preparations as their inexperience will have permitted, and the 'Journal,' for them, for the citizens of New Orleans and for the medical profession of the city and state, bids every medical man and member of the American Medical Association welcome."

The "New York Medical Journal" says: "The attractions of New Orleans as a place of meeting warrant most amply the presumption that the assembly to be held there in May will be largely attended. The work of the sections, therefore, it may be assumed, will be quite up to the standard that their previous labors at large sessions have set. The orators who have been chosen to deliver formal addresses before the Association at large are men to whom their professional brethren always listen with pleasure and profit." The editor says, further, that, from the scientific aspect, "there need be no doubt of the entire success of the occasion."

RAILROAD RATES.

ADDITIONAL ANNOUNCEMENTS CONCERNING RATES, ROUTES AND SPECIAL TRAINS.

The "Medical Limited."

Confirming the preliminary announcement in the New Orleans Number of THE JOURNAL: The Chicago Medical Society has chartered a special train to New Orleans over the Illinois Central Railroad, to leave Sunday, May 3, at 11 a. m., and to arrive in New Orleans the following morning. The rate, as we have announced, will be one fare for the round trip, $23. Particulars as to extension of tickets to May 30 were given in THE JOURNAL of last week. Reservations may be made by addressing the Secretary, Dr. Frank X. Walls, Room 910, 103 State St., Chicago. Reservations for all other Illinois Central trains should be made at 99 Adams St., Chicago. The same rate and time limit applies to all trains from Chicago.

Excursion to Cuba.

Further announcement of the Cuba excursion states that physicians and members of their parties will not be subjected to quarantine regulations on their return from Cuba, but if it is deemed necessary by the resident physician, the baggage will be inspected and disinfected. A rate of $50 for the round trip is granted by the Southern Pacific Company to physicians and their families and it is not necessary that any certain number go to secure this rate. The capacity of the ship is limited. The vessel is scheduled to leave new Orleans for Havana every Saturday at noon, returning, it leaves Havana Tuesday and arrives in New Orleans Thursday.

Mississippi River Excursions.

Further particulars from members who have endeavored to arrange a Mississippi River excursion indicate that from the vicinity of Philadelphia, no arrangement has yet been made.

To New Orleans by Sea.

Another route to New Orleans, part by sea and part by rail, is announced as follows: From New York to Savanah via the Ocean Steamship Company, then by rail to New Orleans and returning by the same route; $35.00 for the round trip, on steamers leaving New York, April 28 and 30 and May 2, the limit of return being May 14. Tickets may be extended to the final date of May 30, by arrangement with Mr. Joseph Richardson, 204 Camp St., New Orleans, exactly as already described for the other railroad rates and detailed in THE JOURNAL last week. This rate includes meals and stateroom while on the steamer. Passengers may be accommodated from Boston and New England by a steamship of this same company from Boston to New York, at which latter city a change of boats will be necessary. Particulars may be had of the Ocean Steamship Company by addressing Mr. E. H. Downing, 20 Atlantic Ave., Boston, or W. C. Becker, C. P. T. A., 317 Broadway, New York.

Judicial Council.

One of the parlors of the New St. Charles Hotel has been reserved for the meeting of the Judicial Council.

To Visit Lepers' Home.

An invitation has been extended to members of the American Medical Association by the board of control of the Leper Home near New Orleans to inspect the arrangements for segregation and care of lepers.

Halls and Meeting Places.

The Section on Ophthalmology will have a separate room for an exhibit of specimens and another for a commercial exhibit of instruments. These will be in the College of Pharmacy, where the meetings of the section will be held

Eight stereopticons will be used at the different section meetings.

Names of New Orleans Visitors Wanted.

Dr. Isadore Dyer, 124 Baronne street, New Orleans, chairman of the Committee of Arrangements, is anxious to hear from those expecting to attend the session, as to name, whether accompanied by ladies and how many, in what section the one reporting intends to register, and whether rooms have been engaged, and, if so, where.

Louisiana State Meeting Gets Rates.

A rate of one fare for the round trip has been granted by the Southeastern Passenger Association and by the Southern Pacific Railroad to the meeting of the Louisiana State Medical Society. The tickets will be on sale beginning April 27, and will extend over the American Medical Association session, being good till May 30 if specially extended at 204 Camp Street, New Orleans, as described in THE JOURNAL, April 11, p. 1004.

Smoker for Surgeons.

Instead of the usual annual banquet of the Section on Surgery an informal smoker will be given Tuesday evening, May 5, at the clubhouse of the Young Men's Gymnastic Association and under the auspices of the club. It is the wish of the local fraternity that every member of the Association who is specially interested in the Section on Surgery come to New Orleans for the first day of the meeting and attend this smoker, where it is hoped that the members may become more intimately acquainted. A unique and pleasing vaudeville entertainment will be given, and the privileges of this excellent clubhouse will be extended to the members of the Section. The local surgeons expressed a wish to make this their affair, but this being contrary to the established precedent of the Association, they are content to see that everyone who attends has ten dollars' worth of fun for two dollars.

Medical Organization.

Florida Adopts Association Plan in Full.

ST. AUGUSTINE, FLA., April 10, 1903.

At its annual meeting, held at Tampa in 1902, the Florida Medical Association, by formal resolution, committed itself to the plan of reorganization of the American Medical Association in general terms, but, as the constitution and by-laws for state societies had not then been completed and published, no attempt was made to put it in operation during the year.

At its meeting held at St. Augustine, April 8 to 10, 1903, the constitution and by-laws were adopted in full, after extended consideration and discussion, both in committee and before the whole association, as it was believed that the plan in its entirety could be adapted easily to conditions in Florida.

An exceptionally strong council was selected to serve for one year, or until the House of Delegates for next year could take action, consisting of the following members: First District, Dr. J. Harris Pierpont, Pensacola; Second District, Dr. Henry E. Palmer, Tallahassee; Third District, Dr. William R. Chalker, Lake City; Fourth District, Dr. William L. Hughlett, Cocoa; Fifth District, Dr Jay H. Durkee, Jacksonville; Sixth District, Dr. James H. Hodges, Gainesville; Seventh District, Dr. Joseph N. Fogerty, Key West; state at large, Dr. Richard P. Daniel, Jacksonville.

The council organized immediately with Dr. J. Harris Pierpont, the retiring president, who has taken a very active and intelligent interest in the work of organization, as chairman, and Dr. Joseph N. Fogerty, secretary. The state was divided into convenient councilor districts, and an active plan of campaign mapped out.

The officers of the association are: president, Dr. De Witt Webb, St. Augustine; vice-presidents, Drs. Johns Mac Diarmid, De Land, and Joseph N. Fogerty, Key West; secretary and treasurer, Dr. J. D Fernandez, Jacksonville, and librarian, Dr. Edward N. Liell, Jacksonville.

Florida has been one of the dormant states in the past, practically without medical legislation, or the unity of purpose necessary for this or any other reform; but in no other state visited have I met a more active, alert and progressive membership, mostly young men, and it is confidently predicted that they will give such an account of themselves, as they promised to do, as will place their state in the first rank of an organized profession (Signed) J. N. MCCORMACK.

Trimble County (Ky.) Medical Society.

This society was organized last week with Dr. Jesse C. Hancock, Bedford, president, and Dr. Louis G. Contri, Winona, vice-president.

Washington County (Ky.) Medical Society.

The physicians of this county met last week and with the aid of Dr. Robert C. McChord, Lebanon, organized a county society, with Dr. Daniel O. Polin, president, and Dr. J. H. Lampton, secretary, both of Springfield.

Dickson County (Tenn.) Medical Society.

The physicians of the county met at Dickson, March 30, and organized a county society on the lines suggested by the American Medical Association. Dr. William S. Scott was elected president; Dr. W. W. Walker, secretary, and Dr Edward Ridings, delegate to the state society, all of Dickson.

Gallatin County (Ky.) Medical Society.

This society was organized recently with the aid of Dr. Louis Frank, Louisville, councilor for the Fifth District, with Dr. H. S. Rowlett, Warsaw, president; Dr. E. E. Bickers, Sparta, vice-president, and Dr. James M. Stallard, Sparta, secretary-treasurer.

Oldham County (Ky.) Medical Society.

This society was organized with the aid of Dr. Louis Frank, Louisville, councilor for the Fifth District, with the following officers: Dr. Alonzo M. Morrison, Goshen, president; Dr. Richard B. Cassady, La Grange, vice-president; Dr. George P. Boone, Beard, secretary and treasurer, and Dr. John H. Speer, Brownsborough, delegate.

Barren County (Ky.) Medical Society.

Dr. Arthur T. McCormack met the physicians of Barren County at Glasgow, April 12, and organized a county society, with an initial membership of 14 and a promise of at least 10 more. Dr. S. T Purcell was elected president; Dr. Joseph S. Leech, vice-president; Dr. Richard E. Garnett, secretary-treasurer, and Dr. Samuel T. Botts, delegate, all of Glasgow. Drs. William T. Britt, Temple Hill, and Flavius J. Taylor and A. Mazetta Rowe, Glasgow, were elected censors.

Marshall County (Ky.) Medical Society.

The physicians of Marshall County met at Benton, March 25, and organized a county society, adopting the constitution and by-laws prepared by the American Medical Association without change. Dr. William S. Stone, Birmingham, was elected president; Dr. E. G. Thomas, Harvey, vice-president, and Dr. Van A. Stilley, Benton, secretary and treasurer. The belief is expressed that every registered physician in the county will become a member before the meeting of the state association.

Fulton County (Ky.) Medical Society.

The physicians of Fulton County held a meeting at Fulton, April 3, to consider county organization. After an address by the president of the state association, Dr. W. W. Richmond, Clinton, a society was formed, and the constitution and by-laws formulated by the American Medical Association were adopted

without alteration, and the fifteen members present paid their membership dues to the state association in advance. Dr. William W. Gourley, Fulton, was elected president; Dr. Hugh L. Prather, Hickman, vice-president; Dr. Seldon Cohn, Fulton, secretary and treasurer; Dr. John C. Yates, Fulton, delegate to the state association, and Dr. J. M. Hubbard, Hickman, alternate.

Arkansas.

This was one of the early states to adopt the complete association plan, and Drs. Shinault and Runyan, respectively president and secretary, supported by a strong council, have worked constantly and faithfully to give the profession and people all the benefits possible from the reorganization. In about eleven months the number of county societies has increased from 25 to 65, with the prospects good for organizing several more; the membership of the state association has increased from 300 to about 800, and new members are coming in regularly. As there are but 2,573 physicians in the state, of all kinds and schools, it is doubtful whether better results have been secured by any other association.

California.

This state also adopted the association plan in 1902, and began active work under the leadership of Drs. Dawson and Evans, president and secretary, and an able board of trustees, with functions similar to the council in other states. County societies have been rapidly organized in every section of the state, and much interest is manifested. As an evidence of how general this is, in a little more than eleven months the membership in the state society has increased from a little over 300 to 1,075, and this total is being constantly increased. The Journal of the State Society has been an important and interesting feature of the work in California, and it is doubted if the success attained would have been possible without its influence.

Other States.

Alabama, Massachusetts, Pennsylvania, Connecticut and Indiana have all long had plans of organization similar to that of the association, with permanent good results, which are so generally understood as to make a detailed discussion of them unnecessary. For instance, over 1,200 of the 1,700 practicing physicians of Alabama are permanent members of their system of county and state associations, and the profession has so long been a recognized factor in legislative and public affairs that its right and duty to be consulted and to speak when matters relating to the public health and medical legislation are being considered is never seriously questioned.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL SESSION, NEW ORLEANS, MAY 5-8.

Medical Association of the State of Alabama, Talladega, April 21.
Medical Society of the State of California, Santa Barbara, April 21.
Medical Association of the State of Missouri, Excelsior Springs, April 21-23.
Kentucky State Medical Society, Louisville, April 22-24, 1903.
Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.

Central Ontario Medical Association.—At the annual meeting held recently at Peterboro, Dr. Robert P. Boucher, Peterboro, was elected president.

McLean County (Ill.) Medical Society.—The annual election of officers was held at Bloomington, April 2. Dr. Franklin C. Vandervort was elected president; Dr. Asa L. Fox, vice-president, and Dr. Albert F. Kaeser, secretary and treasurer, all of Bloomington.

Otoe County (Neb.) Medical Society.—The physicians of Otoe County met at Nebraska City, April 2, and reorganized this society, with Dr. Claude Watson, Nebraska City, president; M. M. McVean, vice-president, and Charles P. Crudup, Nebraska City, secretary-treasurer.

Chicago Urological Society.—This society was organized April 10, with the following officers: President, Dr. William T. Belfield; vice-president, Dr. Louis E. Schmidt, and secretary-treasurer, Dr. R. R. Campbell. Meetings will be held the last Thursday in each month excepting June, July, August and September.

Saratoga County (N. Y.) Medical Association.—The annual meeting was held at Ballston Spa, March 3. Dr. Miles E. Varney, Saratoga Springs, was elected president; Dr. Arthur W. Johnson, Mechanicsville, vice-president; Dr. James T. Sweetman, Jr., Ballston Spa, secretary, and Dr. William E. Swan, Saratoga Springs, treasurer.

Woman's Medical Association.—An association of women physicians was organized in San Francisco, March 28, for a closer association of the members in their professional efforts and interests; to establish friendly intercourse among them; to afford opportunities for scientific discussion, and to promote the general advancement of women in medicine and surgery.

Rhode Island Medical Society.—At the quarterly meeting, March 5, the following officers were elected for the year following the annual meeting in June: President, Dr. William R. White, Providence; vice-presidents, Drs. Christopher F. Barker, Newport, and Dr. Charles V. Chapin, Providence; recording secretary, Dr. Stephen A. Welch, Providence; corresponding secretary, Dr. Herbert Terry, Providence, and treasurer, Dr. George S. Mathews, Providence.

New York State Medical Association, Fifth District Branch.—The president, Dr. Parker Syms, New York City, has just issued a circular letter to the members, calling for their co-operation in promoting the growth of the association, and stating that, as there is now no prospect of union of the two state organizations, "the only way the medical profession of the State of New York can become united is through membership in the New York State Medical Association and in the American Medical Association," . . . and that "the New York State Medical Association is the only representative in this state of the American Medical Association, and it is only by becoming a member of the local and state organization that one can be eligible for membership in the national body."

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting, held Feb. 3, 1903.

The President, Geo. B. Packard, in the Chair.

SYMPOSIUM.

CRIMINAL ABORTION.

The Colorado Law on Abortion.

ALLEN H. SEAMAN, Esq., said in part, on the subject of "Colorado Laws Relating to Criminal Abortion":

Colorado laws relating to the abortionist and to the victim are exceedingly simple, and fraught with little difficulty in construction. There may be said to be none directly affecting the victim.

With reference to the abortionist, the law is embodied in the following words:

Every person who shall, wilfully and maliciously, administer, or cause to be administered, to, or taken by, any person, any poison or other noxious or destructive substance or liquid, with the intention to cause the death of such person, and being thereof duly convicted, shall be punished by confinement in the penitentiary for a term not less than one year, and not more than ten years; and every person who shall administer, or cause to be administered, or

taken, any such poison, substance or liquid, or who shall use, or cause to be used, any instrument of whatsoever kind, with the intention to procure the miscarriage of any woman then being with child, and shall thereof be duly convicted, shall be imprisoned for a term not exceeding three years in the penitentiary, and fined in a sum not exceeding one thousand dollars; and if any woman by reason of such treatment shall die, the person or persons administering or causing to be administered such poison, substance or liquid, or using or causing to be used any instrument as aforesaid, shall be deemed guilty of murder, and if convicted, be punished accordingly, unless it appear that such miscarriage was procured or attempted by or under advice of a physician or surgeon with intent to save the life of such woman or to prevent serious and permanent bodily injury to her. (Mills' Anno. Stat., vol. v, Sec. 1209.)

There are also minor statutes relating to the matter. It is made an offense for any person to advertise or publicly expose for sale any drugs designed for the use of females for the purpose of producing an abortion. There is a statute containing a prohibition against the publication or circulation of any newspaper or book containing receipts or prescriptions immoral in tendency, or receipts or prescriptions for compounds designed to or tending to produce miscarriage or abortion.

By the "attending physician after" is meant a physician called to attend the patient after an abortion has been produced or attempted to be produced, either by the patient or some other person. Of course, it goes without saying that there is no law which in any way affects the attending physician in cases of this kind, when the same duties and obligations rest on him as where the patient is suffering from any other disease or injury.

PROTECTION OF THE PHYSICIAN.

There are, however, as affecting the physician, some matters to which it is proper to refer

First. Self protection demands that in a case of this kind the physician or surgeon, as soon as he discovers the difficulty, should have in consultation some other reputable physician. He must anticipate that the matter may be the subject of comment and criticism, and may become the subject of investigation in the courts, and he is in a much better position if he has for corroboration and support the advice and services of another reputable practitioner.

Second. Matters of this kind are frequently the subject of judicial investigation, as a result of either civil suits or criminal prosecutions, and the testimony and statements of such attending physician becomes of the greatest importance. Here the law furnishes a guide. Our statute provides as follows:

. . . A physician or surgeon, duly authorized to practice his profession under the laws of this state, shall not, without the consent of his patient, be examined as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient. (Mills' Anno. Stat., vol. iv, Sec. 4824).

A query might arise—Could a physician testify in a case on trial in this state, being duly authorized to practice in some other state, but not in this state, and the communications between himself and the patient had taken place not in this state, but in the other state, and in a state where, under the law, the communications are not privileged?

PRIVILEGED COMMUNICATIONS.

It will also be noticed that the privilege is confined to any information acquired in attending the patient, which was necessary to enable the physician to prescribe or act for the patient. The first suggestion naturally coming into one's mind on this point is, Who is to determine whether the information was necessary to enable the physician to prescribe or act for the patient? A determination of how much was necessary, and how much was unnecessary, must clearly depend on medical knowledge. Therefore, here comes in, not a matter of law, but a matter of ethics, and it is the clear duty of the physician under such circumstances to advise the patient fully before listening to the communication from the patient, that it is not necessary to do more than answer the questions which may be put by the physician, and the physician should be careful not to put any questions which were not necessary to enable him to exercise his proper professional skill.

It would eliminate from the physician's knowledge any information as to who produced the abortion, as to the reasons for producing it, or any matter which would in any way enable the physician, if he would, to implicate any person in any violation of the law.

THE PHYSICIAN AS AN INFORMER.

Another ethical proposition which I deem worthy of consideration is: The physician, if he be so minded, might give to officers or others a vast amount of information to which he would not be permitted to testify, but which would enable them to locate or determine whether an offense had been committed, and perhaps indirectly assist them in determining who was guilty of the offense, and it has been the matter of frequent discussion as to what the physician's duties were in such matters. Take a flagrant case. A physician learns that a wilful and deliberate abortion has been committed when there was no excuse or justification for it in any way. Is it his duty to advise the officers charged with the enforcement of the law of his information, or, if they seek the information, is it his duty to divulge it? This is an ethical proposition. There is no law which prevents the attorney from divulging the confidential communications he may have with his client; there is no law which says that the priest shall not reveal that which he learns in the confessional But I undertake to say here and now that this question of the duty of the physician to the state or to the people can be solved but in one way, and that is, that his lips should be and must be sealed, unless the seal be broken by the patient herself.

Who would contend for a moment that if a murderer went to confessional in his church, where the church ordinances required a confession, and he disclosed to his priest the fact that he was a murderer, that the duty devolved on the priest to advise the civil authorities? Who would contend for a moment that it was the duty of an attorney to divulge the confidential communications which might take place between him and any criminal? The priest or attorney who would be guilty of such a violation of confidence would be hissed from his profession. I do not believe that any one can successfully urge a difference between the relation of attorney and client, priest and church member, and physician and patient.

PROFESSIONAL SECRECY IN GENERAL.

The Code of Ethics of the medical profession requires secrecy with reference to all matters made known to the physician by the patient. The generally recognized code says: "Secrecy . . . when required by peculiar circumstances, should be strictly observed." If I had to do with the making of the Code of Medical Ethics, I should move to strike out the words, "when required by peculiar circumstances," and that clause of the code should be left to read this way: "Secrecy . . . should be strictly observed."

I believe that the medical profession as a whole should adopt an entirely new code of medical ethics on the subject of confidential communications between the patient and physician. I do not believe that the physician should ever answer what might seem to be the most trivial question with reference to any matter concerning his patient which he has learned in his capacity as physician. If a physician is called to treat me, and I have a cold, or typhoid fever, or measles, or any simple disease, with which no moral stigma is in any way associated, yet, nevertheless, I believe that the proper code of medical ethics would seal the physician's lips as closely as though he were called on to treat me for some disease which was regarded as involving moral turpitude.

In other words, I believe that with reference to confidential communications the physician, as the attorney and as the priest, should always be on the witness stand, and should always be claiming the benefit of his privilege. Furthermore, it should not be the right of the physician to determine when his lips should be closed and when they might be opened. That province must rest, in my opinion, with other persons; first, his patient. The patient may unseal his lips whenever he chooses. Second, the court, under proper circumstances, may direct him to answer. But with these two exceptions, the physician's lips should always be closed, because the physician has no right to pass on the question as to whether or not any communication he may make will be harmful to me.

There are, for instance, insurance companies which write policies so that a person will receive certain benefits if he is sick as a result of certain diseases. If he was sick from other

diseases, he would receive no benefit. The same is true with reference to accident insurance. Accidents received under certain circumstances result in certain benefits; received under other circumstances, receive other benefits. The physician can not determine what statement of his might be injurious to a patient.

In other words, it is not within the province or the power of the physician to determine the "peculiar circumstances" now mentioned in the Code of Ethics, as prescribed by the American Medical Association. The only safe proposition is for the physician to take the position that inviolate secrecy must always be preserved, and that the patient is the one to determine whether the peculiar circumstances exist that justify a disclosure.

I may be suffering with typhoid fever; somebody meets my physician on the street and says: "I understand Mr. S. is sick." "Yes." "What is the matter with him?" The physician, after resolving in his own mind the proposition that typhoid fever carries with it no stigma, thinks that it is all right to answer it, and says: "Why, he has typhoid fever." The physician may be wrong. He has heard of several instances where physicians did not make a correct diagnosis of a disease. The man he was talking to may be some sort of agent for a health insurance company. I may claim, and it may afterwards develop, that the disease was some other kind of a fever, or some other kind of a disease, accompanied by a fever. My health insurance policy may give me certain benefits if the disease is not typhoid fever, and may not cover typhoid fever at all.

He maintains that it should be exactly, in the case of every ailment, the same as with that of an abortion, or the same as where a person is afflicted with certain diseases which carry with them public contempt—the physician's mouth should be absolutely closed; and, however difficult it may be under existing conditions for a physician to avoid making certain disclosures, in my opinion the entire medical profession should take an absolute stand that a physician should never disclose anything learned from the patient in a professional capacity. It would not take the public long to become educated if physicians would be the instructors. However innocent, however simple, the matter may be, when I propound the question to you, "What is the matter with Jones?" in my opinion your answer should be, however it may be framed, in substance this: "I am Mr. Jones' attending physician, and it is not proper that I should say anything in response to your inquiry."

Another very interesting proposition, as applicable to the matter under discussion: Suppose the patient dies, is the privilege waived by the death of the patient, or can the privilege be waived by any personal representative of the patient? The interest of this matter will be readily seen.

So far as the ethics of the situation are concerned, it is very clear they can not be changed by the death of the patient, and so far as the law is concerned, the situation is not changed.

In a very well considered case the following reasoning is used:

> It is thus seen that clergymen, physicians and attorneys are not only absolutely prohibited from making the disclosures mentioned, but that by an entirely new section it is provided that the seal of the law placed upon such disclosures can be removed only by the express waiver of the persons mentioned. Thus, there does not seem to be left any room for construction; the sections are absolute and unqualified. These provisions of law are founded upon public policy, and in all cases where they apply, the seal of the law must forever remain until it is removed by the person confessing, or the patient, or the client. The purpose of the laws would be thwarted, and the policy intended to be promoted thereby would be defeated, if death removed the seal of secrecy from the communications and disclosures which a patient should make to his physician, or a client to his attorney, or a penitent to his priest. . . . After one has gone to his grave, the living are not permitted to impair his fame and disgrace his memory by dragging to the light communications and disclosures made under the seal of the statutes. An executor or administrator does not represent the deceased for the purpose of making such a waiver. (Westover vs. Ætna Life Insurance Co., 1 N. E., 104.)

THE NEED OF MORE RIGID LAW.

CHARLES R. BROCK, Esq., said: I recognize fully the rule applicable to the physician, lawyer and clergyman with respect to confidential communications and yield to no man in my respect for that rule and its attendant obligations. This rule, however, may be modified by statute. If the physician finds that his patient has smallpox, diphtheria or other contagious disease, his duty to the public, imposed on him by law, removes his obligation of secrecy and requires him to report the existence of the disease to the proper authorities. This exception to the rule which seals the mouth of the professional man with respect to facts learned in the confidence of his professional duties is by virtue of a statute, but the statute itself is based on the principle of public policy. As the law now stands, I have no criticism to make of the excellent paper which has been read; but if the information received to-night from both the clergy and the physicians, that the crime of abortion is the greatest evil in our land, is correct, then the law ought to be changed. A statute should be enacted which would require the physician to report to the proper authorities every case of abortion that comes under his observation. If the law requires him to do this, his duty will be known by the patient before he is called, and the discharge of that duty can not, by any ethical principle, be regarded as a breach of confidence.

In view of the alleged enormity of this evil it will not be out of place to compare briefly our statute with the common law on the subject.

The statute is an improvement to the extent that it makes it an offense to commit or attempt an abortion at any period of gestation. At common law an abortion, committed with the consent of the mother, before the child had quickened in the womb, does not appear to have been a crime at all; if committed after the child had quickened, it was a high misdemeanor and, in certain circumstances, was held to be murder. Our statute makes it a felony either to commit or attempt to commit abortion at any time, but the punishment is inadequate, as confinement in the penitentiary for the shortest period of time satisfies the statute. The statute ought to be amended so as to fix a minimum term of say two years, with a maximum term of four or six years for attempting the offense at any period of gestation or for its commission prior to quickening. Its commission after quickening should be murder.

THE ATTITUDE OF THE PROFESSION TOWARD ABORTION.

DR. EDMUND J. A. ROGERS said that the attitude of the profession toward abortion is well known, and he emphasizes the protest against the too common crime. The standard of any people's civilization may be judged by the degree in which they recognize the right of each individual to life, liberty and happiness. Just as truly as an individual personal being comes into existence at the moment of conception, so does that individual at that moment become an integral member and ward of the entire community. The popular frivolities where one receives his education illustrate the force of environment on weak and susceptible minds. We sometimes find even the medical man who has in his younger days become accustomed to the knowledge of the practice of this debasing custom—appears only half-hearted in his protests against it; while in a community where it is of rare occurrence the bare suggestion of it brings sensation of horror and disgust to all. Motherhood should always be honorable, and a social system which tolerates without condemning look the wholesale destruction of the progeny of the human race, but marks with unceasing shame the unfortunate mother, chiefly because she has not murdered her offspring, is not a condition of even respectable civilization. He considers that unfortunate woman who heroically faces the world and brings into her companionship the child of her misfortune a saint beside the misguided and cowardly married woman who through mistaken selfishness and perverting influences destroys her own unborn child. She not only undermines her own domestic happiness and deprives the state of a prospective useful citizen, but, saddest of all, she robs herself of some part in that only solace of the shadowed days of advanced life—the joy in the being of our offspring, and instead substitutes the haunting dreams of what might have been.

REMEDIES.

DR. H. G. WETHERILL, in discussing remedies, said that none is possible for the complete wiping out of the crime, but it can be minimized through educational methods.

1. The immorality and criminality of the act must always be made plain, and especially the dangers to life and health should be pointed out.

2 Tolerance of the practice and altogether erroneous ideas of its fearful results are encouraged by the shamelessly open advertisements of abortifacients and of abortionists in our family papers. Through organized effort and moral suasion or compulsion this should be prevented. Since the result of such advertisements in many instances is a murder of some misguided woman or defenseless child, the advertising agent is in fact and should in law be held as accessory.

3. Enforce the law now on the statute books, or have one enacted that can be enforced.

4. Create a sentiment against the crime, the possibilities of which is illustrated by the influence of the Catholic church and the history and traditions of the Jews, among which people it is a rare crime.

5. Have educational articles on various topics of public interest and value published in the daily papers under the direction and with the indorsement of this society. This would, to some extent, counteract the vicious influence of the criminal advertisements.

6. Establish and maintain good maternity hospitals for the care of pregnant women and girls.

At the end of this paper Dr. Wetherill read some twenty-three advertisements, the meaning of which could not be misunderstood, which he had clipped from three Sunday morning papers of February 1, 1903.

H. H. Hawkins, Esq., said he spent some time in investigating the legal phases of the matter and especially the actual operation of the law in the state of Colorado. The records at the state penitentiary show the following convictions and terms of sentence: In 1871, 1 case, 1 year; 1883, 1 case, 2 years, 10 months; 1888, 2 cases, 24 hours and 30 days, respectively; 1892, 1 case, 3 years. If the physicians are correct in their statements as to the extent of numbers of these criminal operations, it must be clear that the actual working of this is a farce No wonder that the city of Denver swarms with abortionists. Five abortionists have been sent to the penitentiary in over thirty-four years—one of them for 24 hours and another for 30 days. The records of one case show that the girl upon whom the abortion was committed died. For this the defendant was sent for one year to the penitentiary. He could not find the record of the other four. He understands that no one is prosecuted in Colorado for abortion except where death occurs. This means that, as actually administered, the law only applies to the man who is so unskilful as to kill his patient. A skilful abortionist is immune from punishment. No abortionist has been sent to the penitentiary in over ten years. He has looked up the records of the criminal court in the city of Denver and has compiled a list of all prosecutions begun in the past thirty years, with the following result: In 1889, 2 cases, released without trial; 1887, 3 cases, one 24 hours in penitentiary, one 30 days, and one not arrested; 1901, one case, three years in penitentiary; 1892, one case; 1894, three cases; 1898, four cases, all of which were released without trial; 1902, one case, forfeited his bond, and the other is pending. In two of the cases that have been released without trial the defendants admitted their guilt and were allowed to go without punishment. Is it any wonder that abortionists fearlessly print their advertisements? He does not find the fault in the law itself, although he admits it could be improved. Some states, for instance, require the presence of two physicians in cases where abortion is indicated, and other states provide punishment for the woman who submits to an operation. Neither of these provisions is on the statutes of the State of Colorado. An amendment, also, might be made that a physician convicted of abortion should be forever barred from practicing his profession. He thinks that publicity is a remedial measure. Physicians are called to treat women after abortions. A law should be passed requiring them to report such cases to the authorities. He thinks the fault lies with the state of public sentiment The prosecuting officers enforce only the laws which public sentiment demands should be enforced. The great majority of people justify the commission of abortion; that an unmarried woman should not be publicly disgraced, nor should a child be permitted to be born to which the stigma of bastardy will be attached. The people don't feel harshly toward an abortionist. Public sentiment must be aroused. That abortionists exist, thrive and prosper in Denver is the fault of the physicians. If you will appoint a grievance committee, and it will act fearlessly in all cases brought for investigation before them, the criminal abortionist will leave Denver for other pastures. This committee would see that these advertisements read to-night should cease. The law is ample on the subject. This committee would furnish information to the prosecuting officers and aid them in procuring conviction. Having back of it the influence of the hundreds of good physicians in this city, the committee would be a great power for good. One member of the medical profession said here to-night that a physician did not feel called on to act as a policeman. The legal profession has found such a position a mistake. Every profession needs its policemen, and that is exactly what the members of our legal grievance committee are until the medical profession appoints its police force and puts it to work. I submit that you have no right to complain that you have in your ranks quacks and abortionists.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Acne.

H. W. Stelwagon, in Text-book of Applied Ther., states that the most valuable remedies in the external treatment of acne are sulphur, salicylic acid, resorcin, boric acid and the mercurials. Sulphur may be applied as follows:

℞.	Sulphuris precip.	3ss-ii	2.-8
	Ung. aquæ rosæ	ʒi	30
M.	Ft. unguentum. Sig.: Apply locally; or:		
℞.	Sulphuris precip.	3ii	8
	Pulv. tragacanth	gr. xx	1 30
	Spts. camphoræ	3ii	8
	Liq calcis	ʒii	60
	Aq. destil q. s. ad	ʒiv	120
M.	Ft. ung. Sig.: Apply locally.		

In cases where the skin is oily, an alcoholic lotion containing sulphur as the active ingredient is recommended:

℞.	Sulphuris precip.	3ii	8
	Spts. etheris	ʒss	15
	Alcoholis	ʒiiiss	105
M.	Sig.: As a local application.		

Threadworms.

Injections per rectum should be employed to dislodge the worms and to destroy the eggs which are imbedded there. Aqua calcis is recommended as an efficient remedy in some cases or a saline solution in the strength of two or three drams to the pint of water. Quassia is one of the old-time remedies in destroying these worms, used in the form of a decoction made by boiling an ounce of quassia chips in a pint of water Before giving this injection the bowel should be thoroughly washed out with soap and water. The quassia solution should be introduced slowly, with the patient lying on the back and the hips elevated.

Some authors recommend the following combination in young children:

℞.	Naphthalin	gr. x-xv	.65-1
	Olei olivæ	ʒi	30
M.	Sig.: As an injection.		

Locally, the parts should be thoroughly cleansed and some antiseptic ointment applied. Some of the mercurial ointments serve this purpose and diluted in strength with lanolin or vaselin may be introduced with the finger to the inner side of the rectum. This is said to relieve the itching better than any

other preparation. Suppositories of iodoform are of similar value in relieving the excessive itching.

As to the internal treatment the best remedies are probably santonin, thymol and rhubarb. The following combination has been recommended in this connection:

℞.	Pulv. rhei	gr. vi	40
	Mag. carb.	3i 4	
	Pulv. zingiberis	gr. i	06

M. Ft. chart. No. vii. Sig.: One powder two or three times a day.

Ascaris Lumbricoides.

The round worm or ascaris lumbricoides, inhabiting as it does chiefly the small intestine, requires more especially internal treatment for its destruction and dislodgment. Santonin is regarded as the best preparation. It may be given in powder form as follows:

℞.	Santonin	gr. ii	12
	Hydrarg. chloridi mitis	gr. i	06
	Sacch. lactis q. s.		

M. Sig.: At one dose at bedtime or in solution according to Yeo as follows:

℞.	Santonin	gr. vi	40
	Olei ricini	3iv 15	
	Syr. aurantii	3iii 12	
	Mucil. acaciæ	3vi 24	
	Aquæ carui q. s. ad	℥vi 180	

M. Sig.: Take one-half of the amount in the morning while fasting.

The oil of chenopodium was formerly used a great deal. It may be given in a mixture similar to the following:

℞.	Olei chenopodii	m. viii	50
	Olei ricini	3ss 2	
	Mucil. acaciæ	3iii 12	

M. Sig.: One teaspoonful three times a day before meals.

Acute Gastritis.

In the treatment of acute gastritis the following outline of treatment is recommended by Yeo in "Clin. Ther.":

1. Remove from the stomach any irritating substances that may be retained.

2. Give the inflamed stomach rest as complete as possible.

3. Administer only fluid, easily absorbed, unirritating and in small quantities at a time.

4. Apply measures to relieve the pain, hyperemia and irritation of the gastric mucous membrane, prevent morbid decomposition of the ingesta and correct excessive acidity when present.

5. Observe strict dietetic rules during and after convalescence.

In order to remove the contents of the stomach the stomach pump should be used. When there are objections to its use the author advises an emetic. He recommends pulverized ipecacuanha in doses ranging from gr. 5 (.30) to gr. 20 (1.30) according to age, given in from one to four tablespoonfuls of water. In other instances he recommends a hypodermic injection of apomorphin gr. 1/24 (.0025) to gr. 1/12 (.005). A suitable cathartic sometimes acts nicely in emptying the stomach. In children an aperient containing gr. 10 (.65) to gr. 20 (1.30) of the compound rhubarb powder is recommended, and in adults one or two drams of Carlsbad salts dissolved in warm water and given twice a day.

In order to carry out the second point in the outline of treatment the author recommends entire abstinence from food for two or three days. Nutrient enema may be given, the patient kept in bed and allowed to sip ice water occasionally. In less severe cases mild nutritious fluids may be given by the mouth, in doses of a few spoonfuls every hour. This should consist of equal parts of milk and lime-water or milk and Vichy water or one or two tablespoonfuls of thin arrowroot water three or four times a day. In febrile cases with local pain leeches are sometimes applied locally to the epigastrium and a poultice applied after the leeches have been removed. As a substitute cold compresses or the ice bag should be placed to the epigastrium. A mustard poultice is sometimes recommended and is more agreeable to the patient than cold.

To relieve the pain after the contents of the stomach have been removed the following is recommended:

℞.	Bismuthi salicylatis	gr. xxx	2
	Ext. opii	gr. ii	12
	Acidi hydrocyan. dil.	m. xviii	1 20
	Sodii bicarb.	3i	4
	Mucilag. tragacanth.	℥i	30
	Aquæ q. s. ad	℥vi	180

M. Ft. mistura. Sig.: Two tablespoonfuls every three or four hours.

When there is great tendency to vomiting not accompanied by much local pain the following is of service:

℞.	Sodii bicarb.	3iii	12
	Aq. laurocerasi	3iv	15
	Aquæ q. s. ad	℥viii	240
M. Ft. mistura; and:			
℞.	Acidi tartarici	3ii	8

M. Ft. chart. No. viii. Sig.: One powder to be dissolved in a tablespoonful of water and added to two tablespoonfuls of the mixture and drunk while effervescing. This may be repeated every hour or two.

Colbeck recommends the following combination to be employed in the treatment of acute gastritis:

℞.	Bismuthi subnit.	gr. xii	75
	Sodii bicarb.	gr. xv 1	
	Acidi hydrocyanici dil.	m. iii	20
	Spts. chloroformi	m. xv 1	
	Aquæ q. s. ad	℥i 30	

M. Ft. mistura. Sig.: Shake and take two tablespoonfuls before meals three times a day. The bismuth and hydrocyanic acid are both sedatives to the gastric mucous membrane. The author in some cases advises the addition of magnesium sulphate to the foregoing combination in order to overcome the constipating effect of the bismuth.

When the pain is exceedingly troublesome the following combination is recommended:

℞.	Liq. morph. hydrochlor.	m. v-viii	30-.50
	Acidi hydrocyanici dil.	m. iii	20
	Sodii bicarb.	gr. x	65
	Aquæ chloroformi q. s ad	℥ss 15	

M. Ft. mistura. Sig.: One tablespoonful to be taken every four to six hours.

Where effervescing draughts are better borne the following combination is of service:

℞.	Sodii bicarb.	gr. xx	1 30
	Aq. destil.	℥i	30
M.			
℞.	Acidi tartarici	gr. xv	1
	Aq. destil.	℥i	30

M. Sig.: Mix the two solutions and drink while it is effervescing.

After evacuating the stomach with a siphon and cleansing the membrane with a solution of warm water, the following antiseptic solution may be used, in a similar manner, to wash out the stomach:

℞.	Thymol	gr. vi	40
	Acidi borici	3iv	15
	Aquæ destil.	Oi	480

M. Sig.: To be introduced and withdrawn through the stomach tube.

"Merck's Archives" recommends the following to relieve an attack of acute gastritis:

℞.	Ichthyol	3iss	6
	Tinct. opii	3i	4
	Bismuthi subcarb.	3iss	6
	Syrupi simplicis	3iv	15
	Aquæ menth. pip. q. s. ad	℥iv	120

M. Sig.: One dessertspoonful in water before meals.

Ewald states, in the treatment of acute gastritis, that tartar emetic and ipecacuanha should never be employed except in children. As to diet, the author recommends absolute rest for the first and second day or only strained barley or rice water or weak tea. On the third day the patient may be given a bread soup composed simply of bread and hot water, oatmeal or barley gruel, rice soup and perhaps one soft boiled egg. On the fourth day meat may be added once a day and thereafter a slow return to the usual bill of fare. Constipation must be corrected by giving one large dose of calomel, gr. x (.65) to

gr. xv (1.00). He especially recommends this procedure in the febrile form of acute gastritis. If no fever is present a seidlitz powder or a good dose of magnesium citrate will be of proper service.

Medicolegal.

Harmlessness of Desired Examination Not Material.—During the trial of the case entitled Chicago and Eastern Illinois Railroad Company vs. Stewart, brought by the latter party to recover for personal injuries, the company asked that he submit to a personal examination by a physician to be selected by the court. He refused. Then the company, by questions and offer, attempted to prove that such an examination would not be injurious to him. Objections to such questions and offer were sustained, and the Appellate Court of Illinois, First District, holds that these rulings were right. It says that the party had refused to be then examined. The court had no power to compel him to submit to an examination. The incident was closed. Whether or not, in the opinion of the physicians, such an examination would be harmful to him, became and was wholly immaterial.

Right of Action for Services of Health Officer.—By section 2,060 of the Kentucky statutes physicians appointed as health officers for cities, towns, and counties shall receive reasonable compensation for their services, to be allowed by the councils, trustees, or county courts of the cities, towns, and counties, and to be paid as other town or county officers are paid. In the case of Hudgins vs. Carter County the former alleged in his petition that, as health officer, he performed certain services during an epidemic of smallpox and presented his claim to the fiscal court, and the court failed to allow him anything thereon. The Court of Appeals of Kentucky says that the law as heretofore construed by it required him to first present his claim to that (the fiscal) court for an allowance, and, if not allowed, or if the allowance was unsatisfactory, then the claimant had either of two remedies—first, to appeal from the action of the fiscal court; second, to bring his action, that is, sue for his claim. But in this action he could not claim for anything more than the amount of the claim alleged to have been presented to the fiscal court for allowance, as in the opinion of the appellate court the presentation of the claim to the fiscal court for its allowance is a prerequisite to any action; also he could not recover against the county for services and medicine rendered and furnished to persons who were able to pay for same. He could only recover for his services and medicines rendered and furnished to indigent persons, and for services and general supervision rendered by him which was necessary or reasonably necessary to quarantine and keep the smallpox under control and prevent the spread of the disease, and for attention to those quarantined.

Physical Examination—Privilege Extends to Skiagraph.—The malpractice case of Aspy vs. Botkins, as it is entitled in the Supreme Court of Indiana, was brought by the latter party to recover for alleged negligence in the treatment of an injury which she had received in and about her right knee. While the physician sued was on his case in chief, and one of his attorneys was examining a physician and surgeon called as a witness in his behalf, such attorney made the request that the witness be allowed to examine the knee in the presence of the jury, that he might testify as to the condition of the knee at that time. Objection was made to the granting of this request, and the trial court refused to so order. This leads the Supreme Court to say that where the ends of justice require it, it is the duty of the court, on a timely application, to grant a reasonable request to have the party suing in a personal injury case, on the penalty of a nonsuit, submit to a physical examination with reference to the injury he claims to have sustained. The right is not, however, coextensive with the power of cross-examination, and some latitude of discretion must be recognized as existing in the trial court. Each case must rest on its own foundation, and the party sued who complains, on appeal, that the trial court abused its discretion in refusing to make the order, must be able to present a case where it is plain that the request should have been granted. The Supreme Court is satisfied that error did not appear in the present instance, for the reason, if for no other, that it required the party suing, a woman, to make a quasi public exposure of her person. That she subsequently offered to exhibit her limb to the jury did not operate to make the prior ruling improper. Again, while the physician was introducing evidence on his own behalf, his counsel called the party suing to the stand, and asked her whether a certain other physician had taken an *x*-ray photograph or skiagraph of her right knee. Objection was made to the question, and it was shown that whatever such other physician had done in relation to the knee had been done in treating the limb. The Supreme Court says that, in terms, the Indiana statute only purports to render the physician or surgeon an incompetent witness as to the matters therein specified, but it is evident that the protection would amount to nothing, in the case of an honest suitor, if the latter could be compelled to make the disclosure. It is hardly necessary to observe that, if the consultation was itself protected, a like protection would extend to the mute voucher thereof.

Constitutionality of Medical Practice Act.—The Supreme Court of the United States says, in Reetz vs. People of the State of Michigan, that the power of a state to make reasonable provisions for determining the qualifications of those engaging in the practice of medicine, and punishing those who attempt to engage therein in defiance of such statutory provisions, is not open to question. Dent vs. West Virginia, 129 U. S., 114; Hawker vs. New York, 170 U. S., 189, and cases cited in the opinion; State ex rel. Burroughs vs. Webster, 150 Ind., 607, and cases cited. It was objected in this case that the board of registration in medicine was given authority by Michigan Public Act No. 237 of 1899 to exercise judicial powers without any appeal from its decision, inasmuch as it might refuse a certificate of registration if it should find that no sufficient proof was presented that the applicant had been "legally registered under Act No. 167 of 1883." That, it was contended, was the determination of a legal question which no tribunal other than a regularly organized court could be empowered to decide. The answer is, that the decision of the State Supreme Court is conclusive that the act does not conflict with the state constitution, and the Supreme Court of the United States says it knows of no provision in the federal constitution which forbids a state from granting to a tribunal, whether called a court or a board of registration, the final determination of a legal question. Indeed, it not infrequently happens that a full discharge of their duties compels boards, or officers of a purely ministerial character, to consider and determine questions of a legal nature. Due process is not necessarily judicial process. Neither is the right of appeal essential to due process of law. But while the statute makes in terms no provision for a review of the proceedings of the board, yet it is not true that such proceedings are beyond investigation in the courts. In Metcalfe vs. State Board of Registration, 123 Mich., 661, an application for mandamus to compel this board to register the petitioner was entertained, and although the application was denied, yet the denial was based, not on a want of jurisdiction in the court, but on the merits. Again, the court holds that when a statute fixes the time and place of meeting of any board or tribunal, no special notice to parties interested is required. The statute is itself sufficient notice. If this party had applied at any meeting for a hearing, the board would have been compelled to grant it, and if on such hearing his offer of or demand for testimony had been refused, the question might have been fairly presented to the state courts to what extent the action of the board had deprived him of his rights. Then, he seemed to assume that the proceedings before the board were in themselves of a criminal nature, and that the state by such proceedings was endeavoring to convict him of an offense in the practice of his profession. The court says that this was a mistake. The state was simply seeking to ascertain who ought to be permitted to practice medicine or surgery, and criminality arises only when

one assumes to practice without having his right to do so established by the action of the board. The proceedings of the board to determine his qualifications were no more criminal than examinations of applicants to teach or practice law, and if the provisions for testing such qualifications are reasonable in their nature, a party must comply with them, and has no right to practice his profession in defiance thereof. It was further insisted that having once engaged in the practice, and having been licensed so to do, he had a right to continue in such practice, and that this statute was in the nature of an ex post facto law. But the court says that the case of Hawker vs. New York, 170 U. S., 189, was decisive on that question. The statute does not attempt to punish him for any past offense, and in the most extreme view can only be considered as requiring continuing evidence of his qualifications as a physician or surgeon.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

April 4.

1 *Observations on the Plague in the Philippines and India. Charles B. Ewing.
2 *Imperative Conceptions: A Study in Differential Diagnosis. L. Harrison Mettler.
3 Examination of Milk by the General Practitioner. Henry L. K. Shaw.
4 Report of a Case of Almost Fatal Poisoning by Six Grains of Quinin. Lewis A. Conner.
5 Reduction of Intussusception. David J. Minchin.
6 Death of a Fetus Following an Injection of Diphtheria Antitoxin into the Mother. E. R. Houghton.

1. **Plague.**—Ewing describes the plague as he observed it at Manila with special reference to tests for the detection of the bacilli in the blood. The leucocytosis and increase in blood plaques, even where no bacilli are to be found, serve to make the distinction between it and malaria and typhoid fever. It is only in later phases of the disorder that the organism appears in numbers, and twenty-four to forty-eight hours before death the blood becomes practically a pure culture. He describes one or two abnormal types such as a case of cutaneous plague in which the chief lesion consisted of a large pustule or an aggregation of small ones, in the right lumbar region, without enlargement of the lymph glands being noticeable. The *Bacillus pestis* was present in the blood. Such cases, however, are rare. As regards precautions, he took none except using an antiseptic on his hands and on the soles of his feet on account of the plague vomit which through lack of the usual hospital facilities was frequently deposited on the floor. The examination of the blood he considers on the whole of little diagnostic value. In this his opinion was confirmed by the testimony of Haffkine whom he met in India. The treatment of the disease, aside from the use of Yersin-Roux serum, is symptomatic. The death rate varies from 40 to 95 per cent. In Hongkong the total was 93.4 per cent. among Chinamen; 77 per cent. is reported among the natives of India; 60 per cent. among the Japanese and 18.2 per cent. among Europeans. Filthy surroundings, lack of ventilation, etc., are especially favorable to the propagation of the disease, and its association with cholera is emphasized by recent evidence in the Philippines and in India. He regards the plague as a cosmic question governed by hygienic, sanitary, commercial, and in part religious considerations. The races that are dangerous from a pest standpoint are all located in the Orient, where ignorance, religion and caste tend to swell the already large mortality. He is somewhat doubtful about quarantine; he thinks it may create a false security.

2. **Imperative Conceptions.**—Mettler discusses neurasthenic obsessions and what he calls insane imperative conceptions which seem to be associated with auditory hallucinations in the illustrative cases he gives.

Philadelphia Medical Journal.

April 4.

7 *Movable Right Kidney as a Cause of Pancreatic Diabetes, with Report of Cases Cured by Nephropexy. Sherman T. Brown.
8 *Impressions of Differences in Practice at Low and High Altitudes. Will H. Swan.
9 A Critique of the Logical Processes of Medicine. W. B. Konkle.
10 Subcutaneous Emphysema from Perforation of the Pleura by Extension of Tubercular Ulceration from the Lung. Starling Loving.
11 *Mouth Infection, Due to Natural Teeth. (Concluded.) D. D. Smith.

7. **Pancreatic Diabetes from Movable Kidney.**—Brown's article is largely a consideration of the anatomic conditions existing in movable kidney, with special reference to the effects on the pancreas, and also includes a report of cases where nephropexy appeared to cause recovery from pancreatic diabetes.

8. **High and Low Altitudes.**—Swan has investigated the comparative effects of high and low altitudes in different diseases He sent out a number of questions to physicians and analyzes the answers herewith. His conclusions are that pneumonia, instead of being less curable or more fatal at altitudes such as those of the Rocky Mountain region, is on the other hand more curable. Statistics show better results. He gives figures which are opposed to the prevalent idea and also to the opinion of 60 of the 93 physicians who expressed their views in response to his inquiry. In reference to typhoid fever, 99 seem to think it runs a shorter course at high altitudes, and that is the writer's impression. The replies he received, moreover, gave the general impression that functional nervous disturbances are more frequent and more intractable at higher altitudes. His own belief, however, is that they are about as serious and act in the same manner as at lower levels, and he gives reasons why the other impression may have been derived from increased nervous strain which happens in a large number of cases which go to Colorado for health. It is also the opinion of Dr. Eskridge and Dr. Pershing that functional nervous disorders are not more common or more troublesome at high altitudes. Swan thinks that biliary or digestive disorders are a little less frequent than at the sea level, though some people appear to be more prone to them. He finds rather more frequent use for the salicylates, and that chronic rheumatic affections, especially of the myalgic type, seem to be rather more frequent, while acute articular rheumatism is less so. Convalescence after illness is apt to be more prompt at high altitudes on account of the greater chance of being in the open air and sunshine, and it also seems to him that there is capacity for doing more work, physical and mental, in a short time and without more fatigue, if the effort is not too long continued, but he is quite sure that prolonged, severe, nervous strain tires people more. Whether this applies to physical work, he is not certain.

11. **Mouth Infection.**—Smith advocates thorough cleansing of the teeth and absolute sanitation. Instead of the ordinary tooth-brush and dentifrice, toothpick and dental floss, soaps, so-called germicidal washes or other agencies, he would have the most careful and complete removal of all concretions, all calcic deposits, semisolids, bacterial placques, to be followed by thorough polishing by hand methods not only of the more exposed labial and buccal surfaces, but the lingual, palatal and proximal surfaces as well, using for this purpose orange-wood points in suitable holders, charged with finely ground pumice stone as a polishing material. He believes there is an enormous amount of illness of all sorts due to the condition of the oral cavity, which can only be relieved by dental treatment.

Medical News, New York.

April 4.

12 *The Significance of Variations in the Internal Secretions. O. T. Osborne.
13 *The Significance of Oxaluria. J. Bergen Ogden.
14 *The Prognostic Value of the Diazo-reaction in Pulmonary Tuberculosis. Francis C. Wood.
15 *Hyperacidity of the Urine. T. W. Hastings.
16 *The Prognostic Significance of Albumin in the Urine. Edward W. Lambert.
17 *Narcotic Abuse and the Public Weal. J. B. Mattison.
18 *The Results of Intravenous Injections of Dilute Formalin Solution in Septicemic Rabbits. William H. Park and William A. Payne.
19 *Expert Evidence: A Reply to Hon. John Woodward. William L. Howard.

12. **Internal Secretions in Disease.**—The conditions which Osborne would specially like to see proven as due to derange-

ments of internal secretions are: Hysteria, neurasthenia, melancholia, hemophilia, rickets, atheroma, sclerosis, gout, leukemia, chlorosis, shock, diabetes and the general neurotic condition. He considers the thyroid the principal vaso-dilating material producer, while the suprarenals are undoubtedly the main organs of the body to furnish vaso-contracting stuff and the possible cause of sclerosis, endarteritis, etc. In shock there is low blood pressure and vascular paralysis, and to meet these conditions we have in suprarenal or adrenalin chlorid the agents we desire for the condition. Hysteria he considers may possibly be due to hypersecretion in the thyroid, and this seems to be associated with sexual changes. The adrenals seem to have something to do with the production of diabetes, and he has seen good results follow treatment with the suprarenal substance in diabetic conditions. He has also suspected that these organs have something to do with gout, in which he has found thyroid treatment of benefit. In acromegaly the thyroid has always been found atrophied. Thymus, theoretically, he believes may be of value in tuberculous cases as also in hemophilia and rickets. In conclusion he notes a case of lymphatic leukemia which seemed to be injured by remedies which reduced the size of the glands generally, such as nucleinic acid and especially arsenic.

13. **Oxaluria.**—The occurrence of oxaluria and its causes are noted by Ogden, who thinks that aside from ingested articles containing oxalic acid, it may be the result of imperfect intestinal elimination due to an excessive carbohydrate or nitrogenous diet. How oxaluria comes about in nervous disorders he is unprepared to say.

14. **The Diazo Reaction in Tuberculosis.**—From a study of some 363 cases of tuberculosis, Wood concludes that:

1. If the urine of a case of pulmonary tuberculosis shows no diazo-reaction and a kidney lesion can be excluded, the prognosis is favorable. Only 10 per cent. of the moderately severe cases here recorded gave a reaction, and in a number of these the reaction disappeared on treatment. Early cases not ill enough to apply for hospital treatment do not give the diazo-reaction.
2. If the urine of a case of pulmonary tuberculosis shows an occasional diazo-reaction the prognosis is not necessarily grave, as only some 66 per cent. of the patients showing an occasional positive reaction die.
3. If the urine of a case of pulmonary tuberculosis shows a continuous strong diazo-reaction the prognosis is very grave, since a large proportion of such cases dies within six months.
4. The presence of a diazo-reaction on the first examination of a patient should not debar the case from a thorough trial of climatic treatment in a proper sanatorium.

15. **Hyperacidity of the Urine.**—Hastings gives the methods of testing for urinary hyperacidity. The method which he considers best is the one recommended by Naegeli, similar to that in vogue for determining the total acidity of the gastric contents, using phenolphthalein as an indicator and titrating with a decinormal solution of sodium hydroxid. The normal acidity has been described by Brown as equal to 2.5 c.c. of decinormal sodium hydroxid solution for 10 c.c. of urine, and his cases as published showed degrees of acidity varying from at least twice above normal to nearly five times normal. A degree equivalent to 4 c.c. is often without symptoms, but above that burning on micturition, frequent micturition, enuresis, and symptoms of cystitis occur in neurotic individuals particularly. Among 100 cases, 40 presenting symptoms of disturbance of micturition in the course of some affection were tested as regards acidity of urine and 30 of this number were normal, including cases of rheumatism of various kinds, nephritis, cystitis, alcoholic hepatic cirrhosis, carcinoma of rectum and various nervous disturbances. The 10 cases in which the acidity varied from 6 to 14 c.c., included 3 of rheumatism, 6 of nephritis, and 1 of chronic valvular cardiac disease. The disturbance of micturition, however, was no greater than in the 30 negative cases. In the third set of cases of 21 diagnosed as neurasthenia after thorough clinical and laboratory examinations, the only abnormal change in 14 was an increase of acidity from 5.5 c.c. to 12 c.c. of decinormal alkali solution. The 7 remaining cases showed normal degrees of acidity, but there were in some of them other conditions such as deposits of urates, uric acid, oxalates, etc. The alkali seemed to alleviate the conditions in both classes, and suggests a rational treatment for many cases of frequent or nocturnal micturition.

16.—See editorial in THE JOURNAL, Feb. 28, 1903, p. 588.

17. **Narcotic and Drug Habits.**—Mattison speaks of the dangers of the drug habits and especially cocain, which ultimately tends to insanity if the habit is continued, and the need of a law requiring regulation of the sale of cocain, morphin, etc., and a law compelling nostrum makers to print the formula on the wrapper and the amount of morphin, etc., contained in each dose.

18. **Formalin in Septicemia.**—This article gives the details of experimental research. The quantity of formalin that may be safely given having been determined, a number of rabbits were injected intravenously with 1 to 10 c.c. of an ascitic broth culture of two strains of slightly virulent streptococci from the human blood, an amount sufficient to kill probably in from one to four days. A number was used as control cases. In others, 1 to 5,000 solution of formalin was also injected. In one case a rabbit which received 100 c.c. of a five-thousandth solution of formalin, twenty-four hours before the streptococcus, lived considerably longer than the controls, but as a rule, according to his tables, those receiving formalin injections died earlier than those not receiving them. He thinks the experiments, so far as they go, show that we should be guarded in using formalin, and carefully weigh each case to see whether good or harm has been done. The intravenous injection of water plus sodium chlorid may prove better than water plus formalin.

19. **Expert Evidence.**—Howard's article is a reply to an attack on medical expert evidence by ex-Judge Woodward of the New York Supreme Court in which it was most savagely denounced. Howard makes out that the fault is in the lawyers and judges and that the lawyers should take the beams out of their own eyes before beginning to meddle with the mote in the doctors'.

Boston Medical and Surgical Journal.

April 2.

20 *Cesarean Section for Placenta Previa, with Report of a Case. P. E. Truesdale.
21 *Further Remarks on the Treatment of Placenta Previa. Frank A. Higgins.
22 *Notes on X-Light. William Rollins.

20. **Cesarean Section for Placenta Previa.**—The first part of Truesdale's article is a review and analysis of the literature. He finds 13 cases of placenta previa reported in which Cesarean section was performed, in which four mothers and four children died, a large percentage. Two of the cases, however, were operated on only as a very last resort, after everything else had been tried. Excluding these two, the fetal and maternal mortality was 22.2 per cent. each, a much better figure. In all these cases, however, there had been alarming hemorrhages, and the results showed that Cesarean section is not contraindicated when the vitality of the patient is low from loss of blood He reports a case, one of the 13, in which the mother was saved though the child was lost. He insists on the importance of rigid asepsis in vaginal examination where placenta previa is suspected. He would say that Cesarean section would seem to be the best treatment for placenta previa, complete or partial, when the child is viable, and when the diameters of the pelvis or the conditions of the soft parts render the operation of dilatation and version performed with sufficient rapidity to save the child a dangerous procedure for the mother.

21. **Placenta Previa.**—Higgins holds the opposite view as regards the propriety of Cesarean section in this condition. He has never seen a case where it was advisable or justifiable. The only suitable condition would be with the mother and child in a good condition, before the occurrence of severe hemorrhage and with the os undilated. He emphasizes the fact that partial previa is not by any means as harmless for the mother as generally held. Of the 5 cases reviewed, 2 with partial placenta previa were the ones with the most serious condition, not on account of the situation, but on account of the neglect of the hemorrhage.

22. **X-Light.**—Rollins has by observation and correspondence with investigators learned of a number of cases where the

eyes had been impaired by working in *x*-light. He has recently had occasion to examine a man who had been exposed to a considerable extent since 1896, and though he is less than 40 years of age he can not read the daily papers. To enable him to see his work comfortably at a distance of 43 cm., it was necessary to provide him with double convex glasses, number 26. The necessity of having a non-radiable box enclosing the tube with only the smallest aperture sufficient to supply the rays where they are required is insisted on, and the hands holding the cryptoscope should be protected by a nonradiable covering. During the pumping and tuning of the *x*-ray tubes they should be kept in an oven with nonradiable walls. He has also noticed that while cancer is not considered contagious, yet several persons who have been treating the disease by the *x*-rays have been affected. He thinks this might have been avoided if proper precautions had been taken. He says it is, to say the least, unwise to be constantly treating cancer and other diseases by the *x*-light without regularly fumigating the room and keeping the cryptoscope and other appliances sterile. He advises fumigating the *x*-ray room with formalin vapor every night, and to have the instruments used of such material that they can be sterilized by heat.

American Medicine, Philadelphia.

April 4.

23 *The Use of Compressed Air to Enhance and Prolong the Action of Remedies on the Cerebrospinal Axis: Synopsis of Experiences in Applying the Method over Six Thousand Times. J. Leonard Corning.
24 *Hernial Complications. John B. Harvie.
25 Case of Bubonic Plague, with Exhibition of the Bacillus. Judson Daland.
26 Amyotrophic Lateral Sclerosis in a Boy of 15 with a History of Acute Anterior Poliomyelitis in Infancy. Alfred Gordon.
27 *The Influence of Altitude on the Mortality of Pneumonia. Henry W. Hoagland.
28 *The Present-day Mortality of Pneumonia. Alexander G. Brown, Jr.
29 *Tetanus. Isaac R. Trimble.
30 *Lobar Pneumonia and Its Treatment. G. Wehrle.
31 On the Classification of Museum Specimens. M. E. Abbott.

23. **Compressed Air in Therapeutics.**—The effects of compressed air on caisson workers suggested to Corning a method of using this means to enhance the effects of various remedies. The potency of certain remedies which possess a chemical affinity for nervous matter is enhanced when the subject taking them remains in a condensed atmosphere. He describes his apparatus and remarks that the method is of no use in the management of inflammatory and degenerative conditions of the cerebrospinal axis. It may avert the painful crises of ataxia, but does not affect the progress of the disease. In disseminated sclerosis, spastic spinal paralysis, poliomyelitis, its influence is also nil, and it is contraindicated in diseases of the blood vessels, and in all cerebral accidents arising from this source. In neuritis also it is not effectual; it rather augments than diminishes the pain. The same is true of articular rheumatism. The affections in which it is of value are the cerebral and cerebrospinal affections of a functional nature in which pain, exhaustion, insomnia or depression are prominent features. In these its effects are striking and beyond those obtainable in any other way. By increasing the blood pressure in the renal blood vessels, it causes diuresis, which effect is particularly manifest if a diuretic be given even in insignificant doses.

24. **Hernial Complications.**—Harvie describes some abnormal cases of hernia, mentioning one or two in which the whole intestinal tract formed a hernia and describing a case in detail where the whole bladder passed down into the scrotum from severe muscular straining and functioned there normally.

27. **Altitude and Pneumonia.**—The common opinion that pneumonia is more fatal at high altitudes is deprecated by Hoagland, who gives statistics showing that even a better percentage of recoveries is obtained at altitudes up to 7,000 feet than at the sea level. Above a certain altitude he admits that the fatality is greater, but the exact line of demarkation is not yet fixed by experience.

28. **Pneumonia.**—The increase of mortality of pneumonia and its infectious character are insisted on by Brown, who attributes much of the great fatality of late years to influenzal complications.

29. **Tetanus.**—Several cases treated by antitoxin are reported more or less briefly by Trimble, who thinks it is an agent of considerable value, especially in delayed cases.

30. **Pneumonia.**—After general remarks on the prevalence of pneumonia and its mortality, Wehrle discusses its treatment. He finds little to indicate any specific for the condition, and thinks on the whole the best results come from rational symptomatic management, including absolute rest in bed from the beginning, exclusion of visitors, good nursing, with a nutritious and digestible diet, elimination, use of normal salt enemata, abundance of fresh air, leaving fever practically untreated unless it is too severe, and employing stimulants when they are required, such as strychnin, arsenic, and ether and camphor in desperate cases.

New York Medical Journal.

April 4.

32 *Terminal Coma in Diabetes. Arthur R. Elliott.
33 Syphilitic Pseudotabes. Report of a Case; The Differential Diagnosis of Tabes. (Concluded.) Joseph Collins.
34 *Practical Points on Intubation of the Larynx for Croup, with a Report of Thirty-six Cases. Fielding L. Taylor.
35 *The Practical Recognition of the Tubercle Bacillus in the Sputum. Charles B. Fitzpatrick.
36 *The Jews as Immigrants—From a Medical Standpoint. Maurice Fishberg.

32. **Diabetes.**—The terminal coma of diabetes is illustrated by four cases reported by Elliott. The first was a well marked case of diabetic collapse, the diabetic heart coma of von Schmitz, induced by myocardial degenerative changes under the influence of the depraved diabetic nutrition. It differs from coma diabeticum in the absence of blowing dyspnea, in its short duration and in the profound cardiac symptoms and history. In the second case the exciting cause was due to dietetic imprudence, irritating the kidneys, producing latent nephritis and uremia. In the third case there was a primary diabetic toxemia with finally death from uremic poisoning, and in the last case the patient died from hemiplegia. No autopsy was obtainable, though there was a trauma as an important element. Prophylaxis is of first importance. The earliest indication is the appearance in the urine of the acid toxins, acetone, diacetic acid and beta oxybutyric acids showing the Gerhardt's reaction, the importance of which he emphasizes. With the first appearance of this symptom we should relax the rigidity of the diet, protect against all disturbing nervous influences, from fatigue and cold, stimulate elimination so as to promote excretion, having the patient drink as much water as possible, and use copious colonic irrigations. He believes in this stage in the use of simple alkalies such as sodium bicarbonate, that do not interfere with gastric digestion if in proper doses. If coma should appear, or its prodromes, the patient should be put to bed, the bowels thoroughly evacuated, stimulants and digitalis administered and the alkalies given in enormous doses. Oxygen may be administered freely by inhalation. The prognosis, however, with all that can be done, is bad.

34. **Laryngeal Intubation.**—Taylor describes the methods in intubation, calling special attention to the dangers, pushing down of false membrane, etc., which is rare. Tracheotomy may become necessary and sometimes expiration is impeded or prevented by the valve action of a piece of partially detached membrane at the lower orifice of the tube. In such cases it may be expelled sometimes by suddenly withdrawing the tube after brandy has been given to produce cough. If this is not effective, he uses a short O'Dwyer foreign-body tube for an hour or two, or tracheotomy may be required. Extubation is more difficult than intubation and expression is much more uncomfortable to the patient. Another tube should be ready to be inserted if required. He believes in the hard rubber tubes rather than metal ones, and reports a number of cases.

35. **Tubercle Bacilli.**—The method described by Fitzpatrick for detecting the tubercle bacilli consists in staining a thin layer of sputum which has been spread and dried upon the surface of a glass slide or cover glass, and then decolorizing it. If the tubercle bacillus is present, it retains the stain, while the rest of the preparation becomes colorless. Another stain of a different color is employed to restain the parts that have been decolorized. It is based on the usual methods, with the

employment of 3 parts of hydrochloric acid and 97 parts of a 70 per cent. alcohol as a decolorizing agent, followed by the use of an alkali contrast stain. The latter neutralizes the acid and prevents its further action as a decolorizing agent, thus insuring a permanent preparation.

36. The Jews as Immigrants.—Fishberg protests against Shively's statements in the "New York Medical Journal." February 7, as to the deterioration of the character of the immigrants, especially the Jews, which he thinks are, as far as health is concerned, more desirable than the more robust looking Irish or Germans.

St. Louis Medical Review.

April 4.

37 *A Case of Septicemia. Employment of Formalin. W. B. Dorsett.
38 *Carelessness in the Use of the Roentgen Rays. W. S. Newcome.

37. Formalin in Septicemia.—In the septicemic cases reported by Dorsett formalin solution was used according to the same formula as that of Barrows, 1 to 5,000, and there seemed to be a temporary amelioration after the two injections of 500 c.c. which were administered. The patient, however, died of hemorrhage from rupture of an artery in the broad ligament. The case was a desperate one from the start, and Dorsett does not consider it a proper one for the fair trial of a new remedy.

38. X-Rays.—Newcome calls attention to a certain amount of carelessness that is noticed in the therapeutic use of these rays; neglect as to even the most ordinary precautions as to time, distance from the tube, etc, as in certain cases he reports. He also notes that the protection for the adjoining parts is often insufficient; some persons relying on tinfoil, which is certainly not to be depended on.

Cincinnati Lancet-Clinic.

April 4.

39 The Diagnosis and Treatment of Diphtheria. R. C. Longfellow.
40 Inebriety in Ancient Egypt and Chaldea. T. D. Crothers.
41 President's Address, Alumni Association Medical College of Ohio. George B. Orr.
42 Surgery of the Prostate. Pancreas. Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

Virginia Medical Semi-Monthly, Richmond.

March 27.

43 *Gastro-enterostomy. John B. Deaver.
44 *A New and Original Stitch and Method of Closing the Abdominal Walls and Other Deep Incisions. Jacob Michaux.

43. Gastro-Enterostomy.—Deaver's article reviews the various methods of performing gastro-enterostomy and its indications. He thinks it ought to be heartily endorsed in gastric and duodenal ulcer. In certain gastric disorders, such as chronic gastritis with multiple erosions, some secretory neuroses of the stomach rebellious to internal medication, etc., it may be indicated, but when it is required in malignant obstruction of the pylorus, it means mere palliation, the disease having gone beyond the possibility of cure. Many benign obstructions due to adhesions thrown out about neglected biliary tract infections may be avoided by earlier operations in gall-bladder surgery. He describes the different methods.

44. New Abdominal Stitch.—The method here recommended by Michaux is as follows:

> Take a suture with a needle on either end, and pierce the peritoneum only on one side, bringing the needle out just under the surface of the rectus muscle (supposing we are closing an incision in the median line); pass over the rectus and catch up the aponeurosis. Now lay down needle No. 1, and take up the other and repeat the operation on the opposite side. Now, the peritoneum and aponeurosis are pierced on both sides. The next step is to cross over, taking up the aponeurosis again (with needle No. 1) on the opposite side, carrying the needle through the fat and skin at one thrust. Then needle No. 2 is taken across the incision; the aponeurosis pierced as well as the overlying fat and skin on that side. This completes the stitch.

The aponeurosis is pierced twice on each side, thus ensuring a firm hold upon this structure, and each thread draws the edges together. This the author thinks tends to ensure exemption from hernia. The advantages claimed are uniform tension along the walls of the incision, close approximation of edges of aponeurosis, complete removal of suture after healing, and general simplicity of the operation. He does not claim priority, as he finds Murphy had introduced it before, though it was original with himself.

Medical Fortnightly, St. Louis.

March 25.

45 *How to Cure by a Novel Method, Hopeless Cases of Deafness and Discharge from the Ear. Robert Barclay.
46 The X-Ray Treatment of Cancer, with Report of Successful Cases. Everett J. Brown.
47 Surgery of the Heart—Illustrated with Fifty Stereopticon Slides. (Continued.) Benjamin M. Ricketts.

45. Deafness.—Barclay considers that in many cases of hopeless deafness the difficulty is due to interference with the physical conditions in the ear, the chain of bones, ear drum and so on, are limited or embarrassed in their function by adhesions, etc. In these cases he says there is but one rational method of procedure and that is to liberate the deeper portion of the auditory conducting mechanism from the improperly immobilized portion without, making provision for aerial sound-waves directly to the deeper, still movable portion. The method which he finds most indicated in old hopeless cases is that of affecting the removal of the drum head, hammer and anvil bones—the stirrup bone also being occasionally removed, and bands, synechiæ, septa, growths, etc., dealt with as indicated, sufficient to liberate and expose the more deeply lying auditory structures. This does away with the defect of drainage by the natural route in case of discharge, and in catarrhal cases produces a skin-like or dermoid transformation of the mucous membrane. He thinks this method should be resorted to when radical methods have been found powerless to correct, and he says that when you find a deaf person who speaks habitually in an abnormally low tone of voice, who hears better in a noise or noisy places—no matter how long he may already have been afflicted, and notwithstanding that every other remedial measure may have been tried in vain—he may yet be relieved by resection of the auditory conducting mechanism, proportionately to the distinctness of these symptoms.

Proceedings of the Pathologic Society of Philadelphia.

February.

SYMPOSIUM ON SERPENT VENOM.

48 *The Poison of Serpents. S. Weir Mitchell.
49 *Venom and Antivenene. Joseph McFarland.
50 *A Comparative Study of Snake Venom and Snake Sera. Hideyo Noguchi.
51 A Case of Remarkably Large Cyst of the Cerebellum. Joseph McFarland.
52 A Fatal Case of Polyarthritis Complicated by Chorelform Symptoms and Vegetative Endocarditis. Augustus A. Eshner.
53 A Case of Ulcerative Endocarditis Involving the Pulmonary Valve, Causing Perforation of the Ventricular Septum, Gangrene of the Nose and Ears. Multiple Infarcts in the Kidneys, etc. H. M. Fisher and W. T. Longcope.
54 Report of a Case of Bubonic Plague, with the Exhibition of the Bacillus. Judson Daland.

March.

55 *Some Experiments on the Immunization of Cattle Against Tuberculosis. Leonard Pearson and S. H. Gilliland.
56 A Contribution to the Pathologic Histology of Bullous Keratitis as It Occurs in Glaucomatous Eyes. G. E. de Schweinitz and E. A. Shumway.
57 *Autopsy Statistics at the Children's Hospital, with Reference to Tuberculosis and Its Etiology. Alfred Hand, Jr.

48. The Poison of Serpents.—Mitchell gives the history of his own investigations of the subject.

49. Venom and Antivenene.—After first noting the work on the subject by Phisalix, Calmette and others, McFarland reports his own experimental work in the line of developing an antivenomous serum. He adopted the plan of intravenous injection when using viperine material, to avoid the extensive local lesions which invariably followed its subcutaneous injection. A remarkable effect, however, of each injection in the horse was syncope, which, however, was soon recovered from. In this way he produced an antivenene serum of considerable value from the horse. Of three horses first experimented on, one succumbed to extensive superficial necrosis following the venom injections. Of the other two receiving intravenous injections, one died of pneumonia and the third horse stood the treatment well until by accident some of the venom was apparently injected into the sheath instead of into the vein itself, resulting in extensive periphlebitis with enormous swelling of the neck and death from suffocation. The point of special interest is that two of the animals died from infection, which is of interest as Welch and Ewing have shown that rattlesnake venom destroys the bactericidal properties of the blood. The

second fact of interest is that in spite of the long immunity, and the very numerous injections of venom which the third horse had received, it appeared to have developed no immunity against the principle he had sought to combat—that is, the local irritative poison, but at the end of a year succumbed to it. The serum of this horse was found to possess properties similar to the antivenomous serum of Calmette; that is, it protected against cobra venom heated to 70 C. for a time, always against rattlesnake and other venoms heated to 70 C., by which the irritating poison was destroyed, but it seemed to have no action on the irritative principle itself of venoms.

50.—See Univ. of Penn. Med. Bulletin, November, 1902.

55. **Immunization of Cattle Against Tuberculosis.**—Pearson and Gilliland have experimented along the line of Behring's work, and find the following conclusions justified:

1. That after repeated intravenous injections of cultures of tubercle bacilli from human sputum the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculation with quantities of such cultures that are capable of causing death or extensive infection of cattle not similarly protected. 2. That by intravenous injection much larger quantities of culture of human sputum tubercle bacilli than are necessary to confer a high degree of resistance, or immunity, on the vaccinated animal, may be administered without danger to that animal. We now have in progress incomplete experiments on a number of young cattle, some of which have been under way since last March, for the purpose of testing the duration of this immunity and the extent to which it is effective in protecting cattle against infection from natural sources. We have also started an experiment which we hope will throw light on the open question as to the minimum quantities of culture of non-virulent tubercle bacilli that it may be necessary to administer in order to confer a serviceable degree of immunity, and, further, whether it may be possible to simplify the process of vaccination by successive injections of a few cultures of progressive degrees of virulence.

57. **Tuberculosis in Children.**—From autopsy statistics of the Philadelphia Hospital, Hand concludes that:

1. The majority of cases of tuberculosis in infants and children is apparently the result of an air-borne infection. 2. A certain percentage of cases is of primary intestinal origin, probably the result of food-infection, as those cases which were subjected to exhaustive experimental study gave bacilli resembling the bacillus of bovine tuberculosis in all of its characteristics. This group is sufficiently large to render imperative measures of prevention. 3. From an anatomic standpoint there is no way of distinguishing those cases of primary bronchial tuberculosis which might be the result of food infection from those in which the infection is air-borne. 4. The large proportion of cases in infants suggests either a greater exposure or a less resistance to the infection as compared with children over two years of age.

Brooklyn Medical Journal.

April.

58 *A Brief History of the Therapy of Various Forms of Light and Radiotherapy. James M. Winfield.
59 *Personal Observations on the Remote Results of Conservative Surgery on the Pelvic Adnexa. John O. Polak.
60 *Gonorrhea in Women. Augustus A. Hussey.

58. **Radiotherapy.**—As the title indicates, Winfield's article is largely historical, but he reports briefly some of his own experience with the *x*-rays. He holds that in electric light we have a most valuable therapeutic agent for ameliorating and curing many chronic or troublesome diseases; that the Finsen method is of undoubted value though limited in its scope, and that radiotherapy is more useful than phototherapy because of its wider range of application. It is capable of producing untoward symptoms, and the operator should be fully acquainted with its possibilities and dangers. It is better in lupus than the Finsen light because of its simplicity, and it is of value in almost all forms of cancer, but surgical procedure is preferable if the cancer is small and easy of access. The author's personal experience and careful study of the literature prove to him that radio-therapy has an inhibitory effect on all malignant growths, and that it should be used in inoperable cancer and after removal by surgical means.

59. **Conservative Gynecology.**—Polak reviews 161 cases of conservative operations on the adnexa. In 75 women one ovary was removed and in 63 one ovary was removed and the other to a greater or less extent resected. In a number of cases the tubes were resected. Several operations were for fibroids. There was no primary mortality. He has been able to follow 20 of the women to pregnancy and one has had three children with but the fraction of an ovary. The functional results have therefore been good, but as far as the pain is concerned, they are less satisfactory. Polak attributes his failures to insufficient appreciation of the exact pathology of the adnexa and consequent errors in judgment; failure to recognize the presence of remote and coincident lesions causing referred pain such as pathologic conditions of the kidney, appendix, gall-bladder, sigmoid and rectum; to an imperfect toilet of the peritoneum resulting in adhesions; to the improper and irrational use of drainage in pus cases, and finally because in many cases sufficient time was not given to the preoperative preparation of the patient. Another point which contributes largely to the success of conservative ovarian surgery is the maintenance of the ovary in a plane of circulatory equilibrium. If this is not done, its blood balance is destroyed; it will swell, increase in weight and become prolapsed. Suppurative disease within the pelvis is antagonistic to successful ovarian resection as the unprotected resected surface seems to be less resistant to infection. When the ovary is the seat of a single cyst of moderate size or of several small ones or a single hematoma, it may be successfully resected, but when there is multiple cystic degeneration, particularly if these cyst formations are found near the hilum or where there are two or more hematomata within the ovary, oöphorectomy should be the procedure of choice. Tubal lesions are more complex than ovarian degenerations or inflammation. From his experience he would say that the tube that is sacculated, thickened, adherent, impatent or the seat of a chronic suppuration, no matter if it be gonorrheal or septic in origin, demands ablation rather than resection. The field of tubal resection is limited to non-inflammatory anomalies of the distal end when the proximal end is healthy and pervious. He feels justified, however, in addition to the above limitations in advocating incision and drainage of pus accumulations (not gonorrheal) within the tube by vaginal incision, delivery of the tube into the vagina and splitting up its free surface for a distance of 1 to 1½ inches. When the tube has been resected, the newly made ostium abdominalis should be attached to the ovary, to form an adhesion which acts as a tubo-ovarian ligament. After resecting the ovary and tube in the manner suggested, Polak commonly suspends the uterus and in this way raises the ovary to a higher pelvic plane Another cause for failure has been inability to recognize lesions causing referred pain, most generally movable kidney and appendiceal lesions. Over 20 per cent. of gynecologic patients have more or less movable kidneys, and generally associated with enteroptosis or gastroptosis. Imperfect toilet of the peritoneum causes adhesions and their avoidance is desirable. The omentum is not only a great isolator, but also a great mischief maker when it has undergone any traumatism. A bruised or torn omentum should be amputated by individual vessel ligation, mass ligatures tending to cause dangerous omental adhesions. Improper and irrational drainage in pus cases often prevents an aseptic and afebrile convalescence and has been the cause of several of his post-operative failures. It is unnecessary in the majority of pus cases and means incomplete work. The pus of a pyosalpinx or a tubo-ovarian abscess is commonly sterile and may be mopped up with sponges and the soiled surfaces cleansed with 50 per cent. peroxid of hydrogen, which is then washed away with normal salt solution and the peritoneal sac closed without a drain. Persistent oozing which can not be covered in with peritoneum, and pus leakage from puerperal lesions or bowel injuries within the pelvis or in the region of the cecum, or the gangrenous condition of the surroundings may make satisfactory suture questionable and demand drainage. Vaginal drainage should be elected in all pelvic cases. The drain should not be taken out too early, leaving it in place for three or four days, loosening, but not removing it. Rest in bed from forty-eight hours to a week should precede elective abdominal work, and the intestinal tract, heart, skin and kidneys be carefully prepared. Attention to such details makes abdominal work easy.

60 **Gonorrhea in Women.**—Hussey recapitulates the points in his article as follows:

1. Gonorrhea is a frequent disease among married women. 2. Its effects are often disastrous to the individual, to the family, and to society. 3. It begins as an acute inflammation and soon becomes chronic, or it is chronic from the start. 4. The acute inflammation if seen early and treated intelligently may be cured. The chronic form is often located in the external genitals for a time, and is

amenable to treatment. 5. When the inflammation has involved the tubes and ovaries the normal condition of the parts is rarely restored. 6. The treatment of gonorrhea is made difficult by the fact that the patient does not apply for treatment at the beginning of the disease. This is due, in the acute cases, to her ignorance of the meaning of the symptoms, and in the chronic cases, to lack of significant symptoms. 7. The best treatment is prophylactic. 8. Treatment of the disease, to be effective, must be commenced early. This can be accomplished only by teaching women that urethritis and leucorrhea are often the precursors of a chronic disease that may undermine their health, cripple their reproductive organs and not infrequently cause death.

Buffalo Medical Journal.
April.

61 *The Toxins of Insanity. James W. Putnam.
62 *Successful Removal of 265 cm. of Gangrenous Intestine. Roswell Park.
63 Henry de Mondeville, the Man and His Writings. (Concluded.) Charles G. Cumston.
64 *Rudolf Virchow. An Appreciation. Charles A. L. Reed.
65 Acetozone in Gastrointestinal Disease. W. F. Drake.

61. **The Toxins of Insanity.**—Putnam reviews the theories and possibilities of toxins as a cause of the various forms of mental disorder, mentioning the insanity of Bright's disease, the mental symptoms associated with diabetes, constipation, exophthalmic goiter, etc., also puerperal insanity, which is being considered by many as largely a toxic form. The theory of the toxins of insanity is one, he says, which is winning adherents.

62. **Intestinal Resection.**—The case reported by Park is of interest as being with a few exceptions the most extensive intestinal resection that has been made. In this case 8 ft. and 9 in. of ileum and descending colon, including the cecum, were removed. The origin of the trouble was an inflamed appendix. He calls attention to the fact that most cases of general peritonitis are plainly due to some easily recognized cause taking their real origin from the inflamed appendix. The largest amount of intestine taken in any of his collected cases was that of a boy where nearly twelve feet were removed, and he promptly died. In fact it comprised nearly his whole intestinal tract. In the patient operated on by Park the results were good. Eleven months later the patient was in good health in every respect.

64.—This article appeared elsewhere. See THE JOURNAL of February 28, title 30, p 606.

St. Paul Medical Journal.
April.

66 *Gastric Ulcer and Its Surgical Treatment. Judd Goodrich.
67 *Vaginal Section and Drainage for Suppuration in the Pelvis. H. P. Ritchie.
68 School Sanitation Relative to Sight and Hearing. Frank C. Todd.
69 *Treatment of the Hemiplegic State. Arthur Sweeney.
70 Injury to Legs of a Child. J. W. Robertson.
71 Ectopic Gestation. A. E. Spalding.

66. **Gastric Ulcer.**—Goodrich's article is a general review of the literature and facts of the subject with a report of cases operated on in St. Paul.

67. **Vaginal Section and Drainage.**—Ritchie favors the use of drainage because of its conservatism. He finds the immediate mortality of his vaginal operations 6.6 per cent., and considering the circumstances and complications, we may say that the immediate mortality as a result of operation is practically nil. In acute septic cases drainage has its greatest field, and with large abscess and extensive area involved must be looked on as a temporary procedure paving the way for future operation. Considering the high immediate mortality of laparotomy, vaginal section is the elective operation. In puerperal exudates the results are incomparable, but in tubercular cases it should never be attempted. In small abscess, especially of gonorrheal origin and with improved modern methods, both laparotomy and vaginal section must be thoroughly considered, and the operator use his best judgment in considering the condition of the patient, location, size and consistency of the tumor, but the claim that drainage has no field in surgery and that only radical methods are indicated either by the vagina or abdomen, must be amended. Its employment in proper cases with proper after care will be followed by good results.

69. **The Hemiplegic State.**—The point insisted on by Sweeney is proper attention to the muscles and sets of muscles which produce contractures and the manner in which they act, in the after-treatment of hemiplegics By persistently opposing the conditions which favor abduction and fixation, a large degree of comfort and a considerable degree of function can be assured to the patient, which might be lacking otherwise. He believes in starting active measures to prevent contracture from the very first, especially in the case of the arm.

California State Journal of Medicine, San Francisco.
March.

72 Final Result of a Lorenz Operation for Congenital Luxation of the Hip. Emmet Rixford.
73 Symposium on Diseases of the Pancreas: Report of a Case of Pancreatic Cyst. William F. Cheney.
74 Report of a Case of Chronic Interlobular Pancreatitis, Pancreatic Calculi, with Multiple Cysts of the Pancreas. L. W. Allen.
75 *Chemical Pathology of Pancreatic Disease, with Reference to Diagnosis. Philip K. Brown.
75½ Case of Pancreatic Cyst. E. E. Kelley.
76 Treatment of Hydrocele by Eversion of the Tunica Vaginalis (Longuet's Method). Dudley Tait.
77 Conservatism in Gynecological Surgery. W. F. B. Wakefield.
78 Pott's Disease of the Spine in Children: Its Complications. James H. Tebbetts.
79 Treatment of Sclerosis of the Middle Ear. M. W. Frederick.

75. **Chemistry of Pancreatic Disease.**—The résumé of Brown's paper gives as a probable fact the association of pancreatic glycosuria with pathologic conditions in the islands of Langerhans. Steatorrhea is a symptom of failure of both the bile and pancreatic fluid A failure of bile to enter the intestine lessens the flow of pancreatic fluid by lack of the proper stimulant. Occlusions of the lower end of the common duct shut off the pancreatic fluid, and if bile is forced into the pancreatic duct in consequence, acute inflammatory disturbance may result in the gland. The steatorrhea of primary pancreatic disease with diminution or absence of pancreatic secretion is marked by an excess in the neutral fats, reaching even 60 per cent. of the total excretion, instead of the normal of between 10 and 15 per cent. and further by a striking diminution of fatty acids. With the steatorrhea is microscopic evidence of a failure of proteid digestion, shown by the finding of muscle fibers and casein coagula. Fermentative and excessive putrefactive changes in the feces are evident to the eye and nose. Indican is present in increased amount in the urine, as are also the ethereal sulphates. The methylene blue test of Williamson may be used to determine a hyperglycemia in a suspected case of diabetic coma when means of obtaining urine are not at hand. Bremer's test is not so useful. Lipuria and lipemia are interesting, but not pathognomonic symptoms. The presence of fat-splitting ferment in the urine might be of extreme value in fixing a pancreatic connection to a glycosuria or to an acute disturbance in the epigastrium.

Western Medical Review, Lincoln, Neb.
March 16.

80 President's Annual Address, Custer County Medical Society. C. Pickett.
81 *The Surgical Aspect of Prostatic Hypertrophy. J. E. Summers, Jr.
82 Sequelæ of Influenza; or Masked Influenza. Louis Was.
83 *Typhoid Fever—Intestinal Paralysis. George Haslam.
84 The Importance of the First Treatment in Minor Surgery. J. Henry Young.
85 Periosteal Osteo sarcoma of Upper Extremity of Femur; Ligation of Common Iliac Artery, with Amputation at Hip-joint and Removal of Portion of Pelvis, etc.; Recovery. Leonard Freeman.
86 The Clinical Laboratory. J. W. Mayhew.
87 Clinical Facts and Their Meaning. Joseph M. Aikin.
88 Headaches of Nasal Origin. James M. Brown.

81. **Prostatic Hypertrophy.**—Summers holds that the medical treatment of this condition may be successful if taken sufficiently early. Catheter life, however, is always dangerous, and operation is preferable. The mortality in surgical treatment is below 5 per cent. Castration and vasectomy are failures, and the former has a mortality of 16 per cent., besides many cases of insanity are reported as following it. He has used the suprapubic method with varying success, but lately has employed the perineal method with good results. He has operated five times, all of his patients being over 60 years of age and in bad general condition. There have been no deaths.

83. **Typhoid Fever.**—The intestinal paralysis of typhoid is especially noted by Haslam, who also speaks of the general treatment of the disorder by copper arsenite. He claims that this drug seems to possess almost a specific influence in con-

trolling complications, in proper doses, not over 1/100 gr. though frequently repeated. In cases of intestinal catarrh the benefit is equally marked, but a much smaller dose is sufficient. The complex known as intestinal paralysis, or ileus paralyticus includes at least two forms: 1. Simple intestinal paralysis; 2, virulent or septic intestinal paralysis, the malignant character of which may possibly arise from either of two sources or both, namely from a variation in the metabolism of the bacteria in consequence of the disturbance of normal nerve control, or by the formation of some substance or substances which stimulate the bacteria to virulence, or, secondly, from the excretion into the intestines of some similar substance or substances, but derived in the first place from a septic peritoneum or other septic process. In such cases he would not hesitate to perform high double enterostomy in addition to such other treatment as may be indicated in any severe case of intestinal paralysis, provided the patient is not actually moribund.

Medical Times and Register, Philadelphia.

March.

89 Protective Medication from a Hygienic Point of View. J. McFadden Gaston.
90 Compound Fractures of the Bones of the Hand or Foot. Thomas H. Manley.
91 On the Presence of the Typhoid Bacillus in the Urine and Sputum. Mark W. Richardson.
92 A Report of Two Cases of Septicemia, Successfully Treated with H_2 O_2 Medicinal. E. J. Melville.

Georgia Journal of Medicine and Surgery, Savannah.

March.

93 The Successful Treatment of Asthma. E. A. Banon.
94 The Significance of the Temperature in the Diagnosis of Extrauterine Pregnancy During the Period of Collapse from Hemorrhage. Charles P. Noble.

Memphis Medical Monthly.

April.

95 Stricture of the Rectum. Joseph M. Mathews.
96 Splenectomy: Two Successful Cases. Moore Moore.
97 A Practical Demonstration of an Artificial Support in Treatment of Curvature of the Spine, with Report of Case. John C. Clark.
98 Pulmonary Lithiasis, with Report of Case. M. O. Shivers.
99 Experience of an Army Nurse in Cuba. Mrs. L. A. Warner.
100 Anesthesia. Frank D. Smythe.

Clinical Review, Chicago.

April.

101 Lectures on Gynecology. Franklin H. Martin.
102 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. Endothelioma. A. H. Levings.
103 Glimpses at European Gynecology and Obstetrics. Henry F. Lewis.

Fort Wayne Medical Journal-Magazine.

March.

104 The Use of Inhalers in Treating Diseases of the Respiratory Organs. George W. Spohn.
105 The Therapeutic Value of Radiant Matter and Vibratory Force. A. P. Buchman.

Canada Lancet, Toronto.

April.

106 The Causation and Prevention of Phthisis. Byron Bramwell.
107 Some Recent Studies of Immunity. J. J. MacKenzie.
108 Two Cases in Practice, and an Interesting Book. Ernest A. Hall.
109 A Plea for the Open Method of Treating Fractures of the Patella. F. N. G. Starr.
110 The Open-Air Treatment for Consumption. Angus MacKinnon.

Louisville Monthly Journal of Medicine and Surgery.

April.

111 Foreign Bodies in the Urinary Bladder. W. O. Roberts.
112 Gastrectasis. John J. Moren.
113 Feigned Eruptions—Report of Five Cases. M. L. Heidingsfeld.
114 Dr. James Rodman and His Work. B. F. Eager.
115 Professional Honor. C. W. Heffner.

Kingston Medical Quarterly.

January.

116 Medicines—Their Uses and Abuses. John Herald.
117 Rupture of the Uterus.
118 A Case of Mixed Diphtheria Infection. G. W. Myiks.
119 Purulent Otitis Media. C. E. O'Connor.
120 Notes on 250 Labors. V. Barber.

Columbus Medical Journal.

March.

121 Some of the Veteran Medical Teachers of America. Isaac Kay.
122 The Absorption Treatment of Cataract and Its Effects on the Eye. John W. Wright.
123 The Use of Alteratives in the Treatment of Diseases of the Uveal Tract. C. F. Clarke.
124 Some Clinical Notes on Gonorrhea. W. A. Hackett.
125 Spasmodic Cough. Elmer S. Oman.

New Orleans Medical and Surgical Journal.

April.

126 Spinal Analgesia. E. Denegre Martin.
127 Large Interstitial Fibroid Complicating a Breech Presentation. J. E. Doussan.

Southern Practitioner, Nashville, Tenn.

April.

128 Some of the Common Diseases of the Eye. G. C. Savage.

Medical Examiner and Practitioner, New York.

March.

129 A History of Chronic Nephritis. Louis F. Bishop.
130 A Résumé of the Most Potent Factors of Disease and Death in the World's History, with a Review of Modern Prophylaxis. W. H. Irvine.
131 Eclampsia—A Clinical Study. S. Marx.
132 Local Leucocytosis as the Ally of the Surgeon. Robert T. Morris.
133 Fracture of the External Condyle of the Humerus in Children. Carl Beck.

International Journal of Surgery, New York.

April.

134 A Few Disputed Points in the Treatment of Pyosalpinx. Ralph Waldo.
135 Suprapubic Cystotomy as a Means of Locating the Perineal Urethra—Supplementary Report. Howard Crutcher.
136 Physical Examination in Diagnosis of Fractures. Henry E. Hale.
137 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
138 The Perineum in Labor. Robert C. Robe.
139 The Technics of Amputations. Robert H. Cowan.
140 The Surgical Assistant. Abdominal Operations. (Continued.) Walter M. Brickner.
141 The Surgical Treatment of Enlarged Prostate. Bacon Saunders.
142 Report of Some Surgical Cases (Gallstones). W. Monroe Smith.

Mississippi Medical Record, Vicksburg.

April.

142 Report of Some Surgical Cases (Gallstones). W. Monroe Society. M. J. Alexander.
144 Pneumonia—Report of a Case. M. M. McMillan.
145 How Are Young Physicians to Decide on a Treatment for a Patient with Pneumonia? Report of Two Cases. Holder Speck.
146 Empyema: With Report of Two Cases. B. L. Culley.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

March 28.

1 *Some Experiments on the Nature and Specific Treatment of Hay Fever. Felix Semon.
2 *Theories of Immunity and Their Clinical Application. A. S. Grunbaum.
3 *On Ankylostomiasis. Oswald Baker.
4 *Trypanosomiasis on the Congo. Patrick Manson.
5 *Trypanosomiasis and Its Cause. Alex. Maxwell Adams.
6 *Filaria Perstans. George C. Low.
7 Screw-Worms in St. Lucia. St. George Gray.
8 *The Diagnostic Value of Blood Counts in Malarial and Other Fevers. T. H. Delany.
9 *Beri-beri Among Lascar Crews on Board Ship. D. W. Keiller Moody.
10 Note on the Changes in the Red Cell Produced by the Malignant Tertian Parasite. J. W. W. Stephens and S. R. Christopher.
11 A Case of the Form of Chronic Joint Disease in Children Described by Still. F. Parkes Weber.

1. **Hay Fever.**—In 1902 Dunbar of Hamburg reported the discovery of a toxin in the pollen of certain grasses and maize which produced the characteristic symptoms of hay fever and by using the pollen he produced a toxin which immediately quelled the disease and caused retrogressive changes in the objective symptoms produced by the toxin. Semon has further experimented with this, using Dunbar's toxin and antitoxin on himself and on patients and reports them. From experiments he deduces the following conclusions:

1. There can be no doubt that Professor Dunbar has succeeded in extracting from the pollen of certain grasses (maize, wheat, rye, *Anthoxanthum odoratum, Agropyrum repens, Cynosurus cristatus,* etc.), a toxin which when instilled into the eyes or nostrils of people predisposed to hay fever, produces in these parts the characteristic subjective and objective symptoms of the disease. 2. The toxin, when injected into the eyes or nostrils of people not predisposed, produced, in the great majority of cases, no symptoms whatsoever, but it certainly appears from Dr. T.'s and my own experiences as if there were instances of transition in which, although the persons experimented on never suffer from typical hay fever, they are yet more susceptible to the influence of the toxin than the ordinary run of people. 3. The effects of the toxin in people suffering from hay fever are as variable in intensity as are the attacks of the affection itself, both with regard to the local and constitutional symptoms. 4. Professor Dunbar's antitoxin certainly pro-

duced immediate disappearance of the subjective, and after a few minutes great amelioration of the objective symptoms. 5. The mixture in equal parts of a toxic solution (1 in 500) and the antitoxic serum suffices to neutralize the specific effects of the toxin. 6. The effects of the antitoxin appear in some instances to be sufficient to prevent a reappearance of the subjective symptoms, while, in other instances repeated instillation of the antitoxin were required to produce ultimately the return to normal conditions.

He remarks that this is only a preliminary report, but believes that we are on the threshhold of facts which will enlighten us on the most useful way to treat this common and troublesome disease, but we can not, however, build up excessive therapeutic hopes for the following reasons:

1. We do not yet know what the nature of the special predisposition is which makes one person react violently to the influence of both the natural pollen and of the artificially produced toxin, while it leaves another quite unaffected. 2. While it may be justly hoped that it may be possible to produce an even more effective serum no guarantee can at present be given, nor do we know for certain whether it will be possible to produce such antitoxin in sufficient quantities to use it extensively. It may, however, confidently be hoped that such will be the case. 3. While the antitoxic serum as at present produced quickly neutralizes the local effects of the toxin, it is impossible to foretell—and on this point I wish to insist very strongly—whether in case of genuine attacks of hay fever, an even more powerful serum than at present prepared, applied by way of instillation into the affected mucous membranes, or by subcutaneous injection or by internal administration, will arrest all the symptoms when once fully established, and even if it should do so, whether the effect will be lasting, or whether the symptoms may not return. 4. Finally, it is equally impossible to foretell whether by the prophylactic application of a very powerful serum we shall succeed in altogether preventing the actual outbreak of an attack in those specially predisposed.

He offers this as a warning against expectations that may not be realized.

2. **Immunity.**—In this second lecture Grunbaum takes up the action of antitoxins, hemolysins, cytotoxins, etc., giving more particularly the views of Metchnikoff and his school.

3. **Ankylostomiasis.**—This disorder, which was first discovered in 1879, but which has only become fully recognized as a tropical and semitropical scourge of later years is described at length by Baker. He gives its geographic limits as extending between 50 north latitude and 30 south latitude, thus covering a large portion of the north temperate zone, as well as the tropics. It is, however, less common in some places than in others, and almost unknown in some. He thinks, however, the mortality that it directly causes can hardly be exaggerated. The fact that when the parasites are few they do not produce appreciable harm does not affect the fact that in a vast number of cases they occur in such numbers as can not fail to be seriously harmful. He rather questions the views of Loos that it can enter in the hair follicles of the skin, but holds there is ample reason to account for the prevalence of the disease by the habits of the natives of the countries where ankylostomiasis is most prevalent. They generally live in very crowded dwellings with complete absence of all sanitation, are dirty in their habits, eating food with their hands, which are generally not clean, some even eating the earth itself. In Egypt this is a common practice. It is not surprising, therefore, that ankylostomiasis is so prevalent there. The earlier symptoms of the condition are hardly known because patients rarely apply for treatment until their anemia incapacitates them for their daily occupation. In addition to the anemic symptoms, the chalk-white pallor of the nails and mucous membranes, empty pulse and cardiac distress, mental and bodily apathy, edema arising first in the eyelids and subsequently extending to the whole body is common. With this there is usually slight albuminuria, marked mental failure and great drowsiness. When this stage is reached the case is generally hopeless. The blood presents no special symptoms excepting eosinophilia, which is generally met with in helminthiasis. The diagnosis is made certain by the usual appearance of the ova in the feces. The question whether there is a toxin produced by the parasites having hemolytic and other destructive properties is noticed, but Baker hardly thinks that such a factor is necessary to explain the symptoms and conditions produced. The prophylaxis of the disorder may be summed up in one word, sanitation. For treatment there is no vermifuge comparable to thymol, which can be given in doses of 10 to 60 grains, the latter only to very robust persons. The former dosage is much safer, three doses given the same day at varying intervals. If after four or five doses the ova are still found in the dejecta, the dosing should be repeated. The importance of early recognition is emphasized in conclusion. No clinical examination of a patient in a tropical country can be deemed adequate which does not include a microscopic study of the blood and dejecta.

4. **Trypanosomiasis on the Congo.**—Manson reports a case and discusses the etiology. He makes the suggestion that the animal that inflicts the bite would seem to be the cause of this case, and this may be the poisonous tic, *Argas moubata*, which has been long known as occurring in portions of Southern and Central Africa.

5. **Trypanosomiasis and Its Cause.**—Maxwell-Adams suggests the probability of rats being the intermediate carriers of trypanosomiasis and that the disease is conveyed by direct inoculation from its bite.

6. **Filaria Perstans.**—Low describes this parasite which is found near the equator in South America and Africa, especially in the wooded regions, towns and cultivated sections being exempt from it. He has sought to find the insect which carries the disease, but with negative results and he sees no special proof of its connection with sleeping sickness.

8. **The Blood Count in Malaria.**—Delany has studied some 66 cases in Calcutta Hospital and gives a tabulated statement of his results as to the blood findings. With few exceptions they showed an excessive percentage of large mononuclears. Besides this the lymphocytes are usually largely increased. Taking the normal percentage as between 20 and 30 per cent. or say 25 per cent., they often run up to 60 per cent., or even over this in malaria. The total white blood count is diminished. Allowing 7,500 per c.cm. as normal, the relation of white to red cells is frequently 1 to 1,000 or more, instead of the normal about 1 in 600. The more severe the case the more marked the changes. Myelocytes are frequently present to an appreciable extent. The red blood corpuscles are diminished, but the loss of white cells seems to be much greater than that of the red cells as a rule. The hemoglobin is so much less diminished than the red cells in anemic cases that the color index is usually above 1. The reduction of white blood corpuscles to 1,500 or less is of grave prognostic importance. In such cases it is the experience in the Medical College Hospital that large doses of quinin hypodermically will alone save the patient. In four of his cases there was leucocytosis present, an exceptional condition. This seems to be a rare complication of malaria. These were all severe cases and suspected at first to be plague. He suggests that leucocytosis in these severe malarial cases indicates a reaction of the blood to the intense poisoning, and that in such severe cases the leucocytosis varies directly with the intensity of the poison. He also mentions liver abscess which may occur and the need of examining the liver and remarks that it is only by repeated examination of the normal blood that the skill to properly value the blood findings of malaria will be obtained. The greatest difficulty is in differentiating large mononuclears.

9. **Beri-Beri.**—Moody reports a case occurring on board ship and expresses the opinion that the rice theory of the disease has the best evidence in its favor.

The Lancet, London.

March 28.

12 Theories of Immunity and Their Clinical Application. A. S. F. Grunbaum.
13 *The Comparative Value of the Mouth, the Rectum, the Urine, the Axilla, and the Groin for the Observations of the Temperature: Especially in Regard to Tuberculosis and to the Effects of Exercise and Other Conditions. F. W. Burton-Fanning and S. Gurney Champion.
14 Medicolegal Postmortem Examinations. Henry H. Littlejohn.
15 Bilharziosis Surgically Considered. Frank Milton.
16 *Further Note on the Pulse Wave in Aortic Regurgitation. Paul M. Chapman.
17 Necessity for a More Frequent Use of the Cystoscope in the Diagnosis of Diseases of the Urinary System. John G. Pardoe.
18 An Unusual Case of Matting of Intestines for Which Double Enterectomy Was Performed Successfully. Bilton Pollard.
19 Treatment of a Formidable Case of Sprue by Diet; the Value of Strawberries. Edward H. Young.
20 *Advances in the Treatment of Paralytic Deformities. A. H. Tubby.
21 A Case of General Miliary Tuberculosis; Symptoms of Acute Myelitis Involving the Conus Medullaris and Cauda Equina; with a Note on the Value of the Abdominal Ice-Bag. Vidal G. Thorpe and Edwyn R. Glazebrook.

22 Recent Experiences of the United States Army with Regard to Sanitation of Yellow Fever in the Tropics. W. C. Gorgas.

13. **Temperature Observations.**—Burton-Fanning and Champion have studied the temperature tests taken in various parts of the body, the mouth, rectum, urine, axilla, groin, etc. The mouth temperature is markedly affected by external conditions, breathing cold air or by the effect of cold on the outside of the face. The rectal temperature varies less from the oral, provided the latter has been thoroughly taken, than is usually supposed. He thinks it is a good rule to allow at least five minutes in the rectum, though a much longer time may be required in the mouth. The average rectal temperature which he finds is about 4 per cent. higher than the average oral. To obtain the maximum elevation of mercury from the urine, it should be voided over the bulb and not traverse much air. The time required to obtain maximum readings in the axilla and groin may be as much as fifteen to fifty minutes in a few cases, but ordinarily ten minutes is sufficient. The rectal temperature averages about .2 of a degree above that of the urine, about .6 of a degree above that of the groin and .9 above that of the axilla. The effects of exercise on temperature are noted, raising it in all localities, excepting in the mouth. As most observers have used the mouth for the determination of this fact, the results have not always been satisfactory. The authors have also studied the temperature in tuberculosis and have noted here the same rise of temperature from exercise as in health and other diseases. The patient with tuberculosis, however, is characterized by the consistency of his reaction to the slighter degrees of effort and by the fact that it usually exceeds that of health or other diseases. Menstruation also causes a rise of temperature.

16. **The Pulse in Aortic Regurgitation.**—Chapman adds a note to his former work on this subject in the "British Medical Journal," of Feb. 16, 1901, giving, as he thinks, graphic proof in support of his contention that the pulse of aortic regurgitation is not always retarded or delayed.

20. **Paralytic Deformities.**—Tubby discusses the treatment of paralytic deformities following infantile paralysis or anterior-poliomyelitis or the spastic type, hemiplegia, cerebral diplegia and those due to injuries of the nerves. He describes the method of tendon grafting, giving its history. The *rationale* is to utilize what is ill-directed voluntary movement and restore the balance of muscle as far as possible in the affected part, so that the active muscles are not brought to work against the enfeebled ones, thus producing deformities. The brain, he thinks, becomes readily aware of the new conditions of movements by education. The methods and technic of operation are described. He calls attention particularly to the necessity of re-shaping the joint surface in old cases and putting the foot or the limb in fully corrected position and to leave no tension of the reinforcing muscle. Arthrodesis is useful in some ankylosed joint cases, but he does not believe in its propriety in the knee, because the long straight shaft of the bone so formed is inconvenient, brittle from paralytic changes, and liable to fracture. He would prefer to use mechanical supports with a ring-catch at the knee-joint or to transplant portions of the fascia from the sides and back of the joint into the patella. At the ankle, however, it is a valuable measure because it gives a suitable basis of support. In spastic paralysis the whole secret of success of tenotomy consists in preventing elongation of the bond of union and carefully guarding it until equilibrium of the opposing groups of muscles has been established. If there is fair intellectual development and no fits, it results in nothing else but good physically and mentally because the more these patients are able to get about and be in touch with others the more they improve. In cases where it is possible to restore the continuity of the nerve, muscle grafting is the method for overcoming the difficulties and he reports a case in point.

Journal of Tropical Medicine, London.

March 16.

23 Trypanosomiasis on the Congo. Patrick Manson.
24 *Sanitation in Warm Climates—India. Thomas C. Hodson.
25 The Antisepsis of Major Eye Operations, as Practiced by Some of the Leading Ophthalmologists of Europe. (Continued.) E. H. Elliot.

24. **Sanitation in the Tropics.**—The remarks in Hodson's article refer especially to India. He says the sanitary measures prevalent in the west are not suitable for tropical climates. The character of the people must be considered. In most European dwellings in India the ventilation and lighting are good, but the natives have a tendency to crowd together and the apathy of native members of municipalities and corporations is a retarding factor in sanitation in India. The sanitation of Calcutta, for example, has been considerably improved since the constitution was suspended. The water supply is an important matter, but the tank system in use is liable to great contamination. He thinks that where there is a mixed population, like Hindoos, and Mohammedans, and the caste system prevails, the faucets should be painted in distinctive colors, such as red for the high caste, blue for the low caste and green for the Mohammedans. The disposition of dead bodies and sewage is remarked on. It is not always possible to get an efficient system of drainage. Whatever system is adopted must be provided without interfering with the prejudices and comforts of the natives. The trench system is cheap, but is not always efficient. The incineration of sewage needs to be very thorough or else it becomes too offensive. In the rural regions of India there is no attempt at sanitation, the crow, the kite, the vulture and the pig furnish the best that is afforded. The utmost tact has to be exercised in considering the prejudices and religion of the people. Cholera, enteric, plague, smallpox, and malaria are the chief epidemic diseases for sanitation to meet. Two of these are essentially water-borne, though there is a mass of evidence that flies and insects also convey the infection, hence, the importance of purity in water supply. In a cholera epidemic much can be done by prophylactics internally such as daily doses of dilute sulphuric acid or pills of quinin and carbolic acid. The white man must take the lead by example. Plague is met by inoculation, inspection, segregation and quarantine. These have practically failed in India because it has been deemed imprudent to continue them on account of prejudice. Throughout India close watch must be kept of native opinion and the prejudices of the people.

Bulletin de l'Academie de Medecine, Paris.

26 (XLIX, 8.) *Signs of Predisposition to Tuberculosis. C. Rayer.—De quelques moyens ayant pour but de découvrir les sujets prédisposés à la tuberculose pulmonaire. Appareil.
27 *Ictère infectieux fébrile. Valassopoulo (Alexandria).
28 *Discussion of Liqueurs and Alcoholism.
29 (No. 9.) *Wine Concentrated in a Vacuum; Non-alcoholic; Non-toxic. Garrigou.—Le vin naturel, ce dont on l'accuse. Moyen de procéder a la rectification des défauts qu'on lui reproche.
30 *Note sur la syphilis osseuse héréditaire chez les nouveaunés (maladie de Parrot), chez les enfants et les adolescents, chez les adultes et les vieillards (maladie de Paget). Lannelongue.
31 *Insurance of Children's Lives. P. Budin.—Des assurances sur décès d'enfants.

26. **Detection of Predisposition to Tuberculosis.**—Rayer confirms the fact established by Robin that the respiratory interchanges are exaggerated in tuberculous subjects, while the vital capacity is diminished. He has devised an apparatus which enables the vital capacity to be more accurately tested than heretofore. In computing the results he calculates the individual index by taking into account this capacity, the age, the height, and the circumference of the chest. The apparatus also allows the elasticity of the lung to be measured. He determines the amount of carbon dioxid exhaled by collecting the exhaled air in a vessel containing baryta water. The layer of baryta carbonate that forms with five liters of exhaled air is the test of the proportion of the gas present.

27. **Febrile Infectious Icterus.**—From his experience at Alexandria Valassapoulo believes that the bilious typhus prevalent there is a specific disease, due to some germ that lives in the sewers. It has been epidemic, or sporadic cases have frequently occurred, since the sewers were built. It has no features in common with the bilious fevers of tropical climates, nor with typhoid nor yellow fever, but is probably identical with the disease commonly known as relapsing infectious icterus.

28. **Alcoholism.**—In this burning discussion of the evils of alcoholism in France and the means to remedy it, Magnan

made the statement that at the great public insane asylum of Sainte-Anne the proportion of patients admitted for the effects of alcoholism alone was 26 to 27 per cent. in 1870, but during the siege of Paris and afterward the proportion dropped to 13 and 14 per cent. As times grew better the alcoholism increased constantly until in 1900 it was 31.35 per cent. of simple alcoholics and 19.18 per cent. of alcoholic insane subjects, a total of 50.93 per cent. The incessant progress of alcoholism, he added, is filling the hospitals and asylums, the jails and the houses of correction, while the weakly, epileptic, tuberculous and idiotic children of these alcoholics crowd the benevolent institutions. He expatiated on the established epileptogenic effect of the liqueurs consumed in France and remarked that their toxic action is magnified by the custom of taking them on an empty stomach. [The discussion was closed at the meeting of March 10, the Académie reconsidering its previous action and voting that all essences, natural, synthetic or extractive, which may be incorporated with alcohol or wine, are dangerous or at least harmful drinks. It also urged strenuous measures to diminish the number of saloons.]

29. **Non-Alcoholic and Non-Toxic Natural Wine.**—Garrigou is professor at Toulouse among the vineyards of France, and is interested in retaining wine as a popular drink while convinced of the dangers from the abuse of alcohol. He has, therefore, worked out a process of concentrating wine in a vacuum by which means all its tartrates and salts of lime, etc., are eliminated with the water and alcohol. If water is then added to the desiccated residue a wine is produced that is absolutely non-alcoholic and is also free from every ingredient that could by any possibility be toxic. For those that prefer an alcoholic drink a certain amount of the purest alcohol could be added. By another process he has succeeded in expelling the alcohol with the salts while retaining all the natural water in the wine. This non-alcoholic natural wine retains its flavor and perfume and has received the sanction and approval of a number of leading viticulturists and military men.

30. **Hereditary Syphilis of the Bones in Infants, Youths, Adults and the Aged.**—Lannelongue presents arguments to sustain his assertion that the affection of the bones which occurs in infants and is known as Parrot's disease, also the affection of the bones that occurs in youths, and that known as Paget's disease in adults and the aged, are all manifestations of hereditary syphilis and are identical at every age. This deforming osteitis is an early or remote accident of hereditary syphilis, and is of the same type whether it affects the long bones, the skull or the trunk. He has been able to find 45 published cases of Paget's disease, and all the writers dismiss the idea of syphilis from the etiology, never taking the pains to examine the patient for other signs of hereditary lues. Fournier has long proclaimed that one may be a heredo-syphilitic and be liable to all the eventualities of this dangerous taint without showing the slightest evidence of dystrophy or other congenital sign of the condition. Adult patients with Paget's disease do not apply to the physician usually until two to even forty years after they first noticed symptoms of the condition, the hat becoming too small, the trousers too long, etc., or else more or less pains. They do not connect with the condition the headaches they may have had since childhood, the neuralgias of all kinds, but attribute them and the pains to rheumatism. Acquired syphilis is denied, and no one thinks of looking for the writing of heredity possibly clearly inscribed on the tibia, femur, skull, etc. Hitherto the link between the osteitis of youths and that of the aged has been overlooked, but palpation of the long bones their entire length will frequently reveal some irregular enlargement at one or more points. In one of the published cases a young man had an incurvation of the tibia attributed to a traumatism, but at 73 five bones exhibited the same curvature, Migraine is expressly mentioned in 6 out of 33 cases on record, and rheumatic pains in 9 others. Four patients out of 6 with Paget's disease were much benefited by mercury, and its effect is frequently striking in the osteitis of the young. All that is recent, is arrested and retrogresses and the bone resumes its normal consistency. Long-established deformities are of course not influenced. Berger and Chauffard have each observed a case of Paget's disease in a mother and grown son or daughter, exactly similar in each generation.

31. **Insurance of Children.**—Budin went personally to certain provinces in the north of France to investigate the causes of the unusually high infant mortality. He learned that it was a current custom to insure the children in certain Belgian life insurance companies, which pay a premium on the death of a child. Under one year the parents receive $4, the premium increasing to $21 for a child of 6. Women who have baby farms frequently insure the infants, and it is possible to take out a policy on a child in all of the eight companies engaged in this business. For one penny a week, payable in advance, one company agrees to pay an insurance of $2 to $12.50 and supply a one-horse vehicle for the funeral. Certain companies pay a premium on the death of a child if both father and mother are insured. Others insure the unborn child and pay a premium on its death *in utero*. A Ghent physician collected statistics showing that 140 out of 147 infants insured in that city died before the end of their first year. The Académie adopted a resolution calling the attention of the government to this traffic in infant lives.

Centralblatt f. d. Grenzgebiete, Jena.

32 (V, 23.) Die diagnostische Bedeutung (importance) des Ureteren-Katheterismus. C. Adrian. (Commenced in No. 21.) Critical review.
33 (VI, 1.) *Das Nieren- (kidney) Aneurysm. P. Ziegler. Critical review.
34 (No. 2.) Die otitische Pyemie. A. Goldschmidt. Critical review of 116 articles. (Commenced in No. 1.)

33. **Renal Aneurism.**—Ziegler has collected 19 cases of traumatic and 7 of non-traumatic origin. In the latter, endocarditis with embolism or atheroma of the vessels is accepted as the cause. All the cases which were not operated on terminated fatally, while 3 of the 4 treated by surgical intervention recovered. There can be question only of nephrectomy, and on account of the possibility of ligating the renal vessels at once, the transperitoneal route is preferable. The aneurism may be painless or accompanied by excruciating pains. The bleeding may be dangerous before any tumor has developed; it may precede the tumor by months and years. The latter may be no larger than a fist or the size of a man's head. The artery is so small that there is no pulsation, and auscultation seldom gives any results. The aneurism is most likely to be confused with neoplasms, hydronephrosis and hematonephrosis. In case of a neoplasm the growth is liable to be more rapid and the bleeding less, while there is emaciation. In case of metastatic tumors the diagnosis is clearer. The list includes 2 cases published in this country by Keen and Armstrong.

Centralblatt f. Gynäekologie, Leipsic.

35 (No. 9.) Beitrag zur Kasuistik und Etiologie der Uterus-Ruptur. H. Füth.
36 Ueber die [illegible] des Eies (settlement of ovum) an atypischem [illegible]). F. Hitschmann and O. Th. Lindenthal.
37 Beitrag zum Studium der tubaren Zwillingsschwangerschaften (twin pregnancies) in derselben Tube (the same tube). E. Ferroni. One case.
38 (No. 10.) *Die doppelseitige Unterbindung (bilateral ligation) der Aa. hypogastrica und ovarica bei inoperablem Uterus-Carcinom. O. Th. Lindenthal.
39 Zur Frage des Argentum-Katarrhs Neonatorum. C. W. Bischoff.
40 Ruptura aortæ. Sectio cesarea in mortua. Lebendes Kind (living child). Weisswange. One case.
41 *Zur Technik und Anwendung des vaginalen Kaiserschnitt (Cesarean section). W. Rühl.
42 Kolpohysterostomie bei Retroversio uteri gravida cum incarceratione. G. Wennerstrom. One case.
43 (No. 11.) *Nochmals zur Dilatator-Frage (question). L. Knapp.
44 *Erfahrungen (experiences) mit dem Dilatatorium von Bossi und Frommer nebst Bemerkungen über einen seltenen Verlauf (unusual course) eines Eklampsie-Falles. A. Ostrcil.
45 *Zur Dilatation nach Bossi. L. Meyer (Copenhagen).
46 *Zur Anwendung des Dilatators von Bossi. G. Beck (Prague).
47 *Zur Frage der schnellen geburtshilflichen Erweiterung (obstetric rapid dilation). A. Calmann (Hamburg).
48 *Zur Uterus-Dilatation. E. Preiss (Kattowitz).
49 (No. 12.) Ueber den physiologischen Verschluss (occlusion) der Nabel- (umbilical) Arterien und über das Vorkommen von Längs- (longitudinal) Muskulatur in der Arterien des weiblichen (female) Genitales. C. J. Bucura.
50 Gleichzeitige (simultaneous) extra-uterine und intra-uterine Schwangerschaft (pregnancy). K. Reifferscheid.
51 Fall von traum.. nicht durch Coitus entstandenem Vestibular-Riss (laceration) der Vagina. N. Ostermayer (Budapest).

52 Ein höchst einfacher (extremely simple) Perforator. J. Kadyi (Jasio).

38. Ligation of Arteries for Inoperable Carcinoma.—Lindenthal reports Lott's experience in 3 cases. The hemorrhages were arrested, but the course of the malignant disease was not materially affected, although the general health was benefited by the cessation of the hemorrhages. In 2 instances the purulent discharge was diminished by the curetting done at the same time. Krönig has reported equally favorable results in 3 cases and Iwanow's experience with 5 has been still more instructive. In his first case the hemorrhage, discharge and pains had all vanished six months after the arteries had been ligated and the patient felt still in good health nine months later. In 3 other cases there had been no recurrence of the menses, six, seven and eight months after the intervention and one patient had gained 9 pounds in forty-six days and another 12 pounds in fifty-one days. In his fifth case the hemorrhages were arrested for only four months, during which time there had been a gain of 4 pounds in weight. Iwanow calls this case a failure and attributes it to the fact that the uterine and ovarian arteries had been ligated in a previous radical operation, and when he ligated the hypogastric arteries collateral circulation had already been established. In all the published cases (not including Pryor's) the hemorrhages were favorably influenced and the purulent discharge diminished, especially when supplemented by curetting. The operation is easily performed under Schleich's local anesthesia. It is interesting to note that in one of Lott's cases menstruation recurred regularly after a time, although the pathologic hemorrhages were permanently arrested.

41. Anterior Vaginal Cesarean Section.—Rühl claims the priority for this operation and states that since he operated on his first patient, Nov. 1, 1895, he has repeated it four times and always with good results. Bumm's technic described in the *Centralblatt*, 1902, No. 52, is identical with his.

43 to 48. Instrumental Dilation.—The various dilators used are described and several are illustrated. All are supposed to be improvements on the original devised by Bossi. Calmann rejects instruments and dilates the os with his fingers. In a case of eclampsia he dilated the closely-shut cervix in a primipara at eight months so that in twenty minutes the os gaped the width of the hand and the fetus was rapidly expelled by the contractions induced. He introduced first one finger, boring and twisting it, then the second finger, and when three fingers were admitted he spread them. He has repeated this method of manual dilation in several instances and always with the best results, never causing injury of the cervix. Ostreil reports 4 cases of instrumental dilation. The instrument did not cause a laceration in any instance, but still in 3 cases, after expulsion of the fetus, a laceration was found extending from the portio vaginalis to the vaginal vault. There was no bleeding from them. They were unmistakably due to the further manipulations, forceps in 2 a... version and extraction in 1 case. The mechanism of instrumental dilation of the cervix is quite different from that of normal delivery, and the parts are exposed afterward to laceration from manipulations which in normal circumstances would not affect them. The cervix is dilated only in its transverse diameter and during the birth it contracts down on the membranes and presenting portion. For this reason instrumental dilatation, he thinks, should be restricted to urgent cases. When it is possible to wait an hour he prefers the metreurynter or bougies. He describes a case of severe eclampsia apparently cured by delivery. Diuresis was normal, no albumin in the urine and the uterus had been empty for eight days, when suddenly the eclampsia reappeared and the patient lay unconscious nearly the entire day. This case suggests, he thinks, that the etiology of eclampsia varies in different cases. Meyer has used Bossi's dilator in 15 cases and states that a laceration was noted in only one instance, the first case thus treated, in which too much haste was used. No palpable solution of continuity was detected in any other, and there was no bleeding in any case. Beck reports a case to show that the cervix contracts again on the removal of the instrument. The dilation should be carried a little further than necessary to allow for this.

Dermatologische Zeitschrift, Berlin.

53 (X, 1.) *Iron Light. Kromayer (Halle).—Eisenlicht. Experimentelle und klinische Untersuchungen.
54 Test of New Medicaments by Applying Them in Salves to the Skin. II. Brat.—Die Hautemfindungen nach Anwendung einiger neuer Medikamente in Salbenform.
55 Further Tests of Atoxyl. W. Schild.—Weitere Versuche mit Atoxyl.
56 *Vegetarische Diät gegen chronische Furunkulose. Guensburg.

53. Improved Iron Light in Therapeutics.—The iron arc light that has been made for phototherapy has hitherto proved disappointing, although it has been established that it fully equals Finsen's apparatus in bactericidal power and also that the erythema induced is essentially the same with both. Kromayer has been studying the iron lamp with numerous experimental and clinical tests and has found that the rays penetrate deeper the less their superficial absorption and action. The rays that are readily absorbed by the skin and induce the erythema do not penetrate beyond it. The iron lamp at close contact produces such an intense erythema in a few minutes that its application has to be suspended before the penetrating part of the ray has had time to act. By eliminating the rays that are absorbed by the skin and produce the erythema, it is possible to obtain the deep action with the iron lamp just as well as with the more expensive Finsen apparatus and in much less time. These extremely frangible rays that are absorbed and make the trouble are the short-waved ultra-violet rays. In the Finsen apparatus they are eliminated by the water filter and distance of more than a yard between the concentrating lens and the skin; they are lost in this long interval. Kromayer proclaims that it is possible to eliminate them by passing the rays through a colored fluid. He has used a solution of methylene blue for the purpose, and found it answer every purpose. It is possible by this means to apply the light close to the skin with maximum strength of current and penetrating power, with all the drawbacks of the short-waved ultra-violet rays eliminated and consequent avoidance of the intense erythema production. He gives cuts of his modification of the "Dermo" lamp, and spectra obtained in control tests with the iron and carbon electrodes, passing the blue light through various thickness of Thiersch flaps and scraps of skin. The results are all in favor of the superiority of the iron light for phototherapy. His lamp, the "Triplet," is made to use with either iron or carbon points or a mixture of both. The blue fluid is in the "compressor" applied to the skin. He details his clinical experience with 18 patients with various affections treated with it, including 7 of lupus. The treatment has been too recent for decisive results, but the general impression is encouraging. The best effect was obtained in 3 cases of alopecia areata.

56. Vegetable Diet in Chronic Furunculosis.—In the case described by Guensburg the patient, a man of 60, had suffered for fifteen years from recurring abscesses with severe nervous cutaneous pruritus, urticaria, etc. There was no trace of sugar or albumin in the urine but an excess of uric acid. He finally adopted a strict vegetable diet, and since then has been free from the furunculosis and other cutaneous affections which had proved rebellious to all therapeutic measures.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

57 (XXIX, 11.) Remarks on Contagious Diseases Legislation. C. Fraenkel.—Randbemerkungen zu dem Entwurf eines preussischen Seuchengesetze.
58 *Beitrag zur Frage der Identität der Rinder- und Menschen- (bovine and human) Tuberkulose. Troje.
59 *Ueber die Spezifizität der Eiweiss- (albumin) prezipitirenden Sera und deren Werthbemessung (value) für die Praxis. A. Wassermann and A. Schütze.
60 *Ueber Antistaphylococcen-Serum. Pröscher. (Höchst a. M.).
61 Ueber einen Fall von operativ geheilter Colitis ulcerativa. I. Boas.
62 *Apparatus for Air Douche in Ear Affections. A. Lucae.—Ein zweckmässiger Apparat zur Anwendung der Luftdouche bei Ohrenkranken.
63 (No. 12.) Zur Geschichte der Ruhrforschung (history of dysentery research) und über Variabilität der Bakterien. Kruse.
64 Ueber die Priorität der Entdeckung des Ruhr- (of discovery of dysentery) Bacillus. A. Chantemesse and F. Widal.
65 *Zur Erleichterung (to facilitate) der mikroskopischen Malaria-Diagnose. R. Ruge.
66 Ueber Infusorien im Magen und im Darmkanal (in gastrointestinal canal) des Menschen und ihre klinische Bedeutung (importance). P. Cohnheim.

67 *Zur galvanokaustische Behandlung der Prostata-Hypertrophie nach Bottini. K. Vogel.
68 Multiple Larynx-Papillome im Kindesalter (in childhood). F. K. Lämmerhirt.
69 *Ueber Darmausschaltung (operative exclusion of part of intestine). P. Manasse. (Commenced in No. 11.)
70 Behandlung von Puerperal-Fieber mit Antistreptococcen-Serum. Steinhauer.
71 Die Behandlung der Gonorrhoe mit Chinolinwismuthrhodanat Edinger (Crurin pro injectione). R. Stern.
72 Ueber die Verschiedenheit (difference) der therapeutischen Werth (value) von Chininverbindungen (quinin combinations). M. Christen.
73 Special Representative Medical Business Meeting at Berlin.—Der ausserordentliche Aerztetag in Berlin, March 7, 1903. Landsberger. See Editorial, p. 996.

58. Identity of Human and Bovine Tuberculosis.—Troje publishes a case of unmistakable transmission of bovine tuberculosis to a young butcher by casual inoculation of the skin. The tuberculous affection resembled lupus with a tuberculous affection of the lymph glands and extensive abscess formation, requiring excision of the glands in axilla and infraclavicular fossa.

59. Specific Precipitation with Sera.—Wassermann and Schütze emphasize the fact that this precipitation is specific for the species not for the source of the albumin. It occurs with serum, milk, bone or other substance containing albumin from any animal of a given species. They have established certain units and standards to serve in its application to forensic and other purposes. The amount of precipitating substance in 1 c.c. of the standard precipitating serum is the unit for the test reaction.

60. Staphylococcus Serum.—Pröscher announces that he has succeeded by inoculation of goats with virulent cultures of staphylococci in producing a serum which will protect rabbits against staphylococcus infection. He is now experimenting with horses and expects soon to apply the serum in the clinic.

62. Apparatus for Air Douche in Ear Affections.—Lucae has merely adopted for the purpose the apparatus used in many breweries to determine the pressure of the beer by means of carbon dioxid. It dispenses with the exertion of compressing the bulb, as the compressed carbon dioxid supplies the power.

65. Improved Method of Microscopic Diagnosis of Malaria.—Ruge confirms the great superiority of the improved method recently published by Ross and described in The Journal of January 31, p. 339. Ruge found that owing to the lack of fixation, some of the blood was washed off in the rinsing and sometimes the entire deposit. He, therefore, improves on Ross' original method by combining the process of dissolving out the hemoglobin with a fixation process. He accomplishes this by placing the slide with the film side down in a 2 per cent. aqueous solution of formalin to which .5 to 1 per cent. of acetic acid has been added. In a few minutes all the hemoglobin is drawn out while the film is fixed and will bear energetic rinsing afterward and staining with dilute Manson's solution or with the Romanowsky stain. As the parasites do not take the stain quite so well after the formalin, it is best to stain first with the Romanowsky and then, after washing off the sediment, treat with dilute Manson's solution to bring out the delicate plasma rings. The specimens are not very handsome, he admits, as there is always more or less sediment, but the parasites show finely and much time and trouble is saved. By this method he sometimes found parasites when the findings were negative by other methods.

67. Galvanocaustic Treatment of Hypertrophied Prostate.—Schede operated on a man of 71 with the Freudenberg instrument according to Bottini's technic; no narcosis, the bladder filled with a solution of boric acid. The patient died suddenly half an hour later from no discoverable cause. The autopsy showed that the cauterization had not been as deep as supposed, and the aspect demonstrated that the fluid in the bladder must have cooled off the cautery so that the desired result was not attainable with it. He, therefore, operated afterward on a man of 74 without filling the bladder with fluid. The patient died forty-eight hours later from acute peritonitis, and the autopsy showed that the bladder wall, not being distended, must have lain in folds, and the cautery cut through one of these folds, making an incision 3 cm. long, with consequent escape of urine into the peritoneal cavity and fatal inflammation. Freudenberg has published a similar case. It is, therefore, inadvisable to operate on an empty bladder. Vogel suggests that these difficulties might be obviated by distending the bladder with air or by raising the pelvis. The latter might have a tendency to stretch the bladder walls by traction on them by the contents of the abdomen.

69. Exclusion of Intestine.—Manasse has recently operated on a boy of 15 who exhibited symptoms suggesting appendicitis or invagination. A number of abscesses was found in the small intestine and he found it necessary to resect 115 cm. and to perform unilateral exclusion of 35 cm. more. He operated according to Senn, thus bringing up to 15, he remarks, the number of cases of this operation that has been published. His patient fully recovered and has now normal stools. At the first laparotomy the small intestine was found covered with false membranes and adhesions, and a liter and a half of pure pus was evacuated. On account of the fibrinous-suppurative peritonitis nearly the whole of the much-distended small intestine was eventrated. The patient recuperated after thirty-six hours of collapse followed by such excessive secretion of intestinal juice that the bedding had to be changed several times a day. Seven perforations of abscesses occurred in two loops of the eventrated intestine and by the third week all the feces were discharged through these fistulæ. On account of eczema from the irritation of the intestinal juice the extremely emaciated patient was placed in a continuous bath during the day and dressed with salve at night. The abdominal wound gradually healed in the water bath and the eventrated intestine began to recede. By the end of eight weeks the two portions of the intestine containing the row of three and four fistula openings were parallel in the wound which had been closed all around them. The two affected portions, with the long intervening loop, were then excised; the afferent stump inserted in the cecum and the efferent stump, estimated to be 35 cm. long, treated as stated above, by unilateral exclusion in the third laparotomy.

Muenchener Med. Wochenschrift, Munich.

74 (L. 11.) Vom "Aerztlichen Intelligenzblatt" zur "Muenchener Med. Wochenschrift." G. Merkel.
75 *History of the Medical Press in Germany. K. Sudhoff.—Das medicinische Zeitschriftenwesen in Deutschland bis zur Mitte des 19 Jahrhunderts.
76 Zur Kenntniss der Sogen. Banti'schen Krankheit und der Anemia splenica. F. Marchand.
77 Fall von Uronephrose, geheilt durch Ureterplastik und Nierenbecken-faltung (taking up folds in renal pelvis). W. Petersen.
78 Die Gefahr der Infektion mit Ankylostoma duodenale im Grubenbetrieb (danger of infection among miners). H. Bruns.
79 *Ueber Tetanie gastrischen und intestinalen Ursprungs (origin). W. Fleiner (Heidelberg).

75. History of the Medical Press.—Sudhoff proclaims that it was a physician, T. Renaudot, who first conceived the idea of the newspaper. His name is honorably known in the annals of science, but it is to his inauguration of the newspaper that he owes his chief fame. Since the *Acta diurna* of ancient Rome there had been nothing of the kind in existence, although germs of the future periodical press might be discovered in the Venice *Foglietti* of 1600, and five similar undertakings in Holland, England, Frankfurt and elsewhere, 1605 to 1622. Renaudot was a graduate of Montpellier and established himself as a physician in Paris in 1624. He gained the ear of Richelieu and with his aid founded the first free polyclinic, and in spite of the opposition of Guy Patin succeeded in introducing chemical medicines into medical practice. He established an official "Bureau d'adresses," a kind of general employment bureau with branches all over France, which in connection with his extensive practice and his intimacy with high officials, kept him thoroughly posted on all the events of the day and suggested the publication of a daily paper to impart the news to others. May 30, 1631, the first number appeared, a quarto sheet, printed on one side in four columns and entitled the "Gazette." The highest officials of France used its columns to further their schemes, and even the king, Louis XIII, wrote anonymously for it. Renaudot conducted it for twenty-eight years, long after it was the sole relic of his former eminence. He never found a place for medicine in his "Gazette," and the first journal article

of medical import appeared in the "Journal des Sçavans" published at Amsterdam in 1665. An English periodical, "Philosophical Transactions," appeared about this time and also sheltered a few minor articles on medical lore. In 1682 a monthly was founded at Leipsic which bore the rubric "Medica et Physica" under the title "Acta Eruditorum." It was soon followed by a French journal entitled "Le Temple d'Esculape" issued by an unscrupulous exponent of minor surgery who had won fame and wealth When he was sent to prison his journal lapsed. It was followed by Claude Brunet's "Journal de Médecine" and "Progrès de la Médecine" until his death in 1709. After that date there was no medical press in France for fifty years, but Berlin witnessed in 1717 the birth of the first exclusively medical German publication, the "Acta Medicorum Berolinensium." Sudhoff reviews all the journals that have appeared since in Germany down to the foundation of "Virchow's Archiv" in 1847. The descriptive list fills six pages. A special journal for psychiatry was founded as early as 1805, and for legal medicine in 1784. Surgery first appeared on a title page in Richter's "Chirurgische Bibliothek" founded in 1771.

79. **Tetany of Gastric and Intestinal Origin.**—Fleiner's experience corroborates the assumption that tetany may be the result of a sudden thickening of the blood in consequence of excessive loss of organic juices. In one case which he describes at length a chronic gastrointestinal affection preceded and survived the tetany so that the latter was merely an episode in its course. The stomach showed pronounced achylia gastrica and the undigested food passing into the intestines set up an irritation which caused intense hypersecretion. The small intestine was predominantly affected. As the diarrheic stools increased in number and quantity the tetanic symptoms became more and more marked. The stools were almost exclusively intestinal juice with undigested fat. When the tetany is of gastric origin the functional disturbances in the stomach soon entail severe organic and mechanically acting alterations at the outlet of the stomach or in the first part of the duodenum. But when the intestines are involved, a severe organic lesion is not indispensable to the production of the tetanic symptoms, and the prognosis, therefore, is not so grave. Treatment is purely medical, chiefly dietetic. Fleiner warns against the use of opium or similar drugs in chronic diarrheas The transient improvement from the paralysis of the intestines is soon followed by aggravation of the conditions as the retained fecal masses putrefy and injure the intestines and general health. The irritating substances should be evacuated from below by injections of tepid saline solution or chamomile tea once or twice a day. Absorption in the upper intestine can be promoted by drinking a warm saline mineral water before breakfast (Wiesbaden "Kochbrunnen," diluted one-half with hot water). The patient must eat little at a time. Exacerbations constantly occurred in his intestinal case whenever the patient ate voraciously. The undigested particles of food in the feces suggest what substances to limit and what to allow freely. Fatty stools impose restriction of fats in the dietary. Undiluted milk may prove harmful in certain cases. Especial benefit may be derived from freshly expressed meat juice with 20 to 30 drops of dilute hydrochloric acid. The latter does not alter the taste, but evidently has a favorable action on the secretion of pancreatic juice. If sufficient fluids can not be ingested to compensate the loss from excessive diarrhea, subcutaneous saline infusion will be useful. In case of impending or pronounced tetany, therefore, saline infusion can not be too urgently recommended. Also alcohol, especially diluted red wines, good lager beer or champagne, is excellent in the tetany of intestinal origin, but alcohol in any form is contraindicated in gastric tetany.

Wiener Klin. Rundschau, Vienna.

80 (XVI. 40.) Zur Frage der Makrocytase. J. Donath and K. Landsteiner.
81 Beobachtungen über Hemagglutination. K. Landsteiner.
82 Die Bedeutung (importance) der functionellen Anpassung (adaptation) für die Pathogenese der abnormen Bindegewebsverknöcherung (ossification of connective tissue). G. Holzknecht.
83 (Nos. 41-42.) Lithiasis in Bosnien-Hercegovina. J. Preindlsberger.
84 *Trauma und Syphilis. Max Stern.
85 *Zur Prognose und Therapie des Delirium Tremens. A. Pilcz.
86 Folk-Medicine Among the Gypsies of Servia. F. S. Kraus.—Volksmedizin serbischer Zigeuner.
87 (No. 43.) *Ueber Methoden der Deutung (interpretation) und Reproduction von Radiogrammen. R. Kienböck.
88 *Beitrag zu den tabischen Arthropathien. J. Donath.
89 *Eine neue Curette für die Abtragung (removal) der adenoiden Vegetationen im Nasenrachen. J. Fein.
90 (No. 44.) Seborrhoe und seborrhoisches Ekzem als provozierende Momente für Syphilis-Eruption. S. Ehrmann.
91 (No. 45.) *Beitrag zur Prüfung (testing) der Desinfektions-Mittel. Sublimat. J. Peinar. (Commenced in No. 44.)
92 (No. 46.) *Ueber die Beziehungen zwischen (relations between) Menstruation und Erysipel. M. Jerusalem.
93 *Beitrag zur operativen Behandlung der vorderen eitrigen (anterior suppurative) Mediastinitis. W. Kopfstein.
94 (No. 47.) Ueber eine Affektion des Plexus brachialis. E. Bloch. Case of Peripheral Neuritis.
95 *Das Hydrargyrum oxycyanatum in der urologischen Praxis. P. Asch.
96 Die prophylaktischen Massregeln (measures) auf dem österreichischen Dampfer "Gundulic" infolge der Pestfälle (plague on Austrian steamer). A. Strauch. (See also Nos. 12-13.)
97 (No. 48.) *Ueber Behandlung von Hernien mit Hartparaffin-Injektionen. H. Eckstein.
98 Dionin, ein neues Morphin-Derivat. J. Weigl.
99 (No. 49.) Zwei Fälle von Herniotomie wegen Inkarzeration von Coecum und Processus vermiformis bei kleinen Kindern (in small children). F. Klaussner.
100 Einiges über Tuberkel-Bazillen und Tuberkulose. F. F. Friedmann.
101 Ueber eine weniger bekannte Erscheinungsform (lesser known form of) der Aktinomykose beim Menschen (in man). A. Brabec. (Commenced in No. 48.)
102 Die Dermo Lampe. H. Jansen. For phototherapy.
103 Ibid. Kattenbracker.
104 (No. 50.) *Zur Technik der heteroplastischen Deckung (closure) von Schädel- (skull) Defekten. R. Porges.
105 Dermatitis toxica hervorgerufen durch Rhus vernicifera. A. Buracz.
106 Ueber harnäckigen (obstinate) Pruritus im äusseren Gehörgang (outer auditory canal). M. Sugar.
107 (No. 51.) Das Redressement schwerer (severe) habitueller Skoliosen und Kyphosen. A. Schanz.
108 *Haut- (skin) Emphysem bei der urämischen Vergiftung (intoxication). V. Cominotti.
109 (XVII, 1.) *Klinische Bemerkungen über die Tuberkulose der Haut (of skin). Neumann.
110 Beobachtungen über das Verhalten der Hautgefäsze (behavior of blood vessels in skin) auf thermische Reize (stimulation) mit Hilfe des (with aid of) Onychographen. A. Kreidl.
111 Ueber Prezipitin-Reactionen des menschlichen Harns (of human urine). Landsteiner and von Eisler.
112 (No. 2.) *Weitere Beiträge zur Indikations-Stellung der Jejunostomie. Karl Maydl. (Commenced in No. 1.)
113 *Ein Vorschlag (proposal) zur medikamentösen Behandlung der Lungen-Tuberkulose. A. v. Weismayr.

84. **Trauma and Syphilis.**—Stern describes two cases which demonstrate the unfavorable influence of even a latent syphilis on the course of traumatic or inflammatory lesions. In one case a young man had an extensive phlegmon on the thumb, a year after he had acquired syphilis which had apparently subsided under a brief course of treatment. The progressive, rebellious character of the phlegmon was so unusual that the local measures were supplemented by vigorous mercurial inunctions under which it rapidly healed. In the second case a trifling wound on the finger suddenly became virulent as the subject exhibited signs of freshly acquired syphilitic infection Under mercurial treatment the wound on the finger healed as the manifestations of syphilis subsided. Stern suggests that many cases of intractable ulcerative processes may have owed their progressive character to an unsuspected substratum of lues, and advises tentative mercurial treatment in such cases.

85. **Prognosis and Therapy of Delirium Tremens.**—Pilcz reports from von Wagner's clinic at Vienna that out of 110 cases of typical delirium tremens, 1898-1901, there were only 4 deaths, and 3 of these were due to some complicating organic affection. Only 1 was due to the delirium itself. This proportion of only .9 per cent. is less than that reported from other psychiatric clinics and Pilcz attributes this fact to the method of treatment followed. The aim is to eliminate from the body as rapidly as possible all the toxins that have accumulated in it. The patients are restricted to milk and given three calomel pills of .1 gm. each. No narcotics are given. Chloral is especially avoided on account of its injurious action on the heart. No alcohol is allowed, except when indicated as a stimulant for the heart. Under these circumstances it is a most valuable adjuvant.

87. **Interpretation of Radiograms.**—Kienböck calls attention to the value of systematically copying with the pencil or crayon the radiograms taken. He shows by a number of examples how many points can thus be brought out and rendered clear which otherwise would be overlooked, a wealth of details in regard to the structure of the bones, their alterations, position, etc. No artistic talent is required, merely the reproduction of the salient points in the radiogram, as an interpretation to accompany it.

88. **Tabic Joint Affections.**—Donath shows by the radiograms of two subjects the rarefaction of parts of the bone, characteristic of atrophy, casting a lighter shadow than the sound bone. The decalcification has a tendency to affect the bones of the foot and hand rather than the long bones. One of his patients exhibited other unmistakable evidences of cerebrospinal lues.

89. **Curette for Adenoid Vegetations.**—The new instrument has a shaft shaped like a bayonet, with a slanting handle. The curette itself is shaped more like a stirrup. It is illustrated and the claim made that it gives much greater freedom of action than other curettes of the kind.

91. **Defect in Our Methods of Testing Disinfectants.**—Pelnar points out that we have failed to take into account the influence of the changed osmotic tension on the bacteria. When the disinfectants are tested in an isotonic solution it is amazing to note how much they lose in bactericidal power. He found that when the injurious influence of the distilled water was omitted from the disinfectant even sublimate proved to be scarcely at all bactericidal He also noticed that the round micro-organisms are affected by the differences in osmotic tension less than the rods. The longer the body of the bacteria, the more they feel the influence of the varying osmosis.

92. **Relations Between Menstruation and Erysipelas.**—Jerusalem affirms that in about 75 per cent. of all cases the erysipelas coincides with menstruation. Even in male subjects there seems to be a periodical biologic wave which coincides with the recurrences of erysipelas. Fliess has found this wave in men to occur at intervals of twenty-three days, and in 8 men with erysipelas Jerusalem noted the recurrences on the twenty-third day, or on some multiple of 23.

93. **Suppurative Mediastinitis.**—All but one of the 4 cases reported recovered under appropriate surgical treatment. One was a metastatic suppurative mediastinitis consecutive to typhoid fever; the second a chronic abscess in the mediastinum following a contusion, and following caries of the sternum in the third. The fatal case was an acute phlegmon of the neck and mediastinal abscess consecutive to extraction of the second left molar. Death occurred with indications of general sepsis.

95. **Hydragyrum Oxycyanatum in Urology.**—Asch reports experiences with 31 clinical cases and various experimental tests which have convinced him that this drug has superior advantages for general urologic practice. It is as powerful in every respect, to say the least, as potassium permanganate and is almost completely non-irritating. He uses it in acute uncomplicated cases in a .05 to 150 solution at first and then 1 per cent., ordering the syringe of the individual capacity of the patient's urethra, which he carefully tests beforehand. In the posterior urethra he follows Janet's technic, with a solution of 1 per 10,000 at first and 1 per 5,000 to 2,000 later, warmed to 86 or 95 F.

97. **Paraffin Injections in Hernia.**—Eckstein reports 4 cases which establish that a tendency to hernia can be effectively combated by an injection of hard paraffin at the spot. Also that an existing hernia free from adhesions can thus be rendered controllable by a truss, or completely cured. The first case was that of a young woman with bilateral inguinal hernia, painful under the truss. About 4 or 5 c.c. of hard paraffin were injected under local anesthesia as a subcutaneous shield over the inguinal ring. The paraffin spread out in a flat disc and maintained this position, while all the previous pains from the hernia ceased at once. The larger hernia on the other side was treated in the same way by subcutaneous injection of 10 c.c. of the hard paraffin, a truss applied and the patient stayed in bed a week. At first the discs of paraffin could be moved around, but they soon grew into place and now form solid, effective shields and all discomfort from the tendency to hernia is at an end. A supplementary injection of 12 c.c. of the paraffin was found necessary a few months later, on one side, as the entire ring had not been covered by the first. The second patient was a boy of 9 with an old, painful umbilical hernia. About 6 c.c. of hard paraffin were injected into the hernial sac and a plaster bandage applied. The hernia was completely controlled and all pains banished. The results have been equally good in the 2 other cases, men of 40 and 68, with inguinal hernia for one or both sides.

104. **Celluloid for Closure of Defect in Skull.**—In the case described the oval defect in the skull resulting from caries of the parietal bone was closed by inserting two narrow strips of celluloid, 1 mm. thick in the center, but tapering to .5 mm. thickness at the ends. They were about .5 cm. longer than the transverse diameter of the defect and were inserted in niches chiseled for them in the diploë, in which they fitted snug and firm. The skin and periosteum were mobilized until they could be brought together and sutured over the gap. The wound healed normally and the patient recovered complete health, while by the end of four months there was complete restitution of the bone, with no gap palpable. The space between the strips allowed free escape of the secretions, while the irritation of the diploë evidently stimulated regeneration of the bone.

108. **Uremic Emphysema of Skin.**—Cominotti describes a case in which certain symptoms suggested unmistakable uremia, but the physician was perplexed by a zone of emphysema. The fossa and the axilla were swollen to a height of several centimeters. The entire zone was sensitive to pressure. The idea of uremia was therefore abandoned and acute miliary tuberculosis diagnosed, tracing it to the enlarged retrobronchial glands. Instead of this, however, the autopsy disclosed that the subcutaneous mediastinal emphysema was the result of laceration of the septa of the alveoles in the lung by a large subpleural hemorrhage which, like the punctate ecchymoses observed, was evidently a manifestation of uremia.

109. **Cutaneous Tuberculosis.**—Neumann believes that inoculation of children and others by persons with tuberculous lesions on the skin or adjacent mucous membranes is more frequent than generally recognized. In one place he observed 4 cases in one year of tuberculous lesions of the penis in children who had been circumcised. Tuberculous lesions of the upper air passages as well as of the face and mouth may inoculate others with tubercle bacilli by intimate contact, especially active and passive osculation. He urges scrupulous care in regard to disinfection of articles used by persons with any cutaneous tuberculous affection, scrofuloderma, etc., and regards cutaneous tuberculosis as in fact a more threatening source of infection of others than pulmonary tuberculosis; for one reason, because its tuberculous nature is so often unrecognized. Dressings used for persons with tuberculous lesions of the nose, vulva, vagina or uterus, etc., scrofuloderma, miliary tuberculosis and lupus, should be burnt at once, and attendants should frequently disinfect their hands. The bacilli from cutaneous lesions are also liable to be inhaled or swallowed by other persons.

112. **Indications for Jejunostomy.**—Maydl tabulates the particulars of 169 operations on the stomach performed at his clinic. In his 89 personal operations the mortality was 10, all but one cases of carcinoma. He pleads earnestly on behalf of jejunostomy and publishes comparative statistics showing the better results obtained with it.

113. **Improved Cinnamic Acid Treatment of Tuberculosis.**—Weismayr corroborates Rudolph's assertions in regard to the benefit to be derived in cases of pulmonary tuberculosis of the lungs from cinnamic acid supplemented by lime to render firmer and more durable the new formation of connective tissue under the influence of the acid. (Rudolph's communication was reviewed in The Journal of January 3, p. 65, No. 122.) Weismayr suggests sodium silicate instead of lime.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General, U. S. A., from March 22 to 28, 1903:

Ashford, Bailey K., captain and asst.-surgeon, U. S. A., is relieved from duty at Ponce, P. R., and will report at San Juan, P. R., for temporary duty at that post.

Holmes, Thomas G., contract surgeon, U. S. A., is assigned to duty as examiner of recruits at Detroit, in addition to his duties at Ft. Wayne.

Kilbourne, Henry S., lieut.-col., on being relieved from duty at the Presidio will report to the commanding general, Department of California, for duty as chief surgeon of that department.

Rockhill, Edward P., first lieut. and asst.-surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will report to the commanding officer of the Presidio for duty at that post.

Stephenson, William, major and surgeon, is relieved from duty at Monterey, Cal., and will proceed to the Presidio to relieve Lieut.-Col. Henry S. Kilbourne, D. S. G.

Williams, Allie W., first lieut. and asst.-surgeon, is relieved from duty at Mayaguez, P. R., and will report at Cayey, P. R., for duty to relieve First Lieut. Willard F. Truby, asst.-surgeon. Lieut. Truby will proceed to New York City and report by letter to the Adjutant-General of the Army for further orders.

Yost, John D., first lieut. and asst.-surgeon, is assigned to duty in the office of the attending surgeon and medical superintendent, Army Transport Service, with station in San Francisco.

A board of officers, to consist of Majors Louis A. LaGarde, Henry P. Birmingham, James D. Glennan, surgeons, is appointed to meet at the Army Medical Museum Building, Washington, D. C., April 1, 1903, for the examination of officers of the medical department for promotion.

The following named officers will report to Major Louis A. LaGarde, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion; Captains, George M. Wells, Henry C. Fisher, Henry A. Shaw, Charles F. Kieffer, asst.-surgeons.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 4:

Medical Inspector G. E. H. Harmon, detached from the Naval Hospital, Port Royal, S. C., and ordered home to wait orders.

P. A. Surgeon D. B. Kerr, detached from the *Wabash* and ordered to the *Buffalo*.

Asst.-Surgeon J. H. Payne, detached from the Naval Hospital, Newport, R. I., and ordered to the *Wabash*.

Surgeon B. H. Dorsey, ordered to the Naval Hospital, Newport, R. I.

Medical Director T. H. Streets, commissioned a medical director from Jan. 31, 1903.

Dr. C. F. Ely, appointed asst.-surgeon, March 6, 1903.

Asst.-Surgeon M. V. Stone, ordered to Naval Hospital, Mare Island, for treatment.

Pharmacist I. N. Hurd, retired from active service on account of disabilities incurred in the service, March 28, 1903.

Medical Director A. A. Hoehling, retired, ordered to duty as a member of the medical examining board, Navy Yard, Washington, D. C.

Medical Director G. P. Bradley, detached from duty as a member of the Medical Examining Board, Washington, D. C., and ordered to duty at the Naval Hospital, Washington, D. C.

Medical Director R. C. Dean, retired, detached from duty as president of the Naval Medical Examining Board, Washington, D. C., and to duty as member of the Naval Retiring Board, Navy Yard, Washington, D. C.

Medical Director F. M. Gunnell, retired, detached from duty at the Bureau of Medicine and Surgery, and to be president of the Naval Medical Examining Board, Washington, D. C.

Medical Director C. U. Gravatt, detached from duty as a member of the Naval Retiring Board, and ordered to report for examination for retirement, then home to wait orders.

A. A. Surgeon J. C. Devries, ordered to recruiting duty.

A. A. Surgeon D. P. McCord, ordered home to wait orders.

Asst.-Surgeons R. H. Michels, J. L. Neilson, M. W. Baker, H. Shaw, B. F. Jenness, J. H. Halloway, R. A. Bachmann, H. F. Strine, F. M. Munson, E. M. Brown, J. P. Traynor, R. E. Hoyt, detached from the Naval Museum of Hygiene and Medical School, Washington, D. C., and ordered to their homes to wait orders to sea.

Surgeon L. W. Spratling, detached from the Naval Hospital, Portsmouth, N. H., and ordered to the Navy Yard, New York.

P. A. Surgeon H. H. Haas, ordered to the Naval Hospital, Portsmouth, N. H.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 2, 1903:

Surgeon W. P. McIntosh, to proceed to Sabine Pass, Texas, for special temporary duty.

Asst.-Surgeon L. D. Fricks, granted leave of absence for three days.

Asst.-Surgeon D. E. Robinson, granted leave of absence for three days from March 28, 1903, under provisions of Paragraph 191 of the regulations.

A. A. Surgeon F. B. Adams, granted leave of absence for twenty-five days from April 7.

A. A. Surgeon J. T. Bullard, granted extension of leave of absence from March 15 to 29, inclusive.

A. A. Surgeon A. C. Fraser, granted leave of absence for thirty days from March 27.

PROMOTIONS.

Asst.-Surgeon L. L. Lumsden, commissioned as passed asst.-surgeon (recess) March 31, effective March 14, 1903.

Pharmacist E. J. Thurston, of the second class, promoted to be pharmacist of the first class.

BOARDS CONVENED.

Board convened at Washington, D. C., March 31, for the physical examination of chief engineers of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened at Detroit, April 7, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; P. A. Surgeon H. S. Mathewson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 4, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 21-28, 3 cases.

California: Los Angeles, March 14-21, 2 cases; San Francisco, March 15-22, 8 cases.

District of Columbia: Washington, March 21-28, 2 cases.

Florida: Jacksonville, March 21-28, 2 cases.

Illinois: Alton, March 14-21, 1 case; Chicago, March 21-28, 18 cases.

Indiana: Indianapolis, March 21-28, 17 cases, 1 death.

Iowa: Davenport, March 21-28, 5 cases.

Kansas: Wichita, March 21-28, 1 case.

Kentucky: Lexington, March 21-28, 2 cases.

Louisiana: New Orleans, March 21-28, 3 cases, 2 imported, the other not traced.

Maryland: Baltimore, March 21-28, 2 cases.

Massachusetts: March 21-28, Boston, 2 cases; Fall River, 3 cases; Lowell, 2 cases.

Michigan: March 21-28, Detroit, 19 cases; Grand Rapids, 4 cases, 1 death; Port Huron, 3 cases.

Minnesota: Minneapolis, Jan. 3-March 28, 92 cases, 3 deaths.

Missouri: Kansas City, March 14-29, 4 cases, 1 death; St. Louis, March 22-29, 6 cases.

New Hampshire: March 21-28, Manchester, 10 cases; Nashua, 2 cases.

New Jersey: Jersey City, March 23-29, 5 cases; Newark, March 21-28, 2 cases, 1 death.

New York: March 21-28, Buffalo, 3 cases; New York, 1 case.

Ohio: Cincinnati, March 20-27, 19 cases, 1 death; Cleveland, March 21-28, 1 case, 1 death; Dayton, March 21-28, 5 cases, 1 death; Toledo, Feb. 14-March 21, 52 cases.

Pennsylvania: Altoona, March 21-28, 4 cases; Butler, March 14-28, 2 cases, 1 death; Dunmore, March 1-31, 3 cases; Johnstown, March 21-28, 9 cases; McKeesport, March 21-28, 2 cases; Norristown, March 21-28, 1 case; Philadelphia, March 21-28, 31 cases, 2 deaths; Pittsburg, March 21-28, 42 cases, 4 deaths, 3 imported.

South Carolina: Charleston, March 21-28, 1 case.

Tennessee: Greene County, March 26, 26 cases; Nashville, March 21-28, 1 case.

Texas: Galveston, March 27, 1 case.

Utah: Salt Lake City, March 21-28, 18 cases.

Wisconsin: Green Bay, March 22-29, 1 case; Milwaukee, March 21-28, 1 case.

SMALLPOX—INSULAR.

Philippines: Manila, Jan. 31-Feb. 7, 1 case; Provinces, Jan. 31-Feb. 7, prevalent.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 28-March 14, 18 cases, 1 death.

Belgium: Antwerp, Feb. 21-March 14, 5 cases, 3 deaths; Brussels, Feb. 28-March 14, 11 deaths; Ghent, March 7-14, 2 deaths.

Brazil: Rio de Janeiro, Feb. 13-20, 1 death.

Canada: Winnipeg, March 7-14, 1 case.

Canary Islands: Las Palmas, Feb. 14-March 7, 86 cases.

Formosa: July 1, Dec. 31, 1902, 1 case, 1 death.

Great Britain: Birmingham, to March 14, 41 cases, 3 deaths; Bradford, Jan. 15-Feb. 28, 9 cases; Dublin, March 7-14, 9 cases, 1 death; Dundee, Feb. 28-March 7, 1 case; Leeds, Feb. 28-March 14, 26 cases, 3 deaths; Liverpool, Feb. 28-March 14, 172 cases, 13 deaths; London, March 7-14, 2 cases; Manchester, March 7-14, 23 cases, 1 death; Nottingham, Feb. 21-March 7, 4 cases.

India: Bombay, Feb. 24-March 3, 64 deaths; Calcutta, Feb. 21-28, 2 deaths; Karachi, Feb. 15-March 1, 1 case.

Italy: Palermo, Feb. 28-March 7, 1 death.

Mexico: City of Mexico, March 8-15, 6 cases, 4 deaths.

Netherlands: Flushing, March 7-14, 1 case; Amsterdam, March 14-21, 2 cases.

Russia: Moscow, Feb. 21-March 8, 7 cases, 3 deaths; Odessa, Feb. 28-March 14, 6 cases; St. Petersburg, Feb. 28-March 7, 77 cases, 14 deaths; Warsaw, Feb. 21-March 7, 6 deaths.

Turkey: Constantinople, Feb. 22-March 1, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 13-20, 25 deaths.

Ecuador: Guayaquil, Feb. 21-March 7, 33 deaths.

Mexico: Vera Cruz, March 14-21, 6 cases, 3 deaths.

CHOLERA—INSULAR.

Philippines: Cebu, Feb. 12, 4 cases: Talisay, Cebu, Feb. 12, 6 cases; Provinces, Jan. 31-Feb. 7, 169 cases, 103 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Feb. 21-28, 71 deaths.

PLAGUE—INSULAR.

Philippines: Manila, Jan. 31-Feb. 7, 2 cases.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Feb. 13-20, 2 deaths.

Formosa: July 1-Dec. 31, 1902, 265 deaths.

India: Bombay, Feb. 24-March 3, 1,297 deaths; Calcutta, Feb. 15-28, 468 deaths; Karachi, Feb. 1-March 1, 90 cases, 83 deaths; Madras, Feb. 21-27, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, March 17, 1 death.

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Address.

SOME REMARKS ON THE PRESENT STATUS OF MEDICAL EDUCATION IN THE UNITED STATES.*

VICTOR C. VAUGHAN, M.D., LL.D.
ANN ARBOR, MICH.

Gentlemen of the Association: In the first place, I desire to say that I greatly appreciate the honor that you conferred on me last year in electing me president of this body. When we compare medical education in our best schools in this country to-day with that of twenty or thirty years ago we feel that we have just cause of self-congratulation. Many of us here to-day went through the course of medicine in two years of six months each, and even then many of the lectures and demonstrations given the first year were repeated in the second. Many of us had but little, and possibly some of us no laboratory instruction other than that of the dissecting room. Now, all the colleges in this association give courses which extend through four years, none of which are less than six months in duration. The majority of these schools have graded courses, thus doing away with all repetition of lectures and demonstrations. The laboratory method has been applied to every branch of medical teaching, and the old theatrical clinic has largely been supplanted by bedside instruction. It is probably true that in no other department of learning has education advanced so rapidly as in medicine. All of this, I say, is a matter on which we as medical teachers may congratulate ourselves, and with some justness claim that we are giving to our students much more and much better instruction than our teachers gave us.

The object of my talk to-day is not to dwell on what has been accomplished in the recent past, but rather to emphasize some of the demands which the present and the future impose on us. We must not satisfy ourselves with the thought that we are doing better work than our predecessors in medical education did, but we must seriously ask ourselves whether or not we are to-day doing all that we should do. If my remarks should appear to some as too critical, please permit me to assure you that I have the welfare of the profession at heart, and that I am not desirous of doing an injustice to anyone, nor, indeed, do I desire to criticise any individual or any school. However, we are not likely to move forward and make improvements unless we become aware of our defects. A certain amount of self-esteem and pride is desirable, but when this article is stored up in quantity sufficient to lead one to believe that he has reached perfection, we can be sure that decay is rapidly advancing. With these preliminary remarks, I am going to say a few plain words with the best of intentions.

Within the past few years much has been said concerning the commercial spirit which has apparently invaded our profession to some extent. Numerous articles have appeared in our journals bearing on this subject, and it has been discussed in nearly every possible phase. The form of commercialism which has attracted most attention is the question of the division of fees between the attending physician and the consultant. This practice has been generally condemned, and it seems to me that the condemnation has been only just. Other forms in which commercialism manifests itself have been the exorbitant fees charged by a few specialists on account of which many people in moderate circumstances have been driven to free dispensaries and free clinics; and, on the other hand, cutting of fees and the doing of professional work, as it were, in job lots, for various organizations. It is needless for me to enumerate all the evidence that might be brought forward in order to show that our profession has not wholly escaped the spirit of commercialism which has so great a hold on the people of this country, and possibly other countries as well, at present.

I will ask the question whether or not our medical schools have been altogether free from commercialism. The individual practitioner places himself outside of the Code of Ethics if he advertises himself; and still if he be a member of a medical faculty he may indirectly do a great deal of self-advertising and still regard his actions as perfectly legitimate. As a rule, the better medical schools do not resort to advertising to any great extent, and as a general proposition it is true that the real value of a school is in inverse ratio to the extent to which it advertises. Dr. John Smith, as a private practitioner of medicine, would under no circumstances go to his brother practitioner's patient and laud his own ability and tell how superior his own attainments are compared with those of the physician in attendance; and yet Dr. John Smith, as secretary or dean of a medical school, does not hesitate to send circulars to students attending other medical schools, telling them of the superior advantages offered by his own institution. The same Dr. John Smith, reputable physician as he is, would hardly send a postal card to a friend in a neighboring town and ask that friend to return the postal card with the names of two sick persons, or to otherwise put him in communication with those sick in order that he might become their physician; and yet Dr. Smith, as secretary or dean of a medical college, sends out such postal cards by the hundreds. I have not known of any premium being offered for the

* Presidential Address before the Association of American Medical Colleges, 1902.

largest number of prospective medical students about whom information could be given, but this is only one step in advance of what is being done, not by the poorest medical schools in the United States, but by some that claim a position among the best. Can it be a matter of surprise that the graduates of these schools enter the medical profession fairly well imbued with the idea that business success is the chief aim of the profession?

Turning next to the requirements for admission to our medical schools, let me ask if we live up to the requirements which we advertise; and in the second place, are our advertised requirements as high as they should be?. On the first of these points I want to say that no one can conduct a fairly large correspondence with prospective medical students without becoming aware of the fact that some of our schools do not live up to their advertised requirements for admission. For this sin on the part of certain schools there is absolutely no justification. There is at present no crying need for more medical men in this country, and certainly not for more poorly educated medical men. As to the second point, I am well aware of the fact that all medical schools can not advance the requirements for admission with the same rapidity. Harvard, with her five-million-dollar endowment, can well afford to cut the number of her students very materially, and this she has had the courage to do, but probably there is no other medical school in the country which could afford to make so radical a change in so short a time. But notwithstanding these facts, it seems to me that it is about time that this Association of American Medical Colleges should be making some advance in the requirements for admission. With the profession overcrowded as it is, with already too many ignorant men in its ranks, the demand for more must be small unless the recruits be selected with the best of care.

There are two ways of teaching medicine. These two methods require different material to start with and their finished products are radically different. Medical knowledge may be defined as embracing all information which can be utilized in the prevention or cure of disease. Physics, chemistry, anatomy, physiology, bacteriology and pathology are some of the sciences, the facts of which are utilized in medicine. Now, one way of teaching medicine consists in taking the isolated facts which can be utilized in the prevention or cure of disease from each of these sciences and teaching these to the student by rote, without ever attempting to give him any real knowledge of the sciences on which medicine is founded. A man may be taught how to fit glasses without ever having any scientific knowledge of the refraction of light or of the construction of lenses. A student can memorize maximum and minimum doses of the alkaloids without ever having any knowledge of the chemical nature of these vegetable products, and without any knowledge of the botanical classification of the plants from which they come. A man may be taught to stain tubercle bacilli, possibly to recognize diphtheria bacteriologically, and even to utilize the Widal test without knowing anything scientifically about bacteriology. A man with knowledge thus acquired and thus limited may pass a fairly creditable examination, but he is not a man who knows anything of real value concerning the sciences on which medicine is founded, and inasmuch as medicine is progressive, such a man is sure to fall behind within a few years at most, and become not an honor, but a disgrace to his profession. He is one who has built on the sands, and the house thus constructed must surely fall. There is too much of this kind of medical teaching in our country to-day. On the other hand, chemistry, biology, physics, anatomy, bacteriology, physiology and pathology should be taught to medical students as independent sciences, and no one should be allowed to enter the medical profession unless he has a fairly comprehensive grasp of each one of these subjects, and his knowledge must not be confined to those isolated facts which at present are utilizable in medicine. Then, when advances come, when changes are made, when new discoveries open up new fields, this man is able to keep abreast of the times. He has the scientific comprehension necessary in order for him to become an intelligent student of progressive medicine.

These statements will undoubtedly be met by the assertion that no one man can hope to make himself a master of any one of these sciences, and much less can he hope to make himself thoroughly familiar with all of them. While this is true, I claim that the medical student should be made perfectly familiar with the fundamental principles of all the sciences that directly contribute to medical knowledge. A man having this knowledge is not likely to cease to be a student, nor is he likely to be imposed on by advertising drug firms, which not only present him with unlimited samples, but have the audacity to tell him all about their therapeutical uses. For instance, the medical man who has been well grounded in the science of physiological chemistry is not likely to prescribe wine of pepsin or other alcoholic preparations of digestive ferments. Neither is he likely to be misled by any of the numerous newly coined words, which mean much or little, according to the way in which they are used. It seems to me that the only sure way in which the requirements for admission to our medical schools can be rigidly controlled and honestly adhered to is by the establishment of boards, no member of which has any connection with the medical school, which shall pass on all prospective medical matriculates. I am aware of the fact that this method is not wholly free from criticism. Such boards when composed of non-medical men do not always wisely discriminate between those subjects which best fit a man for the study of medicine, and those which, whatever their value may be in securing a broad education, are relatively of little importance in preparing one for medical studies.

It seems to me that there can be no question as to the desirability of every medical student having the ability to read either French or German, and if he can read both, his fitness for medical studies is greatly enhanced. It can not be denied that at present, at least, the most important contributions made to medical science come to us from German sources, and the man who must rely on translations in order to secure this information is, in the first place, delayed in acquiring the knowledge, and in the second place he is likely to be misled by errors in the translation. Did time permit I could point out numerous instances in which important articles in French and German have been misconstrued by the translator. There are two important sources of error in such translations. One of them lies in an imperfect acquaintance with the foreign language, and the other is due to the fact that these translations are often made by individuals who are ignorant of the subject matter involved in the contribution. Of the two languages, French and German, it is undoubtedly true that the latter is to the medical man the more important, and if knowledge of only one be demanded, German should be selected. The time may come, and I am

inclined to think that it will come, when our own country will be quite abreast of Germany in scientific work, but such a time has not yet arrived, and the man who attempts to keep up with the times in a medical way without knowledge of the German language is, to say the least, heavily handicapped.

I suppose that no one will question the assertion that a fairly good grounding in the general sciences of biology is quite essential to the successful study of medicine. The preliminary work in this subject should cover a rather extensive course of reading and should always include a good drill in laboratory methods. In my opinion there is no subject so much neglected as a preparation for medicine as the study of physics and physical chemistry. A knowledge of physics is needed in the application of all mechanical means for the correction of deformities, for the treatment of fractures and dislocations, for the study of errors of refraction, and in the use of the microscope, ophthalmoscope, laryngoscope, *x*-ray apparatus, etc., and yet only a few of our medical schools demand any satisfactory preliminary knowledge of physics for admission, and still fewer of them offer the student any advanced work in this branch while pursuing his medical studies. In France and Germany the importance of physics to the medical student is thoroughly appreciated. A conversation which I had a few years ago with a clinical teacher in the University of Paris greatly interested me in this matter. He remarked that he could not understand how the best medical schools in this country could afford to neglect the teaching of physics, and added that his own faculty found it necessary not only to require an elementary knowledge of this subject for admission, but to furnish their students with advanced instruction in this branch while taking their medical course. In the German universities medical students take the same work pursued by their scientific colleagues in physics.

Physical chemistry is becoming of more and more importance, both in the study of physiology and pharmacology. It is true that the importance of this subject has been but recently recognized, and we must allow for a certain length of time necessary for medical schools to appreciate this new information and to provide means for giving instruction in accordance therewith to their students. The instruction in chemistry given to-day in many of our best medical schools is scarcely better than a farce. It embraces a semester's—possibly two semesters'—lectures with demonstrations covering the whole range of general, analytical, physiological, pathological and toxicological chemistry, supplemented by a brief course in the analytical laboratory. How can we expect the student whose knowledge of chemistry is limited to that acquired in such a course of instruction to comprehend the significance of Ehrlich's side-chain theory, or really to have any just comprehension of the nature of food principles, to say nothing of their assimilation and utilization by the cells of the body. A knowledge of the fundamental facts of general chemistry should be required of every applicant for admission to a medical school, and either before admission or after matriculation each student should be thoroughly grounded in the theories of organic chemistry and the general principles of physiologic chemistry, and to a certain extent in the methods of toxicologic investigation. I am aware of the fact that to do all of these things means to greatly increase the work which must be done by the medical student, and it is true already that there is no other profession proper preparation for which demands more time, energy and devotion and costs more money; but we must remember, as I have already stated, that there is no crying demand for more doctors, and we, the medical educators of this country, should have enough professional spirit to see that unworthy men do not enter our ranks. We must not mistake bigness for greatness, and we should have more pride in the quality than in the quantity of our products.

Shall we rely on our public schools to fit young men for the study of medicine? The public school system of most of the states in the union is probably better managed and is more creditable to us as a nation than any other state function. In the majority of the northern states, at least, this system was modeled during the early part of the nineteenth century after what was then known as the Prussian system. It embraces eight years of primary work, given for the most part by underpaid but well-qualified and conscientious women. From the primary grade the child enters the high school, in which he spends four years in acquiring additional knowledge. The high schools vary greatly both in the scope and the efficiency of their work. They are dependent on the wisdom and liberality of the school board, and, as a rule, they are free from the influence of political manipulators. Unfortunately this is not always true, but so far as my observation goes the high school is generally managed by fairly competent boards composed of men and women of more than average intelligence. In some few localities the political demagogue has not even spared this institution, and his corrupting influence has been felt in the selection of teachers and in the failure to provide proper equipment. It has been a part of my duty in the past fifteen years to know something in a general way of the high schools of the northwestern states. I have personally visited many of them and have frequently come in contact with teachers from a much larger number, and I have been frequently surprised at the excellence of these schools, even when situated in relatively small places and supported by relatively poor communities. As a rule, even in our larger cities the public school has better teachers, is better equipped and does better work than private schools in the same neighborhood, and a large proportion of our medical students have completed one of the two or three courses offered in one of these public schools. I take it for granted that no college belonging to this association will accept for matriculation anyone who has not had the equivalent of a high-school education, which, of course, means that the individual has had eight years in the primary and four years in the secondary schools.

Now the question arises, can we depend on these high schools to prepare young men for the study of medicine? In my opinion there are but few high schools which are sufficiently well equipped to prepare for the study of medicine, and we should demand additional instruction after graduation from the high school. In many of the high schools it still remains true that the classical course is the best offered. The teacher of Greek and Latin, who is frequently the principal of the school, is generally paid a higher salary than the teacher of the sciences, and in a general way the classical course is the best offered in our secondary schools. In our universities the classics are no longer paramount, but in the high schools the sciences have not, as a rule, received the attention they deserve. This, of course, will gradually be changed. On account of this condition of affairs I think that it will be found to be true that graduates of classical courses of our best high schools have had all the history and classics that can be reasonably expected of the man who intends to study medicine. At least they

have had all that is necessary to the successful prosecution of medical studies.

In mathematics, graduates of such schools are, as a rule, slightly deficient, for mathematics in the classical courses of most of the high schools stops with plane geometry, and I am sure that every teacher of physics will agree with me that a knowledge of plane trigonometry is essential to the successful study of physics. However, the greatest deficiency among the graduates of classical courses in the high schools lies in the modern languages and in the natural sciences. The prospects are that more attention will be given to both of these in the future, but at present the average graduate of the average classical course in the high school has had inadequate preparation in the modern languages and in the natural sciences. I mean by this that in these branches he is not, in my opinion, prepared for the study of medicine, and he should be required to pursue these subjects in some well-equipped academy, college or university before he enters the medical school.

I should like very much to see this association make some move in the direction of advancing the requirements for admission. There has been no material advance in our requirements for the past ten years, and in this day of rapid progress ten years make a long time in which to lie dormant. I am inclined to think that unless some advance is made in the near future this association will not be able to hold together. Among its members there are schools whose requirements are much in advance of those of the association. These schools have been willing to continue as members of the association, hoping that they may be able to lend a helping hand to their weaker brethren, but they are not willing to stand much longer in this position.

I have referred to the desirability of placing the question of admission to medical schools in the hands of state boards, and I desire to say a few additional words on this subject. Of course, wherever this is done there are likely to be medical schools which will require more than the state board, but so far as I can see there is no objection to this. However, it must be admitted that such boards are likely to adjust their requirements not to the best medical schools in the state, but to the poorest, and this means that the latter receive a certain official recognition which misleads medical students and may induce them to go to an inferior school rather than to one of higher grade. However, I think that so far as we have experience with this matter in the United States the establishment of a board for the examination of medical matriculates has ultimately led to advancement in the requirements. Temporarily harm may be done. I believe that it is true, but on this point I have no exact information, that the establishment of the Ohio board has led to a great decrease in the number of medical students in the medical colleges of that state, and a corresponding increase in the number of Ohio students attending inferior colleges in other states. However, the time will probably soon come when the other states will have similar laws, and this matter will adjust itself. It is barely possible that a good school may be a little slow in advancing its requirements so long as it is able to throw the responsibility for admission on the state board, but after a while the good school will get ashamed of doing this and will advance its requirements whether the state board does so or not.

In conclusion, I wish to repeat that it seems to me that this association as a body is moving slowly in the advancement of medical education. Let us be up and doing and show some evidence of growth. The standing of our profession in the next generation and its influence on the nation will depend on those who are now entering on the study of medicine under our guidance, and we, as the medical educators of this country, will be held responsible, probably above all others, for the class of men who will constitute the profession of the next generation.

Original Articles.

REQUIREMENTS FOR ADMISSION TO MEDICAL COLLEGES.*

E. A. de SCHWEINITZ, M.D.
Dean of the Department of Medicine of the Columbian University.
WASHINGTON, D. C.

A man who has not had a biologic training may become an excellent physician, although he will have to work harder to make up deficiencies. Some of the biologic work if not possessed by the student on entrance might well be included in the first year's course. It would certainly be a great advantage if more comparative work was required throughout the regular medical course. This could often well be done by eliminating some of the special studies which are properly postgraduate. In fact, the entire medical course could be remodeled to advantage.

It is not the business of a medical school to graduate specialists, nor is it the business of a medical school to make the course of such a character that only a few can succeed in accomplishing the required work. We should give to each student a good, general, solid groundwork and afford him an opportunity to determine in his own mind the particular line to which he is best adapted.

So far as the Latin requirement for entrance is concerned, I think that in many cases the substitution of French or German might be allowed. To require these languages for entrance, however, would be unnecessary, while a certain amount of one or both of them might be demanded before graduation.

To the investigator and specialist a knowledge of these languages is invaluable. At the same time there are excellent abstracts of important foreign literature promptly issued by American journals which make the language requirement of less importance than formerly. Even if the practitioner has a knowledge of these languages, unless he is one of the fortunate few located in a large city, or near a large medical library, he has but little opportunity to profit by this knowledge without subscribing for a number of expensive journals. If he does this he will usually find that the half-page abstracts of the article contain all the information that he desires.

I do not wish to be understood as undervaluing the advantage given by a knowledge of the modern as well as the dead languages, as no one could appreciate more thoroughly how useful they are in practical work. We should point out to the student the advantage which will accrue not only from a good knowledge of French and German, but also Spanish, at the present time of great practical value. We should encourage him to round off his medical equipment by acquiring a useful knowledge and not a mere smattering, such as is often given him in many schools and colleges at the present day. We wish to make a man's training as complete and thorough as possible, and give him the basic work, after which

* Read before the Association of American Medical Colleges, 1902.

he will be able to recognize his own special abilities and select the line in which he can best succeed.

For several years we[1] have refused advanced standing to graduates in veterinary medicine, dentistry, pharmacy and literary colleges, although the constitution of the association permits such recognition. Such graduates are, as a rule, not better able to cope with the medical course in a shorter time than those who lack a college training. A high-school graduate usually makes a better student than the average college graduate. The law of New York forbids the recognition of colleges that grant advanced standing for the degrees mentioned and none should be allowed.

Certain medical studies should be allowed to count towards an A.B. degree. An A.B. degree should not be allowed to count towards a medical degree.

No college, a member of this association, should receive a student from another school unless he holds a special letter from the dean of the school from which he comes. During the past year students have come to me from other schools with clean certificates, which on inquiry proved to be falsified. Some system should be adopted which will effectually prohibit such fraudulent attempts.

REQUIREMENTS FOR ADMISSION TO MEDICAL SCHOOLS.*

JAMES RUSSELL PARSONS, Jr.
SECRETARY BOARD OF REGENTS.
ALBANY, N. Y.

It will aid us in discussing this topic to review briefly the quantitative requirements now exacted:

1. In accordance with statutory provision.
2. By individual medical schools.

In the state of New York a preliminary general education equivalent to graduation from a four-year high-school course after a completed eight-year elementary course is prescribed by statute as the minimum standard for license to practice medicine. Quantitatively this standard approximates that demanded in Continental Europe. Qualitatively it leaves much to be desired. The defects are being remedied, as I shall show later.

New Hampshire, Ohio and Vermont have similar requirements, but they are not as rigidly enforced. Wisconsin demands the equivalent of admission to the junior year of an accredited high school. Delaware, Maryland, New Jersey and Pennsylvania prescribe a "common school education," Louisiana "a fair primary education," Illinois and Iowa less than one year of high-school work, Maine and Virginia evidence of a preliminary education, Arkansas a good literary education where a licensing examination is required, Rhode Island a high-school diploma or its equivalent under the same conditions. In remaining political divisions laws and rules are either silent in this respect or so indefinite as to be of little value.

According to the latest available catalogues Johns Hopkins and Harvard exact a college course for admission; Western Reserve, the completion of the junior year in college (really, as appears later, Harvard should also be in this class; admission to baccalaureate courses, however, is higher than elsewhere); the University of Minnesota, the completion of the freshman year; 17, 9, 14 and 90 medical schools require respectively four, three, two and one year of high-school work; 11 demand a grammar school education; in three the requirements are indefinite.

At present only four medical schools in the United States exact more in quantity than is represented by the New York state medical student certificate. Later, in speaking of qualitative requirements we must also include in this roll of honor Columbia, Cornell, Syracuse, University of Michigan and, after 1904, the University of California.

In answer to recent inquiries 79 of the 80 medical schools of the United States giving definite information on the subject report that the New York state medical student certificate is accepted at its face value for entrance.

There has been substantial progress since 1900, but it is still true that when medical schools conduct their own entrance examinations the tests are often mere matters of form, even though the standards appear satisfactory on paper.

The five subdivisions of this topic call for a discussion of qualitative requirements. Up to this point we have spoken entirely of quantitative requirements. I think, however, that we shall get a clearer conception of the quality of the work that should be required by approaching the subject in this way.

A satisfactory uniform statutory requirement is impracticable at present, owing to varying conditions as to density of population, educational advantages and general development. It should be comparatively easy, however, with united efforts on our part, to bring about much more satisfactory conditions than those at present prevailing.

It is highly desirable that there should be a sufficient degree of uniformity in admission requirements to medical schools so that, as in other countries, students could go without inconvenience from one school to another for special lines of work.

In graduate schools it would seem sufficient to make a minimum requirement, as at Johns Hopkins, in languages, physics, chemistry and biology. It appears that Harvard, though nominally requiring college graduation, has been in the habit of accepting master degrees, which may represent nothing, or bachelor degrees, like the Spanish Bachillerato or the French Bachelier, which stand for little in advance of high-school graduation. Then, again, the combined course as at the Lawrence Scientific School and the medical school may be completed in seven years.

Graduate schools probably without exception will continue to be parts of great university systems, where work is organized on very broad lines, thus making it possible to vary to a considerable extent the requirements for an M.D. degree.

Next in order come those schools that demand for admission to the four-year medical course one, two or three years of college work. At present there are only two schools in this class, or three including Harvard. Here there is an excellent opportunity for work in Latin, French and German, physics, chemistry, biology and mathematics, to make good deficiencies in high-school courses.

We now reach the most important class, the schools that follow the New York statutory requirements in demanding for admission a four-year high-school course based on an eight-year elementary course. I say the most important class, though it now embraces only 17 schools, because this is the highest standard that will be obtained by a large majority of those who study medicine.

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1. Department of Medicine, the Columbian University at Washington, D. C.

* Read before the Association of American Medical Colleges, 1902.

The fact that 79 out of 80 medical schools giving us information on this matter report the acceptance of our medical student certificate at its face value, shows that in this credential we have the best common basis for work toward higher standards. The New York state medical student certificate is awarded either as a result of regents' examinations or of equivalent work in an accredited school. The acceptance of equivalents involves the careful registration of schools in all parts of the world. At present the list of registered schools, which is subject to constant revision, embraces about 9,500 institutions. Our facilities for this work are unsurpassed. In fact, no work of the kind elsewhere can be compared with it even in a remote degree for thoroughness and comprehensiveness.

The New York law fixes the statutory requirement at four years of high-school work after a completed eight-year elementary course without restriction as to subjects. It is not probable that the statute will be amended to prescribe specific subjects. Columbia, Cornell and Syracuse have done so already, however, and other New York schools will soon follow their lead. Dr. Vaughan tells us that the University of Michigan now demands specific tests which, in his judgment, can not be met, as a rule, before the completion of the sophomore year in college.

In 1900 the regents of the university, with the assistance of the medical council, suggested a preparatory medical course for adoption by New York secondary schools. In the report of the college department of the university for 1901 we compare this course with those of 12 leading universities of the United States, known to have special requirements for the fall of 1902. Following are the required subjects in the course recommended by the medical council: algebra, first year Latin, plane geometry, physical geography, Greek history, Cæsar's Commentaries, physics, Roman history, botany, first year German, chemistry, zoology and English history. All these subjects are found in the special requirements of Columbia, Cornell and Syracuse. The following subjects of the medical council's course are required or recommended in all the courses of the remaining nine universities: algebra, elementary U. S. history and civics, first year English, first year Latin, plane geometry, Greek history, Cæsar's Commentaries or second year Latin, first year German, first year French, physics, Roman history, second year German, second year French. The only subjects not recommended by the medical council that are required in any of these universities are plane trigonometry by the University of Michigan and solid geometry by Northwestern University.

It is clear to me that we should not be too specific in prescribing entrance requirements. In other words, alternatives within reasonable bounds should be permitted. Our medical student's certificate accepted at its face value generally throughout the United States, now specifies exactly the subjects represented. In this way it has been materially strengthened. There is no longer any excuse for its acceptance at more than face value. Hereafter former matriculates under exemptions can not attempt successfully to represent themselves as high-school graduates. If plane trigonometry, for example, were not included on a credential presented by an applicant for admission to the University of Michigan a special examination might be demanded in that subject. To me it would seem unnecessary to do this, provided the applicant were able to offer other subjects that might fairly be considered as an equivalent. A reading knowledge of both French and German, for example, is desirable, but I should accept Spanish, or perhaps another language for either French or German. Then, again, we should remember that it will be some years before high schools generally will be prepared to teach biology, physics and chemistry. In the meantime, most of our medical schools must accept alternatives. New York secondary schools have made very rapid progress recently in teaching these subjects. In fact, I do not hesitate to say that if botany and zoology, physics and chemistry are required in the near future for admission to New York medical schools, New York secondary schools will be able to give instruction that will meet the needs of the medical school. I believe, however, that though in other political divisions there are individual schools that do work in these subjects superior to that done by the average New York school, yet the average in New York state is higher than elsewhere, mainly because in New York state only there is a central authority that insists on a satisfactory secondary school equipment and protects the public from the imposition of bad work.

It seems to be the consensus of opinion that two years' work in Latin should be required, that algebra and plane geometry should be required in mathematics, that both physics and chemistry should be demanded and half a year each in botany and zoology. The uniformity already secured in the requirements of these 12 leading universities leads me to believe that with a reasonable use of the alternative plan we could agree on a preparatory medical course that would be acceptable generally throughout the United States by all schools admitting high-school graduates. Even more than this, schools that require one, two, three or four years of high-school work could admit on a part of this same course while working toward higher standards.

A word in closing as to admission to advanced standing. In 1902 the New York medical law was amended so that hereafter the regents may, in their discretion, accept as the equivalent of the first year of the four-year medical course evidence of graduation from a registered college course, provided that such college course shall have included not less than the minimum requirements prescribed by the regents for such admission to advanced standing. Those who favored this amendment to the medical law argued that a three-year medical course based on a satisfactory four-year college course was preferable to a four-year medical course based on high-school work only. This allowance of one year means frequently rather the shortening of the college course than of the professional course, i. e., universities maintaining medical departments are permitting seniors in the baccalaureate courses to elect the regular medical course. In January, 1899, a committee of the faculty of medicine at the University of Pennsylvania reported, after an exhaustive study: "It is evident that the trend of higher medical education and also the sentiment of the medical profession is that four full years shall be spent in a purely medical school." The dean of the faculty of medicine at Yale writes: "We believe that four years is not too much time for even a college graduate to devote to his medical course, and that three years is a sufficient time to put on his general college course."

It is believed that seven years for the combined baccalaureate and medical course represents the highest practicable standard for those students of medicine that are able to take college work, and that this fact will be generally admitted as time goes on. In 19 departments of universities both baccalaureate and medical degrees are obtained on three years in the baccalaureate course

and four years in the medical course. In 21 departments of universities the baccalaureate course is four years in length and the medical course three years in length. Forty-three independent medical schools make an allowance of one year to graduates in arts and science of reputable colleges. In 28 medical schools less than seven years are required for both baccalaureate and professional degrees. Forty-four do not give us satisfactory information on this subject.

In 79 medical schools an allowance of one year is also made to graduates in dentistry, in 70 to graduates in pharmacy, in 59 to graduates in veterinary medicine, in two to graduates in osteopathy. In 68 there is no evidence of allowance in these classes.

It is my present opinion that the regents should be somewhat elastic in registering college courses under the amended law. It should be sufficient for them to require that the college work be of such a character as will fit students for admission to advanced standing in medicine. It will be contended that only those medical schools that are wealthy enough to provide many courses from which candidates have the privilege of election within certain limits can admit to the second year of medicine without disorganizing their work students with baccalaureate degrees representing only a broad training in Latin, French and German, physics, chemistry, biology and mathematics. It may be that many schools now giving generally an allowance of one year to college graduates may be driven, like Yale and the University of Pennsylvania, to abandon this plan and to admit to the second year only such students as have covered satisfactorily the work embraced in the first medical year.

As medical school faculties are strengthened, however, and as faculties increase, they can admit to the second year of medicine more and more freely those with baccalaureate degrees that embrace a general training in Latin, French and German, physics, chemistry, biology and mathematics. In other words, I believe that at present the regents should look at it from the broad standpoint that a three-year professional course based on a four-year college course is preferable to a four-year medical course based on high-school work only, and that the responsibility for the necessary rearrangement of work must rest with the medical schools.

OBLIQUE INGUINAL HERNIA.*

A. E. BENJAMIN, M.D.
MINNEAPOLIS.

There never was a time in the history of medicine when the physician was not given an opportunity to treat hernia. A short history of the treatment of hernia may not be out of place here. It was a subject which engaged the thoughts of the first surgeons.

The attention which patients suffering with this affliction received in the early days of surgery is not flattering to the profession. We of to-day can scarcely conceive of such ignorance of surgical principles as the operators of the fifteenth century showed. The instruments used in that period for treating the affection were crude and barbarous to say the least. A study of the technic of some of the operations is certainly interesting. The evolution of the operation for hernia is a noted example of the progress of surgery along all lines.

Up to the time of the invention of the truss various plasters and irritants were used to produce an inflammation at the site of a hernia. If a slough occurred a cicatricial plug resulted, or an adhesive inflammation closed the canal. Some of these secret irritants brought good incomes to the venders. The famous Littlejohn obtained from George the First £3,000 and an annuity of £500 more for the secret.

Celsus first employed a truss. It consisted of a strap and a plate. Gordon, in 1305, suggested the spring truss, but it was not adopted until 1785, when Peter Camper rediscovered its use. Irritants were frequently introduced into the pad, which, because of the continued pressure, produced the desired effect all the sooner. This method of cure was entertained by a number of the French Academy as late as sixty years ago. Trusses are sold at the present time which are supposed to have such an irritating effect as to cause an adhesive inflammation of the sac walls.

The actual cautery and caustics were used, many persons losing their lives because of infection and slough which extended even to the bowels. The parts were frequently burned to the bone. As late as 1853 Stolz used a paste of caustic potash, nitrate of silver and gum arabic on the inner surface of the hernial sac. Quite recently Ratier treated cases by passing a seton on a needle in the sac and out through the skin at a level of the inner ring. This seton was left until suppuration occurred.

Castration for the cure and prevention of hernia was practiced, especially in France, as late as the beginning of the nineteenth century. Bishop St. Papaul stated that in his diocese alone 500 children had been castrated for the purpose of preventing hernia. The golden suture used was equal to castration. Valpeau and others scarified the ring. The testicle has been stitched into the internal ring to close the opening. Bonnet, not more than sixty years ago, practiced a needle operation. It consisted in passing a series of needles through the skin, sac and all. Pirogoff, after opening the sac, introduced a small gold-beater's skin, inflated it and tied it off. Valpeau and Jobert obtained some cures by iodin injections. Pancoast also reports several good results obtained in like manner in 1836.

Joseph H. Warren, instead of injecting an irritant inside the sac, used white oak bark external to the sac, which excited so much inflammation as to cause an adhesive inflammation of the tissue without producing a closure. Many of the quacks to-day are still adhering to this dangerous and unsatisfactory practice. In page advertisements they promise a cure without resorting to the knife.

With so many dangers and failures attending the attempts to cure hernia by sealing up the peritoneal opening from the abdomen to the scrotum, other means were tried. Dzondi was the first to suggest a plastic operation. He transplanted a section of skin into the hernial opening. Gerdy invaginated the scrotum, and with a peculiar clamp held the invaginated tissue within the inguinal canal. Later he used a needle and thread and fastened the invaginated scrotum in the canal.

Burns, Lehman, Zeis, Wattman, Gunther, Schmidt and Wützer worked along the same line, endeavoring to hold the invaginated scrotum within the canal and up to the internal ring by ivory pegs, instruments or stitches carried by peculiarly constructed needles.

Wützer constructed an instrument having a needle at its inner end which was made to pass through the fold of the integument near the internal ring. A set

* Read at the twelfth annual meeting of the Western Surgical and Gynecological Association, held at St. Joseph, Mo., December 29 and 30, 1902.

screw clamped a second plate on the fold of tissue. This instrument was modified by Redfern Davies for large hernias, making a divided invaginator.

Leroy d'Etiolles and Langenbeck maintained the original fold by pressure forceps, the latter contrived to produce an extensive slough of the anterior fold by the prolonged pressure of the forceps. The cicatricial plug resulting occasionally produced a cure.

Agnew and White invented instruments which were on the same order as that of Wützer, differing, however, in that no instrument was left to produce pressure. Thread was passed through the tissue near the internal ring, which closed the canal. Mosner used a trocar armed with a thread attached to a seton which was passed up into the canal. The seton was left for three or four weeks. Gross, Rothmund, Schlosser, Ratier, Riggs and others also adopted this plan for a time.

Credit is due Dr. John Wood, who first recognized the principle which governs the cure of this defect in Nature, by sutures or approximating the pillars of the ring with pins, as in a hare-lip operation. Prof. S. D. Gross, in 1861, in operating for a strangulated hernia, performed a similar operation with success. A description of this operation is instructive, as it shows what erroneous ideas were prevalent at that time about the union of wounds. It was thought necessary for good, firm union that a certain amount of edema and ulceration was desirable. Dr. Wood, after having operated on 200 cases, gives 50 as the per cent. of cures in adults and 75 under puberty. A truss was advised by the doctor to be worn several months after the operation.

Dr. Van Best and J. Chisolm about this time did an operation, approximating the pillars with a buried salmon gut. Dr. Greenville Donell up to 1876 had performed 96 operations with 80 cures by the subcutaneous method, using silver wire twisted over cork.

William Spanton, 1879, contrived an ingenious method of approximating the tendons and muscular boundaries of the canal. Through an incision made over the mass the index finger was introduced to shove up the sac. An instrument resembling a cork screw alternately penetrated the opposite boundaries of the canal. This brought the walls together and held them for two or three weeks until union was firm.

The direct method of S. D. Gross, who was the first to cut down on the sac, freshen the edges of the ring and suture them together with wire, was soon adopted. The sac was variously disposed of, some tying it off and removing it, others simply tied it and inverted it within the abdomen. It seems strange that the simplest, most surgical and most beneficial operation of all for the cure of hernia should remain undiscovered so long. It is a natural outcome, perhaps, of the careful study of anatomy of the hernial region, the recognition of Nature's fault in not closing this opening to the abdominal cavity, and the possibility of remedying what Nature should have in the evolution of this region.

The ultimate success of an operation is of the utmost importance to the patient. Surgeons are obliged to await the verdict of their patients before they conclude that any special operation is a success or not. The profession has had a harder time to fight popular prejudice against operation for rupture than any other surgical procedure. The public has a perfect right to this prejudice because of the evil results which have occurred in the past. Failures have been so frequent that a perfect result was not always anticipated. Therefore, physicians themselves chose to fit a truss instead of advising a radical operation. The quack advertised extensively to cure rupture without an operation. There still exists large truss-fitting establishments which are too frequently visited by the general public, who are anxious to adopt a simpler method of relief and escape the risks which they imagine are connected with a surgical operation. Nearly every drug store makes a specialty of harnessing up these afflicted persons with all sorts of appliances.

The careful and successful work of the modern surgeon, however, is beginning to bear fruit in this class of cases especially. Thoughtful, scientific men have studied the problem of hernia so that we know an operation will cure if certain principles are observed. The operation is safer for the patient than to run the chances of strangulation, notwithstanding he may wear a truss.

There are few of us who have not seen a hernia return on account of infection, or from weak union, due to sutures absorbed too rapidly. The Johns Hopkins followers have the utmost confidence in the buried silver wire. Some patients are compelled to have these sutures removed later. The disciples of Marcy tell you there is nothing so good as kangaroo tendon. This also is not to be relied on, as has been found by many who have used it. Silk and silkworm gut is not absorbed. The continual irritation may result in infection directly through the lymphatics or blood current. So-called dry, sterilized catgut is frequently absorbed before union occurs, and is not always sterile. A nidus is formed in which micro-organisms grow more readily. The silver catgut has at times given endless trouble. We may offer the same objection to chromicized catgut. The iodoform gut is the least objectionable of all; it is more sterile, lasts longer than the dry, is more elastic, and, on the whole, is a very good suture, yet failures result in its use occasionally.

The pubic region is the most difficult portion of the body to render sterile, on account of the numerous sebaceous glands and hair follicles present. Owing to this fact infection is more frequent in this region than elsewhere. When sutures are tied tightly, or there is much tension on the opposed tissue, the skin does not resist the strain, but is strangulated or cut through. This occurs likewise in the deeper tissue. If there are any infectious micro-organisms at these points a deleterious inflammation arises.

Where there are so many different ways of performing the operation and such a variety of suture material used, our conclusions are that failure or unsatisfactory results occur, otherwise we would all adopt one special method. It would seem that it is not altogether the fault of the suture material if properly sterilized as much as the manner in which it is used. An analysis of a number of cases of relapse and failure leads me to suggest the following reasons for failures:

Too vigorous and rough scrubbing of the parts before operation with the idea that it is necessary for cleanliness. This produces minute pustules of the skin just prior to the operation.

Careless preparation of the parts and the hands of the operator, or because the operator and his assistants have not worn rubber gloves.

Because operations are performed on patients suffering with some constitutional or other local disease.

The employment of sutures that are absorbed too readily.

The use of sutures that are improperly sterilized.

Lack of identification of tissue, and necessarily improper approximation of the opposing structure, espe-

cially in cases where there is a very poor development of the fibers of the internal oblique and transversalis.

Too great tension from vomiting or pressure of gas from within.

Incomplete dissection of the sac and its ligation.

Because sutures are tied too tightly, causing pressure, necrosis and stitch abscesses.

The use of non-absorbent sutures which, being left, irritate the structure and result in infection.

Excessive handling of the parts at the time of operation, causing destruction of tissue, necrosis, sloughing and abscess.

The causes of inguinal hernia may be few or many. The tunica vaginalis may not have contracted completely, and there remains a slight pouch at the internal ring into which the viscus may enter and gradually forces its way into the canal. Increased intra-abdominal pressure from ascites or gas, straining from phimosis, constipation, stricture, prostatic hypertrophy, calculæ, coughing, etc., are exciting causes.

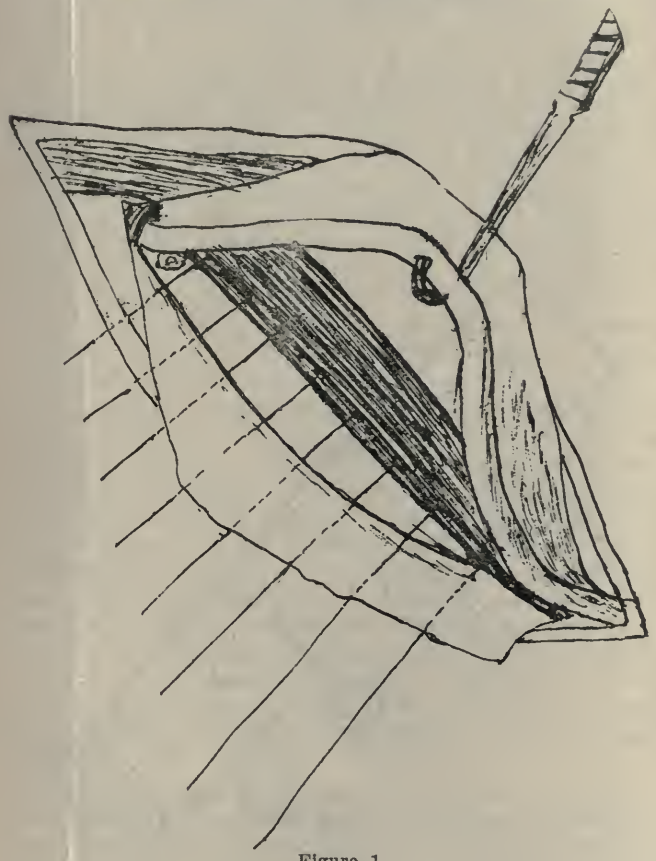


Figure 1.

When the tunica vaginalis remains open, a congenital hernia is inevitable. Weak muscular or aponeurotic development around the rings or canal are potent causative factors. This is emphasized by Dr. Ferguson in an article entitled "A Typical Operation for the Cure of Oblique Inguinal Hernia." The lack of development of the original fibers of the internal oblique and transversalis, he believes, is a most important cause of hernia and relapse.

The first symptoms of a hernia develop gradually. A weakness and dull pain is felt in the groin, or sick feeling and a weight may be present, especially noticed in walking or standing, until the bowel enters the canal and can be felt, first as a bubonocele and later as a complete or scrotal hernia. A strangulated hernia occurs where the bowel is rapidly forced down through the external ring. The pillars of the ring contracting on the mass, impedes the circulation of the protruding viscus, and causes greater enlargement from congestion. Inflammation and edema of the entire mass is present, making a reduction by taxis difficult or impossible.

The treatment may be divided into palliative and the radical. The palliative consists in wearing a good-fitting truss over the internal ring. A great many good trusses are now made which enable the wearer to get around with comfort, and which permit the patient to perform almost any work required. Yet there remains the danger of strangulation that may come on because of the weakness of the support from age and wear. The history of nearly every strangulated hernia is that the patient has continually worn a truss before the accident happened.

We can not blame persons for choosing this form of treatment when they may have knowledge of friends who, having had an operation, have the hernia return and are unable to wear a truss with the comfort they did before the operation, on account of cicatricial tissue formation, exaggerated because of a complicating abscess.

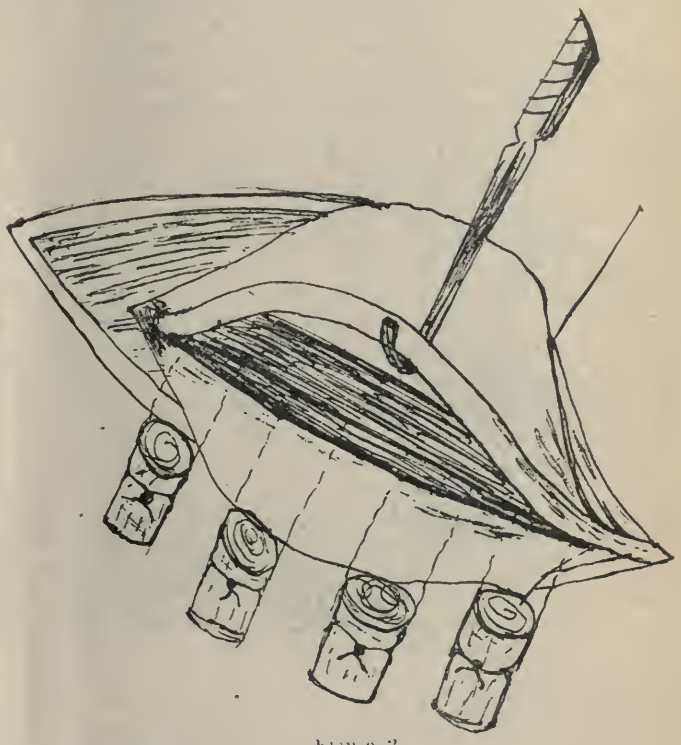


Figure 2.

The modern operations which have been devised for the radical cure of hernia are numerous. All have for an object the ultimate retention of the abdominal contents, by closing the breach with as firm a wall as possible, consistent with a healthful state of the cord and testicle.

We have few criticisms to make, if any, as far as appearance of the operation at the time is concerned. It seems, however, that, generally speaking, there are too many relapses.

A suture is useful to keep the parts in apposition until union has occurred, and until that union is firm enough to resist the pressure of the internal organs.

Any substance which has to be absorbed by the tissues lessens their vitality and serves to produce a culture media, in which micro-organisms may grow. A non-absorbable suture material that can be positively sterilized by boiling has no effect on healthy tissue if prop-

erly placed and left for a few days. Any substance foreign in nature which can not be absorbed if left in the soft tissue permanently often acts as an irritant, which may cause pain or results in infection. The epidermis albus grows more rapidly where there is necrosis of the tissues, at the location of sutures.

The average surgeon is liable to tie sutures too tightly, and especially in doing an operation to cure a hernia. The idea uppermost in the mind of the operator at the time is to bring the tissue into such close proximity that no viscus can crowd through the wound while healing. This defeats the very object of the operation often by strangulating the tissue of the deeper or superficial layers. It results in pressure necrosis, a nidus for infectious germs, and consequently a deep or superficial abscess. Add to this a suture material that is absorbable, and these factors are augmented. A non-absorbable

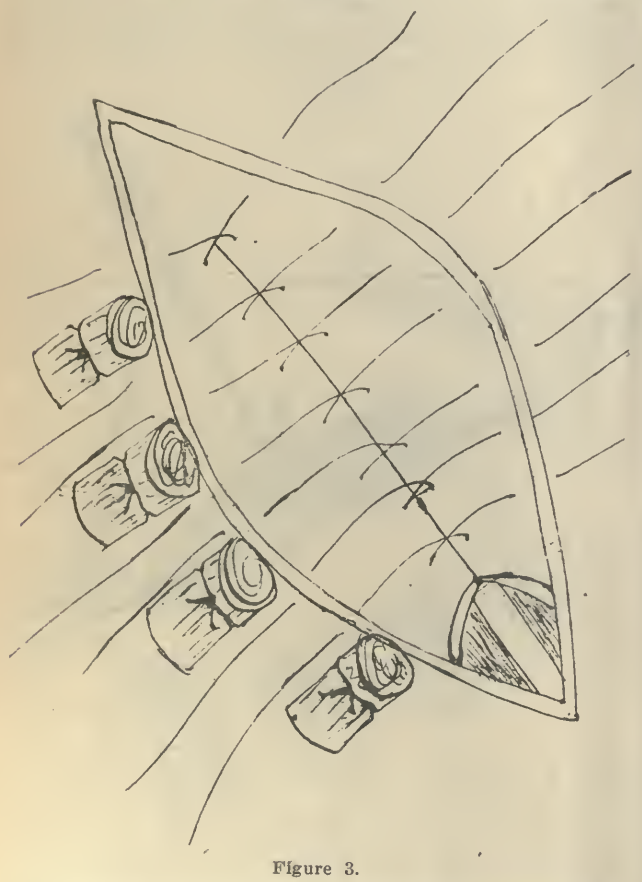


Figure 3.

buried suture prolongs the healing when there is infection, and it acts as a guide for the invading germs to other would-be unattacked tissue, through which the suture passes. The experienced operator may avoid this catastrophe because he is able more accurately to gauge the tension of his sutures.

A roll of sterilized gauze, to take off the force of too tight suturing and distribute the pressure, affords the average operator the protection and success of the more experienced surgeon. This method of operating for inguinal hernia is not new, nor do I claim that it gives better results in every instance. I do think, however, that the result is more satisfactory to the occasional operator for reasons above stated.

In preparing my patient, I prefer to shave the parts the morning of the operation. In doing so, we avoid infected areas or vesicles which may result when the shaving is done the previous evening or before the parts have been thoroughly cleansed. The time intervening between the evening and morning of the operation favors a greater multiplication of micro-organisms. The bowels are thoroughly emptied and subsequently kept free from gas accumulation. This lessens the internal pressure.

An ordinary incision for a Bassini operation is made. The aponeurosis of the external oblique is slit up to the point opposite the internal ring. The fibers of the internal oblique and transversalis muscles are divided by blunt dissection, thus opening the inguinal canal. The internal oblique and transversalis muscles are found closely connected. They are not separated, but the aponeurosis of the external oblique is carefully and thoroughly removed from the internal oblique. The lower portion is dissected down to Poupart's ligament and the transversalis separated from the peritoneum. Such careful dissection and positive identification of structures shows any deficient development and is an important help in securing direct apposition and firm union. The cord is now raised and silkworm-gut sutures are introduced to the outer side of the incision, passing through the skin, Poupart's ligament, the internal oblique and transversalis, on the inner side of which the loop is made. The needle, re-entering the transversalis and internal oblique, passes through Poupart's ligament and comes out through the skin to the outer and lower



Figure 4.

side of the cut, near the point of entrance. (Fig. 1.) From three to five sutures are similarly introduced. These sutures pull the internal oblique and transversalis below the shelving edge of Poupart's ligament, and are observed to make a firm barrier against any internal force. A double support is formed and any defect is corrected. The sutures are then tied over rolls of sterilized gauze. (Fig. 2.) The spermatic cord then rests on the internal oblique. The external oblique is then closed over the cord. Interrupted figure-of-eight sutures are introduced, bringing the external oblique in apposition with Poupart's ligament. (Fig. 3.) They also approximate the skin, and are tied over a gauze roll. (Fig. 4.) The sutures are usually left two weeks.

The conclusions for this operation are:

1. There are no sutures for the tissues to absorb.

2. There is no additional culture media in which infectious micro-organisms grow and cause deep abscesses.

3. There are no buried, non-absorbable sutures left to irritate the tissues and cause further trouble.

4. There is no necrosis from tight sutures, therefore few, if any, stitch abscesses.

5. The gauze rolls act as elastic cushions which prevent scars from the sutures.

6. The operation completely closes the breech and makes a firm wall.

7. All sutures, after serving their purpose, are removed, leaving only the natural supports.

302 Pillsbury Building.

EVOLUTION IN THE TREATMENT OF CANCER OF THE RECTUM.*

C. H. MAYO, M.D.
SURGEON TO ST. MARY'S HOSPITAL.
ROCHESTER, MINN.

Certain definite results are desired in operations on cancer of the rectum, namely, permanent cure, low operative mortality and a controllable anus, or its best substitute. These results are modified by location, stage of progress and the age and condition of the patient.

The gradual evolution which has led up to the treatment in vogue to-day makes an interesting study. Previous to 1870, operative treatment on cancer of the rectum was but limited in extent, and only performed by the great surgeons of that time; in fact, it was almost limited to nothing, palliation, and lumbar colostomy. Yet the results of these methods compared most favorably with radical operations.

At present a diminishing number of patients present themselves at such a late period that they fall within the limits of this type of surgery. Inguinal colostomy has replaced the lumbar. During the next ten years to 1880 there was a marked advance in all surgery. Instead of there being but a few surgeons with initiative, a large number were making active scientific progress. New and often similar methods of procedure were devised by surgeons widely separated and each without knowledge of the investigations of the others. This progressive spirit, which fortunately continues, resulted in many operations bearing the names of two and even three surgeons who had advanced the principles at about the same time.

In rectal surgery there were developed the circular enucleation of Lisfranc, perineal excision, Deffenbach's incision anterior and posterior to the anus, and the great advance made by Kocher in 1874, when he excised the coccyx to gain access to the rectum. Many surgeons still contend that by this method sufficient space is secured to accomplish the removal of all cases which should be attacked from below. Verneuil also deserves credit for removal of the coccyx at this time.

The difficulties which were most marked during this period were sepsis, which could not be avoided, stricture or incontinence from the loss of the anus, and recurrence, the most serious of all as well as the most frequent. The recurrence most commonly seen was probably from incomplete removal and at times undoubtedly from direct inoculation of the wound by the cancer. The direct inoculation of wounds by both cancer and sarcoma cells is a condition well understood to-day, and many operators to a certain extent avoid this complication by excising the anal and low-lying cancers of the rectum with a Paquelin cautery; others, when the cancer unavoidably contaminates the wound, apply carbolic acid, followed by alcohol, to prevent germination and absorption. Surgically considered, this was an epoch of drainage.

During the years from 1880 to 1890 was developed the germ theory which revolutionized surgery and medicine. This period was one of antisepsis and drainage. Operations in all lines of surgery became more radical. The perineal methods were made more complete. Rehn, a German, and Campenon, a Frenchman, at about the same time brought out the vaginal route for certain cases of rectal cancer, a method which has been so highly developed and popularized by Dr. J. B. Murphy. Steinthal removed invaginating cancers by means of an elastic ligature. In 1883 Volkman opened the sacral canal in an operation for sarcoma. Kraske, at that time his assistant, noticing that no harm resulted, was led to develop his sacral excision method of operation. Now all varieties of sacral exposure bear his name, although variously modified by Bardenheuer and others in being more extensive, by Heinecke, Roux and Rehn and others in preserving the bone by a temporary resection, and by Zuckerkandl in making a parasacral incision.

The difficulties which arose were from shock, which usually meant loss of blood; from peritonitis, as two-thirds of the Kraske operations necessitated opening the peritoneum; and from the attempt to perform radical operations on inoperable cases, as the damage to the bone, loss of blood and open peritoneum were necessary by this method, before the operator knew fully the extent of the disease. The anus had usually been sacrificed; now, where possible, attempts were made to preserve this outlet. Various methods of uniting the distal and proximal bowel were devised. Suture methods frequently failed, or partially failed, leaving permanent fistulæ, as did all methods much too often, were they plastics, Murphy's button or invagination. The Hochenegg method of invagination by passing the proximal end through the anus and suturing to the skin, was later modified by removal of the mucous membrane of the anus. One of the best methods was to draw the proximal bowel through the anus, which was inverted, and make a circular suture union, which is replaced within the sphincter. Lange made a half circular incision anterior to the anus, admitting of its being depressed two inches to reach the proximal end. With the anus saved, it was often found that the extensive mutilation had permanently injured its nerve supply, and when saved intact, that it required the levator ani and internal sphincter to render it functionally perfect in preventing the sudden escape of gas and thin feces.

Gerster states that practically all of these methods of union result in primary or secondary stricture, which is from the character of the surrounding tissue. Most frequently it was found that so much bowel had been removed that a sacral anus was necessary. When an artificial anus is determined on, Witzel, Wilms and Rydygier recommended the division of the glutinus maximus, made at one side of the sacral incision and the suture of the bowel end to a skin incision, thus gaining muscular compression. Gersuny rotated or twisted the bowel sufficiently to close its lumen and sutured. Still, in spite of all methods, only approximately 15 per cent. of these patients secure anything like a controllable anus. The incontinence which ensues is not comparable to those cases of torn or paralyzed sphincter or sacral fistula, as such cases still have the seventeen-inch loop of sigmoid in the pelvis—whose value as a fecal container

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was pointed out by Wyeth—with the natural constriction at the top of the rectum to control the fecal current. Yet such cases presenting themselves for relief are often considered as bettered by an inguinal colostomy. The local recurrence, which is so frequent, often causes such a degree of obstruction as to require a later colostomy, a condition which we met in three cases. The direct channel of the colon from the splenic flexure to the outlet leaves no space for a fecal container and renders closure a question of hydrostatics in these operations.

The last decade has seen an advance in methods derived from an analysis of the mortality and failures in the past, and the gain has resulted in the present thoroughness of surgery, and asepsis for antisepsis. The block removal of the rectum and glands where possible from below and in high location of the cancer, the combined abdominal and perineal method of removing rectum, glands and all malignant tissue *en masse,* is the new surgery for cancer of this region. This method is merely the application of principles of the general surgery of cancer, regardless of location, as exemplified by Halsted's operation for the removal of cancer of the breast. It is probable that the removal of cancer of the rectum in the past compares well with the removal of cancer of the breast before the radical operations were made on the lymphatic system, with the exception of the former being in a more septic region. The combined abdominal and perineal method is now advocated for high rectal carcinoma by the pioneers in rectal surgery, Kocher, Kraske, Gaudier, Quenu, Trendelenberg, Abbe, Weir and numerous others.

Cancer in the young is much more serious than in the old, both as to rapidity of growth and early involvement of the glands, although it is frequent that the glands are only involved late in the disease. The average life with cancer of the rectum is given as from one to two years; this may be true in the young, but in the old, if we approximate the commencement, it must often exceed double this length of time.

Allingham considers the removal of cancer, in patients under 45 years of age, as unfavorable; between 45 and 60 years, as more favorable, and over 60 years, still more hopeful. Statistics change from year to year with the ability of the operator, whose judgment increases from his mistakes and failures, and whose ability to select a justifiable operation for rectal cancer, according to the extent, location, fixation, glandular involvement, cachexia and age, or invasion of neighboring organs, such as vagina, uterus, prostate or bladder, becomes more and more reliable. Therefore, statistics mean more to the surgeon who makes them than to any one else. Kraske's mortality in the first ten cases was 40 per cent.; this he has now reduced to less than 10 per cent. The average mortality is still somewhere between 15 and 18 per cent. Hochenegg, in 121 sacral operations, had 5 per cent. mortality and 25 per cent. cures.

Kroenlein (Zurich) answers three questions: mortality of operation, recurrence, and functional disability; 881 cases show that the sovereign method is extirpation, 80 per cent. survive, 14 per cent. are lasting.

The functional result is best when possible to preserve the anus and sphincter. In the discussion Kraske expressed satisfaction in his 120 cases of sacral method, but thinks the combined abdominal sacral method more radical. Gaudier of Lille begins with a laparotomy, and by section of the bowel at the iliac fossa makes an inguinal anus. The peritoneum is cut from the sides of the rectum and below and the rectum forced down by blunt dissection as far as possible, the peritoneum closed and the operation completed from the perineum. Gaudier claims the method is of aid in: first, complete extirpation of the cancer; second, removal of lymphatics; third, the possibility of complete asepsis; fourth, no bony mutilation; fifth, the artificial anus is more supportable and more easily supervised than in the sacral region.

Quenu separates the cancer by sacral operation first, then, if necessary, makes an abdominal incision and inguinal colostomy. Chalat of Toulouse practically performs Gaudier's operations.

In our own work we were compelled some two years ago, by the necessities of two cases, to operate from the abdomen in one and from the abdomen and perineum in the other. During the past year we have operated on four cases in which the combined operation was planned previously. The operation, as described by Gaudier, we modified in regard to the colostomy. Through a median opening the sigmoid is double clamped and cut at a point as low as possible, yet well above the cancer, then invert the mucous membrane and close both ends with a purse-string suture. This renders the remainder of the operation aseptic. The superior hemorrhoidal artery is ligated and the proximal sigmoid segment is loosened and brought through a McBurney gridiron incision in the iliac fossa. This incision is peculiar in the skin incision, being at a distance of one and one-half inches to one side of the muscle separation. The end of the bowel is brought out and sutured to the skin incision; also a few sutures unite the bowel to the peritoneum at the point of exit. This preserves the loop of sigmoid as a fecal container. Prolapse is prevented by sutures from within, the muscle separation and sigmoid curve of outlet with skin covering for compression give a fairly controllable anus at a position where the patient is enabled to give it proper attention. If the median incision discloses an inoperable condition, that is, inoperable from a curative standpoint, from metastasis in glands or neighboring organ involvement, an inguinal colostomy is made and the median wound closed.

Colostomy, as usually performed, has been by the lifting of a loop of sigmoid through an abdominal iliac incision. The loop is supported by one of the various methods and the bowel is sutured to the peritoneum and skin, forming a true funnel-shaped hernial opening in the abdominal wall; that is, skin and peritoneum in contact. There was often prolapse following late after operation, to avoid which the loop of sigmoid was caught up at such a point as to render the descending colon under slight tension in the wound, thus rendering the closure of the outlet a question of pressure against a descending flow. The best operation is that of Mixtere, in which the sigmoid loop is drawn through a McBurney gridiron incision, and a rectangular skin flap pedicle attached at one end is drawn through an opening in the sigmoid mesentery. The skin flap is sutured back to place at the free end and sutures applied to the bowel, peritoneum and skin. When the loop of bowel is cut through, this skin covering of the bowel acts as a valve when compressed by a pad.

To sum up the main objections of the past, we have:

1. Ineffectual removal with local recurrence so common in the perineal type.

2. The extensive mutilating character of the Kraske before operative conditions were known.

3. The frequent failure of all methods of union of proximal and distal portions of the bowel, which, when united and anus saved, with the destruction of the levator ani and internal sphincter, represented but one-third of the controlling apparatus of the bowel.

4. The frequent formation of stricture either cicatricial or cancerous following operation necessitating inguinal colostomy.

5. The straightening and tension of the sigmoid destroyed it as a fecal container.

6. That sentiment and not chance has proven the main reason for continuing to place an uncontrollable anus in a comparatively inaccessible situation.

The gain in the combined operation has been in a selection of the operation to the case, either radical removal *en masse*, with all glands, fat and connective tissue or a colostomy for palliation. The retention of the sigmoid as a fecal container and the peculiar formation of the anus, giving a fair degree of control in an accessible situation.

SOME REMARKS ON SCLEREMA NEONATORUM,

WITH REPORT OF A CASE WITH AUTOPSY.

E. R. STILLMAN, M.D.
TROY, N. Y.

Sclerema neonatorum is a rare disease. Up to the present time I have been able to find but seven cases reported in America, and a careful review of the literature of Europe affords but comparatively few examples of the strange condition. The obscurity of the etiology of the malady and the scarcity of clinical reports of cases with autopsies, as well as the meager and unsatisfactory descriptions of the same found in most text-books, render doubly interesting the report of a typical case, and afford an excuse for a perhaps too lengthy description of the clinical picture of the disease.

Uzembezius, a physician of Ulm, in a work entitled an "Ephemeris of Natural Curiosities," published nearly two centuries ago, described an infant, born at term, which from top to toe became rigid and cold, resembling a piece of flesh dried by fire. This is regarded as the first recorded case of infantile sclerema, and it was at that time ascribed to maternal impressions, since the mother of the baby had spent much time in the churches, worshipping the images and statues found there.

To Underwood, however, an English physician, belongs the credit of having first recognized and described the disease, a description, too, so vivid and so true as to have left little to be added or to be taken away. His observations were particularly noted in France, and the condition most thoroughly studied there, although for many years it was confounded with a very similar condition, edema neonatorum. This disease presents many features in common with sclerema, but differs in so many respects as to leave little doubt that they are essentially separate and distinct. Andry (1781), Leger (1825), Billard (1839), Villaix (1849), all recognized, studied and described the malady and developed many and ingenious theories to account for it. It remained for Parrot, however, the brilliant Parisian pediatrist, to establish the fact that sclerema neonatorum was a distinct clinical entity, although the conclusions of this observer have been somewhat modified by the studies of more recent years.

The subjects of this disease are usually found among the premature, weakened, poorly-developed infants of the foundling asylums. Cases occurring in private practice are exceptionally rare, although Parrot cites cases developing in well-nourished, robust and well-fed infants. Whether or not hereditary syphilis plays a rôle in the etiology is still a disputed point. Cases have been reported in which improvement or even recovery has followed treatment by mercurial inunction, but there is room for much skepticism as to the correct diagnosis in such instances. Within the past decade attempts have been made to isolate specific bacteria and to demonstrate that they were responsible for the development of the disease, but the number of observations in this direction is as yet too few for any definite conclusions to be deduced.

The affection, which is characterized by an induration of the skin and subcutaneous tissues, does not, as a rule, develop immediately after birth, but the symptoms are first noticed within the following seven to ten days, although according to Hennig they may be delayed as late as the seventh month. It is doubtful, however, whether such late developing cases should be regarded as instances of genuine sclerema neonatorum, but that they should rather be classed with scleroderma. In the first place, they do not correspond clinically with sclerema, they more frequently end in recovery and show a tendency for the induration to occur in isolated areas. It seems reasonable, therefore, to consider those cases which develop late as scleroderma infantorum corresponding to scleroderma adultorum, than to regard them as instances of true sclerema neonatorum as described by Underwood.

The symptoms may develop suddenly with no particular warning, may follow or complicate an acute disease, such as pneumonia, or they may be preceded by a variety of indefinite signs of general disturbance, such as vomiting, diarrhea with greenish stools, obstipation, convulsions, etc. The infant may become thin and emaciated, the eyes sinking into the orbits, the skin of the face taking on a sallow tint, becoming wrinkled, wizened, like the face of a little old man; or the disease may appear so suddenly that when first seen the characteristic induration may be the first and foremost symptom to which our attention is directed.

With such an onset the changes in the skin, which represent the essential feature of the disease, develop. In the invaded region the skin becomes swollen, shiny, losing its normal folds, appearing as if under tension, very like edema, but harder, firmer, showing little or no evidence of pitting on pressure. The elasticity and suppleness of the skin are gone; it is no longer possible to pinch it up into folds by the fingers; it is cold, clammy, greasy to the feel, for all the world like the outside rind of a ham. It is hard, as if glued down to the subcutaneous tissues; it is impossible to slide skin over subcutaneous parts, skin, muscle and underlying bone appearing to be fused completely together.

The color of the invaded areas varies from a dirty yellowish jaundice-like color to a livid blue black, the tints being comparable to the array of colors afforded by an area of ecchymosis slowly absorbed. The temperature of the part is always much reduced.

The amount of surface of skin involved varies within wide limits in different cases. It may remain circumscribed, death occurring to effectually check the progress of the disease. Again the skin of the lower extremities and trunk may be alone affected, or the whole surface of the body may take part in the process. The part which first shows the thickening may also vary. Most often the skin of the buttocks or thighs appears to be earliest diseased, from there spreading upwards and downwards on the trunk and on the lower extremities. It may then become general over the whole surface of the body. On the other hand, the skin of the face may be the first point

to show the induration, more particularly in the region of the cheeks.

As a consequence of the thickening and hardening of the skin and subcutaneous tissues, the affected parts become stiff and inflexible. If the face be involved, the mouth and cheeks are set as if moulded, mask-like, resembling the face of a doll, crying, sucking, swallowing being alike impossible. If the limbs be attacked the members are swollen, blue black to dirty brownish yellow in color, hard and rigid, extended or slightly flexed, but stiff and immovable. When the disease becomes general the infant lies motionless, with or without very feeble cry, as stiff as and still as death, with scarcely any respiratory movement and with an ever-weakening pulse. At this stage of the disease Trousseau and Parrot were able to lift the body by catching hold at either end, as one would raise a stick of wood, and it has been possible to balance the body on the radial surface of the hand placed under the back, just as one would balance a figure of marble or of metal.

Such, in short, are the characteristic symptoms of sclerema neonatorum. Variations in intensity and in extent of the induration occur, but correspond in general to the above description. In striking contrast, however, to this is the absence of general manifestations of disease of any of the vital organs. No heart or lung disease, no disease of the nervous system or gastrointestinal tract has ever been found that might be considered constant in or in any way causative of sclerema. There seems rather to be a universal prostration of all the vital functions. The malady runs its course slowly but fatally without giving the slightest clue in regard to the primary cause of the trouble. In the skin itself where the morbid process is mainly localized, there occur no microscopic changes that can be regarded as peculiar to or characteristic of the malady. Atelectasis of the lungs, congenital defects of the heart and morbid processes in the digestive tract have been described, but must be regarded rather as accidental complications than as having anything to do with causing the disease. Money described two cases complicated with paralysis, and concludes that the disease may be a trophic disturbance. Numerous hypotheses have been advanced to explain the peculiar clinical changes, but we must admit that from a practical standpoint we know little or nothing of their etiology, being able neither to retard nor to arrest its advance. Recovery rarely if ever occurs, the infant after illness of a few days to a week or more dying from the extreme prostration or asthenia.

Turning now from a general survey of sclerema, the history of a particular case may prove interesting.

J. K., full term infant of healthy parents, male, seven days old, at birth was quite cyanosed; extremities, ears, lips, face all were blue and livid, presenting the characteristic appearance of a "blue baby." Careful auscultation of cardiac area, however, discovered no audible murmur. Condition lasted forty-eight hours and gradually disappeared, leaving no trace. Baby nursed, bowels moved and urine voided in an apparently normal manner.

During night of seventh day baby cried almost incessantly and with no apparent cause, bowels moving and urine being evacuated as usual.

EXAMINATION.—The following morning the following facts were disclosed: The baby refused to nurse and seemed generally tender to the touch. Penis swollen and infiltrated with hard edema, so much so as to effectually close preputial opening. Skin of same was glossy, shiny and did not pit on pressure. Skin of scrotum was also swollen, hard and board-like, shiny and cold. Questioning revealed the fact that the little patient had not urinated since the night before. Percussion over hypogastrium revealed dulness and with a view to relieving the bladder a hasty circumcision was done and an unsuccessful attempt made to pass a catheter. Under a hot bath and warm fomentations, however, the bladder relieved itself, but nevertheless the hard, board-like infiltration continued and was rapidly spreading. The cord had not yet separated from the umbilicus, but there was no evidence of infection or inflammation in its neighborhood. Temperature per rectum 98.5 F.

On the following day the hard induration was still present and had spread upward on the trunk and downward on the legs. The least touch seemed very painful, causing the baby to cry for some time, whereas otherwise he was quiet. Bowels moved sluggishly and small in amount, greenish in color; urine also small in amount, stained diaper light yellow. It was impossible to obtain any for examination. Temperature 97. At this time a blood examination showed 6,000,000 erythrocytes per c.mm., with no deformity of same and no nucleated reds. Owing to difficulty in obtaining blood it was impossible to count white cells; but from study of ordinary smears they appeared to be less than normal in numbers and mostly of mononuclear type. Cultures taken from the blood were negative.

The next day the sclerema had spread over the whole of the extremities and midway up the trunk. Skin was hard and leathery, could not be pinched up into folds, was densely adherent to subjacent, all seeming to be fused indefinitely together.

The following day, the fourth of the illness, the conditions were much worse. The infiltrated areas were turned a deep bluish black, particularly the dependent parts, and were painful on least pressure. Bowels moved and urine voided, but very scanty in amount. Child refused to take any but slight amount of nourishment by a spoon. Legs were flexed at about an angle of forty-five degrees, were stiff and firm, impossible to straighten or bend. Sclerema had extended on chest, but arms and face were not involved. Temperature 96, rectum. Death the same afternoon.

AUTOPSY.—This was made the following day at 9 a. m., fourteen hours after death. It is important, especially on account of the negative results. The following changes were noted. Body slightly emaciated. Postmortem rigidity not well marked. Surface of body presents a mottled bluish-black to yellowish tint, the former color being most developed over dependent parts and on skin of extremities. Skin of legs, thighs, feet, scrotum, penis, pelvic regions, extending behind up to middle of back and in front midway to umbilicus, is swollen hard, board-like, stiff, glossy, not pitting on pressure. Skin can not be pinched up into folds by the fingers, neither will skin glide over subjacent tissues. The dark blue-black color is most developed in region of anus and penis, the circumcision wound of which appears gangrenous. Umbilical cord separated and stump is normal looking with no signs of inflammatory reaction about it.

On section, subcutaneous fat exceedingly small in amount. Skin of lower abdomen distinctly thickened, being three times the thickness of that of upper abdomen. On section it appeared very firm and fibrous, of mottled orange to lemon yellow to grayish color, subcutaneous fat showing a distinct reddish tinge. No serum exuded from cut surface. Heart and lungs normal with no sign of any congenital defect. Liver mahogany color, extending four cm. below free border of ribs with no macroscopic change. Gall bladder distended with thick tenacious black bile, which could not be squeezed into duodenum, although dissection of common duct disclosed no obstruction. Stomach distended with gas extending below to umbilicus and 1½ cm. to right of median line. Urinary tract normal; spleen normal. Mucous membrane of small and large intestine pink, soft and velvety with no signs of swollen follicles or of ulceration.

Such in short, were the results of the postmortem examination. Cultures were taken from the heart, spleen and peritoneum, but there occurred but a few colonies of *Staphylococcus albus* and variety of the color bacillus. That the presence of these organisms was accidental and not due to general infection I feel convinced, because of

the lack of any symptoms pointing to an infective process such as fever, with enlarged spleen. Microscopic examination of tissues revealed no change. In the skin, however, corresponding to the marked clinical symptoms, we should expect marked pathologic peculiarities. No change, however, has been found at all commensurate with the macroscopic appearance. Northrup reported a typical case in which the microscope revealed nothing especially abnormal. Parrot found hardening and atrophy of the skin and rete malpighii, the cells appearing indistinct and forming a fused mass. The subcutaneous fat appeared atrophied and the interstitial fibrous connective tissues increased. The blood vessels were shrunken. In the present case the corium seemed thickened, the cells and fibers composing it having a homogeneous granular, hazy appearance, suggestive of cloudy swelling. The subcutaneous fat appeared normal, the interstitial fibrous tissue being little if at all increased.

Ballantyne found a "dried-out skin," some thickening of the layers with some diminution of the subcutaneous fat. The pathology and the etiology are very obscure. What relation these slight skin changes bear to the profound prostration of the disease is difficult to explain. Henoch examined the nervous system from two cases and found nothing abnormal.

From the date of its first description many and ingenious theories have been advanced to explain its occurrence. Underwood believed it was due to a spasm of the skin in consequence of breathing bad air. Leger thought it was due to an improper and incomplete development of the intestinal canal. Parrot taught that sclerema was not a disease, but only a symptom, an end-stage of a general condition of malnutrition, which he termed "arthrepsie," and that the thickening and drying up of the skin was due to the loss of fluids in consequence of diarrhea and to the absence of any reparative effort on the part of the other cells of the body. Langer, in 1881, advanced the theory that in consequence of the lowering of the body temperature, the palmitin and stearin, which form the principal part of the adipose tissue of infants, solidify, thus causing the thickening and hardness. This may be considered but a modification of the theory of Parrot that the reduction of temperature is consequent to the general condition of mal-nutrition and mal-assimilation, and following this heat loss solidification of the subcutaneous fat occurs. In other words, the skin changes depend purely on a chemical and physical change in the cutaneous fat, regardless of any vital activity on the part of the body cells. Were this true we might reasonably expect a like change to occur post-mortem in the case of infants. Ballantyne asserts that the skin changes are the result of the "drying out" of the skin incident to the diarrhea, and this view seems to be favored by Wiederhofer and Soltmann. This case, however, as well as that of Northrup and others, seems to prove that a preceding diarrhea is not essential to the development of the disease, nor a necessary symptom of its progress. Schmitt, in 1893, reported three cases in which he isolated micro-organism, mainly staphylococci, from the tissues, and he maintained that sclerema is due to a general infection with a definite micro-organism, but this observation has not as yet been corroborated by other observers. Pathologic evidence, on the other hand, shows no change at all comparable to the changes observed in general infection with any known organism. It may be, however, that the immature tissues of the newborn react to bacteria and their toxins differently than the mature tissue of adults with which we are more acquainted. It seems to the writer more plausible to regard the condition as the result of an autointoxication from improper functional activity of the gastrointestinal tract, the changes in the skin being secondary to the retention of the poison, and its direct action on the skin, incident to an attempt at elimination.

HYPERTROPHY OF THE SYNOVIAL FRINGES OF THE KNEE JOINT,

WITH A REPORT OF TWELVE CASES.

EDVILLE G. ABBOTT, M.D.
ORTHOPEDIC SURGEON TO THE MAINE GENERAL HOSPITAL.
PORTLAND, ME.

This disease has been described from time to time by various writers in medical journals, but as yet there has been only slight mention of the subject in works on surgery. The different authors have included this condition in their description of floating cartilage, internal derangement of the knee-joint and chronic synovitis, but have given little consideration to it independently. In designating the disease the profession have used various terms, such as rheumatic joint, torn cartilage, strained ligaments and synovitis; and undoubtedly some cases of it have been diagnosed as tuberculosis of the joint, which it sometimes resembles in its first stages and for which it might easily be mistaken.

From the cases which have come under my observation during the past year and a half I have selected twelve, typical in character, the treatment of which has extended over a sufficient length of time to allow definite conclusions to be drawn regarding them. Eight of these cases I operated on; the remaining four were treated by mechanical means. The unsatisfactory nature of the information contained in the text-books has led me to endeavor to formulate my own experience and its results.

ETIOLOGY.

The etiology is obscure. In a few of the cases traumatism plays an important part, while in others it has been impossible to associate injury with the beginning of the disease. In order to explain this condition in those cases where it is not traceable to injury, the complicated movements of the normal knee and the intricate distribution of the synovial membrane should be considered.

The knee-joint, like all diarthrodial joints, is lined with a synovial membrane, except where the articular cartilages are in contact. Here no membrane is found, except at the edge of the cartilage, which the membrane overlaps for two or three millimeters before merging into the cartilaginous structure. The inner surface presents a smooth shining appearance, interrupted (especially where the membrane folds to pass from one surface to another) by the synovial fringes, which are villous structures of varying size and length, somewhat resembling intestinal villi, the largest being perhaps one centimeter long. They are richly supplied with blood vessels, each villus containing a convoluted twig of an artery. Some of the fringes are, however, merely hernia-like protrusions into the joint of small masses of fat covered by membrane, which fill up unoccupied spaces.

The articulation between each condyle and the opposed almost flat surface of the tibia does not exactly form a hinge-joint, though strongly resembling one; and extension and flexion, the movements of which it is capable, are produced by a combination of gliding, rolling and rotation. In the movement of extension the condyles move parallel to one another, both gliding and roll-

ing, until extension is nearly completed; and then the anterior part of the rolling surface of the external condyle having already come into full contact with the tibia, the femur is rotated inward on the tibia and the joint is fully extended. In the erect attitude the knee-joint, like the hip, is in a great measure maintained in the fully extended position without muscular effort; but there is some difference of opinion as to the manner in which this is effected.

Langer and Humphrey hold that the line of gravity of the body falls in front of the axis of movement of the knee-joint, and the tendency is thus to over-extension, which is resisted by all the ligaments of the articulation. If this view be correct, any strain produced, for instance, by overweight, long standing in one attitude or injury, would cause the knee to overextend, stretching the ligaments and allowing the joint, when moved, to deviate from its normal position. With this condition it is almost impossible for the fringes to escape being pinched, so complicated are the movements.

On the other hand, Meyer maintains that the line of gravity falls slightly behind the axis of movement, and that the stability of the joint depends mainly on the association of rotation with the beginning of flexion; for while the femur is prevented from rotating outward by the ileo-femoral ligament, which in its turn is kept tense by the weight of the body acting on the hip-joint, the tibia is fixed by its connection with the foot. Rotation between the femur and the tibia being thus impossible, flexion can not take place, and the joint is fixed.

If we accept the explanation of Meyer, which has the support of the majority, a weakened condition of the arch of the foot would have the same tendency to stretch the ligaments of the knee by preventing fixation of the tibia.

It seems to me that the latter condition would explain many cases, as a weak pronated foot is very closely associated with this disease; and while I have not found it in all cases, it has been present in many, and the use of a plate to support the arch has been of great service in remedying the trouble in the knee-joint. In those cases attributed to trauma it may result from a sudden wrench with the joint in an unfavorable position; or pressure of the joint against some hard surface daily may cause a thickening of the tissues just posterior to the patella tendon. This thickening pushes back the fringes into the joint between the surfaces of bone where they become pinched, and the joint motion causes a continuation of the pathological process.

PATHOLOGY.

Pathologically the disease consists in a nodular enlargement of the synovial fringes which project into the joint, with more or less thickening of the membrane. In the commencement of the disease only a slight increase of vascularity and a tendency to thickening of the fringes is noticeable. The membrane is slightly red around the base of the villi and the fluid which is occasionally present is insignificant in amount and ordinarily yellowish in color. This condition is followed by an increased hypertrophy of the synovial fringes, which varies from a slight and almost imperceptible hyperplasia to a condition where the fringes resemble a small bunch of half-grown grapes.

The synovial membrane begins to encroach on the cartilages. Normally it runs into the cartilaginous border for two or three millimeters, but now the hypertrophied membrane sends out processes which creep in still farther. The fluid increases in amount in a few cases, but in the majority it is absent. Microscopically the fringes show marked dilatation and branching of the vessels, and a large increase in the amount of connective tissue which is rich in cells. It is impossible to obtain growths in culture tubes, and no trace of bacteria can be found with the microscope.

SYMPTOMS.

The first symptom noticed by the patient is generally some difficulty in walking. Often on extending the leg he feels a slight pain, or he may be seized with sudden pain and fall on his knees. In some cases where the fringe is pinched the injury to the membrane is so extensive that an acute attack of synovitis occurs, and the patient is obliged to remain quiet some weeks. With rest the joint soon resumes its former condition with, however, a slight increase in the size of the fringes. In other cases the process is more gradual without any acute symptoms.

This condition continually grows worse, until there is partial or complete loss of function of the joint, and the patient is sometimes obliged to resort to crutches. In some cases inability to extend the leg appears, and the quadriceps extensor muscle atrophies. The patient complains of a sense of insecurity of the joint, and rarely a dull pain is present on motion.

Examination shows a slight bulging of the thickened membrane on either side of the patella tendon, generally more marked on the inner side. A little higher up the small portions of the membrane can easily be felt under the finger. The joint shows no redness or heat, except in acute attacks, and on motion there is absence of grating. Measurements seldom show much enlargement, and movement can be carried beyond the usual limit. The ligaments are lax, and some lateral motion is present.

TREATMENT.

The treatment of these cases is mechanical and operative. And early diagnosis is very important, as it is at this time that much can be accomplished by conservative methods. As the disease is probably due to a small portion of the fringe being caught between the surfaces of bone, resulting undoubtedly in most cases from a strain of the ligaments, which allow of too free motion of the joint, attention should first be given to ascertaining the cause.

Mechanical Treatment.—The mechanical treatment, therefore, consists first in correcting any condition that may exist which tends to strain the muscles and ligaments of the joint. In my hands the use of hot air applied at least every other day has seemed to be very beneficial. Strapping with adhesive plaster has also been of assistance, not only because of the pressure which it exerts on the membrane, but also because it limits the joint motion.

In those cases where flatfoot is present a plate will aid much in bringing the joint surfaces into a normal position, and by fixing the foot the knee is made more stable. A brace which limits movement will be found useful in cases where the ligaments are lax, as it lessens lateral motion and prevents the leg from hyper-extending. Keeping the joint at rest for a long period by encasing the limb in some fixed dressing, such as plaster of paris, has proved worthless in my experience, as it is impossible to exert any appreciable influence on the hypertrophied fringes by simply fixing the joint.

Operative Treatment.—Many of these cases have progressed to such an extent that conservative treatment

is of no avail, while in others the time required for the application of such measures must be considered, and we are obliged to adopt a more radical method.

If, when examined, the fringes have increased sufficiently to be easily detected by palpation, it is useless to subject the patient to the waste of time and expense by advising mechanical treatment. The operation presents very little difficulty and is carried out in the following manner:

The usual U-shaped incision through the skin is made, commencing at either the inner or the outer condyle, passing downward and inward to the median line, crossing the patella tendon about one inch below the patella, and finally passing upward on the front of the knee to a point opposite where the knife was first inserted. The flap is dissected back, exposing the ligaments of the joint. A lateral incision on either side of the patella is then made through the capsule and the membrane is revealed to view.

It will be found unnecessary to divide the patella tendon, as all the diseased part can be reached without so doing, and it lessens the severity of the operation. After removing the fringes the incision is closed with or without irrigating the joint, care being used to approximate the two synovial surfaces, as thus there is less liability of infection. The skin sutures are taken and the wound dressed, after which the limb is placed in plaster with the leg fully extended.

There is considerable rise in temperature in all cases during the first few days. The limb is left in plaster for two weeks, after which motion is commenced.

NARRATION OF CASES.

To illustrate the history and treatment of this disease I report the following cases, which have come under my care during the last year and a half:

Case 1.—L. W., a woman 42 years of age, first seen by me Nov. 11, 1900. Some two years before, the patient injured her left knee in stepping from a carriage to the sidewalk. The following day the joint was swollen, and motion became painful. This condition rapidly improved, and in two weeks' time there seemed to be no trace of the injury left. About three months later she experienced some difficulty in climbing stairs. This condition gradually grew worse, with an occasional acute attack of synovitis, whenever the knee was subjected to any unusual amount of work. Inability to extend the leg was first noticed in August, 1900; soon she was obliged to place the foot very carefully in order to prevent falling; and finally crutches were required. The first examination revealed a slight swelling of the joint, and small masses could be detected on either side of the patella, which slipped from under the finger. There was complete absence of fluid, and no grating on motion. The quadriceps extensor muscle was almost completely paralyzed with marked atrophy of the thigh. Motion was painless and unrestricted. Surface temperature and color normal. Family history good.

A diagnosis of hypertrophy of the synovial fringes of the joint was made, but I was at a loss to account for the paralysis, as there was complete absence of spinal symptoms. Removal of the fringes was advised, but the patient was unwilling to undergo an operation, so hot air treatment accompanied by strapping with adhesive plaster was commenced. This was continued for four months, with a steady improvement. Later, massage was used, and the patient was discharged April 5. The masses had almost entirely disappeared, and extension of the leg was normal.

Up to the present time there has been no return of the symptoms, and the patient walks without difficulty.

Case 2.—C. F., 38 years of age, a housekeeper by occupation, came to my office in December, 1900, giving the following history:

About eighteen months before, while she was walking on the street, her leg suddenly gave way under her and she fell on her knees. The following day a little tenderness in the region of the patella was noticed. The matter passed entirely from her mind, until she had a similar experience about six weeks later. The frequency of these attacks increased, until on account of the difficulty of walking, she was unable to take proper exercise. Only once was an attack followed by swelling of the joint, and this lasted but a few days.

On examination I found marked hypertrophy of the fringes, which could easily be felt around the patella. The ligaments were stretched and some swelling was present, although there was absence of fluid. I advised an operation for the removal of the fringes, which was performed the following week. The limb was placed in plaster for ten days, when passive motion was commenced. The patient made a good recovery, with normal motion of the joint. There has been no return of the symptoms, and the gait is natural.

Case 3.—C. W., man, aged 32. This patient was referred to me by his family physician for examination, Dec. 16, 1900. For the previous six years he had been lame in the right knee joint. At the beginning of the disease he had received the various rheumatic remedies without result. Later the leg had been placed for some time in a plaster cast, and was somewhat improved after its removal. For the previous two years the patient had experienced more or less difficulty in walking, and the night before he came to me he was suddenly thrown to the ground by his leg giving way under him.

I found on examination a slight thickening of the synovial fringes and much laxity of the ligaments. There was absence of pain, heat, or redness, and the family history was good. An operation did not seem justifiable, so I advised the use of hot air and adhesive strapping with a brace, which would not allow any lateral motion.

Patient was under treatment about three months. The fringes almost entirely disappeared, and he has experienced no difficulty since.

Case 4.—A. M., a woman of 26. I saw the patient for the first time Jan. 2, 1901, at her home during an acute attack of synovitis of the right knee. She gave a history of repeated attacks occurring in the previous three years, which would subside in a few weeks, leaving the knee in a weakened condition. There had been a steady enlargement of the joint. Family history good. Examination showed much swelling, with some fluid in the joint cavity. Motion was painful, and the patient's temperature was 100.4. It was impossible to make a diagnosis, so I placed the limb in plaster, putting the patient in bed.

Two weeks later I removed the plaster, finding the joint much reduced in size, and could easily feel the enlarged fringes. I was still somewhat in doubt, so again put it in plaster for ten days. At the end of this time the fluid had entirely disappeared, and I found only a thickening of the membrane. I advised an operation, which was performed one week later. The fringes were found to be much thickened, and a large amount of tissue was removed. The joint was irrigated and closed.

Movement was commenced in two weeks, and the patient recovered in two months, with normal motion. During the after treatment I found the arch of the foot considerably flattened and with the use of a plate the joint improved much more rapidly.

Case 5.—L. C., man, aged 35. Patient was first seen by me Jan. 23, 1901. For the past three years he had had trouble with the left knee. A feeling of insecurity was always present, and at different periods motion had been painful. Had fallen several times, but no swelling was noticed afterwards. Family history good. Examination showed slight enlargement of the left knee, and small masses could easily be felt in the joint. The longitudinal arch of the left foot was flattened and painful under pressure.

It was impossible for the patient to wait for conservative treatment, so an operation was advised and performed the following day. A large amount of tissue was removed and the knee irrigated.

Recovery was uninterrupted, and the patient returned to his home February 19, motion being nearly normal. A plate was made for the left foot and apparently was a great help in the after-treatment. A subsequent examination shows no tendency in the disease to return, and the gait is normal.

CASE 6.—W. A., man, aged 29, engineer by occupation. The patient had been well until two and a half years before. While stepping from a cab one night he was seized with a sudden pain in the right knee. The following morning the joint was swollen and painful, but with rest these symptoms subsided in a few days. Some months after this he noticed when walking that the leg suddenly flexed and, in placing the foot, he was obliged to use care to avoid falling.

He was seen by me for the first time March 26, 1901, and examination showed a very lax joint, with small masses around the patella. The right foot was flat, with marked tenderness under the heel. There was so little thickening around the knee joint that an operation was not advised. Hot air treatment, combined with adhesive strapping, was begun, an arch was placed under the foot, and an immediate improvement was noticed. At the end of three months it was impossible to detect any thickening around the knee, and the joint was apparently in a normal condition.

CASE 7.—E. B., woman, aged 34. First seen by me April 17, and gave the following history:

For the previous year she had experienced some discomfort in the right knee on getting up from the floor. This condition gradually grew worse, until there was considerable difficulty in walking and climbing stairs. Extension of the leg caused a darting pain at times, and there was a sense of insecurity about the joint.

Some two weeks previous to this the patient, after a long drive, found the knee so painful and swollen that she was unable to use it, and was obliged to have assistance to alight from her carriage. The family physician was called, and found some swelling and redness. Hot packs were used, followed by strapping, and she was not allowed to walk. Examination showed a small amount of fluid and marked hypertrophy of the synovial fringes. The arches of both feet were flattened with some tenderness.

As the patient was going out of town for the summer, continued strapping with adhesive plaster and plates for the broken arches was advised. She returned in the fall, and in consultation with the family physician I advised an operation. This suggestion, however, was not adopted, and the hot-air treatment and strapping commenced. Treatment was continued for some ten months with improvement, and at the present time the joint is in a very good condition and gives no trouble whatever.

CASE 8.—R. W., woman, 37 years of age; first seen by me June 5, 1901. For the previous four years her left knee had been swollen and painful at times. Had often fallen when stepping from her carriage, and during the past year had not been able to raise the foot from the floor when sitting; had been obliged, when walking, to swing the whole limb to prevent the leg from flexing. Examination showed slight effusion with marked hypertrophy of the synovial fringes. The patient was unable to extend the leg by muscular effort, and there was much atrophy of the thigh. The arch of the foot in this case was also flattened.

Operation was advised, as any other form of treatment seemed hopeless. A large quantity of tissue was removed from the joint, after which it was irrigated and placed in plaster. In two weeks' time motion was commenced. The patient made a good recovery, and in three months' time was able to extend the leg at will. There has been no return of symptoms, and the patient walks as well as formerly.

CASE 9.—E. J., woman, 23 years of age. First seen by me Aug. 13, 1901. About two years before patient noticed some difficulty in left knee when playing tennis. Sudden movements were painful, and at times fixation of the joint was impossible. This condition grew gradually worse, and the patient repeatedly fell when walking. A knee-cap was worn for a while, but gave only temporary relief. Examination showed very lax ligaments, and motion in all directions was more than normal. The joint was somewhat enlarged, and small masses could be felt all over the anterior surface of the knee.

An operation was advised, but was delayed until the following November. Extensive disease of the fringes was found and a considerable quantity removed. The leg was placed in plaster for two weeks, after which motion was commenced.

The case did well until the fourth week, when sciatica of a violent type complicated matters, and I was obliged to place the leg at rest for some time. Firm adhesions formed, which were subsequently broken. This was followed by a renewal of the sciatica, and I was again obliged to put the leg at rest. Since that time the leg has been worked gently, and motion to a right angle obtained. The joint continues to improve, and undoubtedly full flexion will eventually be attained.

CASE 10.—M. F., man, aged 26. First seen by me Oct. 16, 1901, at the Maine General Hospital in consultation with Dr. Brock. In December, 1900, patient fell from a horse, injuring his knee. This was followed by swelling and pain, which lasted some weeks. After recovery from the fall he was able to walk, but the joint remained weak, and was very unstable. Some months later this condition became aggravated and the leg would flex on the thigh when the patient was walking, causing him to fall. He was finally obliged to use crutches.

Examination showed a small effusion into the joint, and small bodies could be felt there. The synovial membrane was thickened around the patella, and the ligaments were very lax, allowing much lateral motion. An operation was advised, and was performed the following day. All the fringes were removed and the limb placed in a fixed dressing.

Motion was not commenced until November 16, when ether was given and the adhesions broken. The patient made a good recovery, and was discharged November 26. At the present time he has good use of the joint and is apparently well.

CASE 11.—H. W., a woman, 26 years of age; seen for the first time Nov. 24, 1901. About four years previous to this time the patient noticed slight soreness around the left knee after walking. The difficulty was so slight that it received no particular attention until the following year, when she consulted a physician, who advised anti-rheumatics and a knee-cap, from which she seemed to get some relief.

About two years ago she had a fall, striking on the knee. This was followed by an acute attack of synovitis, from which she soon recovered. Since then the patient has had repeated attacks of acute inflammation. Examination showed some thickening around the patella, with very little fluid in the joint. The ligaments were very lax, allowing considerable lateral motion.

As pain had been quite a prominent symptom, an *x*-ray picture was made, which showed the bones to be in a normal condition. The family history was negative. An operation was advised. The fringes were found to be much enlarged, and a considerable amount of membrane was removed. The joint was irrigated, and a small elliptical piece of the ligament was removed on each side of the patella.

The patient made a good recovery. Motion was begun at the end of the second week, and complete flexion was attained at the end of two months. At the present time there is no difficulty in walking, and she can use the knee with as much ease as the other.

CASE 12.—J. M., man, 33 years of age. First seen by me Dec. 12, 1901. Family history good. About two years previous to this time he noticed a tender spot under the right heel, which caused considerable pain to him when walking. A short time after this the right knee suddenly gave way under him while walking, and he was confined to his bed for two weeks with acute synovitis. There was a repetition of attacks until his condition became so serious that he was obliged to use crutches.

Examination showed marked thickening around the joint, with numerous masses which slipped from under the finger.

There was inability to extend the leg, and much atrophy of the thigh The arch of the right foot was flattened and painful.

An operation was advised and was performed the following week. The fringes were found much enlarged, and a considerable amount was removed. There was a good deal of swelling following the operation, but this rapidly subsided. Recovery was good, the patient is now able to walk without aid, and motion is normal.

CONCLUSIONS.

From my observations it seems to me that such cases should be considered independently, and not included among the other diseases of the knee-joint. A thorough microscopic examination of the tissue which was removed shows it to be a simple inflammatory tissue, and not due to any micro-organism. While the etiology is obscure, it evidently is due to some fault in the weight-bearing structures of the lower extremity, which causes the ligaments of the joint to become lax.

In all the cases which I have examined since the matter was brought to my notice a flattened arch has preceded the knee-joint trouble, and the use of a plate has been of great service in treating the disease. The matter of diagnosis is not difficult, although a torn cartilage somewhat resembles this condition. Examination of the cartilages was made in all the cases where operations were performed, and in all they were found intact.

It has been impossible to account for the paralysis of the quadriceps extensor muscle, which I found in three instances; but in several of the cases operated on, where it did not exist before the operation, I have found a similar condition afterwards, which was the last symptom to disappear. This shows that sometimes this condition does occur when there is very little to cause it. The question whether a case should be treated by mechanical methods, or whether it should be operated on, is a matter which must be left to the judgment of the surgeon; as some cases which seem doubtful yield easily, while others which are apparently slight will not improve until the fringes are removed.

THE USE OF A MYDRIATIC AFTER THE AGE OF FORTY-FIVE.

HORACE M. STARKEY, M.D.
CHICAGO.

(Concluded from p. 1078.)

THE THEORY AND PRACTICE OF PROMINENT OPHTHALMOLOGISTS.

In the letters sent out the following questions were asked:

1. What is your practice in regard to the use of mydriatics or cycloplegics in refraction work in patients beyond 45 years?

2. If they are used frequently, what advantages and what disadvantages or dangers, if any, do you find in such use?

3. If they are used infrequently or not at all is their omission due to disbelief in their utility or to fear of bad effect?

4. Is the belief in these advantages and disadvantages theoretical or the result of your own experience?

5. Can you cite cases in your own practice in which glaucoma has seemed to be caused or aggravated by the use of these drugs?

Ninety of the 100 to whom letters were sent replied. These replies are classified as well as may be according to the answers to the first question. Three classes are made: First, those who do not use them at all; second, those who use them rarely, and third, those who use them frequently. From the answers received a strict classification under these heads is impossible, for it is doubtful if a few of those put down as never using them do not on rare occasions employ them, and some of those noted as rarely using them may actually use them oftener than some of those who are noted as frequent users.

Classified in this way it is found that of the 90 replying 22 never use cycloplegics or mydriatics for refraction work after the age of 45, 32 use them rarely and 36 use them frequently. Of the first, 2 have used them repeatedly for experiment and have discontinued such use because they find they secure equally good results without them. Of the latter, 17 use them in a majority of cases at first examination. Where it is possible the ideas expressed by the answers are incorporated in the table of replies, but in some cases longer extracts are given below.

There is a very commonly expressed fear of glaucoma resulting from the use of these agents, but 25 state that they have no fear of producing increased tension in any case where there is not already the commencement of the glaucomatous process. Thirty-four have seen glaucoma caused or aggravated in their own practice and 11 have seen such cases in the practice of others, while 41 have seen no such cases. Thirty-six cases of glaucoma either produced or aggravated are mentioned. Some of these are reported most thoroughly and carefully. (The author regrets that the length of this paper will not permit them to be incorporated in full just as reported.)

QUOTATIONS FROM REPLIES RECEIVED.

9. W. R. Fringer: I should use a cycloplegic in a patient over 45 if I thought it indicated in that particular case, providing there was no indication that the patient was predisposed to glaucoma.

11. H. Gradle: I know of no justification for the use of a cycloplegic for the determination of refraction after the fortieth year of life, and consider it improper. Whenever I use a mydriatic to permit ophthalmoscopic examination of elderly people on account of narrow pupil I usually follow it by eserin until the pupil is normal, except when the eye is distinctly a soft one.

12. E. E. Holt: It seems to me that oculists should advocate the use of mydriatics for the treatment of the eyes, to give rest, quiet spasms and reduce inflammation, not for refraction work, for the state of refraction can be obtained without mydriatics.

By mistake of a nurse I once had a solution of scopolamin (1/5 per cent.) put into the eyes of a person suffering from a subacute attack of glaucoma, but it seemed to do no harm, and the patient made a good recovery. In cases of a mixed character, when iritis and glaucoma exist together, I have sometimes thought that mydriatics made the eye worse, but I do not recall a case of glaucoma as due to the use of mydriatics alone.

16. J. M. Ray: I have time and again used the drops and have found that I can measure the refraction and give my patients satisfaction without putting them to the inconvenience and annoyance that drops entail. In fact, I find that the more experience I have in refraction work the less inclined I am to use a mydriatic; rarely do I find it necessary in a patient over 40. Careful testing, ophthalmometric measurements, shadow test and ophthalmoscope, followed by a second examination with trial lenses, have proven in my experience all that is necessary except in young people.

21. Casey Wood: I do not use cycloplegics for determining the refraction in persons over 45 years of age, because I have repeatedly found exactly the same results with the methods I employ (ophthalmometer, skiascopy with euphthalmin and cocain and test lenses) as with the strongest cycloplegics.

TABLE OF ANSWERS.

	First Question.	Second Question.	Third Question.	Fourth Question.	Fifth Question.
1. A. N. Alling.	"Almost without exception they are *unwarranted* and *unnecessary.*"	.....	"Principally former."	.....	"No, because I am careful."
2. W. C. Bane.	Not used.	.....	"Not used because I have not felt the need."	.....	"None when used in refraction work."
3. Chas. H. Beard.	"I omit them absolutely."	.....	"To both."	"The result of my experience."	A case of hemorrhagic glaucoma.
4. D. C. Bryant.	"Do not use any mydriatics in patients beyond 45."	.....	"Consider them useless except in the rarest of rare cases."	"Result of experience."	"Yes; have seen several cases greatly aggravated. Atropin not used by me."
5. W. L. Dayton.	Never cycloplegic, sometimes mydriatic.	Have not feared bad results.	Both.	Theory only.	Had cases where atropin used for disease increased tension.
6. A. J. Erwin.	Not used after age of 30.	No danger.	"Not used with adults because useless, there being no latent condition that will bear correction."	Observation.	None in my own practice; several cases caused by others.
7. Geo. F. Fiske.	"Seldom use them."	.....	"Disbelief in their necessity."	Both.	No.
8. Harry Friedenwald.	"Rarely, if ever."	.....	"To both." Risk greater than advantage.	.....	Caused, no.
9. W. R. Fringer.	"Never used."	.....	"Not thought them indicated."	Theoretical.	No.
10. E. J. Gardiner.	Very seldom; do not recall single case.	"Think them superfluous."	Both.	Theoretical.	No.
11. H. Gradle.	"I know of no justification for the use of a cycloplegic."	.....	"A skilful observer does not require them."	.....	No.
12. E. E. Holt.	"Never use them for refraction work."	.....	Had one case of paralysis of acc. following 1 per cent. atropin solution.	Theoretical.	No. In one case of glaucoma atropin used by mistake without bad effect.
13. Lucien Howe.	"Not ordinarily."	.....	"Fear of bad effects."	Both.	Apparently one instance.
14. L. J. Lentenbach.	"Do not use them."	.....	"Mainly the latter."	Experience.	Four cases observed.
15. W. T. Montgomery.	Cycloplegic not used in ten years.	.....	Both.	Experience.	Several of both.
16. J. M. Ray.	Never use them.	.....	Disbelief in utility, not fear of bad effects.	Experience.	
17. Dunbar Roy.	Never found them necessary after 45.	.....	.....	Experience.	No.
18. Miles Standish.	"As a rule, I do not use them."	.....	"Fear of harm."	"Experience."	"I can."
19. K. K. Whelock.	Not used. Prefer to change lenses several times if necessary.	.....	Both.	Both.	Have known of two cases after use of cocain.
20. Chas. H. Williams.	"I do not use them."	.....	"Disbelief in their utility."	"Experience."	"No."
21. Casey A. Wood.	Mydriatics often. Cycloplegics rarely or never.	.....	Disbelief in their utility only.	Experience and experiments.	Several cases where glaucoma was aggravated and others where it followed use of atropin.
22. H. V. Würdemann.	No cycloplegics; occasionally mydriatics.	.....	Both; unnecessary and dangerous.	Experience.	Yes; both. (One case reported in detail.)

Twenty-two do not use cycloplegics in refraction work after the age of 45.

23. Frank Allport.	"Never use unless imperative."	.....	Fear bad results.	Theoretical.	No.
24. S. C. Ayres.	Occasionally.	Not required frequently. Used very cautiously.	.....	Experience.	Not in refraction work. In some other cases.
25. A. Barkan.	Rarely.	.....	Rarely required.	Experience.	No.
26. A. E. Bulson, Jr.	"I rarely use them."	.....	Both. Fear glaucoma.	"Partly both."	One case.
27. Swan M. Burnett.	"Only in exceptional cases."	.....	Disbelief in utility.	Both.	Only in one or two operative cases.
28. Fleming Carrow.	Only in strong presumption of astigmatism.	.....	"Not to fear of bad effects."	Experience.	One undoubted case.
29. J. W. Chamberlin.	"Seldom use them."	.....	"Do not believe in the general necessity."	Both.	"I can not."
30. Wm. Cheatham.	"*Very* rarely."	.....	Both.	"Mainly theoretical."	"Several in younger persons."
31. J. E. Colburn.	I use them in low astigmatism.	Greater accuracy.	Disbelief in general utility.	Experience.	No.
32. Leartus Connor.	Rarely used.	.....	Disbelief in utility.	Experience.	No.
33. E. C. Ellett.	Occasionally essential in oblique as.	.....	Both.	Disadvantages theoretical. Advantages experience.	No.
34. Albert B. Hale.	Rarely (?).	.....	Fear of bad effects.	Theoretical.	One case of chronic glaucoma had pain increased.
35. George N. Harlan.	"Homatropin occasionally."	.....	"Both."	"Both."	One case.
36. F. C. Hotz.	"Very rarely."	.....	"Regular use is not of advantage."	"Found useful in few cases."	No.
37. A. E. Kegley.	Rarely.	.....	"Both."	"Experience."	Four cases after use of atropin.
38. Herman Knapp.	Rarely use cycloplegics; mydriatics frequently.	.....	Both.	Experience.	Yes; both.
39. Chas. W. Kollock.	"I rarely use them, but do not hesitate when they are indicated.	.....	Both.	Experience.	No.
40. J. A. Lippincott.	"Quite infrequently."	.....	Both.	Experience.	Yes; several cases of increased tension.
41. J. O. McReynolds.	Cycloplegia seldom. Mydriasis frequently.	.....	The former.	Experience.	Increased tension in many cases.
42. W. A. Mann.	Mydriatic frequently; cycloplegic occasionally.	Advantage in retinoscopy and in estimating astigmatism.	.....	Advantages practical; disadvantages theoretical.	No.
43. H. Moulton.	In exceptional cases.	.....	Both.	Experience.	No.
44. Charles A. Oliver.	Seldom or never in refraction.	Advantageous in a few cases.	Disbelief in utility. No disadvantages.	Experience alone.	Not in my own practice.

	First Question.	Second and Third Questions.		Fourth Question.	Fifth Question.
45. Caspar Fischel.	Exceptionally.	.....	Fear of bad effects.	Experience.	Three cases.
46. A. E. Prince.	Exceedingly useful in a few cases.	.....	Fear of consequences.	Experience.	Three cases.
47. B. Alex. Randall.	Rarely in refraction. Frequently otherwise.	"No real disadvantages."	"Principally first."	"Largely theoretical."	No.
48. G. E. de Schweinitz.	Rarely find a cycloplegic necessary.	Common disadvantages of mydriasis. Do not fear bad effects.	.....	Experiences.	"Yes; three." Cases cited.
49. Louis H. Taylor.	Used when necessary.	More certain of results.	Largely fear of bad effects.	Theoretical.	No. Use atropin frequently without harm.
50. J. Thorington.	Seldom.	A cycloplegic is used to put the eye at rest or decide axis of as.	.....	Experience.	"One case only."
51. Flavel B. Tiffany.	Not as often as in younger people.	.....	No fear of bad effects.	Experience of 25 years.	No.
52. Frank C. Todd.	A few select cases under 50.	.....	Both.	Experience.	No. Have seen a number of cases
53. J. A. White.	Rarely.	"No special advantages."	Small risk of increasing tension.	"Experience."	No.
54. Hiram Woods, Jr.	Occasionally to make H. or H. as. manifest.	.....	Former mainly.	Both.	Caused, no. Aggravated, one case certainly, possibly two others.

Thirty-two use cycloplegics *rarely* in refraction work after the age of 45.

55. A. R. Baker.	Cautiously. More frequently than formerly.	2. Of great value in refraction. 3. Fear of bad effects.	Largely theoretical.	No cases of my own; several others.
56. J. P. Davidson.	Frequently.	2. Advantages, proper correction of refractive error. Disadvantages, none.	Experience.	Several cases, not in marked degree.
57. Edw'd J. Bernstein.	Frequently to uncover ametropia.	2. Advantages same as in young. 3. No fear of bad effects.	Experience.	No.
58. Randolph Brunson.	One or other in about 75 per cent. cases.	2. Uncovers masked H. and H. As. 3. Experience taught me production of glaucoma purely a myth.	.....	No.
59. J. Edgar Dean.	About 30 per cent. after 45, instead of 70 per cent. as before.	2. Advantage, greater accuracy. 3. Not so frequently necessary as age advances.	Experience.	No. Perhaps 8 or 10 cases in others.
60. H. Bert Ellis.	If lens tests show discrepancies.	2. Probably cycloplegic in 50 per cent. of cases with no bad results.	Experience.	No. Have not used in glaucoma.
61. C. R. Elwood.	If objective and subjective tests disagree.	2. No disadvantage. Better results in H. and H. As.	Both.	One case.
62. Harold Gifford.	Answer indefinite.	2. Advantages. It gives a fixed point to start from.	.....	One case.
63. George M. Gould.	Just as necessary as earlier.	2. No danger in healthy people and healthy eyes. Advantages same as in the young.	Experience.	No.
64. H. F. Hansell.	When there appears to be latent H. or H. As.	2. No danger. 3. Necessity seldom.	Experience.	No.
65. Clark W. Hawley.	Whenever thought necessary.	2. Have uncovered errors that were uncertain before.	Experience.	No. Have seen one case.
66. J. F. Herbert.	No age limit.	.....	Experience.	Aggravated in a single case.
67. Alvin A. Hubbell.	Many cases up to 50 years old.	2. No danger except in incipient glaucoma. Advantages same as in the young.	Experience.	No.
68. Edward Jackson.	Cycloplegic in a minority of cases.	2. Same as in younger patients. No danger if glaucoma excluded.	Experience.	But one case.
69. George F. Keiper.	"Always use homatropin (1 per cent. sol.)."	2. Advantage a widely dilated pupil, no danger if followed by eserin.	Experience.	No.
70. H. C. May.	Homatropin and cocain in about 10 per cent. of cases.	2. More accurate correction of As. and H. especially in the nervous.	Experience.	No.
71. Ellis Phillips.	In nearly all cases under 50 years.	2. Can do much more reliable work. Almost no disadvantages.	Experience.	One case.
72. Wm. C. Posey.	Invariably use homatropin when As. suspected.	2. More accurate correction. 3. No bad effect.	Experience.	No.
73. Walter L. Pyle.	In all new patients with active accommodation.	2. Advantages suspension of accommodation; no danger from age.	Experience.	No.
74. R. L. Randolph.	Generally use cycloplegics beyond 45; not influenced by age.	2. Have found no dangers. Omitted when two consecutive examinations agree.	Experience.	No.
75. Wendell Reber.	Used as readily between 45 and 50 as before.	2. Advantage both total amount and axis of As. are more certain.	Experience.	Personal knowledge of but one case.
76. H. O. Reik.	Homatropin used with majority.	2. Great service in securing accurate results; no bad effects.	Experience.	No.
77. Dudley S. Reynolds.	Homatropin used when V. is below 6/VI and in astigmatism.	2. Have seen no bad effects from homatropin.	Experience.	Homatropin, no. Atropin, yes.
78. G. Oram Ring.	Very frequently.	2. Necessary in certain cases.	Experience.	One case (accidental).
79. S. D. Risley.	Frequently.	2. Necessary for accurate work.	Extended experience.	No; many cases in others' practice.
80. S. O. Richey.	Frequently.	2. Necessary for accurate work.	Experience.	No.
81. G. C. Savage.	Frequently.	2. No danger in proper cases.	Experience.	No.
82. Wm. M. Sweet.	All cases where spasm of acc. suspected.	3. No fear in proper cases.	Experience.	No.
83. J. L. Thompson.	Always at first examination.	2. Necessary.	Careful observation in at least 20,000 cases.	One case.
84. C. A. Vesey.	Always in As. and H.	2. Necessary for accurate correction.	Experience.	No.
85. J. E. Weeks.	Used in first examinations.	2. Required for careful examination.	Experience.	Cocain seemed to excite attack in one case.
86. Cassius D. Westcott.	Cycloplegia at all ages.	2. More accurate refraction. 3. Exclude glaucoma.	Experience.	No.
87. W. H. Wilder.	No hesitation in asthenopia and astigmatism.	2. In ophthalmoscopic examination and relief of spasm.	Both.	One case, quickly relieved by eserin.
88. H. B. Young.	May be 5 per cent. of cases. Either homatropin or scopolamin.	2. Same advantages as in younger people.	Both. I use caution.	Not in refraction work. One case after extraction. Relieved in 12 hours by eserin.
89. C. F. Clark.	Acc. often active and cycloplegic used without hesitation.	2. Same advantages as in younger patients. No disadvantages if glaucoma excluded.	Experience.	Glaucoma excited in a few not refractive cases.
90. W. T. Southard.	Homatropin frequently; atropin never.	2. Necessary to correct examination. No disadvantages if used carefully.	Experience.	No. I carefully exclude glaucoma.

Thirty-six use cycloplegics frequently in refraction work after the age of 45.

22. H. V. WÜRDEMANN: Both unnecessary, as the accommodation powers are weak and latent, hyperopia has become manifest and fear of bad effects.

24. S. C. AYRES: I occasionally use cycloplegics in persons beyond 45 years of age. I do not hesitate to use them when the asthenopic symptoms are distressing and where former glasses have not been satisfactory.

27. SWAN M. BURNETT: I do not use them at that age, because the accommodation has ceased to be a disturbing factor, and a wide pupil brings disadvantages of its own.

32. LEARTUS CONNOR: I used mydriatics in my early practice frequently until convinced that no good came from them, as a rule. In some cases in which hardening of the lens had been long delayed mydriatics had the same value as at a much earlier age. However, my practice is based on my experience.

33. E. C. ELLETT: In cases with asthenopia and small errors, .50D. or less with astigmatism, especially oblique astigmatisms, I find most help from mydriatics in people over 45. I fear a bad result (i. e., glaucoma); hence I make unusual effort, by repeated tests, to avoid using them. Their utility is unquestionable, but still they are rarely absolutely necessary in these cases.

34. A. B. HALE: I use euphthalmin very often at all ages. Scopolamin I also use when I can not get good refractive results, atropin only when the iris is suspected of inflammatory involvement.

37. A. E. KEGLEY: I rarely use them, giving the patient the full manifest correction, and at this age with their assistance, the latent trouble with accommodation soon shows, and then I continue to change lenses until the patient is comfortable.

41. JNO. MCREYNOLDS: If a diseased condition indicates a cycloplegic I use it at any age, and after the extraction of glaucomatous cataracts I have used atropia very frequently with the result of good reading vision, and the same is true in some cases of iridectomy for glaucoma in which an iritis called for rest of the iris and ciliary body.

44. C. A. OLIVER: Advantages very rare. In a few cases of pathologic spastic condition of the ciliary muscle, which later have given way to paresis, either normal from senile changes or abnormal from degenerative processes. No disadvantages, as I make it an unalterable rule to thoroughly study every case of ophthalmic disease presented to me.

54. HIRAM WOODS: Occasionally I find it necessary to make H. or H. A.'s (diagnosed objectively) "manifest." Such cases usually have P. over-corrected by examining optician and static error unnoticed. I do not hesitate to use a cycloplegic if indications are present which would make me use it on a young person.

57. EDWARD J. BERNSTEIN: I frequently find uncorrected ametropia or badly corrected ametropia, just as one finds them in younger persons. Often with this added, that they are borne with resignation as a part of the inevitable while younger persons would complain. Then, of course, with a dilated pupil more peripherally placed lesions are often brought out.

59. EDGAR DEAN: I certainly do not draw the line at 45 years at all, nor even make an inflexible line at 60 years, for my records show their use at 62, 63, and in one case at 70 years.

66. J. F. HERBERT: Personally, I think the age limit for the use of mydriatics and cycloplegics is a "bug-a-boo," a "myth." I never hestitate after I have made an ophthalmoscopic examination and find no contraindication, to use either up to any period of life. When I find a patient at 50 years or over with active accommodation I always use a cycloplegic.

67. A. A. HUBBELL: I have used cycloplegics (mostly) homatropin) for 22 years in a large practice, and I have never induced or aggravated a case of glaucoma by them. I have even used homatropin in known incipient glaucoma without aggravating it. In these cases I usually supplement with a myotic.

70. C. H. MAY: I am careful to test the tension and to examine the fundus before using the cycloplegic (hom. and co. combined). I have never seen a case of glaucoma result from such instillations, either in my own practice or in that of others.

72. WM. C. POSEY: I have used homatropin in this way in thousands of cases and have never had a bad effect following the use of the drug. I have never seen glaucomatous symptoms provoked by it. Of course, I always take the precaution of making careful ophthalmoscopic examination of cases prior to the instillation of any drug and where there is glaucomatous excavation or the suspicion of one, a mydriatic is never used.

75. WENDELL REBER: If there is any low-grade cylindric error the ciliary muscle is making the fight of its life between 45 and 50, especially in sound, healthy subjects, and non-mydriatic prescriptions must be based on frequently repeated examinations or the surgeon will be often led into error. Even with repeated measurements it is often impossible to assure one's self exactly what the refractive status is. If there is high-grade astigmatism the patient will in all probability have been carefully refracted under cycloplegia before presbyopia sets in and the ciliary muscles have been taught correct habits. It is in the presence of astigmatism of 0.75D. or less that the ciliary muscle can lead the most painstaking examiner astray when measuring incipient presbyopes, and particularly is this the case in moderate exophoria. Therefore, unless the previous ophthalmoscopic study contrainterdicts cycloplegia, I never hesitate to use homatropin with cocain any time between 45 and 50, or scopolamin with cocain in the proportion of ⅛ of a grain of the former to the ounce of water. Any latent glaucomic tendency that may be lit up by these weak solutions is easily controlled; and what is of more consequence, it will bring to early notice and treatment occasional cases of glaucoma that would otherwise progress to a much more dangerous degree before being recognized, as pointed out by Jackson three or four years ago.

77. DUDLEY S. REYNOLDS: Cycloplegics are frequently necessary in persons above 50 years of age. Considerable accommodation exists in the eyes of robust astigmatics of 60.

79. S. D. RISLEY: I have never seen a case of glaucoma in my own hands caused by mydriatics. I have seen cases of glaucoma following a mydriatic, but a careful study has in every case justified the belief that the eye was on the verge of an attack before its use, and that the mydriatic should not have been used primarily. I believe that the mydriatics should not be used in suspicious eyes at any age.

80. S. O. RICHEY: The practice is to wholly correct the static refraction in those above as well as those below 45 years of age.

83. J. L. THOMPSON: Many persons over 45 years of age have considerable power of accommodation, I therefore always use cycloplegics in my first examinations. Indeed, this is my practice until after their 50th year: scopolamin, when under 46; homatropin, if over that age.

84. C. A. VESEY: The advantages are that a latent astigmatism may thus be worked out so that a proper correction of the refractive error may be given, thus making the patient far more comfortable than if no correction of the astigmatism was made. In cases of high hypermetropia in which the amount of hypermetropia does not manifest itself by the ordinary use of the test lenses, the degree of hypermetropia may be ascertained, the difference in amount between the two eyes noted, so that we have a much better knowledge of the optical conditions of the eye to form a basis for the more intelligent prescription of glasses. Thus Mrs. L., aged 48, had been using +S.2.50 D. in each eye for several years, giving a vision of 6/6—. No other glasses were employed. Additional spherical or cylindrical lenses blurred the vision. Refraction under homatropin gave the following result: O. D.+S.5.00 D.⌒1.00 D.C.ax.95 deg.V. =6/5; O.S.+S.5.50D.⌒+1.00 D.C.ax.85deg.V.=6/5. A reduction of +S.50 D was made in each eye, and the patient has been wearing the glasses with perfect comfort. In this case a large amount of latent hypermetropia, as well as the astigmatic error, did not become manifest until after the use of homatropin.

87. W. H. WILDER: There is the great advantage that the refractive media and the fundus can be carefully examined.

Retinoscopy can be practiced more satisfactorily. I have found some patients over 45 years of age who could partially conceal astigmatism, because of spasm, who were relieved by the correction of the defect. This is particularly noticeable in nervous individuals.

QUOTATIONS CONCERNING GLAUCOMA.

3. C. H. Beard: A case of hemorrhagic glaucoma once occurred in my practice which I greatly fear was due to the use of atropin. I consider the indiscriminate employment of mydriatics in elderly persons, especially with those of degenerate vascular systems, as most pernicious. In the fitting of glasses, I rarely prescribe a cycloplegic for an individual past 35.

19. K. K. Wheelock: Have known glaucoma to be precipitated in two cases by the mydriatic effect of cocain. Have had two cases and in others such diminution of vision, temporarily, as led me to think disturbances in intraocular circulation must be the cause.

21. Casey Wood: I have seen two or three cases in which glaucoma followed the use of both cycloplegics and mydriatics, but as the ordinary forms of this disease show themselves in attacks I see no reason why these remedies should be blamed for a disease that would appear in any event. What proof have I, in the cases referred to, that the glaucomatous attacks would not have appeared in any event? Mydriatics and cycloplegics, say a million times a year, are employed in the United States; would it not be remarkable if glaucoma—a comparatively common affection—did not occasionally arise after their employment? If one were to accept this *post hoc propter hoc* reasoning, one could equally show that glaucoma is brought on by taking Epsom salts or riding on the elevated trains. That both classes of drugs raise the tension perceptibly in about 10 per cent. of all cases of eye diseases where there is congestion of the uveal tract (and in some normal eyes), and that the proportion is greater (to an extent unknown to me) in persons over 45 years of age than in those under 25, is, in my experience, true, and that in persons prone to attacks of glaucoma mydriatics very occasionally precipitate an impending attack, I believe, but this disadvantage can usually be eliminated by noting the history of the case and in making the usual preliminary examination of the eye before using the cycloplegic or mydriatic.

22. H. V. Würdemann: Cases of so-called simple glaucoma where, for diagnostic purposes, I have used atropin to develop further intraocular tension. Marked cases in which atropin has been used by unskilled practitioners where acute inflammatory glaucoma has ensued on use of atropin instillation for purposes of measuring the refraction.

26. A. E. Bulson: I think I was instrumental in producing glaucoma in a previously sound eye and normal tension by the use of atropin. Since then I have used atropin in patients over 40 to 45 with extreme caution.

28. Fleming Carrow: I have the records of one positive and undoubted case of glaucoma, being produced by the continued use (one month) of atropia sulphate for purposes of refraction.

30. Wm. Cheatham: I can not cite a case of a person that age or over. I have seen it in younger patients several times. I saw it in one case in which atropia was given internally in a large dose in a woman 55 years old.

34. Albert B. Hale: One case, a woman of 60, suffering from chronic glaucoma, had the pain temporarily increased by euphthalmin.

35. George N. Harlan: Have seen an attack of violent glaucoma directly induced by instillation of atropia and retinal pulse induced by use of homatropin.

37. A. E. Kegley: I have had four cases where glaucoma followed the use of atropin in patients above 45 years old. Three speedily recovered, and one still has chronic glaucoma in a light form.

38. H. Knapp: Both, in three cases even by euphthalmin; in all cases the attack was, however, promptly cut short by instillation of 1 per cent. solution of eserin.

45. Casper Fischel: I remember distinctly three cases in which simple glaucoma was detected by the use of homatropin and cocain.

46. A. E. Prince: I have had three cases where I recognized a mydriatic as the exciting cause of glaucoma.

48. Geo. E. de Schweinitz: A woman past fifty, with chronic nervous disease, probably some irregular form of ataxia; one drop of a 1 per cent. solution of atropin instilled for ophthalmoscopic purposes by the resident physician; sharp glaucomatous attack followed a few hours later, controlled with eserin. 2. A Jewish woman, aged 36, homatropin instilled for the purpose of determining refractive error by a colleague; typical acute glaucoma a few hours later; treatment eserin, salicylate of sodium and paracentesis cornea, the patient refusing to permit iridectomy. Three weeks later I saw the patient, typical glaucoma resembling the chronic congestive type; patient declined operation. Subsequent history unknown. 3. Acute glaucoma in a woman aged 35, brought on by the instillation of a mydriatic, whether atropin or some other mydriatic unknown, for the relief of an acute inflammation of the eye occurring during grippe; patient seen one week later with typical acute glaucoma, promptly relieved by iridectomy. There is some doubt whether the primary inflammation was an attack of glaucoma aggravated by atropin, or whether it was an ordinary conjunctivitis, and the attack of glaucoma induced by the instillation of atropin. I did not see the patient until a week after the increased intraocular tension began. Both cases evidently were predisposed to glaucoma, and this I believe to be the history of all cases of glaucoma which are produced under the influence of mydriatics. I have a number of times seen what seemed to me to be temporary rise of tension after the instillation of mydriatics in elderly people, but never enough to amount to a glaucomatous attack, and always controlled by eserin.

61. C. R. Elwood: I have had one case in which atropin undoubtedly aggravated if not caused an attack of glaucoma. Mrs. B., aged 23: Ten days previous to my first visit patient complained of severe shooting pains through temples, and had called a general practitioner, who on finding the eyes much inflamed prescribed atropin and hot boric acid compresses. At the time of my visit vision in the right eye was limited to form perception and in the left 20/80 minus, tension increased and the asthenopic symptoms were so pronounced that the field of the left eye was unreliable. A continuance of the hot boric acid compresses and internally the administration of liberal doses of the iodids and salicylates, with instillations of eserin and night pilocarpin sweats relieved the symptoms and restored vision in what was to me a gratifyingly short time of four days. There was no evidence of iritis, and the result of medication led me to make a diagnosis of acute glaucoma.

65. C. W. Hawley: I saw one case in which homatropin and cocain were instilled and within one hour double acute glaucoma was produced in a man of 46 years of age. No relief followed the use of eserin, and on the third day a double iridectomy was performed with complete relief. I hardly would say that homatropin and cocain in this case were the direct cause of the symptoms, simply being an acute attack of a condition already present.

68. Edward Jackson: I have seen but one case in which a glaucomatous exacerbation was produced by a mydriatic This was in a woman aged 25 years. I precede the use of a mydriatic or cycloplegic in all cases by an ophthalmoscopic examination and a consideration of the probability of glaucoma.

70. C. H. May: As a rule I do not use a cycloplegic in patients beyond 45; in nervous individuals, especially women, I employ homatropin 2 per cent. combined with cocain 1 per cent. I do this also if the first glasses prescribed do not give satisfaction. This applies to patients 45 to 50. In such cases I use a cycloplegic, probably in 10 per cent. of cases. After the age of 50 I rarely use it.

In about 10 per cent. of cases between 45 and 50 described above the use of cycloplegics leads to more accurate and better correction both of astigmatism and latent Hy. (for latent Hy. does exist in quite a number of instances, notwithstanding the many views to the contrary.)

71. Ellis Phillips: I had one case, a woman about 45 years of age, whom I asked to put a solution of atropia, gr. ii

to ℥i in her eyes three times a day for two days; she put it in twice and then sent for me to call, complaining of marked pains in the head and eyes and colored light about the lamps I had no ophthalmoscope with me, and was not sure of increased tension. I prescribed eserin solution, and in a few days she was all right. This was the only case that gave me anxiety.

75. WENDELL REBER: I have personal knowledge of but one case of true glaucoma induced by the use of homatropin after 45 and in that case (a hospital one), I believe closer ophthalmoscopic study would have prohibited the use of the mydriatic.

83. J. L. THOMPSON: I can recall but one person in whom the glaucomatous process was temporarily set up after the use of a mydriatic. This occurred in a young married woman aged 42. It subsided in a few days after the application of a weak solution of eserin.

Doubtless the reason why I have not met with more cases is because I take great pains in examining the tension of all persons nearing 42 years of age before using cycloplegics. If there is the least suspicion of tension, or if the patient mentions any idiosyncrasy concerning the former use of any of the mydriatics, I then examine as best I can by other means.

CONCLUSIONS.

No age can be arbitrarily fixed beyond which cycloplegics must not be used, and while they are as necessary in certain cases after 45 as they are before, they are required in fewer and fewer cases as life advances. But since there is more danger of glaucoma in the elderly, and as mydriatics tend to increase intraocular tension, these drugs should be used with caution after the age of 40, and in certain cases should not be used at all.

BIBLIOGRAPHY.

1. Fuchs: Text-Book of Ophthalmology. N. Y., 1899.
2. Clarke, E.: The Use and Abuse of Mydriatics, Clin. Jour., London, 1898-9, xiii, 81-85.
3. Swanzy: Diseases of the Eye. Phila., 1900.
4. May, Chas. H.: Diseases of the Eye. N. Y., 1901.
5. Nettleship: Diseases of the Eye. Revised and Edited by W. H. Spicer, Phila. and N. Y., 1897.
6. Watson, D. C.: Practical Handbook of Diseases of Eye. N. Y. P. 897.
7, 8, 9. Norris and Oliver: System of Diseases of the Eye. Phila., 1897-1900.
10. Jackson, E.: How to Use Mydriatics. Also article in de Schweinitz and Randall's American Text-Book of Diseases of Nose and Throat.
11. Terrier: Quand et comment faut il employes l'atropine en Oculiste? Rev. gen. et Clin. et de Therap. Par., 1897, xl, 611.
12. Peltier, F. L.: Des Accidents atropiniques dans le traitement des maladies des yeux. Rec. d'ophth., Par., 1890, 3 s., xli, 642.
13. Kalb: De l'abus de l'atropine en therapeutique oculaire. Rev. Med. d. soc. savantes. Par., 1894, xli, 228-223.
14. Satterlee: Abuse and Use of Atropine in Eye Treatment. Buffalo Medical Journal, 1896-7, xxv, 149.
15. Grimsdale, H.: Glaucoma Following Atropine, Med. Times and Hosp. Gaz. London, 1900, xxviii, 291.
16. Knapp: A Case of Glaucomatous Attack Following Instillation of Euphthalmin. Arch. f. Ophth., N. Y., 1900, xxix, 313.
17. Hull: A Case of Glaucoma, the Result of Injudicious Use of Atropine. Atlanta M. and S. J., 1885-6, N. S., 11, 34.
18. Brown, E. J.: A Case of Glaucoma Following Use of Atropia. Ophth. Rec., Chicago, 1897, vi, ii.
19. Coggin, D. D.: Glaucoma Produced by Atropia. Am. J. Ophth., St. Louis, 1885, ii, 8.
20. Cant, W. J.: Acute Glaucoma Induced by Atropine After Iridectomy. Ophth. Rev., Lond., 1884, iii, 265.
21. Hinshelwood, J.: Acute Glaucoma After Use of Cocain, with Remarks on Use of Holocaine in Glaucoma. Ophth. Rev., Lond., 1900, xix, 305.
22. Dyer: On the Use of Atropia in Diseases of the Eye. Tr. M. Soc. Penn., Phila., 1882, xiv, 253.
23. Robertson, J. W.: Northwest Lancet. St. Paul, 1893, xiii, 341.

DISCUSSION.

DR. HERMAN KNAPP, New York—I have used cycloplegics in strong solution after operations for glaucoma, for the reason that in a number of cases you find a day or two after the operation that there are a number of fine, filiform adhesions, which in all probability are the result of blood or some irritating substance. I find that atropin dropped into the eye on the first day after the operation, while the eye is still soft, does not increase the tension. I have never in this practice, which is not new with me, seen any unpleasant result.

As to the production of glaucoma by atropin, homatropin and euphthalmin I have seen it repeatedly, in every one of them, frequently with atropin, less so with homatropin, and rarely with euphthalmin, viz., in three well-developed cases, increased tension, to plus 2, steamy cornea, and dilatation of the pupil, all the symptoms of a glaucomatous attack. Those attacks have not induced me to abandon euphthalmin, for they are easily cured with eserin; not so well with pilocarpin. One case of euphthalmin in which the remedy had been used for 6 months had developed well-marked atropin granulations. This suggested the idea to me that euphthalmin was in all respects a weak atropin, but using it in a patient with marked idiosyncrasy against atropin, it failed to produce erythema or any other irritation.

DR. JOHN E. WEEKS, New York—I think there is a general impression that a mydriatic should not be used in glaucoma, even after the operation of iridectomy. In my association with Dr. Knapp I think it was very seldom that a mydriatic was used after an operation of this kind, but I found that the late Dr. Noyes made it a routine practice to use atropin immediately after iridectomy for glaucoma and continued it for two or three days, or until the wound was well closed. I think many of us have observed the adhesions Dr. Knapp has spoken of in the healing of the eye after iridectomy for glaucoma. I have used atropin in this way and have not regretted it; however, if there is no evidence of any irritation of the iris I would not use it after the first instillation.

In regard to the question of glaucoma being produced by mydriatics, I have observed one case after the use of cocain; at least the attack of glaucoma came on a very short time after its use, a half hour I think. There was a previous glaucomatous tendency. Cocain was employed in order to permit of a better view of the interior of the eye. I do not think the attack would have come on if the cocain had not been used.

DR. S. D. RISLEY, Philadelphia—It has not been my habit to use a mydriatic after iridectomy for glaucoma, and it seems to me that it might not always be free from danger. I recall one instance where atropia was instilled by mistake in one of my cases of glaucoma at the Wills Hospital. Relief had followed the iridectomy and all was going smoothly until the third day, when I found a return of pain and increase of tension. The nurse then told me that atropia had been used by mistake. It is true the anterior chamber had been restored. Dr. Knapp, I understand, used it before the healing of the wound.

Regarding the occurrence of the conjunctival trouble alluded to by Dr. Knapp, I have seen the same thing follow the prolonged use of eserin in chronic glaucoma, but it may have been due to micro-organisms in the solution as suggested by Dr. Weeks. There were two instances, however, where the solution of atropia, coming from my own druggist, caused this conjunctival disease, notwithstanding the care habitually used to supply sterile solutions. They are unquestionably, I think, cases of idiosyncrasy to all mydriatic solutions, but I have never seen any evidence of this peculiarity for eserin.

DR. F. W. HIGGINS, Cortland, N. Y.—I expect to hear more about the subjective symptoms following the use of mydriatics in old people. Dr. Starkey's paper refers more particularly to the use of atropin in refraction. It is very unfortunate that for months and even years after the use of a mydriatic patients refer every eye symptom to the instillation of the drug. Of course in children the symptoms fade out in a very short time, and you can brush away their complaints, but in people about middle life, or beyond, these symptoms are not always altogether imaginary. At a time when accommodation is beginning to fail, completely paralyzing it for several days may certainly be productive of untoward symptoms. For this reason I am sure that where it is possible we should examine these patients several times rather than subject them to the use of atropin to finish our diagnosis in one day.

DR. JOHN O. REYNOLDS, Dallas, Texas—Dr. Starkey reported me correctly in saying that I have frequently employed mydriatics in operations for glaucoma and glaucomatous cataract, and I feel that it is a reasonably safe procedure for the first two or three days following the operation, before the wound has closed, but I want to be placed on record as giving a caution as to its use in other kinds of operations that do not involve the opening of the globe. If you have opened the globe there is not so much danger, but I recall several cases presented

to me where glaucoma had developed after using even cocain where an operation was performed that did not open the globe. One patient was brought to me completely blind following an operation under cocain for the removal of a pterygium. So when doing any operation that does not open the eyeball, and after presbyopia has developed, and with use of mydriatics, you should keep the patient under close observation and use a myotic afterward if pupil does not promptly return to normal size.

In the matter of refraction in presbyopes I use mydriatics, not cycloplegics, and keep the patient in my office until I see the pupil go down. I do not want a presbyopic patient who comes from a distance and uses a mydriatic to go away until I feel satisfied that everything is all right.

Dr. H. B. Young, Burlington, Iowa—I want to say, in connection with the use of cycloplegics in refraction, in people over 45, that I use them, not very often, perhaps, but occasionally in strong, robust persons, who seem to have an excessive amount of accommodation. I believe these people are not liable to glaucoma, because I understand that failure of accommodative power is one of the prodromals of glaucoma. I have had glaucoma follow two cataract extractions that I believe was due to atropin, in a patient 79, and in another 42 years of age. In the first case I used it because a colleague had operated on the other eye and had failure because of iridocyclitis. Twelve hours later I was called to find the patient with acute glaucoma. Eserin controlled the attack and result was satisfactory. In the second case, a teacher, I operated on the left eye at one vacation time and was unable to remove all the soft cortical matter. A rather mild iritis followed for about two weeks, with final absorption of the cortical matter and a good result. She subsequently came for operation on the other eye, and suspecting from the appearance that I would again meet with some difficulty in dealing with the cortex, I used atropin, which I had not used in the other eye. In five days there was increase of tension and I had to resort to eserin. I was pleased to hear Dr. Knapp make the statement he did as to the use of atropin after iridectomy for glaucoma. If I had had the courage to use it in a recent case some filamentous adhesions to the capsule might have been avoided.

Dr J. A. Lippincott, Pittsburg, Pa.—I may say, however, that in my early practice I was in the habit of using a cycloplegic, atropin, much more frequently in elderly people than I do now. A good many years ago I produced glaucomatous phenomena in two cases both about 50 years of age by the instillation of this drug. Both cases responded promptly to a myotic, and no harm was done; but since that time I am rather cautious about mydriatics for refraction purposes beyond middle life. Still, we occasionally meet with cases even above 50 years of age in which the accommodation must be paralyzed to secure satisfactory results. In such cases, after a careful inspection and palpation of the eyes, I usually begin with a weak solution of homatropin, and watch the effect closely. If no unpleasant phenomena appear I proceed as in a young person.

Dr. Edward Jackson, Denver—In reference to Dr. Starkey's conclusion that cycloplegics should be used with caution after 40, I would amend that by striking out "after 40." They should be used with caution always. The only case in which I have seen glaucoma produced by a cycloplegic was in a young woman of 25; and in that case I think there is no doubt that if a more thorough investigation of the history had been made before using the drug a positive diagnosis of glaucoma would have been made.

It is true that patients often have a tendency to ascribe everything that happens in the way of eye symptoms for some time afterward, to the drug that has been used. If a patient has used atropin and then spends ten days or two weeks with nothing to do but think about his symptoms, it is likely that he will refer some of them to the use of the drug. The risk of that, of course, is very much lessened by the use of the brief mydriatics. That is, perhaps, the chief reason why they should be used after 45. But this risk can also be diminished by carefully warning the patient that the symptoms will not pass away after the use of atropin for at least two weeks. They are anxious about the effect until recovery is absolute. Apart from that danger I think there is the same need to use strong cycloplegics in some cases after 45, and even after 50, as in younger patients. In my experience where there is spasm of accommodation it yields more slowly as the patient gets older. There are a number of cases where it is just as necessary to use a cycloplegic after the age of 50 as before.

Dr. W. H. Bates, New York—I would like to record the history of a patient in whom atropin produced a very unusual effect. The patient was not 45, but a young girl of 18 Atropin had been used once with no bad effect. Later she was placed a second time under atropin, 2 gr. to the ounce, three times a day for two days and it was then discontinued. The pupil did not contract, but remained dilated six months, when it began to contract. The paralysis of accommodation continued. I saw the patient ten years later and there was still paralysis of accommodation.

Dr. Starkey—With regard to glaucomatous exacerbation being relieved by pilocarpin and eserin. I would say that in the one case I mentioned there was considerable difficulty, though both were used, and for a number of days I could not get the tension down and then it seemed prone to rise again.

In regard to the accommodation being so much weaker after 45, there is a difference of opinion expressed about that in the replies sent in. While some say that after 45 they use weaker or less amounts of cycloplegics and others that they use only homatropin and cocain, two or three say that they have to use stronger cycloplegics and for a longer time in order to get complete relaxation than they do in younger people.

CARCINOMA EPIBULBARE PLANUM.

B. MATYS, M.D.
ASSISTANT TO PROFESSOR DEYL, AT THE BOHEMIAN EYE CLINIC.
PRAGUE, AUSTRIA.

Epibulbar tumors are those which are localized on the margin of the cornea, where it joins the sclera (limbus corneæ), from which they spread over the cornea and conjunctiva, sometimes also in the sclera. They do not include secondary tumors occurring in the ciliary body, choroid or lids. Among the more frequent benign tumors occurring here are dermoid, fibroma and lipoma; the malignant forms being mainly sarcoma and carcinoma. The early diagnosis of these, especially the latter, is of the greatest importance, since by its timely removal the eye may be saved and, according to the testimony of medical literature, without any recurrences. The epibulbar tumor in our case was flat, peculiar in appearance and color, unusual in this respect among the malignant forms, but certainly belonging to the epibulbar tumors. Noyes had met with only three cases in seventy thousand patients. In the out-department of the Bohemian Eye Clinic, Prague, thirteen cases have occurred out of a total of eighty thousand patients during the last ten years, and Professor Deyl, now at the head of the ophthalmological clinic, affirms that he saw no such conjunctival tumor during his experience as assistant and in his polyclinic practice of fifteen years nor in his private practice, during which time he has observed or treated more than one hundred thousand cases.

NARRATION OF CASE.

Our case was V. J., 78 years old, miller by occupation, resident of Borosin, Bohemia, who was received into the Bohemian division in May, 1902.

Previous History.—He states that he had not been ill during the past fifty years, but before that time he had had gonitis rheumatica, but never any eye illness. His vision had always been better for near than for distant

work. One and one-half years ago the left eye became inflamed and some lachrymation was noticed, and he had such pains from 11 to 3 o'clock at night that it was impossible for him to sleep during these hours. Six weeks after the first appearance of these pains he noticed that his eyesight was failing, and two months later (just at Christmas) his daughter told him that he had a white spot on his eye. From this time on he had no rest. The eye became more reddened, his vision continued to fail and the white spot increased in size. The patient was unable to say where the white spot first appeared. During the day he had no pain, but at night regularly from 11 o'clock to 3 the pains were so severe that he could not sleep. Besides this he was troubled more with lachrymation. He consulted no physician, but was satisfied with remedies his neighbors suggested.

Condition on Entrance.—Patient in good health aside from hypertrophic prostatitis and his eye disorder. The right eye, aside from chronic catarrhal conjunctivitis and myopia modica, is normal. In the left eye the lids were normal, the conjunctiva of the lids a little inflamed



Fig. 1.—Photograph of the eye. Location of the tumor.

and edematous, the fornix slightly edematous and injected. The tumor is located in the lower half of the bulbar conjunctiva. It takes in the conjunctiva from the limbus cornea to the fornix irregularly, so that in the lower external quarter where it is broadest it measures 1.5 cm. There is a small extension into the superior external quarter, here touching the limbus, and it also extends downward so that a little of the tumor is seen occupying the inferior nasal quadrant. The tumor encroaching on the cornea a distance of two millimeters is irregularly margined and very well defined, so that at no place does it enter into the cornea. From the healthy conjunctiva, where the arteries are larger, the tumor is well limited with irregular margin and is raised 1.5 millimeters above the normal surface. The highest point of the tumor is in the inferior external quadrant, measuring 3 millimeters in thickness and 3 in diameter. The tumor is movable with the conjunctiva, the general tint is white. At the limbus it is a chalky white, while 3 millimeters from this point, that is, toward the lower border, it is dirty white and somewhat reddish. The surface of the tumor is slightly roughened, squamous and nowhere ulcerated. No arteries can be distinguished in the tumor, its consistency is hard. Cut No. 1 shows the exact localization of the tumor and its irregular outline. The surrounding conjunctiva is slightly injected.

In the examination of the remaining portion of the bulbus we find an incipient senile cataract and opacity of the corpus vitreum, together with a small degree of myopia. His vision is 5/30 (Snellen), with minus 2 D. equals 5/15.

The tumor was removed by one cut with Graefe's knife after the conjunctiva had been severed with the scissors around its entire margin. This enabled us to see that the tumor had been connected at its base with the limbus; in the inferior external quadrant it had been connected with the sclera only by a pedicle corresponding in place and size to the thickest portion of the tumor. These points or places of attachment were scraped with a sharp spoon, followed by cauterization. The entire wound was covered with the adjoining conjunctiva, held in place by two stitches. The wound healed in a week's time. After the operation the growth was put into 5 per cent. formalin alcohol. It was next put into celloidin, then the entire tumor was cut in the usual way with the microtome and stained with hematoxylin and paracarmin.

Macroscopic examination of the tumor while cutting it revealed its varying thickness, ranging from 3 millimeters, located as stated in the external inferior quarter, to the thinnest portion extending over the sclera and along the limbus, measuring ½ millimeter, or even less. The greatest diameter of the tumor was 2.5 cm.

THE MINUTE STRUCTURE OF THE TUMOR.

The microscopic examination will be reported, taking the cut sections from the lower border of the tumor upward to the cornea, where it ended. With low-power magnification we see in the first section the normal epithelium of the conjunctiva, and beneath it a little connective tissue. The conjunctival epithelium is stratified pavement cells with well stained nuclei. The cells at the base are cylindrical and becoming flatter from below upward. In this it is like the normal conjunctiva except that there is a round cell infiltration. Viewing the conjunctiva from below upward we find the epithelial cells gradually increase in size, and at the point where the tumor begins we find bands of epithelial tissue passing into the tissues below. In these bands we see epithelial cells concentrically arranged, with colloid areas here and there, producing the nest cells so characteristic of carcinoma, which are divided in the section in all directions; we also see round cell infiltration and dilated blood vessels. The surface epithelial cells are not very different from the normal; those, however, in the bands passing downward are increased in size, with mainly round nuclei; the nucleoli are readily seen with a low-power lens. Epithelial cells in the nest cells reveal bodies of keratohyalin (Fig. 2).

Examining a higher section, we see the epithelial cells of the surface changing in character. A layer of epithelial cells is to be seen here, as is seen in cells of the epidermis in the stratum granulosum. The cells here are flatter and contain much keratohyalin, which again is covered by typical cornea epithelium, as in keratosis cutis, which ends in the margin of the cornea and also corresponds to the place in the macroscopic examination where the tumor was chalky white and squamous (as seen in Fig. 3).. The bands passing downward are broader, not so much divided as the bands in the previous section of the conjunctiva (see Fig. 4), and the cell nests are not so frequent.

When we examine the part of the tumor which is over the cornea we see that the fibrous papillæ are lower and the entire tumor decreases gradually, changing into the normal corneal epithelium. In those places where we see stratified epithelium the margin of tumor and normal cornea can be very well made out. Where the horny cells terminate the basal cells of the tumor gradually change to the normal basal cells of the cornea. The cell protoplasm is deeper stained (as shown in Fig. 5) and the preparations show that the elastic membrane (Bowman's) sharply divides the proper substance of the cornea, which is unchanged from the tumor. The bands (papillæ) are also here lacking. The entire tumor is well infiltrated with round cells. With low-power magnification we see that the entire tumor is in the epithelial conjunctiva. With higher magnification we perceive that the epithelial cells of the surface located at the limbus are horny epithelial cells, under



Fig. 2.—Microphotograph of the tumor in the conjunctiva showing cancroid epithelial bands and nest cells.

which we find cells containing keratohyalin which cause the chalky white color seen without the microscope. Below the limbus the tumor is of a pale milky color, which is explained by the presence of bands and cell nests containing colloid material, which are more numerous here than they are above, and which also make it impossible to see the blood vessels on macroscopic examination, though these latter are revealed by the microscope.

The microscopic examination shows us that the tumor is a carcinoma, as it contains cell nests containing the colloid material in the epithelial bands and its extension in all directions is also characteristic of cancroid tumors. But ulceration, which is so common in carcinoma, does not appear to have occurred.

In our case, as is usually the rule in epibulbar tumors operated on late, there was a recurrence on the sixteenth day after the operation. In the inferior external quadrant of the cornea a small point or macula about 1 millimeter in diameter made its appearance and was again removed and the spot cauterized. The microscopic examination of this recurring growth showed the same structure as the original tumor. Six weeks later three points of recurrence were again removed from the limbus in the inferior half of the cornea. At the beginning of August, two months after the operation, the condition was as follows: The eye was quiescent. The conjunctiva had healed very favorably, but in the two lower quadrants it was drawn tense toward the

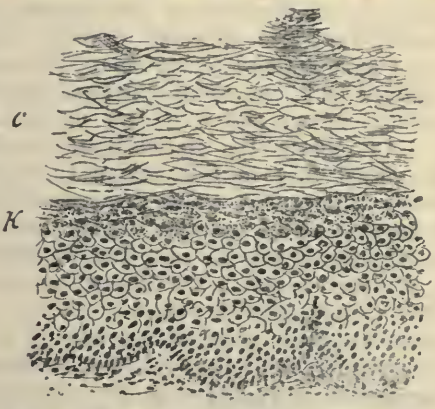


Fig. 3.—Section of tumor in limbus of cornea. C. Horny stratum. K. Stratum of cells containing keratohyalin.

side of the original localization of the tumor, where it was firmly adherent. In the external inferior quadrant, 1 cm. from the limbus, the conjunctiva was somewhat edematous, and beneath it could be detected on palpation a swelling of cicatricial tissue 9 millimeters in cir-



Fig. 4.—Section of the tumor taken previous to that in Fig. 3.

cumference. In the limbus no recurrences appeared. Instructing the patient to come back instantly as soon as he noticed any white point or change in the appearance of the eye, he was discharged. He returned again for treatment at the beginning of November with two

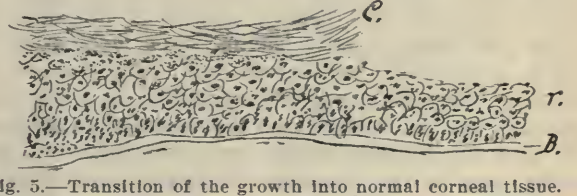


Fig. 5.—Transition of the growth into normal corneal tissue. B. Bowman's elastic membrane. r. Normal epithelium. C. Horny stratum of tumor.

recurrences located in the inferior external quadrant, one at the limbus about 5 millimeters in circumference, the other in the conjunctiva at the point of the existing edematous cicatrix measuring 2 millimeters in circumference. It was not possible to remove these recurrences at this time, as he had an attack of bronchiolitis and bronchitis. The recurrences did not surprise us at all,

as we looked for them on account of the large size of the tumor. Therefore, only a conservative plan of treatment was possible at this time, as we did not look for immediate trouble in spite of the presence of the new growths, and as the eye had fair visual power enucleation was not seriously thought of.

In our patient there appeared to be a direct relation between the carcinomatous tumor and angioma contrary to the recently expressed opinions in the literature on the subject of angioma and telangioma. It was noticed that our patient had some small pin-head angiomas in the skin of the breast and also very numerous small lentigines. As regards the statistics of carcinoma it may be remarked that in this region such epibulbar tumors are very infrequent. This rare case is published mainly on account of the practical points involved. As regards its etiology, it may be said that we found nothing giving evidence either in the clinical or microscopic examinations of any parasitic origin.

The special practical point of the case to which we will call attention is the common error, so liable to be made, of neglecting an incipient tumor occurring at the limbus or its vicinity. The chief condition with which it is likely to be confounded is phlyctenular ulcer. The celebrated von Graefe made an error of diagnosis in a disease occurring at the limbus. He said that at the first examination he did not make a very careful study of it and so diagnosed a case of carcinoma as a phlyctenular ulcer, and our case had also been previously treated as such by a general practitioner. It appeared, however, in a man of 78, and in our experience phlyctenular ulcer is especially a disorder of children, but we must not overlook the fact that it also occurs in the adult, and even in old age, hence the importance of the differentiation.

Phlyctenular ulcer in the limbus or near the limbus appears as a white spot in the conjunctiva surrounded by inflamed conjunctiva and no arteries are to be seen in the phlyctenule itself while numerous vessels run to the border of the cyst, but none can be traced running over it. Unpigmented sarcoma and carcinoma also start as a grayish white cyst with highly hyperemic surrounding conjunctiva, the remaining portion of the conjunctiva being unchanged. The phlyctenular cyst usually ruptures on the first or second day, leaving an irregularly margined ulceration. This does not occur in tumors except in cancroids or carcinoma planum where the ulceration appears late, occurs in the center of the growth and leaves a lesion surrounded by a hard or indurated wall. In our case no ulceration took place, the superficial layers of the tumor being as hard as callus. Phlyctenular ulcers usually occur in both eyes, and patients have suffered repeated attacks of inflammation during childhood, usually leaving some maculæ of the cornea, blepharitis eczematosa and rhagades of the nostrils. They are improved or cured in a few days with the use of calomel or Pagenstecker's ointment. The contrary to this is the case with tumors. They usually occur in one eye and in old age, and not in young adult life.

Finally, the following difference between phlycentula and tumor in the cornea is to be noticed: In phlyctenules a thick infiltration occurs in the cornea and conjunctiva with later ulceration, leaving an ulcer with irregular wall and infiltrated surrounding tissue. In carcinoma or sarcoma we find a small tumor with smooth walls irregularly protruding over the surrounding surface. In the second place we must differentiate it from inflammation of the sclera (episcleritis). In this disorder we have a small swelling close to the limbus, purplish in color. The conjunctiva over the swelling is injected, otherwise unchanged. Such a swelling may lead to error, which may be mistaken for tumor of phlyctenular ulcer. The conjunctiva will give us the clue in case of doubt, as it is movable over the infiltration in the sclera in episcleritis only, and beneath it we may find on palpation a small swelling of variable size and of hard consistency.

Further, we have the differential diagnosis from vernal catarrh, which is characterized by the hypertrophy of the conjunctival epithelium, corresponding to the palpebral fissure, in location reaching the limbus and rarely ever surrounding the entire cornea, seldom extending over it, and furthermore, of hard consistency, and it is irregularly prominent with grayish white borders. Microscopic examination reveals hypertrophy of the epithelium, as also in tumor, but in spite of this it is a non-malignant disorder. Vernal catarrh usually appears in young children and involves both eyes. Its duration is for years. Its exacerbation during the summer and remissions during the winter months will always enable the practitioner to make a correct diagnosis. Vernal catarrh is usually accompanied by hypertrophy of the palpebral conjunctiva, which is rough in appearance and milky white in color. Lastly, the rate of growth is different from that of sarcoma and carcinoma, being more rapid in the latter. In the differential diagnosis between sarcoma and carcinoma we especially here consider only the more prominent carcinomatous tumors (carcinoma luxurians) and the flattened variety, as in our own case (carcinoma planum). Sarcoma is hard, has vertical margins; carcinoma is usually soft and can be easily lacerated. It is not abruptly margined as in sarcoma, but graduates more into the tissues. In spite of these differences the differential diagnosis is sometimes impossible without the microscopic examination. One-third of these tumors, carcinoma and sarcoma, are melanotic and graver in their prognosis than carcinoma planus (cancroid).

In conclusion, I must acknowledge my indebtedness to Professor Deyl for material help given me in preparing this paper, for which he has my thanks.

LABORATORY INSPECTION OF VACCINE.

ADOLPH GEHRMANN, M.D.
CHICAGO.

In this paper the term vaccine is used in the restricted sense, meaning smallpox vaccine. The purchases of vaccine by the Chicago Department of Health have been subject to inspection and test of each lot received since 1894. During July, 1894, an extended investigation of vaccine was made and showed that glycerinated lymph contained fewer bacteria and had a longer period of efficiency than the dry vaccine points. Glycerinated vaccine was therefore introduced and has been used exclusively ever since. The exact date of the first distributions was Aug. 1, 1894. The points herein brought out are consequently based on the inspection of this supply of the glycerinated product. There have been distributed to the vaccinators approximately one million individual vaccinations from that date to this. Some 20,000 tubes have been used for the purpose of testing; 10,000 for the bacteriologic and animal experiments and 10,000 for the clinical tests.

Every lot received is sent subject to approval and is accepted only after full completion of the observations.

It has been further understood that the department reserved the right to destroy any lot that did not meet its approval. Vaccine has been destroyed on several occasions when found inert, but when rejected because of bacteria it is usually returned to the producers with instructions to allow it to mature before being distributed.

STANDARD REQUIRED.

Deliveries are made in lots of 5,000 to 10,000 vaccinations. Only individual tubes are used. For each lot the following conditions must be fulfilled:

The lot must be from one operation; that is, it must bear the same laboratory number throughout.

The dates on the packages must not precede or exceed the time limit of efficiency. Sixty-day emulsion with 40 to 50 days for the period of use.

The physical conditions must show a uniform emulsion.

Cultures made must show an absence of pus bacteria.

Cultures made must show at least a relatively small number of saprophytic bacteria.

The injection of the mixed contents of 10 or 12 tubes into a guinea-pig must be negative.

The clinical test must give not less than 90 per cent. in typical results in primary vaccinations.

SELECTION OF SAMPLES.

From all parts of the lot 100 tubes are selected; these are marked and reserved for the test. We have found this number ample to insure accuracy. As a general precaution advance sample lots are obtained from producers and tested in the same way as the actual supply. By this means a double check is maintained. This testing, together with the producers' private control, should prevent any failure to detect possible defects.

SPECIAL CONSIDERATIONS.

Soon after the introduction of vaccine in sealed tubes it was noticed that a separation of the more solid particles, epithelium, leucocytes and detrites, took place from the glycerin if the tubes remained quiet for three or four months.

The vaccine as now prepared consists essentially of ground-up epithelium in a variable percentage of glycerin and water. If this mixture is not accurately adjusted, a matter dependent on the experience of the producer, it may be too thin and a separation takes place after a time. We have been able to show that tubes in which such separation is apparent will give a larger percentage of failures in the clinical test than if it had been recently tubed and still in proper emulsion. The reason for this is evidently that the thin glycerin is blown out and does not carry with it a sufficient amount of the virus.

For the culture test it would seem that the use of inclined agar answers all requirements. Each single tube is blown out on the agar surface and spread with the aid of the condensed water in the bottom of the tube. This water also dilutes the vaccine and prevents the further restraining action of the glycerin. The inoculated tubes remain in the incubator for 48 hours and then at room temperature for a further period of three to four days. Petri plates of agar and gelatin have been used from time to time, especially when an actual count of bacteria present was desired. As the qualitative determination is the principal point sought, the agar tube culture is sufficient for this purpose. During the spring of 1896 experiments were made to determine the value of strong antiseptic treatment of the vaccinated area on the calf before scraping off the vaccine, as a means of reducing the numbers of bacteria usually found. It was shown that material with few bacteria could be obtained, and in several instances entirely sterile fresh vaccine was made. Clinical tests of this, however, gave poor results and total failure for that which was sterile. There is a mean that must be followed in producing the virus. It must be as clean as possible, but can not be made initially sterile by using antiseptics. The identification of the bacteria is made by the usual methods.

Saprophytic bacteria are not to be overlooked. They do not develop as rapidly as the pus cocci, and on this account the culture must be kept under observation for several days. The absence of these species indicates clean production. On numerous occasions *Bacillus subtilis, Cladothrix dichotoma* and varieties of moulds and yeast have been present in such numbers that the vaccine had to be rejected on this account.

Animal experiments are made on guinea-pigs. About 10 to 12 tubes are evacuated and the contents mixed with a small quantity of bouillon and injected subcutaneously. This part of the test is made when the tube cultures show a sufficient reduction in the number of pus bacteria.

From the animal experiment the presence of *B. tetani, B. tuberculosis* or other specific pathogenic bacteria should be determined. After making several hundred inoculations I have not had a single animal die of tetanus or show tuberculosis at the point of injection. These bacteria occur with extreme rarity in vaccine, and probably in the few cases where they have been reported they could have been found in considerable numbers.

The time required for these experiments is 4 or 5 days. Cultures are made first, which in the incubator will indicate as to pus bacteria in 18 to 24 hours. These tubes are now put aside for growth of saprophytes for 3 or 4 days. In the meantime, providing that the culture result was satisfactory (few or no pus cocci), the animal experiment is made. The clinical test is next started, and requires a further 10 days for completion. If this shows 90 per cent. typical the lot is passed for distribution. Fourteen days, therefore, is thus used in establishing the quality of the product, and this should give at least 30 days in which the vaccinators can use their supply with every assurance of a safe and successful result.

Laboratory of the Department of Health.

Professional Unselfishness.—It might almost seem to a philosophical observer as if the leaders in this movement had unselfishly made up their minds to prove to men and women that if they had more common sense they would promptly abolish the medical profession by taking away its *raison d'être*. One seldom hears of a lawyer exhorting his neighbors to avoid litigation so that they may not require his services. Yet every reputable physician is expected not only to cure diseases, but to give his patients such hygienic advice as may prevent them from needing him again. This is a good deal to expect of human nature in individual cases; but the problem which is at the present moment most strenuously attacked by the medical men of Europe and America is how to reduce the number of their patients and the amount of their own income by 10 per cent. at one fell swoop. At least one person out of every ten dies of pulmonary tuberculosis and other forms of tuberculosis, and it is this disease that physicians are now striving with all their might to exterminate utterly, or at least to limit as much as possible. Since tuberculosis is rarely contracted by the medical practitioner, his labors in striving to eliminate it from his practice accordingly stand as a remarkable exemplar of humanitarian altruism.—"N. Y. Evening Post."

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CHEMICAL INDIVIDUALITY.

There are abundant evidences of the chemical differentiation of species, which in some instances is as prominent as the morphologic distinctions. For example, we find specific varieties of hemoglobin, which, although functionating similarly in all animals, and with closely related composition, yet show quite different crystalline forms. Probably the differences in the effects of drugs on different animals depend on different chemical composition of certain parts of the animals. The entire work on immunity testifies to these chemical peculiarities of divisions in the animal kingdom. Even natural selection plays a part in such differentiation, as seen in the protective colorings, the venoms, the defensive odor of the skunk, or the ink discharged by the cuttle-fish. The peculiarity of proteid metabolism by which in reptiles and birds the chief end product is uric acid, while in mammals it is urea, has been the pivotal point for most of the study, theorization and contention that have made "uric acid diathesis" familiar even to the laity. Now, while the morphologic differences in animals are plain, and therefore the chief basis for classification, the chemical differences are for the most part equally obscure, and hence of little use in systematic classification. Still it is altogether possible that as physiologic chemistry becomes more developed, and the methods more refined, the chemical relationships may help out in places where morphology alone is confusing. Probably the best example that can be cited of accomplishment in this direction is furnished by the precipitins of serum, as used in the medicolegal test of blood or other proteid constituents or secretions of the body. The serum of an animal immunized against human blood will precipitate in certain dilutions besides human blood the blood from not one of the vast number of allied and remote varieties of animals except certain of the higher apes. The relationship between the apes and man, based entirely on morphology, receives suddenly confirmation from an unexpected source. As these precipitins are in a high degree specific, serving to differentiate animals that are not very unlike, this fact indicates strongly not only a common origin of man and the apes, but also that some very peculiar constituent of the blood serum of the common ancestor has passed on unchanged through the widely divergent lines of descendants.

Not only are there differences in the composition and metabolism of different species, but even in a single form there are variations in metabolism that may sum up under certain conditions until they crop out suddenly in what may be called a "chemical sport." A. E. Garrod[1] discusses this matter in an entertaining way in his article on "Alkaptonuria." Alkaptonuria is a peculiar and uncommon condition in which the urine contains homogentisic acid, a substance that is related to tyrosin, from which it is probably derived. Although rare, it is so striking that it is likely to attract attention, for the homogentisic acid has the property of turning dark after exposure to air, and of staining fabrics deeply. Physiologically considered alkaptonuria is interesting in that it seems not to indicate a disease, but is rather an unusual method of metabolism, generally congenital and lasting throughout life. A certain amount of tyrosin does not pass through the usual steps of metabolism, but is excreted in this form, without giving rise to symptoms and seemingly without injury. If present at all it exists in considerable quantities, usually 3 to 5 grams daily, and is never observed in traces. It is distinctly a family disease, for of 32 known instances 19 have occurred in seven families, in which there were altogether but 29 normal members.

Of particular interest in connection with this chemical individuality is the frequency of consanguineous marriages in the immediate ancestry of alkaptonurics, for among 19 cases in which information on this point could be obtained, 60 per cent. were the offspring of marriages between first cousins, and in one the condition was transmitted from father to son. Mendel's law of transmission of characteristics seems to Garrod to offer an explanation. If a tendency to the production of a rare recessive characteristic exists in two individuals the offspring may show the characteristic strongly developed; in marriage of cousins such a rare tendency as this one would be more likely to be present on each side than in ordinary matings. Albinos offer perhaps another instance of similar conditions. Albinism is a chemical phenomenon, depending on a failure of formation of melanin, and it occurs in undue proportion among the children of consanguineous marriages. Retinitis pigmentosa, which in a way is the chemical opposite to albinism, occurs to a remarkable degree among the offspring of cousins. These are all instances of chemical abnormalities that are of such a nature that they can scarcely escape observation. It is perfectly possible that there are many less obvious chemical abnormalities that escape detection. They are interesting in that they indicate that perhaps just as no two individuals are identical in their morphology, so there are differences in their chemistry. Sometimes tendencies are added together by marriage of relatives, and the sum appears in some anatomic peculiarity on the one hand, or as an albino or alkaptonuric on the other. Again, the tendency develops suddenly into a distinct characteristic, and a sport is developed without evident or adequate cause.

1. The Lancet, Dec. 13, 1902, p. 1616.

EPILEPSY (?) AND RAILWAY ACCIDENTS.

In recent communications to a railroad paper two experts on railway matters offer their explanation of the too frequent unaccountable accidents that occur. These are generally due to mistakes on the part of the engineer, who, though often long-tried and experienced, may suddenly fail in his duty in the most remarkable way. He may neglect a signal, over-run his time or disobey an order, and the consequence is disaster. The theory adopted by these writers is that locomotive engineers, owing to the nature of their occupation, are especially subject to nervous strain which develops in them a form of epilepsy in which their reasoning power or judgment is temporarily destroyed. One of them states that the concentrated attention required for long periods of time brings about a peculiar nervous disturbance that has many of the external appearances of petit mal. The other expert likewise considers that an epileptic factor is involved. This is bringing into play a serious symptom and seems to us more than is required.

There is no question that certain people under certain special conditions of health or mental strain may have their cerebral mechanism so thrown out of order as to fail them in important crises; a sort of self-hypnotism is perhaps not altogether uncommon. An expert railway man riding over a specially bad piece of road on an engine noticed that the engineer signaled to stop the train. Nothing wrong could be seen, but the man had developed an actual hallucination of sight and thought he saw at a particular spot a boulder across the track. In this case it was overcaution, but in other cases the reverse might occur. Railroad companies are not sufficiently considerate of their employes when they overwork them and subject them to special nervous strain by long hours. It is easy to see how the special faculties of meeting emergencies quickly, etc., may be dulled or even abolished by fatigue. A man who has been excessively overworked can hardly be considered responsible if he sometimes fails in emergencies. The companies should also look carefully into the habits of their employes. The engineer should consider his employment first and use his resting time in such a way that he will be in the best fitted condition for his work. Dissipation in the way of loss of sleep, etc., which may be entirely voluntary on the part of the individual, may lead to disaster.

The traveling public is certainly deeply interested in the matter, and in this country the traveling public includes nearly every one. It is not pleasant to think that one's safety is entrusted to a man who has more demanded of him than his nervous system is capable of performing, or to one who does not duly economize his energies in such a way as to bring about this same condition. The time will come, we hope, when railroad regulations will be so perfected that more careful scrutiny will be kept over engineers, conductors and those in similar responsible positions to insure that they will be at all times mentally and physically fitted for their responsibility. There may be epileptics acting as engineers, as appears to have been the case in some instances, and they should certainly be relieved of their responsibilities, but it is not necessary to drag in such a factor as epilepsy to account for accidents. There are many less formidable conditions which may, under certain circumstances, have equally disastrous results.

COSMOPOLITAN DISEASES IN THE TROPICS.

The concluding chapter of Scheube's translated work of Diseases of Warm Climates is devoted to medical geography, or what the author calls "cosmopolitan diseases." It gives a compendium of the facts, so far as known to the author, of the distribution of certain general diseases, and this has been made the subject of an interesting editorial commentary in the *Indian Medical Gazette* of March, 1903. While most of the so-called cosmopolitan diseases are pretty fairly distributed, there are some decided differences in their range, and some of the comments on Scheube's statements by the editorial writer are worthy of note. The editor thinks there should be a good deal more attention paid to the geographic etiology of disease. The same theories that apply in one country are not by any means always applicable in another. Hepatic cirrhosis, for example, which he thinks may be very properly called "gin liver" in Europe, can not be considered to be due to the same influences in India.

One of the curious facts pointed out by both Scheube and the editor is the absolute absence of scarlet fever in the tropics. While it may be imported into such regions, it never spreads, and it would be interesting to know what special causes in the temperature or otherwise there may be for this peculiarity. Erysipelas, which Scheube considers rare, is not at all unknown in India, and pneumonia, which is unevenly distributed, lacking in some regions, is almost as serious a disorder in Indian territories as it is in Europe and America. At the present day it has come to be more dreaded in some Indian jails and public institutions than even dysentery used to be. Another disease which seems to be lacking in tropical countries is acute rheumatic fever, not chronic rheumatism, and while it occurs, it is by far less frequent among the natives than is the case in other climates.

Sunstroke, which we attribute to temperature, is in fact rare in some tropical countries. Perhaps this may be due to the sanitary habits to which the residents have been educated in regard to it. The *Indian Medical Gazette* rejects Sambon's theory of a specially infectious type, the so-called "siriasis." Scheube fails to recognize insolation as a tropical disease so much as to give it a special chapter, though he notices it among his cosmopolitan disorders. This is a very interesting subject, worthy of close study and offers certain problems that will serve to occupy medical attention when once it is directed to them. A careful study of medical climatology and geography would certainly be suggestive as

regards the measures to be taken to meet some of our more obstinate and serious affections. If scarlet fever can not exist in warm climates, there ought to be some fact to account for it that might very probably be of utility in its management where it does occur, and similarly with other disorders.

RECENT STUDIES ON SNAKE VENOM.

Contributions from various workers during the past year have revealed important facts concerning the action of snake venom, and incidentally some gain has been made in our knowledge of the chemistry of "immunity reactions."

The important studies made are reported by Flexner and Noguchi in two articles,[1] Calmette,[2] Keys,[3] and recently Keys and Sachs.[4] The work of Flexner and Noguchi[5] has furnished, among others, the following important observations: Venom contains only intermediary bodies or amboceptors (no complement), and alone would not be of great toxicity; the normal serum of susceptible animals contains the substances (complements) which, by a conjoint action with the intermediary bodies of the venom, cause the toxic phenomena; the loss of bactericidal power of the blood of animals poisoned with venom (previously noted by Welch and Ewing) is due to fixation of the animal's complements by the venom; the serum of snakes contains very little complement for its own venom; snake sera owe their toxicity to hematoxin (hemolysin), cobra venom to its neurotoxin, and rattlesnake venom chiefly to a substance which they call hemorrhagin (an endotheliolysin, the effect of which is to impair the vessel walls, causing hemorrhage); the demonstration of toxoids in venom, and a proteolytic ferment. Other valuable observations are made, a good understanding of which demands perusal of the original; but it may be stated that support is added to the Ehrlich side-chain theory, by showing that the neurotoxic principle in venom may be fixed and abstracted *in vitro* by nervous tissue, which duplicates observations with tetanus toxin.

A short time after the first publication by Flexner and Noguchi, Calmette disputed some of their findings in a note to the Académie des Sciences, but he did not clearly grasp the nature of the reactions and substances he described. He made one very important observation, however, to the effect that a normal serum which was heated to 62 C. or above had a strong activating power for venom. As this temperature destroys ordinary complements he had discovered a new substance which he considered to be of the nature of intermediary body.

Keys was able to confirm the claim that cobra venom consisted of amboceptors alone, and, in opposition to Calmette, he supports the observation of Flexner and Noguchi that normal complement will activate venom. He also made the important discovery that the supposed amboceptor, or *sensibilisatrice,* as the French have it, of Calmette was in reality another sort of complement, which came into evidence only after normal serum is heated to 62 C. or even to 100 C. Painstaking study of this substance seemed to show conclusively that it is nothing more than the lecithin which is contained in normal serum; and since in certain cases the corpuscles (washed) themselves activate the venom, it was eventually proved (Keys and Sachs) that the lecithin which is bound in the stroma of the red cells also can play the part of complement for cobra venom. Keys and Sachs established clearly the non-identity of normal complement and lecithin complement, and discovered other substances which may act similarly: Kephalin, bile and milk (goat) when heated to 100 C. Their experiments lead them to conclude that probably it is the fatty-acid radical of the lecithin-venom combination which constitutes the active group.

Of the mass of facts marshalled by the different investigators mentioned two are of pre-eminent importance: the presence in the blood of certain complements may be in particular cases, as in venom intoxication, a source of great danger to an individual rather than a protection, and that definite chemical substances may be able to act as complements under certain conditions.

1. Flexner and Noguchi: Journal of Experimental Medicine, March 17, 1902. Univ. of Penn. Med. Bul., November, 1902.
2. Calmette: C. r. Acad. des Sciences, June 16, 1902.
3. Keys: Berliner klinische Wochenschrift, Nos. 38, 39, 1902.
4. Keys and Sachs: Ibid., Nos. 2, 3, 4, 1903.
5. See also on this subject, THE JOURNAL, April 18, p. 1105, Absts. 48, 49 and 50.

INTELLIGENT COWS.

In an interesting article on the "Milk Supply of Large Towns" in the *British Medical Journal,* March 28, we find the following remarkable statement: "The driver having finished milking, his cow offered to take me into an adjoining room where the milk was cooled, saying that while he fetched the manager I could have a look around." We submit that there has been nothing so remarkable since the days of Balaam. One would think that with such intelligent cows dairy reform would be easy. Notwithstanding the high authority of the *British Medical Journal,* we have our doubts as to the alleged fact.

EXPERT TESTIMONY.

In a recent trial in Detroit the judge criticised the law of Michigan regarding the admission of expert evidence as being defective. A physician was on the witness stand who, as a county official, had made an autopsy and a chemical analysis of stomach contents. In the cross-examination it was attempted to draw out his opinion on certain chemical points as an expert, his testimony having chiefly been as to facts. In response to objections made by opposing counsel the judge said the matter was a simple one; if the witness was not a fully qualified expert he ought not to be thus cross questioned, that the laws of Michigan did not fully cover this question of the admission of expert evidence, and that there should be further legislation on the subject. If we understand the judge's position, it is that there should be some legal regulation as to who is and who is not an expert whose opinion evidence ought to be admitted by

the court. Every physician is supposed to know something of chemistry, bacteriology, surgery, psychiatry, etc., but only those who are specialists in these departments can rightly give an expert opinion. It seems to us that this Michigan judge has pointed out one of the most serious defects in our methods of utilizing opinion testimony, and one that, if remedied, would relieve at least medical expert testimony from a great deal of the opprobrium under which it at present suffers. If the law prescribed a certain standard of expertism, if it required any one testifying as an expert to prove that he had a certain amount of actual knowledge of or experience with the subject on which he was to give an opinion, and still more, if it required a recognized professional reputation as an expert in the specialty he professes to practice, there would be less talk of the worthlessness of medical expert testimony. As it is, in most parts of the country at least, any medical practitioner of any school can pose as an expert on any medical subject. This rule of requiring some proof of competency would not necessarily exclude venal experts, but there are fewer of these among those generally qualified than is perhaps supposed. A man with a genuine reputation will not be so ready to risk it for a fee or a series of them. Let legislation be passed rationally defining the qualifications of an expert, even a little arbitrarily, if it is impracticable to do otherwise, and we shall hear less of such tirades against medical expert testimony as that uttered a few months ago by a New York ex-judge. As it is, the legal profession has it in its power to obtain competent and honest expert opinion testimony if it wants it. The trouble is that, too often, it is not the kind it wants.

PLANS FOR BUILDINGS FOR THE ROCKEFELLER INSTITUTE.

We understand that the drawing of plans for the buildings of the Rockefeller Institute of Medical Research is imminent. We hope that those in whose hands the decision as to these plans lies will neither make the mistake of indulging in extravagant architecture, nor be guilty of an error, much more common among scientific men, of imagining that the nature of the building and the quality of the materials put into it are matters of insignificance for the success of the foundation. We are all familiar with the lamentable squandering of college bequests in unnecessarily pretentious buildings to an extent that has precluded the acquisition of men of eminence for the faculty and has paralyzed efficiency by failure to provide an adequate budget for maintenance and operating accounts; such misguided expenditure of capital can not be too strongly condemned. But we fear that, in some scientific circles, the value of good buildings of a permanent character and of dignified and sufficiently imposing exterior has been and is insufficiently appreciated. An idea is prevalent among many that a scientific laboratory should be built in so flimsy and cheap a manner that it may conscientiously be torn down and rebuilt to suit more modern conditions in the course of five or ten years. It is further gratuitously assumed that because great men have done and doubtless will continue to do great work in hovels and dungeons with the most meager outfit, that therefore proper housing and the liberal provision of equipment are matters which can safely be disregarded. We grant readily enough that if we had to choose between great men with poor buildings and equipment and mediocre men with elaborate buildings and extravagant equipment, there would be no doubt that we should decide to take the former, but we maintain that wherever possible the great men and ideal facilities should be brought together. Now that the unit system of construction with modifications of it has been introduced there is much less danger than formerly that in the course of a few years a building will become unsuitable for what it has been designed. Besides, the effect of noble surroundings on the investigators themselves has to be thought of as well as the influence of a dignified architecture on the standing and support of an institution in the community. It would be a misfortune, indeed, if the institute now being planned should make that mistake in disregarding the character, quality and location of its buildings which was made in so striking a manner by one of our American universities, a mistake which, in spite of the great men obtained by an otherwise most sagacious president, has led to a hampering of its development, and, in part at least, has been responsible for a threatening of arrest of some of its high functions.

Medical News.

ILLINOIS.

Intending Practitioners.—The State Board of Health, on April 15, 16 and 17, conducted an examination of 181 candidates to practice medicine in Illinois. Of these, 25 were women.

In Memoriam.—At the meeting of the Fox River Medical Association in Elgin, April 14, Dr. James W. Pettitt, Ottawa, delivered an eloquent address eulogistic of the late Dr. Edgar P. Cook of Mendota.

The medical practice act was passed by the senate April 15. The bill would divorce the board of medical examiners from the State Board of Health, which has hitherto held all examinations for physicians' licenses. The bill is not yet passed by the house.

Chicago.

Cook County Internes.—The result of the examinations for interneships in Cook County Hospital was made known April 17. Rush Medical College secured 6 places; Northwestern University 7 places and the University of Illinois 3 places.

Personal.—Drs. Wellington T. and Harry J. Stewart have sailed for Europe.——Dr. John Kercher, in resisting a levy on his property, April 17, shot a constable, and is under bonds awaiting the outcome of the wound. After he had shot the man, learning that he was a constable, Dr. Kercher surrendered to him.

High Mortality.—With one exception the week's mortality is the highest of the year. During the week ended February 28 there were 713 deaths recorded, giving an annual death rate of 19.73 per thousand of population—the highest rate for any February week in the history of the department. Last week 640 deaths were recorded, and the annual rate was 17.69 per thousand. The principal causes of death were pneumonia, 135; consumption, 75; Bright's disease, 52; bronchitis, 39; heart disease, 36, and violence 37. There were 75 more deaths from diseases of the respiratory system and of the kidneys last week than during the week of April 4—an increase of exactly one-third.

Diminishing Deaths Among Young.—The Department of Health, despite the high death rate, finds consolation in the steadily diminishing number of deaths of infants and young children as follows:

During the six years preceding the present administration of the department there had been 66,003 deaths of those under 5 years of age; during the six years of the present administration, 1896-1902, there have been only 51,046 such deaths, or 14,957 fewer than in the first period. But this tells only part of the story. The population of the city increased, according to the United States census, 5.4

per cent, per annum between 1890 and 1900, and it is fair to assume that the under-5-years population increased in at least the same ratio. It follows that if the death-rate of the earlier period had been continued during the last six years there would have been 87,387 under-5-years-of-age deaths instead of the 51,046 that did actually occur.

MARYLAND.

New Hospital Site.—The first site of Cambridge Hospital has been sold for $2,500, and a new site on a bluff commanding a view for miles of the Choptank River has been purchased. It is expected the new building will be ready for occupation by June 1, 1904.

Baltimore.

Deaths of the Week.—The number of deaths last week was 233 against 176 for the corresponding week last year, an annual death rate per 1,000 of 20.97. Consumption caused 43 deaths, pneumonia 31, Bright's disease 26, and typhoid fever 6.

Reception to Dr. Cordell.—A reception was tendered Dr. Cordell, April 21, by about 50 members of the Medical and Chirurgical Faculty, in commemoration of the completion and publication of the centennial volume, "The Medical Annals of Maryland," which has been in preparation for the past five years. Dr. Cordell gave a résumé of the work. It is a handsome illustrated volume of 900 pages.

Association of Endowed Medical Schools.—It is said that a proposition has been submitted by a representative of Chicago University to found an association of endowed university medical schools, somewhat on the plan suggested by Dr. Barker some time ago. A meeting has been called in Washington next month, but only about half a dozen of the leading schools have been invited. It is understood that Johns Hopkins University objects to this narrow limit.

Oppose Higher Standards.—Opposition is developing in the colleges to the proposed amendment to the regulations of the American Medical College Association raising the standard of preliminary requirements. The effect of this amendment, it is thought, will be to make the standard equivalent to graduation from a high school. At a recent meeting of representatives of the faculties, all present, except the delegate from the Johns Hopkins Medical School, voted to oppose it at the coming meeting at New Orleans.

Personal.—Dr. August F. Volkman celebrated his golden wedding, April 12.——Dr. Benjamin R. Schenck has resigned from the staff of the Johns Hopkins Hospital, and will enter on practice at Detroit, Mich. The vacancy will be filled by Dr. John A. Sampson.——Dr. L. Ernest Neale is in London.——Dr. B Bernard Browne has been seriously ill from an infected wound. He was operated on by Dr. Tiffany, and a mass of glands removed from his axilla.——Dr. John Stephenson, professor of anatomy at the University of Edinburgh, was in the city last week.——Dr. Herman Westphal has gone on a visit to Deer Lodge, Montana.——Dr. J. Clement Clark has resigned the chair of psychiatry at the Woman's Medical College.

MASSACHUSETTS.

Epidemic of Pertussis.—Boston is in the midst of a semi-epidemic of pertussis, especially that portion of the city known as Back Bay. Four deaths were reported last week.

Emergency Ward Opened.—The Visiting Nurse Association of Winchester has equipped a surgery for the treatment of accident cases and for slight surgical dressings, as a first step toward a hospital.

Addition to Hospital.—An addition to the Lynn Hospital, which will be two stories, 83 by 37 feet, to accommodate 17 patients on the lower floor and provide 12 private rooms on the upper floor, has been started.

Faculty Changes.—Harvard overseers have elected Dr. Edward H. Bradford professor of orthopedic surgery, Drs. Maurice H. Richardson, and Herbert L. Burrell professors of clinical surgery, and Dr. John H. McCollom, assistant professor of contagious diseases.

Boston Health.—The report of the board of health for the week ending April 18 shows an annual death rate of 19.57 per 1,000. There were 26 cases of diphtheria reported, with 6 deaths; 25 of scarlatina, with 1 death; 9 of typhoid fever, with 1 death; 28 of measles, with 3 deaths; 25 of tuberculosis, 22 deaths. Pneumonia caused 36 deaths, heart disease 16 and bronchitis 5 There were 76 deaths in public institutions.

Boston City Hospital.—Reports for the year ended Jan. 31, 1903, 8,462 patients treated, with 875 deaths. The daily average was 401 patients. There are 32,152 out-patients. The entire expense was $472,873.54. The south department (contagious) has been many times much crowded A measles ward is the great need there. The relief station in Haymarket square has been a great success. Here, for an expense of $34,-905.24 in the first 11 months, 19,064 out-patients were given first treatment, and 1086 were kept in the wards one or more days, and 765 ambulance calls were answered.

MICHIGAN.

Personal.—Dr. Albert A. Parisot has been elected mayor of Mount Clemens.

Memorials.—At the April 9 meeting of the Wayne County Medical Society, Detroit, suitable resolutions were passed regarding Drs. Peter Klein and Edward W. Jenks, deceased members.

New Medical Building Opened.—The new medical building at the University of Michigan, Ann Arbor, was formally dedicated, April 2, the opening address being made by Dr. Herman Kiefer, Detroit, the former regent.

Physician Assaulted.—Dr. Abram M. Crawford, an aged practitioner of Michigan Center, was assaulted by some person unknown, while sitting in his house, March 30. A deep scalp wound was made, and an artery severed. It is believed that Dr. Crawford will recover.

Most Dangerous Communicable Diseases.—Meningitis was reported in March at 7 places; whooping cough at 51 places; diphtheria at 62 places; typhoid fever at 62 places; measles at 120 places; scarlet fever at 147 places; smallpox at 169 places, and consumption at 189 places. Reports from all sources show meningitis reported present at 2 places less; whooping cough at 5 places more; diphtheria at 15 places less; typhoid fever at 27 places less; measles at 17 places more; scarlet fever at 52 places less; smallpox at 32 places less, and consumption at 4 places less in March than in the preceding month.

Comparative Morbidity.—For March, compared with the preceding month, intermittent fever and typhoid fever were more prevalent; and smallpox, erysipelas, inflammation of bowels and diphtheria were less prevalent For the same month, compared with the average for March in the 10 years, 1893-1902, scarlet fever, smallpox, whooping cough and typhoid fever were more than usually prevalent; and consumption, inflammation of kidney, intermittent fever, erysipelas, inflammation of bowels and remittent fever were less than usually prevalent. The diseases which usually cause the most sickness in Michigan at this time of the year were slightly less prevalent than usual in the March just passed. This lessened prevalence was apparently due to the higher temperature, and the lessened amount of ozone during the month.

March Mortality of Michigan.—The total number of deaths reported for March was 3,034, or an increase of 278 over the preceding month. The death-rate, however, was exactly the same as for the preceding month, 14.4 per 1000 population. The mortality was slightly higher than for March, 1902. Important causes of death were as follows: Tuberculosis, 237; typhoid fever, 48; diphtheria, 34; scarlet fever, 22; measles, 29; whooping cough, 34; pneumonia, 403; diarrheal diseases, under 2 years, 51; influenza, 140; cancer, 143, and accidents and violence, 150. Comparing March with the preceding month, there was an increase of mortality from all the causes stated above, with the exception of diphtheria, which disease showed considerable decrease The mortality from influenza was nearly double that of the preceding month. The death rate was slightly higher than for March, 1902. There were 3 deaths reported from smallpox during the month, while 5 deaths were returned from this cause for February.

NEW YORK.

Medical Bequests.—The will of the late county judge, Hon. Henry T. Nason of Troy, devises $10,000 to Dr. E. D. Ferguson, in case of the predecease of his mother, and $25,000 in the event of the predecease of his mother and grandfather, and to the Samaritan Hospital, at the decease of his mother $10,000, and an additional amount which will bring the entire bequest up to about $80,000.

Elsberg Bill Killed.—It is alleged that because Senator Elsberg acted independently from the machine in state politics and as a matter of petty spite work and revenge, the machine has killed his bill for the abolition of coroners for Greater New York. The machine Republicans in the senate have disre-

garded the earnest demands of the citizens of Greater New York, and it is only a question of time when the bill must pass.

Opposition to Site for Tuberculosis Hospital.—Attorney-General Cunneen has been asked to institute proceedings to prevent the establishment of the State Hospital for Tuberculosis Raybrook, on the plea that it was highly objectionable to certain summer residents in the vicinity. Mr. Cunneen refused to bring such suit, and at about the same time the senate finance committee reported favorably on the appropriation of $115,000 for the support of the hospital at Raybrook.

New York City.

Without License.—Nicola D'Amato, an Italian of Brooklyn, was arrested, April 6, on the charge of practicing medicine without a license from the board of health. The warrant was issued by the registrar of vital statistics.

Loomis Lectures on Sanatoria.—Dr. Henry P. Loomis delivered a popular lecture in the United Charities Building on "Sanatoria and Climatic Influences in the Prevention of Tuberculosis," illustrating it with stereopticon views of the leading sanatoria.

Thousands for Gouverneur.—At the request of the president of the Board of Trustees of the Bellevue and Allied Hospitals, the issue of $125,000 corporate stock for the purpose of completing the construction of Gouverneur Hospital was granted by the board of estimate.

Mikulicz in New York.—Prof. von Mikulicz is in the city as the guest of Dr. Fred Kammerer. A dinner was given by Dr. Kammerer in his honor, and an opportunity was thus afforded of presenting the distinguished foreign surgeon to a number of eminent members of the local profession

Work of Throat Hospital.—The Metropolitan Throat Hospital, during a period of thirty years, has been the means of affording free medical assistance to a large class among the deserving poor of New York. According to its recently-issued report, 27,244 individuals have been received since its foundation, and a total of more than 218,364 visits have been made to its dispensary. During the last year, 1,307 patients were treated in the clinics.

Garnault Here.—Dr. Paul Garnault, the Paris physician who, in June, 1901, offered himself for experimentation in order to refute Koch's assertion that tuberculosis can not be transmitted from cattle to man, is now in New York. His object in coming here is to deliver a series of lectures on the evolution of Roman Catholicism. Speaking of the inoculation experiments made on him by three other physicians, and at the same time, as a control, on guinea pigs, he stated that in 25 days the guinea pigs developed tuberculosis, and died within two months, and that when examined in July by Dr. Roux, that savant declared that a local tuberculosis had been set up in Dr. Garnault. That the process did not become general is attributed to his vigorous health.

Buffalo.

Personal.—Dr. Charles G. Stockton is in California.——Dr. Charles Cary will spend several months in Europe——Dr. Augustus Pohlman has resumed his work as instructor in anatomy at Cornell University.

March Mortality.—The monthly report of the department of health for March shows a death rate of 15.91 per 1,000. The principal causes of death were as follows: Pulmonary consumption, 45; cerebrospinal fever, 4; diphtheria, 7; pertussis, 14; typhoid fever, 11; debility, 45; cancer, 24; apoplexy, 18; meningitis, 24; valvular heart disease, 28; pneumonia, 55; appendicitis, 7; cirrhosis of liver, 7; chronic nephritis, 12, and violence, 36. Total deaths 504, as compared to 520 in March, 1902.

PENNSYLVANIA.

Car Quarantined.—Smallpox on a Pullman car on an Erie train caused the car to be detached at Meadville and quarantined. The passengers were vaccinated.

The Typhoid Epidemic at South Bethlehem.—About 200 cases of typhoid fever have occurred during the winter at South Bethlehem. The epidemic is ascribed to impure drinking water. It has been proposed to place a filter in the Lehigh river, but a report on the proposed method, recently made by an expert, expressed disbelief in the filter proposed, and recommended the slow process of sand filtration as the only effective means of purification.

Additional Appropriations.—In addition to the appropriations to hospitals already mentioned in THE JOURNAL, the following appropriations were finally passed by the legislature: Home for the Friendless, $6,000; Temporary Home for the Aged, $3,000; Woods Run Industrial Home, $1,500, all of Allegheny; Home for the Aged, $4,000; Hayes Mechanics' Home, $3,000; German Hospital, $30,000; Orthopedic Hospital $31,000, all of Philadelphia; Corry Hospital, $7,000; Wilkesbarre Hospital, $38,000, and Harnot Hospital, $16,000.

Compulsory Report of Communicable Diseases.—A bill was passed by the legislature, and now awaits disposition by the governor, making it a misdemeanor for any physician or other person knowingly not to report, within ten hours, a case of smallpox, diphtheria, or scarlet fever, which may come to his knowledge, providing a fine of from $50 to $500, or imprisonment from ten days to six months, or both, and also making it compulsory on all cities, boroughs and townships to furnish quarantined persons medical aid, necessaries of life, etc.

Hospital for Feeble-Minded.—Among other bills in the hands of the governor, is one appropriating $50,000 for the selection of a site and the erection of a state institution for the feeble minded and epileptic, to be called "The Eastern Pennsylvania State Institution for the Feeble Minded and Epileptic;" and also a bill making it the duty of school directors, trustees or other persons having control of any school or college building, to adopt and immediately to put into operation a modern method and system of disinfection for school or college buildings.

To Suppress Smallpox.—The sum of $50,000 asked for by the state board of health has been appropriated by the legislature. The amount is largely to be used in the suppression of smallpox. Dr Wilmer R. Batt, quarantine officer at large, and his assistants, are at work in counties west of the Alleghenies, where the disease is epidemic, establishing quarantine, enforcing vaccination and other measures for stamping it out. There are many centers of infection; in Tyler, Clearfield County, about 50 cases of smallpox were found, and no precautions had been taken to prevent the spread; the disease was found in about half a dozen villages, of which Houtzdale was the center; the whole district has been, for the present, quarantined. The disease is also prevalent east of the Alleghenies, in Lycoming, Bradford and Susquehanna Counties, where active preventive measures are being instituted. In Philadelphia and vicinity the disease is decreasing.

An Oil City Feast.—On April 15 the medical profession of Oil City gave a banquet in honor of Dr. Miles F. Porter, Fort Wayne, Ind., at which Drs. Roswell Park, Matthew D. Mann and Charles G. Stockton, Buffalo, N. Y., were guests of honor. Dr. Clarence W. Coulter was toastmaster, and Dr. John A. Ritchey delivered the address of welcome. The following toasts were responded to: "What's the Use," Dr. Miles F. Porter; "The Irregular Physician," Dr. William A. Nicholson, Franklin, Pa ; "Let Us Not Forget the Lessons of Past Years," Dr. Roswell Park; "The Regular Physician," Dr. John C. O'Day, Oil City; "Early Reminiscences of Gynecology," Dr. Matthew D. Mann, and "Status Presens," Dr. Charles G. Stockton. Dr. Roswell Park touched on the sad condition of affairs existing between New York and the National body, the American Medical Association. He expressed the earnest hope of seeing the difficulty completely removed and to see his own state harmoniously in line with the rest. Dr. Miles F. Porter said that, as a member and director of the association, he would do his mite toward effecting this end.

Philadelphia.

Public Health and Charities.—As authorized by act of the legislature, the city councils have created the new department of Public Health and Charities. It is stated on good authority that Dr. John V. Shoemaker will be director of the new department.

Pre-Nuptial Banquet.—On the evening of April 18 Dr. James M. Anders was given a dinner by his brother members of the faculty of the Medico-Chirurgical Medical College. The toasts, several in number, were with reference to the approaching marriage of Dr. Anders.

Poisoner Indicted.—Mrs. Catherine Danz has been indicted by the grand jury for the murder of her husband by the administration of poison, and George B. Hossey, the negro "herb doctor," was also indicted as an accessory to the crime, for furnishing the poison. Expert analysis of portions of Danz's body showed the presence of both arsenic and antimony.

Communicable Diseases.—A decrease has occurred in the number of new cases of typhoid fever and smallpox, but an

increase in diphtheria and scarlet fever. For the week ended April 18, there were, of typhoid fever, 160 new cases, as compared with 204 for the previous week; of smallpox, 10, as compared with 16 the previous week; of diphtheria, 78, as compared with 59 the previous week, and of scarlet fever 89, as compared with 70 the week before. There are under treatment in the Municipal Hospital 72 cases of diphtheria, 134 of scarlet fever, and 70 of smallpox. Nearly all the blame for the epidemic of typhoid fever may be ascribed to bad water. Of the 204 cases occurring during the week ended April 11, 67 were in a portion of West Philadelphia, where the residents receive most of the water supply by direct pumpage from the Schuylkill river.

GENERAL.

End of the Mazatlan Plague.—The city of Mazatlan, Mexico, has had no new cases of plague for some time and business has resumed its usual aspect.

Mikulicz Visits America.—Prof. J. Mikulicz, the famous Breslau surgeon, is visiting America. It is hoped that he will attend the New Orleans session.

Marine Hospital at Nome.—The United States Public Health and Marine-Hospital Service has established a hospital at Cape Nome, Alaska, and the hospital at Dutch Harbor will be discontinued.

Disinfection of Mail.—The postoffice department has issued a general order calling attention to the regulations governing the disinfection of mail matter, because of the prevalence of smallpox and other diseases in certain portions of the country.

Constabulary Medical Corps.—The Philippine Commission has provided for the appointment of three surgeons to the Insular Constabulary, and Drs. Winslow, Wheate and Baker have been appointed. They were formerly captains and surgeons of volunteers, and Dr. Winslow was prominent in the fight against cholera last year.

Recuperation Hospital in Philippines.—General Davis, U. S. A., commanding the Division of the Philippines, has arranged to have a large modern hospital erected near Mariveles at a level of about 3,000 feet. The special object is to provide a place where officers and men who are suffering from the effects of tropical climate may recuperate.

Personal.—Dr. H. C. Sloggett, Honolulu, founder of the Honolulu Eye and Ear Infirmary, former president of the Hawaiian Territorial Medical Association and former president of the Hawaiian Territorial Board of Health, has sailed for Shanghai, China, to become general manager and medical director of the Oriental Life Insurance Company.

Window Memorial for Physician.—A handsome memorial window has been placed in the Center church, Hartford, Conn., in memory of Dr. Horace Wells. The inscription credits him with being the discoverer of anesthesia. The service in the church in connection with the window was attended by the Hartford Medical Society and the Hartford Dental Society and by many physicians and dentists from other cities

The Army Medical School closed its sixth session April 14. The exercises were held in the hall of the National Museum. An address was delivered by John S. Billings, M.D., LL.D., deputy surgeon-general, retired. The diplomas were presented by the Hon. Elihu Root, secretary of war, and the Hoff memorial medal was presented by Gen. William H. Carter, U. S. A., of the War College board, to Assistant-Surgeon Harry L. Gilchrist for the highest average. This is the largest class graduated since the school was founded, in 1893, there being 38 graduates. Of this number the following were honor graduates, having an average of more than 90 per cent.: Harry L. Gilchrist, Samuel M. Deloffre, John W. Hanner and Edward M. Talbott. Most of these young medical officers have already been ordered to the Philippine Islands for duty. The following first lieutenants and assistant surgeons were the other graduates:

George H. R. Gosman, Reynold M. Kirby-Smith, William H. Moncrief, George L. Collins, Nelson Gapen, William T. Davis, Charles F. Morse, Samuel E. Lambert, Haywood S. Hansell, Junius C. Gregory, Jay W. Grissinger, Will L. Pyles, Thomas Devereux, William M. Smart, Robert H. Pierson, Cary A. Snoddy, Harry S. Purnell, Robert M. Blanchard, James Bourke, Louis C. Duncan, John A. Clark, Samuel J. Morris, Noel I. Barron, Jacob M. Coffin, Levy M. Hathaway, Alexander Murray, Philip W. Huntington, James D. Fife, William A. Powell, Leon T. LeWald, Jesse R. Harris, George H. Scott, Edwin D. Kilbourne, Robert L. Carswell.

U. S. Regional Death Summary.—The death map prepared by the Census Bureau shows some interesting facts as to the geographical distribution of diseases. For example, affections of the lungs are most common along the Atlantic coast from New York to Virginia and along the Mississippi River from Missouri to the Gulf. Typhoid fever and malaria are naturally rare in mountainous districts, but are at the head of the list in North and South Carolina, Georgia, Alabama, Mississippi, Arkansas and Indian Territory. Sensational deaths occur most frequently on the Pacific Coast. In the state of Washington gunshot wounds are a prevalent cause of death. On the Pacific Coast heart disease, suicide, apoplexy and alcoholism claim more victims than in other sections of the country. A general statement is made that three out of every 100 die of old age, but in a few districts old age is almost as important a cause of death as consumption or malaria. These places are the Catskills, Adirondacks, Green Mountain, parts of Michigan and Wisconsin and the region bordering on the Missouri River. In mountainous districts, cancer, heart disease and apoplexy are more common than on level ground. Croup and whooping cough appear to be most dangerous in the most thinly-settled districts As a general proposition, most deaths in the country are caused by climatic conditions, while those in cities are largely caused by social conditions. The map makes an interesting study for the physician.

FOREIGN.

Lannelongue Endowment at the Paris Academie des Sciences.—Professor Lannelongue has presented a fund to the Académie representing an annual income of $240.

French Hygienic Mission.—Dr. F. Gallard of Paris has been sent to this country by the minister of commerce and industry to study the hygiene of the working classes in the manufacturing centers here, from the double point of view of the professional environment and administrative assistance, that is, medical and hospital aid.

Agricultural School for Nervous Children.—Dr. Strohmayer, a prominent neurologist at Jena is director of an educational institution recently opened there for nervous and feeble-minded children. The raising of fruit, flowers and vegetables and forestry will be taught both theoretically and practically by teachers trained for the task.

Defective Acoustics in the New Paris Academie de Medicine.—The committee on remedying the defective acoustic properties of the new hall, recommend carpeting the hall, stretching threads across under the glass ceiling, substituting thinner panes of glass when any are broken, hanging tapestry or curtains along the walls and behind the platform, and curtaining off the boxes.

An Experiment in Switzerland.—The "Gazette Med. de Paris" states that Zurich is now debating a scheme to establish medical guardians of the public health. It is proposed to tax every individual over 18 at the rate of 80 cents a year. This will supply a sum sufficient to retain the services of forty physicians, who will watch over the maintenance of the health of the populace.

Milk Exposition at Hamburg.—In connection with the approaching Milk Exposition at Hamburg several works have been published dealing with the care of milk from various standpoints. The largest is entitled "Die Allgemeine Milchkunde," and contains everything known to date on the subject of milk and milk hygiene for the use of families, milk dealers, farmers, physicians and others.

Medical Censorship of Charlatans' Ads.—A German publishing house, A. Scherl, has officially applied to the German Medical Press Association with the request that it would pass judgment in dubious cases on the advertisements of applicants, whether they should be rejected as quack ads or not The association unanimously resolved to accept the proffered control and place their services at the command of the firm in the matter.

Prizes Awarded from the Pettenkofer Endowment.—A diploma and prize of $190 has been awarded by the committee in charge of this fund at Munich to three scientists. The first is Dr. Karl Flügge, director of the Institute of Hygiene at Breslau, as a token of appreciation of his works on formaldehyd disinfection and the transmission of phthisis by droplets expelled in sneezing, coughing and speaking. The second recipient is Dr. Dunbar, director of the similar institute at Hamburg, for his research on the so-called biologic cleansing process. The third is Dr. Ohlmüller of Berlin for his method of ozone purification of water.

Anti-Alcohol Congress.—The International Anti-Alcohol Congress opened in Bremen April 15. Secretary von Posadowsky-Wehner, in his opening address, said that the increased strain

due to the advance of civilization encourages the use of stimulants. Legislation is not the real remedy for the abuse of alcohol. Education of the people to a higher sense of morality is the remedy. Dr. Delbrueck, Bremen, was elected president. Professor Legrain of Paris, speaking on "Alcoholism and Tuberculosis," said that the use of alcohol predisposes the human system to tuberculosis, and also prevents the cure of it. Alcoholism intensifies the effect of diseases which create those conditions which are best fitted for the ravages of tuberculosis. Since the triumph over alcoholism, he continued, is approximately a triumph over tuberculosis, the real, individual and social treatment for tuberculosis consists in the strictest abstinence from alcoholic liquors. A lively discussion ensued.

The Battle of the Clubs.—The sick benefit societies at Stralsund surprised their medical officers, who had just resigned in a body, by granting their modest demands, and peace reigns once more. The physicians connected with the Mülhausen Kassen have recently asked for an increase of 16 per cent. over the present rates of 50 cents per capita and $1.50 per family. As the request was refused, they have all resigned. No change has occurred in the state of affairs at Gera, but our German exchanges still bear the display ad: "Physicians, do not go to Gera. Colleagues who are thinking of treating with the Textile Industries Kassen at Gera are requested to apply to Dr. Schrader, Gera, Reuss, or to Dr. Hartmann of Leipsic-Connewitz, president of the Leipziger Wirthschaftlicher Verband." The Verband mentioned is the "Union for Promoting the Material or Economic Interests of Physicians in Germany," to which we have often referred. It is stanchly supporting the physicians in their position. The Gera resignations were on purely ethical grounds, refusal to co-operate with a "nature healer" as a member of the medical staff on the same terms as the rest.

LONDON LETTER.

The Polyclinic.

The annual meeting was held on March 31. Sir W. Broadbent, the president, pointed out the gratifying progress of the institution, the number of members having risen from 825 in 1901 to 941 at present. A composite course of lectures on medicine and surgery has been organized and on payment of a fee of $5 a member may attend these lectures, one of which is delivered daily. The fee for non-members is $10. Many valuable additions have been made to the Hutchinson Museum and the whole collection has been so classified and arranged as to permit of speedy and easy reference. A companion catalogue has been published in the "Polyclinic." The financial report of the institution is not so satisfactory: the balance sheet for the year shows a deficiency of $2,000. The annual subscription of members ($5) and the fees charged for tutorial classes are not sufficient to meet the working expenses, and appeals to the charitable public for support have not been as successful as was hoped. They regard the institution as a doctor's affair and think it should be supported by the profession. As no hospital is attached, it does not appeal to their imagination. Sir W. Broadbent said that he never ceased to hope that, sooner or later, a properly equipped hospital would be acquired. A proposal was made to raise the annual subscription to $10.

Treatment of Trachoma by the X-Rays.

At the Ophthalmological Society Mr. M. S. Mayou, in describing this method, pointed out that with care the amount of reaction could be regulated. Even prolonged exposure of the globe to the *x*-rays was attended only by such trifling bad results as falling out of the lashes and conjunctivitis. Experiments on rabbits and frogs showed that the *x*-rays did not bleach the visual purple. The technic of the treatment consisted in everting the eyelids (the operator's hands being protected with bismuth ointment and cotton gloves), the cornea was exposed only when severe pannus was present. The infiltration set up caused difficulty in deciding when treatment should cease. The advantages of the treatment are: (1) less resultant deformity, (2) painlessness, (3) more thorough clearing of pannus.

Mr. Hutchinson on the Plague in India.

While engaged in his tour of investigation of leprosy in India, Mr. Hutchinson, as might have been expected, has found many subjects which have engaged the attention of his versatile intellect. Writing from the town of Amritzur, in which in the past week 731 persons had died out of 1,076 suffering from plague, he comments on the remarkable absence of anything like panic in the cities of India. In Lahore, the city which he had just left, the mortality was 390 out of 833 cases. The little town of Taran-tara, with a population of 4,000, a resort of pilgrims, he found comparatively deserted, its narrow streets closed and marked with a long bar of white paint, showing that deaths from plague had occurred in them. In many instances whole families had been carried off; the mortality was 95 per cent. Yet business was going on as usual, and a long string of pilgrims on foot, in carriages, or mounted on camels was passing through its narrow streets. The procession was miles in length, and had very properly been forbidden by the government, but the authorities were not strong enough to prevent it The natives are absolutely careless as to precautions, though willing enough to run out of a house in which the disease occurs. Mr. Hutchinson fears that the disease will soon have established itself over the whole of India. Isolation is impossible. The natives will not permit removal of their relatives and often will not seek skilled advice. When several cases have occurred in a house they take alarm and desert the patients, leaving the burial and disinfection to be done by others, but they will give no assistance to measures of precaution. Their religious principles prevent them from killing rats or being in any way accessory to their death. They will catch them alive in traps, take them a distance and let them loose, not improbably in some one else's garden. In order to meet the prejudices of the natives rewards are offered for live rats, which are fed and housed. At Amritzur they are kept in a large room with a stone floor and fenced with wire and liberally fed. But the confinement and inability to burrow does not suit them and they soon die. The inhabitants of the district object to this "rats' hell" in their midst, and another site will have to be found. The physicians and other Europeans exposed to the plague have received prophylactic injections of serum. The results are painful, and a severe rigor, temperature of 104, and distressing lassitude follow. In the natives the reaction is less severe. Great confidence is placed by the physicians in the efficiency of the injections, as well as in the use of immunized blood serum in the treatment of the disease.

Tetanus After the Subcutaneous Injection of Plague Serum.

The natives require much persuasion to submit to prophylactic injections of serum, and the lamentable accident which occurred last November and which we have described (The Journal, January 31), was eagerly published by the native press and did much to confirm their prejudices. The following are additional particulars: Nineteen healthy young natives were injected on the same occasion from a bottle of Haffkine's fluid All developed symptoms of acute tetanus on the fifth day, and died within a few days. Other bottles in the same consignment were innocuous. The operator was well skilled and careful and all the usual precautions were observed. In the district tetanus is common. Hence contamination probably took place on the spot. Perhaps it resulted from the syringe and not from the fluid.

Correspondence.

The Mosquito as a Carrier of Disease.

Vera Cruz, Mexico, April 12, 1903.

To the Editor:—In The Journal, April 4, appears an article by Dr J. Stebbins King on "The Mosquito as a Carrier of Disease." In this article Dr. King makes the following statements:

1. . . . Hundreds of non-immunes are bitten every year by infected culex mosquitoes where yellow fever exists as an epidemic and do not take the disease."

2. . . . Non-immunes can be exposed for days and months to yellow fever, and that, too, in the presence of infected culex mosquitoes, and not take the disease. . . .

3. The Doctor does not so state, but implies, that the mosquito is not the only means of transmitting yellow fever.

4. The writer, . . . can most positively vouch for the truth of every statement here made [in his article].

In reply to these four statements, it is well to mention the fact that it is impossible to prove whether a mosquito is infected with yellow fever or not without trying to inoculate a non-immune with the suspected insect. No microscopic or bacteriologic examination is of the least value, as nothing has been found in the infected insects that is of the least diagnostic importance. Unless the Doctor had control of the mosquitoes and tried them out on the non-immunes he can hardly vouch for the truth of his first statement.

In regard to his second statement, it is absolutely false, so far as the non-immunes being exposed to infected culex mosquitoes. Drs. Reed, Carroll and Agramonte demonstrated beyond a doubt that infected mosquitoes would infect non-immunes, and the same thing has been further demonstrated here in Vera Cruz. If there are any non-immune doubters that have to be shown this fact and have an infected insect feed on them, they can be accommodated at any time. The reason why non-immunes can be in constant attendance on yellow fever patients and not contract the disease is only explained by the mosquito transmission theory. The mosquito can not transmit the disease until ten or twelve days after biting the infected patient. In that time the patient is convalescent, the room disinfected and aired and, in all probability, the infected insects killed or driven over to the neighbor's house.

It is very probable also that the patient is covered with a mosquito bar and the nurse, through human instinct, exterminates all mosquitoes in sight.

As to the third statement, the Doctor only implies that there is some other means of carrying the infection, yet does not advance either a fact or theory as to the means. I have seen yellow fever produced by the mosquito inoculation and also by the injection of blood from a person suffering from the disease into a non-immune. I have seen yellow fever fail to develop in three non-immunes who were confined in a mosquito-proof room with a man suffering from a severe case of yellow fever, and who remained in the room throughout a period of four weeks. I have had numerous cases during the past year in which non-immunes nursed yellow fever cases and did not contract the disease, and the only precaution taken was to screen the room and keep the patient under a good mosquito net I had one case in which a mother nursed a 2-months-old baby during the first four days of her attack of yellow fever—and only ceased because the secretion of milk stopped—the child staying in the bed with its mother throughout the whole course of the disease, yet did not contract yellow fever, the room being entirely free from mosquitoes. The experiment was tried here of giving to a non-immune, whose stomach had been previously emptied, twenty-three infected mosquitoes in a capsule, without any effect whatever.

The complete extermination of the fever in Havana through the destruction of the stegomyia should carry some weight with the thinkers, and such an article as that written by Dr. King can only cause doubt in the minds of men who are not acquainted with the facts in the case.

If Dr. King or anybody else has any theory, fact or suggestion as to any other means of transmitting yellow fever, they will confer a favor by making it known, as there are many men in yellow fever communities and elsewhere who would gladly demonstrate the truthfulness of such a theory or suggestion. The Mexican government, the Marine-Hospital Service and the state boards of Alabama, Louisiana and Texas have accepted as proven the mosquito transmission theory, and their quarantine laws are based on this fact.

Let those who doubt refrain from publishing assertions until they can prove one little fact about their other means of propagating the disease, for such articles only produce doubt in the minds of those living within the infectible territory of the United States, and cast reflections on the work of the best men in charge of our quarantine system.

SAMUEL H. HODGSON, M.D.,
Acting Assistant Surgeon, U. S. Marine-Hospital and Public Health Service. Last six years residing and practicing in a yellow fever epidemic.

Typhoid Perforation Data Wanted.

NASHVILLE, TENN., April 17, 1903.

To the Editor:—I desire to request any surgeon who has operated for intestinal perforation or peritonitis in typhoid fever, to send me the data of the cases and reference, if they have been published, under the following heads: Age. Sex. Severity of the fever. Symptoms of perforation. Abdominal signs. Date of disease when perforation occurs. Length of time after perforation before operation. Leucocytosis (if any tests). Description of findings at operation. Site of perforation. Result. Remarks.

I have collected 261 cases in the literature, and feel sure that many more have remained unfound or unreported. For the purpose of a complete statistical investigation of this important surgical problem, I respectfully request the above reports at as early a date as possible. W. D. HAGGARD

Marriages.

T. E. MCMURTREY, M.D., to Miss Grace Polglase, both of Chicago, April 15.

HERMAN D. PETERSON, M.D., to Miss Marie Freeman, both of Chicago, April 20.

LEIGHTON P. ALLEN, M.D., to Miss Frances Ideson, both of Oshkosh, Wis., April 15

DANIEL W. ROGERS, M.D., Chicago, to Miss Helen S. Wainwright, at Chicago, April 14.

JAMES LANG LEWIS, M.D., Lawton, Okla., to Miss Elizabeth Shaw of Chicago, at Joliet, Ill., April 21.

GUY B. VAN ZANDT, M.D., Montrose, Ill., to Miss Lucille Cuddy of Allan Reed, Texas, at St. Louis, Mo., April 9.

Deaths.

Isaac W. Fink, M.D. St. Louis Medical College, 1854, a member of the American Medical Association, Mississippi Valley Medical Association, Illinois State Medical Society, Central Illinois Medical Society and for several years president of the Montgomery County Medical Society, died at his home in Hillsboro, Ill., April 14, from paralysis, after an illness of seven months, aged 78.

Edmund Ludlow, M.D. Northwestern University Medical School, Chicago, 1895, formerly interne at St. Luke's Hospital, Chicago, and at the Central Indiana Hospital for the Insane, Indianapolis, who left his home in Paxton, Ill., in search of health, going first to Silverton, Colo., and then to Los Angeles, died in the latter city, April 5.

William S. Whitwell, M.D. Harvard University Medical School, Boston, 1872, of New York City, a member of the American Medical Association, died at the Riverview Sanitarium, Fishkill Landing, of which he was proprietor, from Bright's disease, April 8, aged 57.

Hugo Lupinski, M.D. University of Michigan, Ann Arbor, 1882, a member of the American Medical Association, for several years health officer of Grand Rapids, Mich., died at his home in that city, April 7, after an illness of two weeks, aged 44.

George W. Westlake, M.D. Medical College of Ohio, Cincinnati, 1866, a member of the American Medical Association, coroner and public administrator of Tehama County, Cal., died suddenly from heart disease in his office at Red Bluff, April 4, aged 59.

William M. Carothers, M.D. University of Pennsylvania, Philadelphia, 1890, of Braddock, Pa., died, April 12, at the Western Pennsylvania Hospital, Dixmont, from organic disease of the heart after a prolonged illness, aged 45.

Isaac S. Tanner, M.D. New York University, 1845, a surgeon in the Confederate service during the Civil War, and a resident of Shepherdstown, W. V., for more than half a century, died at his home, April 9, from paralysis, aged 85.

Bernard Stuve, M.D. Ohio Medical College, Cincinnati, 1851, who retired from practice in 1868 to practice law, died at his home in Springfield, Ill., April 11, from disease of the stomach, after an illness of a year, aged 73.

Gustave E. Sussdorff, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, of San Francisco, died at St. Mary's Hospital in that city from pneumonia, April 4, after an illness of one day, aged 60.

Hobart Cheesman, M.D. New York University, 1878, for the last twenty years one of the chief examiners of the Equitable Life Assurance Society, died at St. Luke's Hospital, New York, April 11, aged 58.

H. N. Coomer, M.D., of Ashley, Ohio, who had practiced for more than forty years in that locality, and had been for seven

years past health officer of Ashley, died, after a long illness, April 1, aged 70.

Samuel P. Timmons, M.D. University of Louisville, 1896, who was compelled to move from Louisville to Texas a year ago on account of failing health, died at Graham, Texas, April 6, aged 38.

William A. Durrie, M.D. Yale Medical School, New Haven, Conn., 1846, of East Orange, N. J., who retired from active practice in 1884, died at his home, April 8, after a short illness, aged 81.

H. Cushman, M.D., of Stromburg, Neb., a member of the American Medical Association, died at his home, April 8, from pneumonia, after an illness of four days, aged 65

L. Gideon Archambault, M.D. Ecole de Medecine et de Chirurgie, Montreal, P. Q., 1869, died at his home in Woonsocket, R. I., April 8, from diabetes, after a long illness.

Guy Bryan Miller, M.D. College of Physicians and Surgeons, New York, 1898, formerly house physician at St. Luke's Hospital, died in Paris, France, April 7, aged 30.

George M. Silvers, M.D. College of Physicians and Surgeons, New York, 1878, died at his home in Chicago, April 15, from pneumonia, after a brief illness, aged 43.

Chauncey Ayres, M.D. Yale Medical School, New Haven, 1831, the oldest alumnus of that institution, died at his home in Stamford, Conn., April 14, aged 95.

Henry D. Kerfoot, M.D. Bellevue Hospital Medical College, New York, 1870, died at his home in Berryville, Va., April 9, after a protracted illness, aged 57.

J. C. Stone, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1890, of Madison, Ga., died in a sanatorium at Atlanta, March 30, aged 38.

James D. Craig, M.D. Hygeio-Therapeutic College, New York, 1858, died at his home in Rogers Park, Chicago, April 13, from pneumonia, aged 70.

John A. Evans, M.D. Missouri Medical College, St. Louis, 1882, died at his home in High Hill, Mo., April 8, from disease of the stomach, aged 41.

T. W. Keith, M.D. Memphis, 1902, died at his home in Downing, Texas, from pneumonia, April 14, after an illness of six days, aged 36.

William H. Curry, M.D. University of Maryland, Baltimore, 1866, died suddenly at Baltimore, April 10, from heart disease, aged 61.

Thomas S. Jones, M.D. University of Pennsylvania, Philadelphia, 1868, died recently at his home in Shelbyville, Ind., aged 60.

Joel J. Walker, M.D. Louisville Medical College, 1878, died at his home in Hot Springs, Ark., April 9, after a prolonged illness.

Anna T. Mills, M.D. Woman's Medical College, Chicago, 1882, died from pneumonia at her home in Vinita, I. T., March 16.

Hugh Marshall, M.D. Rush Medical College, Chicago, 1852, died at his home in Monmouth, Ill., April 11, aged 77.

Charles A. Wunsch, M.D. Cleveland Medical College, 1867, died at his home in Saranac, Mich., April 8, aged 77.

James M. Tomlinson, M.D., Paris, France, died at his home in Indianapolis, April 9, from apoplexy, aged 81.

L. M. Bray, M.D., Toone, Tenn., died suddenly from apoplexy at his home, April 11, aged 75.

N. P. Givens, M.D., of Bowie, Texas, died April 5, aged 60.

Deaths Abroad.

Thomas Maclagan, M.D., who died recently, was, like many men who had attained eminence in the practice of medicine in England, a Scotchman. Though not on the staff of any hospital and, therefore, not a consultant in the ordinary sense, he had a very high-class practice. One of his patients was Thomas Carlyle. His success depended entirely on his sterling qualities. According to Sir F. Treves, "He was one of the most successful practitioners in London. He knew his work; he was one of the kindest and most sympathetic of men; he was rigidly upright and punctiliously honest." His salicylate treatment of rheumatism first brought him into prominence with his professional brethren. As long ago as 1876 he wrote what is curiously in accord with the most recent pathology: "Rheumatic fever is regarded as being produced by some cause or agency generated within the body. My investigations have led me to reject this view and to adopt the old 'miasmatic' view, according to which the cause is introduced from without." As the cinchonaceæ grow plentifully in malarious regions, he argued that possibly some plant which grew plentifully in regions where the rheumatic miasm prevailed would prove effective, and was led to try the salicaceæ. Decoction of willow-bark had been known as a cure for rheumatism long before, but in modern times Dr. Maclagan was the first to point out the value of salicin, which later was supplanted by the salicylates.——**Luciano Armanni, M.D.** University of Naples, 1861, professor of pathologic histology in the University of Naples, founder and director of the institute of pathologic anatomy connected with the Hospital for Incurables, died, after a long and painful illness, from disease of the lungs, March 15, aged 64.——**Emma Constance Stone-Jones,** L. S. A., London, 1889; M.D. and Ch.M., Trinity College, Toronto, died recently at her home in Melbourne, Australia, aged 46.——**B. Von Kahlden,** professor of pathologic anatomy at Freiburg, died recently from apoplexy.

Book Notices.

The Diseases of Warm Countries. A Handbook for Medical Men. By Dr. B. Scheube, State Physician and Sanitary Adviser, Greiz. Translated from the German by Pauline Falcke, with Addenda on Yellow Fever, by James Cantlie, M.B., F.R.C.S.; and on Malaria, by C. W. Daniels, M.B., M.R.C.S. Edited by James Cantlie, M.A., M.B., F.R.C.S., D.P.H., Lecturer at the London School of Tropical Medicine. With All the Original Colored Maps, Charts, Illustrations, Etc., Together with Many Additional Plates, from the *Journal of Tropical Medicine*. Second Edition, Revised. Cloth. Pp. 594. Price, $8.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

This translation of Scheube's work is a valuable accession to the medical literature of the English language. It has had but one predecessor on the subject, and that is the comparatively small work by Manson. This is decidedly the more valuable work. Of course, the text is a little behind the times, but that has, to a certain extent, been made up by the addenda to the chapters on some subjects and in which a brief summary of the chief recent advances in our knowledge of malaria and yellow fever is given. A specially valuable feature of the work is its bibliographies, which brings the literature up to within a comparatively few years. It would have been better had the book been revised and annotated instead of merely translated, and we hope that in future editions this will be done. With a thoroughly detailed editing we know of no work that would be its superior and but few that are to be compared with it on its special subjects. The translation has been well done.

Diseases of Women. A Clinical Guide to Their Diagnosis and Treatment. By George Ernest Herman, M.B. Lond., F.R.C.P., Obstetric Physician to and Lecturer on Midwifery at the London Hospital. With Upwards of 250 Illustrations. Revised Edition. Cloth. Pp. 884. Price, $5.00 net. New York: Wm. Wood & Co. 1903.

The object of the present volume, the author says, is to furnish a convenient manual for the student and practitioner and not a manual of reference for the specialist. It seems to us that Dr. Herman has succeeded very well in his purpose. He says he thinks he has one qualification for writing such a book, viz., clinical experience. That is certainly an important qualification. While the book is not strictly original in its treatment of the subject, it seems to be the result of good observation and, as might be expected from the preface, is not overloaded with references to the literature or quotations from other authorities. There is nothing specially novel in its classification. The illustrations are schematic, but generally excellent for the purpose; we believe that schematic illustrations are, as a whole, better for the student than the elaborate attempts at reproducing actual conditions and anatomic structures. There is not the reference to American authors and their work that one would look for, and some valuable contributions to gynecologic technic, etc., by American authors is not mentioned.

Harrington's Hygiene. A Manual of Practical Hygiene for Students, Physicians and Health Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Second Edition. Revised and Enlarged. With 113 Engravings and 12 Full-Page Plates in Colors and Monochrome. Cloth. Pp. 755. Price, $4.25 net. Philadelphia and New York: Lea Brothers & Co.

It is not long since we noticed the first edition of this work. The second appears with some valuable additions and a general

revision The principal additional matter is a chapter on the relation of insects to human diseases, a subject which has come very much to the fore within the last few years. The author's statements on the harmlessness of liqueurs or cordials, with the exception of absinthe, is not in accord with the latest French pronouncement on the subject, which, we think, must be based on as full testimony and study as any that the author has given to it. Aside from their alcoholic content, if we are not mistaken, liqueurs are declared by French authority to be decidedly harmful in themselves. Taken as a whole the book, we think, will maintain the popularity the former edition has received.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in All Branches of Medicine and Surgery, Drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Arranged, with Critical Editorial Comments, by Eminent American Specialists. Under the Editorial Charge of George M. Gould, A.M., M.D. In Two Volumes. Volume I, Medicine. Volume II, General Surgery. Cloth. Price, per volume, $3.00 net. Pp. 691 and 670 Respectively. Fully Illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This year-book keeps up its reputation and gives an excellent résumé of the leading literature in the different departments of medicine and surgery. It holds a high place among the various other compendiums in this line. The illustrations are excellent and add largely to the value of the books, which, so far as we have been able to examine, are trustworthy and full.

Miscellany.

In poisoning by morphin or by coal gas, remember the value of the abstraction of blood followed by saline infusion. In severe cases the addition of this measure to the others employed may be sufficient to save the life.

For Medical Writers.—Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest words possible, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else.—Ruskin.

Treatment of Gonorrhea Based on the Biologic Properties of the Gonococcus.—V. Schultz contributes to the "St. Petersb. Med. Woch." an article on this subject. He first establishes that the organism seeks to repel the invasion of the gonococci by filling up and obstructing with leucocytes the openings in the mucous membrane attacked and the lymphatics, thus localizing the infection. The cocci find in the leucocytes a nutrient medium peculiarly rich in peptone and in their proliferation in it they generate a toxin which in turn checks their own development. The infection is also blocked by early regeneration and metaplasia of the cellular tissue of the mucosa and the cocci are eliminated in the dead cells thrown off by the tissues. A fifth factor in the struggle of the organism is the febrile temperature, which probably has also an inhibiting influence. He cites authorities to the effect that the toxin generated by the cocci has an injurious influence on the nerves of the region, affecting in time portions of the entire central nervous system. Generally speaking, the columnar epithelium opposes the weakest and the pavement the strongest resistance to the invasion. On account of the penetrating power of the cocci, it is impossible to eradicate them mechanically or chemically unless the entire mucosa down into the submucous layers could be scraped off with them. The sole and entire reliance is, therefore, on the natural processes of defense. They must be promoted in every possible way. As aids in this line, he insists on entire avoidance of all excitement or stimulation of the region, sexual and menstrual. He packs the vagina of his female patients, and forbids them to remove the tampon. He also aims to induce a temporary menopause by intrauterine injections of iodin-alcohol, as recommended by Mackenrodt, Walton and others, or Sänger's method of applying the iodin-alcohol (Volkmann's Sammlung klin. Vorträge, 1890, 1894, 45 and 18, and Cbl. f. Gyn., 1894, 25). To rest the parts as much as possible, he orders his patients to stay in bed during the acute stage or an acute relapse. This is particularly essential during the menstruating period. Food, intestinal functions, etc, must be appropriately regulated, but the local process must be left entirely undisturbed, no instruments, disinfectants or local applications of any kind allowed. The seventh factor in his treatment is simultaneous treatment of the woman's husband if gonococci are discovered in his secretions. A great advantage would be gained if we could devise some way of inducing a local leucocytosis and febrile temperature to enhance the natural processes. Dehio has accomplished this in lupus patients by subcutaneous injection of extracts of the proteins of the prodigiosus and cyaneus bacilli.

A Sensible Veto.—The osteopaths had a vigorous lobby in Salt Lake City this winter, working for a law providing for licensing them to practice in the state on filing a certificate, without undergoing an examination, as is necessary for physicians. They succeeded in getting the bill passed, but it was vetoed by the governor, and failed to pass over the veto The following is Governor Wells' veto message, which we believe is worthy of space in our columns:

VETO OF OSTEOPATH BILL BY GOVERNOR HEBER M. WELLS, OF UTAH, MARCH 16, 1903.

TO THE SENATE:

I herewith return without my approval Senate Bill No. 131, entitled "An Act declaring the practice of osteopathy not to be the practice of medicine and surgery within the meaning of title 52, revised statutes of Utah, 1898, and regulating the practice of osteopathy in the State of Utah."

The saving of human life, whether by means of looking to the prevention of disease or by means calculated to cure disease already established, will be admitted without question to be the proper climax of professional ambition as well as the highest humanitarian desire of legislative enactment. In both these directions the state of Utah, by vigorous sanitary laws and by strict requirements as to the quality of medical practitioners, stands well in the forefront of enlightened and progressive commonwealths.

Only through conviction should we venture to weaken in any degree these safeguards which experience and observation have proven to be beneficent and satisfactory.

PRACTICE OF MEDICINE.

Whatever the term or nature of the tenets of the particular school which this bill aims to recognize, its practice must, it seems to me, be considered a branch of the science of medicine. After all, the physician, of whatever school or designation, has to deal with the same physiology, the same conditions, the same laws of cause and effect in health and disease. All practitioners may not have the same knowledge and the same skill, yet our statutes have wisely provided as a matter of public policy and protection, that a certain amount of skilled knowledge all of them must have.

It requires considerable honesty in any practitioner to admit that a case in hand is beyond his powers. His training may be limited, his pretentions modest; but the consequences of his weakness in refusing to concede it are equally dangerous. The natural treatment of any physical disorder is necessarily determined by a diagnosis of a case—a preliminary of first and absolute importance. To do the wrong thing by performing dangerous manipulations, or to do nothing at all—either of which courses is easily open to the unskilled—may be equally fatal. The peril is not lessened if the physician, perhaps by happy accident or coincidence, has discovered the true condition.

HUMAN LIFE PRECIOUS.

He may be manly enough to confess inability to suggest proper remedies, or reckless enough to attempt treatment of his own altogether without reason or applicability, or indifferent enough, as already suggested, to do nothing at all. In either case the patient suffers the risk. Is not human life too precious to be thus trifled with?

The foregoing suggests that the treatment of disease should not be permitted to be a matter of mere experiment; and inasmuch as the authority to practice presupposed an acquaintance with the science as recognized by all the regular schools, any knowledge short of that should be deemed insufficient. I consider it unfair and dangerous, therefore, to allow the adherents of osteopathy or of any other school to practice without undergoing the ordinary tests to which other practitioners have to submit. The specialist may go so far as his talents and inclination may carry him, and the public be benefited by his advancement, but the fundamental and essential knowledge which every physician ought to have can not safely be waived or ignored.

SAFEGUARDS SWEPT AWAY.

Science is progressive: advancement can not be stayed, in the art of healing least of all; and the dogmatism of disputants, whether in medicine or anything else, must soon yield to the light of truth and reason. Whatever merit osteopathy may have will assuredly find recognition. The present contention is that in the bill before me the necessary requirements and safeguards with which the law surrounds the physically afflicted are thrown down and swept away. To this I am unwilling to consent. No practitioner of this school who possesses the qualifications required of the practitioners of other schools needs such a law. I deem it unwise to enact it for the benefit of those who have not those qualifications. Whenever all who seek to engage in the healing art shall be equally recognized as competent under the regulations now generally established, one medical law will be sufficient. This condition complied with it would give me sincere pleasure to name as a member of our state board of medical examiners an adherent of the very school in whose behalf this piece of legislation is proposed.

HEBER M. WELLS, Governor.

State Boards of Registration.

The New Oklahoma Law.—The recent Oklahoma legislature passed a new law regulating medical practice in that territory. It provides for a territorial board of health, consisting of three reputable physicians appointed by the governor, one of whom is to be a salaried official with the designation of superintendent and to be ex-officio the secretary. The law provides that the board shall meet every three months, due notice of time and place having been given. Aside from its other duties as a board of health, the board is to examine applications and grant licenses to practice medicine, and the act specifies the following conditions:

Section 5. No person hereafter shall practice medicine or surgery in this territory without first obtaining a license from the territorial board of health. Application for license shall be made in writing, together with a fee of $5, accompanied by a proof of good moral character, and proof of ten years' continuous practice, or proof of graduation from a reputable medical college. When the application has been inspected by the board and found to comply with the foregoing provisions, the board shall notify the applicant to appear for examination at a time and place designated in such notice. Examination shall be made in whole or in part in writing and be sufficiently strict to test the applicant's qualifications to practice medicine. All members of the board shall be present and participate in such examination. It shall be the duty of the person holding such license to register in the office of the register of deeds, in a book kept for that purpose, in the county in which person resides or intends to practice. Provided, that an osteopath shall not be required to pass an examination in materia medica or therapeutics.

Sec. 6. Any person practicing or offering to practice medicine or surgery in any of their branches, without first having obtained a license from this board, shall be deemed guilty of a misdemeanor and, on conviction thereof, shall be fined in any sum not less than $50 nor more than $100, or by imprisonment in the county jail for a period of not less than thirty days nor more than six months, or by both such fine and imprisonment at the discretion of the court, and all costs incurred therein.

Sec. 7. The provisions of this act shall not affect the rights of persons now legally practicing medicine, osteopathy or surgery in this territory; nor shall it prohibit the application of domestic remedies by one member of a family to another thereof; nor administering of remedies by another in case of emergency, without compensation; nor shall it apply to any commissioned medical officer of the United States army, navy or marine-hospital service, in the discharge of his official duties; nor to any legal qualified dentist, when engaged exclusively in the practice of dentistry; nor to any physician or surgeon from another state or territory who is a legal practitioner of medicine or surgery in the state or territory in which he resides, when in actual consultation with a legal practitioner of this territory; nor to any physician or surgeon residing on the border of a neighboring state or territory and duly authorized under the law thereof to practice medicine or surgery therein, whose practice extends into the limits of this territory: Provided, that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of this territory; nor to any osteopath who shall pass examination in the subject of anatomy, physiology, obstetrics and physical diagnosis in the same manner as required of other applicants before the territorial board of health, and who has thereupon received a certificate from the board which, when filed with the register of deeds, as is required in the case of other certificates from the board, shall authorize the holder thereof to practice osteopathy in the territory of Oklahoma, but shall not permit him to administer drugs nor to perform major surgery.

Association News.

THE SESSION AT NEW ORLEANS.

More Announcements Concerning the Fifty-Fourth Annual Session.

Full particulars of the rates and routes to New Orleans were given in the New Orleans Number, April 11.

Another special train is announced. The Chesapeake & Ohio Railroad special will leave New York at 4:55 p. m., Saturday, May 2, pass through Philadelphia and Washington and arrive at Hot Springs, Va., the next morning. The day will be spent there, the physicians being the guests of Mr. Fred Sterry, manager of the Homestead Hotel. Leaving Hot Springs Sunday night, the party will proceed to Louisville, where it will join other excursions on the Illinois Central. Those desiring to join this party should communicate with the agents of the road.

The Cuba Excursion.

A correspondent asks for further information concerning the trip from New Orleans to Cuba. He says: "Will you kindly state: 1, The time of arriving at Cuba; 2, if one may stay over one week and take steamer back on its second trip; 3, if $50 includes board and berth while on boat."

To this we answer: 1 Boats leaving New Orleans every Saturday arrive at Havana Monday, and leaving Havana Tuesday arrive at New Orleans Thursday. All schedules are subject to change, of course. 2. Yes, or two weeks, provided that will allow you to return home within the limit of your railroad ticket, May 30. Remember to extend your railroad ticket at New Orleans on or before May 12. 3. Yes.

Stomatology Meeting Place.

The meetings of the Section on Stomatology will be held in Touro Synagogue, Carondelet street, near St. Joseph street, instead of the location first announced.

Value Not Measured by Dollars and Cents.

The editor of "Merck's Archives" says that "any physician to whom it is at all possible should make the most strenuous effort to attend the meeting of the American Medical Association; the benefits derived from attending the meetings can not be figured out in dollars and cents; but the broadening of the intellect that comes from association with the best men of the profession from all parts of the country, the knowledge that one gains from listening to the papers and to the discussions, the acquaintances one makes, the social features and entertainments, the freedom from care and worry for a few days, and the change from the humdrum life of the average practitioner—all these factors are infinitely superior to dollars and cents, because they make the man a better physician and the physician a better man. So do your best to be at New Orleans on the date named. It is only one fare for the round trip."

Reception of Special Trains at New Orleans.

Those having charge of special trains to the New Orleans meeting of the American Medical Association are asked to notify the Chairman of the Bureau of Information, Dr A. G. Friedrich, 841 St. Charles street, New Orleans, as to where the special train will be from and at what time it will reach New Orleans. Such information should be sent by letter immediately, and also a telegram should be sent a few hours before the special reaches New Orleans, giving the expected time of arrival as near as possible.

House of Delegates.

The House of Delegates will be made up of the following delegates so far as we are advised. Those states not named have not appointed their delegates or have not sent in the names. Several states will be entitled to a larger representation than last year.

Arkansas—Dr. J. A. Dibrell, Little Rock.
California—Dr. H. Bert Ellis, Los Angeles.
Colorado—Dr. C. K. Fleming, Denver.
Connecticut—Dr. C. S. Rodman, Waterbury; Dr. C. E. Brayton, Stonington.
District of Columbia—Dr. George M. Kober.
Florida—Dr. R. D. Murray, Key West.
Indian Territory—Dr. B. F. Fortner, Vinita.
Indiana—Dr. W. N. Wishard, Indianapolis; Dr. D. C. Peyton, Jeffersonville.
Iowa—Dr. J. R. Guthrie, Dubuque; Dr. Samuel Bailey, Mt. Ayr.
Kansas—Dr. J. E. Minney, Topeka.
Kentucky—Dr. J. N. McCormack, Bowling Green; Dr. Thomas Hunt Stucky, Louisville.
Louisiana—Dr. Rudolph Matas, New Orleans.
Massachusetts—Dr. W. N. Swift, New Bedford; Dr. A. G. Minshall, Northampton; Dr. B. H. Hartwell, Ayer. Dr. W. T. Councilman, Boston; Dr. J. C. Warren, Boston; Dr. H. E. Marion, Brighton.
Michigan—Dr. H. O. Walker, Detroit; Dr. T. A. Feich, Ann Arbor; Dr. J. B. Griswold, Grand Rapids.
Minnesota—Dr. A. W. Abbott, Minneapolis; Dr. Wm. Davis, St. Paul.
Missouri—Dr. F. J. Lutz, St. Louis.
Montana—Dr. T. J. Murray, Butte.
New Hampshire—Dr. Ira J. Prouty, Keene.
New Jersey—Dr. Chas. J. Kipp, Newark; Dr. Elias J. Marsh, Paterson; Dr. L. M. Halsey, Williamstown.
North Carolina—Dr. E. C. Laird, Hot Springs; Dr. E. B. Glenn, Asheville.
Oklahoma—
Oregon—Dr. Andrew C. Smith, Portland.
Pennsylvania—Dr. William T. Bishop, Harrisburg; Dr. H. S. McConnel, New Brighton; Dr. John B. Roberts, Philadelphia; Dr. Wm. M. Welch, Philadelphia; Dr. Wm. S. Foster, Pittsburg; Dr. Geo. W. Guthrie, Wilkesbarre; Dr. Alem P. Hull, Montgomery; Dr. W. B. Lowman, Johnstown.
Rhode Island—Dr. John Champlin, Westerly; Dr. Frederick T. Rogers, Providence.
South Dakota—Dr. J. L. Stewart, Irene.
Tennessee—Dr. Dan'l E. Nelson, Chattanooga; Dr. Louis LeRoy, Nashville.
Texas—Dr. H. A. West, Galveston.
Washington—Dr. Park W. Wiills, Seattle.
West Virginia—Dr. L. D. Wilson, Wheeling.
Wisconsin—Dr. W. T. Sarles, Sparta; Dr. Herman Reineking, Sheboygan.
Wyoming—Dr. E. E. Levers, Spring Valley.

Medical Organization.

A Plea for Uniformity.

The importance of practical uniformity in the essential features of organization in every state in the Union is so great, and has so constantly grown on all of those who have had opportunity for observing the work in the states which adopted plans of reorganization last, that an earnest plea is made to those who have the matter in charge in other states not to depart from the Association plan lightly or in the absence of the most obvious reasons for doing so. In fact, one of the prime objects of the movement from the outset was to get rid of the crazy-quilt system, or, rather, the lack of system, which stood in the pathway of every effort at legislative and other reforms in the past and secure such unity of both purpose and methods as would make the voice of the profession effective in securing every desirable advancement. The plan has now been so fairly and successfully tested, under such varied conditions and in widely separated states, as to demonstrate its adaptability to use in any state, and is no longer a matter of experiment.

The four essential features provided in the constitution and by-laws for state societies are so interdependent, so to speak, that no one of them can be cut out without irreparable injury and injustice to the plan as a whole for practical purposes. This is not a matter of experiment either, but the statement is based on the experience and actual results in those states which reorganized last year, but which left out one or more features, usually the House of Delegates, as compared with what has been accomplished in the same time and under very similar conditions in the still larger number of states which accepted it as a whole.

The four essential features of the Association plan, named in the order of their importance, are: 1. The county society as the unit of organization, and the foundation for everything above it. 2. The House of Delegates, composed of a specially selected and limited number of representatives from the county societies, to look after and foster the business, legislative and all material interests of the profession. 3. A Council, to be selected from the profession at large, each to cover a definite territory, and to represent every section of the state, to act for it under well-defined restrictions in the interval between meetings. 4. The General Meeting, composed of all the members of all the county societies who will attend, which can devote its entire time and attention to the reading and discussion of papers and other scientific work as well as social, it being relieved of the miscellaneous business duties which consumed so much time in the past with so little profit, and of the election of officers, which was another fruitful source of distraction and discontent.

If time and space permitted, these features might be profitably elaborated, but this is done so fully in the official constitution and by-laws as to make it less important Others, again, might change the order in which these features or sections of the plan are stated, but when it is understood that the ultimate purpose is to make the county society not only a means of promoting good fellowship and of promoting the material interests of all under its jurisdiction, but of making it, if even in a humble way at first, a post-graduate school, which the General Meeting is in a broader sense for the fortunate ones who can attend it, brought at short intervals within the reach of all.

Now, it is true that much contained in the by-laws, where a wide departure is made from the brevity and compactness of expression observed in the constitution, is explanatory, suggestive and educational in character, and much is embraced which would not be necessary if such an organization as is contemplated was already in existence. In justification for this it is submitted that, under existing conditions, it is almost as important to furnish incentives to this work, to give practical and detailed information as to how it is to be done, and to put the reasons for all of it within easy reach of those who, as councilors and volunteers, will discuss the subject from one end of the country to the other, as to furnish the foundation and framework of the superstructure set forth in the constitution.

After the organization has been accomplished, which will require more time and self-sacrificing labor than is generally understood, anything found obsolete or impracticable can be easily eliminated or replaced by provisions better adapted to needs then existing.

Committees on organization yet to report, and members of state societies which have not reorganized, are urged to give this subject the grave consideration to which it is entitled, and especially are they urged not to change a plan designed and recommended by the American Medical Association for universal adoption, after much labor and expense, merely for the sake of change. Doubtless another committee might have devised something better, but, conceding this to be true, a departure from it now can not be otherwise than a step backward. If the profession of any state is not sufficiently advised or for any other reason is not ready to act favorably on the plan as a whole, it will be far better, in the light of the experience of those states which acted differently, to postpone action for another year. However well intended, any other course is unjust to and is likely to bring discredit on the entire plan of organization, and in the end will work an injustice on the profession of the state where it is done.

J. N. McCORMACK.

Iowa.

GRUNDY COUNTY.—The physicians of Grundy County met at Grundy Center, April 7, and organized a medical society, with Dr. Eugene A. Crouse, Grundy Center, president; Dr. William N. Moffett, Conrad, vice-president; Dr E. H. Hoefer, Reinbeck, secretary, and Dr. M. H. Theilen, Grundy Center, treasurer.

Kentucky County Societies.

BOURBON COUNTY.—Dr. Louis Frank, Louisville, reports the organization of this society with Dr. Wilson G. Daily, Millersburg, president; Dr. Charles G Daugherty, Paris, secretary-treasurer, and Dr. Silas Evans, Paris, delegate.

HART COUNTY.—The physicians of Hart County met, April 15, and organized this society, with Dr. C. J. Walton, Munfordville, president; Dr. Thomas H. Garvin, Horse Cave, vice-president; Dr. Jesse J. Adams, Munfordville, secretary-treasurer; and Dr. B. L. Bruner, Hardyville, delegate.

CRITTENDEN COUNTY.—Dr. James H. Letcher, Henderson, reports the perfection of the organization of this society, with Dr. Isaac H. Clement, Tolu, president; Dr. J. William Trisler, Marion, vice-president; Dr. William T. Daughtrey, Marion, secretary, and Dr. J. O. Dixon, Marion, delegate.

GRANT COUNTY.—The physicians of Grant County met at Williamstown, April 13, and organized a county society, adopting the constitution and by-laws of the American Medical Association, after an address by Dr. Joseph E. Wells, councilor for the adjoining Ninth District. Dr. John M. Wilson, Williamstown, was elected president, and Dr. William Robinson, Corinth, secretary.

GRAVES COUNTY.—The physicians of Graves County met at Mayfield, April 14, and, after an address by the president of the state association, organized a county society, electing Dr. John L. Dismukes, Jr., Mayfield, president, and Dr. Milford W. Rozzell, Mayfield, secretary. The constitution and by-laws proposed by the American Medical Association were adopted without change.

FRANKLIN COUNTY.—The physicians of Franklin County met at Frankfort, April 15, and organized a county society, after a talk by Dr. Louis Frank, councilor of Louisville district. The constitution and by-laws of the Association were adopted. A list of the officers has not been received.

LIVINGSTON COUNTY.—The physicians of Livingston County met at Smithland, April 13, and organized a county society, after an address by Dr. James T. Reddick, Paducah. The constitution and by-laws suggested by the American Medical Association were adopted without change. The following officers were elected: President, Dr. Frederick G. LaRue, Smithland; vice-president, Dr. Oliver R. Kidd, Carrsville; secretary,

Dr. Edward Davenport, Hampton; treasurer, J. E. Chipps, Birdsville; and delegate to the state association, Dr. John V. Hayden, Salem.

Mississippi.

At its annual meeting held at Vicksburg, April 15-17, the Mississippi State Medical Society adopted the Association plan of organization without a single change. The constitution and by-laws were reported favorably by the committee on organization in 1902, and had lain on the table for a year. It was taken up at the opening of the meeting this year and referred to a large committee, representing every section of the state, which went over the whole matter thoroughly and again made a favorable report. As some of the members did not understand all that proposed, it was read section by section in the society, and then adopted without a dissenting vote.

The state was divided into ten councilor districts, with special reference to lines and convenience to travel for the councilor in each, and the following were appointed as members of the council: E. H. Martin, Clarksdale; K. P. Perkins, Batesville; C. D. Mitchell, Pontotoc; W. M. Paine, Aberdeen; J. A. Crisler, Yazoo City; W. D. Kiger, Brunswick; O. B. Quin, McComb City; J. R. Packett, Meridian; D. J. Williams, Ellisville and H. M. Folkes, Biloxi.

A resolution was adopted, authorizing the secretary, on recommendation of the councilors, to recognize and issue charters to county societies. He was also instructed to procure and distribute to the profession of Mississippi 3,000 copies of the new constitution and by-laws, sending with each of these a copy of the constitution and by-laws for county societies. An appeal was made to every reputable physician in the state to join his county society, and through it his state association.

The following officers were elected: President, Dr. Chas. D. Mitchell, Pontotoc; vice-presidents, Drs. Joseph Waldauer, Vicksburg; May F. Jones, Columbus, and C. L. Culley, Jackson; secretary, Dr. J. J. Haralson, Forest; treasurer, Dr. J. F. Hunter, Jackson.

The officers and council were carefully selected with reference to the large amount of work to be done during the next year, and the promise is for excellent results. The medical and health laws of Mississippi are nearly all that can be desired, but their enforcement has been crippled in the past by a lack of unity in the profession. With a good organization almost anything desirable is within its reach. J. N. McCORMACK.

Missouri.

As we go to press information comes that the Missouri State Medical Association, which has been in session this week, has adopted the constitution and by-laws for state societies endorsed by the American Medical Association, with practically no modifications. Thirty-six component societies, with a membership of 1,088, were reported.

Nebraska County Societies.

BROWN COUNTY.—On April 8 physicians of Brown County met at Long Pine and organized a county medical society, with Dr Harmon P. McKnight, Long Pine, president; Dr. H. A. Brown, vice-president, and Dr. G. O. Remy, Ainsworth, secretary-treasurer.

NANCE COUNTY.—The physicians of Nance County met at Fullerton, April 8, and organized a medical society to be affiliated with the state and national associations. Dr. Edward Johnson, Fullerton, was elected president; Dr. Charles W. Ford, Belgrade, vice-president, and Dr. Dora M. Judkins, Fullerton, secretary-treasurer.

Tennessee County Societies.

WILSON COUNTY.—Wilson County physicians met recently at Lebanon and organized a county society, with Dr. John W. McFarland, Lebanon, president.

CARTER COUNTY.—The medical profession of Carter County met at Elizabethton, and organized a county society with Dr. J. H. Alexander, Elizabethton, president.

HOUSTON COUNTY.—This society was organized at Erin, April 6, with Dr. Alfred H. Abernathy, Erin, president; Dr. G. D. Boone, Erin, vice-president; Dr. W. H. McMillan, secretary, and Dr. R. H. Baylor, Erin, treasurer.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL SESSION, NEW ORLEANS, MAY 5-8.

Texas State Medical Association, San Antonio, April 28.
Louisiana State Medical Society, New Orleans, April 28-30.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 28-30.
Nebraska State Medical Society, Lincoln, April 28-30.
Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Urological Association, New Orleans, La., May 8-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.

Congress of American Physicians and Surgeons.—The sixth triennial session will be held in Washington, D. C., May 12, 13 and 14.

Knox County (Tenn.) Medical Society.—At the annual meeting, at Knoxville, April 2, Dr. Ernest R. Zemp, Knoxville, was elected president.

Cass County (N. D.) Medical Society.—At the annual meeting, held in Fargo, March 30, Dr. Hezekiah J. Rowe, Casselton, was elected president.

National Association of United States Pension Examining Surgeons.—The second annual meeting will be held in Washington, D. C., May 13 and 14.

Washington County (Iowa) Medical Society.—At the annual meeting, held in Washington, April 8, Dr. George W. Hay was re-elected president and Dr. Cloyd A. Boice secretary, both of Washington.

Marshall County (Ind.) Medical Society.—At the meeting, held in Plymouth, April 9, Dr. R. Clarence Stephens was elected president; Dr. Adolphus C. Holtzendorff, vice-president, and Dr. Novitas B. Aspinall, secretary, all of Plymouth.

Baltimore Pediatric Society.—A society was organized last week for the promotion of the department of pediatrics. Dr. Charles W Mitchell was elected president, and Dr. Henry M. Fitzhugh secretary. Meetings will be held monthly.

Pulaski County (Ill.) Medical Society.—At the annual meeting Dr. John F. Hargan, Mound City, was elected president; Dr. William C. Rife, Villa Ridge, vice-president, and Dr. A. Willard Tarr, New Grand Chain, secretary and treasurer.

Lyon County (Kan.) Medical Society.—The twentieth annual meeting was held in Emporia, April 7, at which Dr. John M. Parrington was elected president; Dr. Frank Eckdall, vice-president, and Dr. John M. Poindexter, secretary and treasurer, all of Emporia.

Howard County (Md.) Medical Society.—At the annual meeting of this body, at Ellicott City, April 7, Dr. John W. Lacy, Lisbon, was elected president; Dr Bernard J. Byrne, Ellicott City, vice-president, and Dr. William B. Gambrill, Alberton, secretary and treasurer.

Lauderdale County (Tenn.) Medical Society.—At the annual meeting, held in Ripley, Dr. Alexander H Young, Ripley, was elected president; Dr. William H. Tucker, Double Bridges, vice-president; Dr. Gustavus A. Lusk, Ripley, secretary, and Dr. W. D. Miller, treasurer.

Jefferson County (Ark.) Medical Society.—This society, at its annual meeting at Pine Bluff, April 8, elected Dr. William H. Blankenship, Altheemer, president; Dr. J. William Scales, Pine Bluff, vice-president, and Dr. William Crutcher, Pine Bluff, secretary and treasurer.

Cass County (Ill.) Medical Society.—The annual meeting was held at Virginia, April 8, Dr. George Bley, Beardstown, was elected president; Dr Daniel Lyons, Ashland, vice-president; Dr. John A. McGee, Virginia, secretary, and Dr. John G. Franken, Chandlerville, treasurer.

Richland County (Ohio) Medical Society.—The annual meeting was held at Mansfield, April 4. Dr. M. T. Love, Shelby, was elected president; Dr S. Edwin Findley, Mansfield, vice-president; Dr. J. Lillian McBride, Mansfield, secretary, and Dr. Emma Millikin, Ontario, treasurer.

Orange County (Cal.) Medical Society.—At the meeting, held in Fullerton, April 7, Dr. William Freeman, Fullerton, was elected president; Dr. Foster E. Wilson, Westminster, vice-president; Dr. Howard S. Gordon, Westminster, secretary, and Dr. James R. Medlock, Santa Ana, treasurer.

Western Alumni Association of the University and Bellevue Hospital Medical College.—The third annual banquet will be held at the Sherman House, Chicago, April 30, at 6:30 p. m. Dr. George N. Kreider, Springfield, is president of the association, and Dr. Willis O. Nance, Chicago, secretary.

Golden Belt Medical Society.—At the annual meeting, in Abilene, Kan., Dr. John D. Riddell, Enterprise, was elected president; Dr. Edward W. Hawthorne, Gypsum, vice-president; Dr. Albert A. Shelley, Abilene, secretary, and Dr. Lamorte R. King, Junction City, treasurer. The next meeting will be held at Salina in July.

Jersey County (Ill.) Medical Society.—The forty-seventh annual meeting was held in Jerseyville, April 8, Dr. Augustus K. Van Horne, Jerseyville, retiring president, was the only survivor of the founders of the society. Dr Allen A. Barnett was elected president; Dr. John S. Williams, vice-president, and Dr. Henry R. Gledhill, secretary and treasurer, all of Jerseyville.

San Diego County (Cal.) Medical Society.—At the annual meeting, held in San Diego, April 3, the following officers were elected: President, Dr. Fred Baker, San Diego; vice-president, Dr. William V. Nichols, Oceanside; secretary and treasurer, Dr. Thomas L. Magee, San Diego, and delegate to the Medical Society of the State of California, Dr. Fred R. Burnham, San Diego.

Marion County (Ohio) Medical Society.—The first meeting of the merged Marion County Medical Society and Marion Academy of Medicine was held at Marion, April 7. Dr. Robert Ramroth was re-elected president; Dr. Charles E. Sawyer, elected vice-president, and Drs. Herman S. Rhu and Francis B. Sawyer were re-elected secretary and treasurer respectively, all of Marion.

Dubuque (Iowa) Medical Society.—The fifteenth anniversary of this society will be celebrated by a special meeting, June 18, at which papers are to be read by Drs. C. H. Mayo, Rochester, Minn., and G. F. Lydston, Chicago. In the afternoon a symposium on headache will be participated in by Drs. Hugh T. Patrick, Alfred C. Crofton, Casey A. Wood and Norval H. Pierce of Chicago, and Dr. John S. Lewis, Dubuque.

McLean County (Ill.) Medical Society.—At the annual meeting, held in Bloomington, April 2, and reported in THE JOURNAL of April 18, the plan of affiliating the society with the Illinois State Medical Society and the American Medical Association was adopted by a large majority. Drs. Charles M. Noble, Charles E. Chapin and John H. Fenelon, all of Bloomington, were elected censors, and Drs. William R. Shinn, Chenoa, and J. Whitefield Smith, Bloomington, delegates to the state society.

Pennsylvania Society for the Prevention of Tuberculosis.—At the annual meeting, held in Philadelphia, April 8, Dr. Howard S. Anders made an address, urging the necessity for a popular educational movement for the spread of practical knowledge on the subject. Dr. S. A. Knopf, New York, also addressed the society. One plan suggested, a committee being appointed to consider the matter, was that of public lectures. A committee was appointed to assist in the enforcement of the anti-spitting ordinance recently passed by councils. Dr. Howard S. Anders was re-elected president.

Academy of Ophthalmology and Oto-Laryngology.—The Western Ophthalmologic and Oto-Laryngologic Association held its annual meeting in Indianapolis, April 9, 10 and 11. It was decided to change the name of the organization to the Academy of Ophthalmology and Oto-Laryngology. The following officers were elected: Dr. Edward Jackson, Denver, president; Drs. Dudley S. Reynolds, Louisville, John J. Kyle, Indianapolis, and John W. Murphy, Cincinnati, vice-presidents; Dr Derrick T. Vail, Cincinnati, secretary, and Dr. Otto J. Stein, Chicago, treasurer. A resolution was adopted urging the state boards of health throughout the United States to secure the attention of street car and steam railway companies for an early consideration of the sanitary and therapeutic value of noiseless car wheels.

Iowa State Medical Society.—The fifty-second annual meeting was held at Sioux City, April 15 to 17. The new constitution and by-laws in conformity with the plan of reorganization were read by Dr. Van Buren Knott, Sioux City, in the absence of Dr. David S. Fairchild, Clinton, and after a little discussion, were adopted unanimously. The following officers were elected: President, Dr. Joseph A. Scroggs, Keokuk; vice-presidents, Drs. Donald Macrae, Jr., Council Bluffs, and Dallis M. Wicks, Cedar Falls; secretary, Dr. Vernon L. Treynor, Council Bluffs; assistant secretary, Dr. Francis A. Ely, Des Moines; treasurer, Dr William B. Small, Waterloo; trustees, Drs. Gilbert G. Cottam, Rock Rapids, and Daniel W. Finlayson, Des Moines; and member of the House of Delegates of the American Medical Association, Dr. Samuel Bailey, Mount Ayr, for two years. Des Moines was selected as the next place of meeting.

International Housing Congress.—This congress, which is to be held from July to November at the Grand Palace, in the Champs Elysees, is to have an American committee, of which Richard Watson Gilder of New York has just been made chairman. The other members of the committee are: M. E. Ingalls, Cincinnati; William B. Howland, Dr. E. R. L. Gould and James H. Hyde of New York; Carroll D. Wright of Washington; Albert Shaw of New York; Robert Garrett of Philadelphia. The object of the congress is to show the world the great need for improvement in both rural and city homes for workmen and clerks, and to this end there will be a collection from many countries of models of improved houses, of materials and methods of construction, and of furniture and decorations. There will also be models to show the sanitary, or, rather, unsanitary conditions in factories and many other places in which men work It is expected that the work of the congress will exert a potent influence in the control of consumption and alcoholism.

Tennessee State Medical Association.—The seventieth annual meeting, held in Nashville, April 14, 15 and 16, was the first meeting since the new constitution and by-laws came in force. The attendance was double that at any previous meeting. The prize for the best essay was awarded to Dr. Edward C. Ellett, Memphis. The following officers were elected: President, Dr. Isaac A. McSwain, Paris; vice-presidents, Drs. William H. Sale, Covington, Louis Leroy, Nashville, and Claude P. Fox, Greeneville; secretary, Dr. Deering J Roberts, Nashville (re-elected), and treasurer, Dr. William C. Bilbro, Murfreesboro. As the society at this meeting passed the thousand mark on its membership roll, it was entitled to three members of the House of Delegates of the American Medical Association. The following were elected: Dr. Louis Leroy, Nashville, to succeed Dr. W. Frank Glenn, resigned; Dr. James B. Murfree, Murfreesboro, to succeed Dr. George C. Savage, Nashville, resigned on account of ill-health; Dr. Daniel E. Nelson, Chattanooga, delegate for two years, and Dr. William B. Sanford, Memphis, alternate; Dr. Jeremiah L Crook, Jackson, delegate, with Dr. W. J. Miller, Johnson City, alternate. The next meeting will be held in Chattanooga.

AMERICAN MEDICAL ASSOCIATION.

Meeting of the Section on Hygiene and Sanitary Science, Saratoga Springs, N. Y., June 10, 1902.

The Chairman of the Section, Dr. Arthur R. Reynolds, Chicago, in the chair.

Symposium on Boards of Health and the Manufacture of Vaccine Lymph and Antitoxin.

THE CHAIRMAN—Dr. Marcy suggests that we consider the manufacture of vaccine and antitoxin.

DR. H. O. MARCY, Boston—The question is one which is exciting a great deal of attention in Massachusetts at present. The State Board of Health has for some time been making its own antitoxin, and now it is proposed to give it power to make vaccine lymph as well. The issue is: Shall we rely on large and reputable firms, like Parke, Davis & Co. and the New England Vaccine Company, as we have been doing hitherto, or will it be better to let the board of health organize another department and manufacture its own? Is it wise, in

other words, to further extend the paternal influence of the state, or should we continue to rely on private manufacturers?

DR. S. A. KNOPF, New York City—I am not a health officer, but I have been present at meetings in New York where this subject has been discussed. I recall particularly a meeting under the auspices of the Society of Medical Jurisprudence, at which there were present representatives of the health departments of the city and state, and also representatives of commercial houses manufacturing vaccines. The discussion was very heated. Of course, the representatives of the manufacturers claimed that in a free country they had a right to manufacture vaccine lymph and antitoxin, and the health department of the city maintained that it had a right to do the same. During the discussion it was stated that some inferior antitoxin had been sold by the health department of New York City to the health department of Chicago. Possibly the chairman will be able to tell us something about that. I took part in the discussion at the close, and I may be allowed to repeat here the substance of what I said then. I took the position that we had no right to prevent the private manufacturers from continuing to make these preparations, but that, on the other hand, boards of health had also a right to make them. What, however, I considered of most importance was that every state should have a control laboratory, and that no vaccine or antitoxin should be allowed to be put on the market until it had been tested and passed by that institution. Only in this way, I believe, can we rely on getting the best possible products for our patients.

DR. BENJAMIN LEE, Philadelphia—This is a question that has been forced on the attention of all of us in a very pointed manner during the last two or three years. The position which I have been inclined to take is, that the necessity the mercantile producer is under of keeping up his product to a proper standard if he wishes to sell it probably affords a greater safeguard than would be assured by placing the matter in the hands of men appointed by state governments, who, unfortunately, are too often appointed simply for political reasons. At the same time, we can not shut our eyes to the fact that there have been occurrences in this country during the past two years which go to show that some of the commercial virus has been absolutely inert, and some of it, on the other hand to a greater or less extent, dangerous. I believe the solution of the problem is to be found very much on the lines suggested by Dr. Knopf—that we should not prevent the production of commercial vaccine, but that each board of health should exercise a power of supervision and should see that no virus is foisted on the public which is either ineffective or likely to be dangerous. I was talking yesterday to a former member of the Pennsylvania Board of Health, who for nearly two years supervised the sanitary work in Porto Rico when the island was in charge of the United States Army, and he informed me that all the virus imported from this country—whether obtained from the New York Board of Health or from private manufacturers—was absolutely inert except in the case of one manufacturer, who produced what he called a triple-charged point. That was successful in some instances, but all the others were inert, and the way they met the problem was this: With some of this triple-charged virus they inoculated a number of calves, and driving these calves from town to town vaccinated the people direct from the animal. The result was that very soon and for some time thereafter there was not a case of smallpox to be found on the island, whereas when the army first went there the disease was rife. He tells me, however, that smallpox is now beginning to make its reappearance, and that it will be necessary to investigate the matter with the view of discovering the causes.

DR. C. B. JOHNSON, Champaign, Ill.—Several years ago, in response to the solicitations of the Illinois State Medical Society, the University of Illinois established a vaccine laboratory on its grounds at Champaign. This has since been in operation and is under the care of able men, professors in the university. They make good, reliable vaccine, but other manufacturers come in the town and sell their products, and in other parts of the state the University of Illinois vaccine has by no means had the patronage it deserves. Just why this is true I am unable to say, unless it be that the commercial motive is necessarily lacking to properly place the Illinois product on the market.

DR. MARCY—Do they sell it?

DR. JOHNSON—At first they did not, but conceiving this to be unfair to other manufacturers the University of Illinois vaccine is now sold at the usual prices.

DR. H. D HOLTON, Brattleboro, Vt.—Do they make points?

DR. JOHNSON—Yes, they make points, and recently tubes also.

DR. SENECA EGBERT, Philadelphia—My views are very much the same as have been expressed by Dr. Lee. I feel that, as a rule, we are safer to trust to large firms, whose regular business it is to make these products, and whose interest it is to maintain the quality of their goods. At the same time, there is this to be taken into account. About six months ago the demand for vaccine lymph became so great that there was ground for believing certain firms shaved things a little and ran risks. One day I heard over the luncheon table of a certain firm having run out of vaccine lymph, and buying another firm's product, on which they put their own label. It may have been only gossip, but if true this clearly was not right. Even if one firm's was as good as another, it was a wrong thing to do, for the firm which bought the lymph knew nothing of their own knowledge as to its quality. While no one may be able to put his finger on the cause of tetanus following vaccination, it is at least possible that some firm was induced by the pressure of business to become careless. Such a thing might not occur again for a hundred years, but, as I have said, it is one of the things that have to be taken into account in considering this matter. A good, thorough examination of all these preparations would be an additional precaution against the possibility of such a thing, and, what is more, it would give the public a feeling of confidence that they do not have now. It is going to be hard in the near future to vaccinate the people in Philadelphia, even if we use all our powers of persuasion and do what we can to show them the advantages of it, for many have at present the fear of the graver danger of tetanus.

DR. H. M. BRACKEN, Minneapolis—The question of control laboratories is an interesting one. The legislative committee discussed it at its February meeting in Washington, and the general opinion was in favor of central inspection. It was very much doubted if any system by which the work should be carried on by individual states would be satisfactory. It might be all right in some states, but not in others, and it is obvious that any such system of inspection should be uniform. For that reason it was agreed that it should be federal inspection if possible. I believe that as a rule the interest of the manufacturer in keeping up the quality of his goods will secure for us as good qualities of vaccine virus and antitoxin as we can get through the state laboratories. Their interests are involved to such an extent that they can not afford to run any risks, and they would probably be even more careful than the state laboratories. If all the states had Theobold Smiths at the head of their laboratories it might be perfectly safe to trust to them; but it is well known that not all have men of his standing, and that they can not get them. In fact, in some places it is hardly possible to get good men to take up this kind of work.

Sometimes the state may advantageously produce certain of these products, but I do not think they should ever do so with a view to commercial gain. State products should always be for free distribution. There is no reason whatever for any of our state boards of health to go into commercial enterprises.

Dr. Lee has referred to the fact that vaccine virus imported into Porto Rico from the United States was found to be inert. That, I would like to point out, may have been due to climatic influences. It is well known that vaccine virus loses its efficacy when exposed to a high temperature, and that glycerinated vaccine is easily rendered inert in this way. It is natural that they should get better results in Porto Rico when they inoculated direct from the calf. I hope

the time will come when there will be inspection of all these animal products, but I repeat, this should be under the direction of the federal and not of the state governments. As regards antitoxin generally, I do not think the states are in a position to take up their production yet. It is better to trust to the manufacturers.

DR. HENRY MITCHELL, Asbury Park, N. J.—I thoroughly agree with the general proposition that control should be exercised over these products and that at the same time the right to manufacture them should be free; but the question of what shall this control consist, has not yet been settled. The suggestion of the last speaker that it should be exercised by some central authority seems to be beyond our reasonable expectations. There are too many difficulties in the way. In the first place, the inspection must not be limited to one specimen of certain products, because the very next package may be inert or contain hairs and pus. A microscopic examination of the lymph would certainly not be enough, but it would also be necessary to provide a test for the efficiency of the lymph, and such a test could be provided only by means of a biologic examination. Such an examination by municipal authorities would be of very doubtful value, and I question whether state control would be sufficient. In New Jersey we have a new law providing that the state laboratory of hygiene may make examinations of vaccine lymph and other animal products issued for remedial purposes, and examinations have been made, but we find it very undesirable to announce the results, because manufacturers are naturally desirous of being complimented or seek to obtain certificates that will be useful to them in their business, and the examination of one lot of goods, as I have said, does not warrant us in making any general statement.

DR. J. EDWARD STUBBERT, New York—I am very much interested in this question because of a little practical experience I have had as to the comparative results obtained from the use of government antitoxin and that made by private manufacturers. I have used for a number of years the antituberele serum prepared by the Department of Agriculture at Washington, and I find that I can always depend on it; whereas, when I used the products of private firms I could never depend either on the strength of the dose or the results that were likely to follow. When I use the government serum I know exactly how many minims will produce certain effects. I do not know anything about the results if I use the antitoxins of private firms. For my part, I should like to see the manufacture of every article like antitoxin and vaccine virus put in charge of a central national authority. While we know that it is true that in certain cities politics exercises a bad influence, we also know that in Washington they have been successful in eliminating politics from their scientific work. I would not have the same confidence in the products of city boards of health as I have in those of the Department of Agriculture at Washington. Therefore, I say, that what we should do is to work for the centralization of this work, and keep it out of politics.

THE CHAIRMAN—Would you have the government furnish these products free of cost?

DR. STUBBERT—I never have charged my patients for any antituberculin I have obtained from the Department of Agriculture, but I think they ought to pay for it, and that we ought to pay the government.

THE CHAIRMAN—Would you have it sold at cost of production?

DR. STUBBERT—Yes.

DR. SENECA EGBERT, Philadelphia—This brings the question very close to that discussed by Surgeon-General Wyman in his paper[1] on "Sanitation and Politics," and also the matter of the establishment of a department of health. I am willing to qualify some of the remarks I made earlier in the discussion. After what I have heard I think a system might be devised under which we could have competent and satisfactory inspection by a central authority. This body could have a representative at each manufactory to supervise and inspect the work, and, to prevent collusion and fraud, the men could be changed about from time to time.

1. THE JOURNAL A. M. A., Feb. 14, 1903.

DR. STEPHEN SMITH, New York—I do not know whether any one is here to speak for New York. When I was connected with the board of health of that city, many years ago, the subject of smallpox became of interest because of a widespread epidemic. It appeared that for the last fifty years we had been having an epidemic every five years. The explanation was that every one was vaccinated during the prevalence of smallpox, but in the following four years vaccination would be neglected. At the end of five years there would be a large accumulation of unvaccinated cases. It was determined to establish a vaccine department in the then Metropolitan Board of Health, and appoint a corps of vaccinators who should constantly vaccinate the children in the tenement houses. It was soon found that such lymph as was then available was not very satisfactory, and to secure pure matter we established a vaccine farm in New Jersey. From that time to this the vaccine obtained from the farm referred to has been uniformly successful. The popular feeling in New York is in favor of the vaccine from that farm. A question frequently put to physicians is: Where did you get the vaccine matter? Unless it proves to be obtained from the board of health it is apt to be rejected. I ought to add that the result of the establishment of the vaccine bureau has been that no epidemic of smallpox has occurred in New York City for thirty years. There have been occasional outbreaks of the disease, but it has never succeeded in spreading beyond the localities where it appeared. Commercial virus is at a discount in New York, both with the public and the profession. I am decidedly in favor of governmental control of the manufacture and sale of these products, but I am not clear as to how it is to be done.

THE CHAIRMAN (After calling Dr. Marcy to the Chair)—I have no sympathy with the sentiment that is so careful of trade and commercial interests in connection with the production and sale of vaccine and antitoxin. The question of vaccination and the saving of life threatened by diphtheria is too sacred to be left to the caprices and hazards of commerce.

I believe that all animal products used in the treatment of disease should be furnished by the state; and by the state, I mean either federal, state or local authority. Until the state will furnish these products I believe it to be the duty of health officers carefully to inspect them as to their purity and their potency. We act on that principle in Chicago.

We receive our vaccine in lots of from five to ten thousand tubes, and at present we are buying it from a Milwaukee concern. From each lot a number of tubes are taken and subjected to bacteriologic inspection to determine the presence or absence of pathogenic bacteria. If it be found safe by this test it is tried on children who have not been previously vaccinated. If it comes up to our standard of potency it is then accepted. If bacteria are found, we keep it and test it at a later time, when the glycerin has had an opportunity to destroy the bacteria. But if it be inert, we destroy it to prevent it being sold to others. We insist that all vaccine be sixty days old before it is used, because our experience has taught us that at least sixty days in glycerin is necessary to free it from pathogenic bacteria. We have learned further that if it be kept in a cool place it will retain its potency for from forty to sixty days longer.

Dr. Knopf has referred to an unfortunate statement of some members of the New York Health Department, made at Albany when an inquiry was in progress on an issue raised by drug houses over the right of the New York Health Department to make and sell antitoxin The statement was, in effect, that an inferior grade of antitoxin was made and sold to Chicago. The statement was immediately challenged by the Department of Health of Chicago through the Associated Press and by letter to Dr. Biggs, and the answer came from the New York department that they made but one kind of antitoxin and what had been sold to Chicago was the same as that used in New York. The truth of this was demonstrated in our own laboratory tests of the antitoxin as received, as well as by the results from the treatment of diphtheria by this antitoxin, which for nearly seven years have given a more brilliant proof of the life-saving power of the product of the New York Department of Health than any other published up to the present time.

I have never been able to understand to what the mental lapse was due that made the witnesses testify as they did at Albany. But I presume they were endeavoring to show that they were not interferring with trade, and that they intended to say that they only sold to Chicago the surplus they did not need for themselves. No one for a moment believes that Dr. Biggs would lend himself to the preparation of an inferior kind of antitoxin or that he would do anything that was not absolutely right. We are still buying our antitoxin of the New York Department of Health, and have never yet been obliged to return any part of it because it did not come up to our requirements. This is more than can be said of some of the products of other manufacturers submitted to the same tests in our laboratory.

If the state should manufacture these products it could have no interest in putting an inferior article on the market and could afford to destroy an entire lot if there were anything wrong with it, and no temptation would influence it to do otherwise. We all know that the demand in the past year or more for vaccine lymph has been very great and has taxed the capacity of all producers to meet it. Under such circumstances the temptation to sell inert or "unripe" vaccine that has not been tested is very great. We know in the west that large quantities of inert vaccine have been used, and we know also that large quantities have been used that produced spurious sores. If the state were the producer and distributer that would never occur. The results from the large sale of spurious vaccine have made the work of health officials very much greater than it would otherwise be, in making persons believe they were vaccinated when they were not. Such vaccine is largely responsible for the delay and difficulty in suppressing the present smallpox epidemic.

I am glad to learn from Dr. Johnson that the University of Illinois is producing vaccine lymph. I shall certainly avail myself of the information and procure supplies from that institution when I get home.

The question who should manufacture animal products to be used as remedies and preventives of disease should not be a subject of discussion at all. Commerce has no right to traffic in remedies where human health and life are at stake. These agents and their uses are high above any possible demands that the rights of commerce can make.

The Department of Health of New York has conferred a boon on humanity by producing an antitoxin that has set the mark for all other producers.

Politics in some parts of the country may play a part in securing the proper operation of sanitary laws and the tenure of office of those who enforce them, but I think the evils of politics are rather overdrawn. The change of politics has never interferred with Dr. Biggs of New York nor Dr. Johnson of Illinois, and all the politics in the country could not make either of these men do anything that was wrong. There is politics everywhere, and in Chicago we have a large independent vote that is cast for the man who is considered the best man in local affairs, and political parties can not reckon without this independent vote.

I am in thorough accord with the recent measure for increasing the power of the Marine-Hospital Service, and I only hope that the movement will grow until that bureau eventually attains the dignity of a department of the government instead of a bureau.

The first public question and the highest public question is that of public health, and this idea is fast taking root in the public mind. The forces are moving with those who are engaged in life-saving work, and the need for continuing competent medical officers in medical offices is rapidly gaining ground.

The influence that goes out from this Section's meeting, though we are small in numbers, is far-reaching and powerful in its results, and I have entire confidence in the future, both of my profession and my country.

We are honored by the presence of Dr. Stephen Smith of New York and others who were pioneers in sanitary work more than a generation ago and who have devoted their lives to its up-building, and I sincerely trust that they will live to see the full fruition of their hopes and their labors.

Dr. H. O. Marcy—I raised this question for the sake of instruction, and I am well pleased with the discussion which has taken place. I have been interested in this question for a very considerable time and given it a good deal of study. My attention was first directed to it in connection with the work of the late H. A. Martin—a name ever to be revered—who, next to Jenner, has probably done the most valuable service in the control of smallpox. He introduced bovine vaccination into America. I am sure I can emphasize all your chairman has said as to the importance of this question; but sometimes questions even of this character have different sides to them. In Massachusetts we have just been going through a unique experience with compulsory vaccination. In some quarters of the community there was a perfect revolt against vaccination, and we had at the state house troops of men and women fighting for the sacred abstract principle of not being vaccinated against their will. Still, vaccination is going on, and we are discussing what dangers may arise from it and how these can best be avoided. No more important subject could be discussed, and when the report of these proceedings is published I am sure it will make instructive reading. People in different parts of the country want just such information as has been given us to-day, and I would like to suggest that the discussion after being revised by those who have taken part in it should be printed in separate form and extensively distributed.

Dr. S. A. Knopf—I should like to thank the chairman in the name of New York for clearing it of the imputation that it sold inferior antitoxin to Chicago. As we all know, our esteemed friend, Dr. H. M. Biggs, who was at the head of the bacteriologic department at the time, is beyond reproach, and we are all glad he has been reappointed.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Burns.

In the treatment of burns Bjorkman, in "Merck's Archives," recommends, in burns of the first degree, disinfection locally, and perhaps the ice bag to relieve pain. Lead carbonate ointment or diachylon salve are of benefit applied locally.

In burns of the second degree the pain must be relieved, hot drinks administered and hot water bottles applied around the patient, and, if necessary, hypodermic injections of ether or camphor to prevent shock. The site of the lesion should be thoroughly cleansed with a 3 per cent. carbolic acid solution or a 1/1,000 corrosive sublimate solution. Blebs should be opened, allowing the epidermis to remain. The part should be dressed and elevated to permit the retrograde flow of venous and lymph currents. In burns of third degree, morphin will have to be resorted to in order to relieve the patient's suffering; ammonium carbonate, strychnin, caffein and other stimulants administered to prevent shock and artificial heat applied. The limb must be elevated, proper antiseptic dressings applied, and as soon as the first signs of granulation appear, gentle passive movements and light massage should be resorted to if ankylosis is feared. In the local treatment, to alleviate pain, the author recommends cold applications locally, elevation of the limb and morphin hypodermically. As a local anodyne he recommends Stahl's liniment, which is composed of the following:

℞.	Thymol	gr. viii	50
	Sodii bicarb.	ʒii	60
	Olei lini		
	Aq. calcis, āā	ʒiv	120

M. Ft. linimentum. Sig.: Apply the liniment to the injured member and cover with borated gauze.

This dressing should be renewed when the pains begin. He mentions aristol as a good local analgesic or cocain on small surfaces.

Picric acid is an old-time remedy which is said to serve as an analgesic, an antiseptic, and has keratogenetic powers. It may be combined as follows:

℞. Acidi pierici 3ss 2
Spts. vini 3x 40
Aq. destil q. s. ad.....℥xiv 420
M Sig.: Apply locally.

The lesion should be thoroughly cleansed with this solution, used on absorbent cotton. The blebs should then be opened, allowing the skin to remain. Strips of gauze soaked in the solution should be applied and allowed to remain for four or five days, when a new dressing should be applied.

In burns of the second and third degree more satisfactory results, according to the author, are obtained by dry dressings with antiseptic powders such as airol, xeroform, and nosophen, as these preparations are harmless and are to be applied in full strength. Salves may be substituted, made up as follows:

℞. Airol 3i 4
Lanolini anhyd.
Liq petrolati, āā.....3iv 15
M. Ft. unguentum. Sig.: Apply locally and cover with gauze and absorbent cotton, and allow the dressing to remain intact for several days; or:

℞ Ichthyol .....gr. xlv 3
Olei olivæ (sterile) 3iiss 10
Lanolini
Liq. petrolati, āā.....3x 40
M. Ft. unguentum. Sig.: Apply locally; or:

℞. Sol. plumbi subacet. 3iss 6
Olei lini (sterilized) 3iiss 10
Xeroformi q. s. ad.....℥i 30
M. Ft. unguentum. Sig.: Apply freely on gauze.

Rachitis.

Comby, in "Med. Press," states that he has obtained the best results from the following in the treatment of rickets:

℞. Olei morrhuæ .....℥iv 120
Sol. calcii lacto-phos. (50 per cent.) ....℥i 30
Syr. lacto-phos. .....℥iii 90
Tinct. cinnamomi .....m. lxxv 5
M. Sig.: Two to five teaspoonfuls daily; or:

℞. Essentiæ limonis .....gtt. ii 12
Phosphori .....gr. 1/6 01
Sacchari .....℥i 30
Olei amygd. dulcis .....℥iiss 75
M. Sig.: One teaspoonful daily

Treatment of Wounds.

Sleich, according to the "N. Y. Med. Jour.," recommends the following topical applications that are nutrient to the tissues and non-irritating:

PEPTONIZED PASTE.

℞. Peptone (dry)
Amyli
Pulv. zinci oxidi, āā.....℥ss 15
Pulv. acaciæ .....℥i 30
Lysol .....gtt. v 30
Aq. destil. q. s.
M. Ft unguentum. Sig.: Apply locally.

SERUM PASTE.

℞. Seri bovis .....℥ii 60
Zinci oxidi .....℥i 30
M. et fiat pulvis.

After the foregoing is dried and reduced to a powder the following mixture is then prepared:

℞. Pulv. seri et zinci oxidi.....℥i 30
Aquæ .....℥ss 15
Peptonic paste 3ii 8
M. Sig.: Apply locally.

The author especially recommends the foregoing as an application to varicose ulcers.

In the treatment of syphilis the following is recommended by the author as a local application:

℞. Ung hydrarg. .....℥i 30
Peptonic paste .....℥ii 60
Olei theobrom. 3iii 12
Aq. destil. 3iii 12
M. Sig.: Apply locally.

Baldness.

The following combinations are recommended by "Merck's Report" in the treatment of baldness:

℞. Plumbi acetatis 3iss 6
Sulphuris precip. 3ii 8
Tinct. cantharidis .....℥i 4
Glycerini .....℥ii 60
Alcoholis .....℥i 30
Olei citronellæ .....m. xv 1
Olei bergamot .....m. viii 50
Aquæ q. s. ad.....Oi 480
M. Sig.: Apply locally to the scalp; or:

℞. Sulphuris precip. 3ii 8
Plumbi nit. 3iss 6
Tinct. cantharidis 3ii 8
Glycerini .....℥ii 60
Alcoholis .....℥i 30
Olei lavendulæ .....m. xxx 2
Olei amygd. (essential) .....m. iv 25
Aquæ q. s. ad.....Oi 480
M. Sig.: Apply locally.

Phosphorus in Alopecia.

According to an abstract in "Month. Cyc. of Med.," phosphorus in small doses is of great service in the treatment of alopecia areata. The following formula is recommended:

℞. Phosphori .....gr. i 06
Olei olivæ, q. s. ad. solutio
Then add:
Acidi arsenosi .....gr. ii 12
Excip. q. s.
M. Ft. pil. No. cxx. Sig.: One pill to be taken daily for two months, followed by an intermission of one week until three hundred pills are taken, when a cure is generally effected.

Substitutes for Potassium Iodid.

On account of the after-effects produced by the administration of potassium iodid, Solis-Cohen reviews, in "Amer. Med.," other preparations which may be substituted for this preparation. Among these substitutes he mentions iodized starch containing 5 parts of iodin and 95 parts of starch given usually in doses ranging from grains 3 to 10 (.2-.6). However, it has been given in gradually-increased doses reaching ½ ounce (15.). Locally this preparation is of service in the treatment of sluggish ulcers from any cause.

Iodoform may also be given as a substitute for potassium iodid in doses ranging from 30 to 80 grains (2.-5.).

Locally it may be applied as follows:

℞. Iodoformi 3iv 15
Balsami peruvianæ 3ii 8
Lanolini .....℥ii 60
M. Sig.: To be applied locally.

Iodol is not infrequently given in doses ranging from 6 to 30 grains a day (.4-2.). In the treatment of angina pectoris the author quotes the following formula employed by Maldorescu:

℞. Iodol .....gr. xxx 2
Ext. glycyrrhizæ, q. s.
M. Ft. pilulæ No. xx. Sig.: Two pills twice a day.

Iodolene, a compound of iodol and albumin, contains about 10 per cent. of the former preparation. It is said to possess the antisyphilitic properties of the iodids and is more lasting in its effect, as it is more slowly eliminated. It may be given in doses ranging from 20 to 30 grains (1.20-2.00) repeated four or five times a day.

Iodipin, which is a combination of iodin in oil of sesame, is one of the best substitutes for the iodids, as it contains about 10 per cent. of iodin. It is said by the author not to be broken up in the stomach, but the iodin is liberated by the intestinal juices or, according to some authors, absorbed unchanged, and liberation takes place in the tissues. Consequently, its effects, as in the case of iodolene, are very much prolonged. This preparation produces no gastric disturbance and gives no symptoms of iodism. It is absorbed very rapidly by the system, as it has been detected in the urine within fifteen minutes after its administration by the mouth, but it has

rarely been detected in the feces, which fact shows that it is practically all taken up by the system.

It is recommended in all the diseases in which potassium iodid is indicated, as in syphilis, asthma, neuralgia, arteriosclerosis, etc. It is best to prescribe it in the form of an emulsion, as follows:

R.	Iodipin	℥ii	60
	Pulv. acaciæ	℥i	30
	Aq. menth. pip.	℥iii	90
	Syrupi simp.	℥i	30

M. Ft. emulsio. Sig: One to two teaspoonfuls at a dose.

"Merck's Archives" recommends its administration in the following form:

R.	Iodipin (10 per cent.)	℥iii	90
	Yolks of two eggs		
	Pulv. cacao	℥i	4
	Sacchari	℥ii	8
	Olei cinnamomi	m. ii	12

M. Sig.: One to two teaspoonfuls two or three times a day.

It is frequently given in the form of a hypodermic injection in doses ranging from 20 to 40 minims. The preparation must be placed in warm water previous to injecting, as the oil is too thick for hypodermic use when cold. It serves as a good test of the motor power of the stomach, as it is not absorbed by the stomach.

Medicolegal.

Medical Attendance on Husband a Family Necessity.—The Supreme Court of Nebraska holds, on rehearing, in the case of Leake vs. Lucas, that the husband, while living with his wife, is part of the family, and medical attendance of which he stands in need is a family necessity, within the meaning of section 1 of chapter 53 of the Compiled Statutes of Nebraska, which makes the unexempt property of a married woman liable for the payment of all debts contracted for necessaries furnished her family after execution against the husband for such indebtedness has been returned unsatisfied for want of property. And it holds that where medical attendance is furnished the husband under the circumstances above stated, and while the family are residing in Nebraska, and the family afterward remove to a sister state, a judgment against the husband in the state to which he has removed, and the return of an execution unsatisfied, is a sufficient compliance with the Nebraska statute to entitle the creditor to proceed against the wife (in Nebraska) for the collection of his demand.

Privilege Can Not Be Waived by Widow.—Section 834 of the New York Code of Civil Procedure provides that, "a person duly authorized to practice medicine or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, which was necessary to enable him to act in that capacity." Section 836 provides that, "a physician or surgeon may, on the trial or examination, disclose any information as to the mental or physical condition of patients who are deceased which he acquires in attending such patient professionally, . . . when the provisions of section 834 have been expressly waived on such trial or examination by the personal representatives of the deceased." The words "personal representatives," as used in section 836, the First Appellate Division of the Supreme Court of New York holds, in the case of Beil vs. Supreme Lodge, Knights of Honor, apply only to executors and administrators. Consequently, where a widow was seeking to recover on a mutual benefit certificate made payable to her, but which she could not do under the terms thereof without proving that at the time her husband committed suicide he was in a state of delirium, resulting from illness, she was not entitled to call as a witness therefor the physician who attended him at or immediately prior to the time of his death, she not having the power to waive the prohibitions of section 834, not being the personal representative of the deceased within the meaning of section 836.

Utilizing Refuse from Consumptive Sanitarium.—The Third Appellate Division of the Supreme Court of New York says that the gist of the crime of which there was a conviction in the case of People vs Van Fradenburgh, was the disobedience of a lawful order of a board of health. Unless, then, the order disobeyed was one lawfully made by the board of health, the accused had been guilty of no crime. The order was one forbidding him from drawing into the corporate limits of the village any more refuse from the table and kitchen of a sanitarium for consumptives, which he had been collecting for feed for his chickens and hogs. There was no proof that this refuse from the sanitarium for consumptives was any more dangerous to the community when exposed than the refuse from any hotel, and the court says that it can not assume such to be the fact in sustaining this conviction. Has the board of health, then, the right to forbid a person from bringing into the village refuse from a hotel or any other public house? the court asks. Under the evidence in this case, it says, such refuse, while it is fresh, is wholesome food for hogs and fowls. The menace to the public health lies in permitting it to remain until it decays and throws off a stench which is prejudicial to the comfort of the community, if not to its health. As long, therefore, as the mere bringing into the community of fresh refuse from a public place has in it no element of threatened danger to the public health or comfort, the court is unable to see by what authority the board of health is permitted to prohibit the same. For this reason, it is added, the people have failed to prove the commission of a crime, and the judgment of conviction must be reversed.

County of Legal Residence Must Pay for Quarantine.—Section 7059 of the General Statutes of Minnesota of 1894, which provides for quarantine in case of smallpox, or other contagious disease dangerous to the public health, makes the expense a charge on the county in which the person has a "legal settlement," if he, his parents, guardian or master be not able to pay therefor. In the case of the Town of Louriston vs. Board of Commissioners of Swift County, a man and his family had resided in a county continuously for more than one year, and then moved to an adjoining county and became residents thereof. Then, inside of a month or so, some of the members of the family were taken sick with smallpox, and the board of health of the town caused the family to be quarantined and cared for. They never had been paupers or a public charge, but were unable to pay the expenses connected with their confinement and treatment. The town sued the county in which they had formerly resided for the expenses connected with their quarantine, care and treatment. But the Supreme Court of Minnesota holds that county was not liable, under section 7059 above referred to, for the reason that the family had acquired a legal residence in the other county at the time the expense was incurred. It says that the quarantine of those attacked with the disease, their care and maintenance, is an incident to the control of the contagion, and it naturally follows that if such persons are at the time residents of the county, such county is to bear the necessary expense of their care, provided the people themselves, or their relatives and representatives, are unable to do so. These acts are independent of and have no relation to the poor laws, except when the persons stricken with the disease were paupers or dependents while still residents of the former county. The words "legal settlement" are synonymous with "legal residence."

What Constitutes "Sound Health."—In the case of Packard vs. Metropolitan Insurance Company the policy sued on contained a provision "that no obligation is assumed by the company prior to the date hereof, nor unless on said date the insured is alive and in sound health." The Supreme Court of New Hampshire says that it must be presumed that the parties intended by this provision what the words used by them ordinarily signify in common speech. What was meant by the words "sound health" was, evidently, not perfect health. "We are all born with the seeds of mortality in us." No definition can be given to these words that will apply in all cases. A mere temporary indisposition or ailment would not ordinarily be regarded as rendering the health unsound, within the meaning of these words when used in an insurance contract. Speak-

ing generally, they mean the absence of any vice in the constitution, and of any disease of the serious nature, that have a direct tendency to shorten life; the absence of a condition of health that is commonly regarded as disease, in contradistinction to a temporary ailment or indisposition. Whether, in a given case, a person is of sound health, must, of course, depend on the circumstances of the case. The insured in this case was a boy of 10 years of age. After he was examined by the company's physician, and before the date of the policy, he "fell sick of a disease of the heart," from which he died within six months. Although the disease was one which it was said was not infrequent among children, and is frequently outgrown, it could not reasonably, the court says, be regarded as a temporary ailment, or as not of a serious nature. A person having such a disease would not be regarded as in sound health. The fact that the boy's mother, who was suing, was not aware of the nature of the disease, and that its nature was undiscoverable except by a physician, did not prevent it from rendering the boy's health unsound. Undoubtedly, the testimony of the mother and others that the boy appeared to be in good health would be competent evidence on the issue of soundness, but it would not be conclusive. The testimony of physicians concerning the condition of his health, discovered by their examinations of him, would also be competent. If the boy was sick with consumption at the date of the policy, no one would say that he was in sound health.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

April 11.

1 *Some Problems in the Major Surgery of the Kidneys, with a Report of Cases. Joseph A. Blake.
2 *An Operation for Paronychia. Sinclair Tousey.
3 *The Geographic Distribution of Uncinariasis in the United States. William R. Stone.
4 *Report of a Case of One-Sided Dislocation of the Mandible. Reduced by a Novel Manipulation. Frank Woodbury.
5 Eye Affections Complicating and Resulting from Rheumatism. Ralph Opdyke.

1. **Kidney Surgery.**—Blake's paper is largely a report of cases, but he points out the advantages of nephrectomy over nephrotomy in pyonephrosis and hydronephrosis, allowing that the other kidney is in a good condition, and illustrates his points by cases. The dangers of so-called conservative surgery, namely, nephrolithotomy and pyelolithotomy in infected kidneys, are, he thinks, markedly emphasized by statistics, especially those of Israel.

2. **Paronychia.**—The operation described by Tousey consists in separating the attachment of the cuticle to the dorsal or exposed surface of the nail to a sufficient extent to permit the escape of the pus and the introduction of a stick of nitrate of silver to disinfect the sulcus. Its advantages over removal of the nail are simplicity and painlessness.

3. **Uncinariasis.**—Stone finds that only about 38 cases have actually been reported in this country, and at least 18 of them were contracted outside the United States. This discovery by Stiles of *Uncinaria americana* is, however, of importance, and it appears from the testimony of Dr. A. J. Smith of the University of Texas that about 8 per cent of the students there examined were infected with the parasite.

4. **Jaw Dislocation.**—Woodbury reports a case of onesided dislocation in which he replaced the mandible with the following manipulation: Seizing the ramus and angle of the bone with the left hand, he placed his thumb in front of the coronoid process. While pressing the bone downward and backward he asked the patient to gently open and close the mouth several times and then, at a time when the mouth was nearly closed, acting under impulse, he struck the left side of the chin a sudden gentle blow with the knuckles of his right half-closed hand. The return of the condyle to its place was announced by an audible click, to the great satisfaction of the patient. He thinks the gentle motions of opening and closing the mouth worked the condyle gradually back, and the sudden application of force took the muscles by surprise while they were, so to speak, off their guard, and the condyle with its articular cartilage slipped over the obstruction into the glenoid fossa, before the muscles had time to contract. He thinks the method will be useful in cases where the dislocation is confined to one side.

Medical Record, New York.

April 11.

6 *The Technic of Nephropexy, with Special Reference to a Method of Attaching the Kidney as Nearly as Possible in Its Normal Position. Ramon Guiteras.
7 *Intranasal Obstruction and Its Treatment. H. Hoyle Butts.
8 *Cases of Morphinism in Which the Drug Was Immediately Withdrawn. Margaret S. Halleck.
9 *Bronchopneumonia. Joseph N. Study.
10 *The X-Ray and the Finsen Light in the Treatment of Lupus. A. D. Rockwell.
11 *The Treatment of Ringworm. George T. Jackson.

6. **Nephropexy.**—Guiteras outlines the various methods employed and gives his own technic. He denudes but one-half of the posterior surface of the kidney, that nearest the convexity, leaving the anterior surface intact. He then passes his sutures through and under the reflected capsule in such a way that they hold the organ securely during the formation of adhesions that goes on after the operation, and ties his sutures over the muscles and fasciæ in such a way as to bring the kidney into close apposition with the parietes, as nearly as possible at the normal level and in its normal horizontal angle, with the convex border pointing outward and slightly backward. The paper ends with an extensive bibliography on the subject.

7. **Nasal Obstruction.**—The various causes of nasal obstruction and the means of their relief are described by Butts. He believes in cases of hypertrophic rhinitis that there is nothing equal to the judicious application of the electrocautery for obstruction or hypertrophic tissue. In case of septal spurs he would remove them when they impair the respiratory function and whenever they impede drainage from accessory sinuses or nasal fossæ, or when they are in contact with opposing structures. For deformities of the cartilaginous septum he believes in the Asch operation. Septal abscess and nasal myxomata are also described, and he gives the technic for various operations.

8. **Morphinism.**—Five cases are reported of the rapid cure of the morphin habit by the use of hyoscin and strychnin injections, the former in doses of 1/200 of a grain, the latter 1/60 of a grain, with codein sulphate ¼ of a grain. Several cases are reported, some of opium smokers and others who had taken it by the mouth or hypodermically for seven to ten years. Halleck believes this method is better than the gradual reduction. Strychnin stimulates while the morphin is being eliminated, while the nausea, restlessness, insomnia and pain are cared for by the hyosin and codein. In the cases reported there seems to have been very little suffering from the rapid treatment, which lasted from one to five or six days.

9. **Bronchopneumonia.**—Study believes in the contagiousness of this condition, and would treat it by placing the child in the best conditions of light, ventilation and temperature, using turpentine and lard or camphorated oil; calomel to move the bowels, opium to quiet, in the smallest possible dose, and hydrotherapy as a rule for the high temperature, keeping up, of course, good nutrition by proper diet and nursing if the child is of the proper age.

10. **Lupus.**—Rockwell briefly reports a case in which a certain amount of benefit was derived from the Finsen light treatment, and the condition remained stationary, but was later cured by the use of *x*-rays. He questions whether this experience might not have been reversed in some cases from idiosyncrasy, etc. The question of the difference between actinic and *x*-rays is an interesting and important one in which the personal equation must often be the determining factor.

11. **Ring-Worm.**—The reason of the intractability of ringworm of the scalp and beard is that the fungus grows down into the hair follicles, which can not be reached by the ordinary remedies. In looking for a suitable excipient, goose grease appeared to Jackson as about what he wanted. He found that a dram or more of the crystals of iodin added to an ounce of

goose grease will make a most effective remedy for ringworm. He applies it twice a day until it produces a reaction, and then once a day. In two or three weeks the hair falls out of the patch, which becomes bald for a time. After a time the hair grows in and the patch is well. If there is too much reaction, with swelling, the remedy may be suspended for a few days and salicylated oil of a 3 per cent. strength used. As soon as the reaction subsides the remedy should be used again. This method has been practiced in the Vanderbilt Clinic with good results.

American Medicine, Philadelphia.

April 11.

12 Congenital Absence of the Clavicles, with Photograms and Radiograms—Cleidocranial Dysostosis. Harry M. Sherman.
13 *Degeneration of the Erythrocyte. John C. DaCosta, Jr.
14 *An Operation for Cicatricial Contractures of the Upper Extremities. A. H. Traver.
15 *Glycerol of Iodin—An Old-New Remedy for Tuberculosis, Chronic Bronchitis, Chronic Pleurisy, Goiter, etc. T. W. Williams.
16 Cancer of Male Breast: Report of a Case. Edward A. Balloch.
17 Congenital Absence of Both Inferior Recti Muscles. Edward Stieren.
18 Glimpses of the Practice of Medicine and Diseases in the West Indies. (Concluded.) Nicholas Senn.
19 How Can the Standard of the Medical Profession Best Be Raised? George V. N. Dearborn.

13. **Degeneration of the Erythrocyte.**—After an elaborate description of the changes which occur in the red cells in various conditions of disease, Da Costa summarizes as follows:

1. The viscosity of the erythrocytes is influenced by cellular and plasma alterations, the nature of which is obscure. The viscosity is exaggerated by the direct influence of various toxic agencies, and is diminished in many anemic states. This phase of cellular pathology is interesting from an experimental point of view, rather than as a finding of clinical application.
2. Simple decoloration illustrates the earliest retrograde change affecting the erythrocytes, and its intensity generally corresponds to the severity of the anemic process by which it is excited. The change may exist alone, as in the milder forms of anemia, or it may be combined with graver necrotic degeneration of the cells, in anemias of greater severity.
3. Deformities of shape and size are common to all pathologic blood, the degree to which such changes develop being related to the intensity of the blood impoverishment. Megalocytosis is a more serious sign than microcytosis.
4. Atypical staining of the erythrocytes betrays an impairment of function, and, as a rule, is found most commonly in corpuscles whose hemoglobin content is subnormal. It is most striking in anemias of the primary type.
5. The prevalence of megaloblasts indicates a fetal reversion of the bone marrow, and stamps the blood changes as pernicious, except in the anemias symptomatic of *Bothriocephalus latus* infection and of nitrobenzol poisoning. The presence of megaloblasts indicate a severe anemia, but not necessarily one of fatal outcome.
6. Granular basophilia, whatever may be its exact origin, should be interpreted as a sign of degeneration. It is a constant blood finding in but a single condition—lead poisoning—but is associated with many diseases involving a variable degree of blood deterioration. The experimental basophilia excited by the administration of preparations of hemoglobin warrants a doubt as to the wisdom of using such medicaments as substitutes for iron in the treatment of anemia.

14. **Cicatricial Contractures.**—Traver reports a case where extensive cicatricial contractures of the upper extremity were cured by denudation of a portion of the cicatrix and substitution of a flap taken from the side of the chest. Successive operations by this method made a useless arm a practically normal functionating member. A full understanding of the article requires seeing the diagrams which accompany it.

15 **Glycerol of Iodin.**—Williams calls attention to the value of glycerin as an excipient for iodin, instead of alcohol, for local application. It has the advantage of leaving no stain on the skin and producing only slight local irritation while absorption is more complete. It can not be used as freely as the tincture because it produces symptoms of iodism more quickly.

Philadelphia Medical Journal.

April 11.

20 The Recent Epidemic of Typhoid Fever in Ithaca, New York. Mervin T. Sudler.
21 *Some Remarks on the Treatment of Croupous Pneumonia. C. S. Bradfute.
22 *The Diagnosis and Treatment of Incipient Pulmonary Tuberculosis. H. Edwin Lewis.
23 *A Plea for the Use of Less Drugs in the Treatment of Typhoid Fever. J. K. P. Bowen.
24 *The Postorbital Limbus: A Formation Occasionally Met with at the Base of the Human Brain. Edward A. Spitzka.

21. **Croupous Pneumonia.**—Pneumonia is a self-limited disease tending to recovery, but varying under different circumstances in its severity and the effects of treatment. It is rare, Bradfute claims, in the normal individual. In nearly every case he thinks there is some radical defect, infection or some accompanying pathologic condition which serves to promote the growth of the germ. The pneumococcus alone is not always responsible. The influenza bacillus has been observed, and secondary infection may occur with the staphylococcus or streptococcus. It is not a systemic disease, but a localized infection with secondary systemic disorders due to exaggerated reflex influence and toxemia, and while, as a morbid condition, it is simple and free from obscurity, the indications for therapeutic measures are complex. We should not merely treat the symptoms, but treat the general pathologic state. In the regular typical cases without complications there should be no drug employed that would weaken the vital resistance. The coal tar preparations are especially unscientific, and he particularly protests against the use of digitalis. In cases in which it is necessary to control the abnormal circulatory movement as quickly as possible, he would give aconite, which, however, should be used with great caution—dosage of one to two drops—and not given to the extent of reducing the cardiac beats to the normal rate. Its action should be eliminated at the proper time by strychnin, 1/20 of a grain dose if necessary. At the beginning of treatment the bowels should be opened by calomel, mild glycerin suppositories or a seidlitz powder. The principal drugs that are indicated in treatment are strychnin, codein, ammonium and alcohol, the first two as nerve stimulants; ammonium as a cardiac stimulant. Hydrotherapy is also advised for combating the temperature, and he would use it in the method of cold compresses after the Baruch plan, which he describes A rubber sheet to protect the bedding is spread beneath the patient and over this a blanket. A piece of heavy flannel folded to several thicknesses, long enough to encircle the trunk, with about six inches to lap over, is wrung out of cold water, applied snugly to the circumference of the thorax and fastened with safety pins. This is then covered with a piece of dry flannel or part of a blanket and allowed to remain from fifteen to thirty minutes, according to the frequency of applications. When the compress is removed the front and sides of the chest should be rubbed briskly with a soft towel for a few seconds and the thorax enveloped in dry flannel. If the temperature is very high and intractable, above 104 F., these compresses should be wrung out in ice water and applied every half hour until there is a fall. They should not be applied, however, when the rectal temperature is 103 F. or less, for any chilling of the body is to be avoided. He insists on the constant and frequent administration of nourishment by liquid food, six ounces of milk every two hours as a standard rule. The alimentary tract should be kept free from decomposing food. He advises 5 grains of naphthalin twice daily from time to time, keeping the bowels open with calomel and sodium phosphate. Alcohol should also be used as a food. Half an ounce of whisky every two hours is usually sufficient, but when an odor appears in the breath the drug should be stopped and in every case diminished in dosage at the earliest possible moment to avoid establishing the alcohol habit.

22. **Incipient Tuberculosis.**—Lewis points out the principal symptoms indicating a tuberculous process, no one alone being sufficient. He lays stress on the importance of temperature, pulse, usually increased in frequency, but decreased in force, cough which is constant early in the disease, loss of weight, dilatation of the pupil and a tendency to hoarseness without apparent cause. The physical signs and hemoptysis are not sufficiently reliable in the early stages. Sputum examinations frequently repeated are important, though he has seen patients who have never shown bacilli even to death, though postmortem and inoculation experiments proved the diagnosis He considers that there is some danger in the tuberculin test in spite of the experience reported by others. From his own observations and experience he thinks there are safer methods. Treatment is dwelt on in some detail. The importance of open air, watching the temperature range and regulating exercise accordingly, proper attention to nutrition without crowding the digestive organs, the use of strychnin in rather larger doses than ordinarily administered or in increasing doses up

to 1/10 of a grain three times a day, then going back again to the initial dose. Arsenic is the next most important remedy, and he finds dimethyl arsenate of soda the most efficient in doses of ¼ to 1 grain three times a day. To relieve the cough he would give guaiacol with heroin. He has lost faith in creosote. Atropin, agaricin and picrotoxin are each efficient in relieving night sweats, but an alcohol bath and a rub down at bedtime is often excellent. Internally, alcoholic stimulants are not advised. For inhalation he would use soothing antiseptic vapors. Numerous remedies are recommended, he says, but an especially eligible combination is one of iodin, tincture of benzoin, oil of cinnamon, oil of eucalyptus and albolene. In conclusion he remarks that the cure of incipient pulmonary tuberculosis is not the elusive phantom that it was ten years ago.

23. **Typhoid Fever.**—From a general discussion of the subject, Bowen lays down the following treatment of typhoid, physiologic and medicinal:

1. Rest; maintain the horizontal position to save the heart strength and do not endanger the intestines if complicated by congestion, hemorrhage or perforation; regular change of position in weak patients. Cleanliness, plenty of pure air and light, cheerful, inviting and quiet surroundings, as far as possible. No food usually to be given during the period of anorexia or first week or ten days of fever; then given more freely, as the case may demand, usually from one to three pints of buttermilk daily, plenty of pure water; warm sponge bath with massage of skin and muscles, hot water to abdomen for pain, cold pack for hyperpyrexia and delirium in some cases. Mental rest, be specific and symptomatic, avoid negative directions to nervous patients. Psychotherapy, also, is an important factor in vasomotor disturbances, which effects normal metabolism and repair of lesions, as well as in the so-called functional disturbances. Avoid showing any signs of overanxiety by word or act, if possible. Inspire confidence, if you can; if not, retire at once. Serumtherapy should be employed if ever discovered and proved.

2. No drugs as a routine, except external antiseptics and for mouth and nose and some complications. Calomel may be given in the beginning, if indicated by a pale, coated tongue and constipation. Atropin if evidence of much congestion of intestines and pale skin, but not to be continued long; atropin is also valuable in some cases of meteorism, as it may correct the atony of the muscular tissues of the intestines. Castor oil is the best laxative and usually the best remedy for meteorism, necrosis and ulceration, and to be used throughout the case. Turpentine internally for meteorism and externally with hot water to abdomen for pain, also in enemata. Avoid using too freely salines for distension of bowels with liquids or for congestion or in plethoric conditions. Diluted hydrochloric acid if tongue is pale and flabby. Morphin and atropin for sleeplessness in some cases; also for severe pain or hemorrhage or active delirium, but should be used cautiously. Strychnin may be indicated, especially during convalescence. Acetozone may be tried as a general antiseptic. Greater skill is required to carry out successfully a general physiological treatment than in the mere drug giving, and the successful application of these principles will depend much on the judgment and tact of the physician. Success in the healing art rests on the knowledge of the principles, and clinical experience.

24. **Postorbital Limbus.**—Spitzka describes a curved, welt-shaped eminence, lying in apposition with the temporal apex on the orbital surface, which is demarked from the rest of the orbital region by a more or less distinct incisure. He has found this in a native of Japan, in two brains of female Papuans and in the brain of a distinguished American scientist. He has found it described nowhere else as far as he has been able to observe, excepting in a Laplander by Retzius, who speaks of it as a post-orbital gyrus.

New York Medical Journal.

April 11.

25 *Intestinal Obstruction. John B. Harvie.
26 *On the Physiological Action of Silver Sulphoichthyolate. Horatio C. Wood, Jr.
27 *Practical Points on Intubation of the Larynx for Croup, with a Report of 36 Cases. (Concluded.) Fielding L. Taylor.
28 Food and Nutrition in Disease. L. H. Watson.
29 *Methods Which Render Some Therapeutic Agents More Palatable. Samuel E. Earp.
30 The Management of Occipitoposterior Positions of the Presenting Head. (Continued.) Walter J. Cavanagh, Charles Norton Barney and George B. Twitchell.

25. **Intestinal Obstruction.**—Hernias are the most common causes of intestinal obstruction and should always be looked for. They are usually overlooked especially in cases of internal hernias. They may often occur without distension or particular discomfort, making the case exceedingly obscure. Harvie notes these points and reports a case of obstruction and autorelief by the passage of a very large gallstone. The most common form of chronic obstruction will be found to depend on some malignant growth. This is the principal subject of his article. As soon as the diagnosis is made, radical operation would seem advisable, even before the diagnosis is complete. Two cases are reported, both showing a gradual onset with well-marked clinical symptoms. The idea of surgical interference seems to have been ignored for a considerable time in both cases. The operative histories showed the practicability and almost positive favorable outcome if early operation had been done.

26. **Silver Sulphoichthyolate.**—This substance, known also as ichthargan, has been studied by Wood, who finds that it is readily broken up by hydrochloric acid, and is, therefore, unabsorbable as the sulphoichthyolate in the stomach. Its toxic power seems to be very much less than that of silver nitrate, and it is less irritating. The harmlessness of large doses depends on the slowness of absorption. A number of experiments is reported and show that the action of the compound is similar, at least qualitatively, to that of other silver salts. It has the advantage over silver nitrate in that it is locally less irritant and decidedly less poisonous.

27. **Intubation.**—The concluding portion of Taylor's article is entirely given up to reports of cases.

29. **Unpalatable Drugs.**—Earp gives several points in regard to making unpalatable drugs less disagreeable to the patient and insists on the importance of this point. To give castor oil in one dose, perhaps the "castor oil sandwich" is the best method. In the bottom of a glass put a small quantity of glycerin, then the oil, and lastly a little sherry wine on top. Take at one draught. This will also apply to the single dose of cod liver oil. Soda water will also be effective. It will also do for Epsom salts, but the ordinary "soda pop" is better. Quinin is hard to disguise. The preferable method, according to Earp, is to give one grain of tannic acid to each three grains of quinin in a vehicle of syrup of tolu. The iodid and bromid of potassium and salicylic acid may be given in milk, which also prevents gastric irritation. If copaiba and turpentine are not used in gelatin capsule form, an emulsion flavored with gaultheria comes next in order. For chloral hydrate he thinks peppermint water better than cinnamon. Equal parts of peppermint water and simple syrup make a good solution for salicylate of sodium. Unless there is an objection to the intensely sweet taste, the syrup of glycyrrhiza answers best for sodium salicylate. After flushing the mouth with a little whiskey the medicinal oils may be taken immediately, and the disagreeable taste is not so perceptible. A few grains of table salt taken on the tongue will produce a copious flow of saliva, and then, if swallowed with medicine which has an objectionable taste, it may be somewhat disguised. Care should be taken as regards chemical incompatibility in these cases. If lemon ice is held in the mouth for only a moment, a teaspoonful of a preparation which would otherwise seem nauseous may be taken with very little unpleasant effect. When the secretions are inactive and the membranes parched and dry, bitter principles are apt to produce the very worst effect and leave an unpleasant aftertaste. Sometimes simply a drink of water will obviate this condition, or perhaps a lump of ice held in the mouth or water acidulated with dilute phosphoric acid, to be taken before the medicine. A combination of syrup of red raspberry and glycerin makes an unusually palatable vehicle. He also recommends sodium bicarbonate with salicylic acid and sodium salicylate.

Boston Medical and Surgical Journal.

April 9.

31 *Dry Hot Air as a Therapeutic Agent, with Demonstration of the Body Treatment. Clarence Edward Skinner.
32 *The Rôle of Atmospheric Pressure in the Hip-Joint. Seabury W. Allen.
33 *The Doctor in the Navy. A. J. Nute.
34 A New Modification of Tarnier's Axis Traction-Rods. L. V. Friedman.
35 Death from a Single Vaginal Douche; Report of Two Cases. G. De N. Hough.
36 The Relative Frequency of Multiple Sclerosis. E. W. Taylor and J. W. Myer.

31. **Dry Hot-Air.**—Skinner reviews the uses of dry hot air in various disorders, first of all rheumatism, in which he finds it useful to give some salicylic compound as an adjunct. The hot-air applications cause relief of pain, shorten the duration of the disease, lessen the liability to cardiac involvement owing

to the rapid control obtained over the pathologic condition, prevent the danger of reinfection, lessen the amount of drug medication the patient is obliged to take, and in many cases intractable to other measures it is curative. When judiciously applied it is never productive of vicious after-effects. Sprains are also readily amenable to this agency. In many cases of arthritis deformans it is a valuable adjunct to treatment, if not a curative measure by itself. From six months to a year or more is usually required to produce a cure, but he has seen cases cured in a month. Pneumonia is another disorder in which this treatment is of value, as also in local septic infection, chronic and acute nephritis and a number of other diseases which he lists. It acts as a direct stimulant to cell metabolism in the part treated, and produces reflex local hyperemia which with stimulation of the trophic nerve supply results in increased nutrition. If hyperleucocytosis is not already present the number of leucocytes is rapidly increased from 15 to 20 per cent, though if it is present there may be no increase at all. The red blood cells are increased from 10 to 20 per cent. The quantity of urine passed is increased as well as the amount of excretion of urea. The mouth temperature rises from 1 to 5 F., the pulse is accelerated, respiration deepens, and the capillary areas become injected. Perspiration is markedly increased and more acid. The oxidation of effete matters and the general functional activity of every organ and tissue in the body is augmented without and subsequent reactionary debility. Skinner describes the technic and remarks as regards the criticism that the results are not permanent, that in cases in which the condition apparently came back after treatment, the thermal agent was not properly supported by later treatment.

32. **Atmospheric Pressure in the Hip Joint.**—Allen reviews the statements as to the atmospheric pressure in the cotyloid cavity and has experimented with cadavers, successively cutting the muscles, capsular ligament and cotyloid ligament. The results of his experiments are that what holds the bone together is primarily the cotyloid and secondarily the capsular ligaments (in life elasticity of the surrounding structures helping them out), and that the air pressure need not be considered.

33. **The Doctor in the Navy.**—Nute gives a general description of the methods of becoming an assistant physician in the Navy and the advantages of the service.

Cincinnati Lancet-Clinic.

April 11.

37 *X-Ray Phenomena and Phenomena Not Due to X-Rays. Percy Shields. For What Conditions and How Should the X-Rays Be Used? Edw. H. Shields.
38 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Surgery of the Pancreas). B. Merrill Ricketts. (Continued.)

37. **The X, or Cathode Rays.**—According to Drs. Shields it is not the *x*-ray but the cathode ray which is curative in malignant disease. They summarize their statements as regards the phenomena due to the *x*-rays and those not due to this agent as follows:

1. Relief of pain is due to the action of a high-tension current and connected in no way with *x* or cathode rays.
2. Cathode rays are the therapeutically active agents in the treatment of disease.
3. Affections beneath the surface, as deep-seated carcinoma, are in no wise affected by *x*-rays or cathode rays.
4. The only phenomenon which can be ascribed to *x*-rays is their ability to penetrate thick opaque bodies.
5. Bactericidal properties of *x* and cathode rays are *nil*.

As regards the therapeutic uses and methods they offer the following:

1. Superficial growths, both benign and malignant, can be relieved and often cured by the escharotic effect of the cathode ray.
2. Any lesion of the skin which can be relieved or cured by causing a superficial sloughing constitutes an indication for the use of the cathode rays.
3. Neither the *x*-rays nor the cathode rays affect in any degree benign or malignant disease beneath the surface.
4. Diseases due to bacteria or fungi are not cured by the *x*- or cathode ray.
5. Painful neuralgic affections are usually benefited, sometimes permanently, by the use of the high-tension current, but the relief is in no way associated with the use of the *x*- or cathode rays.

New York State Journal of Medicine, New York.

April.

39 Our Needs—The Ideal Physician. J. W. Grosvenor.
40 The Significance of Oxaluria. J. Bergen Ogden.
41 The Prognostic Significance of Albumin in the Urine. Edward W. Lambert.
42 *The Symptomatology of Colds. George F. Cott.
43 *The Treatment of Colds. A. Alexander Smith.

42. **Colds.**—Cott notices the symptoms to which patients give the name of colds and points out that they are never of primary origin. We should remove their cause and the patient will then be free from the symptoms described.

43. **Treatment of Colds.**—Taking the treatment as usually understood by the laity, Smith holds that bathing the upper extremities, even including the head, is a certain amount of protection against taking cold. He is a strong believer in the communicability of colds, and is confident that in many cases fatigue and exhaustion diminish the resistance and render the persons more liable. The first thing he does is to take the temperature, and if it is above 100 F. he insists on the patient remaining at home, and better still in bed, if only for two or three days, which in the end saves time and the patient is much more comfortable. He is also sure that the traditional and orthodox use of opium and quinin, not in very large doses, but say 5 gr. of quinin, with 10 gr. of Dover's powder, with possibly a hot drink and hot mustard foot bath are often efficacious Frequently no further treatment will be required. The almost universal habit of giving cathartics at the beginning of treatment is to be commended. He also mentions the rhinitis tablet which has been in vogue, consisting of quinin, camphor and belladonna. If these can be taken during the first six hours, a half-strength tablet every hour for six doses, and then once every three hours until six more have been taken, it will often break up the cold. If, however, the cold has already lasted twenty-four hours, he prefers to use other remedies. It is necessary to produce at least slight physiologic effects of the belladonna with these tablets. Another method he has found very satisfactory is alkali given at the earliest possible moment, a dram of bicarbonate of soda in half a glass of water, and repeating the dose in one hour. If after twenty-four hours the cold does not seem to be better, this alkaline dose should be repeated. The salicylates are often useful, and he has seen cases where the inhalation of camphor fumes, with a few drops internally, gave great relief. The combination of one of the coal tar preparations, preferably phenacetin or acetanilid in small doses, with quinin often proves very beneficial when the skin is dry and hot and there is stuffiness of the nose, with muscular pains and headache. They seem, however, to prolong convalescence. In the majority of simple catarrhal colds no treatment except attention to the simplest rules of hygiene is required. In colds of moderate severity with a tendency to an excess of mucopurulent secretion, he has found great benefit from the creosote preparations. Carbolic acid has disappointed him. In children small doses of tincture of aconite will often be found useful. He gives it in doses sufficiently small to allow its repetition every hour and prefers it to any of the disagreeable tasting preparations for children under twelve years of age. He does not believe in the local treatment of colds. If there is a special tendency to recurrence he has seen much benefit from the use of tincture of chlorid of iron for two or three days only in large doses. He uses in such cases twenty minims every two hours, but after the second day it produces severe headache and must be discontinued. Another agent of value is cod liver oil In convalescence it is often of the greatest service to produce an absolute cure, and often prevents recurrence. Where the patient will not take this he gives quinin in small doses or some of the vegetable bitters:

Archives of Pediatrics, New York.

April.

44 *The Medical Treatment of Tuberculous Peritonitis in Children. Leonard Guthrie.
45 *Autopsy Statistics at the Children's Hospital with Reference to Tuberculosis and Its Etiology. Alfred Hand, Jr.
46 *Sterilized Milk, Pasteurized Milk or Clean Milk? E. W. M. Brown.
47 Brachial Monoplegia in the Course of Chorea Minor. Francis Huber.
48 Report of a Case of Sinus Thrombosis Resulting in Extensive Cerebral Hemorrhage in an Infant Fifteen Days Old—Sigmoid Fusion of the Kidneys. Samuel M. Hamill.
49 *Note on the Temperature Curve of Acute Croupous Pneumonia in Children. Charles Goodwin Jennings.

50 A Case of Pneumonia, Probably Due to Streptococcus Infection. Walter L. Carr.
51 A Case of Retropharyngeal Adenitis and Abscess; Extreme Malnutrition; Recovery. John J. Cotter.

44. **Tuberculous Peritonitis.**—Guthrie finds that in 41 cases of tuberculous peritonitis treated at the Paddington Green Children's Hospital 14 underwent laparotomies and 7 of these died, while of the remaining 27 treated medicinally, only 4 were fatal. He says that as regards medicinal treatment we can not kill the tubercle bacillus. Arsenic might possibly affect the course of tuberculous peritonitis, but he knows of no other drug. We have chiefly to treat the symptoms. The patient is relieved of pain by rest in bed and local applications. Flatulency and indigestion need a careful diet. Diarrhea needs no active treatment unless profuse. A loaded rectum should be cleared by enemata rather than a purgative, but an occasional dose of castor oil or compound licorice powder may be given with no evidence of ulceration. We must remember, however, that ulceration may exist without such evidence. For ascites there is a question whether diuretics are indicated, but they can hardly be recommended as a routine practice. Vomiting is seldom excessive unless intestinal obstruction occurs, and then surgical aid is to be invoked. It is seldom necessary to have the diet entirely fluid. In every case rest in bed, at least in the early stages, is essential. The medicinal treatment consists in simply keeping the patient at rest, giving abundant and nutritious diet, relief of incidental symptoms as they arise, and the advantages of open country air. For ascites in acute cases, unless fluid produces great distention and distress, it is inadvisable to interfere, for if removed it will speedily reaccumulate In chronic cases where there is no tendency to subside, it should be withdrawn. Guthrie's theory is that laparotomy is beneficial in tuberculous peritonitis simply because it lets out the fluid. Dry cases without complications would recover equally well if let alone.

45.—This article appeared elsewhere. See THE JOURNAL of April 18, ¶57, p. 1106.

46. **Milk.**—Brown summarizes his conclusions on the subject of Pasteurized or sterilized milk: Sterilization at 212 F. is of great value because of its unversal practicability. Pasteurization at a temperature of 140 to 158 F. in closed vessels for fifteen minutes is much better, though we must admit that the heating of milk sufficient to kill bacteria does impair its nutritive value to some extent. When obtainable, clean pure milk used raw is much better and there is a rising demand for it. It may be provided in all cities or towns of even moderate size if the profession will demand it.

49. **Croupous Pneumonia in Children.**—Jennings gives temperature charts of five cases of croupous pneumonia, showing the sudden drop of temperature on the second to the fourth day which has confused the diagnosis in many cases. With this drop of temperature there is no change in the respiration or pulse curve, but these both sharply rise at the end of the remission.

American Journal of Insanity, Baltimore.

January.

52 *The Insane in Brazil. W. H. Kidder.
53 *A Contribution to the Chemistry of Nerve Degeneration in General Paralysis and Other Mental Disorders. Isador H. Coriat.
54 *Dermatoses of the Insane. James MacFarlane Winfield.
55 *Report of a Case of Dementia Precox with Autopsy. William R. Dunton, Jr.
56 A Case of Abscess Diagnosed as Brain Tumor. Hermon C. Gordinier.
57 A Case of Brain Tumor in a Woman Seventy-eight Years of Age. J. D. Madison.
58 *Acute Paresis, with Report of a Case, the Clinical History and Pathological Findings. Stewart Paton and G. Y. Rusk.
59 *On the Motor Cortex. Clarence B. Farrar.
60 A Case of Metastatic Adrenal Tumors in the Left Midfrontal and Ascending Frontal Convolutions. Walter Channing and Wallace Knowlton.

52. **The Insane in Brazil.**—Kidder gives an account of the principal hospitals as he has observed them at Rio Janeiro, where the care of the insane seems to be according to the most modern scientific methods. In Bahia, on the other hand, the conditions are not so satisfactory, owing to the lack of proper legislation on the subject. The private institutions also in Rio Janeiro are in a creditable condition. In a very large part of the territory there is but little done. Away from the great centers of the population, removal of insane persons to central institutions is practically impossible owing to the expense. The death rate is large, but this is chiefly due to the tardiness in commitment, so that many patients are in a hopeless condition when taken to the hospital. Popular education will have to be depended on to correct this fault. There are also many grave somatic diseases due to the tropical climate which also increase the death rate.

53. **Nerve Degeneration.**—Coriat has elaborately examined the cerebrospinal fluid in a number of cases, including some 14 of paresis, others of melancholia, dementia precox, senile dementia, toxic delirium, alcoholic insanity, etc. He finds cholin present in the fluid in all the paretics and in several of the other cases. It is absent, however, in some cases of melancholia, toxic delirium, senile dementia, alcoholism, epilepsy and dementia precox. In a total of 34 cases it was absent in 11, present in 23. In one case it was also demonstrated in the blood, and in 6 cases of paresis it was found both in the fluid and in the brain tissue. He considers that the findings furnish a safe guide for the differential diagnosis between organic and functional nervous and mental disorders, which can be utilized during life by the method of lumbar puncture. Cholin seems to be present at any period of myelin degeneration.

54. **Dermatoses of the Insane.**—In 1,000 cases of insanity, nearly one-half of these terminal dements, 146 cases of pure skin disease were found, most of them in the dement cases. In some of the latter the disorder was from external causes and contracted before entering the institution. Winfield criticises the statements of alienists regarding cutaneous stigmata. He thinks their remarks in regard to telangiectasis and moles should be amended, though, in fact, such conditions are among the more frequent. Atrophy of the skin and hypertrichosis were the two other disorders most frequently found, and chiefly in terminal dements. The majority of cases occurred in females. The eight men thus marked had thin and coarse beards, but their bodies were thickly covered with hair, especially over the spine. Twenty of the women had a copious growth of thick stiff hairs on their lips and chins. In one case this symptom appeared during an attack of melancholia and disappeared on recovery. The statements made as regards a distinctive odor of the insane should be eliminated, he says, from text-books on insanity. Under modern cleanly treatment there is no cause for such a symptom to exist.

55. **Dementia Precox.**—In the case reported by Dunton, the autopsy showed slight cell changes in the brain, generally distributed, though most marked in the first frontal convolution. The cells showed central chromolysis, perhaps a little pale yellow pigmentation, atrophy, dislocation and swelling of the nucleus, folding of the nuclear membrane and an endonucleolus. The deeper layers were most affected as a rule. The motor cells showed very slight changes There was a slight increase of neuroglia nuclei. Phagocytosis was well marked, and there was considerable cell disintegration. There was no change in the medullated fibers, and no marked vascular changes. While no positive inference can be drawn from the findings, he thinks they may be suggestive in connection with further work.

58. **Acute Paresis.**—From a study of the cases here reported, Paton and Rusk conclude that it is probable that this type is less frequent than has been commonly supposed. To place a case under this class we should not only exclude the subacute or chronic initial period, but the acuteness or chronicity of the pathologic process in the central nervous system must be carefully considered. The pathology is not characteristic. A general and not localized disappearance of the fibers from all cortical areas was observed, but it is not pathognomonic. The neuroglia showed an increase of the cellular elements, with little if any increase of the fibers. There was some overfilling of the blood vessels. Many round nuclei were found in the perivascular spaces. Numbers of plasma cells were observed in the cortex. The character of the changes in the various organs, as well as in the central nervous system, suggested a general intoxication. The vascular changes of the

cortex were not sufficient to account for the degeneration of the nerve elements.

59. **The Motor Cortex.**—Farrar's article is a critical review and summary of the literature on cerebral localizations. He points out that the motor cortex occupies the middle region of the hemispheres, is the earliest to functionate, and the central sulcus gives increased room for its developing elements. This area has been gradually narrowed, until now the post-central gyrus is practically excluded. Cajal has described a specific fiber distribution in the precentral convolution, which he thinks serves to differentiate it as the motor type of cortex. That a motor type exists is proven; it is characterized by its unusual width dependent on the marked development of the medium-sized pyramidal cell layer containing the specific plexus of Cajal, by the absence of a clearly-defined granular zone, and by the presence of giant cells in the sixth layer with thicker and denser radial bundles and a richer development of the overlying tangential fibers, which are of maximum density in those parts which contain the greatest number of giant cells. Beyond the limits of the motor area in all directions, one observes a gradual change in the cortical type, the third layer becoming narrower, the fifth wider, and the specific elements of the sixth disappearing. This is recognizing eight layers of the cortex, according to Cajal. The paracentral lobe represents both types of the cortex, the transition taking place below the extremity of the fissure of Rolando, although no surface marking determines the boundary.

Maryland Medical Journal, Baltimore.

April.

61 A Fatal Case of Schönlein's Disease. William T. Watson.
62 *The Prognosis of Chronic Otorrhea. H. O. Reik.
63 *Perforating Wounds of the Crystalline Lens. Geo. A. Fleming.

62. **Chronic Otorrhea.**—The object of Reik's paper is to point out that the cure of chronic suppurative otitis media is not, by any means, as hopeless a matter as is often regarded, and to call attention to the recent methods. He thinks about one-half of the cases call for some surgical treatment, either major or minor, including among the latter removal of polyps and cauterization. In most instances ossiclar necrosis exists and the removal of the diseased bones permits of cure through improved drainage and better cleansing of the tympanum. About 50 per cent. of the one-half requiring surgical operation will be relieved in this way. In the remainder the radical operation will have to be performed, and he thinks that, as the surgeon becomes more familiar with the technic, the 2 or 5 per cent. of cases now recognized as incurable will be still further diminished.

63. **Injuries of the Crystalline Lens.**—Fleming reports three cases, in all of which there was considerable inflammatory exudate involving at least one-third of the lens, yet the latter cleared up with recovery of the normal transparency and function.

Journal of Nervous and Mental Disease, New York.

April.

64 *Reversals of Habitual Motions, Backward Pronunciation of Words, Lip Whisperings of the Insane, Sudden Failures of Volition, Repetition Impulses. S. Weir Mitchell.
65 A Case of Multiple Fibromata Confined to the Internal Plantar Nerve. Wm. J. Taylor and Wm. G. Spiller.
66 A Case of Myasthenia Gravis Complicated by Angioneurotic Edema. Theodore Diller.

64. **Reversal of Habit, etc.**—Mitchell's paper contains some interesting reports of cases of patients with cerebral disorders in which the symptoms were the complete reversal of the usual habitual actions. He mentions one patient with tumor of the brain who pronounced all his words backward, and it was only by close study that this was discovered. Such expressions as "dog ho" and "tacym" were finally interpreted as "Oh! God," and "my cat." There were other cases where paraphasia took the form of the exact reversal of the sense intended. He also notes some peculiar obsessions, many of which seem to have escaped study.

Journal of the Michigan State Medical Society, Detroit.

April.

67 *Intratympanic Injections of Pilocarpin in Chronic Catarrhal Deafness. Robert W. Gillman.
68 Treatment of Puerperal Sepsis. William F. Metcalf.
69 Observations on the Technic of Abdominal Surgery. H. O. Walker.
70 Uremia in the Process of Childbearing. Earl Bigham.
71 *Enteroptosis and Pregnancy. Charles D. Aaron.

67. **Pilocarpin in Catarrhal Deafness.**—Gillman has used intratympanic injections of pilocarpin in many cases of catarrhal deafness from otitis, first introducing the eustachian catheter and forcing the solution into the middle ear by the Politzer bag. He reports two cases, and concludes that it is absolutely effective in certain instances, together with allied treatment; in others it may simply avert the worst consequences, while, perhaps, in the larger number it is ineffective.

71. **Enteroptosis in Pregnancy.**—Aaron reports two cases of enteroptosis which were largely benefited by pregnancy. He remarks, in conclusion, that dispensing with the abdominal bandage, according to the new method, predisposes to enteroptosis, while the ordinary pregnancy assists its cure, and patients in this condition need not hesitate to become pregnant. The disagreeable symptoms of the condition seem to disappear during the pregnancy, and keeping the patient in bed after the delivery and applying an effective bandage is very helpful in its permanent cure, while early convalescence and insufficient support have the opposite effect.

Laryngoscope, St. Louis.

March.

72 *The Anatomy of the Sphenoidal Sinus and the Method of Approaching It from the Antrum. Harris P. Mosher.
73 The Treatment of Abscess of the Septum, with Special Reference to the Prevention of Subsequent Deformities. C. G. Coakley.
74 *The Cold Snare in Tonsillotomy, with Exhibition of Instrument. H. L. Myers.
75 *Alarming Hemorrhage Following Excision of Tonsils and Adenoids. Albert E. Bulson, Jr.
76 The Hypertrophied Faucial Tonsil, with a Report of the Morbid Histology of the So-called Submerged Tonsil. Ellet O. Sisson.
77 A New Mechanical Saw for Intra-Nasal Operations. Edwin Pynchon.
78 A New Postnasal Applicator. J. C. Buckwalter.

72. **The Sphenoidal Sinus.**—Mosher's article is an elaborate, illustrated description of the anatomy of the sphenoidal sinus, and he gives the measurements by the nasal route and the antrum, favoring the latter as a means of approaching this cavity. Through the nose, the lower anterior edge of the face of the sphenoid, as he measures it, is 2¼ inches, and from the middle of the canine fossa, 1½ to 2 inches. The route to the sphenoid by way of the antrum is, therefore, the shortest and most direct. By it the operator has two guides to the lower edge of the sphenoid, the finger in the mouth at the upper rim of the choanæ and the level given by the incision made from the ostium backward through the membranous area. By this route three of the four accessory sinuses of one side can be opened up. The sphenoid sinus of the opposite side can also be opened and, experimentally on the cadaver, in many cases, the frontal sinus. In combined empyemata of the antrum, the ethmoid region and the sphenoid, he thinks this method is the one for reaching the parts. The paper concludes with a very extensive bibliography.

74. **The Cold Snare in Tonsillotomy.**—Myers has used the cold snare for some time, and believes it to be the best instrument for the removal of the tonsils. It is adapted to any tonsils that require removal; the half buried, flattened and hard tonsils which no tonsillotome would reach, are very readily removed by the properly constructed snare, by the additional use of a small tenaculum to draw the tonsil from its bed into the loop. Under local anesthesia it is not a severe operation, and he has never seen the tonsil too hard to be severed. He passes the loop over the tonsil, packing it in with the tenaculum, then slightly contracts the loop to test its hold, then the tenaculum is dropped and both hands are used to close the loop.

75. **Hemorrhage After Tonsillotomy.**—Bulson reports a case of alarming secondary hemorrhage, which he had considered as a rare occurrence, but which he now thinks is a very possible one. The child may be swallowing blood for some time before the hemorrhage is detected. He thinks it was an error of judgment in his case not to pack the post-nasal space before or

immediately after the hypodermoclysis which was used in the treatment, as the secondary hemorrhage caused by the raising of the blood pressure came from that region. Transfusion or saline injection should not be given without knowing that all the bleeding parts are under control

Ophthalmic Record, Chicago.

March.

79 Confessions of a Traveler. (To be continued.) Albert B. Hale.
80 A Modification of the Perimeter, with Electric Transillumination of the Mires. Eugene R. Lewis.
81 *Changes in Refraction. S. D. Risley.
82 The Implantation of a Ball of Solid Paraffin to Secure a Prominent Stump After Enucleation of the Eye. Francis W. Alter.
83 A Clinical Note on the Treatment of Panophthalmitis by the Method of Van Milligen. William Zentmayer.
84 Improved Tendon Tucker. Frank C. Todd.
85 Hemorrhage from the Eye After Cataract Extraction. Swan W. Burnett.

81. **Changes in Refraction.**—Risley remarks that he originally believed that static refraction of the eye was a fixed of immutable quantity, and he was inclined to consider differences which he found from those of other observers due to an error of observation. He reports four cases, however, where a marked change in refraction occurred under his own observation, and remarks that we should have more charity with the early work of others and ourselves in such cases. While he still believes that in the vast majority of cases no change occurs, there are numerous exceptions to the rule.

Toledo Medical and Surgical Reporter.

April.

86 *Cardiac Complications in Rheumatism, with Report of Cases. Helen M. Nolen.
87 *Gastric Muscle Fatigue and Dilatation. Fenton B. Turck.
88 *The Regulation of Barber Shops. W. E. Hartman.
89 Fundus Lesions and Their Relation to General Diseases. (Concluded.) George F. Suker.

86. **Rheumatism.**—Nolen insists that the heart is involved in the vast majority of cases of rheumatism, chiefly by endocarditis; pericarditis is next in frequency, and, in this case, more often in the male. The younger the patient and the more severe the attack, the greater the liability to heart complications. She insists on the importance of early recognition of cardiac involvement by daily systematic and thorough examinations, and, if it is detected, treatment by absolute rest.

87. **Gastric Myasthenia.**—Turck describes this condition, chiefly due to frequent overloading of the stomach. We should differentiate between gastric fatigue caused by excessive work, that caused by some toxin and that due to obstruction of the pylorus. He describes his method of treatment by gastric dilatation and disinfection with superheated air charged with oil of cloves, etc. He advocates this pneumatic gymnastics of the stomach, which he thinks has a powerful effect on the circulation not only of the sphlanchnic system, but also on the general circulation. It has been found, he says, in the less severe cases, that a few of these treatments combined with careful diet and the measures that would naturally be enforced will cause the stomach to empty itself normally, and such treatment, carried on over a somewhat protracted time, will result in a permanent cure. For the diet he would first use raw eggs and coagulated milk; later chopped meats and bran are added to the diet. A period of rest should be allowed between the times of feeding At the outset in many cases but one meal a day is allowed, followed by two meals daily for a long time.

88. **Barber-Shop Regulation.**—Hartman pleads for sanitation and disinfection of barber shops, care as to cleanliness, disinfection of tools, etc.

American Practitioner and News, Louisville, Ky.

January 15.

90 Carcinoma in Women: Some Clinical and Pathologic Aspects. John R. Wathen.
91 Myelopathic Albumosuria. T. R. Bradshaw.
92 Two Cases of "Relapsing" Gastric Ulcer. J. Hill Abram and W. Thelwall Thomas.

Northwestern Lancet, Minneapolis, Minn.

April 1.

93 Some Remarks to the General Practitioner as to the Treatment of Acute Inflammation of the Ear and Mastoid, Following the Grip. H. McI. Morton.
94 Colorado Springs as a Health Resort for Consumption, Asthma and Hay Fever. Harlan Trask.

Journal of Advanced Therapeutics, New York.

April.

95 Phototherapy—A Ten Years' Retrospect. Margaret A. Cleaves.
96 The Development of the Radiograph. George C. Johnson.
97 The Relationship of Psychic Suggestion to Electro-Therapeutics. Maurice F. Pilgrim.
98 Roentgen Ray Therapy and Technic. Albert Soiland.

Annals of Gynecology and Pediatry, Boston.

April.

99 The Surgical Treatment of Gallstones. Stephen H. Weeks.
100 Report of a Case of Fracture of the Humerus in a Newborn Baby Occurring During Labor, with Remarks on Fractures in the Newborn. Louis Fischer.

Transactions of the Chicago Pathological Society.

February 9.

101 Preliminary Report on the Action of Neurotoxic Serum. H. T. Ricketts and T. Rothstein.
102 The Condition of the Pelvic Lymphatics in Carcinoma of the Uterus. Emil Ries.
103 Bacteriologic Studies of the Skin and Throat in Cases of Scarlatina. George H. Weaver.

March 9.

104 A Case of Gigantism and Leontiasis Ossea. Peter Bassoe.
105 Experimental Cirrhosis of the Liver in Chronic Albumose Intoxication. H. Gideon Wells.

The Post-Graduate, New York.

April.

106 On the Diagnosis of Heart Diseases. Thomas E. Satterthwaite.
107 A Clinical Consideration of Sterility in Women. James N. West.
108 Conjunctivitis as the Result of Fast Riding in Automobiles. A. Edward Davis.
109 Clinical Lectures. (Tumors, Suppurating Glands, etc.) Seneca D. Powell.

New Yorker Medicinische Monatschrift.

February.

110 Das Carcinom, Seine Frühzeitige Diagnose und Operative Entfernung. Leonard Weber.
111 Aerztliche Ethik. E. A. Fischkin.

Medical Standard, Chicago.

April.

112 A Case of Hematemesis. Arthur R. Edwards.
113 The Treatment of Carbuncle. B. Brindley Eads.
114 Practical Dietetics. A. L. Benedict.
115 General Massage with the Inunction of Cod Liver Oil. E. J. Kempf.
116 Speech Defects and Method of Treatment. James M. Brown.
117 Pain and Its Indications. E. C. Hill.

Medical Times, New York.

April.

118 Generation and the Law of Sex. (Part 2.) William More Decker.
119 Tuberculosis and Heart Disease—Two Great Factors of Today. Thomas R. Robinson.
120 The Study of Food and Its Adulterations. A. M. Leonard.
121 A Study of Influenza. J. R. Nichols.
122 Eruptive Fevers. T. J. Forhan.
123 Clinical Notes on Certain Diseases of the Skin. William Gordon.

Merck's Archives, New York.

April.

124 Neurasthenia in the Male. (Continued.) H. Edwin Lewis.
125 Pathology and Treatment of Gout. H. Strauss.
126 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.
127 Ichthalbin and Its Therapeutic Applications. Julian Marcuse.

St. Louis Courier of Medicine.

April.

128 Treatment of Fibromyomata Uteri by Electricity. F. C. Ameiss.
129 Two Cases of Tetanus. Harry M. Loewenstein.
130 Vesicovaginal Fistula. Francis Reder.
131 Submucous Fibromyoma Deeply Seated in the Anterior Uterine Wall Expelled by Uterine Contractions. Henry Schwarz.
132 Hypertrophic Lingual Tonsil in a Child. Frank G. Nifong.
133 Two Cases of Sexual Contrariety. William S. Barker.
134 Preventive Medicine. (Continued.) B. F. Hart.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Bulletin de l'Acad. de Medecine, Paris.

1 (No. 10, March 10.) *Instrument for Locating Bullets in the Skull. Rémy and Peugniez.—Extirpation des projectiles logés dans l'encéphale.
2 Report of Delegate to International Congress of Gynecology, Rome, Sept. 15, 1902. A. Pinard.
3 *De l'adénopathie axillaire au début de la tuberculose du poumon. C. Fernet.
4 *Resolutions Voted by Académie in Regard to Absinthe, Liqueurs and Dram Shops in General.

5 (No. 11.) Medical Notes from Exploring Party in Central Africa. E. Brumpt.
6 *Relation d'une série d'experiences faites en vue de la recherche d'un sérum antituberculeux. Viguier de Maillane.
7 *Steam of Hydrogen Dioxid for Inhalations. Magnet and Planté.—Vapeurs d'eau oxygenée, etc.
8 *La tuberculose dans l'étiologie des maladies mentales et nerveuses. Anglade and Chocraux.
9 Infant Hygiene.—Sur l'alimentation des enfants des nourrices et des enfants protégés.

1. Apparatus for Locating Bullets in Skull.—The main advantages of the simple apparatus presented are that it dispenses with calculations and the necessity for an assistant, and that the fluoroscope is placed between it and the subject. Two long rods are mounted on a vertical standard. They are slipped back to allow the interposition of the fluoroscope, and after the vacuum tube has been adjusted to cast a shadow of the bullet on the point of each rod in turn, the fluoroscope is removed, the rods slipped forward until they touch the skull, and the bullet is located at the intersection of the prolongation of their axes. Trouvé's "alarm probe" has been modified in connection with this apparatus, so that, substituted for one of the rods, it serves as a probe, gives warning when the bullet has been reached, and also seizes it, when the foreign body can be withdrawn with the probe. The apparatus is illustrated in the original.

3. Axillary Adenopathy in Incipient Tuberculosis of Lung.—Fernet calls attention to the information to be derived from examination of the glands in the axilla in incipient tuberculosis. Enlarged movable glands, the size of a pea or larger, have usually coincided in his experience with a cervical adenopathy on the same side, and testified to the existence of some incipient tuberculous lesion in the corresponding lung These glandular lesions never give trouble and probably retrogress later, as he has never found them in later stages of the disease.

4. Text of the Antiliqueur, etc., Resolutions.—The Académie declares that all natural or artificial essences, without exception, as well as the extracted substances, incorporated with alcohol or wine, constitute dangerous and harmful beverages. They are dangerous both on account of the essences and of the alcohol they contain, and they should be prohibited, or at least a prohibitory tax imposed. The Académie calls particular attention to the danger of the "apéritifs," that is, the beverages with essences and alcohol taken on an empty stomach. The fact that they are taken before meals renders their absorption more rapid and their toxicity more active. The Académie also voted a resolution urging that effective measures be taken to diminish the number of dram shops. These resolutions were passed on the request of the government, which applied to the Académie for advice in the matter, suggesting that two lists should be drawn up, one to include the dangerous essences and the other the least injurious. The Académie decided that where all were harmful it was unwise to discriminate.

6. Antituberculosis Serum from Fowls.—The curative serum made by Viguier de Maillane from the serum of fowls was mentioned in The Journal of April 11, p. 999. The technic of its preparation was given, but is not published in the "Bulletin," as the communication was referred to the tuberculosis committee.

7. Steam of Hydrogen Dioxid for Therapeutic Inhalations.—Maget and Planté have found that enough of the oxygen is retained in the steam from boiling hydrogen dioxid to render it a valuable therapeutic agent. They have applied it in veterinary practice and also on patients with chronic tuberculous laryngitis, and the improvement noted testified to the efficacy of the measure. They found that a strength of 9 to 11 volumes gave .2 to 4 volumes in the distillate, but averaged 1 and 2.

8. Tuberculosis in Etiology of Mental and Nervous Diseases.—Anglade and Chocraux believe that tuberculosis occurs in an excessive proportion in the antecedents or present condition of persons affected with mental or nervous diseases. They call attention to the frequency of tuberculous parentage in mania and melancholia. A subject with general paralysis, if not syphilitic, is almost inevitably tuberculous, and frequently both combined. Epileptics, idiots, etc., often have a tuberculous taint or die tuberculous. On the other hand, Anglade's method of staining the neuroglia has shown that epilepsy and imbecility coincide with an excess of neuroglia, and that this proliferation of neuroglia constitutes the true encephalitis of general paralysis and the pseudo-encephalitis of mania and melancholia. He has also demonstrated that tuberculosis has toxins capable of inducing in an extreme degree this diffuse neurogliac reaction in both cortex and ependymis. They consider, therefore, that tuberculosis may possibly be responsible for a large number of cases of mental and nervous disease. It kills a certain part of the population and renders another part epileptic, insane, idiot or subject to some other mental or nervous affection, possibly by its action on the embryo. Raymond, in presenting their communication, stated that he does not accept their conclusions as fully established, but still advises to bear in mind the possibility of tuberculosis in the pathogenesis of mental and nervous affections in general, although he doubts whether it will ever assume as important a place as that accorded to syphilis and alcoholism in the genesis of these affections.

Semaine Medicale, Paris.

10 (XXIII, 11.) *Un projet de vaccination antituberculeuse des nourrissons (nurslings). L. Cheinisse.
11 Letter from America (Cleveland). F. Munch.—L'injection intraveineuse d'adrénaline, associée au massage du coeur et à la respiration artificielle comme moyen de traitement de la mort apparente.
12 Ibid. (Chicago.) L'asepsie opératoire aux Etats Unis.
13 (No. 12.) *Chirurgie des grosses ascites. F. Lejars.

10. Behring's Suggestion for Vaccination of Infants Against Tuberculosis.—Cheinisse reviews all of Behring's communications on the subject of the immunization of human beings and cattle against tuberculosis, referred to in editorial in last issue. He uses for cattle a culture of human tubercle bacilli on glycerinated serum, desiccated in a vacuum at ordinary temperature. Of this desiccated culture .004 gm. are injected into the jugular vein of a calf less than three months old, after the bacilli have been ground in a mortar and emulsified in 4 c.c. of a 1 per cent. saline solution. The amount injected is equivalent to .02 gm. of a fresh culture, but the desiccation reduces the virulence of the bacilli. A month later .01 gm. of the same culture, but fresh, is injected in the same way. The animals are then immune and placed in the midst of infected herds for months to a year have shown no traces of tuberculosis when slaughtered. As intravenous vaccination of infants is out of the question, Cheinisse hails as ripe with promise his suggestion, mentioned in our editorial, p. 1083, that possibly equally favorable results might be obtained by feeding infants on milk from immunized cows.

13. Surgery of Large Ascites.—Lejars advocates laparotomy in all cases of extensive ascites of doubtful origin He describes a number of instructive cases. The abdomen in one measured 94 cm. at the umbilicus, but nothing abnormal was discovered at the laparotomy except adhesions between stomach and liver, possibly the result of an old, healed ulcer. The ascites has not recurred since the adhesions were detached, and the patient has been in good health since. He urges, in particular, early intervention in case of the ascites of cirrhosis, while it is yet time to accomplish good results. After the liver has become seriously compromised little can be expected from omentopexy as a last resort. He quotes, with approval, Harris' article in The Journal of May 3, 1902. In many cases supposed to be of a tuberculous or carcinomatous nature, the laparotomy will reveal the welcome suprise of some comparatively insignificant lesion. He affirms that the well-established fact of the benefit derived from a laparotomy in tuberculous peritonitis is by no means confined to the tuberculous form. Every chronic peritonitis, whatever its nature, is susceptible of improvement from it. In one case of diffuse carcinosis with extensive ascites of the abdomen the patient was remarkably improved by a laparotomy and drainage, and survived six months in comparative comfort. The surgeon in such cases should not attempt to disturb the conditions, but merely drain with strict asepsis, and general anesthesia is not necessary. He has collected 78 cases in which Talma's operation was performed, but as it was done as a last resort, the proportion of 28 cured and 14 much improved does not represent the actual value of the intervention. He has done it three times himself.

Archiv f. Verdauungskrankheiten, Berlin.

14 (IX, 1.) *Ueber Fistula gastrocolica carcinomatosa. P. Koch.
15 Fall von Magen- (stomach) Carcinom mit erfolgreich (successfully) operierter Fistula gastrocolica, und zwei später spontan entstandenen (2 spontaneously occurring) Gastroenterostomien nach Hacker'schem Typus. G. Kelling.
16 *Ueber eine neue Anwendungsform (form of application) des Gelatose-Silber-Nitrats (Albargin-Höchst). Zur Behandlung der Dickdarmerkrankungen (affections of large intestine). W. N. Clemm.

14. Gastrocolic Carcinomatous Fistula.—Koch has had occasion to observe two cases of this condition in Erb's service at Heidelberg, and has collected 68 others. He tabulates the details of the 70 cases. The interval between the first symptoms of the fistula and death ranged from six days to two and a half years. Not all were cancerous; in 20 per cent. an ordinary ulcus was the cause, tuberculosis in a few, and in one the fistula was congenital. The gastrocolic fistula may develop without any symptoms, as in Aron's case, in which edema of face and legs, an effusion in the abdominal cavity and pleura and the waxy complexion were the only clinical manifestations except weakness and loss of appetite. There had never been pains in the stomach, vomiting or fever, and yet the autopsy revealed a carcinoma with a broad fistula into the colon. Fecal vomiting is the most constant symptom, but it might be prevented by complete stenosis of the pylorus or by an unusually large fistula, both of which favor the occurrence of diarrhea with undigested food, lientery, which is the second most characteristic symptom. The third is the identity between the vomit and the diarrheic stools. Accessory symptoms are the rapid emaciation, excessive thirst, fecal odor of mouth and eructations. Another symptom is the abrupt cessation of long continued vomiting of food. If gastric juice can be detected in the stools the diagnosis is confirmed, as also flatus per rectum after inflating the stomach. Sometimes a metallic ringing and gurgling sound can be heard. A stained fluid injected under pressure into the rectum may be voided by the mouth, or fluid introduced by lavage of the stomach may be siphoned out through the rectum. Treatment can be only symptomatic, morphin and opium. Some have tried an artificial anus in the ascending colon or recommended partial resection of stomach and colon, but without results. One patient was conscious of the formation of the fistula, feeling as if something had burst.

16. Improved Silver Nitrate Treatment of Colitis Membranacea.—Clemm imagined that the non-irritating properties of the combination of gelatose and silver nitrate, called albargin, which have proved so useful in urology, might be equally effective in intestinal affections. Time has confirmed the correctness of this view. He substitutes it for the oil cure recommended by Fleiner and Kussmaul, and uses it for the same indications. He dissolves two albargin tablets of .2 gm. each in a little hot water and then stirs it into .25 liter of tepid water. This is injected into the rectum at night, to be retained, the buttocks raised or the subject lying on his left side, then turning on his abdomen and then on his right side. The first of these albargin injections may bring an enormous quantity of the membrane-like strips of mucus, but after this the membranes disappear from the stools with remarkable rapidity. The albargin reaches the diseased mucous membrane without irritating it in the slightest, thanks to its gelatose element, and then penetrates into the intercellular spaces, where the silver nitrate is liberated from the gelatose and acts directly on the inflamed goblet cells. If the nitrate alone were used, it would coagulate the albumin on the surface and induce irritation without the ability to penetrate into the depths. He describes 10 cases thus treated; in one instance, at least, the colitis membranacea had alternated with liver colic. All of the inconveniences of the oil treatment are avoided by these albargin injections, and they frequently succeed where the oil fails.

Mitteilungen a. d. Grenzgebieten, Jena.

17 (II, 1.) *Ueber Erkrankungen des roten Knochenmarks besonders der Wirbel, bei abdom. Typhus (marrow lesions in typhoid). E. Fraenkel (Hamburg).
18 *Ueber Dauererfolge (remote results) der internen Therapie des Ulcus ventriculi. J. Schulz.
19 *Herd- (focus) Symptomen bei Hydrocephalus acutus internus der Erwachsenen (in adults). J. A. Grober.
20 *Ueber Volvulus des Coecum und Colon ascendens. O. Wandel (Kiel).
21 Die Verbreitung (distribution) der Echinokokken-Krankheit in Elsass-Lothringen. A. Goellner.
22 *Die Behandlung der akuten Perforationsperitonitis im Typhus mittels Laparotomie und Ileostomie. T. Escher (Trieste).
23 *Ueber Fremdkörper in den Luftwegen. L. Kredel.
24 *Ueber die pyogene Wirkung (action) des Pneumococcus. E. Meyer.
25 Zur Kenntniss vasomotorischer Störungen (troubles). C. Fürstner.

17. Marrow Lesions in Typhoid.—Fraenkel has discovered what he believes to be a constant accompaniment of typhoid infection, that is, multiple foci of necrosis with deposits of fibrin, scattered through the red bone marrow, with a special predilection for the vertebræ and ribs. These foci occur from the first week of the disease late into convalescence. They may spontaneously retrogress or may continue to progress and entail clinical manifestations. They explain Quincke's spondylitis typhosa, but are more correctly entitled typhoid osteomyelitis. Fraenkel found these lesions constantly in 13 typhoid cadavers, including one subject who had died from an intercurrent pneumonia. Of the number 6 were men from 17 to 43 years of age; 5 were women from 19 to 52, and 2 were children from 1 to 10. Death had occurred in the first week in 3; in the second in 4; in the third in 4; in the sixth in 1, and during a relapse in 1. They were never found in his examination of cases of diphtheria, scarlet fever, erysipelas, phlegmons, pneumonia nor peritonitis, but Chiari has observed a similar phenomenon in variola. He studied it on 22 cadavers, and published an account of it under the title osteomyelitis variolosa. His description differs from Fraenkel's, however, in the fact that he noticed occasionally evidences of inflammation and did not find traces of fibrin. The typhoid foci are distinguished by the complete absence of any tendency to inflammation or suppuration and the constant fibrin deposits best brought out with the Weigert fibrin stain. Typhoid bacilli were found constantly in the marrow in the 10 cases examined, with the other bacillus in cases of mixed infection.

18. Remote Results of Internal Treatment of Gastric Ulcer.—Schulz reviews the results in 184 cases treated at Kast's clinic at Breslau and 107 at Hamburg. Of this total of 291 cases, 165 were dismissed as cured and 95 much improved, 15 as unimproved, and 16 died. Treatment was by the Ziemssen-Leube method. It failed, therefore, in 11 per cent., while the mortality was 5.5 per cent. He has been able to obtain information of the late results in 157 cases from six months to twenty-four years after the course of internal treatment. Only 64 per cent. have been permanently cured. The number of the uncured has increased threefold, while the number of improved has diminished by 25 to 33 per cent., and the cures are not so complete as assumed at first. The immediate results are no criterion of what may be anticipated later, and the cases that are merely improved are liable to grow worse again. On the other hand, these statistics show that, in spite of only moderate success at first and in spite of recurrence, a cure may still be effected by internal treatment, and even without this in time. The patient should not be dismissed from treatment until a complete cure has been realized. If improvement is not speedily obtained the possibility of complications should be borne in mind, and other measures should be considered. He gives in his statistics the condition at dismissal and when examined later of the different cases for better comparison.

19. Focal Symptoms of Acute Hydrocephalus in Adults.—Grober's patient was a woman, aged 24, whose husband was syphilitic. The affection developed and ran its course to a fatal termination in ten weeks. Potassium iodid was administered, but without benefit. The autopsy disclosed hydrops of the ventricles, but no meningitis nor tumor, as anticipated, merely an ependymitis granulosa. Among the symptoms observed were spasms in the right face, loss of sensibility in the right supraorbital region, paresis of the left facialis and hypoglossus, kneejerk on right side exaggerated, choked disc and vomiting. He has found only two similar cases on record, all fatal. Lumbar puncture was done once, but alarming symptoms compelled its discontinuance, although the patient seemed easier afterward. In future he should institute vigorous specific antisyphilitic treatment and at least try the efficacy of repeated small lumbar punctures.

20. **Volvulus of Cecum and Ascending Colon.**—Wandel has noticed in examining 640 cadavers that in 10 per cent. the lower part of the cecum and ascending colon was freely movable from lack of the normal fixation. This exposes the individual to the danger of displacement of this part of the bowel and he has observed in the clinic 5 cases in which this occurred. The cadavers were those of 13 male and 15 female children, 22 men and 16 women. In his clinical cases the kinking or spiral twisting on the longitudinal axis or twisting on the mesentery occurred suddenly, usually from some muscular effort in which the trunk was stretched over backward, as in trying to hit a high ball in tennis. In some cases these attacks of recurring volvulus at long intervals dated from infancy, and there was generally a history of the failure of purgatives to relieve. Frequently the colic is merely aggravated by them. During the colic the subjects usually find that standing very erect or bending forward will relieve the pain.

22. **Treatment of Typhoid Perforation with Ileostomy.**—Escher is so fortunate as to be able to report 3 patients cured out of 4 on whom he operated on account of peritonitis from perforation of the bowel in the course of typhoid fever. Three were very severe cases. The patients were from 8 to 19 years of age and the intervention was required at the end of the third or beginning of the fourth week. From twenty-two to eighty hours had elapsed after the first signs of perforation except in the case of a child of 8 in whom the acute symptoms had been noted for ten hours after a suspicious stage lasting seventy-two. In reviewing the literature he has found 22 cases reported as under 18 years and only about a quarter recovered after the operation, but some required a second intervention; 1 died in a relapse and 1 passed through a serious metastatic pyemia. These results demonstrate that children are no better subjects for operation in such cases than adults. He attributes his 75 per cent. of complete recoveries to his technic. He does not attempt to suture the perforation, but merely draws the perforated intestine to the wound and sutures the loop to the skin. This saves time and rests the inflamed gut below, but its chief benefit is that it wards off the dangers of the obstruction of the bowels, which is sure otherwise to follow the perforation from partial paralysis of the bowel or other cause. There is no meteorism when this is done, no stagnation of feces, and convalescence proceeds rapidly. On the other hand, the time required to suture the perforation is a great strain on the patient, while it acts directly contrary to Nature, which seeks to relieve the paralytic ileus by opening an outlet by way of the perforation. The artificial anus created by the ileostomy should be made in the perforation and in such a way as not to interfere with the draining tamponing of the peritoneum. In case the opening afforded by the perforation alone is not sufficient, ileostomy at any other point may be done. This fastening the perforated loop to the skin, supplemented by draining tamponade of the peritoneum, is the most certain means of prevention of further spread of the peritonitis. (See editorial in last issue.)

23. **Foreign Body in Air Passages.**—Kredel warns to have everything in readiness for tracheotomy before attempting instrumental extraction. He reports 5 cases. In 3 a bean and in 2 a nail had entered the air passages. In one case the child might have been saved by proper intervention, but the symptoms were ascribed to another casual cause. In one a swollen bean in the trachea acted like a valve, causing dyspnea during expiration, along with paralysis of the lungs. In another the nail stuck between the hyoid bone and epiglottis, holding down the latter.

24. **Pyogenic Action of Pneumococcus.**—Meyer has observed 24 cases of this nature. The pneumococcus has an especially pyogenic tendency in children, with a predilection for the serous membranes, but he has observed strumitis, abscesses in mouth and bones, periostitis, arthritis, peritonitis and general sepsis from its action.

Archives de Neurologie, Paris.

26 (XXV, January.) *Etat du fond de l'oeil (condition of fundus of eye) chez les paralytiques généraux et ses lésions anatomiques initiales et terminales. Keraval and Raviart.

27 Note sur l'évolution des obsessions et leur passage au délire. J. Séglas.

28 La rééducation motrice dans les maladies du système nerveux. Ses applications à l'ataxie des tabétiques. G. Constensoux.

29 (February.) *Contribution à l'étude des folies (insanity) par contagion. G. Carrier.

30 Des obsessions et impulsions. Syndromes épisodiques chez les dégénérés. Soutzo fils.

31 (March.) *Nouvelle contribution à l'étude des psychoses post-opératoires. L. Picqué and M. Briand.

32 Sur quelques particularités de la névralgie faciale et son traitement par l'electricité. A. Zimmern.

26. **The Fundus of the Eye in Paresis.**—In an examination of 51 paretics Keraval and Raviart find that the majority were males with notable lesions of the fundus, and in only those that were in remission were they lacking. In 7 advanced cases there were 5 of white papillary atrophy, one of gray atrophy and one of posterior sclerochoroiditis of both sides without myopia. A pale disc was observed in 13 paretics. In 22 others one segment of the papilla, external, internal, lower or upper, presented a soft (flou) appearance, vaguely margined. This is the preliminary stage of papillary atrophy. No cases were found in women of these slow and long-continued types of ophthalmic lesions. An ophthalmic examination was confirmed in autopsies by microscopy, and even in the mild cases there was a papillary neuroretinitis presenting the same characters of diffuse meningoencephalitis; infiltration of the noble elements of the papilla and ophthalmic nerve by connective tissue cells, thickening of the connective tissue framework of the nerve, diffuse atrophy of the ganglion cells and nerve fibers of the retina and in the more advanced cases destruction of the nerve cells of the retina and production of papillary sclerosis.

29. **Contagion of Insanity.**—The name "folie à deux" should be supplanted by the more general designation of insanity by contagion and morbid suggestion. This last designation is based on the pathogeny of the disorder and has the advantage of comprehending in the same term cases of psychic phenomena which start from morbid suggestion and all the insanities of crowds. It is necessary to separate the codeliriants in all cases of contagious insanity. It is also necessary to consider from a medicolegal point of view the subjects of the passive imposed insanities as being in the suggestive state and consequently irresponsible so far as they are in that condition.

31. **Post-Operative Psychoses.**—Under the title of post-operative psychoses Picqué and Briand include practically only the disorders of the ideational sphere. Post-operative neurasthenia should be distinctly separated from them. In the group thus limited we may separate the toxic forms and consider them apart. If they are allied in a nosologic point of view, this is not the same in practice, and uniting of the two forms obscures the questions of prophylaxis, symptomatology, prognosis and treatment. The infectious insanities are the transitory forms which may recover spontaneously in hospitals or under surgical treatment. To send them to an asylum, as is often done, is to sequestrate them unnecessarily and take them away from their needed surgical aid. The true post-operative group on the other hand is permanent and can be treated only in the asylum. The pathogenicity of these insanities varies in the two groups. In the first the insanity is exclusively infectious and may be cured by suppression of the focus. There is no history of acquired predisposition of the nerve centers, but in the second this predisposition constitutes the principal active cause. It is more particularly a hereditary degenerative weakness. The authors insist on the importance of this separation and report a number of interesting illustrative cases.

Revue Neurologique, Paris.

33 (XI, 1.) Névrite radiculaire subaigue, dégénérescences consécutives dans la moelle (in spinal cord), racines postérieures—et dans les nerfs périphériques—racines antérieures. J. Nageotte.

34 Remarques sur la pathologie des acroparesthésies. A. Pick.

35 *Quelques nouvelles données sur la physiologie des reflexes tendineux. A. E. Stcherbak (Warsaw).

36 Du parasite trouvé dans le sang (found in blood) des epileptiques. Son agglutination par le sérum des animaux infectés et par le sérum des epileptiques. Bra.

37 (No. 2.) Les lésions du système lymphatique postérieur de la moelle sont (of spinal cord are) l'origine du processus anatomo-pathologique du tabes. P. Marie and G. Guillain.

38 *Cas de contracture post-hémiplegique. Apparition moins de 24 heures après (appearance in 24 hours after) le début de l'hemiplégie d'une "contracture hative" en flexion forcée et persistante du membre inférieur coexistant avec la paralysie flasque du membre superieur. Devic and Gallavardin.
39 *Pression intraartérielle dans la névrose traumatique. L. Haskovec.
40 (No. 3.) *Atrophie du cervelet (cerebellum) et sclérose en plaques (in patches). A. Thomas.
41 Nouvelles recherches cliniques sur les variations pathologiques de la courbe de secousse musculaire (curve of muscle-jerk). M. Mendelssohn.
42 (No. 4.) Compression medullaire (of spinal cord) par fracture du rachis. Paraplégie spasmodique. Laminectomie. Guérison (recovery). F. Raymond and Sicard.
43 Dégénérescences descendantes consécutives à un ramollissement (softening) du pedoncle cérébral. R. Cestan.
44 *Examen cytologique du liquide cephalo-rachidien dans le tabes. Armand Delille and J. Camus.
45 Mydriase unilaterale et corps étranger (foreign body, barley beard—epillets d'hordeum murinum) du conduit auditif externe (in outer auditory canal). J. Sabrazès.

35. New Data in Physiology of Tendon Reflexes.—Stcherbak has found that vibrations such as those produced by a tuning fork, are a specific stimulus to the deep nerve terminals involved in the production of the knee-jerk. A large tuning fork was screwed firm on a stout metal standard and set in motion by an electro-magnet, about 33 vibrations to the second. He applied to the standard the knee or other part of the animal to be tested, and thus made thirty-five tests on 16 rabbits. When the knee was applied, the knee-jerk was much exaggerated by the procedure. The vibrations were able to artificially "charge" the reflex apparatus with nerve energy, and percussion and passive movements were able to "uncharge" it afterward. Percussion and passive movements of the knee after the vibrations induced clonus of the knee or spasmodic trembling. These phenomena could likewise be induced by similar irritation of the other leg, exaggerating the crossed reflex. After an hour of the primary vibrations the spasmodic phenomena could be elicited as late as twenty-four days afterward by passive movements of the leg. The more intense the stimulus and the shorter the interval, the fewer passive movements were required. If the spinal cord was severed above the route of the patellar reflex, local application of the vibrations induced a durable, unilateral exaggeration of the knee-jerk, but no clonus nor tremor. Passive movements repeated even 4,300 times on one control animal never induced the clonus and tremor, while a few dozen or hundred passive movements appied to the "vibrated" animals never failed to bring the clonus even several days after the stimulus. When the vibrations were applied to the spine, spasmodic action followed affecting all the muscles in both hind legs. In short, this method of applied vibrations is able to induce in the inferior (somatic) nerve apparatus the phenomena which we are accustomed to attribute exclusively to the brain. The vibrations once applied leave traces which may remain latent for a long time, as in the psychic organ an idea or a sensation may leave a latent trace which persists through a long period and may be revived by some stimulus from the apparatus of psychic association.

38. Post-Hemiplegic Contracture.—The contracture appeared in less than twenty-four hours after the hemiplegia. The arm exhibited lax paralysis while the leg was flexed rigidly on the thigh. The autopsy showed the causal lesion to be a circumscribed softening of the internal capsule with degeneration of the pyramidal tract.

39. Blood Pressure in Traumatic Neuroses.—Haskovec found that the arterial pressure in seventeen subjects examined was not augmented but occasionally diminished. No regularity was apparent.

40. Atrophy of Cerebellum and Sclerosis in Patches.—Thomas adds a third to the two cases he has previously reported of what he calls "olivo-ponto-cerebellar atrophy." The clinical picture is that of the cerebellar syndrome. It has no hereditary or family features and affects elderly persons. In the case described, besides the lesions suggested by the name of the affection, he found others resembling those of sclerosis in patches, and he believes that the two affections coincided. Study of these three cases indicates that the labyrinth, the cerebellum and the cerebral cortex all participate in the maintenance of the equilibrium, and consequently lesions disseminated through these three organs entail disturbances in the equilibrium more pronounced than when the cerebellum alone is affected.

44. Cytology of Tabes.—In 13 cases of tabes examined, of four to forty-two years' duration, no regularity could be found in the cytology of the cerebrospinal fluid It is evident that this means of investigation has no value for either prognosis or diagnosis in such cases.

Centralblatt f. Nervenheilkunde und Psychiatrie, Berlin.

46 (Year XXVI, No. 156.) Ueber die Grenzen (limits) psychiatrischer Erkenntniss. R. Gaupp.
47 *Ueber ein eigenartiges, operativ beseitigtes katatonisches Zustandsbild. K. Bonhoeffer (Breslau).
48 Ophthalmoplegia interna traumatica. E. Schultze. One case.
49 (No. 157.) Zur Psychophysiologie des Negativismus. R. Vogt.
50 Beitrag zur path. Anatomie des Central-Nerven-Systems und des Rückenmarks. Nissl.

47. Psychosis with Catatonia Cured by Operation.—A man of 57 presented an intermittent psychosis with symptoms of paresis and others, resembling those of catatonia, and preceded by a long stage of alteration of character. He had a history of a severe traumatism of the head thirty years before, and the cicatrix was somewhat depressed. This region was explored after cutting an osteoplastic flap of about 50 sq. cm. The dura was not adherent, and after incising it the pia was seen to be much congested and the brain bulged out over the edges of the incision. There were no signs of a focal lesion. The pia was raised where the hyperemia was most pronounced and some of the vessels were crushed in doing this. The region corresponded to the posterior third of the second convolution. The dura was sutured and the flap lightly replaced, but not pushed down quite into its old place. This left a little more space for the brain beneath. During the twenty-one months that have elapsed since, there has been no recurrence of the psychosis or other previous symptoms but the patient has had an occasional attack of epilepsy. He has been able to resume his long abandoned occupation and the rare epileptic attacks are not regarded by his family and friends as detracting much from the success of the intervention.

Deutsche Zeitft. f. Nervenheilkunde, Leipsic.

51 (XXIII, 1-2.) Motor Disturbances with almost complete Anesthesia of One Arm After Stab Wound of Spinal Cord. A. Strümpell.—Ueber die Störungen der Bewegung bei fast vollständigen Anästhesie eines Armes durch Stichverletzung des Rückenmarkes, nebst Bemerkungen zur Lehre von der Coordination und Ataxie.
52 *Ueber Epilepsie. M. Biro.
53 Das Verhalten einiger Reflexe bei Gesunden und bei Tabes. J. Kollarits.
54 *Bemerkungen zur Früh- (early) Diagnose der Tabes. Ibid.
55 Beitrag zur Kenntniss der Myasthenie gravis mit Befund von Zellherden (cell foci) in zahlreichen Muskeln. R. Link.
56 Zur Frage der Innervation des Musculus cuculiaris. Schulz.
57 Zur Kenntniss der Lähmungen (paralyses) bei der Meningitis cerebrospin. epidemica. J. Schmid.
58 Ueber Chorea mollis sive paralytica mit Muskelveränderungen (muscular changes). W. Rindfleisch.
59 *Klinische und statistische Daten zur Symptomatologie der Tabes. Die Tabes unter den Arbeitern (in laboring classes). A. von Sarbo.
60 Exp. Untersuchungen über das Verhalten der Patellar-Reflexe bei hohen Querschnitt- (transverse section) Myelitiden. R. Balint.

52. Epilepsy.—In Biro's experience at Warsaw with 306 cases of epilepsy he made a special study of the premonitory symptoms of the seizures and the relations between them and to the intensity of the attack. Also the relations between the bladder symptoms and biting of the tongue to other symptoms observed, as well as other details which are set forth in this article of fifty pages in length. Only 14 per cent. were weak minded. The seizures displayed a regularly ascending type in 61 per cent.; an intermittent type in 26 per cent., and a descending type in 13 per cent. In 6 cases he noticed certain post-epileptic symptoms which have previously been regarded as premonitory phenomena. In 1 per cent. the epilepsy was reflex, from adenoid vegetations, and from masturbation in the same proportion. Syphilis was certain in only 1 of the 26 patients over 30, and hereditary lues in none. Alcoholic parents were noted in 14 per cent., and 8 per cent. of all were addicted to the abuse of alcohol. Aura were noticed in 28 per cent. They usually preceded the milder seizures.

54. **Early Diagnosis of Tabes.**—Kollarits tabulates details of 100 cases of tabes studied in regard to their early symptoms. The hypotony frequently confirmed the diagnosis, also the paralysis of the ocular muscles. In one case paralysis of accommodation was the first symptom and the ocular muscles were not affected until later, when a syndrome developed suggesting Basedow's disease, exophthalmus, struma, nervous disturbances and insomnia. As time elapsed, however, the tabes became unmistakable. The patient was a woman of 24 who had acquired syphilis four years previously. In another instance the paralysis of accommodation and lack of pupil reflex, the trigeminal anesthesia and Menière's vertigo were accompanied by the Basedow triad, but the diagnosis of tabes was sustained by the speedy development of lancinating pains and absence of ankle-clonus. In another case the tabes developed at the early age of 21 soon after syphilitic infection, the early symptoms being headache at night, loss of hair and abortion at the seventh month of a macerated fetus, followed four days later by abducens paralysis and in two months with lancinating pains and gradual abolition of reflexes.

59. **Symptomatology of Tabes.**—Sarbo has had 7.4 per cent. cases of tabes in 1,200 patients with various nervous affections in his private practice and 2.6 per cent. in 4,000 in hospital and dispensary patients. The proportion of men to women was 83 to 6 in the first class and 87 to 17 in the second. The age ranged from 23 to 73. The longest interval after syphilitic infection before the tabes developed was twenty-seven years and in 10 cases it was only one to five years. In 7 instances both man and wife exhibited tabes. The primary symptom in 67.5 per cent. of 195 cases was lancinating pains, while diplopia was noticed as the first symptom in 3.6 per cent., and gastric symptoms, vertigo or paresthesia were the first in 3.1 per cent. each. Weakness of the feet was the first symptom in 2.7 per cent., and bladder symptoms, gastric crises or impaired vision were each the first in 2.2 per cent. In 1.6 per cent. the girdle sensation first attracted attention; in 1.1 per cent. the heart crises or painful lassitude. In .5 per cent. the first symptom noted was dyspnea, deafness, ptosis or the Argyll sign. In the total of 195 cases lancinating pains occurred at some stage of the affection in 93 per cent.; the Romberg in the same proportion and the ankle-clonus was abolished in 91 per cent. Westphal's sign occurred in 89.4 and the Argyll in 88.8 per cent.; analgesia of the peroneus region in 85.5 per cent.; bladder symptoms in 79 per cent.; paresthesia in 72; analgesia in ulnar region in 66 and atrophy or blanching of the optic nerve in 61 per cent.; anisocoria in 46.6 per cent.; bilateral myosis in 21 and mydriasis in 14 per cent.; crises in 13.7 per cent.; paralysis of ocular muscles in 10.5 per cent, and trophic disturbances in 4.5 per cent.

Neurologisches Centralblatt, Berlin.

61 (XXII, 1.) Zur Pathologie des Bekanntheitsgefühl—Bekanntheitsqualität (certainty in remembering). A. Pick.
62 Ueber eine Entwickelungshemmung der Nase (ein bisher nicht beachtetes Degenerations-Zeichen). H. Gudden. Imperfect closure of tip of nostril as sign of degeneracy.
63 (No. 2.) Ueber die Störung des Flankenganges (gait) bei Hemiplegikern. A. Schüller.
64 Ueber die Wirkung (action) des Hedonals auf den thierischen (animal) Organismus. P. S. Lampsakow.
65 Zur Frage von der autogenen Nerven-Regeneration. A. Bethe.
66 Ibid. E. Münzer.
67 Ueber hysterische Dämmerzustände ("twilight conditions") und das Symptom des "Vorbeiredens" (irrelevant answers). A. Westphal. (Commenced in No. 1.)
68 (No. 4.) Der Ursprung (origin) des Tractus isthmo-striatus oder bulbo-striatus der Taube (in the pigeon). A. Wallenberg.
69 Eine merkwürdige Complication eines ophthalmischen Migräne-Anfalles. L. Hoeflmayer. Woman of 57, unconscious for ten days.
70 Ein Ohr- (ear) Reflex. W. Alter.
71 (No. 4.) *Zur Casuistik des Verhaltens der Haare bei Geistes-Kranken (behavior of hair in mental affections). W. Heinecke.
72 Biologie und Leistung der centralen Nervenzelle. P. Kronthal.
73 Beitrag zur Lehre der Encephalomyelitis disseminata. E. Beuch. (Commenced in No. 3.)
74 (No. 5.) Ueber den Acromal-Reflex. W. v. Bechterew.
75 Ueber den Carpo-Metacarpal-Reflex. Ibid.
76 *Neue Beiträge zur Physiologie der Sehnen-Reflexe. A. E. Stcherbak.
77 Ueber Incontinentia vesicæ und Lähmungserscheinungen (paralytic phenomena) an den Extremitäten bei Erweichungsherden(in case of foci of softening) in den subcorticalen Ganglien. A. Homburger.
78 Weitere Mitteilungen über die entwickelungsgeschichtlichen (myelogetischen) Felder (fields) in der menschlichen Grosshirnrinde (in human cortex). P. Flechsig. Embryological study.

71. **The Hair in Mental Affections.**—Heinicke describes a case in which a broad band of hair became silvery during the attacks of mental excitement but returned soon afterward to its normal color. The patient was a girl of 21, of a well-to-do family, a pronounced case of dementia precox with intervals of apparent health. One or two hours before a psychic attack the white band appeared and the pupils became dilated. At the culmination of the attack the hair was almost silvery. The scalp beneath was also sensitive to pressure. The microscope showed that these hairs contained an abnormal amount of air, and if the air was forced out, the hair regained its normal blonde color. He is inclined to accept the local action of some autotoxin on the brain and scalp as the cause of the phenomena observed.

76.—Same as 35 above, only in German instead of French.

Sammlung zwangl. Abh. Nerven- u. Geisteskrankheiten, Strassburg.

79 (IV. 1.) *Ueber schwachsinnige Schulkinder (feeble-minded school children). L. Laquer.
80 (No. 2.) Limits of Soundness of Mind. A. Hoche.—Die Grenzen der geistigen Gesundheit.
81 (No. 3.) *Sedatives for the Insane.—H. Pfister.—Die Anwendung von Beruhigungsmitteln bei Geisteskranken.

79. **Feeble-Minded Children in School.**—Laquer expatiates on the extreme importance of recognizing mental deficiency during the very first year or two of school. Appropriate treatment and guidance at this early stage may accomplish wonders while the lack of it confirms the child in its morbid bent. He gives a chart for school inspectors which, if filled out from the child's first entrance into school life and carried along, would soon reveal the lack of normal brightness and the necessity for exclusion from the ordinary school routine in favor of special training.

81. **Sedatives in Mental Affections.**—Pfister has found scopolamin the sovereign sedative, preferable to all others, for the insane. He has never noted any by-effects from the daily subcutaneous injection of 1.5 to 1 mg., even when continued for weeks. It has no cumulative action, and he has never encountered a case of idiosyncrasy. Abrupt suspension causes no disturbance. It is especially valuable for the immediate soothing of very excited patients. Among the hypnotics he considers paraldehyd supreme. He gives 3 to 5 gm. in abundance of water, giving another 3 gm. in exceptionally urgent cases. In three to thirty minutes the patient drops into sleep which lasts for four to eight hours. As much as 15 gm. has been given in some cases daily for weeks without harm.

Zeitschrift f. Psychologie und Physiologie der Sinnesorgane, Leipsic.

82 (XXXI, 1.) Ueber Muskel-Zustände (conditions). C. Ruger.
83 Zur Frage der geometrisch-optischen Täuschungen (illusions). T. Lipps.
84 (No. 2.) Untersuchungen über die optische und haptische Lokalisation bei Neigungen um eine sagittale Asche (on inclination around a sagittal axis). M. Sachs and J. Meller.
85 Untersuchungen über die so-gen. Aufmerksamkeitsschwankungen (attention variations). E. Wiersma.
86 Zur Lageschätzung bei seitlichen Kopfneigungen (orientation with head inclined sideways). H. Feilchenfeld.

Rivista di Patologia Nerv. e Ment., Florence.

87 (VII, 11.) Contributo allo studio delle degenerazioni consecutive al tagilo delle radici (section of roots) dorsali. L. Tarulli and L. Panichi.
88 Note cliniche su 2 osservazioni di astasia-abasia in soggetti epilettici. G. Sanna Salaris.
89 (No. 12.) Mirror Writing and the Autonomous Graphic Motor Center. G. Pieraccini.—La scrittura a spechio ed il centro motore grafico autonomo.

Wiener Klin. Wochenschrift, Vienna.

Last indexed page 881.

90 (XVI, 6.) *Zur Früh- (early) Diagnose der Hypophysis-Tumoren. A. Fuchs.
91 Zur Kenntnis der Agglutinine und gewisser Precipitine des Blutes. A. Klein. (Commenced in No. 5.)
92 Diagnosis of Melano-Sarcoma of Choroid by Transillumination. M. Sachs.—Demonstration eines Falles von Melanosarkom der Chorioidea mit Hilfe einer neuen Durchleuchtungslampe.
93 (No. 7.) *Die Vererbung (hereditary transmission) der Syphilis. Ist eine paterne Vererbung erwiesen? R. Matzenauer.
94 *Bedeutung (importance) der Blasenscheidenfisteln (vaginovesical fistulæ) in der geburtshiflichen (obstetric) Indikations-Stellung. E. Kraus.

95 Fall von Fibrinurie bei Nephritis. R. Lostorfer.
96 *Die Blitzverletzungen (injuries from electricity) in klinischer und sozial-rechtlicher Beziehung. S. Jellinek. (Commenced in No. 6.)
97 (No. 8.) Hernia obturatoria tubæ et ovarii sinistra. F. Schopf. One case. "Fifth on record."
98 Ueber die Pellagra mit Berücksichtigung ihres Vorkommens im südlichen Theile der Bukowina. M. Würzel.
99 Bossi's Dilator. A. Blau.—Ueber die Erweiterung der Cervix durch das Bossi'sche Instrument. (Chrobak's clinic.)
100 (No. 9.) *Ueber Leberprobe (Docimasie hépatique). J. Seegen.
101 Ueber den Herpes. L. Merk.
102 *Ueber Behandlung schwerer (severe) Syphilisformen mit Iod-Quecksilber-Kakodylat. G. Löwenbach.
103 (No. 10.) Torsion of Pedicle of Spleen and Wandering Spleen. K. Büdinger.—Ueber Stieldrehung der Milz und die Aetiologie der Wandermilz.
104 *Experimental Union and Transplantation of Blood Vessels. A. Exner.—Einige Tierversuche über Vereinigung und Transplantation von Blutgefäszen.
105 *Zur Kasuistik der Halsrippen (cervical ribs). E. Ranzi.
106 Ueber Charcot-Leyden Crystalle im Empyem-Eiter (pus). H. Floderer.
107 Ueber Behandlung des Keuchhustens (pertussis) mit Aristochin, einem neuen geschmacklosen Chinin-präparat (tasteless quinin preparation).
108 Lymphosarcoma bulbi urethræ von einer gonorrhoischen Striktur ausgehend. G. Kapsammer.
109 (No. 11.) Menstruation und Corpus luteum. O. Th. Lindenthal.
110 Examination of Lungs and Heart of Vienna School Children. J. Zappert.—Ueber Lungen und Herzuntersuchungen an Wiener Schulkindern.
111 *Ein Hemdknopf (collar button removed from) aus dem Unterlappen (lower lobe) der linken Lunge auf natürlichem Weg entfernt. G. Killian.
112 Pyocyaneus- Befund bei Meningitis. F. Berka. Pure cultures. One case.
113 *Ueber Thiosinamin-Versuche bei Rhinosklerom. E. Glas.
114 (No. 12.) *Identity of Bacilli of Human and Bovine Tuberculosis and Immunization of Cattle Against Tuberculosis. E. v. Behring.—Ueber die Artgleichheit der vom Menschen und der vom Rinde stammenden Tuberkelbazillen und über Tuberkulose-Immunisierung von Rindern.
115 Dyspepsia intestinalis acida lactatorum. J. Raczynski.
116 Ueber eine eigenartige (peculiar) Form von Tuberkulose des lymphatischen Apparates. J. Steinhaus.
117 Zur Statistik der amyloiden Degeneration mit besonderer Berücksichtigung der Tuberkulose. R. Blum.
118 *Die Vererbung (hereditary transmission) der Syphilis. K. Preisich.

90. Early Diagnosis of Tumor of the Hypophysis.—The diagnosis in the case described was based on the bitemporal hemianopsia and the fact that the excavation in the sella turcica was much larger than normal, as seen in the radiogram taken during life. This symptom has already been noted by Oppenheim. Cyon regards the hypophysis as a regulator of nutrition as well as of the intracranial pressure. Its normal internal secretion has an inhibiting action on nutrition. This view seems to be confirmed by a case of tumor of the hypophysis described by Fröhlich in which obesity rapidly developed with trophic disturbances. In the present case also, the subject, a man of 30, showed marked obesity of rapid development.

93. Hereditary Transmission of Syphilis.—Matzenauer argues to prove that syphilis is like other diseases in regard to its inherited transmission, and the idea of setting it apart in a class by itself has no foundation in fact. It can not be transmitted from the father. The mother of every child with hereditary syphilis must be herself a syphilitic, even although she may not exhibit any evidences of it. Consequently, she is immune to fresh infection and can nurse the child. The theory that the children of syphilitic parents are immune should be abandoned. The consequences of Matzenauer's views are that the mother of a syphilitic child, being herself a syphilitic, requires specific treatment, and that the syphilitic parents of a healthy child may transmit the infection to the child.

94. Vesico-Vaginal Fistulas in Obstetrics.—Kraus describes the experience at Schauta's clinic. The conclusions are unmistakable that in case the cicatricial tissue prevents relaxation and delivery, the child must be extracted by a laparotomy after allowing due time to determine the necessity for it. Forced dilation and deep incisions in the cicatricial tissue to relieve the stenosis are dangerous, as they are liable to induce lacerations and hemorrhage and be followed later by a recurrence of the fistula. Two cases are described in detail and those in the literature reviewed.

96. Electric Accidents.—The "Wochenschrift," No. 46, 1902, published that part of Jellinek's article treating of symptomatology, pathology and therapy, and the present issue treats the subject from the clinical and forensic points of view. Among the important points brought out are the peculiar external injuries, the development of mental disturbances, of amnesia, the microscopic alterations discoverable in the brain of subjects killed by electric action and the special way in which the clothing of the subjects and the surrounding objects are deranged and destroyed. The injury done may not become manifest for hours and days after the accident.

100. Docimasia Hepatica.—In Seegen's tests entire lack of glycogen in the liver occurred only in healthy subjects who had died from carbonic oxid poisoning or protracted asphyxia. In one of the clinical cases he describes a woman who found her babe dead in her arms at night, supposed she had smothered it, but the liver contained glycogen and the findings showed that the child had died from fibrinous bronchitis.

102. Iodin-Mercury Cacodylate in Syphilis.—Löwenbach publishes the particulars of 40 cases of syphilis which establish the peculiar advantages of this preparation of mercury for cachectic and anemic subjects with ulcerating or gummatous lesions, even after complete failure of the ordinary mercurial or iodid treatment. It is also peculiarly effective in cases of combined syphilis and psoriasis, but in the milder forms of syphilis, in well nourished, otherwise healthy persons, it has no effect. The communication issues from Neumann's clinic.

104. Research on Transplantation of Blood Vessels.—In Exner's experimental operations when a vein was implanted in an artery and the circulation of arterial blood through it established, the vein became thrombosed. The idea, therefore, of substituting a lost artery by some adjacent vein he believes to be impracticable. The attempts to transplant veins and arteries also failed for the same reason. He attributes the thrombosis to the consequences of defective nourishment of the transplanted fragment owing to the anatomy of the vasa vasorum. The vessels nourishing the transplanted fragment are cut off from communication with their feeder. The consequence is thrombosis, as the blood stream inside is evidently not sufficient alone for the nourishment of the transplanted piece.

105. Cervical Ribs.—The discovery of cervical ribs at autopsies is by no means rare, but the number of those recognized as causing clinical disturbances is limited. Ranzi describes 2 such cases and reviews 29 he has found in the literature. The patients were between 17 and 50 years of age. Scoliosis is frequently observed in these patients. In his 2 cases the clinical manifestations were paresthesia, a sensation of coldness and weakness of the arm and atrophy. These symptoms had been noted for three and fifteen years before the operation. All pain and paresthesia were banished by the intervention, but the atrophy in the hand was only partially improved in one case. The other patient was completely restored.

111. Collar Button in Lung.—Killian discovered the foreign body in the lower lobe of the lung by direct bronchoscopy. It lay 5 cm. from the bifurcation behind the fourth rib. He inserted a Lister hook through the bronchoscope tube and it seized the button at the first attempt. It was an ordinary horn collar button.

113. Thiosinamin with Rhinoskleroma.—Glas found in an experience with 5 cases of rhinoscleroma and one of severe tertiary lues, that thiosinamin affects rhinoscleromatous tissue the same as cicatricial, softening and rendering it more elastic so that it is capable of dilation, previously impossible. It should be regarded as a valuable adjuvant to mechanical measures, except in cases of much swelling of the subglottic region in which it is liable to increase the tendency to suffocation.

114. Immunization Against Tuberculosis.—The main points in Behring's communication were presented in an editorial in our last issue, p. 1083. He further states that the bacilli of fowl tuberculosis do not differ in any essential respects from those of human and bovine tuberculosis, which be believes to be identical. The phylogenetic and pathogenic properties of cultures from two fowls, known to have been infected by feeding on the carcass of a tuberculous cow, seem to be identical

with those of bovine bacilli. In regard to the imperfect development of the intestinal walls in early infancy, he states that the mucus and the cells secreting it form a protecting rampart against the penetration of toxins or bacilli into the walls of the fully developed intestine. The case is different in newly-born children or animals. There is no mucus production at first; the cells do not develop until later and then gradually, when the secretion of mucus appears in isolated patches of functioning cells. During this phase of imperfect development substances are absorbed by the stomach and intestinal walls as readily as if introduced into the blood or under the skin. Tuberculosis infection at this stage of development may spontaneously retrogress, but in cattle, at least, Behring is of the impression that additional infection in later years is more liable to occur and to be serious in those that have been infected during this early phase of imperfect development. The danger of infection of adults from meat and butter containing tubercle bacilli is insignificant, therefore, in comparison with the danger from the ingestion of infected milk during this susceptible stage, whether the tubercle bacilli in the milk are of human or bovine origin. The readiness of absorption at this age also favors, he thinks, the suggestion that infants might be immunized by feeding them on milk from immunized animals. (See also No. 10 above.)

118. **Hereditary Transmission of Syphilis.**—Preisich claims syphilis to be one of those typical infectious diseases which are able to confer active immunity without necessarily inducing the disease. A woman may react to the infection of syphilis solely with active immunity, while her unborn child reacts with clinical manifestations.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

119 (XXIX, 13, March 26.) Fall von allgemeiner (generalized) Milliartuberkulose nach (after) Abort. M. Westenhoeffer.
120 *Elimination of Volatile Fatty Acids Through the Urine. F. Rosenfeld.—Die Ausscheidung der flüchtigen Fettsäure durch den Harn.
121 Die suprapubische Cystostomie nach Witzel und ihre jetzige vereinfachte (and its present simplified) Technik. F. Wenzel.
122 *Die pulsatorische Erschütterung (jerking movement) des Kopfes (of head). Das sogen. Musset'sche Symptom. B. Herzog.
123 Der Aderlass (venesection) bei Urämie. M. Jaerisch.

120. **Differential Value of Volatile Fatty Acids in Urine.**—This communication from von Leyden's clinic announces that the proportion of volatile fatty acids in the urine was always very low in the cases of pneumonia examined—20 and 30—but rose after the crisis to 100 and 240. In some cases the proportion rose during the first stages of the disease, and the diagnosis of some suppuration as responsible for the increased lipaciduria, was confirmed by the course of events. The volatile fatty acids are produced by bacterial action, principally on albumin, wherever there is putrefaction, thus in suppurations and hemorrhages as well as in the intestines. It was also noted that the fatty acids were abundant in cases of gastric ulcer and gastrectasia with normal or excessive acidity. In case of stagnation of the stomach contents, the consequence of old cicatricial stenosis of the pylorus, accompanied by sub- or anacidity, the amount of fatty acids was very small. But when the same conditions prevailed as consequence of a carcinomatous growth, the proportion of volatile fatty acids was high, and even extremely high in some cases. Their abundance, therefore, may serve to differentiate carcinoma of the stomach. Rosenfeld suggests that the excess of fatty acids in the latter case may be due to the impaired oxidizing power of the organism in case of malignant disease. It occurred in his experience even when no pus nor blood could be detected in the stomach contents.

122. **Rhythmic Jerking of the Head.**—The motion of the head synchronous with the pulse beat which has been accepted as a sign of aneurism of the aorta, has been observed by Herzog in other conditions. He has noted it in patients with atheroma, in alcoholics, occasionally in interstitial nephritis, and in cases of hypertrophy of the left ventricle. He thinks that it can be explained by some local increase in the blood pressure either from atheroma or stagnation of blood in the region. The phenomenon is more marked during expiration and becomes less distinct during inspiration. It was observed in 2 cases in which the findings were negative at first, with no evidence of exaggerated blood pressure in the radial pulse, but this head phenomenon attracted attention to the heart, and was thus the means of revealing the existence of cerebral syphilis, its recognition followed by complete cure under appropriate treatment. He has also observed the phenomenon in certain cases of neurasthenia in which it was probably due to the lack of tonicity of the muscles of the neck.

British Medical Journal, London.

April 4.

124 *The Prognosis and Treatment of Syphilitic Disease of the Nervous System. William R. Gowers.
125 Case of Acute Acromegaly. W. Mitchell Stevens.
126 Case of Chronic Acromegaly. C. H. Cattle.
127 The Meaning of the Term "Neurasthenia" and the Etiology of the Disease. P. C. Smith.
128 *The Knock-Out Blow on the Point of the Jaw. James G. Duncanson.
129 Theories of Immunity and Their Clinical Application. A. S. Grunbaum.
130 Bacteriolytic Power of the Blood, and on Its Relation to the Problems of Antityphoid Inoculation and the Recent Work of Dr. MacFadyen. A. E. Wright.

124. **Syphilis of the Nervous System.**—Gowers declares that, properly speaking, there is no syphilis of the nervous system; it is the neuroglia and "adventitial" elements that are directly affected and the nervous lesions are secondary, as the results of pressure and the disturbance of nutrition, etc. The characteristic specific process is a neoplasm, and with its rapid growth it produces proportionate vascular disturbances; thus we have two forms, the neoplastic and the inflammatory, in all specific processes. Local inflammation may involve the nerve elements as well. The effects of inflammation are more or less constant. No structure is exactly the same afterward as before. Slight residual alterations in the brain, for example, may cause grave disturbance of function. The essential point to be considered in syphilitic disease is that the specific process can be influenced by treatment, but this may produce no effect on the simple changes on which the symptoms directly depend. The forecast is favorable in proportion as the latter can pass away when their causes cease to act. The quicker the specific process is overcome the less liable is the secondary process to be permanent and serious. A long duration of these conditions before proper treatment is instituted is the real secret of their formidable character. Patients suffer long before they seek advice; the disease is sometimes unsuspected. The effects of mercury and iodid are discussed and, while iodin seems, from experiments, to have the most rapid effect, Gowers says we would expect to see mercury have the most influence; experience seems to confirm this to some extent. He does not think it wise to give iodid and mercury together in full doses except for a very short time in urgent cases. In administering mercury the object is to get enough into the system, and this can only be done slowly, and he believes inunctions one of the best methods of doing this. He would not continue any treatment long. His opinion is that specific treatment should be energetic, but not continuous. He would stop it in eight weeks or so and re-administer it again in from four to six months. The patient should have three or four weeks' treatment with iodid every four months during the first year in true syphilitic symptoms, and then every six months during the next three or four years. The treatment may lose its power if continuously administered. We should remember also that toxic degenerations due to syphilis, such as those in developing locomotor ataxia and paresis, may develop sometimes before the true constitutional disease is at an end, and he calls attention to some perplexing cases of mixed syphilitic and parasyphilitic disease.

128 **Knock-Out Blow on the Point of the Jaw.**—The mechanism of this formidable blow, which temporarily completely disables the recipient, is studied by Duncanson, and he accounts for it by the exaggeration of rotation setting up a disturbance in the endolymph of the semicircular canals and the ampullæ so intense that the nerve endings are stunned by the force of the sudden impact on the endolymph, thus equilibrium and consciousness are totally lost. There is something in it more definite than concussion and shock.

The Lancet, London.

April 4.

131 *The Existence of Organic Disease in the Absence of Obvious Symptoms. J. R. Bradford.
132 *Theories of Immunity and Their Clinical Application. A. S. F. Grunbaum.
133 *Further Observations on the Treatment of Smallpox by the Serum of Immunized Heifers. R. S. Thomson and John Brownlee.
134 *Ethyl Chlorid as a General Anesthetic. W. J. McCardie.
135 Operations for Rectifying Crooked and Depressed Noses. W. J. Walsham.
136 On the Use of Iodipin in Cases of Uterine Fibroid. John A. Shaw-Mackenzie.

131. **Latent Diseases.**—The subject of these diseases without obvious symptoms is noted by Bradford, who reviews the principal conditions in which this absence of symptoms may occur. In some instances the onset of acute symptoms indicates an exacerbation of the chronic morbid state and is due to a sudden increase of lesion. More often, however, it is dependent merely on progressive development of the underlying malady or it may be due to complications. The instances of latent diseases which he gives are numerous, including renal sequelæ in diseases of the bladder and pelvic organs, latent cerebral abscess as a complication of ear disease, pericarditis in renal disorders, walking typhoid, pleural effusion, which is often recognized as latent and generally supposed to be associated with pulmonary tuberculosis, latent phthisis, which may exist to a certain extent, peritonitis, which may be present in its most severe and violent forms without any characteristic symptoms, and especially gastric ulcer and malignant disease of the viscera. Many hepatic disorders run a latent course. This is not uncommon in the tropics. Gallstones produce no symptom in the great majority of cases and a patient may suffer from hepatic cirrhosis with no apparent ill effect for a prolonged period. Sometimes the patient appears to suffer from a general peritonitis dependent on perforation, but none such is found, but rather a high degree of atrophic cirrhosis. Brain tumors, nephritis and aneurism of the large cerebral vessels may also exist for a considerable time, and many diseases of the spinal cord and meninges and even the spinal column may fail to be recognized by the patient or the practitioner. Fracture of the spine as a result of sudden movement may be the first unequivocal evidence of the existence of sarcoma or other malignant disease of the bone. Kidney diseases, however, furnish the most striking and frequent examples, not only in such disorders as hydronephrosis and pyelonephritis, but also in cystic disease, and especially in granular kidney and certain forms of Bright's disease. Uremia often, in its most acute form, may be the first intimation of the existence of cystic disease of the kidneys. The great point to be borne in mind is that most of these latent disorders can be detected or, at any rate, suspected by the use of thorough physical examination. It is the symptoms, not the physical signs, that are lacking.

132. **Immunity.**—Grunbaum's third lecture treats of the actions or sera, other than antitoxic and bactericidal, incubation, protective inoculation, relapses and reinfections, predisposition, susceptibility, serum diagnosis, agglutinins, etc., all in accordance with Ehrlich's theory, which he described in his earlier lectures.

133. **Smallpox.**—Thirteen cases of smallpox were experimentally treated with large doses of serum of immunized heifers by Thomson and Brownlee. Three of these were hemorrhagic cases and all died; two of these too early for the treatment to have had any effect. Of the confluent cases, of which there were 4, 2 died; the discrete cases all recovered. The general results of the experiments were rather negative, but the authors believe that further trial is advisable. No action of any kind was observed in the hemorrhagic cases. In two cases where the serum was administered eight to eighteen days before death, no influence seemed to be exercised, although there was ample time for the serum to act. In 6 cases, where the serum was administered from four to seven days before desiccation, the course was modified, but, as 3 of these cases were vaccinated, and in a fourth the vaccination was assumed but doubtful, it is impossible to say that the treatment acted independently of anything else. In one case the serum completely failed to modify the course of a revaccination.

134. **Ethyl Chlorid.**—Having given ethyl chlorid 450 times, McCardie has never had any trouble ascribable to the drug itself. He now gives it with confidence and finds its general action on the circulation and respiration appears to be stimulative. He has not tried it in major operations, because he sees no advantage in it in such cases over ether or chloroform. It is only for short operations that it is specially beneficial. It is safer, he thinks, than ethyl bromid, as the bromid compounds have a more lasting and toxic effect than the chlorid compounds.

Indian Medical Gazette, Calcutta.

March.

137 Report on the Outbreak of Epidemic Dropsy in the Barisal Jail. R. Cobb.
138 *The Mode of Entry of Plague Infection into the Human Body. H. E. Deane.
139 An Analysis of One Thousand Consecutive Cataract Extractions. (Continued.) F. P. Maynard.
140 Notes on the Origin of the Presidency General Hospital, Calcutta. (Concluded.) D. M. Moir.

138. **Plague.**—Deane discusses at length how plague infection enters the human body, and combats the notion that it is exclusively through abrasions. He gives a considerable amount of evidence, and concludes that careful examination shows that a very small proportion of the natives display cuts or abrasions, no more than can be found in any large community. When abrasions are found on persons with plague there is an absence of any sign that would render it probable that they were the point of inoculation In a proportionately small proportion of cases skin lesions are observed, which, when appearing early in the course of the disease, seem to point to an entry for the virus, but the evidence is unsatisfactory and the lesions can be more satisfactorily accounted for by supposing them to be manifestations of the general blood infection. Plague, he holds, is contracted by inhalation of the virus. The different symptoms presented in different individuals depend on the individual constitutions, and they may be in part due to the quality and quantity of the virus observed. Infection through the respiratory organs is borne out by the course taken by the disease and its virulence in damp, dark places void of ventilation.

Journal of Tropical Medicine, London.

April 1.

141 *Tropical Hygiene. (To be continued.) W. J. Simpson.

141. **Tropical Hygiene.**—Simpson notices the different conditions in the tropics from those of the temperate and cooler climates, and remarks that one has to adapt himself to the circumstances. For instance, water-sealed closet traps that are considered advisable in cooler climates would be unadvisable in warmer countries, because they are sure to be unsealed by evaporation in summer and pressure through storms in the rainy season. He divides the tropics into the tropical and subtropical regions, including in the latter the region extending to 35 degrees latitude north and south and external to the tropics of Cancer and Capricorn. The irregularity of isotherms is remarked on and also the difference between insular and continental climates. Humidity has a powerful effect, and the distribution of the rains has much to do with the formation of the climate. Rain within the tropical zone is much more decided than in the temperate zone There are no drizzling rains, but the showers, whether short or long, are heavy. This favors, excepting in very porous soils, floods, inundations, and the formation of swamps, which require special attention to drainage for their prevention. The climate impresses itself strongly on the vegetation of the locality; where there is a great variety of plant life, luxuriant growth, the climate is sure to be hot and moist. When the vegetation is less luxuriant, but of the same tropical nature, the climate will be hot, but with plenty of rain, but where the heat is strong and the rain fails, vegetation fails also. Putrefaction and fermentation proceed with much more rapidity in warm climates, especially in hot and humid ones. What is harmful in Europe is doubly so in the tropical regions. As soon as the European enters the tropics he comes under the influence of a new environment, though the illnesses to which he is subject are not, as formerly considered, altogether the fault of the climate but are due largely to unsanitary habits, overfeeding,

intemperance, unsuitable clothing, etc When the food is good, the habitations healthy and the habits what they should be, the death rate is comparatively low. It is difficult to judge the proportion of ill health due to preventable causes, but, putting the individual under favorable hygiene, the mortality which used to be ascribed to the climate can be reduced 10 to 15 times its former rate in the West Indies, and at least five times its former rate in India. The question arises whether, apart from inattention to personal hygiene, insanitary conditions and malaria, residence in the tropics is more unhealthy to Europeans than residence in their own country. It is certain that in the vast majority of cases residence in the tropics for a short time does no harm.

New Patents.

Patents of interest to physicians, March 17 and 24:

722943. Hypodermic syringe case. Thomas A. Chappell, Brownwood, Ga.

722819. Syringe. Wm. M. Decker, Buffalo, N. Y.

722953. Rectal nozzle for syringes. Wm. M. Decker, Buffalo, N. Y.

722954. Vaginal nozzle for syringes. Wm. M. Decker, Buffalo, N. Y.

722976. Bath and fever machine. Frank W. Hall, Ingleside, Ga.

722841. Electrical massage apparatus. Wilbur F. Hedstrom, Los Angeles, Cal.

723042. Valve for syringes, atomizers, etc. Silas Schwerin, Belleville, N. J.

723070. Inhaler. Clarence W. Taylor, Sioux City, Iowa.

723355. Thermometer case. Albert Ashenberger, Elkins, W. Va.

723588. Hypodermic syringe. Fairleigh S. Dickinson, Bayonne, N. J.

723456. Apparatus for treating the eye. Henry F. Garey, Baltimore.

723268. Inhaler. Karl Greimer. Plauen, Germany.

723291. Strength testing device. John Maitland, Swampscott, Mass.

723735. Massage appliance. Torsten Schillberg. Glasgow, Scotland.

723738. Inhaler. August K. Schulte, Philadelphia, Pa.

723790. Endoscope or other optical instrument. Reinhold H. Wappler, New York City.

723797. Electric thermal therapeutic blanket. Wm. E. Williams, Springfield, Ohio.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IV. Gynecology. Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School, and William Healy, A.B., M.D., Instructor in Gynecology, Northwestern University Medical School. March, 1903. Cloth. Pp. 242. Price, $1.25. Chicago: The Year-Book Publishers.

DISEASES OF THE PANCREAS, DISEASES OF THE SUPRARENAL CAPSULES, AND DISEASES OF THE LIVER. By Dr. L. Oser, of Vienna; Dr. E. Neusser of Vienna; and Drs. H. Quincke and G. Hoppe-Seyler of Kiel. Edited, with Additions, by Frederick A. Packard, M.D., Late Physician to the Pennsylvania and to the Children's Hospitals, Philadelphia; and Reginald H. Fitz, M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University Medical School, Boston. Illustrated. Cloth. Pp. 918. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

THE CARE AND FEEDING OF CHILDREN. A Catechism for the Use of Mothers and Children's Nurses. By L. Emmett Holt, M.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), Third Edition, Revised and Enlarged. Cloth. Pp. 149. Price, $0.75. New York and London: D. Appleton & Co. 1903.

HEARING ON THE BILL (H. R. 14788) TO ESTABLISH A LABORATORY FOR THE STUDY OF THE CRIMINAL, PAUPER AND DEFECTIVE CLASSES, with a Bibliography. By Arthur MacDonald, Specialist in the United States Bureau of Education. Had before the Committee on the Judiciary. Paper. Pp. 309. Washington: Government Printing Office. 1902.

DISEASES OF THE STOMACH. By Dr. F. Riegel of Giessen. Edited, with Additions, by Charles G. Stockton, M.D., Professor of Medicine in the University of Buffalo. Illustrated, Including 6 Full-page Plates. Cloth. Pp. 835. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co., 1903.

THE SURGERY OF THE HEAD. By Bayard Holmes, B.S., M.D., Professor of Surgery in the University of Illinois. Cloth. Pp. 569. Price, $2.50. New York: D. Appleton & Co. 1903.

SIXTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF OHIO For the Year Ending Oct. 31, 1901. Paper. Pp. 495. Columbus, Ohio: Fred J. Heer. 1902.

DIE PFLANZENPARASITARE URSACHE DES KREBSES UND DIE KREBSPROPHYLAXE. Von Medizinalrat Dr. Robert Behla. Mut 4 Tafeln. Paper. Pp. 48. Berlin: Verlag von Richard Schoetz. 1903.

FIFTH ANNUAL REPORT OF STATE HOSPITAL FOR CRIPPLED AND DEFORMED CHILDREN. In Charge of Board of Regents, University of Minnesota. Paper. Pp. 16.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. Army, under orders from the Adjutant-General's Office, Washington, D. C., from March 27 to April 4, 1903:

Ashford, Bailey K., captain and asst.-surgeon, U. S. A., is relieved from further temporary duty at San Juan, P. R., and will proceed to Cayey, P. R., for duty.

Beal, Howard W., first lieut. and asst.-surgeon. The resignation of the above has been accepted, to take effect May 31, 1903.

Bacon, Alexander P., contract dental surgeon, will proceed to Vancouver barracks and report to the commanding general, Department of the Columbia, for assignment to temporary duty with the Seventeenth Infantry, and, on the completion thereof, will return to his proper station in the Department of Dakota.

Baker, David, first lieut. and asst.-surgeon, is granted leave of absence for four months from about May 1.

Chamberlain, Weston P., asst.-surgeon, will proceed to Cabana barracks, Havana, Cuba, for duty, to relieve First Lieut. John R. Devereaux.

Collins, George L., first lieut. and asst.-surgeon, will report at Fort Adams for duty on completion of course of instruction at the Army Medical School.

Devereaux, John R., asst.-surgeon, on being relieved from duty at Cabana barracks, Havana, Cuba, will proceed to Fort Columbus for duty, to relieve First Lieut. Eugene H. Hartnett, asst.-surgeon.

Devereux, Thomas, asst.-surgeon, is relieved from attendance at the Army Medical School, to take effect April 7, and will then proceed to San Francisco, Cal., for assignment to duty as surgeon on the transport *Sumner*.

De Loffre, Samuel M., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School will proceed to Fort Assinniboine for duty.

Edio, Guy L., surgeon, is relieved from duty at Columbus barracks, to take effect on the arrival of Lieut. Truby at that post, and will then proceed to Monterey, Cal., for duty.

Ford, Clyde S., first lieut. and asst.-surgeon, is relieved from duty at Fort Wadsworth, and will proceed to Fort H. G. Wright for duty, to relieve First Lieut. Howard W. Beal, asst.-surgeon.

Frick, Euclid B., major and surgeon, will proceed to Fort Snelling for duty, to relieve Major Edgar A. Mearns, surgeon.

Gilchrist, Harry L., first lieut. and asst-surgeon, will, on the completion of the course of instruction at the Army Medical School, proceed to Fort Screven and report for duty.

Gosman, George H. R., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Fort Du Chesne for duty.

Gregory, Junius C., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will report at the U. S. General Hospital, Washington barracks, for temporary duty.

Gapen, Nelson, first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to San Antonio, Texas, for assignment to duty to accompany the First Squadron, Twelfth Cavalry, to the Philippine Islands. On his arrival at Manila, Lieut. Gapen will report for assignment to duty.

Hartnett, Eugene H., first lieut. and asst.-surgeon, will proceed to Vancouver barracks, for duty in Alaska.

Hansell, Haywood S., first lieut. and asst.-surgeon, on the completion of the course of study at the Army Medical School, will proceed to Fort Monroe for duty.

Harris, Jesse R., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Fort Myer for duty.

Hathaway, Levy M., asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Vancouver barracks for assignment to duty in Alaska.

Kirby-Smith, Reynold M., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Fort Barrancas for duty.

Lippitt, William F., major-surgeon, will proceed to San Juan, P. R., for duty, to relieve Major Euclid B. Frick, surgeon.

Mearns, Edgar A., major-surgeon, will proceed to San Francisco, Cal., for transportation to the Philippine Islands, where he will report for assignment to duty.

Lambert, Samuel E., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to St. Paul, Minn., for assignment to temporary duty at Fort Keogh, and to accompany the Second Squadron, Thirteenth Cavalry, to the Philippine Islands. On arrival at Manila, Lieut. Lambert will report for assignment to duty.

Newgarden, George J., asst.-surgeon, having completed the duty for which he was ordered to Washington, D. C., will proceed, not later than April 11, to Fort Mason, and turn over the public property for which he is responsible and, on the completion of this duty, will join his proper station at Fort Harrison.

Stockard, James K., contract surgeon, is relieved from duty at Fort Delaware, to take effect on the return to duty at that post of Contract Surgeon William J. Enders, and will then proceed to Fort Du Pont for duty, to relieve First Lieut. Samuel L. Steer.

Steer, Samuel L., first lieut. and asst.-surgeon, will proceed to Hot Springs, Ark., and report at the Army and Navy General Hospital for duty.

Smart, William M., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Fort Leavenworth for duty.

Stewart, William J. S., contract surgeon, on his relief from duty as surgeon on the transport *Logan*, will report for assignment to duty as surgeon on the transport *Dix*, to relieve Contract Surgeon H. Newton Kleruff.

Turnbull, Wilfred, first lieut. and asst.-surgeon, is relieved from duty at Fort Myer, and will proceed to Fort Monroe for duty, to relieve Major William F. Lippitt.

Truby, Willard F., first lieut. and asst.-surgeon, on his arrival in New York City, will proceed to Columbus barracks for temporary duty.

Talbott, Edward M., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to Fort Clark for temporary duty, and to accompany the Second Squadron of the Twelfth Cavalry to the Philippine Islands. On his arrival at Manila, Lieut. Talbott will report for assignment to duty.

Scott, George H., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will proceed to San Antonio, Texas, for assignment to temporary duty at Fort Clark, and to accompany the Third Squadron, Twelfth Cavalry, to the Philippine Islands. On his arrival at Manila, Lieut. Scott will report for assignment to duty.

Pierson, Robert H., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will report at the U. S. General Hospital, Fort Bayard, for duty, to relieve First Lieut. Horace D. Bloombergh, asst.-surgeon.

Pyles, Will L., first lieut. and asst.-surgeon, on the completion of the course of instruction at the Army Medical School, will report at Washington barracks for temporary duty and to accompany the engineer troops to the Philippine Islands. On his arrival at Manila, Lieut. Pyles will report for assignment to duty.

Williams, Allie W., first lieut. and asst.-surgeon, is relieved from duty at Cayey, P. R., and will proceed to Fort Greble for duty, to relieve First Lieut. Weston P. Chamberlain, asst.-surgeon.

Winter, Francis A., captain and asst.-surgeon, will report on April 1 to Major A. La Garde, surgeon, president of the examining board, at the Army Medical Museum Building, Washington, D. C., for examination for promotion.

The following named assistant-surgeons will, on the completion of the course of instruction at the Army Medical School, proceed to San Francisco, Cal., for assignment to duty as surgeons on the transports designated after their respective names, to relieve the contract surgeons now on duty on those transports: First Lieuts. John W. Hamser, *Sheridan;* William T. Davis, *Logan;* Robert L. Carswell, *Kilpatrick;* Cary A. Snoddy, *Sherman;* William A. Powell, *Thomas.*

The following named assistant-surgeons will, on the completion of the course of instruction at the Army Medical School, proceed to the posts designated after their respective names for duty: First Lieuts. Robert M. Blanchard, Fort Thomas; James Bourke, Fort Sheridan.

The following named asst.-surgeons will, on the completion of the course of instruction at the Army Medical School, proceed to Plattsburg barracks for temporary duty and to accompany the Twenty-Third Infantry to the Philippine Islands: First Lieuts. John A. Clark, Jacob M. Coffin and James D. Fife. On arrival at Manila Lieuts. Clark, Coffin and Fife will report to the commanding general, Division of the Philippines, for assignment to duty.

The following named assistant-surgeons, on the completion of the course of instruction at the Army Medical School, will proceed to San Antonio, Texas, and report for assignment to duty to accompany the Fourth Infantry to the Philippines, where they will report for assignment to duty: First Lieuts. William H. Moncrief, Charles F. Morse and Clarence H. Conner.

The following named assistant-surgeons, on the completion of the course of instruction at the Army Medical School, will proceed to Vancouver barracks, and report for assignment to duty to accompany the Seventeenth Infantry to the Philippine Islands, where they will report for assignment for duty: First Lieuts. Louis C. Duncan, Philip W. Huntingdon and Noel I. Barron.

The following named assistant-surgeons, on the completion of the course of instruction at the Army Medical School, will proceed to Denver, Colo., for assignment to duty to accompany the Fourteenth Cavalry to the Philippine Islands, where they will report for assignment to duty: First Lieuts. Samuel J. Morris and Harry S. Purnell.

The following named assistant-surgeons, on the completion of the course of instruction at the Army Medical School, will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands, where they will report for assignment to duty: First Lieuts. Leon T. Le Wald, Alexander Murray, Edwin D. Kilbourne and Jay W. Grissinger.

The following named contract surgeons, on their relief from their present duties, will report to the commanding general, Department of California, for assignment to duty, or for orders to proceed to their respective homes for annulment of contract, if their services are not required: H. Newton Kieruff, John P. Kelly, Stephen Wythe, Homer C. Moses and Joseph J. Shafer.

The following named officers will report to Major Louis A. La Garde, surgeon, president of the examining board, at the Army Medical Museum Building, District of Columbia, for examination for promotion: First Lieuts. Weston P. Chamberlain, Edward R. Schreiner, Ira A. Shiner, Douglas F. Duval, Clarence J. Manly, David Baker, Albert E. Truby, Eugene H. Hartnett, Clyde S. Ford, asst.-surgeons.

Roberts, William, first lieut. and asst.-surgeon, is ordered to proceed to Hot Springs, Ark., and report at the Army and Navy General Hospital at that place, for treatment.

Robins, Robert P., contract surgeon, now casually at Fort Porter, from detached service, is assigned to temporary duty at that post until further orders.

Truby, Willard F., first lieut. and asst.-surgeon, is directed to proceed to Fort Ethan Allen for temporary duty, instead of to Columbus barracks, as directed in order of March 27.

Watson, Harry J., contract surgeon, is relieved from duty at the Presidio and assigned to duty as transport surgeon of the Army transport *Sumner.*

Winter, Francis A., captain and asst.-surgeon, in addition to his present duties, will report by letter to Major-General John C. Bates, commanding the Department of the Missouri, for such duty as may be assigned to him in connection with the assembling of troops at St. Louis, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended April 11:

Surgeon C. Biddle, detached from the Navy Yard, League Island, Pa., and ordered to the *Minneapolis.*

Surgeon G. T. Smith, detached from the *Puritan* and ordered home to await orders.

Surgeon O. D. Norton, detached from the *Minneapolis* and ordered to the Navy Yard, League Island.

Asst.-Surgeon J. H. Halloway, detached from the Museum of Hygiene and ordered to the *Franklin.*

Asst.-Surgeon E. M. Brown, detached from the Museum of Hygiene and ordered to the Naval Hospital, Norfolk, Va.

Acting Asst.-Surgeon D. P. McCord, appointment revoked, to take effect April 4.

Surgeon E. S. Bogert, ordered to the Naval Academy, Annapolis.

Asst.-Surgeon T. M. Lippitt, retired, detached from the Naval Hospital, New York, and ordered home.

Asst.-Surgeon C. F. Ely, ordered to the Naval Hospital, New York.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 9, 1903:

Surgeon R. D. Murray, granted leave of absence for fourteen days from May 1.

Surgeon W. P. McIntosh, to proceed to Lumpkin, Ga., for special temporary duty.

Asst.-Surgeon C. C. Pierce, detailed to represent the service at the meeting of the Florida State Medical Association, to be held at St. Augustine, Fla., April 8 to 10.

Acting Asst.-Surgeon G. H. Altree, granted leave of absence for five days from April 8.

Acting Asst.-Surgeon J. C. Rodman, granted five days' leave of absence from April 8.

Acting Asst.-Surgeon W. S. Walkley, granted leave of absence for two days.

PROMOTION.

E. M. Holt, pharmacist of the third class, promoted to be pharmacist of the second class, effective March 2, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 11, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 28-April 4, 2 cases.

California: Fresno, March 1-31, 20 cases, 1 death; Los Angeles, March 21-28, 2 cases; Sacramento, March 21-28, 1 case; San Francisco, March 26-April 2, 5 cases; Stockton, March 1-31, 4 cases.

Colorado: Denver, March 14-28, 49 cases.

Florida: Jacksonville, March 28-April 4, 4 cases.

Illinois: Alton, March 28-April 4, 1 case; Belleville, March 28-April 4, 1 case; Galesburg, March 28-April 4, 2 cases; Kankakee, March 24-31, 1 case.

Indiana: Elwood, March 22-29, 13 cases; Indianapolis, March 28-April 4, 10 cases, 1 death; Kokomo, March 28-April 4, 1 case.

Iowa: Dubuque, March 28-April 4, 1 case.

Kansas: Wichita, March 28-April 4, 2 cases.

Kentucky: Lexington, March 28-April 4, 2 cases.

Louisiana: New Orleans, March 28-April 4, 3 cases, all imported.

Maryland: Baltimore, March 28-April 4, 1 case.

Massachusetts: Boston, March 28-April 4, 2 cases, 1 death; Holyoke, March 21-April 4, 2 cases.

Michigan: Ann Arbor, March 21-28, 1 case; Detroit, March 28-April 4, 15 cases; Grand Rapids, March 28-April 4, 10 cases; Port Huron, March 28-April 4, 2 cases.

Missouri: St. Joseph, March 28-April 4, 1 case; St. Louis, March 29-April 5, 7 cases.

Nebraska: Omaha, March 28-April 4, 7 cases.

New Hampshire: March 28-April 4, Manchester, 3 cases; Nashua, 2 cases.

New Jersey: Hudson County, March 29-April 5, 2 cases.

New York: Buffalo, March 31-April 6, 1 death; New York, March 28-April 4, 1 case.

Ohio: Cincinnati, March 27-April 3, 9 cases; Toledo, March 21-April 4, 6 cases.

Oregon: Portland, April 1, 1 case.

Pennsylvania: March 28-April 4, Erie, 3 cases, 1 death; Johnstown, 1 case; Norristown, 1 case; Pittsburg, 25 cases, 4 deaths.

South Carolina: Charleston, March 28-April 4, 7 cases.

SMALLPOX—INSULAR.

Philippines: Manila, Feb. 13-20, 1 case.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Feb. 1-28, 9 deaths; Rio de Janeiro, Feb. 27-March 6, 8 deaths.

Colombia: Barranquilla, March 8-15, 2 deaths.

Great Britain: Birmingham, March 14-21, 12 cases, 3 deaths; Bradford, March 1-14, 6 cases; Liverpool, to March 21, 86 cases, 6 deaths; London, March 14-21, 2 cases; Manchester, March 14-21, 8 cases; Nottingham, March 14-21, 3 cases; Walker-on-Tyne, March 7-14, 1 case; Wallsend-on-Tyne, March 7-14, 1 case.

Italy: Palermo, March 7-14, 1 case.

Mexico: City of Mexico, March 15-22, 6 cases, 5 deaths.

Russia: March 7-14, Moscow, 3 cases, 1 death; St. Petersburg, 37 cases, 5 deaths; Warsaw, 4 deaths.

Straits Settlements: Singapore, March 7-14, 4 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 27-March 6, 27 deaths.

Colombia: Cartagena, March 9-16, 1 death; Panama, March 19-26, 4 cases, 1 death.

Ecuador: Guayaquil, March 7-14, 17 deaths.

Mexico: Vera Cruz, March 21-28, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Provinces, Feb. 7-14, 570 cases, 270 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Feb. 13-20, 2 deaths.

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Original Articles.

AN EXAMINATION INTO THE CLAIMS OF THE RED-LIGHT TREATMENT OF SMALLPOX.

JAY F. SCHAMBERG, A.B., M.D.

Professor of Diseases of the Skin, in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Physician to the Municipal Hospital for Contagious and Infectious Diseases.

PHILADELPHIA.

In a small book on "Phototherapy," written by Dr. Niels R. Finsen of Copenhagen, in 1901, he says: "In July, 1893, I proposed a new treatment for smallpox, which consists in placing the patients in rooms from which the chemical rays of the solar spectrum are excluded by interposing red glass or thick red cloth. The result of this method of treatment is that the vesicles, as a rule, do not enter on the stage of suppuration, and that the patients get well with no scars at all, or at most with extremely slight scarring." These claims, if correct, would prove the method to be of inestimable value, not only in preventing the disfigurement occasioned by smallpox, but in saving life, for, as is well known, death in smallpox nearly always results from the variolous septicemia caused by the cutaneous suppuration.

The use of red light in the treatment of smallpox dates back many years, and Finsen's statement, "I proposed a new treatment," is misleading, although I presume unintentionally so, for later he admits that his studies were influenced by the observation of others who had treated smallpox by the exclusion of daylight. The red-light treatment of smallpox was first employed in the fourteenth century by John of Gaddesden, who, though court physician, is said to have been "a very sad knave." Gregory wrote in 1843, "What think you of a prince of royal blood of England (John, the son of Edward the Second) being treated for smallpox by being put into a bed surrounded with red hangings, covered with red blankets and a red counterpane, gargling his throat with mulberry wine and sucking the red juice of pomegranates? Yet this was the boasted prescription of John of Gaddesden, who took no small credit to himself for bringing his royal patient safely through the disease."

Black[1] in 1867 revived the question of the influence of light in smallpox and claimed that the complete exclusion of light even in unvaccinated cases of smallpox effectually prevented the pitting of the face.

A few years later, in 1871, Waters[2] declared that "if daylight is entirely excluded from the patient, there is no doubt the disease is less severe." Barlow[3] stated that a marked contrast resulted in the two sides of a patient's face, one-half of which had been covered with a colored gelatin to exclude the actinic rays of the sun, while the other half was left exposed.

1. Lancet, June 29, 1867.
2. Lancet, Feb. 4, 1871.
3. Lancet, July 1, 1871.

FINSEN'S RED-LIGHT THEORY.

Finsen has further elaborated the red-light treatment of smallpox, although it is said that he has not, or at any rate had not at the time he promulgated the theory, seen a single case of smallpox. He explains the action of red light on the principle enunciated in the following query: "What is more natural than that the chemical rays should exert an injurious influence on a diseased skin, when we see such severe inflammation produced by their influence on the healthy skin?" It has been conclusively established that sunburn results not from exposure to solar heat, but from the action of the chemical rays of sunlight. The use of red panes of glass or red curtains in a room, as urged by Finsen, excludes the chemical rays. It is further stated that in smallpox "the face and the hands, the parts of the body exposed to light, are the seats of the deepest and most confluent scars."

OBJECTIONS TO THE FINSEN THEORY.

There are numerous facts which militate against the correctness of Finsen's view. While prolonged exposure to the direct solar rays, particularly in the hot months of the year, commonly induces inflammatory reaction, yet there is no evidence of such noxious influence by ordinary exposure to diffuse daylight.

Smallpox is essentially a cold weather disease, and the months in which it flourishes most are characterized by cloudy skies and the presence of but little direct sunlight. It is difficult to believe that ordinary exposure in the sick room to diffuse winter daylight could result in any irritative action on the skin. If the theory were correct, summer smallpox should be more severe than the winter type, for the actinic rays of the sun are stronger in the former season. If there is any difference in the character of winter and summer smallpox it is milder in the latter, for during this season the epidemic influence is usually absent.

The predilection of the smallpox eruption for the face and extremities is not because these parts are exposed to light, for it would be difficult to explain on this theory the copious involvement of the feet, which are often attacked as severely as the hands.

There is every reason to believe that the preferential election of the face and extremities is due to the greater vascularity of these parts. That this is true is evidenced by the oft-noted observation that increased vascularity of any portion of the cutaneous surface from the application of an irritant determines the development of lesions in such areas. Time and time again have we observed the use of a mustard plaster, tincture of iodin, kerosene, or the presence of abrasions or sunburn on the

skin excite confluence of variolous lesions in the irritated or congested portion of integment. (See Figs. 1 and 2.) But it is here to be noted, and the fact has an important bearing on Finsen's theory, that if irritation of the skin takes place after the appearance of the variolous eruption, it does not increase the number of lesions nor otherwise unfavorably influence the eruption. The augmentation of the lesions only occurs when the skin is congested prior to the appearance of the exanthem. For example, the tincture of iodin applied to the skin before the eruption has appeared, by congesting the skin, attracts lesions to the area painted. We have convinced ourselves that no influence of this kind operates after the eruption is out for we have used iodin painted on the face in hundreds of cases.

It appears reasonable, therefore, that the alleged benefit resulting from the exclusion of the actinic or chemical rays of sunlight is not explicable on the grounds maintained by Finsen, for, inasmuch as irritation of the skin after the appearance of the exanthem does not unfavorably influence the eruption, it can not be held that the prevention of sunlight irritation favorably modifies it.

Finsen expresses the view that many remedies which have been claimed to exert a favorable influence on the smallpox eruption have done so through their ability to exclude the solar rays. He says: "The tincture of iodin,



Fig. 1.—Confluence of variolous lesions caused by the application of iodin for a sprain *before* the appearance of the eruption.

which stains the skin yellow, protects it specially from the chemical rays. The solution of nitrate of silver also absorbs these rays and later stains the skin black, by which the rays are excluded."

If Finsen's theory concerning smallpox and light were correct the negro ought to suffer much less severely from the disease than his white neighbor; the black man has been given by nature the best possible protection against the injurious influence of the actinic rays of the sun. He has a protective layer of pigment in the epidermis which excludes the chemical rays. Does he suffer as severely from smallpox as the Caucasian? Most writers claim that smallpox is more severe in the negro than in the white race; in our experience, however, comparing the unvaccinated of both races, the mortality has been about the same. The absence of any freedom from pitting on the part of the negro strongly challenges the truth of the light theory. Finsen has admitted that "pigmentation constitutes a defense against the effects of the chemical rays," and has proved the truth of this assertion by the following experiment on himself.

"To imitate the color of the negro's skin, I traced in India ink on my forearm a band about two inches wide, and then exposed it for three hours to a very hot sun. I then removed the black color, and the skin under it appeared perfectly white and normal, while that on each side was red." Some hours later the contrast between the protected and the exposed portion was still greater as the latter became swollen and inflamed.

One more theoretical consideration. It does not appear plausible that the exclusion from the skin of the chemical solar rays (those rays which exert a bactericidal influence) would be advantageous in dealing with a disease in which there are thousands of small microbe-containing abscesses in the skin.

THE QUESTION OF PITTING IN SMALLPOX.

Pitting is due to destruction of the papillary layer of the true skin by the suppuration of the variolous pocks. The more deeply the skin is attacked the greater will be the scarring. The occurrence or prevention of scarring is less determined by any special method of treatment than by the vaccinal condition of the patient and the severity of the disease. The type of smallpox has been very considerably changed since the introduction of vac-



Fig. 2.—Confluence of variolous lesions on the forearms due to sunburn a week or so *before* the patient fell ill with smallpox.

cination. Where this agent does not confer complete immunity against variolous infection, it is still quite sure to exercise a more or less marked modifying influence over the disease. Mild smallpox is nearly always characterized by superficially seated lesions. During 1902-03 there were treated at the Municipal Hospital of Philadelphia in the neighborhood of 2,300 cases of smallpox, of whom one-half were not vaccinated, the other half consisting of adults who had not been vaccinated since infancy. In the vast majority of instances the once-vaccinated cases suffered mild attacks and were not scarred. Indeed, at least 60 per cent. of the patients discharged had no indelible scars. The epidemic was mild compared with the severe epidemics of 1871 and 1881, the death rate being about 18 per cent. The most important treatment of smallpox for the prevention of scarring is the prophylactic treatment—vaccination; and yet mild smallpox in unvaccinated persons often runs its course and leaves no scars. This is particularly

true of children in whom the eruption is, as a rule, more superficially situated.

In determining the value of any remedy in the treatment of smallpox, conclusions should be drawn only from its employment in unvaccinated cases. Furthermore, the prevailing type of the epidemic should not be left out of consideration, for it is a well-known fact that a varying percentage of cases recovers in different epidemics. Certain therapeutic procedures employed during mild epidemics may be accorded an entirely undeserved commendation and value. If during the uniquely mild epidemic of smallpox that has been prevailing throughout the United States during the past few years, some special therapeutic agent had been advised and generally used, there would have appeared no more incontrovertible fact in the history of medicine than that this remedy was an invaluable specific in the treatment of smallpox. And yet the mildness of this widespread epidemic with a mortality rate among the vaccinated and unvaccinated of less than 2 per cent. was not influenced to any appreciable extent by any therapeutic measures. Such observations serve to point out the pitfalls into which the ultra-enthusiastic therapeutist may fall.

PRACTICAL RESULTS OF THE RED-LIGHT TREATMENT OF SMALLPOX.

The treatment of smallpox by the exclusion of the chemical rays of the sun has now been tried by a number of physicians, chiefly in Denmark, Sweden and Norway. Practically all of these men have been favorably impressed with the results.

Drs. Lindholm and Svendsen of Bergen, Norway, treated eight patients, four of whom were unvaccinated children. The latter physician says: "The period of suppuration, the most dangerous and most painful stage of smallpox, did not appear, there was no elevation of temperature and no edema. . . . . The hideous scars were avoided."

Professor Feilberg of Copenhagen employed the treatment in eleven patients. There was no secondary fever and in all the patients the vesicles (?) began to dry up from the ninth to the eleventh day. "In every instance the patient left the hospital with pigmented or hyperemic spots, but without loss of substance of the skin."

Dr. Strangaard of Denmark treated four cases of variola by this method, and stated that he had a "very clear impression that this treatment exercised a favorable influence on the disease."

Dr. Benckert of Gothenberg, Sweden, treated 16 cases of smallpox, 11 of variola vera and 5 of varioloid with red light. Three died, one from puerperal infection, one from hemorrhagic smallpox and one from the fever of suppuration. Dr. Benckert regarded the results in grave cases as surprisingly favorable; "suppuration is usually abolished; scars are extremely rare and the duration of the disease is shorter."

Dr. Mygind of Denmark employed red light in 22 cases of smallpox, of which 12 were variola vera and 10 varioloid. "All left the hospital (save one fatal case admitted late) without loss of substance, but several hyperemic spots."

Dr. Abel of Bergen, Norway, used red light in 23 cases of smallpox, 8 of which were "very severe." All the patients recovered; suppuration did not occur at all, except in one case admitted late. "Even in the patient admitted with full suppuration the favorable effect of the treatment was immediately visible. From the next day the fever diminished and the irritation of the pustules lessened."

As to scars, Dr. Abel thinks that he has not been so successful as other observers. A relatively great number of his patients presented superficial cutaneous changes, especially on the forehead and nose; the scars, however, did not in any way resemble those which are commonly observed. They looked rather as if they had been produced by scratching or some accidental cause.[4]

Dr. Backman treated "62 severe" cases at the fever hospital of Koliikomaki; of this number "three adults died, all of pneumonia, and four children" on the third, fifth and tenth day after admission. "Generally the suppurative period passed off quickly and easily, the vesicles dried up sooner than usual and left no scar at all."

This author has also employed this method of treatment in scarlet fever and measles and has "found the method active, the course of the disease becoming milder and shorter."

Finsen in summing up these cases says that out of a total of 140 to 150 cases of smallpox in one case only (that of Dr. Benckert) was the method inefficacious.

Juhel-Renoy of Paris has not obtained such favorable results as the above quoted physicians. He believes that suppuration and scarring are not prevented but lessened by this procedure.

PERSONAL EXPERIENCE WITH THE RED LIGHT.

During the winter of 1902 Dr. Wm. M. Welch, physician in charge of the Municipal Hospital, and myself fitted up a room for the red-light treatment of smallpox. We regret that we can not recite such results as are quoted above. Although our experience is limited to but two cases, the results were such as to destroy any confidence in this measure that we might have possessed. Our red room was complete in its appointments. The window panes were of a ruby red color, the gas jet at night was surrounded by a red globe, the walls of the room were painted deep red, and a red curtain covered the inner of two doors so as to completely exclude the light of day. Two unvaccinated young men (one 16 years of age and the other 20), who started with profuse eruptions, were placed in this room about the third day of the eruption, before the lesions had become frankly vesicular. The course which the disease pursued in both cases was in no wise different from that seen in patients treated in the regular wards. The pustules filled up and became confluent, the secondary fever was high and protracted, and the patients markedly delirious. One of the young men, who was a private case and had a special nurse day and night with every possible attention, succumbed to the disease. The other recovered, but with most disfiguring scars. Owing to the discouraging results obtained in these two cases, and to the fact that the location of the red-light room made the nursing inconvenient, this method of treatment was abandoned.

It will be urged, and with apparent justice, that an experience with two cases should not be cited to offset the results of treatment in 150 cases. It must be remembered, however, that the red-light method failed absolutely to exercise any modifying influence on the disease in these two cases under appropriate conditions. In the 150 patients, nearly all of whom did well, other factors may be accountable for the good showing. What some physicians regard as severe smallpox, others look on as cases of average or moderate severity. Photograph 3 represents a patient treated at the Municipal Hospital in 1899. Many physicians would regard such a case as one of great severity; yet the eruption was

4. Quoted from Finsen, Phototherapy, p. 32.

superficially situated, the patient was never dangerously ill, and, indeed, made a good recovery without any permanent pitting.

Several photographs of patients treated with red light, who recovered with no scarring or only insignificant scars, published in Finsen's book, represent what we in this country would regard as mild and favorable cases, the eruption being on the skin rather than in it.

It must be remembered that Denmark, Sweden and Norway are, with the exception of Germany, the best vaccinated countries of Europe. It is illogical and misleading to definitely attribute favorable results to certain measures employed in the treatment of smallpox in persons once vaccinated. The vast majority of such patients recover without scarring under any treatment and even without any treatment. Again, in the absence of severe epidemics, and there have been no severe epidemics in the past decade, young children with variola (who are, of course, unvaccinated) usually escape without permanent scarring.

The character of the prevailing form of smallpox, whether mild or severe, is a matter of great importance in determining both mortality and disfigurement. During the year ending June 30, 1902, there were in the United States 55,857 cases of smallpox with 1,852 deaths (a mortality rate of 3.31 per cent.), and in the year previous 38,506 cases and 689 deaths (a mortality rate of 1.79 per cent.). What would the verdict have been if red light had been used in these cases?



Fig. 3.—Example of a case of smallpox with a semi-confluent but superficial eruption in an unvaccinated mulatto, which was not followed by any permanent scarring.

In the February (1903) number of a popular monthly magazine there appeared several articles on "Niels Finsen and His Healing Rays." Among other unwarranted statements concerning the red-light treatment of smallpox appeared the following: "All the world might now have smallpox without fear of disfigurement."

No one would for a moment endeavor to detract from the hard-earned and well-deserved reputation of Finsen, but in the interests of truth such statements as that just quoted should be challenged.

AUTOMOBILE CONJUNCTIVITIS.—Ophthalmologists report many cases of conjunctivitis caused by rapid riding in automobiles without any protection to the eyes. Davis, in the *Postgraduate*, says it is traumatic, due to friction of the wind and chilling of the eyeball. The treatment is to remove the cause, apply 15 minute cold compresses thrice daily and mild astringent washes by an eye cup twice daily.

THREE ESSENTIAL POINTS IN THE OPERATION FOR CICATRICIAL ECTROPIUM.

F. C. HOTZ, M.D.
Professor of Ophthalmology and Otology in Rush Medical College.
CHICAGO.

Some one once said that blepharoplastic operations look very pretty—on paper—but in reality the results are anything but pleasing and satisfactory. The operations for cicatricial ectropium are not excepted from this criticism. The restored lids often look hideous, and still oftener are again everted after a few weeks or months. But we can overcome these drawbacks if we pay strict attention to the following points:

1. The proper division and fixation of the skin flaps.
2. The selection of the most suitable material for covering the lids.
3. The shortening of the overstretched lid border.

THE PROPER DIVISION AND FIXATION OF THE SKIN FLAPS.

The greatest difficulty we have to contend with in the operations for cicatricial ectropium is the tendency of the shrinking skin flaps to evert the lids again. As all transplanted flaps will undergo more or less shrinkage and as the lid border is least capable of offering any resistance to the traction of the shrinking flap, a re-eversion of some degree is almost inevitable as long as the transplanted flap is attached to the non-resisting lid border on the one side and to the non-yielding skin of the forehead or cheek on the other side, because the lid border is then exposed to the full traction force of the shrinking flap. It is evidently much easier for this flap to pull the lower lid down than to draw the skin of the cheek up, and therefore re-eversion is an especially common occurrence after the operation for ectropium of the lower lid.

It is plain, then, that to prevent the reoccurrence of ectropium we must place the lid border beyond the reach of this traction force. And this can be accomplished if instead of covering the whole wound with one skin flap we make use of two flaps, a small one, which is to cover the lid surface only and which we will call the lid flap, and a large one, which is to be spread over the remaining wound area; and furthermore, if we make provision that the contraction of the larger flap can have no effect on the lid flap.

In ectropium of the upper lid this point is gained if the upper edge of the lid flap (Fig. 1 ba) is firmly attached to the upper border *a* of the tarsus, while its lower edge *b* is united with the free margin. The lid flap is thus anchored above and below to the tarsus and its contraction can not turn the lid over because to do so the traction force must have a fixed point of purchase outside of the lid. The shrinkage of the other skin flap *ac*, which has its point of purchase *c* outside of the lid, however, can not disturb the position of the lid margin, because its pulling force is expended entirely on the upper tarsal border *a*; for, thanks to its firm union with this border, the lid flap can not be stretched or drawn upward by the contraction of the other flap, and as long as the lid flap can not be drawn up the lid border is effectually guarded against re-eversion.

In ectropium of the lower lid, the same principle is adopted for the protection of the lid against the vicious traction of the shrinking skin flap. But we must bear in mind that the tarsus of the lower lid is very small and narrow and that normally the lid skin reaches farther down than the lower border of the tarsus, to a slight furrow a little above the infraorbital margin (Arlt's tarso-malar furrow) where the integument passes from the upright plane of the lid into the sloping surface of

the cheek. This normal boundary line between the lower lid and cheek must be re-established by our division and fixation of the skin flaps; and the lid flap *dg*, therefore, must not be united with the lower border of the tarsus, but fastened to the tarso-orbital fascia (at *g*) in a line a little above the infraorbital margin. As the fascia is, as it were, the anatomical continuation of the tarsus, the lid flap adherent to the surface of the tarsus and fastened to the fascia can not evert the lid. And the shrinkage of the large flap *ge* covering the wound of the cheek, is prevented from pulling on the lid margin and causing re-eversion of the lid, because its traction can not reach beyond the firm union of the lid flap with the fascia. So strong is the resistance of this union that you may draw the skin of the cheek down as much as you please and you will not succeed in everting the lid.

THE SELECTION OF THE MOST SUITABLE MATERIAL FOR SKIN FLAPS.

If it is our ambition to obtain the best possible results in ectropium operations—and nothing less ought to satisfy us—we can not be contented with the mere reposi-

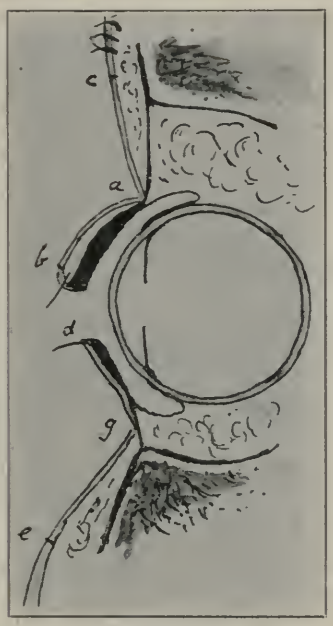


Figure 1.

tion of the lids, but should strive also to restore as much as possible their natural appearance. The lids contribute more to the expression of the eye than the eyeball itself; and the slightest alteration of shape and outline, or the least impediment of motion seriously mars the expression of the face. This is a very important point and should always be taken into account when we choose the material for our flaps. The normal integument of the lids is a thin and delicate skin of such perfect flexibility and adaptability that it allows perfect freedom of motion and accommodates itself readily to the numerous slight changes in contour so characteristic for the various facial expressions. In order, therefore, to gain a perfect cosmetic result we must select as a substitute for the lost lid skin a material which possesses the same qualities; it must be thin, light and adaptable.

It goes without saying that the thick skin of the forehead, temples or cheek does not possess these qualities, and therefore flaps from these regions should not be transplanted on the lids. Besides the transplantation inflicts additional wounds on the face, and I hold we should avoid marring the face by unnecessary scars. The use of Wolfe's flaps taken from the arm avoids this latter objection, but they, too, are usually so thick that, like the pedunculated flaps, they make a heavy, clumsy-looking lid. These two kinds of flaps are as well suited for a substitute of lid skin as shoe leather would be for kid gloves.

A good and suitable material for lid flaps which answers all the requirements is the cicatricial skin usually found in the immediate vicinity of extensive ectropium. I have shown in 1896[1] that this skin can be successfully transplanted and makes a perfect lid skin. In ectropium of the lower lid this cicatricial skin can nearly always be utilized for the lid flap. In ectropium of the upper lid it can sometimes be used when the eyebrows are absent. If on account of the eyebrows the cicatricial skin is not available, a Thiersch graft is the only suitable material. It accommodates itself to the surface of the lid, brings out its contours perfectly and does not in the least interfere with the free movements of the lid.

THE SHORTENING OF THE ELONGATED BORDER OF THE LOWER LID.

As the diameter is shorter than the half circle, so in the case of complete ectropium the free lid margin of the lower lid turned from its almost straight line between the canthi into a long downward curve is elongated a good deal; and after being held in this abnormal state for a

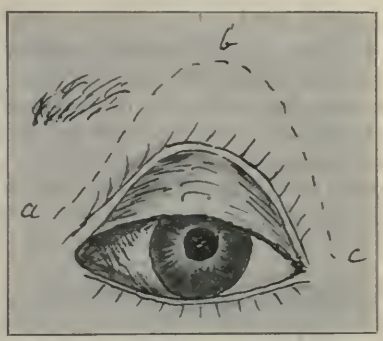


Figure 2.

long while it will not recover its normal length when the lid is replaced. The elongated margin of the lower lid will not closely fit the curvature of the eyeball and will drop away from it, as in senile ectropium. The reposition of the everted lower lid, therefore, can not be perfect and permanent, unless the overstretched lid margin is reduced to its proper length. In several instances I did not do that, because the lid margin appeared to lie in perfect apposition to the globe; but every time I had cause to regret this omission, and had to correct my mistake by a second operation. I therefore regard the shortening of the elongated border of the lower lid a very essential point in the operation for cicatricial ectropium.

And now, after having so strongly emphasized the importance of these several points, I wish to indicate briefly the plan of operation based on the views expressed in the foregoing remarks. As the operation is not alike in details for both lids, I believe it is better for a clear understanding to describe the method for each lid separately.

TECHNIC OF THE OPERATION ON THE UPPER LID.

If the eyebrows are partly absent and there is a good expanse of cicatricial skin above the everted lid, we cut from this cicatricial skin the lid flap in the following manner:[2]

1. THE JOURNAL A. M. A., Sept. 19, 1896; and Archives of Ophthalm., vol. xxv, No. 3.
2. Archives of Ophthalm., vol. xxv.

"From a point (a Fig. 2) about 5 millimeters above the inner canthus an incision is made obliquely upwards into the cicatricial skin and then continued in a curve downwards to a point *c* about 5 millimeters from the external canthus. This incision outlines a large flap *abc* which is carefully dissected up from the underlying scar tissue as far as the lid borders. The lid is then released by dissection from all cicatricial connections until it can be easily turned down into its normal position; and now the edge (Fig. 3 ac) of the lid flap is fastened by silk sutures to the upper border of the tarsus."

If, however, on account of the eyebrows the lid flap can not be taken from the cicatricial skin, we make an

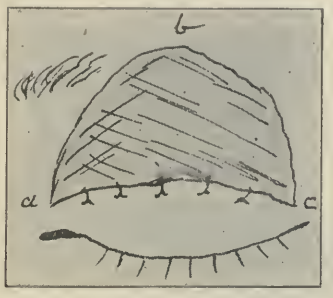


Figure 3.

incision along the lid border and after the reposition of the lid cut from the arm a Thiersch graft of suitable size, which is transported on the razor directly to the lid, spread out over its surface and fastened by fine silk sutures to the upper tarsal border as well as to the wound edge of the free border. These sutures must be inserted with great care to make sure the edges of the flap do not roll in; their application therefore is very tedious work; but the time is well spent, because the graft thus fixed

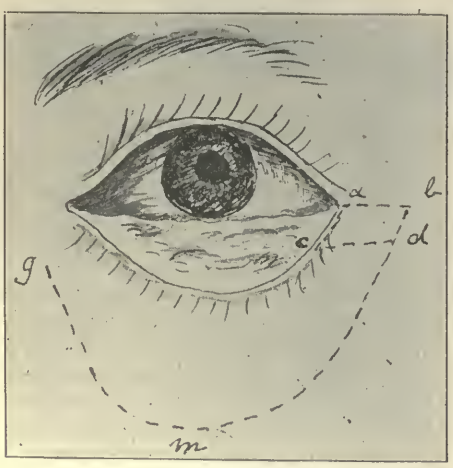


Figure 4.

is positively secured against being shifted from its place by any movement of the lid or by any accidental displacement of the dressings.

After the lid flap is fastened (as in Fig. 3) the lid is drawn down as far as possible and held in this position by two ligatures passed through the free border and fixed on the cheek by plaster strips. This is done for the purpose of immobilizing the lid during the healing process and also for enlarging the wound (abc) above the lid to its fullest capacity. Over this wound a Thiersch graft is spread out so that its edges lap over the surrounding skin; no sutures are used.

TECHNIC OF THE OPERATION ON THE LOWER LID.

Here the lid flap can always be procured from the cicatricial skin; but as this skin shrinks considerably as soon as it is dissected up we must take good care to cut the flap of very liberal dimensions. We begin the incision one centimeter below the inner canthus (Fig. 4 *g*), carry it obliquely down into the cheek to a point *m* 2 to 3 centimeters below the center of the everted lid margin; then we continue it in an oblique direction upwards and outwards to a point *b* even with and one centimeter from the outer canthus. This large flap *gmb* is then dissected up from the underlying scar tissue and all cicatricial strands and bands are cut until the lid is freed and can be turned up.

The next step is to reduce the overstretched lid margin to its proper length by removing a suitable piece of the lid (except the conjunctiva) near the outer canthus by the following incisions (Fig. 4): from the canthus *a* transversely to *b;* from *a* to *c* along the lid margin, and from *c* to *d* through the flap; the edges *cd* and *ab* are then united by two silk sutures. Now the lid is drawn up as far as possible

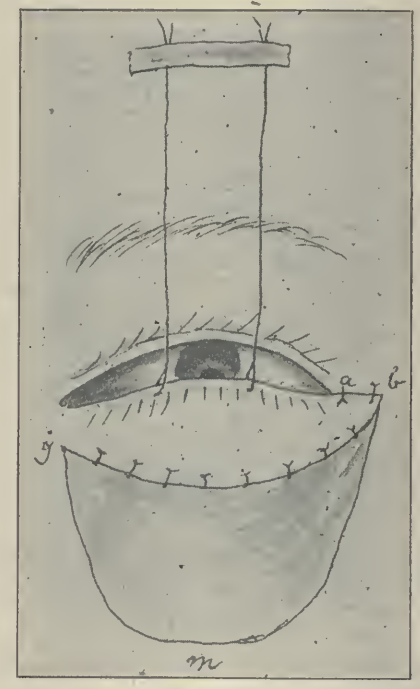


Figure 5.

and held in this position by two silk ligatures passed through the free margin and fastened on the forehead by adhesive plaster or collodion. This done the edge of the lid flap is anchored to the tarso-orbital fascia by silk sutures (Fig. 5). The lid flap should be evenly spread out, so as to be in perfect contact with the wound surface; but we must carefully avoid any undue stretching; and should we find that the flap is a trifle short and would be stretched if the sutures are placed very near the infra-orbital margin, it is better to put them through the fascia 1 or 2 millimeters higher up. Finally, the wound surface *gmb* below is covered with a Thiersch graft, the edges of which are made to lap over the surrounding skin. No sutures.

AFTER TREATMENT.

The after treatment is the same for the upper and lower lid. Strips of gutta percha protective are laid over the flaps, and on these strips a gauze compress wrung out of warm boric acid solution; this is covered by a large

square piece of protective to prevent evaporation and over this is put a layer of cotton to maintain uniform warmth. This whole dressing is secured in place by a roller bandage and best left undisturbed for three days. Then it is carefully removed; the flaps are thoroughly cleansed, the overlapping edges of the large flap are trimmed off and a new dressing is put on which is changed every day or two, as circumstances may require. At the end of the first week the ligatures and the sutures of the lid flap may be removed; during the second week some simple ointment (like borated vaseline) is applied daily on the flaps, and after this period no further treatment is required.

THE OBJECTIONS TO PRESCRIBING MEDICINES OF UNKNOWN COMPOSITION.

AUGUSTUS A. ESHNER, M.D.
PHILADELPHIA.

If the proposition contained in the foregoing terms were always presented so clearly and so directly there would be little room for discussion, as I think it will be generally conceded that the fact of the composition of a medicine being unknown would constitute in itself the most serious objection to its prescription by physicians. Nevertheless, I fear that many prescriptions are written daily for preparations concerning whose composition the prescriber is not in possession of such fulness of knowledge as is requisite for the most intelligent and most successful employment of the articles of the materia medica.

The modern manufacturing pharmacist has exhibited marked skill and ingenuity, worthy of a better cause, in concealing ignorance behind the mask of false knowledge. It has become the vogue for this enterprising individual, firm or corporation, to put forth products to which he gives fanciful names, for which he claims elaborately described marvelous effects, and of which he states the composition in accordance with his own views and purposes. He has a predilection for describing his product as a synthetic preparation with a formula comprising C,H,N, and O in startling proportions, and he gives it an almost interminable and unpronounceable chemical name, but is good enough to coin a descriptive and copyrighted substitute. Sometimes it is, at other times it is not, a coal-tar product, according to personal caprice. If the preparation be a mixture, only its constitutents may be named, and sometimes not all of these, the proportions being omitted. In these and devious other ways a pretence of publicity is made, by which the careless and indifferent may be readily if not willingly deceived. Samples are distributed generously to physicians, who read with avidity the accompanying so-called literature skilfully devised by the manufacturer, and it is not long before testimonials indorsing the new preparation are forthcoming, and clinical reports of cases treated with the new preparation appear in certain medical journals. Sometimes the aid of the physician is further invoked by securing him as a stockholder or officer in the manufacturing concern, and his interests may be further looked after in the way of commissions or concessions in return for prescribing the remedy. The preparation is now launched on a career of success and prosperity, which may be of longer or shorter duration in accordance with a variety of conditions. Mayhap when the profession has done all in its power to contribute to this end, direct appeals to the laity, supported by the indorsement of "the medical faculty," are made to the public through the advertising columns of the newspapers and the dead walls and spaces of the city and the country.

The practice of medicine, though art, is based on scientific principles, and it will be successful in proportion to the fulness and precision of the knowledge underlying it. If the identity of a medicine is not known through its composition the prescriber has no assurance that he will always receive the same article, but, on the contrary, there is good reason for believing that he will get something different, in quantity or in quality, at different times. In this way he is liable to do discredit to his art, and injury, positive or negative, to his patient. Additionally, injustice is done the patient in that he is compelled to pay a higher price for medicines of concealed or suppressed composition than he would if these were prescribed in the regular way. The practitioner who permits himself to fall into the habit of prescribing ready-made preparations surrenders thereby originality and independence in his therapeutics, and fails to make progress in his art. The manufacture and the use of secret preparations have also a blighting effect on legitimate pharmacy. Finally, after all has been said on both sides of the question, if there are two sides, there remains the practical argument that the prescription of medicines of unknown composition is unnecessary, as all that can be accomplished with them, barring the potent influence of secrecy, can be brought about as well if not better by means of medicines of known composition.

From the foregoing considerations it must be clear that the prescription of medicines of unknown or concealed composition is unscientific, unprofessional, unfair if not prejudicial to the sick, unprogressive and unstimulating and, most of all, unnecessary.

The remedy for the existing state of affairs is in the hands of the medical profession. The manufacturing pharmacists will not make preparations that they can not sell, and if physicians will not permit the creation of an artificial demand for illegitimate preparations, and will cease to prescribe them, the manufacturers will soon discontinue their production. To this end it is the duty of all medical men having the interests of their profession and their patients at heart to confine themselves to the employment only of such drugs or combinations of drugs whose composition is of public knowledge, and further, is vouched for by some recognized authority, official or otherwise, such as the Pharmacopeia, the Dispensatory and the Formulary; or, in lieu of such indorsement, in the intervals between successive revisions, is given authentic publicity by investigators of acknowledged standing and competency through legitimate and recognized channels, such as the professional journals and independent publications. Above all things, the so-called literature of the manufacturing pharmacist and the reprints of articles from publications of questionable character should be viewed with suspicion.

HABITS.—A cheerful habit of mind is like a fountain of youth to the body. Worry kills as surely as does arsenic, but steady, moderate work is a prophylactic against many of the ills to which flesh is heir. The greatest brain workers have generally been long-lived (as witness Gladstone and Bismarck), provided that they did not neglect the laws of hygiene and the natural demands of the body. The physician's irregular hours for eating and sleeping tend to disorder his faculties, depress his vitality and tempt to the use of drugs whose fatal allurements he knows best of all.—*Denver Medical Times.*

A NEW METHOD OF SHORTENING THE ROUND LIGAMENTS INTRAPERITONEALLY FOR RETROVERSION.

HENRY T. BYFORD, M.D.
CHICAGO.

A new era in the treatment of retroversion of the uterus began with the introduction of Alexander's operation. Women had been until then worried with pessaries to hold the uterus in place, and with douches to keep the pessaries clean, yet without being cured.

Abdominal suspension has occupied the attention of the profession considerably in the meantime, but it



Fig. 1.—Approximately normal round ligaments.

has not proven a satisfactory remedy, and is being used less than formerly.

Intraperitoneal shortening of the round ligaments has become an acceptable substitute in cases in which it is found necessary or advisable to open the peritoneal cavity, for in such cases the ligaments are accessible without making the additional inguinal incision, and thus with less trauma.

W. Gill Wylie made a backward fold or loop in the ligament and sewed together the edges of the fold, and



Fig. 2.—Relaxed round ligaments.

thus obtained a fair degree of success in holding the uterus in place. A. Palmer Dudley folds the ligament anteriorly and sutures the end of the loop to the anterior surface of the uterus. M. D. Mann folds the ligament somewhat in the shape of a capital letter N and stitches the edges together, thus securing an extensive adhesion of folded ligament. Other methods have been devised, such as A. H. Ferguson's, George H. Noble's, etc., which I have no time to describe.

I wish, however, at the risk of still farther complicating an already complicated subject, to add another method or, rather, a modification of those already practiced.

It consists in folding the ligaments anteriorly (Figs. 3 and 4), according to Dudley, but in stitching the loop to the abdominal parietes about opposite or behind, and a trifle above, the internal inguinal ring (Figs. 5 and 6).



Fig. 3.—Fold taken in ligaments.

The ligament is grasped with hemostatic forceps and pulled out of the abdominal incision until it is drawn as far out of the inguinal ring as possible without doing violence to the tissues. Then a medium-sized catgut suture is passed through the center of the ligament about

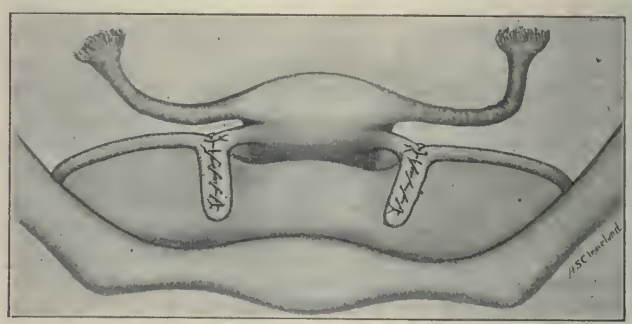


Fig. 4.—Same as Fig. 3.

a quarter of an inch from the uterine end, and the same suture is passed through the ligament about half an inch from the internal inguinal ring. The suture is then drawn tight and tied like an ordinary ligature, except that it, of course, includes only half of the

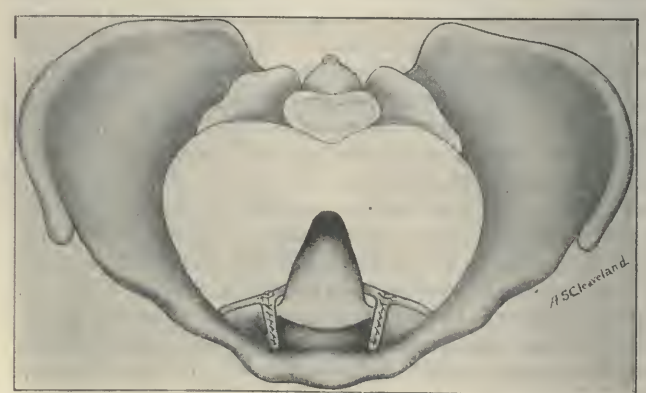


Fig. 5.—Fold of ligament sutured forward.

ligament in its grasp. The inner edges of the loop thus formed should now be touched with a chemical irritant, such as Monsel's solution or 1 to 5000 mercuric bichlorid, in order to destroy the endothelium and secure firm adhesions. The irritant is then wiped off and

the edges sewed together by fine catgut that entirely closes in and covers up the irritated peritoneal surfaces.

The end of this fold is then touched with the chemical irritant and stitched forward beside the bladder about opposite and a little above the level of the external inguinal ring. This, of course, will be only a peritoneal attachment and should be rather high, because the peritoneum is held in place here rather loosely.

Thus we practically have two round ligaments on either side, one going from the uterus partly through the first catgut ligature to the attachment behind the external inguinal ring, and the other from the uterus to the ligature and from there to the internal inguinal ring, etc.

The uterine half or quarter inch, or inch, according to the place where we transfix the ligament, is common to both of the newly formed round ligaments.

When there is a tendency to uterine prolapse, I suture the whole side of the fold of the ligament to the peritoneum beside the bladder, or even suture the portions of the round ligaments external to the folds to the parietal peritoneum in front.

When there is decided prolapse, I also stitch the infundibulo-pelvic ligament forward, the fundus uteri itself, and even take folds in the sacro-uterine ligaments.

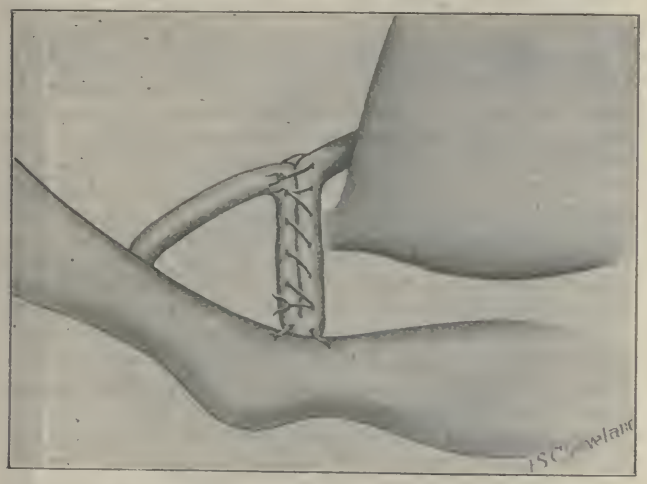


Fig. 6.—Same as Fig. 5, showing one ligament.

When there is cystocele, I separate the remains of the urachus with a narrow strip of peritoneum, and after loosely twisting the flap thus obtained and drawing up the bladder, attach the flap into the abdominal wound. A complete description of this method was given in my paper on "Prolapse and Procidentia of the Uterus," read before the Third Pan-American Medical Congress in Havana, February, 1901.

Ferguson's method of shortening the round ligaments is, properly speaking, a prolapse operation. In it he has solved the problem of making the round ligament support a prolapsed uterus, and thus has improved on Nature's methods. Whether his results, which are good, will be permanent or not is for the future to decide. Ferguson makes a new channel for the round ligaments through the abdominal parietes higher up and nearer the median line than Nature has made, and draws the ligaments very taut. The movements of the uterus are more limited, but it is held up more firmly.

THE DIFFERENCE.—The young physician is most likely to err through his anxiety to "do something"; the older one because he has got into a rut.—*Med. Standard.*

THE MEANING AND SIGNIFICANCE OF LEUCOCYTOSIS.*

ROBERT N. WILLSON, M.D.
PHILADELPHIA.

This subject was first considered by the writer a number of years ago, when cases were noticed that failed to fulfill the requirements of the accepted definition of the term leucocytosis. Certain cases, and indeed the great majority, showed under well-known conditions a decided increase in the number of all the forms of leucocytes in the blood.

For a long time it had been believed that the polymorphonuclear forms were, in such cases, always in excess, and in 1897 Cabot accordingly formulated a definition of the term leucocytosis that has until recently served as the standard of teaching throughout the United States, at least. His definition was as follows: "An increase in the number of leucocytes in the peripheral blood over the number normal in the individual case, this increase never involving a diminution in the polymorphonuclear varieties, but generally a marked absolute and relative gain over the number previously present."

The experience of the writer has gradually led him, not only to question the accuracy of the above definition, but to call attention to certain forms of leucocytosis that have been noted by himself and other observers, but of which little has been written or said up to the present time. Actual cases seem to show that in at least two important respects Cabot's definition of 1897 is in error, viz.:

1. Leucocytosis should not necessarily imply an increase in the total number of leucocytes, even in the presence of an active inflammatory influence. The total number of leucocytes may be normal, or below normal in the individual, and a significant leucocytosis still be present, if there is a relatively high percentage of the polymorphonuclear cells. Such an increase implies that the same processes are at work as are suggested by a numerical increase in the total number of cells, and is of even greater import.

2. Notwithstanding the presence of inflammatory causes in the body, exerting influences that are sufficient to produce an absolute increase in the number of leucocytes, the percentage of polymorphonuclear forms may not only not be increased, but even diminished in the individual case, owing to other and more potent specific influences.

In discussing these forms of leucocytosis the terms relative and absolute will be used because they are now generally understood, and also because they have been employed in a similar sense in previous papers by the writer. By relative leucocytosis will be understood all forms of leucocytosis in which the polymorphonuclear forms are in marked excess of the normal percentage (70 to 75 per cent.). By absolute leucocytosis we will imply an increase in the total number of leucocytes in the individual case, irrespective of the percentages of the various forms.

RELATIVE LEUCOCYTOSIS.

This subject has been briefly referred to by the writer in several papers published during the past two years. Its apparent importance has grown with each new case in which it has been noted, until the conclusion seems warranted that not only do many cases occur in which a decided increase in the polymorphonuclear forms is

* Read at a meeting of the Philadelphia County Medical Society, Nov. 26, 1902.

evident in the absence of an increase in the total number of leucocytes, but that such a decided increase in the polymorphonuclear forms under these circumstances suggests either the presence of pus, or some other active inflammatory condition in addition to a grave loss of power in the natural resisting forces of the body.

Many clinicians have noted cases in which an absolute leucocytosis has been present and gradually fallen as the energy of the body gave way. Some have even gone so far as to make an occasional observation on such an occurrence. In the same chapter as has already been quoted Cabot says: "In some cases in which the absolute number of leucocytes is not increased we see a relative increase in the adult cells, pointing to the fact that influences are at work similar to those which produce an absolute increase."

Many others, before and since the foregoing was written, and among them Thayer at Johns Hopkins Hospital, have cited occasional cases in which the same theory has been demonstrated as true. Nearly every one has regarded these cases, however, as rare exceptions to the ordinary, and the necessity for being on the watch for a relative leucocytosis as a needless precaution. No one except the writer, up to the time of a recent and unfortunately personal discussion of the value of blood examinations in general, seems to have found the routine examination of the relative percentages of the leucocytes in ordinary conditions either of particular interest or worthy of their attention. At that time he endeavored to show that the blood was not thoroughly examined in any case until a differential count of the leucocytes had been made; and several cases were cited to demonstrate the value of the discovery of a relative leucocytosis of marked proportions. Since the publication of these articles it has been a source of pleasure to learn that in many different directions a renewed interest has been excited in the percentage of the various forms of leucocytes, though with considerable skepticism and doubt as to the value of such study. It would seem, therefore, not out of place at this time to again call the attention of clinicians as well as all blood students, to the value of relative leucocytosis as a clinical sign, and to study its actual significance.

No one will deny that in most cases of inflammation the polymorphonuclear leucocytes show an increase in number out of proportion to the other forms, at the same time with and in the presence of an increase of the absolute number of leucocytes. In such cases, as for example, the ordinary instances of intestinal inflammations, tonsillar infections, appendicitis, pleural and abdominal effusion, pneumonia, etc., the process is expected and regular, and the preponderance of the multinuclear forms becomes the more marked with the intensity of the infection and the increased efforts at resistance on the part of the tissues of the body. In such cases we may say, as we have had occasion to remark before, both the absolute and relative leucocytosis to be of any value must be weighed in close connection with the clinical symptoms, and must never be depended on to form a diagnosis or allowed alone to indicate operative or any other vital measures. The writer has, however, yet to see a case in which either an absolute leucocytosis has been present, followed by a fall to or below the normal number of leucocytes, with a persistence of the high percentage of polymorphonuclear forms; or in which there has been from the beginning a complete absence of absolute leucocytosis, and yet a decided increase in the percentage (85 to 100 per cent.) of polymorphonuclear forms—to repeat, he has yet to see such a case in which there has not been found either a purulent collection, or some grave inflammatory process that threatens the life of the patient.

On the other hand, a considerable number of cases has been previously cited in which the truth of this assertion has been evidenced. The following, including several already mentioned, demonstrate both acute and chronic conditions in which the principle held true.

CASE 1.—A child, aged 8. This case presented a moderate absolute and a very high relative leucocytosis. This condition, as noted at the operation, would indicate that the resistance of the body was at a low ebb, and the absolute leucocytosis, therefore, not high. Forty hours previous to the blood examination she was well. Since then she had grown fretful, with pain in the abdomen. Had passed a few large round worms the day before, and vomited one. Her appearance was decidedly septic. Distinct pain and tenderness on pressure centered around the appendiceal region. Rigidity of the abdomen. Blood examination on Jan. 29, 1902, gave H. 74 per cent., r. b. c. 5,824,000, leucocytes 17,200, polymorphonuclear cells 96 per cent. No other pathologic changes in the blood. The operation showed a gangrenous appendix and a large quantity of foul pus in the abdominal cavity.

CASE 2.—A typhoid patient of six weeks' standing. This case illustrates the presence of a marked polymorphonuclear increase in the complete absence of absolute leucocytosis. The patient's general condition improved, and yet the fever chart showed that all was not as it should be; the high percentage of polymorphonuclear cells persisted until the physical signs and the operation demonstrated the presence of pus. In this case the typhoid influence was unfavorable to a leucocytosis, and yet, while it was not overcome sufficiently to allow of the production of an absolute leucocytosis, it was counteracted sufficiently to admit of a polymorphonuclear rise to 96 per cent. The temperature had several times reached normal, and for some days had been bounding up and down in a septic fashion. There had been no chill and no symptom over the body for some time since to account for the temperature. The blood examination, made for Dr. Morris J. Lewis (Jan. 9, 1902), gave H. 95 per cent., R. 4,960,000, L. 7,800; no differential count made. No malarial organisms. No pigmented leucocytes. Jan. 24, 1902, the blood showed H. 70-75 per cent., R. 3,832,000, L. 4,800. Polymorphonuclear cells 92 per cent. No other pathologic change in the blood picture. Condition continued without change and on Jan. 30, 1902, the examination showed H. 78 per cent., R. 4,962,000, L. 9,200, polymorphonuclear cells 92 per cent. On this day a slight bulging was made out in the apex of the vaginal wall. No abdominal tenderness or mass felt then or at any time previous. Operation showed a large ovarian abscess, from the pus of which a pure culture of typhoid bacillus was obtained. The blood examination made the day after operation (Feb. 6, 1902) gave H. 60 per cent., R. 4,320,000 and L. 7,900, the polymorphonuclear cells 72 per cent. This last examination was made by Dr. Longcope at the Pennsylvania Hospital, and, of course, after the pus had been evacuated. The case was reported in full by Dr. Lewis at a later date.[1]

Case 3 demonstrated the influence of even a chronic suppurative condition on the percentage of polymorphonuclear cells, and this in the absence of an absolute leucocytosis. The patient was a Swedish girl, with a walnut-sized abscess of the axillary glands. Otherwise well. Blood examination before incision of glands (Feb. 10, 1902) gave H. 94 per cent., R. 5,220,000, L. 7,600, polymorphonuclear cells 94 per cent. No other pathologic blood changes. Blood examination on day following, H. 92 per cent., R. 5,232,000, L. 8,200, polymorphonuclear cells 78 per cent.

CASE 4.—Examined for Dr. F. A. Packard during convalescence from lobar pneumonia of several weeks' standing. Temperature irregular. Pneumonia still unresolved at the base of the lung. Symptoms indicate a pleural effusion, possibly of pus.

1. Amer. Jour. Med. Sc., October, 1902.

Blood examination (Feb. 11, 1902) gave H. 93 per cent., R. 5,264,000, L. 8,400, polymorphonuclear cells 96 per cent. No other pathologic changes. Pleural puncture was made, but no fluid was obtained. From this point on the patient improved steadily and rapidly. This case showed the condition of affairs that one would naturally expect with a mass of leucocytic infiltration in the chest, and throws light only on the novel action of the multinuclear cells in inflammatory processes.

Case 5 resembled in many ways Case 2, in that it occurred in a woman, and also in a typhoid case of weeks' standing. After a protracted course the temperature assumed a septic character, the patient appeared exhausted, an intense cystitis was present, and it appeared possible, if not probable, that a purulent collection was present, either as the result of typhoid infection or secondary to the bladder condition. The physical examination was equally negative with that in Case 2. The blood appeared thin, coagulation was slow; H. 48 per cent., R. 4,160,000, L. 14,200. The polymorphonuclear cells constituted 54 per cent. of the entire number of leucocytes. The Widal test was positive at this time. The case took a sudden turn for the better on the day following the blood examination, and by its subsequent history confirmed the suggestion of the low percentage of polymorphonuclear cells that neither pus nor active inflammatory influences were present in sufficient force to overcome that exerted by the typhoid infection in depressing the number and polymorphonuclear percentage of leucocytes. From that time on the convalescence was steady and complete.

This case was studied not long after the discovery of the purulent collection in Case 2, and with the latter constantly in mind. The presence of 14,000 leucocytes, with a polymorphonuclear percentage of only 54, will be considered subsequently in connection with the second point of our discussion.

This paper was nearly ready for publication when a sad and most striking instance of the occurrence of a high polymorphonuclear percentage with a steadily decreasing absolute leucocytic count, marked the almost certain time of perforation of the bowel in a physician well known to the profession and the public, and an intimate and cherished friend of the writer.

Case 6.—A physician, 39 years of age, with a previous history that was negative except for a slight recurrent bronchitis, and for several undoubted attacks of appendicitis during the past eighteen months.

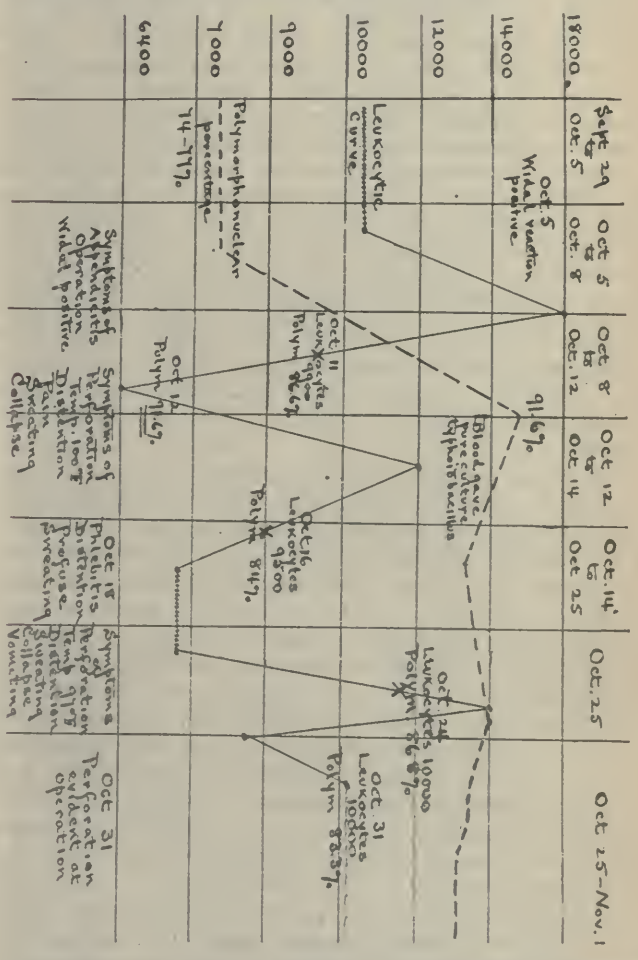
The writer saw him on Oct. 1, 1902, and, realizing that he was facing a serious illness, on the following day, because of close personal associations, transferred him to the care of Dr. Morris J. Lewis. The history of the past two weeks indicated typhoid fever, or a latent, increasing appendicitis, or both. The blood picture when first seen on Oct. 1, 1902, was H. 73 per cent., R. 4,880,000, L. 10,200. No malarial organisms. No pigmentation of leucocytes. No poikilocytosis. No differential count made. Widal test negative. On the following day the symptoms and physical signs suggested appendix trouble. The leucocytes numbered 10,400 and again 10,600. The polymorphonuclear count, however, showed only 74 per cent., and of small lymphocytes 17 per cent. Both of these blood examinations were made by the writer. On Oct. 2, 1902, Dr. Longcope examined the blood. The clinical symptoms still pointed to appendix involvement, rather than typhoid only. The Widal reaction was not yet perfect, though suggestive. On Oct. 5, 1902, doubtful spots were found; the appendix condition, for the first time, appeared secondary. The blood was again examined by the writer, who found the Widal test for the first time positive. The diazo reaction was strongly positive. The leucocytes numbered 9,800, the polymorphonuclear cells 77 per cent., the small lymphocytes were still 17 per cent. On Oct. 7, 1902, the leucocyte count rose to 14,900, and on the following day to 18,400. There was increasing tenderness in the right iliac fossa, and marked rigidity of the right rectus muscle. The appendix was removed. (A pathologic description of the organ will be duly reported by Dr. Lewis. It is sufficient to say that it presented unmistakable evidence of both chronic and acute inflammation.) The Widal test was again positive. On October 9 the leucocytes numbered 14,300; on October 10 14,100; on October 11 the temperature was 104 F., there was a marked chill, and the leucocytes fell to 9,900. The polymorphonuclear count was 86 per cent. No malarial organisms could be found. On October 12 marked signs of weakness; temperature fell to 100 F.; pulse feeble; profuse sweat; extreme abdominal distention and pain; leucocytosis. Polymorphonuclear percentage 91.6 per cent. Small mononuclear forms 4.2 per cent.

October 13.—Blood gave a pure culture of the typhoid bacillus.

October 14.—Wound opened in the lower portion. Marked distention. Profuse sweating. Leucocytes, 10,300.

October 15.—Leucocytes, 7,700.

October 16.—Leucocytes, 9,500. Polymorphonuclear forms 84 per cent. Small mononuclear cells, 10 per cent.



October 18.—Profuse sweating. Both legs slightly tender and swollen. Leucocytes, 7,300.

October 20.—Leucocytes, 8,800. No malarial parasites found.

October 22.—Marked distention and abdominal pain. Leucocytes, 10,000.

October 23.—Much distention, apparently confined to the colon. Leucocytes, 8,300.

October 24.—Marked distention. Leucocytes, 10,000. Polymorphonuclear cells, 86 per cent. Small forms, 8 per cent. During this day and the next severe pain in the left abdomen. Extreme distention. Considerable clear fluid removed from the abdomen. Vomiting. Temperature fell to 97 F. Leucocytes, 14,100.

October 26. Condition much improved. Wound healthy. Serum sweet. Leucocytes, 9,800. Extreme distention. Phlebitis distinct. Leucocytes, 12,250.

October 29.—Pain in left abdomen severe. Leucocytes 8,600.

October 31.—Pain on pressure to left of umbilicus. Appearance of collapse. Gas and fecal matter escaped from wound on examination. Leucocytes 10,100. Polymorphonuclear cells 83.3 per cent. Small mononuclear forms 13.2 per cent. Operation. Large perforation (size of half dollar) in under portion of transverse colon, and surrounded by a gangrenous area. Region around perforation appeared closed off by exudate and adhesions. Death occurred on the following day.[2]

The last case to which reference will be made is one that came under observation also within the last months, illustrating the same point, though in a different way.

Case 7.—A woman, aged 38, of nervous habit, with a history of longstanding abdominal trouble. During the previous two years she had passed considerable quantities of blood in her urine; a lumbar operation was performed, and a movable kidney sutured in place. Since that time there had been constant and distinct signs of appendicitis until the autumn, when the patient was barely able to keep her feet. She was affected physically, nervously and mentally, and the right side of the abdomen was constantly rigid. With the progression of the case every symptom appeared to point to a collection of pus in the abdomen. The patient was delirious, the temperature that of a septic type, the abdomen rigid, and the history of a longstanding and neglected appendicitis, made the diagnosis of pus probable. The blood was examined just prior to the operation, with a view to confirming, and with no thought of questioning, the presence of pus. The blood picture was: R., 4,010,000; L., 9,400; polymorphonuclear cells, 89 per cent. No poikilocytosis, or other pathologic changes of the red cells. It was agreed before the abdomen was opened that if pus were present under the existing conditions there would probably be present a higher percentage of polymorphonuclear cells, and that the actual percentage (89 per cent.) could be accounted for by a simple inflammatory condition. This was found to be the case, and the operation revealed a long, chronically thickened appendix, containing about one-third of a teaspoonful of serous exudate.

Of course, in the light of cases cited in this paper, conclusions will, and should, be drawn. And yet conclusions should be carefully drawn or not at all. There is no one who will be tempted to say that we know or understand more than a fraction of the significance of relative leucocytosis. And yet, again, it seems certain that there is present in such a series of cases a pointed trend toward a connection between severe inflammatory conditions which appear in a system undermined and threatened with collapse, and a high polymorphonuclear count, especially in the presence of a marked decrease (gradual or sudden) in the absolute leucocyte count.

The most rational explanation of the fall of leucocytes and the persistence of a high polymorphonuclear percentage in cases of this nature appears to the writer to be the following:

In all inflammations and infectious processes the first and prompt tendency is toward phagocytosis, and in the procedure both the total number and the polymorphonuclear percentage of leucocytes increase. It appears that as long as the resistance of the body holds out the total number of leucocytes remains in excess of the normal. When tissue resistance gives way phagocytosis becomes less active, though not entirely done away with, and the total number of leucocytes diminishes. As long as phagocytosis is at all apparent, however, it shows in the increased percentage of polymorphonuclear forms, and at times this is excessive, even when vitality is so low as to be unable to furnish the slightest absolute leucocytosis. In other words, all the forms of leucocytes are diminished owing to the lack of phagocytic energy, which accompanies the loss of vitality in the tissues. Of the leucocytes that still remain there must be a proportional excess of the adult forms as long as any tissue energy remains, since these forms are most actively concerned in the protective processes of the body, and are most in evidence at such a time. It can not be assumed because there has been an excess of polymorphonuclear forms that when the total number falls the polymorphonuclear forms only remain in excess. This is by no means the case in simple acute effusions, in evident pus collections or in pneumonia; on the contrary, with the decrease in the total number of polymorphonuclear percentage also falls, or, as in Case 3, the polymorphonuclear percentage falls with even a rise in the total number of leucocytes. Case 6 seldom showed an absolute leucocytic count of over 10,000, and only once did it rise to 18,000. For the greater part of the time, however, with a constantly low numerical count (4-10000) the polymorphonuclear percentage averaged over 85 per cent., and at the probable time of perforation registered 91.6 per cent. with a total numerical count of 6,400.

Case 7 showed no absolute leucocytosis, a decided though not extreme polymorphonuclear leucocytosis, in the presence of symptoms all of which indicated a purulent condition. Probably the extreme depression of the patient was the cause of the absence of an absolute leucocytosis. Certainly, I think the appendiceal inflammation accounted for the polymorphonuclear leucocytosis, though in the absence of a numerical total increase, and the fact that this polymorphonuclear percentage remained a moderate one (as has not appeared to be the case in the presence of pus) was of decided interest in the light of the actual findings.

At just what point to call the condition a significant polymorphonuclear increase presents a serious question. It seems safe to say that the cases already studied indicate 80 to 85 per cent. of polymorphonuclear cells as a suspiciously high percentage, and in the absence of an absolute leucocytosis a very serious one. Over 90 per cent. would appear to be still more indicative of active and grave inflammatory processes, and usually suggestive of purulent or other leucocytic exudates or effusions. Pneumonic consolidations give this picture, as may also acute and chronic pus collections, and nearly all septic intoxications. If in any of these conditions the absolute leucocytosis disappears, and the polymorphonuclear percentage continues high, we have a warning of overtaxed powers of resistance. As all powers finally give way even the polymorphonuclear percentage must fall, as it is the last sign of a worn-out energy. It is not safe to form iron-bound rules for new principles; but if any new principle seems to be well grounded on fact it is the one that urges scrupulous attention to a patient whose leucocytes show a high polymorphonuclear count in the absence of an absolute leucocytosis.

ABSOLUTE LEUCOCYTOSIS.

Far less need be said at the present time in regard to the occurrence of an increase in the total number of leucocytes in the blood under inflammatory and similar conditions. There is still in existence, as there always will be, a small body of men who persist in striking at the phantom of a leucocytosis that will diagnose a case or decide difficult operative questions. Needless to say they will wear themselves out in the effort and with no injury to the ghost that never assumed material form. The great mass of clinicians (and this term includes distinguished clinicians as well as a large class of so-called country doctors that are not a whit behind the city men

2. These notes are inserted owing to the courtesy of Dr. Morris J. Lewis, who will report the full clinical history elsewhere.

in energy and up-to-date methods of medical diagnosis) is learning to look on the occurrence of an absolute leucocytosis as only a clinical symptom, though sometimes a very significant one. It may occur in slight degree in absolutely healthy persons; it may also point to a fatal condition. In every instance the particular individual and the particular leucocytosis must be considered together in order to obtain any value from the study and in order to avoid error.

In many cases nothing new will be learned from the examination of the leucocytes; in many others invaluable information will be derived. Moreover, it can not be denied that in certain conditions even a pus collection may be so nearly walled off from the general circulation as to have no serious effect on the processes required for a seemingly healthy existence. Such an instance is seen in occasional large abscesses of the liver, especially the tropical form, which are known to have existed beyond shadow of doubt within active persons for years before evacuation. Sometimes these fail to cause an absolute leucocytosis, even though the resisting powers of the patient are good; and the explanation of its absence must lie in the fact that a membrane of such density is formed as to protect the circulation from the influence of the purulent process, and must in like manner prevent the very process necessary to the production of a leucocytosis. Just as fever, pain and swelling may all be absent in the presence of a pus collection surrounded by a dense fibrous membrane, so the absolute leucocytosis seems occasionally to fail, and for the same reasons. The writer has as yet, however, never seen a case of so-called walled-off abscess in any portion of the body that failed to present a relative leucocytosis of the polymorphonuclear cells.

It seems hardly necessary to state that the leucocytes vary normally from 5,000 to 10,000 in a single individual, and that digestion and exercise are two of the most common causes of such variation. Any text-book on the blood will advise the reader that a leucocytosis, to be significant, must be of decided proportions, and certainly an increase over the number normal in a given person. Most text-books, however, fail to state that the presence of a leucocytosis is one clinical sign, and that there is no clinical sign known to-day whose value is not to be estimated as part only of a complex picture. The fact is also usually overlooked that one examination of the leucocytes is not only unsatisfactory, but often misleading; and that frequent and even constant examinations must be made in order to obtain the full and certain value of any study of the blood. No number of leucocytes can be fixed at which we can say that pus or any other inflammatory or infectious condition is present. In one subject 20,000, in another 50,000, and in another double that number, of leucocytes will be found suggesting identical conditions, and yet each of these figures is suggestive of a certain order of process that will be still more strongly indicated by the complete clinical picture. There has never been a more untrue accusation than that the students of leucocytosis are endeavoring to decide on operative measures and make diagnoses that will rest solely on the blood picture. Such accusations are always made by men who have heard and believed the enthusiastic beginner, or who hear half a statement and lose the gist of the argument because they have not had time or interest to listen carefully or well. Such men make serious mistakes, as the result of a misuse of a valuable clinical sign, and lay the blame for a result for which they themselves are solely responsible at the door of an innocent and valuable measure.

Perhaps one of the most pertinent suggestions given by an increase in the total number of leucocytes is obtained when constant examinations show either a persistently high count, accompanied by symptoms and physical signs that point to a localized process, or a gradually but steadily increasing count (total) under similar conditions. A gradually falling leucocytosis usually indicates a bettering of the general physical condition. We have already laid sufficient stress on the study of the polymorphonuclear percentage to fear that this last assertion will be misinterpreted. Occasionally every physical sign and symptom will abate and improve, and the total number of leucocytes fall to or below normal, though the actual condition is one of grave seriousness. In such cases the relative leucocytosis may be relied on to warn of impending danger; at this point all clinical symptoms and signs fail. Procedures must, in the light of our present knowledge, be undertaken that may not seem clearly warranted, and with the full knowledge that the interior of the body presents riddles that can not always be deliberately solved. Any and every leucocytosis should be looked on with grave suspicion, but with the full knowledge that it is only one clinical sign, and that clinical signs are only signs after all. The prevailing wind may cause them to point in the wrong direction. When this is fully realized the so-called dangers of blood study will have been lost sight of, and certain reluctant semi-students will fall into the line of those who use to full advantage every form of leucocytosis that may be found present, after a number of thorough examinations of the blood has been made. They will then no longer insist either that the breath sounds are always absent over a pleural effusion, or that a leucocytosis, when properly studied, is misleading. The experience of men who are to be trusted has too often proven both of these beliefs to be without foundation.

The final and all-important question is: "Of what clinical value is a leucocytosis to the practitioner?" The experience of the writer at the bedside and in the laboratory leads him to answer as follows. As long as the clinician considers first the physical signs, then the temperature chart and history of the case, and lastly the report of the laboratory examinations of all obtainable excretions and secretions, and finally all three in their proper relation to one another, just so long will he find the presence of a leucocytosis, whether absolute, relative, or both, of inestimable aid. Its presence or absence should never, let it be once again repeated, alone decide in favor of one diagnosis or form of treatment or another; or persuade the surgeon to operate unless other indications of convincing nature are present. But in their presence such evidence as a marked absolute or polymorphonuclear leucocytosis must assuredly bear great weight; and when followed day by day—as it should be in a serious case—a leucocytosis may point to the correct solution of a grave problem. Who knows but that what we have learned from the behavior of the leucocytes in cases such as have been presented may save to us precious lives such as that so recently lost to the medical profession and the world at large. Experience and desire were at a loss to ascertain either the state of affairs within the abdomen or the proper course to pursue; another hint in such a case is beyond price. In a sudden rise, or a steady gradual increase from hour to hour, or from day to day, we have a sign board that

means danger, and points to a careful study of physical signs. A leucocytosis never can indicate pus, or any other inflammatory condition, and should never be allowed to influence treatment in the absence of other equally convincing evidence.

In certain conditions a leucocytosis indicates the retention of considerable resisting power on the part of the patient, as in pneumonia; and in like manner in the presence of pus, the physician would fear to see the number of leucocytes fall while the purulent collection remained in the body. It is a different matter when the total number of leucocytes is low, and the polymorphonuclear percentage is very high. It may then be inferred that a grave condition is present, and it is fair to assume that the polymorphonuclear increase is the indicator of all that is left of resisting power on the part of the body. Let this loss of tissue energy decrease still further and if the principle hold true even the polymorphonuclear increase must fall with the complete collapse of phagocytic action. We have still much to learn from the study of actual cases, but we have progressed far enough to lay hold of certain indications that will be valuable when other signs have failed. It is warrantable to state that no case has as yet been observed in which normal processes have been accompanied by such a blood picture.

ABSOLUTE LEUCOCYTOSIS IN THE ABSENCE OF POLYMORPHONUCLEAR INCREASE.

Case 6, as already noted, furnishes at least one instance of the occurrence of a moderate leucocytosis (absolute) in the absence of an increase in the number of multinuclear cells. (See footnote at end of article.) Just what significance to ascribe to this is not easily determined. There were present a typhoid infection that would tend to diminish the absolute number of leucocytes (which it failed to completely do), and the polymorphonuclear percentage, and also a cystitis that would have the opposite influence. The result seems to have been a compromise. Probably the typhoid infection was by far the most potent influence, and certainly it was the one that at that time dominated the system. The cystitis was also, no doubt, of typhoid origin; and yet the pus formation must have been so local in its influence, and so completely drained through the ready outlet through the urethra, that the suppuration had little or no influence on the general economy in comparison with the typhoid poison. Occasional cases of typhoid fever, and, in fact, certain normal persons, present an average leucocytic count of several thousand above the customary figure (5,000 to 10,000), and 14,000 in this case may not have been a leucocytosis. It appears more likely, however, that it did represent the slight influence of the local suppuration on the blood and tissues, held in check by the typhoid infection. Other and similar cases have been noted in which the absolute leucocytosis was even of a less degree and therefore even more questionable.

CONCLUSIONS.

The following conclusions seem warranted:

1. The term leucocytosis must include every increase in the absolute number of the leucocytes of the blood examined, as well as every increase in the percentage count of the various leucocytic forms.

2. A leucocytosis, of whatever nature, must always be regarded as a clinical sign of importance, but never of such weight as to influence against equally convincing physical signs.

3. A high percentage of the polymorphonuclear forms in the absence of an absolute leucocytosis indicates the presence either of pus or of some grave inflammatory process, together with a low vitality of the patient.

4. Specific factors may rarely exert such an unusual influence as to interfere with the customary reaction of the polymorphonuclear cells. At least one instance has been noted in which the total number of leucocytes was increased at the same time with a marked reduction in the number of the polymorphonuclear forms. This condition is, probably, seldom encountered.*

5. Single counts of the leucocytes, or single estimations of the leucocytic percentages are often misleading; while a persistent series of observations will seldom fail to aid in the diagnosis and treatment of the condition.

6. A gradual, but steady, rise in the total count of leucocytes above the customary number usually indicates the presence of an active and augmenting inflammatory influence. When this increase reaches large proportions it may be looked on as an indication of the presence of an active leucocytic process (seroses or purulent effusion, localized pus collection, pneumonic exudate, etc.), provided the clinical picture also bears out the suggestion.

IS THE CONSUMPTIVE CHEST FLAT?

WOODS HUTCHINSON, A.M., M.D.
Late Professor of Comparative Pathology, University of Buffalo.
PORTLAND, ORE.

Some years ago, in the course of a study of the disease-liabilities of the human as compared with the animal chest, I was led to take some measurements of the diameters of the human chest at various ages and in certain diseases. The results of these were somewhat unexpected, and led to further researches, of which a preliminary report was read before the Philadelphia meeting of the Association in 1897, and published in THE JOURNAL of the American Medical Association, Sept. 11 of that year.

Since that time I have been gradually accumulating further data, though unfortunately delayed by a period of impaired health, and as these are now sufficient in number to give a reasonable probability of correctness to deductions drawn from them, I have ventured to again report progress through the columns of THE JOURNAL. A short résumé of the position taken in my former paper will be necessary to clearness.

My views may be briefly summed up in the statement that the tuberculous chest instead of being flat is really round; that the antero-posterior (sagittal) diameter, instead of being diminished relatively to the transverse, is, on the contrary, increased, so that the term "flat-chested," as applied to the consumptive, is really a misnomer.

So far as I have been able to discover, no text-book—with the exception of the last edition of Cabot, which mentions my findings—or other authority on physical diagnosis supports this view; on the contrary, most of them directly controvert it. Manual after manual of physical diagnosis repeats, parrot fashion, the time-honored statement that the typical tuberculous chest is flat, in support of which is shown one ancient drawing of what I am strongly tempted to regard as a purely ideal

* Since the preparation of this paper the writer has had the privilege of studying a case of appendiceal abscess, yielding a pure culture of the colon bacillus, in which later an abscess formed posterior to the bladder, and still later another posterior to or within the liver, the pus from both of which also gave a pure culture of the same organism. The total count of the leucocytes varied from 20,000 to 46,000, and at no time was the polymorphonuclear percentage above 80, usually ranging from 70 to 75 per cent. The influence of the colon bacillus on leucocytosis will be discussed in a later full report of this case.

chest-outline, usually copied from Gee, and by him derived from heaven knows what remoteness of antiquity. It is therefore with a full realization of the unorthodox and perhaps insufficiently tested character of my position that I shall proceed very briefly to outline my reasons for the belief that is within me.

As all are aware, the human chest is, with one or two exceptions (the bats and the whales), almost unique in the animal kingdom, in that its transverse diameter is the longer, and this, of course, is obviously associated with the locomotive necessities of the anterior limbs in the quadrupedal and the erect positions respectively. The animal or quadrupedal chest having to be carried between the parallel-moving anterior limbs, naturally disposes its air space in the shape of a box, having as little width in its anterior part as is consonant with sufficient heart room and general vigor. Of this the familiar "deep" chests of the hound and of the race horse are illustrations which will occur at once. It may be remarked in passing that in every order of vertebrates it is the exigencies of locomotion which seem to determine the shape of the chest. Even before lungs are present it is "deep" in the earlier forms, the fishes, for obvious "yacht-shape" reasons; rounded in most amphibians and reptiles which crawl flat-bellied, with legs (if present) wide apart; rounded in birds with their wide-apart wing attachments, although crested with a great keel which gives it an opposite appearance; "deep" again in all quadrupeds with their parallel-moving anterior limbs, but flattening out in the fliers, like the bats, the pure swimmers, like the whales, and our own biped-climbing, upper families, the apes, and man.

The impression under which I began my study of the disease-liabilities of the two forms of chest was that the human chest had become more subject to disease from over-specialization, so to speak, and that the consumptive chest would be found to be, if I may use the term, the super-human chest form, having departed farthest from the normal type and vigor. To my astonishment, however, I found that my first six or eight measurements made on consumptive chests, showed an actually greater antero-posterior diameter relatively to the transverse one than the normal chest. I concluded that I must have been mistaken, and returned to the attack on fresh cases. But to my surprise the first result was absolutely corroborated by almost every successive case, until finally, when I had collected about forty measurements of tuberculous chests, I found that the average index of these was nearly ten grades higher than that of the normal.

First of all, however, I found myself compelled to establish or determine what was the normal chest index —and, indeed, to invent the index for myself. By "index" I simply mean that same statement of relation between diameters which has proved so exceedingly useful in craniology, applied to the chest. Taking the transverse diameter as 100, I express the antero-posterior diameter in percentages of this, just as is done between the antero-posterior and transverse diameters of the cranium. This I found to be, from measurements of about 50 normal chests of students, and soldiers in the garrison at Buffalo, through the kindness of my friend, Major Appel, then surgeon-in-charge, to be about 70; in other words, the antero-posterior diameter, or "depth," of the normal chest is about 70 per cent. of its width. After I had secured these measurements for myself, my search for other measurements giving a chest index was finally rewarded by the discovery of a large number of measurements taken by Dr. Seaver on the students in the Yale gymnasium, these covering 2,300 individuals, and giving almost precisely the same index as I had already elicited, namely, 70. This, then, I think, may be fairly taken as the average index of the normal chest, although, of course, I wish to be distinctly understood that there are very considerable variations, some of the measurements having gone as low as 62 or 63, and a few having gone even as high as the tubercular level of 80, or above. The average index of the 40 tuberculous cases, on the other hand, was 79½, making them nearly 14 per cent. (10 degrees) deeper than the normal chests.

This result at once brought into suggestive prominence the well-known fact that this round chest was the normal state of affairs in infantile and child life, and I proceeded to make a number of measurements of embryos from the fourth month up, of infants, of children, and of boys and girls up to the ages of 17 or 18, with the result of finding that the axes or diameters of the chest at birth were nearly equal, giving it an index of 101; in the embryo the index runs as high as from 105 to 115; in children under two years, the index had fallen to about 94; in children from 3 to 7 years the index averaged 85; while in boys of from 14 to 18 years of age it had flattened down to a little above 80.[1] The conclusion was obvious, that the type of chest most common in tuberculous cases was a persistent immature chest, in other words, was a chest which had practically retained the form normal at about the age of from 15 to 18 years.

I could still hardly bring myself to believe that such was the case, until I began to examine critically the actual chest shape in apparently flat-chested boys and children, when I quickly discovered the optical delusion, which has given rise to our prevailing conceptions as to the flatness of the immature and of the tubercular chest.

Briefly stated, flatness of a chest is merely an index of the position of the shoulders. Your flat-chested individual is almost invariably round shouldered, and if you will simply take the trouble to seat your flat-chested child or consumptive patient on a low stool, put your knee in the middle of his back, a hand on each shoulder, and pull the shoulders back into something like their normal, dorsal position, you will at once see, on looking down the front of his chest, that the actual shape of the rib-cage is rounded and barrel-like. Indeed, it is this very shape which has given rise to the abnormal position of the shoulders.

In the normal chest the posterior surface of the chest wall is sufficiently flat to allow the inner surface of the scapulæ to rest comfortably on it, and the shoulders fall back easily and remain naturally in the so-called erect, or military, position. In the rounded chest of the child or the consumptive, on the other hand, the scapulæ, having no flat surface on which to rest securely, their lower angles projecting out "like wings," as some poet-anatomist has said (alar), from the sharply rounding chest wall, roll forward in the direction of least resistance, pulled also by the great pectoral muscle-sheets, and come to rest, instead of, so to speak, at the outer and upper corners of the chest, almost on its anterior wall. The so-called "muscle-bound" plowman or bench workman has almost the same sort of shoulder position. In fact, almost incredible as it may seem, we have been misled by analogies drawn from the animal kingdom, and instead of the "deep," human chest, that is, the chest with the long antero-posterior diameter, being the type of vigor, it is just the reverse, and the *healthy, vigorous*

1. For full tables of measurements see my "Studies in Human and Comparative Pathology," 1901, Chap. V.

human chest is the broad, flat, well-expanded, low-indexed type.

A moment's consideration of the mechanism of respiration in the two cases will, I think, show the truth of this, at first sight, almost absurd conclusion. Both of them are, for mechanical purposes, bellows. In the quadruped, on account of the position, and necessity for parallel movement, of the anterior limbs, the bellows must be turned, so to speak, on its side, and the largest part of the respiratory movement must take place behind the shoulder girdle, of which the heaving flanks of the grey-hound or the rapidly-galloped horse are striking illustrations.

In man, on the contrary, after the erect position has been assumed and the shoulder masses have rotated outward and backward, in order to give freer play to the hand and arm for the use of the tool and weapon, the scapulæ come to lie at first on the outer and finally on the posterior or dorsal aspects of the chest. This, with the lateral pressure of the arms and elbows, leaves the anterior surface of the chest freest, and the movable flap of the lung bellows becomes turned in that direction. So that the antero-posterior range, which is almost absent in the quadruped, becomes equal to, if not slightly in excess of, the lateral flap-swing. At the same time, of course, the diaphragmatic respiration has become relatively less than in the quadruped, loaded, as that great muscle sheet has now become, with a share of the weight of the liver, in the erect position.

Thus the relative value of the different factors in respiration has been markedly altered in the human chest, and this fact is one which, in my judgment, has not received the consideration to which it is really entitled. These may appear like somewhat positive conclusions to reach on the basis of such a comparatively small number of measurements, but I must explain in defense, if there should be any misapprehension, that this apparent positiveness is merely due to the brevity of the statement which is required.

The next series of measurements which I was able to secure of tubercular chests in any considerable number was at the celebrated Brompton Hospital for Consumption, in London, during a term of research work abroad. For these I am indebted chiefly to the courtesy of Dr. C. Theodore Williams and the members of the attendant staff and the kind assistance of my friend Dr. J. C. Conner. These cases numbered 42, and while taken not merely on the other side of the Atlantic, but also in a different social class from my American series, corroborated its results in a really singular manner. The average index of the 42 cases was 79.6 as compared with 79.5 in the almost identical number of American cases. Through the courtesy of Dr. Rolleston I was asked to present these results before the current meeting of the British Medical Association (1899), and they were published in the *British Medical Journal,* Oct. 28, 1899, and a few months later formed the basis of a chapter in a monograph published about two years ago.[2] This publication was the means of interesting a number of other members of the profession in the question, and I am now able to report a list of 75 cases from Dr. E. H. Colbeck of London, which he has most kindly and generously sent me, taken at the Victoria Park Hospital for Diseases of the Chest. The general average of this is in singularly close accord with the other series, namely, an index of 80.3. The agreement is even closer when the cases of the series which occurred in women, 14 in number, are eliminated, which leaves a male average of 79.3, which is extraordinarily close to my average for the Buffalo and Brompton series, 79.5 and 79.6, respectively. This is the most interesting and valuable series which I have yet received. First, from the fact that it contains a larger number of women, in whom measurements are for obvious reasons much more difficult to secure, and second on account of the large number of cases in an early stage of the disease.

No less than 42 of the 75 cases were in an early stage, and the fact that their average index was 77.6, less than 2 degrees below the average of the whole series, strongly corroborates my tentative view that this shape of chest is a precedent symptom of the disease and not a result.

The series of 14 measurements in women is also interesting as showing a very much higher index than even the already heightened male degree, namely, the average being 84.3. This, of course, is only what one would expect from the well-known greater persistence of the infantile shape of the chest in women, but as to how far it rises proportionately above the average index of the normal female chest I have not been able to secure a sufficient number of measurements to base a statement on.

Two cases in this interesting series are recorded, one as in the very early, and the other prebacillary stage, and as one of these has an index of 83 and the other of 82, it would seem certain that in some cases at least this shape of the chest preceded the disease.

Three other responses have also been made within the past few months to my request for assistance and measurement blanks sent out. The first of them is from Dr. Franklin White of Boston taken at the Long Island Hospital, and these number 35 in all and give an average index of 77.9, nearly 8 degrees above the normal and only 1.6 degrees below the average of my other cases. Of these 10 were in women with a slightly higher index of 78.3, but below the average of the Victoria Park women. Of the 35, five are recorded as in an early stage, and these are an even more striking indication of the pre-existence of this type of chest, in that their index is 79.6, or 1.7 above the average of the series. Dr. White's series is especially worthy of notice from the wide range of extremes in individual cases, not less than 8 of the 35 being at the norm of 70 or below, four of them falling as low as 63 or 64, thus showing that, while the overwhelming majority of tuberculous chests are of high index, the disease is by no means confined to this type of thorax.

The second is from Dr. W. A. Evans of Chicago, who, with Dr. M. G. McHugh, physician in charge of the Cook County Hospital for Consumptives, has gathered together a splendid series of 107 cases with an average index of 80.8. This was published in the *Medical Examiner and Practitioner,* October, 1902, and while it does not give a table of measurements in detail, so that I am unable to analyze it, the conclusions, which are quite fully elaborated, support my own at every point. A small number of cases of early tuberculosis which they have examined shows a high index and they heartily endorse my view, that the persistence of a chest index of over 70 is a sign of arrested development and of a greater degree to susceptibility to tuberculosis than that of the normally shaped chest.

A new and valuable addition is made by their series of 38 measurements, taken on inmates of asylums and paupers, not suffering from tuberculosis, and show a much higher index than the normal. This is of great importance, inasmuch as it agrees with both my own measurements on this class, taken at reform schools and

2. "Studies in Human and Comparative Pathology," H. J. Glaisher, London, 1901.

other institutions, and also with some measurements made by Dr. Arthur McGugan of Denver, who informs me in a personal letter that he finds this round, prominent type of chest common among the chronic insane. I have long been inclined to regard this type of chest as indicative of general arrest of development, and I should not be at all surprised to find it present in almost as large a percentage of the chronic insane as in those suffering from tuberculosis. To phrase it roughly, one may perhaps be regarded as a physical degenerate who breaks down in the lung, and the other as a physical degenerate who gives way in the brain, and it must also, of course, be remembered that an enormous percentage of the insane (from 30 to 60 per cent.) die ultimately of pulmonary tuberculosis.

Last of all is a series of 35 cases from my friend, Dr. Albert Abrams of San Francisco, which gives an average index of 78, and which he has kindly permitted me to use, although yet unpublished. He, however, inclines very decidedly to the opinion that this shape of chest is due to an emphysematous condition of the lungs, which he has found, and I believe correctly, to be present at a very early stage of tuberculosis, if indeed it does not precede the disease.

This, then, makes a total of over 350 cases of tuberculosis in which chest measurements have been taken, every component group of which gives an index of from 77 to 80.8, the general average being 79.7. This, though still hardly sufficient to base a positive statement on, does certainly seem to me to furnish good grounds for a careful reinvestigation of the question and a defense and justification of the almost unanimous statement in the text-books either on practice or physical diagnosis that the tuberculous chest is flat.

My list of personal measurements is steadily growing and new lists are being sent in to me, from time to time, by the kindness of my friends in the profession, and as soon as I have accumulated 500 or more I propose to send a circular letter to the authors of the standard text-books on physical diagnosis and practice of medicine, asking them to kindly send me the data on which their statements and occasional outlines are based, or failing these, to reinvestigate the subject for themselves.

In the meantime I have prepared printed blanks for recording, with full direction for taking, chest measurements, and shall be most happy to send copies to any of my readers who may be sufficiently interested in the subject to make a few measurements in their wards or clinics. I would be especially grateful for any groups of measurements, no matter how few in number, taken on private patients, the vast majority of my data hitherto having come from the hospital classes. The measurements may be taken with an ordinary pelvimeter or large carpenter's calipers with an inch or centimeter scale; the antero-posterior diameter by letting one point rest on the sternum at the level of the nipple (male), the other on the dorsal spinous process horizontally opposite. The transverse diameter is obtained by sliding the tips of the calipers backward at the nipple level until the widest possible point of separation is reached, behind which they will, of course, begin to approach each other again, then read off the scale; both measurements to be read off in the post-expiratory pause or resting position of the chest.

From the evidence so far presenting, the following conclusions seem to me reasonably probable, though, as before stated, I do not feel justified in advancing any more positive position than this until I have secured at least 500, and preferably 1,000, measurements, taken on all classes and nationalities.

First.—The typical tuberculous chest is round instead of flat and has an average index of about 80, nearly 10 degrees above the normal.

Second.—This type of chest precedes the disease.

Third.—It is an abnormal persistence of the fetal, infantile and child type of chest.

Fourth.—Any chest more than 18 years of age which shows an index of 80 or higher should be regarded as abnormal and as rendering its possessor more than usually liable to tuberculosis.

Fifth.—The occurrence of such a chest in any patient over 18 years of age, suspected of tuberculosis, raises a strong probability of the disease.

Sixth.—The chests of growing boys and girls should be systematically measured at stated intervals, and wherever the index is found distinctly higher than that normal for their age active measures should be taken to remedy the defect.

Seventh.—All those sports and exercises which involve wide-swinging use and play of the arm, chest, shoulder group of muscles, such as tree climbing, swinging from ladders, from rings, from bars, ball throwing, spear hurling, tennis, swimming, will tend to correct this defect and flatten the chest down to its proper index.

These, in fact, are the influences which have made the human-chest shape, and all that is needed to perfect it in the individual is a healthy reversion to the arboreal habits of our prehuman and the war sports of our savage ancestors.

BLOOD PRESSURE DETERMINATIONS IN GENERAL PRACTICE,

INTRODUCING A PRACTICAL INSTRUMENT FOR ROUTINE USE.

HENRY WIREMAN COOK, M.D.

Resident House Officer, Johns Hopkins Hospital; Late Assistant Resident Physician, Thomas Wilson Sanitarium for Sick Children.

BALTIMORE.

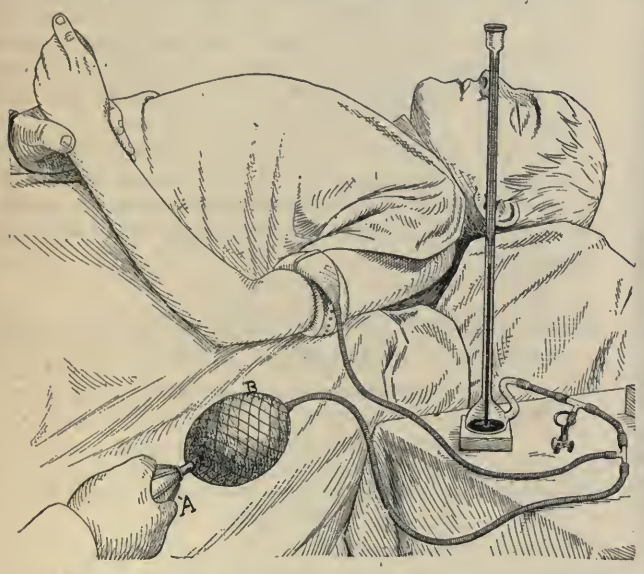
Accurate measurement of arterial tension, which has formed the experimental basis for the physiology of the vascular system since the invention of the kymograph by Ludwig in 1847, has received but little attention from clinicians until of late. The results derived from these laboratory experiments on changes in vascular tension have been appreciated and adopted by the practitioner and form no insignificant part of the *rationale* of his diagnosis and therapy, but while the methods remained of a nature that restricted them to the laboratory they could have no direct clinical application.

Within the past few years several instruments have been devised which have been constructed on a sufficiently practical principle to admit of their extended clinical use. Already the literature relating to clinical blood-pressure observations is voluminous, and one can not glance over a current medical journal without seeing repeated references to this work. From many of the larger hospitals in this country and abroad are coming reports of observations on blood pressure in various morbid conditions, and a vast quantity of valuable material is being acquired which will place arterial tension and its significance in a new light before the medical world. The conception of arterial tension and its therapy must be revolutionized since its determination is removed from the obscure realm of indefinite denomination and per-

sonal equation to the plane of mathematical accuracy.

It is not the purpose of this paper to give the results of any cumulative work on blood pressure. I have already emphasized the value of routine determinations in stimulation, and in connection with Dr. Briggs will soon give[1] the results of our observations on blood pressure in a variety of conditions occurring in the wards of the Johns Hopkins Hospital. I merely wish here to present the use of an accurate estimation of arterial blood pressure in the wider field of general practice, and to describe an instrument which I have previously referred to,[2] and which I hope may render such determination easier and more practical than is possible by any of the forms of apparatus now obtainable.

My first observations were made with the Gärtner apparatus, which, however, proved very unsatisfactory, both for accuracy and ease of application. On account of mechanical difficulties in the instrument itself, and vasomotor changes in the finger of the patient, morbid states involving extreme variations in pressure, such as shock, hemorrhage, toxic hypotension and the hypertension of uremia and apoplexy, could not be followed with any



satisfaction, and the instrument is almost inapplicable in the negro and very young children.

The Hill-Barnard apparatus I have not used; first, because I believe maximum pressures to be the best index for systemic force, and this instrument registers minimum pressures only; second, because it requires considerable time and training to manipulate; third, because it involves the use of a spring manometer, which is always liable to be inaccurately gauged and can never be depended on for correct reading unless controlled by a mercury manometer.

The Erlanger apparatus, which combines the principle of the Riva Rocci and the Hill-Barnard instruments, and so gives both minimum and maximum readings, is the ideal for physiologic research; but I found it too ponderous and bulky for clinical work. Messrs. Brush and Fischer used this instrument in the wards of the hospital for some valuable observations on blood pressure in typhoid fever, but it required two men to carry and operate from bed to bed, so was obviously precluded from very extended clinical use.

1. Johns Hopkins Hospital Bulletin, May, 1903.

2. American Journal of Medical Sciences, March, 1903; Maryland Medical Journal, January, 1903; Johns Hopkins Hospital Bulletin, February, 1903.

Dr Cushing had introduced the Riva Rocci apparatus into use at the hospital, and this instrument I found by far the most satisfactory for routine determinations. The principle is simple in the extreme and its practical application easy.

There were several features of the original form of the apparatus which made it inconvenient to handle, such as the complicated arrangement of the mercury manometer and tubing connections and the loose scale, and it also, with other mercury manometers, was so high and unwieldy that it was impossible to carry it to outside visits. The instrument which I present here attempts to apply the Riva Rocci principle in a compact, simple form that will render it serviceable to the general practitioner.

The apparatus consists of three essential parts connected by rubber tubing, a manometer, an arm piece and a bulb with valve attachments. These form a closed air system throughout which pressure is everywhere transmitted equally.

The manometer is entirely of glass, so that readings are not obscured at any point by cork or other jointing. A vertical tube scaled to 350 mm. fits below and projects into a glass reservoir containing mercury. An outlet tube entering the reservoir near the top allows free communication with the rest of the system. The scale, divided into centimeters and millimeters, is etched on the glass, avoiding the possible errors incident to a loose scale behind the glass. The upright tube at the level of 210 mm. is divided by a glass joint fashioned like a ground-glass stopper, the upper end fitting into the lower. This arrangement permits the manometer being packed into a small, easily portable case, and removes the only objection to the mercury manometer, i. e., the amount of space a sufficiently long tube occupies. The lower tube scaled to 210 suffices for all cases except those with marked hypertension, and for the latter it is only necessary to adjust the upper portion. I have considered the mercury manometer as essential for accuracy and reliability in recording pressures. Spring or aneroid devices are always liable to gross errors of adjustment, and require constant control by a mercury manometer. The weight of a certain column of mercury is an absolute quantity, except for the constant fractional variation for temperature.

The arm piece is to transmit the pressure to a peripheral artery of the patient. In estimating pulse tension by finger palpation we obliterate the radial artery by downward pressure against the firmer tissues below. This principle, which was also that of the earlier sphygmomanometers, entails many errors due to position, caliber of artery, thickness of intervening tissues, thickness of arterial wall, etc. The principle of the Riva Rocci method of applying this pressure overcame these difficulties and, according to Janeway, marked the greatest advance in the history of the sphygmomanometer, the one which at once made readings accurate and easily applicable clinically. The pressure, instead of being applied in one direction on the artery, is applied equally around the artery. An extensile rubber bag completely encircles the arm and the pressure is thus transmitted equally through the medium of the tissues to the artery, perpendicular to its wall at every point. This principle minimizes the effect of anatomic and structural peculiarities. The rubber bag is covered by a canvas support with hook and eye attachments, which admits of its being fitted to any size arm.

The rubber bulb by which the operator raises the pressure in the air system and the reservoir bulb are similar to that used in a Paquelin cautery. An outlet tube, guarded by a spring pinch cock, is introduced in the system near the manometer so that the pressure may be released after each reading.

A reading should not take longer than the half minute required for a pulse count, and may be made by any one at all trained in pulse palpation. The band is adjusted snugly around the patient's upper arm as the place of choice, well above the condyles of the humerus. I usually place it almost midway between the elbow and shoulder, though this is unimportant except in very muscular men, where the sharp slope of the biceps in the lower third of the upper arm makes application here inadvisable. The observer then, palpating the radial of the patient distal to the band, quickly raises the pressure in the air system by squeezing the bulb A with the other hand until the pulse is obliterated. This pressure, as registered by the manometer, is noted and the column of mercury allowed to fall slowly until the pulse returns. These two points are confirmed without releasing the pressure, merely varying the column of mercury between them by alternately squeezing and releasing the bulb B. The two points will usually be 2 or 3 mm. apart and the mean between them is the maximum arterial blood pressure. Thus, if the pulse lost at 127 mm. and returns at 125 mm., the reading is called 126 mm.

The minimum pressure as demonstrated by Howell and Brush occurs during the maximum oscillations of the artery wall. These are transmitted to the mercury column and the minimum reading may be determined approximately with this instrument, as described by Gumprecht, by noting the point of maximum oscillation of the mercury column after the tube leading to the bulb B is clamped off.

The only instrument that gives exact readings of minimum pressure is that of Erlanger, and the amount of extra apparatus necessary for this determination makes such an instrument too bulky for routine use. The instrument presented here is intended primarily for maximum blood pressure readings, and only exceptionally will the minimum reading be of clinical significance. However valuable it is in physiologic research to know the exact measure of the pulse wave at every point, what the clinician is concerned in is simply some definite, accurate and easily applicable method of determining what is ordinarily spoken of as pulse force or maximum blood pressure.

It is to be depreciated that at the present time reports of blood pressure observations are appearing in different terms, so that many results seem conflicting. Some give figures of mean pressure, others of maximum, and others of minimum pressure. A single absolute standard for blood pressure nomenclature must be adopted to avoid this difficulty, and I would propose that the maximum blood pressure, as determined by the Riva Rocci principle, be accepted as a standard, and if further details be added that they be individually designated. This question will be more fully discussed elsewhere, but my reasons may be briefly summed up here as follows:

1. Because maximum readings correspond to what has previously been meant by the terms arterial tension and pulse force; that is, the pressure necessary to obliterate the pulse wave, thus to use the same terms for a different pulse quality must inevitably be confusing.

2. A maximum reading requires the least time.

3. It involves a simpler principle and technic, so that it may be safely intrusted as a routine to nurses or other attendants. This has been demonstrated in the wards of the Thomas Wilson Sanitarium and the Johns Hopkins Hospital.

4. It is the more accurate, depending on so definite a quality as obliteration of the pulse rather than the comparatively indefinite point of maximum oscillation of a needle or column of mercury.

5. It is the maximum pressure which is of practical and clinical value and which affords the safest index of actual vascular force. It is during the systole alone that we have the aggregate effect of the elements of circulation. During diastole we merely have a residual effect.

6. An instrument for these maximum determinations can be put in a form so simple and compact that it can become of accurate and reliable routine use in general practice.

I present this instrument because I have found it accurate and easy of application and because it can be made in a simple portable form, which may encourage a more general use of precise measurements of arterial tension.*

The value of blood pressure determination is already sufficiently evidenced by the general interest in the subject, but as yet their application has been almost entirely confined to scientific research in the larger hospitals of the country. This is, of course, a necessary beginning in the new field, for individual observation could be of slight comparative value without its significance had been demonstrated by accumulated evidence. Although those generalizations are a necessary antecedent of more extended use, the chief value of accurate determinations of arterial tension will not be compassed until they are applied in general usage to individual cases. This is true of any method. The results of its scientific application may be great, but while it remains inapplicable in practical usage its limitations are set. Collaborated blood pressure observations have already given us many new ideas concerning the various phases of arterial tension and have cleared many old ones, and as yet the work is only begun; but in a comparatively few years all conditions will have been studied and the deductions drawn, and if the estimation of arterial tension has not become an active, every-day working method in medical practice, its end will have been accomplished. Comparatively little is now being developed on temperature in disease, and yet the clinical estimation of pyrexia dates back but 35 years. But the thermometer will continue always to be one of the most important aids to the profession. And so the value of universal estimation of pulse tension must win general recognition and application. The time is when the practitioner is not satisfied with placing his hand on a flushed brow and "thinking" the patient is feverish, and the time must be when he will not be satisfied with thinking the pulse is stronger.

The pulse is more generally and often appealed to for information than any other one physical sign. Of the elements of the pulse the tension is the most valuable. Since the general introduction of time-recording instruments the rate has assumed the chief position of importance because it can be numerically determined. Ordinarily in critical cases we only ask for the pulse rate because the indefinite sense perception of force is too vague to be trustworthy, yet rate in these cases is chiefly of value as an indication of strength, for experience has taught that a rapid rate often accompanies a weak pulse,

* This instrument has been put on the market by Messrs. Elmer and Amend, 205-211 Third Avenue, New York City, in two very satisfactory forms: One, with solid glass manometer for hospital and experimental use; the other, with jointed manometer in small portable leather case for the practitioner's use.

and vice versa; yet the fallacy of this generalization is but too often misleading, and it would seem but a poor makeshift to depend on the varying accompaniments of a condition when the condition itself may be determined. Pulse rate undoubtedly often affords a good index of pulse force, but a blood pressure reading is the pulse force. The use of a certain remedy in anemia would gain small credence to-day if cases were reported when the color improved after three days' treatment, while if the hemoglobin increased regularly in that time 40 per cent., it would certainly carry weight. Similarly it would seem almost negligent to *think* a certain treatment lowered the tension in a case of uremia or aneurism, or to give an infusion in shock and be content with *thinking* the pulse felt stronger. The time can not be far distant when operator and anesthetist will keep closer watch of difficult cases by blood pressure observations on the table, when routine blood pressure charts are kept as clinical aids to diagnosis and treatment in hospital wards, when careful case synopses contain blood pressure estimates, and when the general practitioner really *knows* the arterial tension of his patients.

Progress in medicine, as in the other component branches of advancing civilization, is not gradual and imperceptible, but is marked definitely by improvements and new departures from the old régime. It would seem that few individual medical advances would be more far reaching or more productive of real benefit than the substitution of precision for vagueness in the estimation of arterial tension.

FURTHER OBSERVATIONS ON INCREASED BLOOD COUNTS DUE TO HIGH ALTITUDE.*

JOHN WEINZIRL, M.S.
AND
C. EDW. MAGNUSSON, PH.D.
UNIVERSITY OF NEW MEXICO.
ALBUQUERQUE, N. M.

That altitude produces an increase in the number of red corpuscles in the blood is a principle very generally accepted. The work of a number of investigators appears to show that the increase is directly proportional to the altitude. At sea level we have, according to Laasche, a blood count of 4,974,000 cells which is by many considered normal.† At an altitude of 9,500 feet Egger found a count of 7,000,000 cells; while Viault, who worked in the Cordilleras of South America at an altitude of 14,400 feet, found the high count of 8,000,000 cells. All these counts refer to human subjects.

As a result of these and similar studies the principle of high blood counts in high altitudes is regularly found in our works on hematology, and is regularly taught in the medical schools. Further, more or less elaborate theories have been based on it to account for the beneficial effects ascribed to high altitudes. There appears to have been but little question as to whether the increase in the number of red corpuscles was permanent or merely temporary.

When our first investigations were undertaken, some two years ago, the above principle was naturally accepted; but, after a number of observations had been made, numerous remarkable exceptions were noted. How to explain these observations soon became the leading problem. From a number of blood counts which were made in order to test the accuracy of the altitude hypothesis it was found that in the case of persons resorting to a higher altitude for a short period of time that an increase in the number of red corpuscles usually resulted; but that cases residing regularly at high altitudes showed counts substantially normal. When common white rabbits were transferred to higher altitudes a similar increase followed. The increase was gradual and continued for several weeks, after which the number of cells began to decline. But these experiments were not of sufficient duration to determine whether the blood count would return to normal or remain permanently at a higher figure. The evidence, however, seemed to indicate a return to normal.

In our climatologic investigations it seemed desirable to have this problem definitely solved. For, if no permanent increase in the number of cells occurred then the beneficial effects ascribed to altitude must either be temporary or of a different character. In order to settle this point, at least in our own minds, our observations were continued; a number of animal experiments were also made to bear directly on this problem. The results of these observations and experiments are presented in this paper.

Among a considerable number of cases examined three bear more particularly on this problem and the data taken are therefore given in full.

Case 55 resides regularly in Albuquerque, but while he was spending the summer in a mountain resort, at an altitude of 7,000 feet, we were enabled to make a series of examinations of his blood. He was enjoying excellent health at the time. The period spent in the mountains was 48 days, and although not as long as could be desired, the decrease in the cell count followed the characteristic increase. The counts, together with other data, are embodied in Table 1:

TABLE 1.—BLOOD COUNTS OF SPECIAL CASES AT HIGH ALTITUDES.

Date.	Time.	Weight.	Sp. Gr.	Hemoglobin (per cent.).	Red Cells (per c.m.m.).	Colorless Cells (per c.m.m.).	Time in High Altitude (days).
Case 55..							
7/24/02	10:30	125	1.060	..	5,573,000	12,000	8
7/28/02	10:00	...	1.060	85	6,155,000	12,000	12
7/31/02	2:30	...	.....	..	6,431,000	12,000	15
9/ 4/02	3:00	...	.....	..	5,791,000	11,000	48
12/10/02	10:00	123	1.060	87	5,395,000	14,000	..
Case 75..							
9/20/02	3:00	150	1.061	84	5,093,000	6,000	4
1/27/02	11:30	...	1.061	..	5,382,000	10,000	11
10/ 3/02	11:30	...	.....	..	5,777,000	14,800	17
10/21/02	11:30	...	.....	..	5,928,000	14,800	35
10/31/02	11:30	...	1.062	78	6,280,000	13,000	45
11/20/02	10:00	...	1.063	88	5,591,000	6,000	65
12/11/02	3:45	155	1.061	82	5,218,000	6,000	86
Case 74..							
9/20/02	10:30	177	1.060	82	5,915,000	8,600	4
9/27/02	10:30	...	1.061	..	5,844,000	8,600	11
9/30/02	10:30	...	.....	..	5,564,000	7,400	14
10/ 6/02	11:00	...	.....	..	5,862,000	5,000	20
10/27/02	10:00	...	.....	..	6,271,000	15,000	41
11/21/02	10:00	...	.....	..	5,951,000	9,500	66
12/13/02	11:00	172	1.064	90	6,235,000	6,500	88
12/19/02	11:00	...	1.064	93	6,600,000	.....	94

It is seen that after staying in the mountains eight days the blood count was slightly above normal as indicated by previous examinations. It is also seen that a considerable rise in the number of corpuscles took place and that this occurred rapidly during the early part of

* For carrying out the researches embodied in this paper aid was received from the Elizabeth Thompson Science Fund, which is hereby gratefully acknowledged.

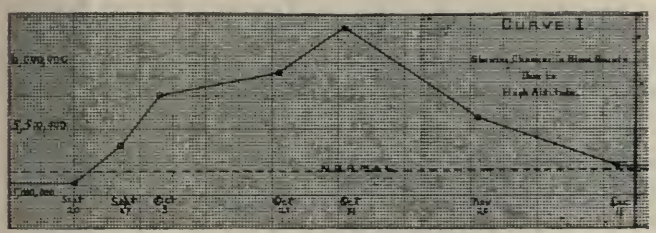
† In this paper 5,500,000 red corpuscles is assumed to be normal for man and 5,000,000 for woman.

his stay. Immediately after returning from the mountains the blood count shows a decrease to practically the original count.

Case 75 was a young man, 22 years of age, who came from the Mississippi valley at an altitude of 900 feet, to Albuquerque at 5,000 feet. The summer had been spent on a farm and the subject enjoyed excellent health. On entering the university as a student regular blood counts were made; the results are given in Table 1. It is seen that the counts increase regularly from 5,093,000 to a maximum of 6,280,000 cells, when a decrease set in and the blood returned practically to the first figure. The difference between the first and last counts, which is slight, can be readily accounted for by the seasonal variations due to temperature. It should, perhaps, be added that this case was particularly free from disturbing factors, which we have found enter largely in much of our work with human subjects. The relation between time spent at the higher altitudes and the number of red corpuscles is shown graphically by Curve 1.

To illustrate the above mentioned fact that external factors may retard, or perhaps even obliterate the effects of altitude, Case 74 is here introduced.

This is a male subject, 30 years of age, and in perfect health. The conditions attending this case are almost identical with those of No. 75. The summer, however, had been spent in recreation, his duties being assumed at about the time the blood counts were begun. These



Curve 1.—Showing changes in blood count due to high altitude.

duties were of such a nature as to cause considerable mental anxiety. Undoubtedly this factor, with his resumption of work, had much to do in modifying the usual blood phenomena due to increased altitude. After several weeks the mental strain was largely removed, and, as is seen in Table 1, the characteristic increase followed; but this was after a period of gradual decrease. In other words, there was a decrease when there should have been an increase, and the latter occurred only after a considerable period of time. The case has evidently not yet run its complete course.

In order to meet the conditions of the problem more closely than could be done with human subjects, animal experiments were made. For this purpose four healthy white female rabbits were selected and blood counts made. They were then sent to Ellis' mountain resort (altitude 8,000 feet) and the blood examined after five or six days had elapsed. The animals were allowed to remain at the higher altitude for a period of seventy-two days, when they were returned to the laboratory and again examined. The final count was made after the animals had been kept at the laboratory for one month.

Since changes in physical conditions, such as the character of the food, the amount of floor space, etc., are apt to produce important changes in the blood and so obscure the true phenomena, especial care was exercised in carrying out this experiment. The rabbits were fed on alfalfa, wheat, bran mash and a few vegetables during the time they were under experimentation. The floor space was also kept constant and comprised about 50 square feet. The animals were kept in the open air with an abundance of sunlight. Adequate protection was also given them. The fact that they gained in weight continually while under experiment shows that they were well cared for. Certainly they appeared to be in perfect health.

So far as the writers are aware the only disturbing factor entering into the experiment was involved in the transportation. The greatest care was given them during this time, and it is not believed that the animals could have been materially influenced by it, as the cage was large and the time relatively short.

Rabbit 17 was injured before the end of the experiment, and this affected the counts so as to render them worthless; they are, therefore, excluded. The counts for the other three, together with other valuable data, are included in Table 2:

TABLE 2.—BLOOD COUNTS OF RABBITS AT HIGH ALTITUDES.

Date.	Time.	Weight.	Sp. Gr.	Hemoglobin (per cent.).	Red Cells (per c.mm.).	Colorless Cells (per c.mm.).	Days in Mountains.	Days After Return to Albuquerque.
Rabbit 16.		Lbs.						
8/21/02	9:30	4½	1.056	78.0	6,666,000	4,000	....	....
8/28/02	3:00	....	.....	....	7,742,000	13,000	5	....
11/ 8/02	1:00	5¼	1.060	86.0	6,671,000	8,500	72	....
12/ 5/02	1:30	6¼	1.058	86.0	6,786,000	2,500	....	27
Rabbit 18.								
8/21/02	1:45	6¼	1.057	73.0	5,849,000	9,000	....	....
8/29/02	10:30	....	.....	....	5,875,000	14,000	6	....
11/ 8/02	3:30	7¼	1.058	85.0	7,760,000	7,500	72	....
12/ 6/02	3:30	8	1.056	84.0	7,391,000	4,000	....	28
Rabbit 19.								
8/21/02	3:00	3¼	1.058	73.0	6,022,000	10,000	....	....
8/29/02	9:20	....	.....	....	6,929,000	11,000	6	....
11/ 8/02	11:00	5¼	1.061	80.0	6,835,000	7,000	72	....
12/ 4/02	2:45	5.6	1.060	81.0	6,702,000	6,500	....	26
Rabbit 24.		Gms						
11/29/02	1:30	2240	1.053	82.0	5,742,000	11,000	....	....
12/11/02	11:40	2470	1.058	86.0	6,083,000	7,000	....	19
Rabbit 25.								
11/29/02	3:00	2332	1.052	80.0	6,211,000	8,300	....	....
12/19/02	11:30	2500	1.057	78.0	6,249,000	7,500	....	20
Rabbit 26.								
11/29/02	4:00	2371	1.059	85.0	8,084,000	11,000	....	....
12/18/02	2:30	2672	1.059	91.0	8,716,000	7,000	....	19

It is observed in rabbits 16 and 19 that the blood counts were very nearly the same on returning as when sent to the mountains; that the intervening blood count was higher; and that the last count, after remaining for one month at the lower altitude, did not differ materially from the one made on returning from the mountains.

Rabbit 18 shows a comparatively low count before being sent to the mountains, while the two final counts are decidedly higher. It is probable that improvement in some physiologic condition occurred, and that this may account for the divergence. The final count is slightly lower than the one made when brought from the mountains, but the fall is not at all in proportion to the fall in altitude. If, then, we take the results as a whole, they agree very well with those shown in Curve 1.

A second experiment with rabbits was carried out, but this varied in a number of details. Three common rab-

bits were purchased in Las Vegas (altitude 6,500 feet) and sent to the laboratory in Albuquerque. It is seen that one transportation and one change of masters were thus avoided. The rabbits were sent by express and could not have been materially affected by the trip. They were received from Las Vegas in the evening and the examinations made on the following day. The rabbits were in good condition, but were not fat. The results of both examinations are given in Table 2.

In none of the rabbits is there a decrease in the final counts; two agree very well, while the third shows an increase. These data are in harmony with those of the previous experiment, and refute the supposition that high altitudes produce abnormally high blood counts.

To prove that subjects in high altitudes have a blood count substantially normal, it appeared desirable to make examinations of a number of cases who had resided at an increased elevation for varying periods of time. The mountain resort, Camp Whitcomb, at an altitude of 7,000 feet, furnished opportunities for obtaining a number of such cases. The results of these examinations appear in Table 3.

From the table it is seen that these cases do not vary decidedly from the normal. A larger number fall below

TABLE 3.—BLOOD COUNTS OF CASES RESIDING AT HIGH ALTITUDES.

No. of Case.	Date.	Time.	Weight in Lbs.	Age.	Sex.	Condition of Subject.	Altitude.	Time in Albuquerque. Altitude 5000.	Time in Mountains.	Sp. Gr.	Hemoglobin, per cent.	Red Cells per c.mm.	Colorless Cells, per c.mm.	Red Cells. Above Normal.	Red Cells. Below Normal.
56	7/24/02	2:30	....	22	M	Normal.	7000	30 days	1 day	1.062	80.0	6,911,000	14,800	1,411,000	.....
57	7/24/02	3:45	....	39	F	Normal.	7000	11 years	7 days	.....	....	5,351,000	15,000	351,000	.....
58	7/25/02	10:30	....	34	F	Tuberculous.	7000	1½ years	13 days	.....	....	5,275,000	19,000	275,000	.....
59	7/25/02	11:30	150	33	M	Tub. (no bacilli).	7000	35 days	21 days	1.062	85.0	5,679,000	11,000	179,000	.....
60	7/25/02	4:00	175	47	M	Tub. (cured).	7000	8 years	1 day	1.060	....	5,186,000	12,000	.....	314,000
61	7/26/02	11:45	106	42	F	Normal.	7000	18 years	1 year	1.058	....	4,440,000	9,000	.....	560,000
62	7/26/02	3:00	125	26	F	Normal.	7000	35 days	22 days	1.062	....	4,770,000	13,000	.....	230,000
63	7/27/02	10:30	140	45	M	Tuberculous.	7000	6 years	45 days	1.056	....	5,160,000	16,000	.....	340,000
63	7/31/02	10:30	140	45	M	Tuberculous.	7000	6 years	49 days	.....	....	5,130,000	10,000	.....	370,000
64	7/27/02	4:20	125	25	M	Tuberculous.	7000	60 days	30 days	1.062	77.0	5,720,000	13,000	220,000	.....
65	7/28/02	2:45	148	19	M	Normal.	7000	105 days	5 days	1.063	75.0	5,293,000	11,000	.....	207,000
66	7/28/02	11:45	140	19	M	Normal.	7000	18 years	46 days	1.060	83.0	5,440,000	9,000	.....	60,000
67	7/28/02	5:30	131	32	M	Normal.	7000	6 years	10 days	1.060	....	5,093,000	9,000	.....	407,000
68	7/29/02	10:30	120	28	F	Normal.	7000	6 years	42 days	1.060	75.0	4,773,000	10,000	.....	227,000
69	7/29/02	5:00	135	52	F	Normal.	7000	60 days	32 days	1.062	....	5,391,000	10,000	391,000	.....
70	7/30/02	10:00	104	40	F	Normal.	7000	2 days	25 days	1.061	78.0	4,942,000	10,000	.....	58,000
71	7/31/02	4:15	145	32	M	Normal.	7000	6 years	8 days	1.062	81.0	5,581,000	12,000	81,000	.....
72	8/26/02	4:00	115	30	F	Normal.	8000	9 years	60 days	.....	....	5,782,000	11,000	782,000	.....
73	8/29/02	11:30	120	56	M	Normal.	8000	.....	9 years	.....	....	5,417,000	7,000	.....	83,000

than above, and this notwithstanding the fact that several must have been influenced by a temporary rise due to the increased elevation of 2,000 from Albuquerque to Camp Whitcomb.

Several of the above cases require comment. Case 56 has been at the higher altitude only thirty days, and therefore had not had sufficient time to pass through the altitude phenomena and return to normal. Cases 57, 58, 59, 62, 64, 67 and 70 were also at the increased elevation during the periods varying from 8 to 30 days, and would likewise be affected by the temporary increase due to a change of altitude. Five of the above cases show blood counts above normal, as was to be expected. It may be mentioned that five of the total number of cases were tuberculous, two of which, however, showed no bacilli. Such cases frequently vary from the normal in their blood counts. They should, however, be affected by the altitude factor in the same way as healthy subjects. If, then, the cases be taken as a whole, they show a substantially normal condition, and support the view that high altitudes have no permanent effect on the number of red corpuscles.

The factor of temperature change has not yet been considered in this discussion. As has been indicated elsewhere,[1] this factor plays an important part in the altitude phenomena as related to the blood. It is there shown that a fall in temperature produces the same effect as an increase in altitude; also, that winter counts are, as a rule, higher than counts made in summer.

If the above data are viewed in the light of these results, it becomes evident why the rabbits taken from a higher altitude did not show a fall in the number of red corpuscles when transferred to lower levels. In both these experiments it happened that when the animals were taken to the lower altitude a considerable fall in the temperature took place; this made the temperature conditions nearly the same in both places, with probably a fall at the lower altitude. Likewise, in the examinations of human subjects recorded above, the temperature factor plays an important rôle. The counts in Table 3 were all made during the warm months of July and August, and therefore show figures lower than would have been obtained during the winter months. They are therefore lower than might have been expected from a consideration of the altitude principle as shown in Curve 1.

From the data presented here we may conclude that the increase in the number of red corpuscles due to an increase in altitude is temporary, and that after the lapse of several weeks the blood counts again become normal. It is believed that the temporary increase is due very largely to the change in the temperature factor, and not to the diminished barometric pressure, as is generally held.

1. Paper to appear in the American Journal of the Medical Sciences.

AMERICAN TRAVELING MEDICAL SCHOOLS.—After referring to the traveling post-graduate schools, which we have recently mentioned as being a feature in Germany, the *Medical Standard* says: "In America we already have hundreds of traveling medical 'schools.' Here the practitioner's school is the medical society, which is multiplying with astonishing rapidity. Few medical men are outside of the influence of one or more of these organizations. The county and district societies are frequently attended and addressed by our most distinguished physicians, who often seize these opportunities to demonstrate their clinical methods. In this manner the country practitioner is kept in close touch with the leaders in the profession."

A CASE OF BRAIN ABSCESS

DUE TO LATENT TYPHOID INFECTION; OPERATION; DEATH FROM CARDIAC COMPLICATION.*

G. W. McCASKEY, M.D.
Professor of Clinical Medicine, Fort Wayne College of Medicine.
AND
M. F. PORTER, M.D.
Professor of Surgery and Gynecology, Fort Wayne College of Medicine.
FORT WAYNE, IND.

MEDICAL HISTORY AND DIAGNOSIS BY DR. M'CASKEY.

The following case was referred by Dr. G. M. LaSalle of Wabash, Ind., Sept. 20, 1902:

A. T., laborer, aged 44. His health had always been good up to the time of his present illness, excepting that three years ago he had his nose broken on the left side by a vicious sheep which butted him with its horns. He was not entirely unconscious, but was severely stunned and the nasal bones badly broken, but he apparently recovered from the injury without incident. He said that his present trouble began three months ago, but close questioning elicited the fact that there had been a variable amount of head pain for about five months, which was mostly in the right eye and over the right side of the head. This head pain, undoubtedly, was the initial symptom of the brain lesion which will be described, and gradually increased in severity, so that he had at different times to stop work for a few days because of it.

Three months ago his attention was first attracted to a tingling sensation in the left hand, which was quite persistent, and about the same time noticed that the fingers of the left hand were very weak and evidently somewhat contractured, as he said they were partially closed all the time and that he could not completely open them. This had undoubtedly been preceded by slight paretic weakness, as at that time he would frequently drop things that he was holding in the left hand if of any weight.

He continued at his work, that of straightening sheet iron with a heavy sledge, for about two weeks, when he became disabled and remained so up to the time of my examination. The left hand had grown progressively weaker, until one week prior to my examination, when the weakness increased very rapidly. At that time he had considerable use of this extremity and could raise the hand up over the head, but the paralysis had increased so rapidly during that week that the hand was entirely immobile, the patient being scarcely able to move the fingers. The left leg had also become decidedly weak, and at the date of examination was unable to sustain the weight of the body. Critical examination of the face showed that the motor power of the left side was distinctly less than that of the right, although it was not easily discernible, and was, in fact, very slight.

Four weeks before coming under observation he had a sudden discharge of what, from the description given, was apparently pus from the naso-pharynx. The quantity was quite large and was estimated at from four to five ounces, although the exact quantity was, of course, quite uncertain. This was followed by marked relief of pain, and several times since then there had been slight discharge of a similar material followed by some amelioration of head pain.

The left forearm was persistently flexed on the arm, but by gentle continuous pressure could be completely extended. There was very slight deviation of the tongue to the left; or more correctly speaking, he was unable to push it as far to the right as he could to the left. There was exaggerated knee-jerk and elbow jerk on the left side. The pupils were symmetrical, perhaps a little small, but responded promptly to both light and accommodation.

His hearing was not acute, the hearing distance for a watch being fifteen inches for the right and sixteen for the left, and there had also been double sided tinnitus for a year or more, but the impairment of hearing and "ringing in the ears" were both attributed by the patient, and perhaps correctly, to the deafening noise of his occupation.

The visual fields were perfectly normal in outline and the senses of smell and taste were unimpaired.

There was no optic neuritis, but a distinct increase in the vascularity in the retina on the left side as compared with right. This condition, falling short of optic neuritis, I have several times found, and in examination of some of these cases by oculists but little importance has been attached to it, but I believe that it is a phenomenon entitled to careful consideration. In this case there was every reason to believe that it was the result of the intracranial lesion.

An incident in the case worth noting was typical alopecia areata of about five years' duration.

The analysis of urine revealed nothing of importance. Blood examination showed 6,000 red cells with 90 per cent. of hemoglobin and 13,500 white cells. The increase in leucocytes was made up principally of neutrophiles.

Co-ordination of the eye muscles was perfectly normal, the muscles of mastication were equally strong on the left side as far as could be determined. The patient read ordinary type with either eye without difficulty.

The diagnosis of brain abscess was made, and operation advised and accepted. The patient was operated on September 27 by Dr. M. F. Porter, who, at my request, uncovered the brain cortex at the level of the arm center from just in front of the Rolandic fissure forward, the opening being about one by two inches. This area was selected because of the possible relationship of the injury of three years ago, the pain in right eye, the probable discharge of pus through the cribriform plate of the ethmoid bone, and the certain involvement of the motor zone, as it gave freer access for exploration of the parts thus indicated. The accompanying cut shows the location of the abscess as nearly as it can be determined from the operative procedure, which will be described by Dr. Porter.

Following the operation the patient progressed favorably, there being, as expected, an increase in the paralysis from the operative traumatism. About three or four days after the operation, the patient complained of a little oppression in the upper portion of the chest. His somewhat constrained position rendered necessary from the operative procedure would cause some discomfort, and not much stress was laid on the symptom, although I did examine the chest once with negative results. About 11:30 a. m., October 5, seven and three-quarter days after the operation, after finishing his dinner, he suddenly complained of feeling very ill, became pallid with labored breathing and tumultuous heart action, and almost immediately became unconscious. He was seen by Dr. Porter and myself within twenty or thirty minutes, at which time he had rallied somewhat, the pulse being small and irregular, but he had a dazed expression and the breathing and heart action were still labored, so much so in fact that the heart sounds could not be analyzed at all. A careful examination failed to show any signs of unusual brain disturbance. There was no increase of paralysis, the pupils were symmetrical and normal in size and reaction, the heart disturbance with resulting respiratory embarrassment being the only symptom, to which might be added, perhaps, the temporary unconsciousness and subsequent dazed condition, both of which were undoubtedly the result of an embarrassed heart.

No autopsy would be permitted, but death was due to an acute cardiac lesion very possibly related to the septic process of the brain, probably a septic endocarditis with cardiac atony from toxemia. An antemortem blood clot probably formed in the heart, and perhaps had been

* Read before the Northern Tri-State Medical Society, Butler, Ind., Jan. 20, 1903.

forming for several days unrecognized. The clinical picture was that of sudden heart failure from such a cause. I have made autopsies in two cases in which death occurred under very similar circumstances; antemortem clots were present in both.

Examination of the pus obtained from the brain showed a profusion of rod organisms with the usual microscopic characteristics of pus. No other organisms were found. On careful cultural experiments the organisms showed all the characteristics of the Eberth bacillus, and bacteriologically could not be labeled anything else. No history of typhoid fever could be obtained, but it is well known that many cases of typhoid fever are very mild, and it is more than probable that the patient had been the victim of such an attack which passed under some other name. The typhoid fever organism is well known to be pyogenic in character and has been known in a number of instances to remain latent in the organisms for years and later become virulent with the production of local suppurative or other morbid processes.

The possible relation of the injury on the left side of the nose three years before the examination is a point worth considering. From the history given, the injury appeared to be exclusively to the left of the median line. It does not seem probable that there



Diagram of right lateral surface. Large heavily shaded area indicates locations of abscess cavity. Small heavily shaded spot, a point at which pus was found in small quantities. Dotted line, area of brain uncovered by surgeon—about 1 by 2 inches.

could have been any actual brain injury excepting by transmitted force. If the infection had been a streptococcus or some of the other more common pyogenic organisms, the possibility of the local infection traveling from the side of the injury to the brain would be more plausible. But it would certainly seem as though the infection must almost necessarily reach the corresponding side of the brain, rather than the opposite one if such a relation existed. The presence of the typhoid bacillus, furthermore, seems to exclude a local infection of this character. That there may have been some contusion of the brain from the injury which lowered the resistance of the brain tissue and made it a prey to the pyogenic processes of the organism which in some manner found its way there is quite possible. Unless such a latent injury can be assumed, and the history at the time of and following the injury does not give the slightest indication of such an injury, the case must be looked on as strictly one of the so-called idiopathic type developing from a latent typhoid infection of unknown date and origin, the latter being in either event sufficient cause for the abscess.

OPERATION AND REMARKS BY DR. PORTER.

Mr. A. T. was operated on at the request of Dr. G. W. McCaskey, on Sept. 27, 1902, at St. Joseph's Hospital.

The scalp was prepared in the usual way. Dr. E. V. Sweringen anesthetized the patient, using ether. A horseshoe-shaped flap was turned down and a section of bone one by two inches removed by the use of the trephine, Gigli saw and De Vilbiss' instrument. A crucial incision in the dura was made and the flaps reflected. Nothing abnormal could be discovered by sight or touch. A small trocar and canula inserted in various directions discovered nothing until a thrust was made in a downward and backward direction at the posterior extremity of the opening in the bone, when the point of the instrument appeared to have entered a cavity, whereupon the trocar was withdrawn and a few drops of pus flowed from the canula. Using the canula as a guide the opening was enlarged and a small soft rubber drain introduced. Thinking the amount of pus removed insufficient to account for all the trouble other areas were explored and we were finally rewarded by discovering a cavity not larger than a pea located at the anterior internal aspect of the uncovered area. This was drained by a strip of gauze. The posterior cavity was about an inch beneath the surface and the anterior one about one half or three-fourths of an inch beneath. All told I do not think the quantity of pus from both cavities would reach 2 drams. The bone was not replaced, the flap was turned back and sutured, leaving only enough opening for the drain. The operation was not followed by shock or any untoward symptom save a slight increase in paralysis such as was expected.

The unhappy ending of the case was, in my opinion, in no wise the result of the operation. This is not the first case in which the exact location of a subcortical lesion was first made known to me by exploratory puncture. A sudden change in the resistance offered to the progress of the instrument, even though slight, is easily appreciated. Had I been using a probe or a needle in this case I would have felt perfectly justified in enlarging the openings, for the sudden lack of resistance offered to the trocar was what first made me aware of the location of the cavities.

On another occasion[1] a subcortical tumor was located because of the increased impediment offered to the progress of the exploring needle by the capsule of the tumor. Exploration by this means is, if carefully done, almost without danger. One's anatomic knowledge should keep him from puncturing large vessels or the floor of the fourth ventricle. Vessels of lesser size may be avoided if, when the needle is arrested by their coats, it is slightly withdrawn and its direction slightly changed. It is to be regretted that no autopsy was allowed.

SHOCK PRODUCED BY GENERAL ANESTHESIA,

WITH RELATION TO DISTURBANCES OF THE BLOOD AND GASTROINTESTINAL TRACT.*

FENTON B. TURCK, M.D.
CHICAGO.

Shock as a result of simple anesthesia in the absence of trauma, hemorrhage or fright has not been carefully worked out. The term "shock" is unscientific. It is the clinical expression for a group of symptoms, the result of failure of important functions of the body, as those of circulation, respiration, excretion and secretion, and general metabolism. A lowered bodily temperature is a more or less constant phenomenon. Shock is intimately connected with the nervous mechanism.

1. THE JOURNAL A. M. A., Jan. 25, 1902.

* Read before the Chicago Academy of Medicine, January, 1903, and Chicago Medical Society, March 4, 1903.

In studying shock from anesthesia it is not only essential to consider the specific toxin of the anesthetic used, but the resulting toxic bodies generated through the immediate or more remote influence of general anesthesia. Shock can not, therefore, be expressed in a single definition. The phenomena of shock are so complex that in experimental work on animals it is necessary to study each condition separately, and compile the associated facts obtained and compare them with clinical experience.

The present paper deals with (1) the consideration of the anesthetic as a cellular poison; (2) the disturbances of function as a result of the anesthesia; (3) the toxins that are evolved either from the direct effect of the anesthetic or the disturbances of certain functions of the body.

In experiments on dogs with chloroform and ether, we have not determined the direct toxic effect on cells, as this has been done by numerous observers. Sabaarth,[1] in 1866, reported 119 cases of death from chloroform anesthesia, only 48 of which were due to the toxic effects of chloroform. This led Nothnagel[2] to study the pathologic effects of chloroform and ether on the various cells of the body. Rabbits were chiefly used, and the anesthetics were employed by inhalation, by subcutaneous and intraperitoneal injections, and by direct introduction into the stomach. Doses of different size and at varying intervals were employed. The pathologic findings showed overwhelming evidence of the specific toxic effects of chloroform and ether on cells, whether the animal died from anesthesia or not. Waller's[3] research on isolated nerves showed that their electrical reaction is suspended, or ceases permanently, according to the percentage of chloroform used, and the time of exposure.

In experiments on animals I have frequently noticed that some animals would show evidences of shock more readily than others of the same species, and that even with the most trivial manipulations under anesthesia the animals would die during the same night, the following day or the second day after. They would show all the evidences of shock, as a fall in blood pressure, respiratory failure, lowered temperature, loss of sensation to a greater or less degree, and failure of the excretory organs. This led to the investigation of the question of shock from anesthesia without surgical operation.

METHODS OF OBSERVATION.

Dogs were selected, as they appear more resistant to the after-effects of anesthesia than rabbits and guinea-pigs. Chloroform and ether were used; sometimes they were combined or used alternately. The animal's temperature, pulse and respiration were observed before, during and after the anesthesia, and they were observed sometimes at intervals for forty-eight hours thereafter. The maximum blood pressure was determined, comparisons made, and changes in the blood serum were noted. The condition of the motility of the stomach and intestines was observed. A study of excretion and secretion was made. Where death occurred, a postmortem examination was made. Where shock was evident, the abdomen of some of the animals was opened under local anesthesia. The condition of the splanchnic circulation was determined by direct inspection before external factors brought about any changes, such as might be produced by air, room temperature and manipulations. The serum was secured in some immediately, and in other cases twenty-four hours after anesthesia, by the usual method of bleeding the animal in order to observe any changed condition and its toxic properties. The mucous membrane of the stomach and intestines was dissected out, and both mucosa and muscularis were chopped up separately, to determine the presence of the anesthetic used, by distillation and appropriate tests. The length of time of the anesthesia ranged from one to six hours. A distinction was noted between the immediate or primary effects and those that were remote or secondary.

The conclusions that can be drawn from the details of the experiments made on animals under chloroform or ether are that where shock is produced it does not materially differ from the shock that results from trauma. The most constant pathologic factor is failure of circulation, and this is especially expressed in splanchnic congestion. The failure of temperature and respiration has been considered to be the result of vascular failure, with the corresponding fall of blood pressure.

It will be seen, however, by referring to the Protocols 13 and 15 that the temperature fell several degrees after the injection of the serum, while the blood pressure did not always show a corresponding fall.

Wilson[4] holds that death following chloroform and ether anesthesia is always due to a failure of circulation, and this failure renders the nutrition of vital centers impossible. This would seem to imply that we are dealing with a question of time and degree of circulatory disturbance. White[5] echoes the universal clinical observation that anesthesia always adds to shock. But it is not always recognized that shock itself is often produced by the general effects of anesthesia without trauma, hemorrhage or other etiologic factor.

Kirk[6] has shown experimentally that irregularity of the heart and syncope occur in animals after the last drop of chloroform has left the blood; and it is well known that chloroform and ether may be found in the urine as long as a week after the anesthesia. Horsley[7] demonstrated that death arose from shock to the medullary centers, and that the question of dosage was more of time than amount. The evidences of vomiting, long-continued after anesthesia, are associated with severe circulatory depression, and not infrequently syncope. Ceccherelli[8] experimented on animals with chloroform to determine changes in body temperature, and Angelesco[9] carried out similar experiments with chloroform and ether. They found the fall in temperature was in direct relation to the disturbance of the circulation; that where blood pressure fell rapidly the temperature might fall from three to four degrees F. On the other hand, improved respiration and circulation caused an improvement in the temperature. Duplay and Hallion[10] demonstrated by experiments on dogs, with chloroform and ether, that there was always a fall of pressure under chloroform, also with ether, where the medullary centers were deeply narcotized. From the animals experimented on they concluded that if the failure of the circulation was the direct result of the respiratory failure, as a result of anesthesia, then we ought to expect prompt recovery from the syncope under artificial respiration. But this was not borne out in these experiments. Hill[11] concludes that chloroform paralyzes the splanchnic vasomotor tone, and, at the same time, diminishes the respiratory pump, and shock or fear, he claims, acts like chloroform by its tendency to abolish the compensatory mechanism for the hydrostatic effect of gravity. Hare[12] holds that in overdoses the heart and respiratory centers are paralyzed, and that in the usual proper doses chloroform produces death in the same manner as hemorrhage does, that is, by failure of the respiratory center, because it is deprived of blood, and a pulse failure because the heart has no blood to pump with.

Bland,[13] in comparing the effects of ether and chloroform, shows that chloroform invariably causes a fall in blood pressure, while ether does not except at the end of anesthesia and after narcosis. Hewett[14] claims that surgical shock will occur more readily under ether than chloroform.

The explanations that are usually given for the complex symptoms found in shock from anesthesia can not be explained by the simple failure of blood pressure and respiration, but there appear to be some direct toxic bodies formed that are found in the blood serum. The injection of the serum from animals that have shown evidences of shock produces many of the symptoms manifested in shock, which include loss of sensation, general malaise, marked fall in blood pressure, stertorous respiration and, what is generally more significant, rapid fall in blood pressure. (See protocols.)

Kast and Mester[15] are of the opinion that the blood contains the products of disturbed metabolism, for they found that after prolonged narcosis in healthy individuals a continued disturbance in metabolism of albuminous substances occurred, similar to that in phosphorous poisoning. Becker[16] of Bonn states that there is found in the majority of healthy persons acetonuria of varying duration after narcosis. Boyer[17] found cases of acetonuria with coma and death in from twenty-four to forty-eight hours after operation.

These observations would seem to prove that there are poisonous substances or toxins produced in the serum. The question, however, becomes more complicated when it is remembered that there is a deficiency in elimination, and therefore a retention of toxins. This may be inferred from the experiments of Galeazzi[18] and Grillo with methylene blue. They conclude that the anesthetic lessens the elimination of toxic substances, just as it lessens the elimination of methylene blue. Kemp[19] found that ether causes a rise in blood pressure in the carotid artery, followed by a fall, the urine becoming scant and containing albumin soon after the commencement of the fall in pressure. A similar phenomenon was observed after chloroform; the fall was more gradual, and secretion from the kidneys lessened as the circulation was depressed. Eisendrath[20] found cylindroids and other evidences of damage to the kidneys after anesthesia.

It is clearly evident that the toxicity of the blood may be increased through toxins elaborated by the direct effect of anesthesia, and by the retention of poisonous toxins which are normally excreted.

It is now well recognized that the blood serum normally has the power to neutralize to a greater or less degree toxins that circulate in the blood. One of the important properties of normal serum is its antiferment action, which is shown by the work of Firmi,[21] Roden[21] and Morganroth.[21] Landsteiner[21] shows that the normal blood weakens the fermentive action of pepsin, and Simniczki[22] follows up this work and demonstrates that blood serum has an antiferment action on papayotin; and also, that alcohol weakened or destroyed entirely this antiferment action of the blood.

The writer found that mixing chloroform and ether with normal blood serum lessened the antiferment action of the serum on trypsin in egg albumin. This was demonstrated by the following method: Blood serum was mixed with chloroform and ether and kept in an incubator, after which the narcotic was driven off from the serum, and the serum then mixed with one to two grains of pancreatin and a disk of egg albumin, which it digested completely, while the normal blood serum unmixed with chloroform and ether only softened the disk.

We must conclude that not only the chloroform or ether may possess this property, but an alteration in metabolism may generate a substance that counteracts the antiferment action of the blood.

OBSERVATIONS ON THE BLOOD SERUM.

We next consider the antiferment action of normal serum as compared with serum from animals that have shown symptoms of shock after anesthesia. In the following observations of the relative antiferment action of the sera, the Mett method was used. This consists of simply aspirating egg albumin into a capillary glass tube, 1 to 2 mm. in diameter, and allowing the albumin to coagulate in the tube at a temperature of 95 C. The tube is divided into short lengths and dropped into 2 to 5 cm. of the sera under investigation, with the addition of pancreatin or carica papaya. This is placed in an incubator at 37 C. After a period of twelve hours the tubes are taken out and the length of the undigested column of egg white is measured off by placing on a small glass millimeter scale under a low-power microscope. The difference between the length of the column of undigested white of egg and the length of the tube gives the degree of digestive power of the fluid. The sera into which the lengths of tubes with their albumin contents were dropped were prepared by taking from 2 to 10 c.c. of blood serum from dogs that had been anesthetized and mixing it with 15 decigrams of pancreatin or carica papaya, and this was controlled with normal sera prepared in the same way, the Mett method being then put into practice, as described above.

The following tables show the relative degree of inhibition of the sera to the action of the ferments of normal dog serum, as compared with the sera from animals that have been under chloroform or ether anesthesia.

In order to show the direct effects of chloroform and ether on normal blood serum, the following tables show the findings in a number of experiments performed. The anesthetic was mixed with normal serum and allowed to remain two to three hours, after which the anesthetic was driven off by heat at a temperature of 45 C., aided with a vacuum.

AFTER TREATING WITH CHLOROFORM.

Serum and Pancreatin Mixture.	Digested 10 Hours. Serum and Carica Papaya Mixture.
5 c.c..... 6.1 mm.	5 c.c..... 4.1 mm.
2 c.c..... 8.2 mm.	2 c.c..... 7.2 mm.
3 c.c..... 7.1 mm.	3 c.c..... 4.3 mm.

AFTER TREATING WITH ETHER.

Serum and Pancreatin Mixture.	Digested 10 Hours. Serum and Carica Papaya Mixture.
5 c.c..... 5.1 mm.	5 c.c..... 4.4 m.m.
3 c.c..... 3.1 mm.	3 c.c..... 5.6 mm.
4 c.c..... 6.1 mm.	4 c.c..... 5.8 mm.

NORMAL SERA.

5 c.c..... 3.2 mm.	5 c.c..... 2.4 mm.
2 c.c..... 2.1 m.m.	5 c.c..... 1.5 mm.
4 c.c..... 2.2 mm.	

PANCREATIN, FIFTEEN DECIGRAMS.

Time Animal Was Under Anesthetic.	Time Animal Was Under Anesthetic.
6 hours..... 9.0 mm.	1 hour..... 3.4 mm.
6 hours..... 8.4 mm.	1 hour..... 4.3 mm.
4 hours..... 7.4 mm.	

CARICA PAPAYA, FIFTEEN DECIGRAMS.

Time Animal Was Under Anesthetic.	Time Animal Was Under Anesthetic.
6 hours..... 8.8 mm.	1 hour..... 4.7 mm.
6 hours..... 8.6 mm.	1 hour..... 4.1 mm.
4 hours..... 8.7 mm.	

The blood serum of these animals experimented on also showed a marked hemolytic effect. After shock was evident from anesthesia and the animal was bled, the blood frequently showed a tendency to lake, and this was also noticed where a considerable amount of serum was

injected into an animal, the blood showing the same tendency. The following observations show this more definitely:

The serum from an animal that had been five hours under anesthesia, in shock, showed 15 per cent. hemoglobin. When fresh blood was added and centrifuged, the serum showed 50 per cent. hemoglobin.

Blood serum taken from a dog that had been six hours under anesthesia; hemolysis shown in the serum after standing eight hours; 4 c.c. of this serum added to 5 c.c. of fresh blood produced laking immediately in the test tube; .015 of blood in 4 c.c. of serum also produced laking. Hemoglobin in serum, 10 per cent.; after adding fresh blood and centrifuging, it was raised to 15 or 20 per cent.

Microscopic slide irrigated with shock serum and one drop of normal blood; placed in incubator; shadow corpuscles formed.

Agglutinization.—Serum from an animal that had been under anesthesia for three hours; one drop of blood under slide irrigated with serum showed immediate clumping. When blood from an animal six hours under anesthesia was used, the same condition was observed after the fourth and fifth dilutions.

Precipitins.—Immediate coagulations of blood have been frequently noted after prolonged anesthesia when the blood was withdrawn. One drop of normal blood added to 5 c.c. of sera showed coagulation within two minutes after having been placed in incubator. Equal parts of shock serum with normal blood showed immediate clotting of the whole mass.

The following condensed table represents the effect of serum taken from dogs which had been under the influence of chloroform or ether from one to six hours:

SERUM FROM CHLOROFORM.

	Hemolysis.	Agglutination.	Precipitins.
6 hours	Positive.	Positive.	Positive.
5 hours	Positive.	Positive.	Positive.
4 hours	Positive.	Positive.	Negative.
2 hours	Slight.	Plus minus.	Negative.
1 hour	Slight.	Negative.	Negative.

ETHER.

	Hemolysis.	Agglutination.	Precipitins.
6 hours	Positive.	Positive.	Positive.
5 hours	Positive.	Positive.	Positive.
4 hours	Positive.	Positive.	Positive.
2 hours	Slight.	Negative.	Negative.
1 hour	Not constant.	Negative.	Negative.

These experiments suggest the explanation of the cause of death in animals that have been in shock from the after-infection with saprophytic germs, which, without the shock, would have proven negative. Experiments made by the writer,[23] which have been previously published, show that the *Staphylococcus albus, Staphylococcus pyogenes aureus,* and the colon bacillus were equally prompt and positive in their toxic effects when injected after shock. The *Staphylococcus albus* and colon bacillus, when injected into normal animals used as controls in these experiments, gave negative results.

EFFECTS OF CHLOROFORM AND ETHER ON THE STOMACH AND INTESTINES.

We have still to consider another source of toxemia and irritation that follow the use of anesthetics when administered only for a short period. I refer to the disturbances that arise from the gastrointestinal tract following narcosis. That anesthesia from chloroform or ether interferes with the functions of the stomach and intestines is, I think, admitted by all clinicians, but just what disturbances occur is not always made clear. These disturbances include those of motility and secretion, as the direct result of the anesthesia and the splanchnic congestion.

The local effect of the anesthesia is shown in the following experiment:

The animal's esophagus was plugged to prevent the swallowing of chloroform or ether, and this was found to be quite as effective as tracheotomy for the purpose of administering the anesthetic through the tracheal opening. On examining the stomach through a fistula, previously produced and after gastric lavage, there was found an initial increase in the flow of hydrochloric acid, followed later by a diminished production of hydrochloric acid and ferments and the formation of a large quantity of mucus, which is always the product of irritation. Chloroform and ether were found in the wash water, they being recovered by distillation and the usual tests.

The fact that local irritation causes an initial rise in the formation of hydrochloric acid was first noted and published by the writer in 1894.[24] It was subsequently demonstrated by him in 1895[25] and in 1896,[26] and can be found by referring to the literature of his experiments with nitrate of silver, tannic acid, mustard and many other substances used in experimental acute and chronic gastritis. This initial rise in the formation of hydrochloric acid and pepsin was invariably followed by a decrease in their formation, and a corresponding increase in the formation of mucus, until subsequently no hydrochloric acid or ferments were secreted. It is, therefore, surprising to find that Pawlow[27] of St. Petersburg, in his recently published work, claims that these phenomena were first observed in his laboratory, and were the result of the observations of Sawrieu,[28] in 1900, which is six years after my observations, published both in this country and Europe.

It seemed desirable to determine whether the mucous membrane of the stomach and intestines contained ether or chloroform after anesthesia. To demonstrate this point, mucous membranes and muscle walls were examined separately. The stomach was washed out after a narcosis of two or three hours' duration, and the mucous membrane dissected from the muscle walls of both stomach and intestines. These were placed in separate receptacles and finely chopped. After thorough maceration, the products were distilled, and it was found that both muscle walls and mucous membranes contained a considerable amount of the anesthetics used. (The chloroform test is benzoisonitrile, C_7H_5N.) Ether was detected after distillation by the odor.

With both chloroform and ether, even after one hour's anesthesia, there was a distinct reaction for both found in distillation, but after two hours it was much more marked and distinct, and where six hours' anesthesia was used, the reaction was very much increased. In some of the experiments the mucous membrane was removed several hours after the effects of the anesthesia passed off, and still the anesthetic could be detected in the mucous membrane. The irritating effects of these would seem to account for the large amount of mucus produced, which is referred to above.

The writer has also found that constant irritation of the mucous membrane with substances, such as ether and mustard, if continued for any length of time, or if large enough in quantity, produced marked disturbances of the circulation. This was demonstrated in the experiments reported in my paper,[29] read before the American Gastro-Enterological Association, at Washington, D. C., in 1900. This is in conformity with the observations of irritations of mucous membrane that may affect the heart and circulation reflexly. Kionka[30] found that ether ex-

ercises an irritating action on all mucous membranes, even on those with which it has not been brought in direct contact. Guinard,[31] by experimental research in narcoses, found that any irritation of the intestines caused by reflex action arrested respiration and circulation. Guirni[32] observed that irritation, which may arise from mucous membranes affecting the pneumogastric and other nerve filaments, is more strikingly observed when the nasal mucous membrane is irritated, and may cause an inhibition of the heart's action. Rosenberg[33] suggested the application of 10 per cent. solution of cocain to prevent this irritation. It was suggested to the writer to use applications of cocain over the area of the stomach and intestines, with a view to blocking the irritation that might arise from the anesthetics.

Meyer and Prebrium,[34] in 1873, showed the reflex effect of gastric irritation on the heart, causing inhibition.

When it is remembered that vomiting and disturbance of the circulation are usually associated with anesthesia, and that the removal of the ether from the stomach by lavage will check the vomiting and frequently stimulate the depressed circulation, it is evident from both scientific and clinical observations that this reflex irritation is a very potent factor in the production of the symptoms of shock following anesthesia. This is strengthened by the observations of Brunton,[35] who found that chloroform taken internally produces vomiting, and that even though coma and death be averted, the irritations of the stomach and intestines continue and produce the evidences of circulatory depression analogous to shock.

It is therefore evident that the atony which is noticed clinically may have some relation to the degree or quantity of anesthetic that is found in the walls of the stomach. The anesthetic used and the resulting toxic condition may act similarly to the toxic effect of fatigue stuff. This, with the effect of the anesthetic on the nerve centers, producing splanchnic congestion, may account for the lack of motion in the stomach and intestines. This atony results in the accumulation of gases in the stomach, and gases that are found normally in the stomach will distend it when the tone of the muscle wall is diminished or lost. Experimentally, through a gastric fistula, with the pylorus and cardia tied off, I have found that after the stomach has been emptied of its gases, the formation of gas in the stomach continues, which could not have been the result of fermentation, but must have been due to the gases from the blood. The great distension that is sometimes noted soon after prolonged anesthesia produces considerable effect on the splanchnic circulation.

Meyer and Prebrium[35] observed that distension of the stomach caused a rise in blood pressure. The writer's observations, previously published, were that the initial rise was followed by a fall in blood pressure, especially if the distension was chronic or prolonged. The disturbance of the circulation, as the result of atony and distension, must constitute a very important factor in anesthesia, and as long as there is a disturbance of the splanchnic circulation we must expect a disturbance of the motor power of the stomach and intestines.

It must also be remembered that where there is a lack of motor power with retention the excretion of chloroform and ether into the stomach seems to increase the toxicity of the stomach contents. From this we would deduce the observation that chloroform and ether either form a new compound or have the power of dissolving out the toxic principles that are readily absorbed. The injection of the normal stomach contents does not produce such toxic effects up to 40 c.c.; whereas in atony of the stomach, especially after chloroform or ether anesthesia, the toxicity of the stomach contents is markedly increased. The increased bacterial growth and the formation of toxins in gastric atony have been repeatedly shown in the author's literature of the past eight or nine years.

SUMMARY.

The complex clinical picture of the after-effects of chloroform or ether anesthesia is made more clear by experimental research, from which we may deduce the following facts:

1. The circulatory disturbance is a direct result of the chloroform or ether acting on the vasomotor centers.
2. The prolonged effect of chloroform and ether on the splanchnic circulation results in congestion associated with fall in temperature. Temperature may fall without fall in blood pressure.
3. The direct effect of the toxins of chloroform and ether acting on cells, with disturbance of metabolism, may produce toxic products.
4. The resulting elaboration of toxins produces symptoms of "autointoxication," associated with the formation of hemolytic and agglutinating bodies, and precipitins.
5. Indirect toxic effects result from retention of toxic products through disturbances of elimination.
6. There is lessened resistance of the blood serum to normal excreted toxins.
7. There is lessened resistance of the blood serum to bacterial toxins.
8. There is diminished resistance to the development of saprophytic and pathogenic micro-organisms.
9. This may be partly explained by the changes observed in the sera, such as diminished antiferment properties, hemolysis, agglutination, precipitins, etc.
10. That reflex effects result, such as reflex irritation set up by the excretion of the anesthetic into the stomach and intestines.
11. As the result of atony there is the formation of toxins in the stomach and intestines through bacterial growth.
12. Atony of the stomach and intestines results in the accumulation of gases and interference with the circulation.
13. There is increased toxicity of the stomach contents in the presence of chloroform and ether.

PROTOCOLS.

EXPERIMENT 1.—Dog; fox terrier, mongrel; weight, 11 kilograms. Ether anesthesia, by inhalation. Rectal temperature, 39 C. Time, six hours. Maximum blood pressure obtained by the modification of a Riva-Rocci "tonometer," 130-140 mm. At the end of three hours temperature 36.1 C. Blood pressure, 90-95. At the end of four hours the rectal temperature was 35 and the blood pressure 70. At the end of five hours blood pressure is 65-70. The rectal temperature 35. Six hours, 60-70; rectal temperature, 34.8.

Anesthesia removed. Twenty-four hours after: Blood pressure, 110; rectal temperature 36.5. Animal bled from carotid; coagulation prompt.

EXPERIMENT 2.—Dog; curly, black mongrel; weight, 20 kilograms. Rectal temperature, 39 C. Ether anesthesia, by inhalation. Time, six hours. Ether removed at intervals, and as soon as dog showed evidence of recovery, the anesthetic was again administered. After four hours, the animal showed marked depression. Rectal temperature, 36 C. Respirations weak. Anesthetic removed. After four hours and thirty minutes, slight movements, but no return of consciousness. Reflexes returned. After four hours and forty-five minutes, animal awoke. No activity. Rectal temperature, 35.8 C. After five hours and ten minutes, anesthetic administered. Rectal temperature 35.5

C. Shallow respiration. Five hours and twenty minutes, anesthetic removed. Marked depression. Five hours and fifty minutes, anesthetic administered until sixth hour. Rectal temperature, 35.2 C. Respirations shallow; blanched surface; gums pale; rapid, weak pulse.

Animal put in warm place; twelve hours after the removal of anesthetic, rectal temperature was 36.5 C.

Clinical symptoms of "shock." Refuses to eat; will drink; very listless; extremities cold; weak, with occasional trembling. Again placed under ether. Carotid opened, and secured 850 c.c. of blood, which shows rapid coagulation.

EXPERIMENT 3.—Dog; curly, black; weight, 16.2 kilograms. Anesthesia, chloroform. Five hours. Temperature at the beginning was 38.3 C., by rectum. Blood pressure, 120. In one hour, temperature, 37.2. At the end of four hours temperature was 35. Anesthesia removed. Animal shows no sign of awakening. Four hours and thirty minutes after, temperature, 37. Chloroform was then used. Five hours, temperature 36. The animal was placed in a warm location. Twenty-four hours afterward temperature was 36.5. Refused to eat; marked depression; blood pressure, 90. The animal was bled; recovered 550 c.c. of blood. Coagulation prompt.

EXPERIMENT 4.—Dog; mongrel bull terrier. Ether. Weight, 18.5 kilograms. Blood pressure, 150. Temperature, 38.6, rectum. At the end of two hours, the blood pressure was 95 to 105. Temperature, 37. Four hours, blood pressure, 78; temperature, 36.1. Animal placed in warm place. Twelve hours after rectal temperature, 36.5; blood pressure, 90-95. Animal bled; recovered 380 c.c. Coagulation prompt.

EXPERIMENT 5.—Dog; black and white, mongrel; weight, 18 kilograms. Blood pressure, 140; temperature, 38.3. Chloroform. At the end of three hours, anesthetic removed; temperature 35.6; blood pressure, 90-100. Twelve hours afterward, temperature 37.5. Blood drawn, 500 c.c.

EXPERIMENT 6.—Dog, mongrel; weight, 17 kilograms. Blood pressure, 130. Temperature, 38. Ether anesthesia. At the end of two hours changed from ether to chloroform. Pressure, 100. Three hours, pressure, 80. Anesthetic removed. Twelve hours afterward, removed 600 c.c.

EXPERIMENT 7.—Dog. Chloroform anesthesia, two hours. Blood removed at once after the anesthesia. Recovered 650 c.c. Coagulation prompt.

EXPERIMENT 8.—Dog, mongrel pointer; weight, 12.5 kilograms Blood pressure, 130-140. Temperature, 38.5. At the end of four hours, blood pressure, 60-70. Anesthetic removed. Twenty-four hours, blood pressure 100-110; temperature, 37.2. Animal bled; 550 c.c. Coagulation prompt.

EXPERIMENT 9.—Dog, black setter; weight, 15 kilograms. Anesthesia, chloroform; two hours. Temperature, 38.5; at the end of two hours, 36. Removal of anesthesia one hour afterward; animal bled; 600 c.c. Coagulation.

EXPERIMENT 10.—Dog, white and black mongrel; weight, 9.5 kilograms Temperature, 38. Animal under anesthesia three hours. Temperature, at the end of this time, 36.1. Twenty-four hours afterward temperature 37.2; 600 cubic centimeters.

EXPERIMENT 11.—Dog. Anesthesia, chloroform; two hours. Temperature, 38.4. At the end of four hours, temperature 35.5. Blood removed the following day. Coagulation.

EXPERIMENT 12.—Dog, black and tan; weight, 6.8 kilograms. Ether, one hour. Temperature at the beginning, 39, and at the end of one hour, 37 7. Removed blood five hours afterwards. Coagulation not prompt.

EXPERIMENT 13.—Dog; weight, 15 kilograms; temperature, 38. Normal blood pressure taken at 11:20. Injection of blood serum from animal that had been five hours under anesthesia. Blood was removed one hour after the end of anesthesia: Injected into jugular vein, 11:20, 25 c.c. serum; 11:30, 15 c.c. serum; 11:35, 20 c.c. serum; 11:45, 25 c.c. serum. At 12 o'clock the temperature was 36.1; 12:20, 35. No marked fall in blood pressure; 12:30, 33.4; tongue pale; surface cold; marked twitching; 1:15, temperature inside the tissues, 33.2. Blood withdrawn, 700 c.c. Coagulated at once.

EXPERIMENT 14.—Dog, mongrel pointer; weight, 17 kilograms; 4 p. m., blood pressure, 140-145. Kymographic tracings. Anesthesia, chloroform. Injected serum from dog, removed twenty-four hours after anesthesia, which had been continued for six hours. Twenty minutes after this injected 25 c.c. of serum. 4:30 p. m., 50 c.c. of serum injected. Blood pressure, 110; 25 c.c. injected; blood pressure, 80. At 6:05 p. m., 30 c.c. injected; pressure, 57-60. Chloroform anesthesia changed to ether; blood pressure rose 20 mm. Again dropped to 50. Anesthetic was withdrawn, aseptic dressings applied, and dog put in a warm place. Result, death in six hours.

EXPERIMENT 15.—Dog, black and white mongrel; weight, 17 kilograms. One grain of morphine injected at 10 a. m.; 10:45, ether anesthesia. Normal record. Injected into jugular serum taken from a dog twelve hours after anesthesia which had lasted four hours. Rectal temperature, 39; 11 a. m., injected 10 c.c. of serum; 11:10, 20 c.c.; 11:20, 15 c.c.; 11:25, 10 c.c.; 11:30, 30 c.c.; 11:35, 30 c.c. Total amount of serum, 105 c.c. Temperature, 35.2. No marked fall in blood pressure Changed anesthesia to chloroform, with a marked fall in blood pressure.

EXPERIMENT 16.—Mongrel, placed under ether anesthesia; pressure, 140; kymographic tracings. Ether. Temperature, 41. Injected 90 c.c. serum from dog which had been under anesthesia for five hours. The serum had been removed the following day. Blood pressure fell 80 to 70; forty-five minutes, temperature 36 C. Coagulation marked, interfering with further blood pressure records. Anesthesia removed; animal placed in warm location; temperature following day, 37 C. After three days, animal still showed symptoms of shock. Died on the third day. Post-mortem revealed no evidence of infection. Cultures negative.

EXPERIMENT 17.—Small black and tan under chloroform. Blood pressure, 130. Serum used from a dog which had been under anesthesia five hours, and bled the following day; 25 c.c. of serum injected. Fifteen minutes, pressure fell to 115; twenty minutes, 110; thirty minutes, 95; in one hour, 25 c.c. serum injected. Blood pressure, 15 minutes, following the last injection, 65-70 Wide excursion. Anesthesia removed. Animal died the following day.

EXPERIMENT 18.—Mongrel bull. Ether anesthesia. Blood pressure, 150. Serum from an animal that had been under ether for four hours. The animal had been bled immediately after removal of anesthetic. Injections of 22 c.c., followed by another injection of 22 c.c. No effect on blood pressure, 20 c.c.; no effect on blood pressure, 20 c.c.; pressure, 100. In one hour, pressure 85. Anesthetic withdrawn, and animal recovered.

EXPERIMENT 19.—Dog, mongrel; weight, 15 kilograms; blood pressure, 130; temperature, 29 C. Serum used, removed the following day from an animal that had been three hours under anesthesia. 80 c.c. injected. After a period of fifteen minutes, pressure 90-100. One hour and fifteen minutes, pressure ranged from 90 to 100. Temperature, 38. Animal recovered. The following day the temperature, 39.4.

EXPERIMENT 20.—Dog, mongrel. Serum taken five hours after ether anesthesia, which had continued for two hours. Blood pressure, 135; after injection of 90 c.c., blood pressure, 100. Anesthesia changed to chloroform. Blood pressure, 90. Ether again administered, pressure 110. Ninety minutes, pressure 90-95. The following day the animal bled; removal of blood, 550 c.c.

EXPERIMENT 21.—Fox terrier; female. Temperature, 39.4. Injection of serum taken from dog twelve hours after two hours' anesthesia; 16 c.c. injected, with a fall of blood pressure, followed by a chill as soon as the anesthetic was removed. At the end of one hour temperature was 37.3; one and three-quarter hours after, 37.2. Animal placed near a warm room, and continued in a condition of shock, and died six hours afterwards.

EXPERIMENT 22.—Dog, yellow; temperature, 38.8. Injected serum from an animal six hours under anesthesia. Temperature, 38 3. Amount injected, 25 c.c. and 20 c.c. Temperature went down to 37.2. The following day rectal temperature 38.3. Animal listless; can not be aroused, and lips appear pale; marked loss of sensation. Second day, temperature 39.5. Animal depressed; marked loss of appetite. Fourth day, animal bled; shows rapid coagulation and laking.

THE HEMOLYTIC EFFECT, AGGLUTINATION AND PRECIPITINS OF BLOOD SERUM FROM ANIMALS AFTER PROLONGED ANESTHESIA.

EXPERIMENT 23.—Dog. After five hours' anesthesia blood was taken from the carotid; shock evident from low blood pressure; temperature 97; shallow respiration; collapse imminent fifteen minutes after the removal of anesthesia. Blood shows a tendency to lake, with almost immediate coagulation. Blood placed in refrigerator for twelve hours, obtained 110 c.c. of serum; hemoglobin (Fleischl), 10 per cent. One measure of Fleischl (7.65) added to fresh blood centrifuged showed twenty to thirty per cent. hemoglobin. The addition of 5 c.c. to 1 c.c. of fresh blood hemolysis within five minutes well marked, with "ghosts" floating in the serum. One-half c.c. of fresh blood, with 5 c.c. of serum, diluted two volumes with normal salt, hemolysis shown within five minutes. Four c.c. of serum added to 5 c.c. of blood showed immediate laking.

EXPERIMENT 24.—Dog, female pointer; weight 18 kilograms. Five hours under chloroform. Anesthesia removed, and animal allowed to recover from the anesthesia. Five hours later blood removed, 160 c.c. of serum obtained after standing eleven hours. Serum tinged, showing 8 to 10 per cent. hemoglobin. By adding fresh blood serum, 20 to 30 per cent. hemoglobin after centrifuging. One c.c. of fresh blood, 5 c.c. of blood serum, immediate laking; incubator five hours, marked hemolysis; hemoglobin (Fleischl) 100 per cent.

Microscopic slide with serum taken from dog under anesthesia, one drop of normal blood, showed shadow corpuscles.

EXPERIMENT 25.—Bull pup, female; weight 20 kilograms. Blood pressure taken with kymograph; injected 90 c.c. of blood serum taken from an animal that had been under anesthesia for five hours. This animal was placed under anesthesia for one hour only, and injected; no marked fall in blood pressure. At the end of one hour blood was withdrawn and obtained 80 c.c. of serum. One drop of normal blood with 5 c.c. of serum, showed hemolysis within five minutes. Equal quantities of blood and serum showed marked laking. One drop of normal blood irrigated under slide with serum placed in incubator showed shadow corpuscles. Blood serum, to which is added fresh blood (7.65 c.c.), increased the hemoglobin from 15 to 20 per cent. after centrifuge.

EXPERIMENT 26.—Dog. Under anesthesia two hours. Withdrew serum and blood, and after twelve hours serum clear. Adding one drop of normal blood does not produce any marked discoloration after centrifuging, only slight discoloration. Equal parts of normal blood serum produced slight laking. Irrigating one drop under microscope; after thirty minutes in incubator clumping is observed; no marked ghost or shadow corpuscle.

Serum taken from a dog that had been under chloroform for three hours; one drop of normal blood mixed with serum from an animal that had been under chloroform showed immediate clumping. Coagulation took place within five minutes, with 1 c.c. of blood added to 5 c.c. of serum.

Animal six hours under anesthesia; ether used; serum obtained the following day. Added normal blood to such serum produced immediate coagulation. Adding one drop of normal blood produces immediate clumping. Fourth dilution with normal salt solution, 10 c.c.; added 1 c.c. of normal blood, coagulation with laking.

One drop of normal blood added to 5 c.c. of serum after four hours' anesthesia. Equal parts of blood with serum obtained during profound narcosis after four hours.

BIBLIOGRAPHY.

1. Sabaarth: Das Chloroform. Würzburg, 1866.
2. Nothnagel: Die fettige Degeneration der Organe bei Aether und Chloroformvergeftung. Berliner klin. Woch., 1866, iii, pp. 31-33.
3. Waller: Brain, London, 1895, vol. xviii, p. 210. Ibid, vol. xix, p. 43.
4. Wilson: Lancet, Sept. 11, 1897.
5. White: Lancet, Jan. 7, 1899.
6. Kirk: Lancet, Dec. 7, 1895.
7. Horsley: Proc. Royal Med. and Chir. Soc., London, 1895.
8. Ceccherelli: Il Policlinico, 1895, No. 17.
9. Angelesco: La Semaine Medicale, Paris, Dec. 14, 1902.
10. Duplay and Hallion: Arch. Generales de Med., August, 1900.
11. Hill: Brit. Med. Jour., April 17, 1897.
12. Hare: Johns Hopkins Hospital Bull., January, 1895, and Am. Jour. of Med. Sciences, 1894.
13. Bland: Beitrage zur klinische Chirurgie, vol. xxxi, p. 271.
14. Hewett: Lancet, Feb. 19, 1898.
15. Kast and Mester: Zeitschrift f. klin. Med., Berlin, vol xviii. 1895.
16. Becker: Virchow's Archives, Berlin, vol. cxl, No. 1.
17. Boyer: Boston Med. and Surg. Journal, July 11, 1895.
18. Galeazzi and Grillo: Il Policlinico, Sept. 15, 1899.
19. Kemp: New York Med. Jour., Nov. 18, 1899.
20. Elsendrath: Deut. Zeit. f. Chirurg., Leipzig, Bd. xl, Hft. 5 und 6, 1895.
21. Firmi, Roden, Morganroth and Landsteiner: Cited by Simniczky.
22. Simniczky: Prager Med. Woch., Sept. 11, 1902.
23. Turck: Proc. International Medical Congress, Paris, 1900, and Medical Record, Aug. 11, 1900. Again in Philadelphia Med. Jour., March 30, 1901. Again in Chicago Medical Recorder, June. 1902.
24. Turck: Proc. Internat. Med. Congress, Rome, 1894.
25. Turck: Wiener Med. Woch., Nos. 1 and 2, 1895. Therapeutic Gazette, 1895.
26. Turck: Medical News, April, 1896.
27. Pawlow: The Work of the Digestive Glands. Thompson's Translation, London, 1902.
28. Sawrieu: Inaug. Diss., Contribution to Physiology and Pathology of the Gastric Glands of the Dog. Quoted by Pawlow.
29. Turck: Proc. American Gastro-Enterological Association, 1900. Am. Therapist, November, 1900.
30. Klonka: Archiv f. klin. Chirurgie, Berlin, Bd. l, H. 2.
31. Guinard: Bull. Generale de Therapeutique, Paris, Nov. 15, 1894.
32. Guirni: La Semaine Medicale, Paris, Oct. 10, 1894.
33. Rosenberg: Berliner klin. Woch., Jan. 9, 1894.
34. Meyer and Prebrium: Studien zur Pathologie, July, 1871.
35. Brunton: Lancet, July 6, 1895.

ANTITOXIN AND THE PHARMACOPEIA.

PLEA FOR THE ADOPTION OF A TEST WHICH IN THE AUTHOR'S EXPERIENCE PRESENTS THE LEAST DIFFICULTIES.

WILLIAM R. HUBBERT, B.S., M.D.
DETROIT.

The proposed admission into the Pharmacopeia of antitoxin for diphtheria in accordance with the resolutions of the committee appointed to confer on the subject, means, if finally admitted, the necessary adoption of a suitable standard for testing which shall be at once comprehensive, and yet so simple, to use the trite expression with reference to the introduction of tests into that most important work, one "that any intelligent pharmacist may be able to apply." While I am much in favor of the recognition by the Pharmacopeia which this most important biologic product rightly deserves, I am in favor of the adoption of the simplest test which shall show not only the number of units present in any bulb of serum, but one which can be performed within the shortest possible time in any pharmacy in the land and by a person not necessarily experienced in biological work.

There is so little known on this subject of testing antitoxin, outside of a few laboratories in the land, that it is necessary to describe in detail the methods used in testing before one can take up the consideration of the simplest method. Down to a comparatively recent time it was supposed that if a definite amount of serum had neutralized a hundred least fatal doses of toxin, which least fatal dose had been determined by injecting varying amounts of the filtered toxic solution in which the diphtheria germs had been grown, into 250 gram guinea-pigs, it was supposed that a like amount of the same antitoxin would always neutralize 100 least fatal doses of toxin from whatever source the toxin was obtained. Accordingly, Ehrlich defined a unit of antitoxin to be the least amount of antitoxin which would neutralize a hundred minimal fatal doses of diphtheria toxin. This definition remained the accepted one for some little time and either 10 or 100 m.f.d. were used in testing antitoxin the world over; but Ehrlich found by testing a number of different toxins obtained from different sources, either grown from the same or from different cultures, or using old toxins in comparison with new ones, that there was a vast discrepancy in the re-

sults; and that while with one toxin a hundred least fatal doses would be neutralized by the unit of antitoxin, probably with another toxin not more than forty to fifty or more least fatal doses would be required to obtain the same results. Other observers noted the same differences, and accordingly the definition of a unit had to be altered to read: that amount of antitoxin which was sufficient to neutralize one hundred minimal fatal doses of a certain standard toxin. Park and Atkinson took up the investigation of the subject and arrived at substantially the same results (as did Ehrlich). They found that less than 100 m.f.d. would more often be sufficient to counterbalance the unit of antitoxin than would more, and found that the greatest value for L+, or the amount of toxin which a unit of antitoxin will just neutralize, to be 126, and the least 27 times the minimal fatal dose, which agreed on the whole with the work done by Ehrlich. This neutralization the latter believes to be a chemical one in which 200 m.f.d. neutralize a unit of antitoxin for a guinea-pig weighing 250 grams.

The investigation begun by Ehrlich has been carried on in this country and confirmed by a number of different observers, and the 100 minimal fatal dose test, though still in use in some laboratories on account of the commercial advantage involved, is in no sense a reliable test to incorporate into a pharmacopeia. While a multiplied toxin standard has been found to be unreliable as a uniform test, the measure of a unit has still been preserved practically without much alteration by a system of comparative tests in which each serum has been standardized in comparison with this original standard unit adopted by Ehrlich. This work has been done under the supervision of Ehrlich and the protection of the German government at the Konigliches Institute for Experimentelle Therapie, Frankfurt-a-M., where at frequent intervals a succession of serums are standardized in comparison with a previously standardized serum, in an effort to perpetuate the original standard unit, this being necessary on account of the gradual diminution of the antitoxic content. This standard serum diluted with glycerin is furnished to any laboratory desiring it, the directions with some recently furnished being to add to 1 c.c. of the glycerin solution 12.25 c.c. of water or salt solution, 1 c.c. of the final dilution being the equivalent of 1 unit of antitoxin. From this dilution your toxin is to be standardized; to standardize which it is necessary to make a careful estimate of its strength in L+ as compared with the standard serum. This process requires the making of several very carefully made tests, and any errors made will reappear greatly multiplied in the final serum tests. If the minimal fatal dose has been determined, forty or fifty, or any other number of times, the m.f.d., or, in other words, that amount which would just fall below neutralizing one unit of antitoxin, would be taken as the L+ of that toxin, without reference to what was the original minimal fatal dose. This test requires the use of a number of guinea-pigs each weighing 250 grams.

Having carefully determined the value of your toxin L+ you are ready to begin the actual tests of the serums whose antitoxic values are to be determined. For each of another series of pigs weighing from 250 to 300 grams proportional amounts of toxin are measured out in terms of L+=250 grams of guinea-pig, the proportions for any pig weighing over 250 grams being calculated as follows: weight of pig :×::250:L+, for example, if 270 is the weight of the pig, and L+=.36, the proportions would be 270:×::250:.36. ×=.388+, and the L+ of the 270 gram pig would be changed to .388, etc. To these several amounts of toxin which are measured out in separate watch glasses for each pig, varying dilutions of antidiphtheritic serum are added as follows: to one, 1/500; to another, 1/400; to another, 1/300, etc. If 1/500 of a c.c. of serum will neutralize the toxin so that when they are together injected into a guinea-pig its life is prolonged to the end of the fourth day, then each cubic centimeter will test 500 units. If the 1/500 pig had died and the 1/400 had lived the serum would test 400 units. In the same way 1/300 of a c.c. of serum would equal 300 units; 1/200, 200 units, etc. It will be noted by the above complicated system of testing, which gives approximately correct results, that there are really two standards to be adopted, first the Ehrlich serum unit, which is imported, and second, the standardizing of a toxin in accordance with this German unit.

There are also two series of tests to be made, the determination of the L+ of your toxin, which in the hands of an inexperienced person would be attended with many difficulties, and the determination of the antitoxic contents of the serum in question. While I am not opposed to the use of this double standard, or any standard which would be in accordance with my desire for uniformity, I would like to call attention to a modification of the above method of testing serums which has appealed to me from its simplicity, and which I think has given me quite as uniform results as would the above system. The system which I have been using during the past four years in my laboratory, and which I do not claim was entirely original with myself, was based on the Ehrlich unit of measurement, except that I have substituted for the imported Ehrlich standard serum a standard toxin prepared by myself. This standard toxin was originally standardized to conform in L+ to one Ehrlich unit, and every month or two since that time new test toxins were standarized in L+ to conform to this original standard toxin. For example, if .0036 represented one minimal fatal dose, as many fatal doses were taken, usually in the neighborhood of 100, as would exactly be neutralized by a serum which had been standardized by the preceding standard test toxin. In this way I have done away with the use of the imported standard serum and have preserved instead a standard test toxin. The accuracy of my method of test has been recently confirmed by another in comparison with the latest imported Ehrlich unit and found to be practically unaltered. I am of the opinion that toxins preserved with trikresol and kept under suitable conditions in a cool place in the absence of light and preserved in full glass-stoppered bottles, will keep as long without deterioration as will serums preserved in the same manner.

As I said before, I am not adverse to the use of this imported serum, but consider it not essential for general pharmacopeial use if a standard toxin whose L+ is based on the Ehrlich unit can be adopted instead. Let the value of the original Ehrlich unit remain, but have a national test toxin adopted whose L+ conforms to the requirements of the Ehrlich unit as a standard. This standard toxin could be restandardized as often as required and a fresh lot could be manufactured and standardized every month. This standard toxin with the L+ stamped on the label could be kept in the custody of the director of the laboratory of the committee recently appointed by Congress for the purpose of testing biologic products, and for viewing the places of manufacture of

such products as toxins, serums and vaccines. This standard toxin, put up in ounce bottles whose L+ had been definitely determined, could be furnished each laboratory in the country or could be procured by any pharmacist who wished it, and from it with a few guinea-pigs and simple apparatus for measuring doses, an estimate could be made of the antitoxic value of a given bulb of serum which would come within 5 per cent. of being correct. Such a test would, in my opinion, be the simplest that could be devised that would give any approach to accuracy in results, and all serums tested with it, no matter where manufactured, would correspond in antitoxic units and the product be uniform. But if the pharmacist had to procure a standard antitoxic unit and from this not only determine the L+ of his toxin, but also the value in Ehrlich units of the given serum, the difficulty would be thereby very greatly increased and the results correspondingly unreliable.

I make an appeal for the adoption of the above method of test, for I know from years of experience how difficult it is to get uniformity where the calculations are increased. Then, too, there is such a chance for individual error to creep in that any effort to lessen this factor ought to be given consideration by the committee. Then, again, we ought to adopt a system that is American instead of one that has been imported, if the American can be proved to be just as reliable. There is such a great variation in the antitoxic value of the different serums on the market that it seems to me some uniform method of test should be adopted. This laboratory with which I am connected is willing and anxious to adopt any system of test which the committee in its judgment may recommend.

In conclusion, allow me to state that I am in favor of the adoption of the Ehrlich standard unit by the committee, but in the practical working out of the scheme I urge the adoption of a standard toxin based on the standard unit, which standard shall be maintained in some laboratory, preferably a government laboratory, and that this standard toxin shall be supplied to all laboratories producing antitoxins, or to any pharmacist desiring to make tests. I urge this in the interests of a more uniform product and also on account of its simplicity.

SOME EXPERIENCES WITH THE *X*-RAY AS A THERAPEUTIC AGENT.

REPORT OF THE CURE OF A CASE OF ALVEOLAR MELANOTIC SARCOMA.*

EDWIN WALKER, M.D., PH.D.
EVANSVILLE, IND.

To Finsen belongs the credit of first studying in a scientific manner the therapeutic action of light. His remarkable results and earnest work have opened up a most promising field. The discovery of the Rœntgen rays, and the scientific study of these, with the Becquerel and violet rays, have further stimulated thought and research.

We now know that the spectrum we see is only about one-eighth of the real one, and that in the dark field there are numerous other rays which possess remarkable chemical and photographic reaction. What effects these will have in the cure of disease none can imagine, but certainly the effect of the Rœntgen ray in some hitherto incurable maladies gives reason for great hope.

It is not my purpose to go into the general discussion of the treatment of cancer by the *x*-rays. Many interesting articles on phototherapy have been published in our recent literature, but the whole work is so new that we can only glean from them the most general principles. It would be hardly profitable to review them at this time.

I will give a brief outline of my own observations in the effects of *x*-rays on malignant disease.

In the fall of 1901 I was consulted by a physician who was suffering with a post-peritoneal malignant growth. At his request, we took a skiagraph, which required a twenty-minute exposure. He returned a few days later, saying that he felt much better and that he believed the growth was smaller. Our examinations did not confirm this observation, but, at his request, six or seven applications were made at intervals of a week, and for a while he thought he was much better. The disease, however, advanced to a fatal termination.

In this case my confidence in the therapeutic value of the ray was so little that I did not pursue the treatment with any enthusiasm, but as I look back to it now, after further experience, I really believe that it did do some good, and that a more vigorous treatment might have yielded better results.

The case which I desire especially to report was so remarkable in its course and termination as to be for me an epoch in my professional life. No previous experience has produced so profound an impression. To see a rapid-growing sarcoma heal in a short time under any treatment is truly extraordinary. Such patients are doomed in spite of any known application of remedies. Here was a man grasped from certain death before my very eyes—can you wonder at the deep impression made?

The fortunate subject of this sketch was Jacob Saelwachter of Wadesville, Ind. He was 31 years of age and a farmer. He came to me Feb. 20, 1902. On the right cheek, just in front of the ear, was a black tumor protruding from the surface, one and a half inches in diameter. There were no enlargements of the glands in the neck. Under cocain anesthesia, the growth was excised well out into healthy tissue. The wound was united with silkworm gut sutures. It never healed.

Evidences of return could be seen in two weeks, small black spots appearing about its edges, and about this time an enlargement appeared under the angle of the jaw, which grew with great rapidity.

March 22, under general anesthesia, I made a second operation, excising the old wound widely. The incision was continued to the neck, and I removed the tumor, which had extended deep down between the vessels to the vertebra. The sterno-cleido-mastoid muscle was infiltrated for more than an inch. The diseased portion was thoroughly excised. At various points in the bottom of the wound black places could be seen. These were curetted, only to reveal the greater depth of the infiltration. The operation had lasted nearly an hour, when I concluded the complete removal was impossible. The wound was packed with gauze. There was no infection, still it was soon evident that the morbid process was again advancing. The wound showed no disposition to heal, and the surrounding tissues were rapidly infiltrated.

On May 1, as a last resort, it was decided to try the *x*-ray. It was really a forlorn hope, for it seemed almost impossible to favorably affect a mass which was now hard and extended to great depth. The gaping wound was two inches deep, covered with sluggish granulations, and the sides infiltrated, involving almost the entire neck on that side.

Considering the gravity of the case, it was decided to push the treatment, even at the risk of causing some painful reaction, the danger of a burn having been fully explained to the patient.

The current was generated by a static electric machine. The tube was a "Gold Medal," No. 3572. It was high most

* Read before the Mississippi Valley Medical Association, October, 1902.

of the time. At first the tube was placed at six inches from the patient, but later it was brought as near as three inches. The shoulder and face were protected by a lead mask. The first seance was ten minutes, but the time was increased to twenty, and later, thirty minutes. A few applications were made on alternate days, and after that were given daily. Occasionally the reaction was uncomfortably severe, and the treatment had to be suspended for a few days. At no time was there anything approaching a burn, nor was there any serious discomfort.

No black spots appeared after the first exposure, and after the third there was apparent improvement, and the skin had entirely cicatrized in two weeks. The infiltration gradually faded away. The last place to be affected was just behind the angle of the jaw. It occurred to me that the bone might be protecting it. The position was so changed as to allow the rays to come from behind, after which the place soon softened and disappeared.

By the last of July there was no evidence of the disease except the cicatrix. The applications were made once a week for another month, and now we have him report once a month. The growth never occasioned severe pain, but there was a drawing, uncomfortable feeling. This disappeared as soon as the treatment was begun, but would always return if it were suspended for a few days.

There was another interesting feature worthy of mention. In adjusting the lead mask, he often steadied it with his hand, so that two fingers were exposed to the ray They became very red and shed their nails. This shows that the nutrition of the tissues is profoundly affected by it. The fingers, since guarded from exposure, are regaining their normal condition.

The tumor removed at the operation was hardened and examined by Dr. William R. Davidson, who made the diagnosis of alveolar melanotic sarcoma. A specimen was also sent to Dr. B. F. Cline of the Post-Graduate Medical School of New York, who confirmed the diagnosis.

We have now under treatment a number of cases, some of whom show improvements, but the time is too short to judge of the effects. Two of them have been entirely relieved from pain.

We had considerable trouble with our tubes, five in all; they would become too high when much used. Baking helped them sometimes, but not always.

Phototherapy opens up a very interesting field for investigation, which I will not here discuss, but briefly report a few studies we have made. It does not seem to me that theories can be of any great value while our information is so meager. Let us gather the facts first.

To me the most important question is whether or not the *x*-ray is germicidal in its action. The parasitic origin of cancer is not established, although the evidence lends some probability to it, and whether it is or not, the effect of the ray on germ life comes up in its application to a wide range of diseases. If we could kill germs in tissue without destroying it we would have a most potent remedy.

In conjunction with my associates, Drs. James Welborn and Leartus Owen, the following experiments were made:

EFFECTS OF X-RAYS ON BOUILLON CULTURES OF PYOGENIC GERMS IN TEST TUBES.

August 9—Three tubes of sterile bouillon marked 1, 2 and 3, inoculated from pus of suppurating wound.

August 10—Culture media turbid. Shows staphylococci and diplococci, with methylene blue.

August 11—Nos. 1 and 2 exposed to *x*-ray. Time, 10 minutes. Distance, 12 inches. Tubes 1′ and 2′ inoculated from Nos. 1 and 2.

August 12—Tubes 1′ and 2′ show growth of organisms. Tubes 1 and 2 exposed for second time to *x*-ray. Time, 10 minutes. Distance, 12 inches. Tubes 1″ and 2″ inoculated from 1 and 2.

August 13—Tubes 1″ and 2″ show growth of organisms. Tubes 1 and 2 exposed 20 minutes to *x*-ray. Tubes 1‴ and 2‴ inoculated from 1 and 2.

August 14—Tubes 1‴ and 2‴ show growth of same organism as the original tubes.

The glass of the tubes seems to obstruct the passage of the rays, giving a dark shadow with the fluoroscope. Hence, we concluded to expose cultures without the intervention of glass.

EXPERIMENTS CONTINUED WITH BOUILLON GELATIN MEDIA IN PETRI DISHES.

August 16—Three plates, 1, 2 and 3, inoculated from pus of carbuncle, showing staphylococci.

August 18—All three plates show extensive growth of the staphylococci and also a fungus.

Plates 1 and 2 exposed to *x*-ray for 30 minutes. Distance, 10 inches. Covers were removed from plates during exposure.

After exposure three culture tubes, 1′, 2′, 3′, were inoculated from plates 1, 2, 3.

August 19—Culture tubes 1′, 2′, 3′ all show cultures of organisms.

EXPERIMENTS WITH RABBITS.

Two rabbits inoculated in each hind leg with pus showing staphylococci and diplococci.

Localized abscess resulted at the site of each inoculation.

Rabbit 1, exposed to *x*-ray for one-half hour.

No change resulted in abscess, but rabbit died on second day.

September 29—Rabbit 2, exposed for one-half hour, the rays being directed on the right leg.

October 1—Rabbit in good condition. Infection the same. Exposed right leg one-half hour.

October 3—Abscesses are much diminished, but not more so in right leg than in left.

In conclusion I would again remind you that all our work in this line is new. Further experience will be required to determine the exact position of the *x*-ray as a curative agent, and the permanency of its effects. It will be very interesting to study the method of its action, and doubtless many improvements will be made.

In the meantime we have much to encourage us, for if only a small proportion of hitherto incurables are rescued by it, we will be well repaid for the trials so far made.

I can not close without the remark that while this treatment is still under investigation we should not forsake previous, well-established principles. Growths should be excised where accessible and all other established means of relief should be employed, and after that the *x*-ray.

But in all cases not amenable to other methods the *x*-ray should be given a trial.

MORPHIN AND COCAIN INTOXICATION.*

GEORGE P. DALE, M.D.
DAYTON, OHIO.

A few years ago I had occasion to observe that the prevalence of the several drug habits, notably morphin and cocain, was on the increase, especially among that class of people found in the charity wards of the public hospitals.

The victim of one or the other of these drugs becomes such after a somewhat different path. Cocainism is more quickly acquired, cases being on record of cocain eaters in Calcutta who have raised their dose from 1 to 12 grains in a month's time. This, while it is exceptional in this country, is frequent in India and other tropical countries, where the habit is very prevalent. The doses may be enormously increased, and 30 to 40

* Read before the Montgomery County Medical Society, Oct. 3, 1902.

grains a day is not uncommon. The habit is on the increase, the drug often being given by physicians as a cure for morphinism, and is also greatly used for its sustaining virtues in physical exertion.

Its irritating effects consist of a briskness of perception and removal of fatigue, but are very temporary, and unless the dose is soon renewed are quickly followed by depression. Later insomnia and anorexia are noted, followed by an increase of the temporary prostration, diarrhea, and fits of semi-consciousness may appear, and there is loss of the power of control. Later the face becomes sallow, eyes sunken and there are emaciation, impairment of the eliminating functions and loss of memory. The will becomes weakened to the point of imbecility and the delusion of persecution is often seen.

The morphinomaniac acquires his unenviable state after a longer period of drug taking than the cocain fiend. With his syringe and a case of tablets he is a familiar object possessed of a vice scarcely less than that of alcoholic drunkenness. He begins with feelings of satisfaction and perfect comfort, which continue as long as the drug is taken in sufficient amount. He is known by his disorderliness and is usually a clever and often an interesting person full of schemes which never materialize. There will be gradually weakening of the moral sense, depravity and indecency. As the necessity for increased doses becomes more urgent the disturbances of general health are manifest. He becomes restless, irritable, has disturbed sleep, deranged appetite and digestion; is sallow, emaciated, gray and prematurely aged and even a young person may appear wizened and haggard. He may die cut off by some chance malady, but often from extreme exhaustion. Allbutt says:

> The slavery of coca is worse than that of morphia, it is more destructive of mind and body and harder to put aside. The morphinist still retains some desire to defeat his enemy and is filled with gratitude when the cure is complete. The cocainist is so reduced in intelligence that he neither desires emancipation nor feels any thrill of joy when released. Hence the prognosis in cocainism is worse.

That the changes taking place in the human organism as the result of the constant use of these drugs would be fertile ground for the propagation of criminal ideas can not be doubted. During the past summer I was in communication with a number of superintendents of police and judges of police courts in the large cities in regard to the relation these drug habits bear to the prevalence of crime. Their replies as to the increase of the habits and some of the estimates and statements made are interesting and somewhat startling, and surely indicate that these two drugs have a greater hold on certain classes of people than most of us are aware. Superintendent Muth of Allegheny, Pa., writes:

> In my experience with the criminal classes running through many years, the opium habit furnishes an incentive to more crime than any vice to which unfortunate humanity can be addicted. Also that opium increases crime and is the real cause of at least four-fifths of all the offenses committed.

The fact exists that the majority of people of the criminal class who have been most successful in their work have begun as youths, and they also become addicted to a drug habit early in their career if at all.

Crimes committed under drug intoxication are often such as require cunning, boldness and treachery. He has a courage and will he would not possess were he not under such influence, and he also exhibits a recklessness and "don't-care" feeling that carries him deeper in his work than if his mind were normal. This may cause him to commit grave offenses, but it is usually the smaller crimes, as larceny, assault and battery, etc., that are committed under drug influence. Often small thefts are done, not for the sake of the theft itself, but for the purpose of obtaining money to buy more "dope."

The association of drug habits with chronic alcoholism varies. Probably more often than not they coexist, but cases are frequent where after the drug habit is established the taking of alcoholics is discontinued. The victim often begins taking a drug by putting it in beer or whisky. One judge says: "One hundred per cent. more crimes are committed by cocain fiends than by persons who are addicted to the alcoholic habit." Quoting again from Superintendent Muth, he says:

> I am aware that some writers on crime and its causes attribute the criminal impulse to "alcoholic drinks," to ignorance and to hereditary tendencies. While all these are the causes of many shocking crimes, yet, if complete statistics were gathered they would undoubtedly show that the opium habit is the greatest incentive in the commission of crimes that require cunning, boldness and treachery. In nine cases out of ten the shoplifters are slaves to this habit, and it is only while under the influence of the drug that they can do any skillful work.

We see often cases of drug habit among the well-to-do and wealthy classes, but it is among the lower classes, and especially the prostitute, where it is, I might say, epidemic. It is the negro and the lower class of white prostitutes who take these drugs as a steady diet, and it is estimated that 80 per cent. of these people use morphin or cocain in some form or other.

In a recent article in the *Medical Record,* Perry speaks of the degeneration of the southern negro, assigning as causes the venereal diseases, tuberculosis and insanity. This latter, he says, has increased in the last forty years twenty fold, while the negro population has little more than doubled. This, he believes, is only a small part hereditary insanity, but is due to a removal of the healthy country life and congregation in cities, and in conclusion he gives the drug habits due credit for their work, and says they are greatly on the increase.

Where and how easily are these drugs obtained? In almost every city that cunning, slick individual, the Chinese, operates his opium den, and those who desire a smoke can find ample opportunity, and opium outfits are also frequently found in houses of ill-fame, where if one inmate smokes they all do. The ease with which morphin and cocain can be purchased from the druggist without a physician's prescription is appalling. Some druggists in the "tenderloin districts" rely largely on these sales to keep up their volume of business, and some have even said they could not exist if it were not for the sale of cocain. They keep it put up in 10 and 25 cent packages, and all the user has to do is to ask for 10 cents worth of "coke" and he gets it, and the all-night stores in these districts do a flourishing business in this commodity. The sales of morphin and cocain in small quantities has been very much on the increase the past three years, and those who once become users will, in the majority of cases, continue, and the number who use them constantly is daily increasing. Usually these sales are not even registered, as is required in many states when poisons are sold, but are dispensed as any non-poisonous drug. I can not give the druggist all the censure, but some physicians and many quacks must take due credit for hasty or thoughtless dispensing or prescribing.

That existing laws are not enforced is undoubtedly true, but it is also true that many existing laws on this

subject are not sufficiently broad. A recent enactment as to the sale of cocain in Iowa provides:

No one, by himself, clerk, employe or agent, shall either directly or indirectly sell or give away any cocain or preparation containing cocain except on the written prescription of a registered physician for medical purposes. And no such prescription shall be refilled except on the written order of a physician.

It is this latter clause as to the refilling of a prescription that gives to the physician and the physician only the entire control.

I bring these few facts to your attention, not because of the facts themselves, but with the hope that before long there will be some united effort of the medical profession to control the indiscriminate sale of those drugs that are so antagonistic to the physical welfare of humanity.

1224 W. Third Street.

A NOTE ON THE VALUE OF AUSCULTATORY-RESONANCE AND AUSCULTATORY-PERCUSSION AS AIDS IN DIAGNOSIS.

CARL C. WARDEN, PH.B., M.D.

BATTLE CREEK, MICH.

The purpose of this note is to bring more generally before the profession the art of auscultatory-percussion and auscultatory-resonance. Auscultation and percussion, together with palpation and inspection, have long been the foundations of diagnostic structure, but even with foundations laid we frequently build no higher than the first story because of inaccuracies of interpretation or for the reason that the draught of our plans misleads us. To be able accurately to map out the normal viscera of the body on its surface is a great achievement, but under pathologic conditions the task becomes more difficult and one is not infrequently baffled outright in the attempt. An opportunity to observe the remarkable results to be obtained by a combination of auscultation and percussion was recently afforded in the clinic of Dr. S. H. Habershon, physician to the out-patient department of the Brompton Hospital for Diseases of the Chest, London. Dr. Habershon has made use of the methods for a considerable time to great advantage, and he is entitled to the credit of bringing them to the high degree of perfection they have now attained. Personal experience with the methods has thoroughly convinced me of their value, and it affords me pleasure to commend them to the profession and to place credit to the tireless worker who has developed them.

Auscultatory-resonance was evolved from auscultatory-percussion, and the latter term is sometimes loosely applied to it. It is assumed that diagnosticians generally are familiar with the method of auscultatory-percussion, which consists in placing the stethoscope over the area of the viscus to be outlined and percussing lightly with the finger tip in converging lines toward its margins. Each organ gives forth, as soon as the percussing finger reaches its limits, a tone that is characteristic and of the same quality all over the surface area of the organ, depending in quality and intensity on the size and density of the organ.

If, now, one substitutes for the percussing finger a vibrating tuning fork it will be observed that a musical tone is transmitted to the ear through the stethoscope. This tone varies in intensity, quality and character with the size and density of the subjacent organ. If a stethoscope be placed over the area of the liver on the anterior wall of the thorax and the stem of a vibrating fork be placed lightly on the skin in the same area, there will be heard a note of definite quality that remains the same so long as the fork does not progress beyond the liver borders, but which diminishes slightly in intensity the further it is moved from the bell of the stethoscope. When the fork is moved beyond the liver margin, up or down, the tone suddenly changes entirely in quality and intensity. So with every viscus. Each organ transmits a characteristic tone of a definite quality and intensity, depending on the form, size and density of that organ. A musical ear is not essential, though it must be confessed that one so gifted will be able to appreciate finer gradations of tone.

LUNGS.

To apply the method, for purposes of illustration, to the outlining and examination of the lungs, let us proceed as follows: Select a tuning fork having a handle conveniently long and that is pitched to C or A, preferably the latter (435 vibrations). Place the bell of the stethoscope over the right lung anteriorly, as at

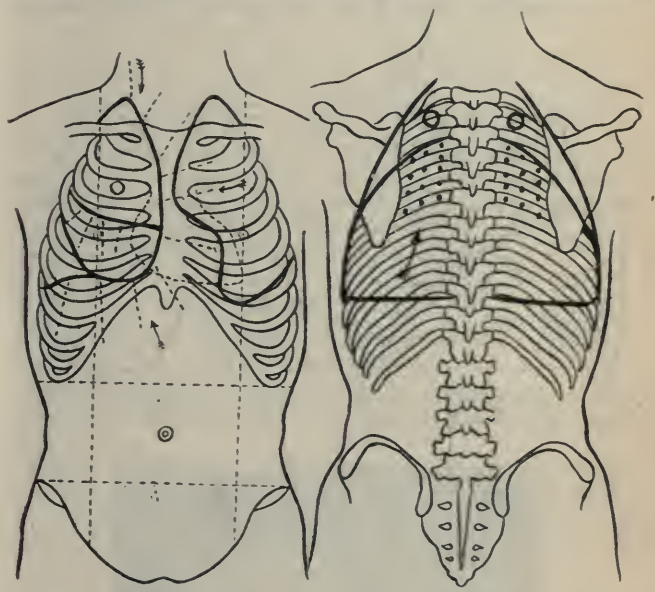


Figure 1. Figure 2.

O in Figure 1, set the fork in vibration and rest the handle lightly but firmly on the skin outside the lung area and progress rapidly, with short intervals, in a straight line toward O. When the margin of the lung is reached the musical tone that reaches the ear is heard suddenly to alter in quality and intensity, and from a muffled, distant character, it becomes resonant, clear and close to the ear. At whatever point the line of the advancing fork crosses lung margin the same characteristic tone is heard. With these manipulations the pressure of stethoscope and fork should be uniform, or as nearly so as possible, avoiding firm pressure one moment and light pressure the next. In this manner the boundaries of the lung may be made out and outlined with pencil on the skin. As the fork approaches the lung across the liver area the lung tone will become apparent so soon as the lowest margin is reached, modified slightly in intensity owing to dense liver beneath, but true in quality.

If the stethoscope be held at O it will be possible accurately to outline the cleft between upper and middle lobes of the lung by proceeding in a manner similar to that detailed above, shown also in Figure 1. The lung as a whole has a definite, characteristic resonance and

each lobe has also a tone of its own depending on the difference in size between them. The line of demarkation between the lobes is to be made out equally well at the back, Figure 2. The borders of the left lung may be sketched in the same manner, and it is interesting to observe how well one may map out the portion excavated for the heart. If a portion of lung is consolidated or contains a cavity the affected area will give an altered note, a consolidated lobe yielding a tone similar to that of the liver, while a cavity gives forth a peculiar loud resonance, close to the ear, corresponding to the "amphoric" breath sound. Pleural effusions and mediastinal growths may be made out with great precision.

The loudness of tone heard when stethoscope and fork are placed over the same rib or over the sternum may sometimes lead one into error, but practice will diminish the chances of going astray. It is to be remembered that to obtain best results the stethoscope always should be placed over the viscus to be outlined and the fork brought toward it; unwise is it to attempt to outline by progressing away from an organ or to determine

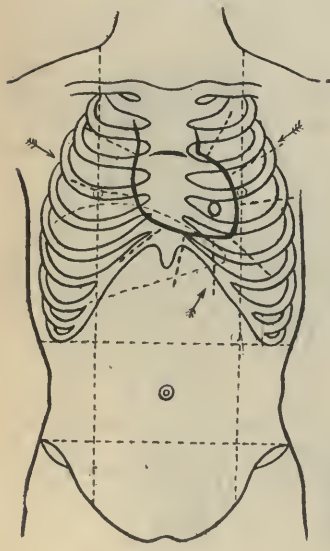


Figure 3.

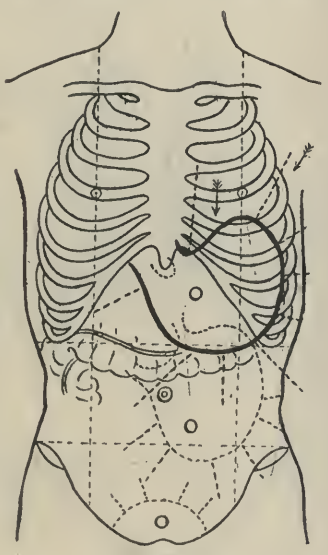


Figure 4.

on the margin of a contiguous organ in such manner. Take each viscus separately.

HEART.

To outline the heart we proceed in practically the same manner; the apex beat is located, the stethoscope placed over any convenient portion of the heart area and vibrating fork made to approach in converging, stellar lines, Figure 3. It will become apparent that the line of separation between liver and heart is very well marked, determinable without difficulty and may be verified later by outlining the liver. It is affirmed that in some instances it is possible to make out the septum of the heart by this method, but the writer has succeeded, as he thought, in one instance only, where there existed a marked concentric hypertrophy. Where dulness in the fifth right intercostal space, parasternal line, points to fluid in the pericardium and where the triangular area of precordial dulness indicates effusion, this method is of great value in determining definitely thereon, since by means of it we are able accurately to map out the dulness and check over the results of ordinary percussion. It also is available in those cases of aneurism "with symptoms," aneurisms of the second portion of the aorta which are often difficult to make out.

LIVER.

Auscultatory-resonance and auscultatory-percussion are very valuable in determining the outlines of the liver, Figure 5. Given a case where the lower liver dulness is obliterated because of a peritoneal cavity distended with gas. Percuss downward over the thorax in the usual manner until dulness is reached, place the stethoscope over the dull area and proceed as indicated in the figure.

In several instances one has been able to verify findings at autopsy where during life the border could be made out by no other means. When enlargements of the gall bladder exist they become apparent often when conditions do not permit of their discovery otherwise. No matter how obese the patient the method is applicable. Only recently the spleen was accurately outlined in a patient weighing 230 pounds in whom it was impossible either to palpate the organ or to elicit dulness by ordinary percussion. Generally speaking the outlines obtained by auscultatory-resonance coincide nearly with the areas of deep dulness.

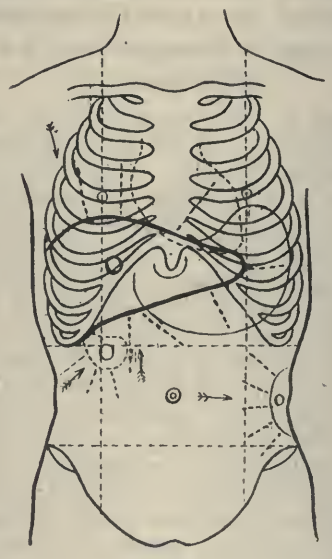


Figure 5.

STOMACH.

With regard to the stomach, it may be said that the methods already described will settle many perplexing points. The stomach gives out resonance peculiar to itself, contrasting sharply with the tones of heart, liver, spleen and colon. When the stomach is of normal size and in normal position the greater curvature may be outlined readily (Fig. 4), but when the organ is dilated or prolapsed or when these conditions coexist the method serves to best advantage. I have been able to verify results in such cases by dilating the stomach with air and by the use of the diaphane, when it became apparent that the slight deviations from the contours already traced were the result, not of error in the method, but rather of further displacement of the organ by the air or water introduced. The method has availed frequently in post-operative cases where there existed a suspicion of a full and dilated stomach, a condition to be dreaded, and one has been able to distinguish between such a status and a dilated colon. It is such cases that require nice decisions on the part of the physician since so much depends on proper therapeutic measures.

OTHER USES.

The existence of small amounts of intraperitoneal effusion may be demonstrated, as shown in Figure 5.

Areas of fibrinous exudate in the abdomen, tumors, distended bladder, pericecal inflammatory masses, aneurisms and splenic enlargements yield their outlines to auscultatory-resonance. Of its value in the topography of the kidneys I have not had opportunity to convince myself. Each method of precision has its limitations, but by a systematic use of all of them we may arrive at conclusions. Auscultatory-resonance or percussion is not intended to supplant any of the older methods. It should be used to check over results obtained by ordinary procedure and as an extra aid in the unravelling of knotty skeins of evidence.

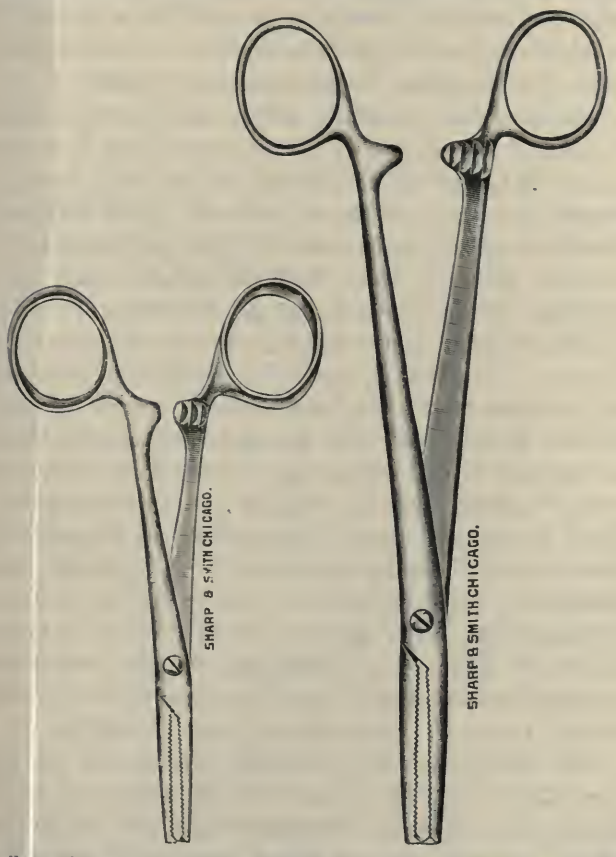
A conscientious investigation of their merits will convince one that their practice is not esoteric, not a fad, but a legitimate and valuable aid to diagnosis.

New Instruments.

A NEW HEMOSTATIC FORCEPS.

WELLER VAN HOOK, M.D.
CHICAGO.

It is rare to find a hemostatic forceps, as supplied in the ordinary instrument shops, which will last through more than a dozen ordinary operations without extensive repair. The selection of the proper instrument is frequently impossible because most of the instrument dealers carry in stock only the poorest constructed instruments, made by large factories in Germany. The models selected by these manufacturers are frequently such as have many excellent points, but, owing to



failure in some minor particular, the instrument soon deteriorates.

I have had an artery forceps made which seems to combine a number of useful qualities. The forceps are made in two sizes. The dimensions of the smaller size are the following: total length, 5¼ inches; distance from lock to point, 1¾ inches; distance from lock to proximal end, 3½ inches. The dimensions of the larger forceps are: total length, 7¼ inches; distance from lock to point, 2 inches; distance from lock to proximal end, 5¼ inches.

No single new feature is introduced into the design of these forceps, but it is believed that the combination of old points of construction will make these instruments more satisfactory and durable than those commonly found on the market. The forceps are provided with mouse-teethed extremities and serrated jaws. After the plan of Doyen, they are made to meet first at the points, the jaws coming together gradually from before backward as increasing pressure is applied on the handles. Sufficient elasticity of the steel is provided to enable one to get the advantage of this principle. The branches are made sufficiently heavy, so that the shearing strain will not readily wear them out. The catches are unusually deeply grooved, preventing their readily slipping apart. The branches are so set that they lock firmly on the first notch. The rings are beveled, so that one may easily apply the rather firm pressure necessary to close the strong instrument. It will be noted that the length of the jaws in proportion to the length of the handles is short. This serves two purposes: it gives the operator greater leverage; and second, it gives greater strength to this part of the forceps, where so frequently lightness of material and length of jaw cause the forceps to twist and the ends of the instrument to turn over like a crossbill.

A most important point about these forceps is the return to the old-fashioned screw lock. The screw is made especially large to resist the shearing strain. This lock has not only the advantage of being very much firmer, but has the advantage of being adjustable for wear. The writer uses this lock for scissors also for the same reason. The objection that the forceps can not be taken apart for cleaning is trivial, since boiling in sodium carbonate (ordinary sal soda) will remove the materials which usually constitute the dirt.

AN IRRIGATING STAND.

WALTER E M. RANCHOUS, M.D.
COLUMBUS, OHIO.

The accompanying illustration shows an irrigating stand of use to the venereal specialist and also to the general practi-



tioner who has much to do with the irrigating treatment of gonorrhea in the male. It will enable the physician to get conveniently near his patient and irrigate without soiling the clothes of either party, since there is no splashing of the returning fluid other than that which is the receiving basin will accommodate.

1273 N. High street.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MAY 2, 1903.

THE JOURNAL, THE GENERAL PRACTITIONER AND MEDICAL PROGRESS.

From time to time The Journal receives letters from various parts of the country in which the writers point out that in their opinion The Journal "fails to meet the needs of the general practitioner." It has been complained that "the articles are mainly on subjects of interest only to the specialist"; that the papers read at the annual meetings "are way beyond the average man" in certain respects; that those who endeavor to teach the profession by writing articles "obscure their ideas by coining new words" or by using terms not found in dictionaries hardly a year old.

It is not to be understood that these views are those held by even a majority of the readers of The Journal who express themselves in regard to their impressions of its usefulness. These views are, however, heard sufficiently often to merit some notice. They seem to represent the feelings of a certain well-meaning and earnest group of men in the profession whose sincerity can not be doubted and whose wants it must be the aim of every representative medical journal to fulfill according to the best of its ability and resources. We believe, however, that any journal would fail in this undertaking if it did not give prominent and full attention to those parts of the large subject of medicine in which progress is being made. The immediate fruitage of much newly-won knowledge depends in large measure on the widest possible diffusion of that knowledge and of the detailed investigations that have led up to it. Of all existing agencies for the dissemination of results of medical research the large weekly medical journals are the most influential because reaching the largest and most diversified circle of readers at the most frequent intervals. It stands to reason that of the great mass of material thus presented there must be a great deal that seems strange and devoid of direct benefit to the man who is absorbed by the exacting and laborious details of general practice with little leisure for careful thought and study. And there are also in every vocation a certain number of men, fortunately a small number, who really are annoyed by the unrest and uncertainty incident to progress. They prefer the dogmatic style of statement, which makes things so perfectly plain because it is assumed that everything is settled definitely and permanently. This mental attitude is hard to overcome and new truths make little or no impression on that sort of men. It is not intended to say that the dissatisfied readers of The Journal belong to this unfortunate class, the existence of which can not be denied, however. In the early days of bacteriology a great deal was said in protest against the rapid change of views in regard to many diseases, their causes and their treatment, and ridicule was bestowed freely on the germ theory. A good deal of unwillingness to accept freely the general teachings of bacteriology still exists in the minds of many respected practitioners who graduated before the days of the practical use of the microscope and the laboratory. And naturally many of these men are wholly unprepared to give sympathetic and interested hearing to the most recent ideas and theories in regard to the complex problems of immunity and cytotoxic action. And so it must also be in the other departments of medical science. The little modicum of knowledge imparted by the medical college years ago in the case of many, perhaps the majority, did not furnish sufficient basis for intelligent general comprehension of the rapid growth that has been and is taking place in medicine. Physiology as taught to-day would hardly be recognized as physiology by those who listened to a set of lectures or two twenty years ago and then dropped their interest in the subject. Since then physical chemistry, physiologic chemistry and pharmacology have developed. Corresponding changes are taking place in many of the clinical branches. Hence there need be no wonder if much of the material in the columns of the medical journals of to-day seems incomprehensible to some.

This condition of affairs will probably always obtain so long as the practice of the art of medicine is so conducted as to lead one further and further away from the fundamental and underlying sciences. More than ever does the medical practitioner need post-graduate study—medical journals, books, medical societies, and post-graduate courses are some of the sources at which he must seek inspiration to maintain his interest in medical progress. The time is ripe for the establishment by our best medical schools and universities of courses for graduates. Medical men must remember that certain truths in medicine as well as elsewhere have in them great powers for growth and fruitfulness, and that the growth must be watched closely lest one fails to recognize its effects and broadening significance. Furthermore, that progressive development also must result in such advances in instruction that the medical graduate of to-day starts out with better preparation for the future and with greater advantages than those of us of the past can be said to enjoy. Certainly this is as it should be.

For the reason that the medical journals of the day must aim to be fully abreast with the advancing waves of progress, words are frequently used that can not be found in "dictionaries hardly a year old" because dictionaries do not regulate the progress of science. As new phenomena are discovered new names become necessary. It is frequently said and with truth that nowadays text-books are antiquated when published, so rapidly does knowledge in many branches accumulate. But when all has been said that there is to say in favor of

progress, of development, of the new in medical sciences, the fact remains that simplicity and uniformity of nomenclature are most highly desirable at the same time as it must be acknowledged that they are, from the very nature of things, exceedingly difficult to secure. We believe, too, that the protests against the writers who "obscure their ideas by coining new words" in many cases are fully justified. Medical writers are prone to forget that in medical writing it is ever a golden rule to clothe the ideas in the simplest form, "to say all he has to say in the fewest possible words and the plainest words possible or his readers will misunderstand them." Nothing is gained by the employment of strange words of Greek or Latin derivation when plain English can be used just as well. The constant aim should be to state so clearly what one has to say that there can be no danger, so far as the language used is concerned, of going over the heads of the largest class of the readers of our weekly journals, namely the general practitioner, who most needs the instruction and information it is hoped to convey. Medical as much as any other writers should try more to adapt themselves to the needs of the average reader. It is plain that by so doing they will increase the usefulness of their efforts and the influence of the medical press. When new and strange terms have to be used an explanatory remark might be added that will make their meaning absolutely clear. In our efforts to increase medical knowledge let us not lose sight of the duty to try to make that knowledge easily understood by as many as possible.

THE MICRO-ORGANISM OF SMALLPOX.

Elsewhere in this issue we print a report of the communication made by Professor Councilman to the Boston Society of Medical Sciences, in which he announces that the organism of smallpox has been established definitely to be a protozoan with the various cycles of development peculiar to some of that class of micro-organisms, more particularly the microsporidia. It is not stated by our reporter that the organism has been cultivated outside of the body, and the report does not appear quite clear as to the demonstration of the organisms in the blood of smallpox patients, or of animals experimented on before the appearance of the eruption; consequently, it is not yet possible to form any definite idea as to whether or not the means of diagnosis of smallpox before the appearance of the eruption has been furnished, though Professor Calkin's remarks, as published, suggest this.

The manner of entrance of the organism into the body, the route or routes by which it is carried to the local but disseminated lesions of the skin elsewhere and the various stages of development that it passes through during this complicated process remain to be explained. It is to be remembered that the conclusion of Professor Councilman that the cause of smallpox and vaccinia is a microsporidium is in accord with the interpretations of other and earlier observers of certain interesting bodies found within the cells in vaccinia and in the cutaneous lesions of smallpox. From time to time we have referred in these columns to the significance of the so-called Guarniari's bodies that can be studied in the lesions of vaccinia of the rabbit's cornea, and also to Fuchs' recent work on the "Sporidium vaccinale." It will be recalled that Wasielevski demonstrated that the rabbit's cornea could be inoculated successfully with vaccinia from one animal to another through no less than forty-nine generations, and in all the lesions occurred the peculiar intracellular bodies just referred to. He found, further, that when vaccine material was filtered through bacteria-proof filters the characteristic lesions would not develop on inoculation of rabbits' corneæ with the filtrate. From these facts he concluded that most likely the so-called vaccine bodies were the cause of vaccinia.

The results obtained by the Boston investigators seem to extend and confirm the conclusions of Wasielevski and others, and we trust that the announcement just made means that a decided step forward has been made in the study of smallpox. The complete publication of the work carried on in Boston during the last two or three years will be awaited with interest, and any attempt at critical consideration of the conclusions drawn by Professor Councilman and his coadjutors necessarily must be based on a thorough study of their report.

INTRACELLULAR TOXINS AND THEIR RELATION TO IMMUNITY.

During recent years workers in bacteriology have been largely occupied with the study of the soluble products of bacteria and with their action on the animal body. In view of the brilliant results which followed the discovery and investigation of the soluble toxins of the tetanus and diphtheria bacilli, it was natural to seek similar poisons in connection with the other pathogenic bacteria with the hope of also obtaining specific antitoxic agents to combat them. However, it soon became apparent that many bacteria did not exert their injurious effects through the agency of soluble toxins, and efforts to obtain curative sera by injections of fluid cultures have met with complete failure in the case of most pathogenic bacteria.

More recently the bacterial cell has again claimed more attention, and when the required technic shall have been worked out, it is not too much to hope that results of great importance will be arrived at. Vaughan[1] and his pupils have already contributed valuable results in studies of bacterial cells, and Vaughan has devised some very useful technical methods. They have found the dead cells of each of the pathogenic and non-pathogenic bacteria studied to be poisonous to rabbits and guinea-pigs. The intracellular toxin of a non-pathogenic germ may be even more potent than that of a highly infectious one. Vaughan concludes that the intensity of the infectious properties of a micro-organism is not always measured by the potency of its toxin, but rather depends on the conditions for its growth in the animal

1. Trans. of the Assoc. of Amer. Phys., 1902, xvii, 243.

body being favorable. He does not think that the intracellular toxins exist as such in the cells, but are atomic groups or side chains of the complex molecule. They can be detached from the cell substance only by the action of agents which break up the complex molecule.

Macfadyen and Rowland,[2] in the Jenner Institute of Preventive Medicine, London, have been making some very interesting studies of the biologic properties of the intracellular constituents of the typhoid bacillus. They have elaborated a very ingenious technic for obtaining a "typhoid plasma" from typhoid bacilli as near like the living fluid of typhoid bacilli as possible. The bacteria are obtained in a pure state, and rendered brittle at the temperature of liquid air, when they are triturated without the addition of any foreign substance and the fluid contents of the cells allowed to escape. If such intracellular juices of the typhoid bacillus are injected into the monkey, a serum is obtained which possesses both antibacterial and antitoxic properties. Such a serum is curative and preventive as regards the typhoid bacillus and also the intracellular toxin present in the same organism. If these results are confirmed, it will be most important to know whether the intracellular juices of other bacteria, especially of those which do not produce soluble toxins, will give rise to bactericidal and antitoxic substances when injected into suitable animals.

EDUCATION AGAINST TUBERCULOSIS.

The methods adopted by the Phipps Institute for Tuberculosis in Philadelphia deserve the attention of those who are interested in the treatment of poor consumptives and in the prevention of the spread of tuberculosis in our large cities. It is needless to say this work represents one of the most humanitarian purposes that a philanthropist could set before him and merits emulation on the part of those who are in a position to lessen human suffering by direct means. The Phipps Institute methods are not claimed to be original, though they contain some very practical original suggestions. On the contrary, one of the great merits of the system employed is the conservative eclecticism that characterizes it. The most famous institutions for the treatment of tuberculosis, in this country and abroad, have been visited or studied, with the idea of selecting what appeared most commendable in their various characteristic features.

The treatment of the patients is practically limited to the application of the principle that abundant fresh air and a plentiful supply of nutritious food represent the essentials of rational therapy for tuberculosis. If these can be secured, drugs may be almost entirely dispensed with. It is frankly recognized that for poor tuberculosis patients an abundance of nutritious food is not always easy to secure. Part of the income of the large fund provided by the generosity of Mr. Phipps is applied, then, to the provision of the most highly nutritious food easily available and that does not require much care in its preparation. Consumptives who declare that they are too poor to pay for proper food are given daily twelve eggs and three quarts of milk. These are delivered at their residences. The amount of milk is later increased to five quarts, if the patient is able to take that amount with benefit. The usual advice is to take the eggs as nearly raw as possible. Beside the dozen of eggs and three quarts of milk, one full meat meal is insisted on as a necessary part of the daily diet.

With regard to fresh air, patients are advised that the coldest outdoor air is not likely to prove injurious, and that there is more danger for those associated with him in a closed warm room than in a cold open one. The windows of sleeping apartments are to be left constantly open in all weather. If arrangements can be made to that effect, the patient is advised to spend six to eight hours per day reclining in a steamer chair on the roof of his dwelling house, or, if this is not possible, on a porch or in a bay window with the windows open.

Such directions are more suitable to Philadelphia, where many people live in their own houses, than to cities where apartment houses are more frequent. In a word, the regulations in force in sanitariums for the treatment of tuberculosis in this country and in Europe are modified to suit the patients' environment. Consumptives are warned of the danger of going into crowds and against riding in crowded cars, where they may acquire secondary infections.

At each visit to the dispensary, patients are warned with regard to the dangers of spreading tuberculosis, are questioned as to their habits, and are drilled in the taking of precautions that lessen the risks of infection for others. It is always made clear to them that the taking of such precautions is also helpful to themselves, by avoiding the possibility of personal reinfection. The care of the sputum is especially insisted on and minute directions with regard to its disposal frequently repeated. Patients are warned that their clothing may readily carry quantities of tubercle bacilli, and they are shown the necessity for scrupulous cleanliness. The clothes of tuberculosis patients are gathered at suitable intervals and thoroughly sterilized.

It would seem that practically all of the important problems in the prevention of the spread of tuberculosis in large cities are thus deliberately faced and at least an attempt at their solution made.

The educative influence of such an institution on the masses can scarcely be exaggerated. From the very beginning the important lesson is taught that not drugs but fresh air and food are the remedies for tuberculosis. This feature promises to do more to lessen the nostrum evil, with its unfortunate sequelæ, especially in tuberculosis, than any other remedial measure that has been suggested. Well-directed charity and rational instruction seem to vie with each other for first place in the methods thus introduced. We shall hope to hear of great benefit secured by the very practical system thus initiated.

2. Brit. Med. Jour., March 28, 1903, 757.

THE PREVENTION OF RABIES.

It is said that in the last ten years 91 persons have died from hydrophobia in Chicago. Many other parts of the United States appear to have been afflicted with this disease quite as extensively, and there is no indication that in the last decade rabies has become any less frequent in the country at large. It must be confessed that the horror in which this disease is held by the popular imagination is probably fully warranted by all that is known of its clinical manifestations. We fancy there are few ways of leaving this world that one would choose less willingly than an attack of hydrophobia.

There is unquestionably less excuse for the continued existence of this disease in the heart of our crowded American cities than for that of many other forms of infectious disease. It is well known that the simple enforcement of existing regulations regarding the muzzling of dogs would be sufficient to stamp out the infection in all the denser centers of population. The remarkable experience of Great Britain in the matter of dog-muzzling is often referred to, but, in view of existing conditions, it can not be given too great or too frequent publicity. The official reports of Great Britain show the following relation between cases of rabies and the enforcement of muzzling:

YEAR.	CASES.
1887	217
1888	160
1889	312

The alarm caused by this increase led to the adoption of muzzling, with the following result:

YEAR.	CASES.
1890	129
1891	79
1892	38

The muzzling ordinance was then relaxed owing to misguided opposition, with the result of increasing the number of cases:

YEAR.	CASES.
1893	93
1894	248
1895	672

This rapid increase caused a revulsion of feeling and brought about a reversion to the former restriction:

YEAR.	CASES.
1896	438
1897	151
1898	17
1899	9
1900	0

An experiment so frequently repeated and confirmed possesses convincing weight and deserves to be taken into serious consideration by all municipalities in which a dog-muzzling ordinance now exists, but has been allowed to lapse into desuetude. It is worthy of note that the argument embodied in the statistics just quoted has been deemed cogent even in England where, as is well known, the sentimentality of antivivisectionists and other philozoists has in the past proved powerful enough to cripple scientific research and interfere in other ways with the real welfare of both man and the lower animals. Since it is plain that enforced muzzling will speedily eradicate hydrophobia from any given locality, there seems to be good ground for urging the general adoption and persistent enforcement of this measure. This should be urged in season and out of season by those interested in safeguarding the public welfare.

At a recent meeting of the Chicago Medical Society, where this question was discussed, one of the speakers expressed skepticism regarding the value of the Pasteur method of treatment of hydrophobia. It is not clear on what grounds this incredulity is based, since the evidence in favor of the beneficial results achieved by this treatment is almost, if not quite, as massive as that in favor of the antitoxin treatment of diphtheria. The statistics given out by the authorities of the Pasteur Institute at Paris for a series of sixteen years, from 1886 to 1901, show that out of 25,986 persons treated during this period there were only 112 deaths, or a mortality of 0.43 per cent. A large proportion of these persons had been bitten either (1) by an animal demonstrated by subsequent experimental inoculation to have been rabid, or (2) by one pronounced rabid by a competent veterinarian. The last annual report published by the Pasteur Institute[1] shows that in 1901 there were treated 171 persons belonging to the first category and 785 to the second, all others for that year numbering 362. The total number of deaths for this year was only 5. No deaths occurred among persons in the first category, and but four among those in the second, a total mortality percentage for these two groups of 0.42.

A conservative estimate of the proportion of persons who are bitten by rabid dogs who subsequently die with symptoms of hydrophobia places the number at 16 per cent., and in some series that have been reported a much higher percentage than this is recorded. The difference, therefore, is overwhelmingly on the side of the Pasteur method of treatment, and the figures obtained at the Paris Institute have been fully substantiated by the experience of the scores of similar institutes that have been established in various parts of the world.

WAITING-ROOM LITERATURE.

In one of his recent fables, George Ade quotes an old physician, who advises a young man not to take up the profession of medicine. Among other evidences of the unprofitableness of the study, the physician remarks that "we are most of us held down so close to the carpet that we have to buy last year's magazines to put in the waiting room." Mr. Ade is certainly an observer and has probably frequented physicians' waiting rooms not a little to make such a generalization as this. There are many of these rooms where the literature left to pass the patient's time is not only antiquated, but often suggestive of contagion, in view of the handling, etc., by the patients who pass in and out. We have often been a little timid about too close handling of some venerable documents on the waiting room tables of dermatologic specialists, and have sometimes thought it might be better to have none at all for the peace of

1. Annales de l'Institute Pasteur, 1902, 16, p. 452.

mind of apprehensive individuals. It is a good thing to have magazines, current illustrated periodicals, etc., on the waiting room table, for the patients would be more likely to patiently await their turn, but there should be either a certificate of disinfection attached to each periodical or the date of publication should show that the matter is moderately new, not lapping too far over in the past century.

THE INTERNATIONAL MADRID CONGRESS.

According to an editorial in *El Siglo Medical* of April 5, the preparations for the International Medical Congress were in a very unsatisfactory condition even at that late date, and it feared that much would be found open to criticism at the time of the meeting. Apparently there has been a lack of enthusiasm and of active co-operation of the medical profession in both the city of Madrid and the other provinces, and to such an extent as to seriously compromise the success of the congress. Our contemporary also seems to anticipate criticism of some of the local institutions, educational and charitable, by a pretty severe condemnation by itself of their present conditions. It is a fact that these international congresses are a heavy draft on the profession of the country entertaining them, and this point has been specially raised in connection with previous meetings. Spain can hardly be expected to do all that has been done on some former occasions, and allowances should be correspondingly made for some deficiencies that might not be expected elsewhere. We are sorry to say that the fears of the editor of *El Siglo Medical* are being realized, according to our correspondent in Madrid. He cables that arrangements show lack of systematic organization and that it is almost impossible to get information or co-operation in making report of the scientific work.

THE INDEX MEDICUS.

We are informed on good authority that the "Index Medicus," the first number of which under the new auspices has just appeared, is not receiving its due support, that 251 copies covers the entire subscription list among the profession, both abroad and in this country. That would bring in a return of only $1,255, with an expenditure of about $12,000 per annum. The Carnegie Institution has generously devoted $10,000 per annum to the publication of the index for three years and it was intended to continue this indefinitely, provided sufficient interest is shown in this enterprise, which has in the past redounded so much to the credit of our country. The "Index Medicus" should go to every place where at least an attempt at clinical or research work is being done, to every insane asylum, to every large hospital, to every medical educational institution, and, in our opinion, it is almost an indispensable adjunct to the editorial work of every medical journal worthy of the name. If it can receive subscriptions from each of these sources, it would not only relieve the Carnegie Institution of its expense, but furnish a considerable surplus for its enlargement and increased usefulness. It is not an American publication alone. It should receive equal patronage from every part of the world. It is just as discreditable, if not more so, that its subscription list from abroad is not more than double or treble what it is in this country. No person who is interested in medical literature, no one who is attempting to do original work, can wilfully dispense with the aids it can offer. The fault of much of the work that has been done and is still being done throughout the world, especially in some of the institutions in this country, is that so little is known of what others are doing and, consequently, a great deal of human effort is needlessly wasted. Much sciolistic conceit would be also avoided if this publication, with its preceding series and additional data from the "Index Catalogue," could be properly utilized, and medical literature would be a far more satisfactory thing than it is at present. Brown-Sequard, the celebrated French physiologist, used to bitterly complain of the amount of rediscovery of his work that he was constantly seeing in the German literature. It is only by such bibliographies as the "Index Medicus" that much of this can be avoided. We hope the subscription list will be at least quadrupled. The very moderate subscription price, $5, puts it within the reach of everyone who is attempting to do any medical literary work, and no one should attempt that without having at least access to its aid. We do not believe in multiplication of references or unnecessarily elaborate bibliographies, and the rule of verifying one's references by the originals, of course, is a good one to be followed, but there is no better first guide to medical literature than the "Index Medicus" as now presented to the profession.

Medical News.

CALIFORNIA.

State Board Examination.—At the April examinations for license to practice medicine 39 applicants appeared, 25 of whom passed; 12 were rejected and 2 were conditioned.

New Oakland Health Board.—Drs. J. Hamilton Todd, former health officer; Arthur L. Cunningham and Samuel H. Buteau, Oakland, have been appointed members of the Board of Health.

Typhoid at Stanford.—It is reported that a hundred cases of typhoid fever exist in and about Stanford University, Palo Alto, and that two deaths have occurred. The cause is supposed to be infected milk supplied by a dairy in Palo Alto.

Surgeons Sued.—Mrs. Edna Rooney, Oroville, has sued two homeopathic physicians for $25,000 damages on account of the death of her husband. She alleges bunglesome and negligent attention and a mistake in diagnosis by reason of which her husband's left eye was enucleated for malignant disease, the patient dying a few days later.

Personal.—Dr. Samuel E. Latta, Stockton, has been appointed a member of the San Joaquin Insanity Commission.——Dr. Fred W. Colman has been elected health officer of Lodi, vice Dr. E. A. Burchard, resigned.——Dr. S. W. R. Langdon has been appointed a member of the Stockton Board of Health, succeeding Dr. Charles R. Harry, who is going to Europe for a course of advanced study.——Dr. Ernest B. Hoag has been appointed city bacteriologist of Pasadena.

ILLINOIS.

Chicago.

School Moves.—The Illinois School of Electro-Therapeutics has moved into its new quarters at 35 Randolph street.

Suit for Damages.—Mrs. Martha E. Jacobs has sued Dr. Espy L. Smith for $10,000 damages. She alleges that she has been permanently crippled by reason of improper care of a broken leg.

Mikulicz in Chicago.—Dr. Mikulicz of Breslau is in Chicago this week, the guest of Dr. J. B. Murphy and of the Chicago

Surgical Society. He will attend the session of the American Medical Association at New Orleans next week.

Deaths of the Week.—Pneumonia heads the list of deaths for the week with 163, or more than 25 per cent. of the total mortality. There were 64 deaths from consumption; 38 from heart diseases; 30 each from Bright's disease and violence; 28 from bronchitis; 26 from nervous diseases; 19 from measles; 14 from diphtheria; 11 from scarlet fever; 8 from typhoid fever, and 7 each from whooping cough and influenza.

More Smallpox.—Seventeen cases of smallpox were discovered during the week, one of them being a convalescent, the nature of whose disease was not detected until he was well. The remaining sixteen were removed to the isolation hospital before there had been any serious exposure. Thirteen of the seventeen cases—all adults over 40 years of age—had never been vaccinated at all, and four presented old doubtful scars of vaccination performed in infancy.

Death-Rate Still High.—The total deaths recorded during the week were 639, or only one less than for the previous week and 89 more than for the corresponding week of 1902. The average April death rate since 1893 has been 16.25 per 1,000 per annum—the highest being 20.91 in April, 1893, and the lowest 13.84 in April, 1897. For the first twenty-five days of the present April the rate is 18.74 per 1,000, or 35.4 per cent. higher than the lowest and 10.3 per cent. lower than the previous highest.

Warns Again Against Pneumonia and Influenza.—The health department repeats its warning first given in 1898 regarding the gravity of pneumonia and influenza. It emphasizes the necessity of prompt resort to competent medical attention on the first appearance of symptoms, and the importance of isolation of cases, the instant disinfection and speedy destruction of the discharges from the nose, mouth and throat, and other preventive measures which are enforced by all intelligent physicians in the care of other contagious or infectious diseases.

Object to Test.—Medical students at the University of Chicago have protested against the revival of the supplementary examinations on the work of the first two years by the faculty. They designate the examination as "an unnecessary burden and the survival of an obsolete system of medical instruction" and as "an unjust discrimination." The examination is on the entire work of the first two years. It is supplementary to the regular examinations and is said to entail on the students a vast amount of special preparation, which is useless, as they are compelled to take a third examination in the same subjects when applying for license to practice.

INDIANA.

Smallpox.—During March 873 cases of smallpox were reported, with 28 deaths. In comparison with March of 1902 there was an increase of 30 per cent. in area invaded, of 4 per cent. in number of cases, and of 1,300 per cent. in deaths.

Hospital as Memorial of Wife.—Hon. D. D. Dykeman, Logansport, has announced the gift to the city of a hospital to cost $50,000 in memory of his wife, who died in March. He will also arrange that at his death his entire estate will be available as an endowment for the institution.

Indiana Medical College Commencement.—On April 17, a class of 76 received their diplomas as doctors of medicine from Hon. Addison C. Harris, president of the University of Indianapolis, of which the Medical College of Indiana is the medical department. William Lowe Bryan, president of Indiana University, delivered the address to the class.

March Mortality and Morbidity.—The monthly statistics of the State Board of Health shows there were 2,959 deaths in March, an annual rate of 13.8 per 1,000. In the corresponding month of last year the rate was 14.2. Deaths by important causes were: Pulmonary tuberculosis, 432; typhoid fever, 55; diphtheria, 25; scarlet fever, 11; measles, 7; whooping cough, 24; pneumonia, 402; diarrheal diseases, 21; cerebrospinal meningitis, 18; influenza, 88; puerperal fever, 11; cancer, 92; violence, 120, and smallpox, 38. As compared with the corresponding month of last year an increase appears in influenza and violence. Of the total deaths 438, or over 15.8 per cent. were under one year of age, and 797 or 28.8 per cent. were 65 and over. The order of disease prevalence was as follows: Influenza, smallpox, rheumatism, bronchitis, pneumonia, tonsillitis, scarlet fever, pleuritis, measles, typhoid fever, whooping cough, intermittent fever, erysipelas, diphtheria and croup, diarrhea, inflammation of bowels, puerperal fever, dysentery, cerebrospinal meningitis, cholera infantum and cholera morbus.

IOWA.

Smallpox Near Sanborn.—A case of smallpox in a farmhand near Sanborn is reported by Dr. Leary, who is in attendance. This is the first case in this vicinity for a year.

A Test Case.—Dr. Benjamin A. Stockdale, Council Bluffs, has filed suit against the treasurer of state, to recover $250 paid as a license fee as an itinerant physician. In his petition Dr. Stockdale attacks the constitutionality of the law which discriminates between local and itinerant physicians, and charges that the law violates the state constitution and the fourteenth amendment to the constitution of the United States.

Commencement.—Drake University Medical Department, Des Moines, graduated a class of 11, April 22. Dr. A. Raymond Amos, the new dean of the college, delivered the address of the evening, and Dean Lewis Schooler presented the class to General F. M. Drake, who conferred the degrees.——On April 29 a class of 13 was graduated from Sioux City Medical College. Dr. George W. Beggs, president of the board, conferred the degrees.

Webster City's Hospital.—Mercy Hospital, just completed in Webster City, is the property of the Northwest Iowa Conference of the M. E. church. The structure was built by Jacob M. Funk at a cost of $25,000, and was presented on the condition that patients be admitted regardless of race, color, religion or financial condition. The hospital contains more than 40 rooms and will accommodate ordinarily about 35 patients.

KANSAS.

Diphtheria Near Hartford.—Diphtheria is said to be raging in the southern part of Lyon County. It is said that seven out of nine children in one family on a farm near Hartford have died.

Smallpox, Not Bubonic Plague.—The disease reported from Rice County as bubonic plague has proven to be confluent smallpox. Of the first twelve affected, 8 died. The disease has been confined strictly to three towns, Delavan, in the west end of Morris County, and Geneseo and Bushton in Rice County.

New Doctors.—The eleventh annual commencement of Kansas Medical College, Topeka, was held March 27, when a class of 12 was graduated. Dr. John E. Minney, dean of the faculty, presided, and gave a short sketch of the history of the college; Dr. Plass, president of Washburn University, delivered the address to the class; Dr. O. Portis Davis made the address on behalf of the faculty, and Dr. John C. McClintock, president, conferred the degrees.

Temporary Permits to Practice.—Dr. Henry W. Roby, secretary of the Kansas State Board of Medical Registration and Examination, has notified the holders of temporary permits to practice that there is no charge for the temporary permit; that the regulation fees for a permanent license must accompany each application; that the temporary permit must be recorded promptly with the county clerk; that each day it remains unrecorded he is liable to a fine of $50 to $200, and that until his permit is of record, he has no right to practice or to collect fees.

LOUISIANA.

Quarantine Arrangements Complete.—The quarantine arrangements have been completed and the marine inspectors are at their posts in Cuba, Central and South America. Dr. King Holt, Baton Rouge, has been appointed resident inspector at Havana.

Personal.—Dr. Rolando Kuehn, port surgeon at Bluefields, Nicaragua, for 15 years, through many changes of administration and revolutions, and for a time a resident at the leper colony of Molokai, Sandwich Islands, has returned to America to attend the Association session, and is the guest of Dr. Basilidus Lavigne, New Orleans.

Sleeping Car Disinfection.—The State Board of Health has passed a resolution requiring every sleeping car company operating in Louisiana to thoroughly disinfect each sleeping car after every round trip, under such regulations as the board may prescribe, provided that after personal investigation the quarantine committee finds such methods of disinfection necessary.

Louisiana Keeps Her Own Quarantine.—The State Board of Health has decided not to make its quarantine regulations conform with those of the U. S. Public Health and Marine-Hospital Service, or to use the marine-hospital inspectors instead of its own, or to relieve coastwise vessels of the necessity of inspection on entering New Orleans. These changes were suggested by Dr. Lindsley of Havana. The Louisiana board will maintain its own inspectors at all gulf forts where there is considered to be any danger of the importation of disease.

MARYLAND.

Baltimore.

Commencement.—Baltimore University School of Medicine graduated a class of 24, April 21, two of whom were women.

The Crim Sale.—The first three days of the sale of the collection of antiques of the late Dr. Wm. H. Crim terminated on Friday, the receipts being $29,300.

Personal.—Dr. Ira Remsen, president of Johns Hopkins University, was elected vice-president, and Dr. William H. Welch member of council of the National Academy of Services at Washington on April 22.

Fluctuating Mortality.—The fluctuations in the mortality of Baltimore were rather striking. Last week the number of deaths fell to 170, an annual rate of 16 per 1,000, pneumonia and consumption leading with 26 and 22 deaths respectively. One case of smallpox was reported, one of the suspects from Homburgville camp mentioned below.

Control of Tuberculosis.—At a meeting held April 24, for the discussion of measures for the control of tuberculosis, Dr. Herman M. Biggs of the New York Health Department delivered an address on the methods of dealing with the disease in that city. Remarks were also made by Drs. Welch, Osler, Fulton, Thayer, and Health Commissioner Bosley.

Negligence Charged.—Dr. Bosley, health commissioner, charges the health officers of Baltimore County with negligence in not maintaining a strict quarantine at the Homburgville camp near the city where several cases of smallpox have occurred. It is believed that 30 suspects from that camp have been allowed to come to the city. Ten patients have been taken from this camp to the City Quarantine Hospital.

Woman Takes Prize.—Dr. Florence R. Sabin, Denver, Colo., assistant in anatomy in the Johns Hopkins University Medical School, has been awarded the prize of $1,000 offered two years ago by the Naples Table Association for the best thesis of individual research in biology, physics, zoology and chemistry. The award was made by the association at a meeting held at Smith College, April 18. There were 11 candidates for the prize. The work for which Dr. Sabin received this prize was the discovery last year that the lymphatic system arises from the veins. Dr. Sabin graduated at Johns Hopkins in 1900, and is the first woman to receive an appointment as instructor in the medical department. She was a fellow in anatomy there in 1901.

Index Medicus Redivivus.—Drs. William H. Welch and William Osler gave a dinner at the Maryland Club, April 18, to Dr. Robert Fletcher of Washington, editor of the "Index Medicus," to celebrate the revival of its publication. After being published for 21 years this work lapsed for want of support. It has now been resumed through the good offices of Mr. Daniel C. Gilman and Dr. S. Weir Mitchell, who have secured an appropriation for it from the Carnegie Institute of $10,000 per annum for three years. It is understood that the continuation of this amount will depend on the interest taken in the work by the profession. Among those present were Drs. Abraham Jacobi, James R. Chadwick, W. W. Keen, F. P. Henry, Garrison, King and Yarrow of Washington; Acting Surgeon-General De Witt, and Major Kean of the Army, Mr. Marcus Baker of the Carnegie Institute, and others.

MASSACHUSETTS.

Bequests.—Mrs. Phebe R. Sturtivant left $10,000 to the New England Baptist Hospital, located on Parker Hill, Roxbury, Mass.——By the will of John J. Day, Quincy, $5,000 is bequeathed to the Quincy Hospital.

Suit for Autopsy.—A suit for $2,000, brought against the Massachusetts General Hospital for performing an autopsy on a Hebrew, in which the defense claimed that permission was granted, and the plaintiffs declared that by reason of the autopsy certain religious rites were rendered impossible, was decided in favor of the defendant.

First-Aid Training.—At the annual meeting of the Massachusetts Emergency and Hygiene Association, Dr. Grace Wolcott reported 241 patients cared for during the year at the Vincent Hospital and 27 attendants trained in the courses of the training school. Courses of lectures have also been given to firemen and policemen on first-aid and ambulance work.

Disease and Death.—During the week ending April 25 242 deaths were reported in Boston, equivalent to an annual death-rate of 21.52 per 1,000. This increase included 34 deaths from pneumonia; 6 from whooping cough; 20 from heart disease, and 9 from violence. There were 20 cases of diphtheria reported, with 3 deaths; 29 of scarlet fever, with 3 deaths; 11 of typhoid fever, 36 of measles, and 21 new cases of tuberculosis were reported, and 26 deaths from that disease.

Massachusetts General Hospital Report.—The annual report of the Massachusetts General Hospital states that $227,373 was expended during the year. Of this $157,744 was expended for free patients, a sum that is mainly met by special funds and free bed subscriptions; 5,199 patients were treated at an average weekly cost of $17.16; 26,662 patients were treated in the out-patient departments and 4,858 in the accident rooms. At the McLean Hospital for the Insane, in Waverley, which is under the same board of directors, $238,000 was spent for 330 cases, an average weekly cost of $25.99 per patient.

MICHIGAN.

Hospital Site Purchased.—A site at the corner of West Huron and College streets has been purchased by the Pontiac Hospital Association. The ladies in control expect to have the hospital completed this season.

Graduating Exercises.—The Michigan College of Medicine and Surgery, Detroit, graduated a class of 14, April 24. Dr. Hal C. Wyman, dean of the faculty, administered the Hippocratic oath and presented the diplomas.

Open Hospital at Laurium.—The new Northern Michigan General Hospital at Laurium was formally opened April 8. Dr. A. J. Ochsner, Chicago, delivered the address of dedication. The hospital will accommodate 100 patients.

Medical Staff Re-elected.—At the annual meeting of the medical staff of the Saginaw General Hospital, the following officers were re-elected: Dr. Sidney I. Small, president; Dr. Bert B. Rowe, vice-president, and Dr. Elmore E. Curtis, secretary.

"Cuban Itch" at Georgetown.—Ignorant or careless of the danger attending the so-called "Cuban itch," the authorities of Georgetown are said to have paid no attention to the disease which is prevalent in that place. The patients have not been quarantined.

MINNESOTA.

State Board Examines.—Out of 23 applicants for license to practice medicine 20 passed the examination of the State Board of Medical Examiners, and were issued licenses.

Personal.—Dr. Charles Lyman Greene of St. Paul has been appointed professor of theory and practice of medicine in the medical department of the State University of Minnesota.

Object Lesson in Vaccination.—Charles Stevens, secretary of the Anti-Vaccination League of Minneapolis, died from smallpox, April 15. He had frequently denounced vaccination as inefficacious and a barbarous practice.

Smallpox.—In the week ended April 13 there were 162 cases of smallpox reported in the state. Benton Township, Beaver County, furnished 30 cases; St. Paul, 12; and Minneapolis, and Elgin Township, Clay County, each 11.

Medical Course Shortened.—The board of regents of the university has decided to institute a six-year academico-medical course, whereby a student may complete both his academic and medical course in six years, instead of in seven years, as at present obtains.

MISSOURI.

Presentation.—Dr. Max C. Starkloff, health commissioner of St. Louis, was presented with a handsome watch and chain by the employes of the health department, April 23.

Change of Control.—On May 1, at the request of the faculty, the Marion-Sims-Beaumont Medical College, St. Louis, passed under the control of the Jesuit Fathers of the St. Louis University. The terms of agreement between the two faculties are that the university shall contribute $125,000 and control the examinations for entrance. This latter condition is to raise the standard of candidates for admission.

Old Physicians Honored.—On April 14 a banquet was given at the Planters' Hotel, St. Louis, by the St. Louis Medical Society in honor of four of its old members, all octogenarians: Drs. William M. McPheeters, aged 87; William Johnston, aged 88; Simon Pollak, aged 89, and John Bates Johnson, aged 86. The last-named was ill and unable to be present. Dr. William M. McPheeters was graduated from the University of Pennsylvania in 1840, and came to St. Louis a year later. He established the first public dispensary west of the Mississippi River, was a professor in St. Louis Medical College until 1861, when he entered the Confederate service as medical director on the staff of General Price. In 1850 he introduced a resolution in

the St. Louis Medical Society, which was followed by the organization of the state medical society. He was president of this society in 1852; president of the St. Louis Medical Society in 1856, and vice-president of the American Medical Association in 1869. Dr. William Johnston received his degree in medicine from the Medical Department of Louisville University in 1837, came to St. Louis in 1850; was president of the St. Louis Medical Society in 1866, and is still in active practice. Dr. Simon Pollak, a native of Bohemia, received his medical education at the University of Vienna and was given his degree in 1835. Two years later he came to the United States, and settled in St. Louis in 1845. In 1852 he founded the Missouri School for the Blind, and in 1860 the eye and ear clinic at Mullanphy Hospital, which he still has in charge. During the Civil War he served in the American Sanitary Commission. He has been many times treasurer, and once president of the St. Louis Medical Society. Dr. John Bates Johnson graduated from Berkshire Medical College, Pittsfield, Mass., in 1840. A year later he came to St. Louis; was one of the faculty of Kemper College from 1846 to 1854, when he was elected professor of clinical medicine in St. Louis Medical College. He was one of the founders, and once vice-president of the American Medical Association; one of the founders and an early president of the state society, and was a member of the sanitary commission in the Civil War. Dr. Elisha H. Gregory responded to the sentiment, "The Old Guard"; Dr. Woodson Moss spoke on "The New Organization": Dr. W. G. Moore on "Honor to Whom Honor Is Due"; Dr. Alonzo R. Kieffer on "The St. Louis Medical Society," and Dr. LeGrand Atwood on "Before the War." The guests of the evening were also called on for speeches and responded. Dr. Robert M. Funkhouser officiated as toastmaster.

NEW YORK.

Hospital Cornerstone Laid.—The cornerstone of the new $140,000 Norwegian Hospital, Brooklyn, was laid with impressive ceremonies April 19.

Personal.—Dr. Charles G. Stockton, Buffalo, has returned from California.——Dr. Willard Parker was knocked down by an automobile, April 23, sustaining a fracture of the left leg and some contusions.

Mikulicz in Buffalo.—Professor von Mikulicz of Breslau was in Buffalo, April 25, the guest of Dr. Harvey R. Gaylord. He gave a clinic to a large number of professional men, and in the evening a complimentary dinner was tendered him by the profession.

Advice for Consumptives.—President Lederle of the New York City Board of Health has sent out all over the city, especially among the crowded tenement house districts, a printed circular, giving advice on the treatment of consumption, in English, German, French and Hebrew, and calling attention to the fact that the spread of the disease is largely due to spitting.

Milk Adulteration and Proposed Legislation.—The Commissioner of Health states that there has been smuggled into a bill now before the legislature, and known as Senate Bill No. 1104, an apparently innocent clause which, if allowed to become law, will practically nullify the present law under which dealers are prosecuted for the adulteration of milk. The objectionable clause is in connection with the recovery of penalties for violation of the Sanitary Code, and says: "Which shall not be punishable as misdemeanors unless the wilful intent to violate such section shall be first proven." Last year there were collected in fines from milk dealers $19,118, as against $6,292 in 1901. Of 3,970 samples of milk taken for analysis last year 2,095, or 52 per cent., were found to be adulterated.

PENNSYLVANIA.

Telephone Advice.—The Allegheny County Medical Society has adopted a scale of charges of from $2 to $5 for advice given over the telephone.

Ray Bill Defeated.—The Ray bill, the object of which was to raise the standard of preliminary education requisite to entrance to medical colleges, has been defeated in the senate. Its defeat is ascribed to the influence of low-standard medical colleges.

Rabies Is Reported.—Twelve children, playing on the street, were bitten by a mad dog, which ran into a crowd. The victims were all promptly taken to the Pasteur Institute at Allegheny. Two children were also recently taken to the institute from Waynesburg for a similar reason.

Cocain Bill Passed.—This bill was passed by the legislature and has been signed by the governor, fixing a penalty of $100 or six months' imprisonment for the sale of cocain, or any patent or proprietary remedy containing cocain, without a physician's prescription, or to a habitual user of cocain.

Philadelphia Must Pay.—A claim of $67,000 against Philadelphia by the Norristown State Hospital for the Insane for the care of patients sent from the former, was recently allowed by the Supreme Court. The defense was that the city had in previous years overpaid the hospital, but the city's offsets were adjudged to have been barred by the statute of limitations.

Suppression of Smallpox.—For the information of boards of health and of school boards organized as boards of health for the suppression of smallpox, the secretary of the state board has had printed in pamphlet form regulations controlling the disbursement of the $50,000 placed at its disposal to aid in this work. The fund shall not be used for any other purpose than for assisting local communities during the prevalence of smallpox and for meeting just and reasonable expenses incurred in the suppression of that disease. School boards acting as boards of health, applying for aid, must furnish sworn evidence that they have organized formally and have adopted sanitary measures and appointed a paid sanitary agent. In no case will the state board assume the entire expense, and no unvaccinated person shall be appointed to any official position charged with carrying out preventive measures.

Bills Vetoed.—The following bills passed by the legislature were vetoed by the governor: A bill compelling manufacturers of baking powder containing alum to display the words on each package, "this baking powder contains alum." As a reason for veto, the governor states that it would be proper to require that all baking powders should have a label describing the ingredients and their qualities, but that it would be unjust to require one ingredient to be displayed without any reference to quantity. A bill making it unlawful for persons to spit in public conveyances and public places. As a reason for non-approval of the latter, the governor states that, while spitting is not nice, pleasant or polite, it seems that it would be better to leave the cure of a bad habit to gradual development of a better taste and higher culture rather than to attempt a regulation by law which imposes imprisonment instead of a well-digested health regulation. A bill making it a misdemeanor for persons with a knowledge of a case of contagious disease not to report the fact.

TENNESSEE.

Disinfect After Floods.—The Memphis Board of Health has cleaned and disinfected 163 houses in that part of North Memphis along Bayou Gayoso, which was submerged during the recent floods.

Graduates Class of Forty.—The medical department of Grant University, Chattanooga, held its annual commencement, April 14, graduating a class of 40. Dr. George A. Baxter delivered the faculty address and the degrees were conferred by Rev. G. T. Newcomb.

City Hospital Staff Elected.—On April 20 the following members were elected to the staff of the Memphis City Hospital: Drs. Leon L. Meyer, Alonzo B. Oliver, E. Michel Holder, Maxence B. Herman, William T. Black, James L. Andrews, Oswald S. McCown, William W. Taylor, Elizabeth C. Kane, Pope M. Farrington, Kennedy Jones, George R. Livermore, and B. Frank Turner.

State Board of Medical Examiners.—At the recent examination held in Nashville, 31 out of the 154 applicants for license to practice failed to pass.——The board appointed Dr. Robert Pillow, Columbia, delegate to the Interstate Medical Examiners' Association at New Orleans, May 4, with Dr. William H. Halbert, Nashville, as alternate.——The secretary, Dr. Thomas J. Happel, Trenton, was authorized to make a new directory of the physicians of the state.

UTAH.

Personal.—The Board of Commissioners of the State Mental Hospital has appointed Dr. Daniel H. Calder, Brattleboro, Vt., assistant physician.

Without License.—James Davidson, Salt Lake, has been charged with practicing medicine without a license and a warrant has been issued for his arrest.

State Board Meets.—The State Board of Medical Examiners reorganized at its April meeting and elected Dr. Elias S. Wright, Salt Lake, president; Dr. Robert W. Fisher, Salt Lake, secretary, and Dr. Briant Stringham, Bountiful, treasurer. The board passed 12 out of 13 applicants to practice medicine.

Salt Lake's March Health.—The total mortality for March was 67, representing an annual death rate of 10.72 per 1,000. Pneumonia caused 11 deaths; tuberculosis and cancer each 4, and diphtheria 10. During the month 161 births were reported. Of smallpox 92 new cases were reported; of diphtheria, 37; of scarlet fever, 15; of chicken-pox, 18; of measles, 8, and of typhoid fever, 4.

VERMONT.

To Combat Contagious Disease.—The city council of St. Albans has appointed Dr. Antoine H. Desloges to care for the contagious diseases of the city at an annual salary of $800.

Osteopaths Sued.—John S. Wilkins, Burlington, has sued W. W. Brock and Mrs. L. K. Rosselle of the same city for $10,000 damages, alleging that his wife, who was under treatment by the defendants, died as a result of severe pounding, bruising, etc., administered by them.

Smallpox Scare.—Burlington has a smallpox scare due to the arrival there of a family of nine from Manchester, N. H., whence they eloped. Five of the children and the mother were recovering from smallpox. Starting at night they traveled in a common coach and were found in a crowded tenement in Burlington. Two of the children were at work before the family was traced by the health officers. No one of them can speak English.

WASHINGTON.

Smallpox Under Control.—The county health officer of Walla Walla County reports that smallpox at Wallula, Dixie and College Place is now well under control.

Personal.—Dr. William L. Ludlow, Seattle, recently appointed health officer to succeed Dr. Frank M. Carroll, resigned, has been appointed a member of the local board of medical examiners. ——Dr. A. E. Stuhl, Colfax, has been appointed a member of the State Board of Medical Examiners, vice Dr. William G. Tucker, Port Townsend.

Spokane's Mortality Heavy.—The record for deaths in Spokane was broken in March, in which 84 deaths were reported. Pneumonia caused 10 deaths; tuberculosis, 8; kidney disease, 10; heart disease, 7; and suicide, 5. The prevalence of influenza is considered the cause of the heavy mortality. During the year 520 deaths and 829 births were reported. There were 1,189 cases of contagious disease, smallpox leading with 477.

GENERAL.

Professors Ewald and Tillmanns, of Berlin and Leipsic, respectively, are in this country to attend the session of the American Medical Association at New Orleans next week.

To Watch for Mosquitoes.—The U. S. P. H. and M. H. Service surgeons at the fruit ports of Central and South America have been directed to watch for the *Stegomyia fasciata* and to take precautions to prevent yellow fever and to watch for the occurrence of the disease.

Reception.—The Medical Club of Philadelphia will give a reception at the Hotel Bellevue, May 15, to Dr. George H. Simmons, Chicago, Secretary of the American Medical Association; Prof. von Mikulicz-Radecki, Breslau; Prof. C. A. Ewald, Berlin; Prof. Hans Kehr, Halberstadt, and Prof. Hermann Tillmanns, Leipsic, Germany.

Open Door in Turkey.—American physicians and dentists will now be on the same standing in Turkey as are those of France. They have heretofore been refused examination and could not practice. They will now be allowed to practice if they present good diplomas and pass the examination. This is the result of pressure brought to bear on the sultan by President Roosevelt and U. S. Minister Leishman.

Mikulicz Holds Clinics.—Prof. Johann Mikulicz of Breslau, whose visit to America we mentioned last week, is conducting clinics in various cities, including New York, Cleveland, Philadelphia and Chicago. He expects to visit Denver and other western cities. Dr. Mikulicz speaks very highly of American hospitals and says they far surpass those of Europe. He criticises the administration, however, in that there is not the autocratic power in the hands of one man, which he thinks an advantage in Germany. Here, he says, there is a division of authority and more frequent changes in the personnel of the staff that he thinks do not work out as well. Dr. Mikulicz gave a clinic, April 20, in Bellevue Hospital, for the faculty and students of Cornell University Medical College. He had as cases a gastrostomy, an inguinal hernia and a fibromyoma of the uterus. The gastrostomy was performed according to Witzel's method, which the professor appeared to consider the best. On the hernia he did an ordinary Bassini operation and the other case was treated by myomectomy. The interesting peculiarity of his work was his great dexterity, as the gastrostomy and the hernia were done in an extremely short time. One of the surgeons present remarked that he had never seen a Bassini operation completed more quickly, although the case, to be sure, was of the acquired variety and presented no unusual difficulties. Cotton gloves were also noticeable as the professor's preference. These were changed as fast as they became blood stained, but to the onlooker it seemed that considerable time was wasted in drawing on a clean pair each time. He remarked to the house staff that for appendicitis operations he preferred the old-fashioned transmuscular and not intermuscular incision. In closing the abdominal wound he employed numerous layers of chromicized catgut sutures. This material was also used very freely in suturing the uterus after the myomectomy.

CANADA.

Mandamus Refused.—In the case against the British Columbia physician who was alleged to have attended a woman in confinement while he was intoxicated, the judge has refused to compel the College of Physicians and Surgeons to hear and determine the charges.

McGill University in Need of Funds.—The salaries of McGill professors are the subject of much discussion. Four professors have recently received offers to go elsewhere at largely increased salaries. McGill needs, says one of the professors, a large measure of support from the citizens of Montreal.

A University for British Columbia is proposed by the graduates of the University of Toronto in that province. A large number of those in the terminal city, Vancouver, have met and decided to send a circular to all the graduates throughout the province. The proposal is to have a university with an examining body with power to grant degrees, and without a teaching staff.

Sir James Grant, Ottawa, Honored.—In recognition of fifty years spent in the practice of medicine, during forty-nine of which he was located in Ottawa, Sir James Grant, M.D., was tendered a banquet, April 21, by the medical fraternity of the capital and of the Ottawa valley. Sir James was greatly touched by this expression of friendship, and favored the company with some reminiscences of his medical career.

Personal.—Dr. J. M. Elder, Montreal, has gone to England until July.——Dr. James F. Boyle of Toronto has just completed a post-graduate course in Scotland, where he has succeeded in taking the degrees of L.R.C.P. and L.R.C.S., Edinburgh, and L.F.P.S., Glasgow.——Dr. Casey A. Wood, Chicago, was given the degree of D.C.L., *honoris causa*, at the annual conferring of degrees of Bishop's University, Montreal, April 24.

Dr. J. H. Richardson, Toronto, Honored.—The first medical graduate of the University of Toronto, a teacher of anatomy for half a century, an octogenarian, and one of Toronto's much-respected medical men, was honored by a dinner, April 15, by his old students, at the same time a portrait was presented to the university. A large number of medical men from Toronto, Ontario, and different parts of the United States gathered for the occasion to do honor to their old teacher. Dr. Richardson first began the study of medicine in 1841.

No Dominion Registration.—The Quebec legislature has rejected the proposal to ratify the scheme of Dr. Roddick, M. P., for dominion registration, now known as the Canada Medical Act, 1902. It was defeated by a large majority for the assigned reason of its alleged interference with provincial rights, and the French-Canadian guards very jealously his provincial rights. It is understood that the matter will be brought up again next session, and also before the College of Physicians and Surgeons, which, it will be remembered, voted last fall against the introduction of any legislation into the Quebec house of representatives to make the act operable.

Tuberculosis Conference.—The third annual meeting of the Canadian Association for the Prevention of Tuberculosis was held at Ottawa, April 16. In addressing the conference, Governor-General Minto stated that he believed there were annually not less than 30,000 cases of tuberculosis in Canada and the number of deaths was about 9,000. Dr. H. Beaumont Small read the annual report. In Canada out of 36 hospitals only 13 had special accommodation for consumption patients. Dr. A. J. Richer of Montreal read a paper, in which he estimated the annual loss to Canada from tuberculosis at $72,000,000, this being based on the deaths and invalidation from the disease. He further pointed out that, while the federal



Frank Billings

President of the American Medical Association.

government spent nearly $20,000 annually in preventing tuberculosis among cattle, it had only contributed $1,000 towards the same end among human beings.

FOREIGN.

Physician Enters Parliament.—Dr. Charles Frederick Hutchinson has been elected a member of Parliament from Sussex, England. He had retired from active practice.

Women Physicians Graduate at Bonn.—The daughters of two deceased local physicians have recently successfully completed their medical course at Bonn and graduated with distinction, the first women to graduate as physicians there.

Prizes for Essays on Sick Nursing.—Thirty prizes are offered for the best works on the subject: "How to Improve the Patient's Mood and Win His Confidence." The competing articles must be sent in before October 1 to the publishers of the "Deutsche Krankenpflege-Zeitung," Verlag Staude, Berlin W, 35.

Large Fine by the German Court of Honor.—A regularly qualified physician has been fined $375 by the Dresden medical court of honor, the highest fine it is empowered to impose. He was reprimanded officially by the court last September for cooperating with a notorious charlatan, Bilz, and has since resumed his connection with him.

Australian Physician Fined.—Dr. Alfred M. Keighly was fined $250 at Newtown, Australia, March 6, for the alleged representation that he was a legally qualified practitioner. He has given notice of appeal. He asserts that he is a graduate of the Cincinnati College of Medicine and has further studied in Europe. It was said he had been refused registration by the Australian medical board.

Campaign Against Charlatans in Germany.—The German society that has been recently formed for the purpose of educating the public in regard to the evils of quack practices has issued an appeal to the profession at large for funds with which to conduct its work on an extensive scale. All interested are requested to join the society. Subscriptions and other gifts may be sent to the treasurer, Dr. Albert Wilde, Charlottenburg, Rosinenstrasse 3, Germany.

Dangers of Using Circulars for Wrapping Medicines.—A physician at Dresden prescribed a snuff for a patient with asthma, which contained belladonna, hyoscyamus and datura. The druggist dispensed it in two small boxes, each wrapped in a circular advertising somatose. The patient noticed the directions for taking the somatose, a teaspoonful in milk, three times a day. Supposing that they applied to the contents of the boxes, he took a teaspoonful of the snuff in this way, with severe but not fatal intoxication.

Foundation of Monthly for Discussion of Medical Sociology.—A periodical has been founded by M. Fürst and K. Jaffe of Hamburg which announces that it will treat the "borderland" questions of practical medicine and social practice, and all matters pertaining to the material and economic welfare of the profession. organization, etc., without taking part on either side in any movement, merely presenting facts in an objective, scientific way. Subscription $2.50. Publisher, G. Fischer of Jena. The name of the new journal is the "Monatsschrift für soziale Medizin."

Suicide Increases.—The lay press quotes statistics to show that suicide is increasing. In all countries suicide has been more common with men than with women. The proportion of women is greatest in America and Spain. In France during the last twenty-five years the proportion has increased from 157 to 224 per million of the population. In Germany the proportion has been about the same and in Belgium somewhat less. In Russia there was no increase. The increase in other countries was in the following order: Austria, Hungary, Australia, Ireland, Scotland and England.

History of Compulsory Notification of Tuberculosis.—The first edict requiring compulsory notification of phthisis was issued by a king of Spain in 1751. The decree describes the motives for it, and enjoins destruction of the furniture and wearing apparel used by consumptives and replastering the room after a death. Physicians who fail to notify the alcalde of a consumptive patient or the death of a consumptive are fined 200 ducats at the first offense and suspended for one year, and for a second offense 400 ducats and exiled for four years. Nurses, servants and others waiting on the consumptive are required to see that the authorities are notified of the case under penalty of thirty days in prison for the first offense and four years at the galleys for the second. The edict also contains a paragraph directing that dealers in second-hand clothing must keep a record of the persons from whom the clothes are bought and to whom sold.

Organization for Prevention of Spread of Venereal Disease.—Although founded only last October, the German society organized for this purpose already has 1,600 members and has branches in nearly all the large cities of Germany. A similar society has recently been founded at Vienna. The German society held its first congress in March at Frankfurt a. M. The proceedings are to be published in detail in the newly founded "Zeitschrift für die Bekämpfung der Geschlechtskrankheiten," to be issued by the society in addition to its periodical, the "Mitteilungen." The "Zeitschrift" will be in charge of Blaschko, Lesser and A. Neisser, and be published by J. A. Barth of Leipsic; subscription $3. It will contain the more strictly scientific articles on the subject. Some of our exchanges think that the discussions at the March congress will be the starting point for extensive reforms in the prevention of venereal disease. Erb of Heidelberg created something of a sensation by protesting against the assumption that sexual abstinence is always "perfectly harmless," as he has observed isolated cases of neurasthenia and hysteria traceable to this cause in predisposed subjects.

Organization of the Profession in Germany.—Compulsory insurance of wageworkers against sickness has for some years been enforced in Germany. The sick fund societies, or "Krankenkassen," that assume the insurance make contracts with physicians for medical attendance of their members at the lowest possible rates, sometimes absurdly inadequate. A new law is before the Reichstag now which increases the length of the maximum treatment from thirteen to twenty-six weeks and requires venereal diseases also to be insured against. Hitherto the societies have ignored the venereal diseases. If this law goes into effect all the present contracts with the medical attendants of the societies will have to be modified to conform to the new conditions or otherwise the work of the physicians will be vastly increased without any more pay. The profession throughout the country has been organized, and there is every prospect that the day the law goes into effect, July 1, the medical attendants of all the societies will refuse to continue their services until new satisfactory pecuniary arrangements have been made, and other physicians will not take their vacant places. In short, the physicians have organized a general strike all along the line on the principle: "If you want peace, prepare for war." The societies have been counting on the usual inertia and lack of organization among physicians to accomplish their aims of the minimum of expense for the maximum of medical services, but the decided stand being taken by the united profession will undoubtedly have its effect and the contemplated strike not prove necessary. The strike at Mülhausen has been arbitrated and a temporary peace restored, but at Gera the conditions remain the same and the managers of the societies are compelled to pay for medical attendance for their members at the ordinary rates for a physician's services or let them go without. As a minor matter, the profession in Germany is working to introduce "the American plan" of free choice of the physician by the patient, and many of the new societies are organized on this basis.

LONDON LETTER.

Mr. Jonathan Hutchinson's Investigation of Leprosy in India.

The return of Mr. Hutchinson from India has been followed by a lengthy editorial and evidently inspired article in the "Times" on his tour of investigation. If Mr. Hutchinson can not be said to have established the fish hypothesis which he advocates with all his characteristic pertinacity, he has once more shown that combination of keenness of observation, originality of suggestion and dialectic skill which give him a unique position among the clinicians of this or perhaps any age. His searching cross-examination in the cases of lepers said never to have eaten fish with his recent suggestion that leprosy can be communicated from person to person by "commensal contagion" (eating food from the sore hands of lepers) has demolished the objection of those who said that Indian experience was opposed to him. Further, he has brought forward a number of new facts which at least ought to cause those who do not seriously regard the fish hypothesis to pause. Mr. Hutchinson visited asylums at Colombo, Madras, Calcutta, Purulia Asonsal, Agra, Tarn Taran, Jullundur and Bombay. In several instances the asylum visited was chosen in consequence of statements that the inmates were not fish eaters. But nowhere were the facts strongly opposed to the fish hypothesis. In Ceylon all had been fish eaters. At Madras and Calcutta in

each asylum a single high-caste Brahmin denied having eaten fish. At Agra there was one doubtful exception. At Agra, Tarn Taran and Jullundur there were several. The untrustworthiness of the documentary evidence, if not subjected to criticism on the spot, was remarkably illustrated at one asylum in the Punjab. A tabulated schedule was prepared for Mr. Hutchinson by the native medical superintendent, according to which nearly 40 men alleged that they had never eaten fish. On questioning them one by one Mr. Hutchinson found that only one persisted in his denial, and he said he had not eaten fish because he "did not like it." The greater part of those who denied having eaten fish were patients in whom the disease had begun in early life; and in these food communication is especially likely to occur. Children would easily take food contaminated by the hands of leprous relatives. Passing from the removal of objections to positive evidence Mr. Hutchinson brings forward the following facts: The proportion of leprosy in the whole of India is 5 per 10,000. On the little island of Nunicoy, which exports fish, and where the inhabitants are said to eat four fish meals a day, the proportion is nearly 150 per 10,000. The records of the Matunga asylum at Bombay are most suggestive. The Hindus, who constitute the bulk of the inmates, come mostly from the great fishing district on the coast south of Bombay. During the eight years investigated no Jain and only one Parsee was admitted. The Jains are strict vegetarians and the same statement concerning their absence might probably be made of every asylum in India. The report of the Matunga asylum reveals a fact still more remarkable. One column is devoted to "Salsette Christians." The totals are Mussulmans, 324; Salsette Christians, 369. Yet the Mussulman population of Bombay Presidency is very large and the number of Salsette Christians very small. The latter term is applied to the converted natives of the little island of Salsette, which is north of Bombay and now connected with it by a road. It has a population of 50,000, largely engaged in fishing and fish-curing. The Salsette Christians are all Roman Catholics and are descendants of converts made by the Jesuits in the time of the Portuguese occupation and observe the fish fast days of their church. During the eight years no other Christian community in the presidency supplied a single leper to the asylum. Mr. Hutchinson's general conclusion is that as regards leprosy in India there are no facts which controvert or render untenable the fish hypothesis and that there are some which afford to it a support which he considers unassailable.

A New Method of Immunization.

A most important advance in the art of immunization has been rendered possible by the recent discoveries in physics by Professor Dewar which have lead to the liquefaction of air and other gases. At the Royal Society Dr. Allan Macfadyen described an investigation he had made in conjunction with Professor Dewar which promises a prophylactic and therapeutic agent in the treatment of typhoid fever, which may replace the anti-typhoid "vaccines" and anti-typhoid sera in use. So far all attempts to separate the toxin from the cell protoplasm of the typhoid bacillus have failed. Hence such "anti"-sera as have been produced are bactericidal or anti-bacterial and not actively antitoxic. For some years Dr. Macfadyen has been experimenting with bacteria which form intracellular or so-called "insoluble" toxins. He attempted at first to obtain the cell juices by trituration of the bacteria with fine sand and subsequent expression by a hydraulic press. But in all these operations heat is evolved and induces chemical changes in the juice obtained. Professor Dewar's observations on the liquefaction of various gases showed that at very low temperatures all chemical interchange ceased, although life was not necessarily destroyed. Dr. Macfadyen, working in conjunction with Professor Dewar, found that many species of bacteria could be exposed to the temperature of liquid air for considerable periods of time—in some cases as long as six months—without loss of vitality. At this temperature bacterial cells are frozen into hard fragile masses which can be successfully triturated *per se* without the possibility of autolytic changes, and the cell plasma can be subsequently obtained from the disintegrated mass. The cell juice obtained in this manner from the *Bacillus typhi abdominalis* is extremely toxic, although no living typhoid bacilli are present. This typhoid cell juice was employed in the immunization of animals which yielded an "anti" serum both bactericidal and also antitoxic. They were completely protected against lethal doses of living typhoid bacilli or of toxic cell plasma. Further animals inoculated with lethal doses of living bacilli or of toxin and some time later injected with curative doses of the "anti" serum recovered. This new method of immunization has wide possibilities for it is applicable to many infectious diseases.

The Bacteriology of Conjunctivitis.

At the Æsculapian Society Mr. E. W. Bremerton read an important paper on this subject based on an examination of 100 cases. His cases showed that in the various infections the risk of sloughing of the cornea was greatest in the following order: 1, streptococcus; 2, gonococcus; 3, staphylococcus; 4, diphtheria bacillus; 5, Koch-Weeks' bacillus, and 6, staphylococcus albus. Fifty per cent. of his cases of ophthalmia neonatorum were gonorrheal; and cases thought gonorrheal, which quickly recovered, were found to be pneumococcal.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, FIFTY-FOURTH ANNUAL SESSION, NEW ORLEANS, MAY 5-8.

Illinois State Medical Society, Chicago, April 29-May 2.
Arkansas Medical Society, Jonesboro, April 30-May 2.
Association of American Medical Colleges, New Orleans, May 4.
American Proctologic Society, New Orleans, May 5.
Kansas Medical Society, Concordia, May 6-9.
American Urological Association, New Orleans, La., May 8-9.
American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Dermatological Association, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.

American Academy of Medicine.—The twenty-eighth annual session will be held at Washington, D. C., May 11 and 12.

Caldwell County (Texas) Medical Society.—At the annual meeting in Lockhart, April 14, Dr. John B. Holt, Lockhart, was elected president, and Dr. Ross, secretary.

Dubuque (Iowa) Medical Society.—The notice of the coming semi-centenary meeting of this society, which appeared in THE JOURNAL of April 25, should have read "fiftieth" and not "fifteenth" anniversary.

Graves County (Ky.) Medical Society.—In addition to the officers noted as having been elected, Dr. Jefferson D. Pryor, Mayfield, was elected vice-president and Dr. Herbert H. Hunt, of the same city, treasurer.

Central District (I. T.) Medical Society.—At the annual meeting, held in South McAlester, April 14, Dr. Alfred Griffith, South McAlester, was elected president; Dr. W. H. Cleckler, Wilburton, vice-president, and Dr. LeRoy Long, Caddo, secretary and treasurer.

Hartford County (Conn.) Medical Association.—The one hundred and eleventh annual meeting was held in Hartford, April 15. Dr. Howard O. Allen, Broad Brook, was elected president; Dr. George R. Shepherd, Hartford, vice-president, and Dr. William G. Craig, Hartford, clerk.

Pee-Dee (S. C.) Medical Association.—At the fifty-sixth annual meeting held in Darlington, April 8, Dr. F. H. McLeod, Florence, was elected president; Dr. A. T. Baird, Darlington, vice-president; and Dr. James M. Earle, Darlington, secretary and treasurer. The next meeting will be held in Florence, in October.

Silver Bow County (Mont.) Medical Association.—At the annual meeting, February 25, the following officers were elected: Trustees, Drs. Thomas J. Murry, Thomas J. Sullivan, John W. Gunn, Erasmus D. Leavitt, and Thomas A. Grigg; president, Dr. Thomas J. Sullivan; vice-president, Dr. Louis Bernheim, and secretary, Dr. Grace W. Cahoon, all of Butte.

Central Railroad of Georgia Surgeons' Association.—The annual meeting was held in Columbus, April 14. Resolutions

were adopted on the death of Drs. Benjamin R. Dostor, Blakely, Ga., and Robert F. Harper, Ozark, Ala. Dr. Samuel C. Benedict, Athens, was elected president; Dr. Charles Hickes, Dublin, Ga., vice-president, and Dr. W. Darracott Travis, Covington, Ga, secretary and treasurer.

Fairfield County (Conn.) Medical Society.—About fifty members were present at the one hundred and eleventh annual meeting held in Bridgeport, April 14. Dr. William B. Cogswell, Stratford, was elected president; Dr. Frederick Schavoir, Stanford, vice-president; Dr. Herbert E. Smyth, Bridgeport, clerk; Dr. Edwards M. Smith, Bridgeport, secretary, and Dr. William J. Tracy, Norwalk, county reporter.

Florida Medical Association.—The thirteenth annual meeting was held in St. Augustine, April 8 and 9. The following officers were elected: Dr. DeWitt Webb, St. Augustine, president; Drs. John McDiarmid, De Land, and Joseph N. Fogarty, Key West, vice-presidents; Dr. J. D. Fernandez, Jacksonville, secretary-treasurer, and Dr. Edward N. Liell, Jacksonville, librarian. The 1904 meeting will be held in Live Oak.

Medical Association of Georgia.—The fifty-fourth annual meeting was held in Columbus, April 15. The following officers were elected: Dr. Henry McHatton, Macon, president; Drs. James H. McDuffie, Columbus, and Elmer C. Thrash, Oakland, vice-presidents; Dr. Alexander Mack, Hawkinsville, censor, and Dr. Floyd W. McRae, Atlanta, delegate to the American Medical Association. The next meeting is to be held in Macon.

New Mexico Medical Society.—This society met for its twenty-second annual session at Las Vegas, April 7. The following officers were elected: Dr. G. C. Bryan, Alamogordo, president; Drs. Edwin B. Shaw, East Las Vegas, T. B. Hart, Raton, and Samuel D. Swope, Deming, vice-presidents; Dr. J. Frank McConnell, Las Cruces, secretary and delegate to the American Medical Association, and Dr. George W. Harrison, Albuquerque, treasurer.

Adams County (Ill.) Medical Society.—The annual meeting was held in Quincy, April 13, when the following officers were elected: President, Dr. William W. Williams, Quincy; vice-presidents, Drs. Amos D. Bates, Camp Point, and Henry Hart, Quincy; secretary, Dr. John A. Koch, Quincy (re-elected); treasurer, Dr. Levin H. A. Nickerson, Quincy (re-elected); censors, Drs. Joseph Robbins, Charles D. Center and Robert J. Christie, Jr., all of Quincy; delegate for two years to the state society, Dr. Edmund B. Montgomery, Quincy, and alternate, Dr. William E. Gilliland, Coatsburg.

FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held in Madrid, Spain, April 23-30, 1903.

The President, M. le Prof. Julian Calleja y Sanchez, presiding.

[*By Cablegram from our Special Correspondent.*]

MADRID, APRIL 24, 1903.

The Fourteenth International Congress of Medicine opened in Madrid, Spain, Thursday, April 23. The organization and provision for the reception of members was miserable, and hotel accommodations inadequate. Many passengers on the "Irene" arrived late, being detained in Seville.

The Opening Sessions.

On Thursday afternoon the inauguration in the Opera House was attended by King Alphonso XIII and the queen mother.

The attendance, as announced by the Secretary, M. le Dr. Angel Ferandez-Caro, was 7,000, about half of whom were foreigners. The United States was seventh in attendance, with 200 present.

President Calleja, in his opening address, emphasized the progress of the century, laying special stress on the cell doctrine, and the theory of epigenesis in relation thereto. He considered that perhaps the greatest advance was in bacteriology, which now dominates medicine.

Congratulatory addresses were made by Leyden, Schroetter, Brouardel and Pavy.

The second day was largely given to organization and election of officers. The general reports were for the most part postponed.

Social Entertainment.

The evening of the first day closed with a grand ball, 500 delegates being present, in the City Hall. Among the other social events was a full dress reception, on Friday evening, in the palace by the king and queen. On Wednesday evening a party was given in the Royal Gardens. Saturday there was an excursion to the Escurial. [This is an immense monastery outside Madrid, considered one of the wonders of the world.] On Sunday a special bull fight was given for the benefit of the visitors, and on Monday an excursion to Toledo.

THE SCIENTIFIC PROCEEDINGS.

The most important papers were in pathology, medicine, obstetrics and gynecology.

Treatment of the Autointoxications Due to Overaction of the Nervous System.

Prof. Alexandre de Poehl of St. Petersburg described a vicious circle in nervous autointoxications in which the chief agent is adrenal. Deficient tissue oxidation sets free a number of organic acids in the blood. Poehl has found adrenal in many tissues; it is dissolved out by the hyperacid blood-serum and, as a reducing agent, still further intensifies the acidification of the blood. Senator has recommended spermin for this condition for the reason that it best combats the hyperacidity.

A New Antipyretic.

Lumiere and Chaumier read a paper on cryogenine, which is a semicarbazide. This is a powerful antipyretic, the dose being from ½ to ¾ gram. It lowers the temperature from one to three degrees, acting immediately, while the maximum effect is obtained in three hours. The effects last from six to forty-eight hours. The results vary with the nature of the disease. There was not found any disturbance of urine, digestion or of the nervous system even of the child, nor is a toleration established.

Tuberculosis.

Dr. Regurier of Nice presented a paper on "The Clinical Types of Pulmonary Tuberculosis and Their Therapeutic Indications." For rational and scientific treatment one must have an accurate clinical subdivision of the various types. The only logical basis for such a subdivision is the degree of resistance which the organic economy opposes to the microbic infection. There are three grades of reaction of the organism: 1, unbending resistance; 2, less firm resistance, and 3, entirely inadequate resistance. On this basis the author suggests a very complete regrouping of the various clinical types hitherto generally recognized.

The Dynamogenic or Inhibitory Action of Light Massage.

Dr. Saquet of Nantes read a paper on the comparative dynamometric measurements of the power of the hands taken before and after massage had been administered. As a rule there is an increase in power; in other cases there is apparently a diminution in the register of the dynamometer, but even in such cases the equilibrium is generally restored within a quarter of an hour.

Physicotherapy; Its Indications and Its Advantages.

Prof. J. Riviera of Paris praised most highly the physicotherapeutic agents, viz., electricity, heat and light. They act principally by stimulating the emunctory organs, by altering metabolism and by influencing the distribution of the blood to the various parts of the body. They are particularly of value in the treatment of city diseases such as gout, arthritism, dyspepsia, nervosity, all types of dystrophy, "uterine patients," and all the many chronic cases which have hitherto resisted medical treatment.

Ferruginous Waters for Chlorosis.

Dr. E. Guilleaume of Spa said that the same circulatory conditions which give the subjective symptoms of chlorosis prevent the proper assimilation of iron as a medicine. The ferruginous baths (carbonic acid gas) rapidly improve the general condition by improving the circulation, and so, without directly affecting the hemoglobin, further a cure by rendering possible the assimilation of the iron given internally.

Argon and Helium in Mineral Waters.

Dr. A. Popskin said that argon and helium, the recently discovered elements, have been identified in various waters, Cauterets, Harrowgate, Voslan, etc., but as they do not appear to enter into the biochemical processes and can not be recovered from animal or vegetable bodies by analysis, they, therefore, probably exercise no therapeutic action in the waters.

Syphilis and Hydrotherapy.

Dr. H. Keller of Reinfelden said that physiotherapy is as important as medicine in the treatment of syphilis. This treatment comprises hygiene, hydro-mineral treatment and hydrotherapy. They should be combined for syphilitics who are of the lymphatic or arthritic constitution, or anemic or debilitated. In the severe cases, it is really specific. It is indicated in cases of idiosyncrasy against mercury. Sulphurous, chlorinated and iodid springs are of especial value.

Tuberculosis and Hydrotherapy.

Dr. M. Cayeux of France said that certain waters, by their stimulating action, serve to fortify the organism against the attacks of the bacteria, while, by their peculiar composition, they combat the catarrhs, congestion and other "para-tuberculous" manifestations of the disease. He detailed the special indications for various types of waters.

The Causes of Tumors.

In the section on pathology, Doyen of Paris read a paper on "The Micrococcus Neoformans and Tumors." He said that all neoplasms are due to parasitic infection, the process being analogous to the inflammatory growth of actinomycosis. The neoplasms of rapid growth are due to the *Micrococcus neoformans*, which has been found in the growth. Pure cultures have been made on bouillon, and when inoculated into animals inflammations or neoplasms have been produced in them. He further stated that the toxins produced a reaction in cancerous individuals analogous to the action of tuberculin.

Parasites and Tumors.

Rio of Madrid described a type of sarcoma due to coccidia as well as granulomata of chronic growth, with central necrosis. These involved the skin, muscles and organs.

The subject was further discussed by Dr. O. Israel of Berlin, who reviewed the modern theories of parasitism in tumors. He said that tumors represent simply the reaction of the tissues to an unnatural stimulus, which leaves the supposition of a uniform etiologic factor without sufficient basis. The sarcoma, carcinoma, etc., are caused in the same manner, but by a very different stimuli. If, however, ectogenous parasites are proved to be the actual causative factors, it must be by demonstrating that they conform to the requirements laid down by Koch. The first one, inoculation, appears to have been proven, but reproduction of the disease has not. The second requirement, detection of the germ, has not been met. Israel declared that the plant parasites which are found are commensals rather than the direct cause, and the animal parasites are artefacts. Koch's third requirement, pure cultures, has never been satisfied as regards the protozoa.

Finally, the production of neoplasms by the inoculation of cultures has never succeeded, apparent successes being in reality inflammatory neoplasms. The true explanation of tumors is to be sought in cytobiologic conditions—pathologic increase in the proliferative tendencies of the cell.

Blastomycetic Lesions.

Dr. A. Bushke reviewed our knowledge on blastomycetes. Especial attention was paid to the *Oidium mycosis* of the Americans. Infection is through the skin and mucosæ, probably through lesions, but the mode has never been ascertained. There are three types: 1, blastomycetic septicemia; 2, localized infection, and 3, the typical, slow-growing blastomycosis. Dr. Bushke described the various modifications of the latter type in detail and gave their pathology. Because of its great tendency to internal metastases, the disease is more fatal in man than in animals.

Artificial Imitation of Pathologic Cell Conditions.

Dr. Unna of Hamburg showed how the various types of cytoplastic and raryoplastic degeneration might be induced on the microscopic slide by means of the action of various solutions.

Specific Sera.

Paltauf of Vienna emphasized the value of agglutination in order to determine the specificity of germs. The sera of horses immunized by streptococci of scarlatina by Moser agglutinated the same cocci in high dilution, but did not have this effect on the cocci of erysipelas or phlegmon.

Implantation of Bone.

Cornil of Paris declared that his investigations showed the announcements of Bartels to be premature. Bartels had said that his researches showed that pieces of dead and living bone were equally efficacious. Dr. Cornil said that both implantations are absorbed and replaced by fresh tissue, but in the case of living pieces granulations are more active and abundant. His experiments had been on the craniums of dogs.

Malaria.

Drs. Barrera and Pittaluga of Spain made important contributions on paludism. They claimed that Grassi, not Ross, was the real discoverer of the transmission of the ameba. The three varieties, quartan, tertian and estivo-autumnal, are due to separate species, and the recrudescenes of malaria are "bridges" which unite successive seasonal epidemics. Following the parthenogenesis of the organisms they seek the internal organs, where they remain during the latent periods. This is exemplified by the crescents. The multiplication takes place by a nuclear division, generally in June; thus young mosquitoes are reinfected. The quotidian type may be due to the estivo-autumnal variety or to a rapid development of the tertian or an independent type.

Acute and chronic estivo-autumnal varieties are the most diverse. He described the hydrographic conditions which suit the plasmodium. Prophylaxis directed toward extinction of the mosquito is most expensive and inefficacious, but mechanical protection of man is efficacious. Paludism in man is the proper point of attack. Quinin is best given during the latency of the disease in winter.

Ascoli of Rome emphasized the importance of studying the recrudescences in Italy. An epidemic of malaria appears annually at a time in June when there are relatively extremely few infected mosquitoes. Many cases have a malarial history.

There are two types of recrudescence, with brief and long intervals, the former being due to imperfect extinction, the latter to parthenogenesis. The latter connects successive epidemics. He emphasized the fact that mosquitoes are always born healthy, but man is the permanent host.

Dr. F. Hauser of Madrid argued that the anopheles do not furnish the only intermediate host for the malarial parasite. Under favorable conditions the germ might live in humid earth in some unknown form, and the disease might flourish in regions free from mosquitoes. From the earth it may be conveyed by the air or by mosquitoes to the blood; for example, the inhalation from dried marshes or the drinking of water infected by the bodies of dead mosquitoes could infect. Mosquitoes dying in marshes set free the organism, which then infects man through the medium of the air.

Obligatory Report of Tuberculosis.

In the section on hygiene, epidemiology and technical sanitation Dr. H. Tabor of Prague recited six very strong arguments for the general prophylaxis of tuberculosis, based on reports of every case of tuberculosis, of death from the disease, or of change of lodging of diseased persons.

The Intellectual Life.

Dr. L. Bares of Saint-Gandens said that intellectual labor predisposed to digestive disturbances, to disturbances of nutrition, and to nervous break down. A severe alimentary hygiene was recommended, excluding rich indigestible foods as well as alcohol and tobacco. Exercise in the open air, open bowels, an active skin, and the drinking of milk are essential for the

brain-worker. Sleep is the criterion of the nervous condition and should be undisturbed.

Hysterectomy in Acute Infections.

In the section on gynecology and obstetrics, Dr. Pinard of Paris read a paper on the above subject. He said that except for definite cause, such as trauma or putrifying fibroma, there is no rational indication for removal of the uterus. The autopsy never reveals localized lesions in the uterus. The presence of bacteria in the blood does not affect the prognosis. The bacteriology of uterus is valueless clinically for it is impossible to localize the infection in the uterus or to determine the advisability of operation.

Cortajena of Madrid said that general infections diminish the importance of the uterus as the primary agent. Chronic infections never justify hysterectomy. The proper moment for operation is almost impossible to determine. He urged conservative surgery of the adnexa.

Treub of Amsterdam said that radical operations have a mortality of 6 per cent. and do not guarantee cure. Such cases have prolonged disagreeable consequences. Conservative operations have a mortality of two per cent. and generally suffice, but may demand secondary operations. They never induce constitutional disturbances. For salpingo-oöphoritis medical treatment generally suffices, but if not, repeated posterior colpotomies are preferable. In rebellious or sterile cases conservative abdominal operations were advised, but not excision, while for tuberculosis hysterectomy must be made.

The other sections have only organized or listened to unimportant papers.

(To be continued.)

BOSTON SOCIETY OF MEDICAL SCIENCES.

Meeting held at Harvard Medical College, April 28, 1903.

Prof. H. C. Ernst in the chair.

[*By telegraph from our Regular Correspondent.*]

Discovery of the Germ of Smallpox.

More than five hundred of the prominent members of the medical profession of Boston gathered in the largest amphitheater of the Harvard Medical School to hear Prof. W. T. Councilman make his announcement of the discovery of the germ of smallpox. Dr. Councilman stated that for two years the study has been carried on under his supervision by Drs. Brinckerhoff, McGrath, Tyzzer and Thompson in the laboratories of the Smallpox Hospital at Galloupes Island and in the Detention Hospital on Southampton street, with the cordial cooperation of the Boston Board of Health.

All the material obtained was brought to the Harvard Medical School and thoroughly studied there. First vaccinia was studied and then the contents of the vesicles and pustules, but no definite germ could be here detected because of the vast number of bacteria of varying kinds always present. Finally an anatomic study of the lesions of the disease revealed the organism with its definite cycles of development. In the deep epithelial cells of the skin there were found bodies one micron in diameter, which have also been noted by other observers. They stain easily, are homogeneous, increase in size, their structure gradually becomes granular, their shape irregular, and they are surrounded by little circles more or less resembling amebæ. Occasionally segmentation is evident, the organism splitting into a number of segments.

This is a distinct cycle. There is no change in the nuclei, a vacuole surrounds the organism and grows with it. Suddenly it disappears and peculiar changes are noted in the nuclei, a ring appears and grows, rings appear in its periphery and its structure becomes sponge-like. This finally fills the whole nucleus, which degenerates and sets free the body. It does not much further increase in size, but the structure becomes more complex, the ring-shaped bodies appear, one micron in diameter, and it breaks up into these "spores." We thus have, as in other protozoa, two cycles, the intracellular and the intranuclear, the latter more complex and corresponding to sexual development.

In vaccinia we have only the first cycle, and this is the case also when the rabbit is exposed to smallpox. The monkey being nearer to man, however, gives both cycles. The whole process is complete when the vesicles begin to form. These stages are not found in the vesicles, pustules or crusts, but the "spores" have been found in the blood vessels of the skin. These are probably not the only cause of the later eruption, but prepare the way for the streptococci. Professor Councilman showed a beautiful series of lantern slides made from microphotographs which fully and clearly substantiated each of his statements.

Professor Calkins, professor of zoology at Columbia University, was present and agreed with Professor Councilman in believing the organism a protozoan. He warmly congratulated Professor Councilman and his associates for their investigations and discoveries, and specially noted the advantages of the discoveries in aiding the early diagnosis of the disease. If the organism can be found in the epithelial cells or the blood instead of our having to wait fourteen days for the eruption to appear, valuable time would be saved and the possibilities as regards treatment are evident. The organism belongs to the class of microsporidia.

Miscellany.

Clippings from Lay Exchanges.

LUCKY HE IS NOT ALSO.

"Mr. ——— — ———— is going . . . to have another amputation performed on his limb, as it will not heal on account of the bone being deceased."—"La Junta (Colo.) Democrat," Nov. 29, 1902.

HOW DID HE RECOVER FROM A MORTAL WOUND?

"Dr. — — ————, who was mortally wounded . . . and whose life hung in the balance for weeks, has fully recovered and resumed the practice of his profession."—"Burlington (Iowa) Hawkeye."

WHERE DID HE WEAR IT?

"Ottumwa, Iowa, Oct. 23, 1902.—Because her husband threw a bucket of water on her while she was asleep, . . . Mrs. ——— ———— procured a shotgun and blew her husband's stomach off."—"Chicago News."

SOME ARE.

"The ————- County Medical Association met. . . . Written papers were read by . . . and by Dr. ——— on antepartum and postpartum hemorrhoids."—"Memphis (Tenn.) Commercial-Appeal," April 8, 1903.

TRACHEO-ESOPHAGEAL ANASTOMOSIS?

"Coughs up a Luzon worm. . . . His stomach had been the home of . . . worm . . . with a most peculiar swelling at the neck. . . . This was undoubtedly the part by which the worm got caught in his windpipe when he began to cough it up."—"Brooklyn Eagle," April 18, 1903.

Professional Secrecy in the French Courts.—The "Journ. de Méd. de Paris" of November 9 gives the particulars of a recent suit involving a physician, which has caused much discussion in France. Dr. A. has for twenty years been the official duly appointed by the municipal authorities of Marseilles to pass on and certify the applications for committing insane persons to asylums. In a recent case a man was sent to an asylum, but was released after his attack of insanity had subsided, and sued his wife for having had him unjustly declared insane. She cited as witnesses the attending physicians, among them Dr. A. The latter, believing that his certificate was a public matter, knowing that it had passed through a number of hands, did not hestitate to testify to the effect of its contents. The husband at once sued him for $4,000 damages for violation of professional secrecy. The local court acquitted Dr. A., as it was generally understood that his certificate was a quasi-public matter, but the case was appealed, and the higher court decided against him, claiming that he had certainly violated professional secrecy in the affair.

Eruption from Confetti.—Foveau de Courmelles recently reported to the Paris Acad. de Méd. a case of a cutaneous eruption produced by confetti. The probable mode of poisoning was by the penetration of the anilin dyes from the confetti alighting on cracks in the lips.

Experimental Hypnotism; Effect on Circulation.—Berillon contributes an article on this subject to the "Journ. de Med. de Paris," describing the effect of hypnotism on several hysteric subjects, including those otherwise sound and those with functional circulatory disturbances. The sphygmograms show a remarkable influence of the circulation under the suggestion by the hypnotizer. The pulse and also the heart action could be retarded, accelerated or rendered regular at will, and the arterial tension modified. He also mentions that one of his friends, in a series of sphygmographic researches on himself, was alarmed to discover, after a time, marked arrhythmia, which, however, subsided so soon as he abandoned his researches. The close concentration of the attention directed by suggestion on certain organs, certain functions or certain parts of the body, leads to an actual polarization of the nerve force at this point. In one case of traumatic neurosis, with palpitations, arrhythmia and incessant tremor, all these symptoms subsided in the hypnotic sleep, as also the pronounced tachycardia in another case.

Ankylostomiasis in Cuba and Mexico.—Physicians in these two countries are awaking to the realization of the fact that the numerous cases of progressive anemia observed there and hitherto assumed to be malarial cachexia are, in reality, in many instances true ankylostomiasis. Agramonte describes his experience at Havana in the "Revista Med. Cubana," 1, No. 4. He found the *Uncinaria americana* in 16 cases of progressive anemia, 12 of which had been previously diagnosed as malarial anemia or cachexia and 3 as splenic anemia. He reports the clinical course of a few cases and illustrates the differences between this form of the uncinaria and the better known *U. duodenalis*. Manuell has had a similar experience in Mexico, having found 5 cases of ankylostomiasis in a brief time so soon as he commenced to examine for it. He remarks that these cases in the past have probably been cited as examples of the failure of quinin in certain manifestations of malaria. Two of his patients had been employed in Yucatan, 2 in the tobacco fields of the national valley and 1 came from a mining district. The trichocephalus accompanied the parasite in every instance, and in one case ascarides were also present. He mentions in his communication to the "Revista Médica" of Mexico, xiv, 11, that no one before has ever mentioned finding the trichocephalus in Mexico.

Aqueous Preparations of Menthol.—Blondel found that if menthol were given to a dog at the same time or shortly after an emetic dose of ipecac, there was no vomiting. Chauffard also noted that ipecac given with menthol failed to produce an emetic effect. This power to inhibit vomiting renders menthol very valuable in vomiting of reflex origin. Crêsantignes gives several formulas in the "Journ. de Méd. de Paris" for preparing an aqueous solution of menthol. Ordinarily it does not dissolve in water. He uses the tincture of quillaja saponaria, 5 gm. to 3 or 5 cg. of menthol, adding, after they are mixed and the menthol is dissolved, 10 gm. of neutral glycerin in distilled water q. s. to make 125 c.c. This is taken by the tablespoonful. For local application in case of frontal headache, he applies a mixture of 15 to 30 cg. of menthol dissolved in 10 gm. of tincture of quillaja and distilled water to make 155 c.c. This is applied on a folded compress. After three to five minutes the compress is replaced by one dipped in pure water, after which the menthol compress is applied again, and so on. For a mouth wash and gargle he prefers the formula: menthol 10 to 20 cg. in 20 gm. tincture of quillaja and distilled water, or a saturated solution of boric acid q s. to make a quart. The "Medical Standard" says that the first formula given "illustrates the absurdity of some of the prescriptions recommended in the journals for medicinal use. This mixture is to be used as a gastric sedative. The addition of the quillaja defeats this very end, since it is a decided, often a violent irritant; it is an active poison—a cardiac depressant, and a bill forbidding its use as a foam-producing ingredient of soda fountain drinks has been introduced in at least one state. The art of the pharmacist has in this case over-shadowed the practical end of the physician, who, as a matter of fact, would find the simpler spirit of peppermint or peppermint water just as effective."

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

CAUSE OF DEATH WANTED.

WATERTOWN, S. D., April 16, 1903.

To the Editor:—The following case has proved somewhat of a conundrum to me especially as no postmortem examination was allowed.

Cecil G., about 5 years of age, with a previous good history except a recent recovery from a mild attack of la grippe, was placed under chloroform anesthesia for the purpose of removing enlarged tonsils. The anesthesia was not complete, first, because the operation was expected to be of such short duration that it was not deemed necessary to take the time; second, in consequence of some danger to blood getting into the bronchi if reflex was entirely abolished.

One tonsil was easily removed, but some difficulty was experienced in getting the other engaged in the tonsillotome, principally in consequence of the contraction of the throat, and finally it was seized by a vulsella and removed with serrated scissors.

The child was immediately inverted to facilitate the flow of blood from the mouth, the child meanwhile struggling and crying with returning consciousness, when it suddenly stiffened and breathing and heart action ceased at almost the same instant.

Artificial respiration for over an hour, with subcutaneous injections of normal saline solution, failed to obtain any result. What would be supposed to be the exciting cause of death?

H. H. CLARK.

Correspondence.

Priority in Technic.

BROOKLYN, April 20, 1903.

To the Editor:—In the April 4 number of THE JOURNAL one of your contributors, in an article entitled "A Few Practical Points in the Technic of Nephrorrhaphy and Herniotomy, and a New Modification of Alexander's Operation," publishes, as his own, three operative procedures so long identified with the names of other surgeons that I can not forbear calling your attention to the fact.

In the second paragraph of his article your contributor states that he has employed the methods described since 1890, claiming originality, by implication, for the latter and dating the claim from the time mentioned. It may be true that Dr. Canac-Marquis was the first to apply the "crossed" or figure-of-eight suture in nephrorrhapy, although, if my recollection serves me right, I used it in the winter of 1889 and 1890 in perinephorrhaphy, nephrorrhaphy, herniotomy and for the closure of abdominal and other incisions in general. This part of the subject is unimportant, however, since this was the period of development of the possibilities of the "crossed" or removable layer suture in my work, and prior to any publication of my own on the subject, or, so far as I then knew, of the publications of others as well. Since, also, your contributor does not employ the figure-of-eight suture to anchor the kidney, but only to close the wound and since, further, he does describe its use in closing the wound of the herniotomy operation, I feel that failure to give credit for these applications of the method justifies the present contribution.

In the transactions of the American Surgical Association for 1891 there appeared my first communication relating to a removable layer suture, illustrated by woodcuts. This suture was again described, with a modification relating to the method of finally securing the ends of the suture. Still later the method was again described in illustration of its application to the closure of the wound of the abdominal wall following the operation for appendicitis in a "Treatise on Appendicitis," edition of 1894. In the 1900 edition of the latter work this suture, together with a still further modification of the

method of securing its ends, is again described and illustrated. Quoting from the first of these, I said:

It occasionally happens . . . that the different layers of tissue passed through in the course of the operation must be sutured separately in order to insure a good result. Here catgut will not answer, for the reason that it is dissolved or, at all events, weakened, before it has answered its purpose, and the sutured layers separate widely in spite of every care. To meet the requirements of these cases I have devised a suture which, while it serves all the purposes of a deeply buried layer suture, at the same time can be removed. I have called this the "crossed suture." Silkworm gut or silk may be used for this purpose, but the former is preferable. Both ends of the thread are threaded with needles of the proper curve, and both are passed beneath the lowermost or the deepest layer to be sutured, at sufficient distance from the edge to obtain a good hold thereon. As the thread is drawn through either edge of the layer, the loop is drawn taut beneath. The thread is now crossed, the needle which passed the latter through the outer edge crossing over the inner edge, and that which passed the thread through the inner edge going to the outer. The needles are now passed through the next layer as before, from below upward, securing a firm hold as in the first layer.

The threads are again drawn taut and crossed as before, each time of crossing securing a layer until the surface is reached, the last layer, of course, being formed by the skin itself.

While Dr. Canac-Marquis concludes his operation by the use of "a lead nickel-plated shield threaded and shotted," I have for some years attained the same result in a slightly different manner. Quoting from my book, "A Treatise on Appendicitis," 1900:

The crossed sutures are tied in pairs on either side of the wound. In order to guard against cutting of the skin from the silkworm gut, the sutures are tied over "boisters" of sterile gauze or, what I find exceedingly convenient for this purpose, sections of thick-walled tubing of soft rubber (aspirator tubing) are used, the silkworm gut being passed through the lumen of the tubing. . . . This method gives all the advantages of buried layer sutures, and yet places completely within control the length of time the sutures are to remain in place. . . . Removal is accomplished by cutting the suture beneath the boister on one side, and making traction on the other end of the thread.

While my first article was in the hands of the printer, and after I had employed the method of thus placing a removable layer suture in practically all the situations in which it is applicable, Well's translation of the first edition of Pozzi's work on gynecology appeared. I then became aware, for the first time, through a very scant reference to the matter by Pozzi (Vol. II, pp. 980, 981), that a similar suture had been described by Heppner for the perineum.

Taking up, next, Dr. Canac-Marquis' "Technic of Herniotomy for Radical Cure of Hernia": Bryant, as far back as 1889, advocated the use of the hernial sac itself to form a pad of resistance to intra-abdominal pressure. In the "Transactions of the New York State Medical Association," 1889, under the heading "Treatment of Hernia," Dr. Bryant says:

I can not close this portion of the subject without calling to your attention a somewhat newer method of operating that I have practised on three distinct occasions. It certainly has some features that commend it. . . . It is performed by weaving the sac, after its separation and its neck has been tied with catgut, into the pillars of the ring.

He then illustrates slits through which the sac is woven back and forth, "and finally the whole mass is quilted with deep stitches of catgut."

Though the details of Bryant's old operation, since abandoned, differs somewhat from your correspondent's, still the fundamental principle involved remains the same, and, "honor where honor is due."

In regard to Dr. Canac-Marquis' "New Modification of Alexander's Operation for Shortening the Round Ligaments," I would recall to your attention the fact that in the "Annals of Surgery," 1896, occurs a paper by Robert Abbe, entitled "Fixation of Round Ligaments in Alexander's Operation." After referring to a previous method of his own, Abbe says:

The idea occurred to me of utilizing the round ligament itself for the double purpose of sewing up the inguinal canal and securing the ligament immovably.

This, I found, was easily accomplished when the ligament was drawn out four inches, as was always readily done. . . . The ligament was drawn on until the uterus was firmly held well forward. The needle and loop now drew the ligament through new punctures on either side of the canal, crossing it to become a continuous suture for the canal. Three such stitches completely closed the canal up to the spine of the pubis, and left more than an inch and a half of ligament over. This was turned back over the last portion of the wound and stitched to it by one fine catgut stitch. . . .

The use of living tissue as a suture thus serves the double purpose of fixing the uterus immovably and binding the canal permanently.

This is identical with your correspondent's method, except in the minor details of closing the superficial structures.

Unless your contributor can substantiate his implied claim as the originator of these three points in technic by publications bearing date earlier than 1889 in the case of the hernia operation, 1891 in the case of the removable layer or figure-of-eight suture, and 1896 in the case of the modified Alexander's operation, the credit of the method of weaving the pillars of the ring together by means of the sac itself should be given to Bryant, that of a removable suture to Heppner and myself, and that of employing the round ligament to close the inguinal canal and at the same time secure the uterus in position in Alexander's operation to Abbe.

GEORGE RYERSON FOWLER.

Marriages.

CHARLES P. PINCKARD, M.D., to Miss Mary Losey Graff, both of Chicago, April 25.

J. JULIUS RICHARDSON, M.D., to Miss Dorothy Flynn, both of Washington, D. C., April 20.

HUGH G. NICHOLSON, M.D., to Miss Roberta Coleman, both of Charleston, W. Va., April 16.

TASSO OLIVER FELIX, M.D., Downs, Kan., to Miss Neva Lee Trusdle of Kirwin, Kan., April 16.

WILLIAM A. CAMPBELL, M.D., Chicago, to Miss Jeannette E. Halsted, at Muskegon, Mich., April 15.

Deaths.

Matthew Gardner, M.D. McGill University, Montreal, 1871, a member of the American Medical Association; chief surgeon of the Southern Pacific Railway system; a member of the California State and San Francisco County medical societies; eminent in his profession and universally beloved, died at the Southern Pacific Hospital, San Francisco, April 18, a few hours after an operation for appendicitis, aged 56. He leaves an estate of a value estimated at from $75,000 to $80,000.

Joseph S. Eastman, M.D. Missouri Medical College, St. Louis, 1878, one of the founders and first president of the Oakland College of Medicine and Surgery, and a member of the state and county medical societies, died at his home in Berkeley, Cal., April 19, after an illness of six months, aged 48.

Henry Clinton Bunce, M.D. Medical Institution of Yale College, New Haven, 1850, assistant surgeon of the First Connecticut Heavy Artillery in the Civil War, died at his home in Glastonbury, Conn., April 15, after a protracted illness, aged 78.

William Flood Smith, M.D. College of Physicians and Surgeons, Baltimore, 1889, and thereafter professor of anatomy in the same institution, died from pneumonia at the Protestant Infirmary, Baltimore, April 14, after a short illness, aged 38.

John M. Allen, M.D. University of Pennsylvania, Philadelphia, 1840, surgeon of the Fifty-fourth Pennsylvania Volunteers in the Civil War, died at his home in Chester, Pa., from paralysis, after a short illness, April 20, aged 84.

Charles L. Howard, M.D. Medical College of Indiana, Indianapolis, 1896, of St. Paul, Ind., was instantly killed in a collision between an automobile which he was driving and a street car at Indianapolis, April 18.

John F. Gaylord, M.D. Medical Institution of Yale College, New Haven, 1878, a member of the Samoset Medical Association, died at his home in Plymouth, Mass., April 14, after a lingering illness, aged 45.

Sherman Hartwell Chapman, M.D. College of Physicians and Surgeons, New York, 1869, a specialist in diseases of the throat and lungs, died at his home in New Haven, April 15, from heart disease, aged 59.

James M. Brown, M.D. Jefferson Medical College, Philadelphia, 1875, a member of the American Medical Association, died at his home in Philadelphia, April 11, after an illness of several months.

L. Hart Kitchel, M.D. University of Buffalo, 1870, died from concussion of the brain and spine, resulting from a fall two months before, at his home in Alden, N. Y., April 20, aged 57.

Andrew G. Selman, M.D. Transylvania University, Lexington, Ky., 1843, a surgeon in the Civil War, who retired from practice in 1893, died at his home in Indianapolis, April 17, aged 81.

Arthur Jones, M.D. Jefferson Medical College, Philadelphia, 1898, of Bellevue, Ohio, died at his mother's home from pneumonia, April 15, after an illness of one week, aged 37.

Cornelius H. Woodcox, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1890, of Coldwater, Mich., died from heart disease at Gilead, Mich., aged 59.

Uriah M. Gibbs, M.D. University of Nashville, 1897, died at his home in Hanceville, Ala., from the effects of strychnin taken in mistake for calomel, April 18, aged 33.

William M. Griffith, M.D. Hahnemann Medical College, Philadelphia, 1872, died at his home in Philadelphia, April 20, from pneumonia, after a short illness, aged 53.

Frank B. Williams, M.D. New York Homeopathic Medical College and Hospital, 1884, died at his home in Brooklyn, N. Y., from Bright's disease, April 19, aged 39.

William S. Robertson, M.D. Medical College of Virginia, Richmond, 1854, died at his home near Mount Hermon, Va., April 21, after a short illness, aged 72.

Samuel H. Kaighn, M.D. Medical College of Ohio, Cincinnati, 1866, died at his home in Leesburg, Va., April 13, from influenza, after a short illness, aged 69.

Morton M. Dowler, Jr., M.D. Rush Medical College, Chicago, 1865, died at his home in Topeka, Kan., April 13, from consumption, after a long illness, aged 69.

Frederick A. Sweet, M.D. New York University, 1889, chief surgeon of the El Paso and Northeastern Railway, died at his home in Bisbee, Ariz., April 17.

Denman R. Kinsell, M.D. Homeopathic Hospital College, Cleveland, 1857, died at his home in Columbus, Ohio, April 17, after a long illness, aged 75.

Leonard Kittinger, M.D. Hahnemann Medical College, Philadelphia, 1863, died from pneumonia at his home in Wilmington, Del., April 17, aged 68.

George M. MacMillon, M.D. Ohio Medical College, Cincinnati, died April 16, at Sewickley, Pa., from consumption, after an illness of nine months.

A. C. Porter, M.D. Philadelphia University of Medicine and Surgery, 1870, died suddenly at his home in Ashford, N. Y., March 26, aged 67.

Thomas Jefferson Elam, M.D. University of Nashville, 1858, died suddenly from apoplexy at his home near Rucker, Tenn., April 20, aged 71.

Daniel H. S. Tuthill, M.D. Rush Medical College, Chicago, 1885, died from heart disease at his home in Chicago, April 18, aged 43.

John W. De Vaughan, M.D. Vanderbilt University, Nashville, Tenn., 1883, died at his home in Milltown, Ala., April 19, from paralysis.

John C. Willy, M.D. University of Zurich, Switzerland, 1874, died suddenly from apoplexy at his home in New Orleans, April 18.

Henry A. Mix, M.D. Rush Medical College, Chicago, 1864, a surgeon during the Civil War, died at his home in Oregon, Ill., April 22.

Franklin A. Sherman, M.D. Castleton (Vt.) Medical College, 1850, died at his home in Ballston, N. Y., April 22, aged 74.

Charles H. Link, M.D. Baltimore Medical College, 1898, died recently at his home in Burlington Flats, N. Y.

Charles L. Youmans, M.D. Atlanta (Ga.) Medical College, 1895, died at his home in Baxley, Ga., April 8.

Medical Organization.

Sumner County (Tenn.) Medical Society.

The physicians of Sumner County met at Gallatin, April 6, and perfected the organization of a county society, with Dr. L. Miller Woodson, Gallatin, president; Andrew J. Swaney, Gallatin, vice-president, and delegate to the Tennessee State Medical Society, and H. Reese, secretary and treasurer.

Buchanan County (Mo.) Medical Society.

At a meeting of physicians at St. Joseph, April 14, a new county society was organized on the lines suggested by the American Medical Association, with an initial membership of about fifty. Dr. Thomas H. Doyle was elected president; Dr. Thompson E. Potter, vice-president; Dr. J. M. Dunsmore, secretary, and Dr. Joseph J. Bansbach, treasurer, all of St. Joseph. Drs. James K. Graham, Chester A. Tygart and James W. Heddens were named as censors.

Grayson County (Ky.) Medical Society.

The physicians of Grayson County met at Lietchfield, April 14, and organized a county society after a talk from Dr. Charles Z. Aud, Cecilian, president of the Hardin County Medical Society. Dr. John M. Berry was elected president, and Dr. Andrew J. Slayton, vice-president, and Dr. George W. Armes, secretary, all of Leitchfield, and Dr. Henry C. Duvall, Millwood, was elected delegate to the state society. The constitution and by-laws of the American Medical Association was adopted in full.

Four States Reorganize in One Day.

Telegraphic reports from San Antonio, Texas; Lincoln, Neb., and New Orleans, La., announce that on April 29 each of these states adopted the constitution and by-laws recommended by the American Medical Association, with practically no changes. On the same date the Illinois State Medical Society also adopted the same constitution. This makes eight state societies that have adopted practically the same constitution within two weeks.

ASSOCIATION NEWS

NOTES ON NEW ORLEANS.

Final Announcements Concerning the Session Next Week.

The Bureau of Information of the New Orleans session, which will be located on the ground floor of the Artillery Hall, entrance on St. Charles street, announces the following:

Members of the committee will meet all incoming trains May 4 and 5. Placards will be in evidence in each station indicating where these gentlemen will be found.

The bureau will have every facility for supplying all kinds of information; this means male and female clerks, index lists of all visiting physicians and their ladies, railroad schedules, excursion information, telegraph, telephone, stenographer and typewriter, messenger services, guide books, newspapers, cigars, etc. The committee has completed all plans for the meet-

ing and urge all members not located to inquire at the Bureau of Information for rooms.

Members of the profession are advised that badges will be furnished only to those who register as members of the American Medical Association. While the several Sections are open to the profession, the discussions are confined to members. Participation in the several entertainments is restricted as well to the members of the Association and to invited guests.

THE ENTERTAINMENT OF THE LADIES.

Members, with ladies, who have not already notified the committee are requested to leave word at the Bureau of Information as to the number and names of ladies in their party.

The Ladies' Committee announces a trolley ride for the visiting ladies, to start at 11 o'clock on Wednesday, May 6. All to report at 10:30 at the Palm Garden of the St. Charles Hotel.

On Thursday, May 7, at 9:30 at the Palm Garden, a ladies' committee will meet and escort visiting ladies who desire to see the old French quarter of New Orleans. Other features for the ladies have been announced previously.

TRIP TO LEPERS' HOME.

The Board of Control of the Leper Home has invited all members of the Association who may desire to visit this institution. The trip is arranged for Saturday, May 9, and it will take the entire day to make the trip. All desiring to go will leave word at the Bureau of Information. The expense will be nominal, but the exact cost will be furnished on application at the bureau.

OTHER ANNOUNCEMENTS.

The Howard Library, at Lee Circle, through Mr. William Beer, the librarian, invites members of the Association to see some of the special works on medical and hygienic subjects.

The Elks have extended the privileges of their club house to members of the Association who wear their badges.

The river excursion will be on the steamer *New South*, which will accommodate 2,200 people.

The Hotel Committee has received application for rooms for about 2,000 people thus far and 40 or 50 applications are being received daily.

Lunch will be served at reasonable rates in the Washington Artillery Hall by the Christian Women's Exchange.

BANQUETS.

Among the banquet announcements are the following: Section on Nervous and Mental Diseases, at Victor's Restaurant; Sections on Practice of Medicine, Pathology and Physiology, and Materia Medica, Pharmacy and Therapeutics, at West End Hotel; Section on Surgery and Anatomy, a smoker at Young Men's Gymnastic Club; Sections on Cutaneous Medicine and Surgery, and Hygiene and Sanitary Science, a smoker, place to be announced in Section meetings Tuesday afternoon; Section on Laryngology, at Antoine's Restaurant; Section on Ophthalmology, Tulane University Hall, Mr. Emile Lubeigt, chef; Section on Obstetrics and Diseases of Women, same place and menu as Ophthalmology. All these banquets and smokers will be held Tuesday evening.

Notice to Members of the House of Delegates.

The members of the House of Delegates are requested to meet in New Orleans Monday, May 4, at 2 p. m. This meeting will be informal, and no official business can be transacted.

Its purpose is to consider unofficially the business which must be transacted by the House of Delegates and to consider the result of the work of the several committees.

It is believed that this informal meeting on Monday will so fully acquaint the delegates of the work to be done that one meeting each morning will be sufficient to accomplish all the business of the Association. Thus the delegates will be free to attend the afternoon scientific work of the Sections.

FRANK BILLINGS, President.

Registration of Members of the House of Delegates.

The Committee on Credentials will be in session Monday morning at the St. Charles Hotel to receive credentials and register all delegates who will present themselves. It is hoped that as many as possible will register during the morning so that there may be no delay when the meeting is called to order at 2 o'clock.

OUR NEW HOME.

THE NEW BUILDING OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association now has a home of its own, and it is paid for. This achievement, the consummation of long-cherished plans, is one of which every member and subscriber may well be proud. The American Medical Association not only owns its own building, but it is thoroughly equipped for printing and publishing THE JOURNAL.

Believing that it will interest our readers to gain a general idea of the building and of the equipment by which THE JOURNAL is prepared each week, we give some illustrations showing the interior as well as exterior. The new building is near the corner of Dearborn Avenue and Indiana Street. It is on the north side, a few blocks from the business center of Chicago and not far from the lake. It is 40x80, of three stories with a high basement and is built of brick. The basement is used as a press room, the first floor as folding and mailing departments, the second floor as the editorial and business offices and the third floor as a composing room. The trustees' room and library is also on this floor. The building is strongly built so that it will allow additional stories. The land owned by the Association adjoining the building, on which are three residences, and which is 60x80

feet in size, will admit of addition as soon as the Association requires more room than is at present afforded.

It may not be out of place here to extend an invitation to members, subscribers, advertisers and other friends of the Association to inspect the building and equipment. Many have done so, taking a personal interest in the property. The members realize that they are the actual owners of the building and they have many words of congratulation for the progress that has been made.

One of the illustrations is a chart showing the growth of the circulation of THE JOURNAL. It is worthy of study. The following is a statement of the average weekly circulation from the first year to date:

1883	3,800
1884	4,020
1885	4,500
1886	4,800
1887	5,000
1888	5,100
1889	5,450
1890	5,450
1891	5,200
1892	5,200
1893	5,600
1894	6,200
1895	6,548
1896	7,742
1897	9,119
1898	11,270
1899	13,672
1900	17,446
1901	22,049
1902	25,321
1903 (first 4 months)	27,269

It will be remembered that from 1846 to 1882 the proceedings of the Association were published as an annual volume. A change was then made and a weekly journal established in order to give quicker and fuller reports to the members and to serve as a link to bind the members of the Association closer together by more frequent intercourse. The minutes of a meeting held in 1883, at which it was decided to commence publication of THE JOURNAL, makes interesting reading. A careful estimate was made to ascertain what support THE JOURNAL might receive. It was thought that a revenue from membership and subscriptions of $12,000 could be had; in 1902 the receipts from membership and subscriptions amounted to over $100,000. In 1883 the estimate was made that $5,000 might be received annually from advertising; in 1902 THE JOURNAL received about $70,000 from this source. In 1883 $8,000 was estimated to cover the cost of material, printing, wrapping and mailing THE JOURNAL; the white paper alone for 1902 cost $36,000.



THE NEW BUILDING OF THE AMERICAN MEDICAL ASSOCIATION.

THE PREVIOUS SESSIONS HELD AT NEW ORLEANS.

The session of the American Medical Association next week in New Orleans will make the third time the Association has met in the Crescent City. The first session was held there May 4-7, 1869, and the second April 28-May 1, 1885. It may not be uninteresting to look back at some things that took place at these sessions.

At the session held in 1869 the President was Dr. W. O. Baldwin of Alabama, and Dr. T. G. Richardson of New Orleans was the chairman of the Committee of Arrangements. The entertainments, according to the report of the meeting, consisted of a reception at the Mechanics' Institute on Tuesday evening, and an excursion down the Mississippi River, "to the plantation of Effingham Lawrence, Esq.," on Friday. One hundred and ninety-one registered at the meeting, beside twenty-seven "Members by invitation." Alabama was represented by 26; Arkansas, 2; Delaware, 1; District of Columbia, 7; Georgia, 3; Illinois, 13; Indiana, 3; Iowa, 1; Kentucky, 14; Louisiana, 21; Michigan, 5; Minnesota, 1; Mississippi, 20; Missouri, 3; New York, 14; Ohio, 13; Pennsylvania, 12; Rhode Island, 2; Tennessee, 13; Texas, 7; West Virginia, 3; Wisconsin, 2; Medical Dept. U. S. Army, 3; Medical Dept. U. S. Navy, 2.

MEDICAL EDUCATION.

As was not unusual at that time, considerable interest was shown in medical education, and the efforts at this session, as at many preceding, were for a higher standard. The President's address was mainly devoted to the subject, and it would make interesting reading at the present time. The following preamble and resolutions were introduced and referred to a committee, but the report does not state definitely whether or not the resolutions were adopted:

WHEREAS, The medical teachers of America have, after a trial of twenty-two years, failed to meet satisfactorily and efficiently the requirements of the great body of the profession in regard to medical education; and

WHEREAS, The condition of the profession is yearly becoming more deplorable, on account of the antagonistic and objectionable policy of medical schools, in making the amount of fees charged, rather than a successful teaching, the basis of competition; and

WHEREAS, To obtain professionally competent graduates, sound and efficient teachers are indispensably necessary; and

WHEREAS, Such teachers, to be found throughout the country, can not be induced to leave their homes without the assurance of competent remuneration; and

WHEREAS, Such remuneration can only be obtained by adequate fees charged, unless by a system of low fees the number of students be relied on to make up the inevitable pecuniary deficiency; and

WHEREAS, Reliance on numbers of students for this purpose deplorably crowds the already overcrowded professional field, diminishing thereby individual income, judgment, experience and skill, thereby compelling practitioners to resort to other avocations as a source of supplemental income; and

WHEREAS, This devotion to other pursuits often destroys opportunities for study and improvement, degrading thereby the status and standard of American physicians; and

WHEREAS, The schools of New England, New York, Pennsylvania, Maryland, Virginia, South Carolina, Alabama, Georgia, Texas, Tennessee and District of Columbia now charge comparatively remunerative fees; and

WHEREAS, The low system of fees is charged in only a few of the middle states, and can with advantage be made to conform to the rate of fees charged elsewhere; and

WHEREAS, It is as unethical for colleges to underbid each other pecuniarily as for practitioners to do so.



DR. ISADORE DYER, NEW ORLEANS, CHAIRMAN OF THE COMMITTEE ON ARRANGEMENTS.

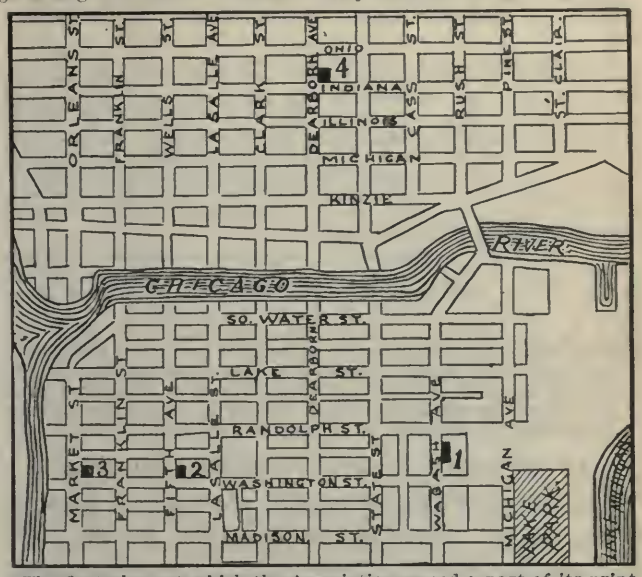
Resolved, That hereafter no medical school in this country, other than those fully endowed, shall be entitled to representation in this Association if the amount charged by such schools for a single course of regular lectures be less than $140.

Resolved, That all schools charging less than this sum are earnestly requested by this Association to advance their rate of fees to the amount mentioned.

Beside the above resolution, the President's Address and other matter referring to medical education was referred to a Committee on Medical Education. This committee made a report, part of which, we think, is worth copying:

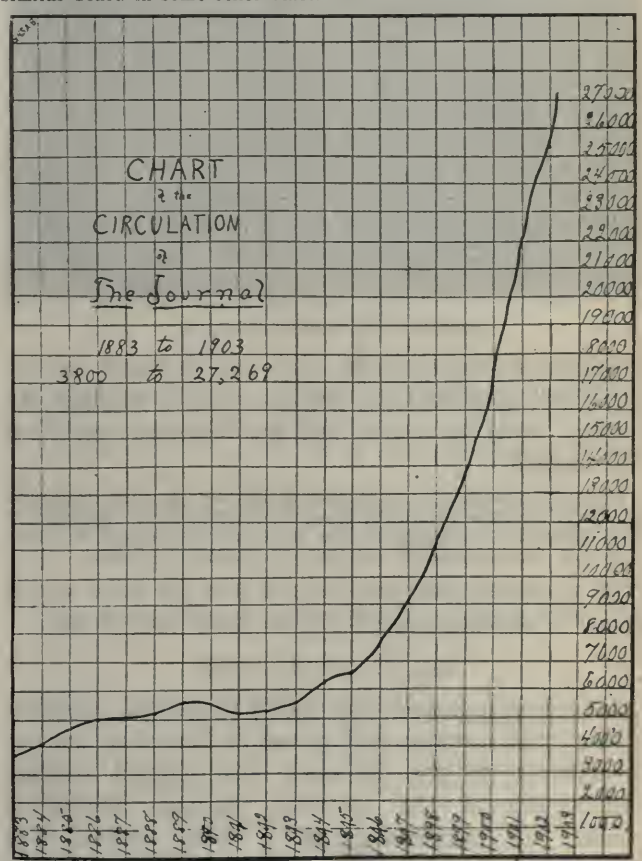
WHEREAS, The results of all the efforts made during the last twenty-five years to elevate the standard of medical education, through concert of action among the numerous medical colleges of this country, have proved, with equal clearness, that such concert of action in an efficient manner is unattainable; therefore,

Resolved, That whatever is done to establish and maintain a just and fair standard of medical education throughout our whole country must be done by the profession itself, through its own voluntary organizations, in the same manner that it now establishes and enforces its Code of Ethics. The profession is as competent to declare, through its representatives in the national, state and local societies, what shall be the standard of attainments for those to be recognized and admitted into its ranks, and to establish the boards or agencies by which compliance with such standard shall be ascertained, as it is to declare what shall be the ethical rules governing the conduct of those already admitted.



The first place at which the Association owned a part of its printing plant was at 68 Wabash Avenue (1). It was moved to 86 Fifth Avenue (2) in 1894, to 61 Market Street (3) in 1896, and to the present home of THE JOURNAL (4), 103 Dearborn Avenue, in 1903.

Resolved, That this Association earnestly requests each state medical society to appoint annually one or more boards of examiners, composed of five thoroughly qualified members, whose duty it shall be to meet at suitable times and places for the examination of all persons, whether graduates of colleges or not, who propose to enter on the practice of medicine in their respective states, except such as have been previously examined and licensed by a similar board in some other state.



Resolved, That each state medical society be requested to make such regulations concerning the pay of the boards of examiners, and the fee to be charged for a license to practice, that the former shall in no case depend on the amount received from the latter.

Resolved, That each state medical society be requested to require its examining board or boards to exact of every applicant for

examination adequate proof that he has a proper general education, is 21 years of age, and has pursued the study of medicine three full years, one year of which time shall have been in some regularly organized medical college, whose curriculum embraces adequate facilities for didactic, demonstrative and hospital clinical instruction.

Resolved, That each state medical society be requested to act on the foregoing propositions at the next regular annual meeting after the reception of copies of the same, and, if approved and adopted by the state medical societies of two-thirds of the states, this Association shall deny representation from all organizations who longer refuse to comply with the same, and shall recommend the state societies to do the same; and all persons who, after that date, seek to enter on the practice of medicine without first receiving a license from some state board of examiners, shall be treated ethically as irregular practitioners.

Resolved, That, in adopting the foregoing resolutions, by which it is proposed to treat the medical college diploma the same as the diploma of any literary college, this Association is actuated by no desire to injure the medical schools of our country. On the contrary, by the adoption of the fourth resolution, at the same time that the value of the mere college diploma is practically nullified, it is the desire and confident expectation that those institutions will be greatly benefited, because they will be forced to rival each other in the extent and efficiency of their courses of instruction, instead of the number of diplomas which they can annually distribute.

AN EFFICIENT NATIONAL MEDICAL DIRECTORY.

Evidently at that time the need of a national directory of the medical profession was recognized, for Dr. J. H.



PART OF THE EDITORIAL ROOMS.

Packard of Pennsylvania, who was chairman of the committee appointed the previous year to consider the subject, made his report, and the following resolution was adopted:

Resolved, That each state medical society be requested to prepare an annual register of all the regular practitioners of medicine in their respective states, giving the names of the colleges in which they may have graduated, and date of diploma or license.

It is too bad that this has not thus far been carried out. We sincerely hope it will be in the near future.

MEDICAL ORGANIZATION.

Considerable interest was shown in medical organization at that meeting, and it was at that time that an amendment to the By-Laws was adopted making membership in the American Medical Association depend on membership in a local society. The following was added to one of the paragraphs of the By-Laws:

Nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

This clause has been in the Constitution and By-Laws ever since, although many think it is a new idea just promulgated in the reorganization work now going on.

THE SESSION OF 1885.

The session of 1885 was held under the presidency of Dr. Henry F. Campbell of Georgia. Dr. Samuel Logan of New Orleans was chairman of the Committee of Arrangements, and delivered the address of welcome.

Considerable interest was shown at this meeting in the meeting of the International Medical Congress, which was held in 1887.

As usual, the Association took some action in regard to elevating the standard of medicine in this country. The following resolutions in regard to the creation of state boards of examiners were adopted:

Resolved, That the Section on State Medicine earnestly advocates the establishment in every state and territory of state boards of medical examiners and licensers, whose certificate shall be the only license permitting practice of medicine in said states.

Resolved, That the Section requests the American Medical Association to direct its Permanent Secretary to transmit a copy of the annexed draft of a bill to the secretary of each and every state medical society, requesting that each state society discuss said bill, and report at the next meeting of this Association its views on the desirability of advocating such a bill.



THREE OF THE LINOTYPE MACHINES.

RUSH MONUMENT FUND.

Dr. A. L. Gihon, who, the preceding year, was appointed chairman of the Committee on the Rush Monument Fund, brought in the first report, which is a long one. It is in the form of an argument for the erection of a monument to Benjamin Rush, followed by a consideration of the character of the monument and the probable cost, the latter being estimated at $40,000. The question was asked in the report, "Can the 90,000 physicians in the United States raise $40,000 for such a purpose?" And it was answered: "If every member of the profession were to contribute only 50 cents the question would be solved, but as such unanimity is hardly to be expected, your committee has preferred to estimate that an equal number may decline to assent to their proposition, in which event, from a subscription rate of only $1 apiece, the sum of $45,000 will still accrue and be ample to erect a monument comparable in every respect to the splendid equestrian statues of General Thomas and General Scott or the seated figure

of Chief Justice Marshall." The committee closed its report by recommending the adoption of certain resolutions which it had prepared. These, in brief, were that the Association undertake to erect a statue to Dr. Benjamin Rush in the City of Washington; that the necessary funds for this purpose be obtained by subscriptions limited to $1 from each physician and student of medicine in the United States, and by the voluntary donations of such additional sums as may be tendered by persons interested in the work; that a standing committee, to be styled the Rush Monument Committee, be appointed by the President, and the last resolution was:

Resolved, That an effort be made to determine a site for the monument, so that the ceremonies of its dedication may be made coincident with the meeting of the International Medical Congress at Washington in 1887.

The year 1903 has come and the Rush monument is not yet erected. Each year since that time, until the year preceding his death, Dr. Gihon presented his report and his plea for this monument, as many of our readers know.

The total membership at this time was given as 3,050.



THE TRUSTEES' ROOM.

As intimated in the report of the Board of Trustees, this large increase in two years came about through the establishment of THE JOURNAL.

The officers of the seven Sections of the Association were as follows:

Section on Practice of Medicine, Materia Medica and Physiology: Chairman, J. T. Whittaker, Cincinnati; Secretary, B. L. Coleman, Lexington, Ky.

Section on Obstetrics and Diseases of Women: Chairman, S. C. Gordon, Portland, Me.; Secretary, —— Paine, Texas.

Section on Surgery and Anatomy: Chairman, Nicholas Senn, Milwaukee, Wis.; Secretary, H. H. Mudd, St. Louis.

Section on State Medicine: Chairman, John H. Rauch, Springfield, Ill.; Secretary, F. E. Daniel, Austin, Texas.

Section on Ophthalmology, Otology and Laryngology: Chairman, Eugene Smith, Detroit; Secretary, J. F. Fulton, St. Paul, Minn.

Section on Diseases of Children: Chairman, W. D. Haggard, Nashville, Tenn.; Secretary, W. B. Lawrence, Batesville, Ark.

Section on Oral and Dental Surgery: Chairman, John S. Marshall, Chicago; Secretary, A. E. Baldwin, Chicago.

Dr. William Brodie, Detroit, was elected President for the ensuing year.

HOUSE OF DELEGATES.

The House of Delegates will be made up of the following delegates so far as we are advised. Those states not named have not appointed their delegates or have not sent in the names. Several states will be entitled to a larger representation than last year.

Delegates from the State Societies.

Arkansas—J. A. Dibrell, Little Rock.

California—H. Bert Ellis, Los Angeles.

Colorado—C. K. Fleming, Denver.

Connecticut—C. S. Rodman, Waterbury; C. E. Brayton, Stonington.

Delaware—George W. Marshall, Milford.

District of Columbia—George M. Kober.

Florida—R. D. Murray, Key West.

Georgia—Jas. B. Morgan, Augusta; Floyd W. McRae, Atlanta.

Indian Territory—B. F. Fortner, Vinita.

Indiana—G. W. Kemper, Muncie; Ewin Walker, Evansville; W. N. Wishard, Indianapolis; D. C. Peyton, Jeffersonville.

Iowa—J. R. Guthrie, Dubuque: Samuel Bailey, Mt. Ayr.

Kansas—J. E. Minney, Topeka.

Kentucky—J. N. McCormack, Bowling Green; Ap Morgan Vance, Louisville; I. A. Shirley, Winchester.

Louisiana—Rudolph Matas, New Orleans.

Massachusetts—W. N. Swift, New Bedford; A. G. Minshall, Northampton; B. H. Hartwell, Ayer; W. T. Councilman, Boston; J. C. Warren, Boston; H. E. Marion, Brighton.



A CORNER OF THE LIBRARY.

Michigan—H. O. Walker, Detroit; V. C. Vaughan, Ann Arbor; T. A. Felch, Ann Arbor; J. B. Griswold, Grand Rapids.

Minnesota—A. W. Abbott, Minneapolis; Wm. Davis, St. Paul.

Mississippi—J. C. Hall, Anguilla.

Missouri—F. J. Lutz, St. Louis; Jabez N. Jackson, Kansas City; Wm. Dorsett, St. Louis.

Montana—T. J. Murray, Butte.

New Hampshire—Ira J. Prouty, Keene.

New Jersey—Chas. J. Kipp, Newark; Elias J. Marsh, Paterson; L. M. Halsey, Williamstown.

New York—E. Eliot Harris, New York; Charles A. Wall, Buffalo; Elias Lester, Seneca Falls; Jos. D. Bryant, New York.

North Carolina—E. C. Laird, Hot Springs; E. B. Glenn, Asheville.

Oklahoma—

Oregon—Andrew C. Smith, Portland.

Pennsylvania—William T. Bishop, Harrisburg; H. S. McConnel, New Brighton; John B. Roberts, Philadelphia; Wm. M. Welch, Philadelphia; Wm. S. Foster, Pittsburg; Geo. W. Guthrie, Wilkesbarre; G. C. Harman, Huntingdon; C. L. Stevens, Athens.

Rhode Island—John Champlin, Westerly; Frederick T. Rogers, Providence.

South Dakota—J. L. Stewart, Irene.

Tennessee—Daniel E. Nelson, Chattanooga; Louis LeRoy, Nashville.

Texas—H. A. West, Galveston.

Vermont—D. C. Hawley, Burlington.

Virginia—J. R. Gildersleeve, Tazewell; Stuart McGuire, Richmond; R. S. Martin, Stuart.
Washington—Park W. Willis, Seattle.
West Virginia—L. D. Wilson, Wheeling.
Wisconsin—W. T. Sarles, Sparta; H. Reineking, Sheboygan.
Wyoming—E. E. Levers, Spring Valley.
U. S. P. H. and M.-H. S.—Walter Wyman, Washington, D.C.

Delegates from the Sections.

Practice of Medicine—J. M. Anders, Philadelphia; C. G. Stockton, Buffalo.
Surgery and Anatomy—W. L. Rodman, Philadelphia; Robert F. Weir, New York.
Obstetrics and Diseases of Women—Edwin Ricketts, Cincinnati; E. E. Montgomery, Philadelphia.
Hygiene and Sanitary Science—N. S. Davis, Jr., Chicago; A. R. Reynolds, Chicago.

SECTION OFFICERS.

We take pleasure in presenting this week half-tone reproductions of the photographs of the officers of the various sections. The success of the Association, as a scientific organization, depends on the manner in which these gentlemen perform their duties, and we believe that the work in the sections of the coming session will show that each of them has lived up to the example of his predecessor. They are deserving of the space allotted to them in this issue of THE JOURNAL.

Seven of the sections wisely re-elected their secretaries at Saratoga, namely: Pathology and Physiology, Joseph McFarland, Philadelphia; Obstetrics and Diseases of Women, C. L. Bonifield, Cincinnati, Ohio; Stomatology, Eugene S. Talbot, Chicago; Nervous and Mental Diseases, F. Savary Pearce, Philadelphia; Cutaneous Medicine and Surgery, R. R. Campbell,



BUSINESS AND EDITORIAL OFFICES.

Ophthalmology—J. A. Lippincott, Pittsburg, Pa.; Frank Allport, Chicago.
Diseases of Children—A. C. Cotton, Chicago; S. W. Kelley, Cleveland, Ohio.
Stomatology—G. V. I. Brown, Milwaukee, Wis.; A. E. Baldwin, Chicago.
Nervous and Mental Diseases—H. N. Moyer, Chicago; Richard Dewey, Wauwatosa, Wis.
Cutaneous Medicine and Surgery—M. B. Hartzell, Philadelphia; W. L. Baum, Chicago.
Laryngology and Otology—Emil Mayer, New York; Norval H. Pearce, Chicago.
Materia Medica, Etc.—O. T. Osborne, New Haven, Conn.; W. B. Hill, Milwaukee, Wis.
Pathology and Physiology—E. R. LeCount, Chicago; J. T. Howard, Jr., Cleveland, Ohio.
Chicago; Laryngology and Otology, J. F. Barnhill, Indianapolis, Ind.; Materia Medica, Pharmacy and Therapeutics, C. S. N. Hallberg, Chicago.

PROPOSED CODE OF ETHICS.

Offered at Saratoga Springs, 1902, and to Be Acted on at New Orleans.

At the last session of the American Medical Association the following action was taken:

Dr. E. Eliot Harris, New York, presented the following resolution:

For more than a year some of the members of the Council of the New York State Medical Association have been engaged in a critical examination of the ethical part of the laws of the American Medical Association, resulting in the preparation of a revision of the

Code of Medical Ethics. This revision has been approved by the Council of the New York State Medical Association, and the delegates have been instructed to present it to the House of Delegates at this session.

Resolved, That the President appoint a committee of five to examine and report for final action at the annual session in 1903 the proposed revised Code of Medical Ethics which is herewith submitted in writing;

Resolved, That the proposed revised Code of Medical Ethics be published in the Association's JOURNAL three times before the meeting in 1903.

On motion of Dr. C. A. L. Reed, Cincinnati, the resolution was adopted.

The following constitute the committee: Dr. E. Eliot Harris, New York, chairman; Dr. William H. Welch, Baltimore; Dr. T. J. Happel, Tennessee; Dr. Nicholas Senn, Chicago, and Dr. Joseph D. Bryant, New York.



COMPOSING ROOM.

CHAPTER I.—OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.—DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1.—Physicians should not only be ever ready to obey the calls of the sick, but should be mindful of the high character of their mission and of the responsibility they must incur in the discharge of momentous duties. In their ministrations they should never forget that the ease, the health, and the lives of those entrusted to their care depend on skill, attention, and fidelity. In their deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for carelessness or neglect is their own conscience.

SEC. 2.—Every case committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SEC. 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required to do so by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SEC. 4.—Frequent visits to the sick are generally requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. But unnecessary visits are to be avoided, as they give undue anxiety to the patient.

SEC. 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really exists; and even to the patient, if absolutely necessary. This notice, however, is often so peculiarly alarming when given by the physician, that its deliverance ought to be declined whenever it can be assigned to any other person of good judgment.

SEC. 6.—The physician should be the minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7.—The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SEC. 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of vicious conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of

virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.—OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1.—The members of the medical profession, on whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease, and health, for the welfare of those who avail themselves of their services, are surely entitled to the highest private and public recognition.

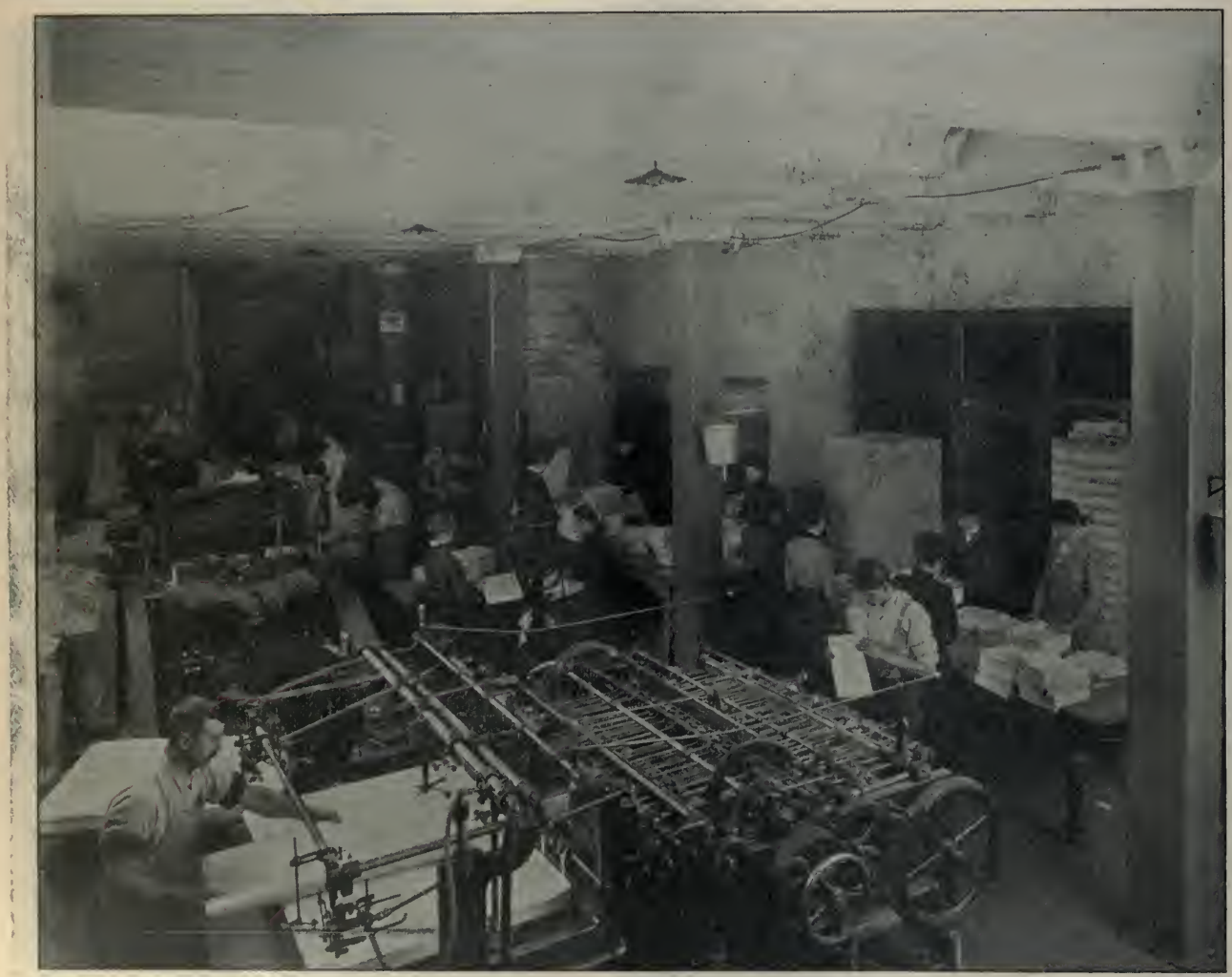
SEC. 2.—The first duty of a patient is to select as medical adviser one who has received a sound general and special education, whose habits are good, and who is not devoted to any pursuit incompatible with professional obligations.

SEC. 3.—The sick should always apply for advice in what may appear to be a trivial case, for the slightest accident may result gravely. It is also important that the patient seek assistance in the forming stage of a violent disease and communicate unreservedly to the physician its supposed cause.

SEC. 8.—Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors who are so frequently met with and who pretend to possess infallible remedies for every disease. Howsoever simple some of their prescriptions may appear to be, it often happens that, besides being in themselves injurious, they are productive of much mischief by contravening the plan of treatment adopted by the physician in attendance.

SEC. 9.—Whenever possible, the patient should avoid even friendly visits of a physician who is not the regular attendant. But when such visits are received, there should be no conversation on the subject of the patient's disease, as a word may be spoken, without any intention of interference, which may destroy confidence in the course pursued and induce the patient to neglect the prescribed directions.

SEC. 10.—The patient or relatives should never send for a consulting physician without the express consent of the medical attendant.



BINDERY AND MAILING ROOM.

SEC. 4.—The patient should be on friendly terms with the medical adviser and bear in mind that physicians are under the strongest obligations of secrecy.

SEC. 5.—Women should never allow feelings of delicacy to prevent their disclosing the seat of their peculiar complaints. Howsoever commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with serious consequences, and a patient may sink under a painful disease which might have been prevented had timely intimation been given to the physician.

SEC. 6.—The obedience of a patient to the directions of the physician should be prompt and implicit. Failure in one particular may render an otherwise judicious treatment dangerous and even fatal. This remark is equally applicable to the unauthorized renewal of prescriptions, and to diet, drink, raiment and exercise.

SEC. 7.—As patients become convalescent they are apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse of the disease.

SEC. 11.—Patients should, whenever practicable, send for their physicians in the morning, before the usual hour for going out, and this gives them the opportunity to so apportion their time as to prevent interference of engagements.

SEC. 12.—Except in emergencies patients should avoid calling on their medical advisers during the hours devoted to meals or sleep.

SEC. 13.—The sick should be always in readiness to receive the visits of the physician, as detention, even for a very short time, is often of serious import to some other sufferer.

CHAPTER II.—OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION 1.—Every individual on entering the profession, and thereby becoming entitled to all its privileges and immunities, incurs an obligation to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness.

SEC. 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; and, by unwearied diligence, should resort to every honorable means of enriching the science, and, at the same time, entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SEC. 3.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to these, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles.

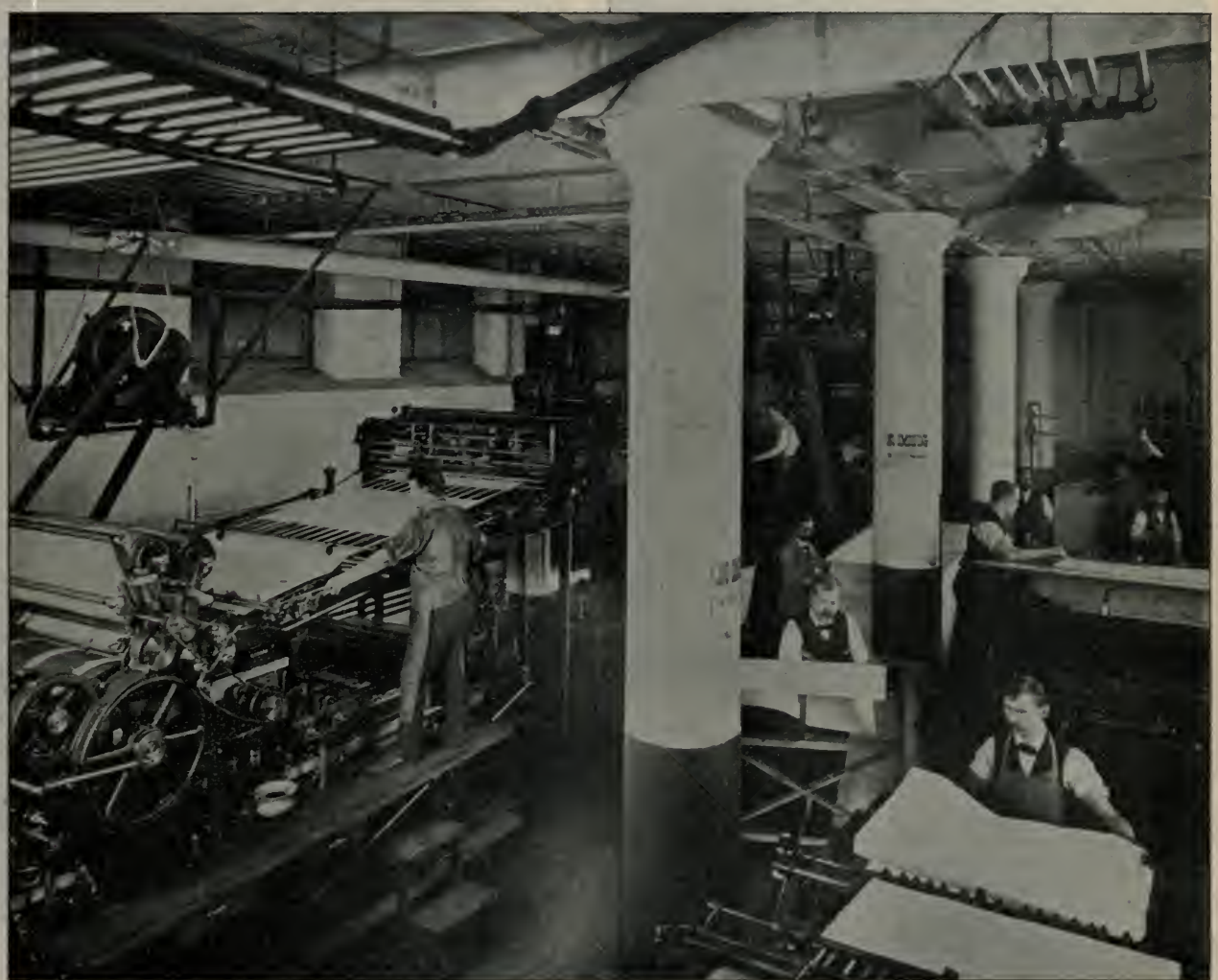
SEC. 4.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—

ity, and if mystery alone give it public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or of any of the other substances that may be used medicinally.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1.—All practicing physicians and their immediate dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

SEC. 2.—Physicians afflicted with disease should not, as a general rule, undertake the treatment of their own sickness, nor of that of members of their family, for obvious reasons. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such civility may give rise to embarrassment or interfere with that choice on which confidence depends.



PRESS ROOM.

for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare, and even to the life, of a human being.

SEC. 5.—It is derogatory to the dignity of the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases, offering advice and medicine gratis and promising radical cures; or to publish cases and operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success; or to employ any of the other methods of charlatans.

SEC. 6.—Equally derogatory to professional character it is for a physician to hold a patent for any surgical instrument or medicine; or to dispense, or promote the use of, a secret medicine, whether it be composed by this physician or the exclusive property of others, for if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberal-

SEC. 3.—When a physician is summoned, from a distance, to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

ARTICLE III.—OF THE DUTIES OF PHYSICIANS AS RESPECTS VICARIOUS OFFICES.

SECTION 1.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time.

SEC. 2.—The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period half of the pecuniary obligations for such services should be awarded to the acting physician.

ARTICLE IV.—OF THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet emergencies occasioned by disease or accident.

SEC. 2.—The good of the patient being the sole object in view, any physician having a license to practice medicine conferred by a medical board authorized by the state may be aided in consultation.

SEC. 3.—No physician who indicates to the public that his practice is based on a sectarian system of medicine shall be entitled to professional fellowship or to recognition in medical bodies.

SEC. 4.—Consultations should be promoted in difficult cases, as



Dr. W. S. Thayer, Baltimore, Chairman of the Section on Practice of Medicine.

they give rise to confidence and more enlarged views in practice.

SEC. 5.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others and to be a good reason for the relinquishment of any present occupation.

SEC. 6.—As professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SEC. 7.—In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

SEC. 8.—The attending physician should be the first to question the sick, after which the consultant should have the opportunity to make such further inquiries as may be necessary.

SEC. 9.—After due examination of the patient, both physicians should retire to a private place for deliberation; and the one first in attendance should communicate the directions, agreed on, to the patient or friends, as well as any opinion which it may be thought proper to express.

SEC. 10.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 11.—The opinion of the physician in attendance should be delivered first to the patient or friends; and when there are several consultants they should deliver their opinions in the order in which they have been called.

SEC. 12.—No decision should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 13.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In case of emergency the consultant should do what is needed, and in the other case should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 14.—In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded not on hypothesis, but on experience and observation.

SEC. 15.—All discussions in consultation should be held as confidential. Neither by words nor manner should any of the parties to a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SEC. 16.—Should an irreconcilable diversity of opinion occur when several physicians are called on in consultation, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician.

SEC. 17.—It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in and, if circumstances prevent the adoption of this course, the patient or friends should make the selection. The physician so designated should take charge of the case and the other should then gracefully retire from any further delibera-



Dr. James B. McElroy, Stovall, Miss., Secretary of the Section on Practice of Medicine.

tion in the consultation, or participation in the management of the case.

SEC. 18.—As circumstances sometimes arise to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the physician whose assistance is required in such cases should seduiously guard against all future, unsolicited attendance. Such consultations requiring an extraordinary portion of time and attention, at least a double fee should be expected.

SEC. 19.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified as far as can be, consistently with a conscientious

regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE V.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice entirely on the extent of their medical education.

SEC. 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the



Dr. A. Palmer Dudley, New York, Chairman of the Section on Obstetrics and Diseases of Women.

course of conduct of this physician directly or indirectly tend to diminish the trust reposed in the attending physician.

SEC. 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SEC. 5.—Placed in the position stated in the preceding section, the physician should never throw out damaging insinuations on the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of knowledge or skill.

SEC. 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, this physician should resign the care of the patient immediately on the arrival of the family physician.

SEC. 7.—It often happens, in cases of sudden illness, or of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should cause the family physician to be called, and should withdraw unless requested to continue in attendance.

SEC. 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be surrendered on the return of the absentee.

SEC. 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient in consequence of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SEC. 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to half the fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE VI.—OF DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur and can not be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

SEC. 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as



Dr. C. L. Bonifield, Cincinnati, Secretary of the Section on Obstetrics and Diseases of Women.

there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VII.—OF PECUNIARY ACKNOWLEDGMENT.

SECTION 1.—There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to their performance.

SEC. 2.—Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2 of Article 1, of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, or any profession or occupation, can be admitted to possess such privilege.

SEC. 3.—It can not be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary



Dr. James E. Moore, Minneapolis, Chairman of Section on Surgery and Anatomy.

acknowledgment. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SEC. 4.—Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SEC. 5.—It is derogatory to professional character for physicians to pay or to offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to demand or to receive such commissions.

CHAPTER III.—OF THE DUTIES OF THE PROFESSION TO THE PUBLIC AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.—DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SEC. 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the sanitary police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

SEC. 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects, strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SEC. 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of these artful impostors.

SEC. 5.—Physicians ought to use all the influence which they possess to discourage pharmacists from vending the secret or other medicines of charlatans, or from being in any way engaged in their manufacture.

ARTICLE II.—OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

SECTION 1.—The benefits accruing to the public, directly and indirectly, from the unwearied labors of the profession, are so numerous and important that physicians are entitled to the utmost consideration and respect from the community.

SEC. 2.—The public ought to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and charlatanism; and to afford every encouragement and facility for the acquisition of thorough medical education.

Book Notices.

A SYSTEM OF CLINICAL MEDICINE, Dealing with the Diagnosis, Prognosis and Treatment of Disease for Students and Practitioners.



Dr. John C. Munro, Boston, Secretary of the Section on Surgery and Anatomy.

By Thomas D. Savill, M.D. Lond., Physician to the West End Hospital for Diseases of the Nervous System. Volume I. Local Diseases and Microbic Disorders. Cloth. Pp. 702. Price, $4.38 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a treatise on practice on a somewhat novel plan. The author has endeavored to bring in modern methods and in this work he follows up the inductive method of going from particulars to generalities, leading up through the symptoms

to the diagnosis. Each chapter is divided into three parts, one treating of the symptoms which may indicate disease of the organism or region under discussion, the errors which may be made and the causes which give rise to them. The second part treats of the physical signs of disease in the region and the methods used to elicit them. The third and the largest portion begins with the clinical signs of the various maladies affecting that region and a summary of the routine procedure to be adopted, followed by sections dealing with several diseases arranged according to their clinical relationships; for example,



Dr. H. M. Bracken, Minneapolis, Chairman of the Section on Hygiene and Sanitary Science.

quoting the author in his introduction, in chapter 3 on the heart, "part A describes and differentiates the various causes of breathlessness, palpitation, precordial pain and other symptoms which may be indicative of heart disease. Part B describes percussion, auscultation and other methods of examining the heart and part C deals seriatim first with acute and secondly with chronic disturbances classified and arranged on a clinical basis." With this explanation the general plan of the work can be readily appreciated. There are certain special features, however, which call for notice. One is the emphasis given to salient features of disease in italicized paragraphs at the head of each section treating of a separate malady. Another is a list of formulas at the close of the work as well as the description of other therapeutic methods, such as the general treatment of fever, etc., and the description of the exercises according to the Nauheim method for cardiac diseases. The book is not a complete treatise on the practice of medicine, dealing as it does only with the so-called local diseases and those diseases causing local symptoms and specific fevers of microbic origin. It is, however, complete in itself. There are one or two points in which the book is not up to date; the author, for example, states in his note on yellow fever that it is conveyed by fomites, ignoring the recent striking researches on the subject and the mosquito theory of the transmission altogether. On the whole, the book can not fail to prove a useful one.

CLINICAL SURGERY for the Instruction of Practitioners and Students of Surgery. By A. J. Ochsner, B.S., F.R.M.S., M.D., Chicago, Surgeon-in-Chief, Augustana Hospital and St. Mary's Hospital. Pp. 481. Price: Cloth, $6.00; Leather, $7.00. Chicago: Cleveland Press (The Clinical Review Publishing Co.).

The author says in the preface that he "lays no claims to the invention of a single new operation, nor has he produced a new or modified instrument, but has contented himself with applying to his surgical work what seemed best in the practice of the surgeons of the past and present."

The book simply reflects the methods of the author in his daily work, and no attempt is made to thoroughly cover any subject from a surgical point of view. Pathology is scarcely touched on, and much of the work consists in a detail of clinical cases and what was done for them. Some of the views held by the author will not be concurred in. For instance, there seems to be no good reason, when operating on a child for inguinal hernia, why the deeper layers should not be closed as well as when operating on an adult. His views in regard to the treatment of appendicitis have already been severely criticised by a number of surgeons.

The large plates are made a particular feature of the book. Some of them are very good, but Plates LVI and LVIII are libels on anatomy. The wide margin to the pages for marginal notes is of doubtful value, because one does not buy a book of this kind in which to write one's opinions, but to learn the opinions of the author.

The work must be looked on more as a detail of clinical cases than as a real contribution to surgery.



Dr. Gardner T. Swarts, Providence, R. I., Secretary of the Section on Hygiene and Sanitary Science.

DISEASES OF THE SKIN: Their Description, Pathology, Diagnosis and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of 15,000 Cases of Skin Disease. By H. Radcliffe-Crocker, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital. Third Edition, Revised and Enlarged. With Four Plates and 112 Illustrations. Cloth. Pp. 1466. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1903.

Crocker's work on diseases of the skin has been a standard English treatise since the first edition appeared, and the ap-

pearance of a third edition is, therefore, only what might be expected. The present volume is greatly expanded and covers the subject much more thoroughly than the previous edition; in fact, it is one of the fullest treatises on skin disorders in our language. The illustrations, while not extensive, are useful. There are few, if any, skin diseases that are not described in this work. It seems to us, though, to be occasionally weak in regard to treatment and not entirely up to date. For example, it does not give the results of the latest experience with the *x*-ray management of certain skin diseases. The book will



Dr. John E. Weeks, New York, Chairman of the Section on Ophthalmology.

doubtless long hold its own among the many other excellent treatises on diseases of the skin.

DISEASES OF THE STOMACH. A Text-Book for Practitioners and Students. By Max Einhorn, M.D., Professor in Clinical Medicine at the New York Post-Graduate Medical School and Hospital. Third Revised Edition. Cloth. Pp. 534. Price, $3.50 net. New York: Wm. Wood. & Co. 1903.

This is a fully revised edition of the author's former treatise with a number of additions, making it considerably different from the first edition, the second having been mainly a reprint of the first. Those who possess and depend on either of the former editions will find it necessary to obtain this one, the advances in this special department of medicine requiring considerable change to bring the work up to our present knowledge.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

To Remove Odors.

Dr. Cheves Bevill of Winfield, Ark., on reading the reference to the use of carbolic acid as a deodorant, on page 1020 of THE JOURNAL, April 11, suggests the use of spirits of turpentine either full strength or with equal parts of glycerin. He says that he has never found anything to be compared to it for this purpose. He reported its use in the "St. Louis Weekly Medical Review" in 1888. Turpentine may also be used on tampons or on absorbent gauze in cleansing wounds. Both the offensive odor and the tendency to hemorrhage will be lessened.

Hyperchlorhydria.

The following combinations have been used with success in the treatment of pyrosis:

℞.	Bismuthi subcarb.	ʒiv	15
	Tinct. hyoscyami	ʒiv	15
	Aquæ camphoræ q. s. ad	ʒiii	90

M. Sig.: Shake and take one teaspoonful an hour before each meal; or:

℞.	Argenti nitratis	gr. iv	25
	Ext. hyoscyami		
	Pulv. camphoræ, āā	gr. vi	35

M. Ft. pilulæ No. xxiv. Sig: One pill to be taken one hour before each meal; or:

℞.	Tinct. hyoscyami	ʒiv	15
	Strontii bromidi	ʒiiss-v	10-20
	Elix. simplicis q. s. ad	ʒviii	240

M. Sig.: Two to four teaspoonfuls in a glass of water at meal time to relieve the distress.

Eczema.

The following combination is recommended by the "Indian Med. Gazette" in the treatment of eczema:



Dr. Frank C. Todd, Minneapolis, Secretary of the Section on Ophthalmology.

℞.	Acidi borici	gr. xxx	2
	Zinci oxidi		
	Amyli tritici, āā	ʒvi	24
	Liq. petrolati	ʒxiii	52

M. Sig.: Apply twice daily with a glass rod. Smear the salve thickly over the affected part and then cover it with a layer of cotton wool and apply a suitable bandage. The parts should be thoroughly cleansed every third or fourth day and a fresh application made. This may be repeated until all signs of inflammation have disappeared.

The following ointment is recommended by "Bul. Gen. de Ther." in the treatment of eczema:

℞. Naphthol camphoratæ .....gr. viiss |50
Zinci oxidi .....gr. lxxv 5|
Liq. petrolati .....ʒxii 48|
M. Ft. unguentum. Sig.: Apply locally.

Sepsis Following Abortion.

Henry, in "Med. News," recommends the following outline of treatment of sepsis complicating abortion: Remove all debris from the uterus by means of the finger or sharp curette



Dr. John C. Cook, Chicago, Chairman of the Section on Diseases of Children.

followed by flushing and thoroughly cleanse the raw surfaces, the cervix, vagina, and vulva. These raw surfaces should then be dried and a 95 per cent. solution of carbolic acid applied to them freely, washing away the surplus with sterile water. No tubes or packing should be left either in the uterus or vagina unless hemorrhage should require it.

According to the author a 2 per cent. carbolized vaginal douche should be used twice daily. The bowels should be kept free by the administration of one-half grain (.03) of calomel every hour for four hours, followed by the ordinary dose of salts.

Quinin should be given in three-grain doses (.20) every four hours, alternately with ferric chlorid given in fifteen minim doses (1.00) well diluted.

Nourishment consisting of milk, eggs and proper stimulants should be given every four hours.

Hemorrhoids.

According to an abstract in "N. Y. Med. Jour." hemorrhoids may be so treated medically as to cause no great discomfort, unless they become infected, if the rules of hygiene are properly observed. Sitz baths should be taken frequently. Moderate exercise only should be taken to diminish local congestion, over-indulgence in meat and spiced foods, while vegetables and fruits must be taken freely. The bowels must be regulated, a movement obtained, if possible, just before bedtime, as the hemorrhoids swell greatly after defecation and are reduced during the night. Instead of resorting to the use of drastic purgatives a teaspoonful of the following should be taken at bedtime:

℞. Calcined magnesiæ |
Potassii bitartratis |
Sacchari lactis, ãã.....ʒss 15|
M. Sig.: One teaspoonful at bedtime.

Enemas are of value and may be taken cold. However, the author states that they are preferably taken hot when there is no pain, as the decongestive action of heat is more prolonged than that of cold. As an astringent, a teaspoonful of alum may be added to the enema.

The following combination is sometimes recommended internally:

℞. Ext. hamamelidis .....gr. 3/4 |05
Ext. capsici aqueous.....gr. iss |09
M. Ft. pil. No. i. Sig.: One such pill three or four times a day.

When the hemorrhoids protrude externally and are accompanied by pain, a pledget of cotton may be soaked in a 1 per cent. solution of cocain and applied locally; this will relieve the pain temporarily, but the inflammation must subside before permanent relief can be obtained. Applications of very hot or very cold water are recommended by the author or liquor plumbi subacetatis may be employed or spraying with hot boric acid solution. The anus must be kept clean and only absorbent cotton used in order to produce no irritation.

In cases of internal hemorrhoids coming down during defecation and returned with difficulty, the patient should be in-



Dr. Thomas S. Southworth, New York. Secretary of the Section on Diseases of Children.

structed to lie on his side with the lower thigh extended and the upper one flexed and with a compress soaked in water or olive oil they should be reduced with gentle taxis.

The following combinations are recommended in the form of suppositories:

℞. Ext. krameriæ.....gr. viiss |50
Cocainæ hydrochlor. .....gr. 1/3 |02
Ol. theobromæ .....ʒi 4|
M. Ft. suppos. No. i. Sig.: One such to be used night and morning to relieve the pain.

Or the following, which is made up according to Unna's formula:

℞. Chrysarobin .....gr. v | 30
Iodoformi .....gr. iss | 09
Ext. belladonnæ .....gr. 3/4 | 05
Olei theobromæ .....3v | 20

M. Ft. suppos. No. v. Sig.: One to be inserted night and morning.

If hemorrhage should occur, cold applications may be applied or water containing 5 per cent of alum. Mathieu recommends



Dr. M. L. Rhein, New York, Chairman of the Section on Stomatology.

a hot solution (118 F.) containing gr. 60 (4.00) of calcium chlorid to the quart. If the foregoing proves unsuccessful the following suppository may be employed:

℞. Antipyrini
Salol, āā.....gr. iv | 25
Ext. belladonnæ .....gr. 1/6 | 01
Ol. theobromæ q. s.

M. Ft. suppos. No. i. Sig.: To be inserted to check hemorrhage.

Internally the following is of service:

℞. Calcii chloridi .....gr. lx | 4
Syrupi simplicis .....℥i | 30
Aquæ .....℥iv | 120

M. Sig.: One tablespoonful every hour.

Pertussis.

Fournier, in "Med. Bul.," recommends the following combination as an inhalation in the treatment of whooping cough, which he states has been of great value to him in a recent epidemic:

℞. Glycerini .....3iiss | 10
Creosoti .....m. lxxv | 5
Essentiæ terebinthinæ .....3i | 4
Essentiæ eucalypti .....m. xlv | 3
Essentiæ caryophylli .....m. xv | 1

M. Sig.: As an inhalation.

A mask similar to that employed in narcosis is used, and about ten drops of the mixture are poured on the center of the mask. Violent fits of coughing are noticed at first, when the mask should be removed until the child becomes accustomed to breathing the preparation.

Calomel in Children's Diseases.

The "Indian Med. Record," in commenting on the value of calomel in children's diseases, states that it may be given in three quarter grain doses (.05) for each year of age. This dose may be given alone in the morning while fasting or mixed with equal quantity of scammony or jalap and may be administered in jam, honey, sweet mucilage, syrup or with sugar. It is slow in acting, requiring, perhaps, half a day. In the infective diseases of children the author recommends it in doses of grain 1/6 (.01) to grain 1/2 (.03) every two or three hours, according to age. In jaundice, congestion of the liver or cirrhosis it should be given in still smaller doses, gr. 1/6 (.01) to gr. 1/3 (.02) being given every morning for eight days. In the treatment of tapeworm it may be combined with the oil of male fern, and for ascarides it may be given in the following combination:

℞. Santonin
Hydrarg. chloridi mitis, āā .....gr. iii | 20
Sacchari .....gr. lxx | 4 | 65

M. Ft. chartulæ No. ix. Sig.: Three to be given each morning, at intervals of one hour, for three days.

As a gastrointestinal disinfectant, in the treatment of flatu-



Dr. E. S. Talbot, Chicago, Secretary of the Section on Stomatology.

lent colic of infants, it is recommended in still smaller doses ranging in size from grain 1/12 (.005) to gr. 1/3 (.02). It may be used in such doses as the foregoing in the treatment of vomiting, green stools and acute febrile gastritis or when the temperature rises in the course of subacute or chronic gastroenteritis, after the administration of which the temperature will usually drop. In the treatment of infantile cholera it is recommended that the stomach first be irrigated with warm water and as soon as the vomiting ceases the administration of calomel should be commenced, and continued every two hours

until ten or twelve powders have been taken, when it will usually show its good results. It is also recommended in the treatment of catarrhal jaundice of children. The following precautions are attached in the administration of calomel: When it is mixed with sugar it should be added at the time the powder is given to the infant; prolonged contact leads to some formation of corrosive sublimate. It should also be kept in the dark as exposure to sunlight decomposes it. Calomel is incompatible with chlorids, iodids and hydrocyanic acid; it



Dr. F. W. Langdon, Cincinnati, Chairman of the Section on Nervous and Mental Diseases.

should not, therefore, be given after a meal if salt has been used, nor with bitter almonds or cherry laurel water nor with the iodids.

Medicolegal.

Taking Deposition of Busy Physician Not Authorized.—The Mississippi Code provides for the taking of depositions where on account of a witness being about to depart from the state, or because of his sickness, or other causes, he will likely be unable to attend trial. But that one is a physician in large practice, "and that it is likely that the said witness will be unable to attend trial," etc., the Supreme Court of Mississippi holds, American Express Company vs. Bradford, does not bring the instance within the category meant by the words "or other causes" in the statute.

Physician May Write Prescription for Himself.—Article 405 of the Penal Code of Texas of 1901 provides, among other things, that if any physician shall give a prescription to be used in obtaining any intoxicating liquor in any county, justice precinct, city or town, in which the sale of intoxicating liquor has been prohibited under the laws of the state, to any one who is not actually sick, and without a personal examination of such person, he shall be punished, etc. The Court of Criminal Appeals of Texas holds, Hawk vs. State, that it was the intent of the legislature by this article to make it an offense to give a prescription to another party than the one writing the prescription, and that it is not unlawful for any one to write a prescription for himself.

By Whom Professional Attendance Must Be Proved.—In the case of Jennings vs. the Supreme Council of the Loyal Additional Benefit Association, brought to recover on a beneficiary certificate, the first appellate division of the Supreme Court of New York holds that the burden of showing that the testimony of a physician was privileged was on the party suing, who objected thereto. This was neither shown or attempted to be shown by the examination of the physician himself; and it did not appear from his examination, so far as the record disclosed, that he ever attended the insured professionally. And it will not do, the court thinks, to rule out the testimony of a physician on the ground that the evidence is privileged from the mere fact that some other witness has incidentally testified to professional treatment by the physician of the person concerning whose appearance or state of health the inquiry is made. Here, for aught that appeared, if the party suing had sought to show by the examination of the physician in question that his testimony was privileged, the physician might have denied that he ever treated the insured professionally. Furthermore, the court says, if it appeared that the physician had treated the insured professionally, the only privileged evidence would have been the information derived from such professional at-



Dr. F. Savary Pearce, Philadelphia, Secretary of the Section on Nervous and Mental Diseases.

tendance. It was perfectly competent to show by him what he observed of the insured and knew of him on other occasions when not attending him professionally; for example, what he saw and learned of the insured's appearance and condition at times when he was attending other members of the family.

Mental Suffering as an Element of Damages.—The Supreme Court of Pennsylvania says, in Linn vs. Duquesne Borough, that mental suffering has not generally been recognized as an element of damages for which compensation can be allowed,

unless it is directly connected with a physical injury, or is the direct and natural result of a wanton and intentional wrong. Where a claim is for mental suffering that grows out of, or is connected with, a physical injury, however slight, there is some basis for determining its genuineness, and the extent to which it affects the claimant. But as the basis of an independent action, mental suffering presents no features by which a court or jury can determine either its existence or its extent, and claims founded on it have generally been regarded as too uncertain and speculative for consideration. Excepting cases in some jurisdictions where recoveries have been had for the



Dr. John A. Fordyce, New York, Chairman of the Section on Cutaneous Medicine and Surgery.

failure to deliver telegrams announcing illness or death, or other matters of personal concern, but not of pecuniary importance, the instances are very few in which an independent action has been sustained for mental suffering alone. The decided trend of decision both in this country and in England is against the maintenance of such an action, or the allowance for mental suffering as an element of damages when distinct from physical injury. The cases in which mental suffering has been considered as an element of damages are those in which the suffering was caused by the sense of peril at the time of the physical injury, or was incident to the physical pain, and formed a part of the actual injury. The objections to making mental suffering the sole ground of recovery apply with equal force to allowing it as an element of damages when it is not a part of the actual injury, but arises afterward from regret, disappointment, or anxiety. There are the same opportunities for establishing fanciful or fraudulent claims by testimony, which it is impossible to contradict or impeach, and the injustice of holding a party responsible for the unforeseen consequences of mere neglect is as great in one case as the other.

Sale of Practice with Agreement to Relinquish Office.—A physician sold a house and lots, his good will as a physician, and also agreed to relinquish to the purchaser his office for the practice of medicine and surgery. As the purchaser knew, he did not own the office in which he was situated, but, with another physician, as partners, had rented the office. The seller's partner expressed himself satisfied with the change, though subsequently proposed such terms for the use of the office, of which he had meanwhile obtained a lease, that the purchaser aforementioned declined to have more to do with the contract. Then the seller sued him for $500 damages for breach of contract, and recovered a judgment for $400. The Court of Appeals of Kentucky holds, Wallingford vs. Aitkins, that it could not, by any reasonable construction of the contract, be construed that the seller was to rent and pay the rent to the owner of the office for the purchaser. It also holds that when the purchaser announced by letter that he would not comply with his contract, this was a renunciation of the contract, and the seller then had the right to sue him for a breach of it. The jury were instructed that when the purchaser mailed to the seller the letter declaring that he declined to have anything more to do with the contract, the seller had nothing further to do in the premises; this was a renunciation of the contract on which the suit was founded; and the seller was entitled to such damages as the jury might believe from the evidence he had sustained by reason thereof, not exceeding the sum of $500, the amount claimed. The language of the contract that the seller agreed "to relinquish his office for the practice of medicine and surgery" to the purchaser, simply meant that he was to vacate



Dr. R. R. Campbell, Chicago, Secretary of the Section on Cutaneous Medicine and Surgery.

the office and leave the same to the use of the purchaser, if he chose to occupy it, and if the jury believed from the evidence that the seller was able, ready and willing to so relinquish, then the law was for the seller, and the jury would so find. The measure of damages in this cause was the difference between the contract price of $3,500 to be paid the seller by the purchaser, under the contract, and the market value of the property at the time of the breach of the contract and when sold, not exceeding $500, the amount claimed. The court of appeals holds that these instructions were proper, and covered the law of the case.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

April 18.

1 *The Therapeutic Value of the Roentgen Ray in the Treatment of Pseudo-Leukemia. N. Senn.
2 *A Plea for the Non-Hospital or Office Treatment of Diseases of the Rectum and Anus. Samuel G. Gant.
3 The Practical Uses of Hypnotic Suggestion. William L. Howard.



Dr. George L. Richards, Fall River, Mass., Chairman of the Section on Laryngology and Otology.

4 *The Work Performed by the Diagnosis Laboratory of the Department of Health in Connection with Ehrlich's Diazo Reaction During 1902. J. S. Billings, Jr.
5 *The Treatment of Some of the Surgical Complications of Typhoid Fever. John F. Erdmann.
6 *Is the Cognomen, "Chemical Physiology," Scientific? A Study of Vital Processes. Joseph Clements.
7 The Management of Occipitoposterior Positions of the Presenting Head. (Concluded.) Walter J. Cavanagh.

1. **X-Rays in Pseudoleukemia.**—Senn reports two cases in which, in view of the hopeless condition, he suggested the use of the rays, in addition to giving arsenic and iron. The benefit was great, both patients now considering themselves in perfect health. He says in his remarks that there is no doubt that the constitutional disturbances which follow the prolonged use of the *x*-ray, and which set in simultaneously with the progressive diminution in the size of the glands, were due to toxemia caused by absorption of the degenerative products of pseudoleukemia. This was also undoubtedly the cause of the increased enlargement of the spleen, which was noted after the second series of applications in the second case. The constitutional disturbances were decided and annoying itching, burning, pigmentation, etc. He says the success attained in these two cases by the use of the *x*-ray leaves no doubt as to the curative effect of the rays in the treatment of pseudoleukemia.

2. **Rectal and Anal Disease.**—The forms of trouble which Gant would treat in the office or away from the hospital are external and internal hemorrhoids, in the latter of which he uses injections as well as the ligature, polypi in the rectum, anorectal abscess, fistula, fissure of the anus, ulcer, pruritus, constipation and fecal impaction. Cancer and stricture can hardly be operated on in the office excepting when in the lower rectum, but in most cases the local treatment and topical applications, etc., can do much toward improving the condition.

4. **The Diazo Reaction.**—The conclusions derived from investigations by this method in the laboratory of the New York Department of Health are given by Billings as follows:

1. The examination of the urine in cases of suspected typhoid fever is of value, provided that its limitations are recognized.
2. While not so absolutely pathognomonic of typhoid fever, yet the diazo reaction is even more constantly present in that disease than the Widal reaction. So that its absence at a period when it should be present, if the case is one of typhoid fever, is of considerable value in making a negative diagnosis.
3. In a majority of instances the diazo reaction is present in the urine at least forty-eight hours earlier than the Widal reaction in the blood.
4. It disappears much earlier than the Widal reaction, however, and negative results obtained later than the second week are of little or no value.
5. "Doubtful reactions" have slight significance.

5. **Typhoid Fever Complications.**—The complications of typhoid discussed here by Erdmann are liver abscess, perforation of the gall bladder, cholecystitis and intestinal perforation. The operative treatment of each is discussed. For liver abscess, opening, either by rib excision or otherwise, is advised with subsequent drainage. He does not believe in delaying pus evacuations at the expense of the patient's vitality. In cases of perforation of the gall bladder there is only one treatment, he says, cholecystectomy, though the condition of the patient must weigh with us somewhat in the consideration, and cholecystotomy must be done in certain cases. Repair by suture is unwarranted. Operative interference in cholecystitis depends largely on the symptoms presenting. If marked rigidity of the upper rectus segment continues for thirty-six to forty-eight hours without any diminution, and septic conditions are indicated by the temperature and pulse, or rupture of the



Dr. J. F. Barnhill, Indianapolis, Secretary of the Section on Laryngology and Otology.

bladder threatens, then cholecystotomy should be performed if the patient's condition is bad or cholangitis is present; otherwise cholecystectomy. In all cases the abdomen may be closed without drainage unless we leave the cystic duct open for drainage of the hepatic fluid. The statistics of the operation for intestinal perforation are noted and the principal question seems to be whether we should wait six to twelve hours for subsidence of shock. He is inclined to answer this in the negative from his study of the statistics. The suture to be employed is either the Lembert or the circular purse-string



Dr. S. Solis Cohen, Philadelphia, Chairman of the Section on Materia Medica, Pharmacy and Therapeutics.

when inversion is possible. The question of drainage can be settled only by experience. He believes that with a fairly clean toilet, no drainage should be used.

6. **Vital Processes.**—Clements' article is an argument in favor of the vitalistic point of view in physiology.

Medical Record, New York.

April 18.

8 *A Report of Final Results in Two Cases of Polyarthritis in Children of the Type First Described by Still, together with Remarks on Rheumatoid Arthritis. Royal Whitman.
9 *"Eye-strain" in Youth and Its Modern Treatment. Ambrose L. Ranney.
10 Tuberculous (Basilar) Cerebrospinal Meningitis and Delusional Insanity Complicating Pulmonary and Laryngeal Tuberculosis. Henry Levien.
11 *Resection of Intestine, with Report of Three Interesting Cases. A. E. Isaacs.

8. **Polyarthritis of the Still Type in Children.**—The two cases reported by Whitman are, as he says, undoubtedly samples of the disease described by Still in 1897, consisting in general chronic progressive enlargement of the joints, with general enlargement of the glands and spleen. The cases are elaborately reported, with illustrations and radiograph. One of them recovered, which is apparently decidedly different from the usual course of the disease. Recovery in this case was apparently completed by an attack of acute disease, scarlatina, after which the patient regained his former health. The author remarks in regard to the nature of rheumatoid arthritis, and seems to doubt the infectious nature of the disorder as well as other theories that have been advanced.

9. **Eye-Strain in Youth.**—Ranney discusses this disorder and insists on its importance. His conclusions are:

1. Eye-strain can not be recognized too early in youth.
2. Its scientific investigation by modern methods and its radical correction may favorably modify both physical and mental development.
3. The neglect of an existing eye-strain may in time allow it to exhaust the reserve nerve capital of the sufferer and produce untold ills both of body and mind.
4. No child should ever be allowed to begin education until it is known that its eyes are properly fitted for the work.
5. Legislative enactment should, and surely will in time, compel an eye examination of every child before it enters the public schools.
6. Teachers should also be instructed in the rudimentary steps of vision testing.
7. Tests for mal-adjustment of eye-muscles should be made on every child as thoroughly and intelligently as tests for errors of refraction are made prior to its education.
8. A knowledge of the possible effects of eye-strain on mental and physical development can not be too widely disseminated among parents and teachers.
9. The direct causal relationship between "eye-strain" and nervous diseases is too well established to-day to require further proof, or even to justify further discussion.
10. The modern methods of testing for anomalies of adjustment of eye-muscles are the only ones that can furnish us with scientific and accurate information.

The time has happily passed when any oculist can instruct a patient to simply follow with the eyes some object held before the eyes, and then on that test alone give a final decision as to whether mal-adjustment of the eye-muscles exists or does not exist.

11. The cure of disease to-day is intelligently based on the search *for its cause* rather than on an indiscriminate use of drugs; and the prevention of diseases is rapidly becoming more important to the medical mind, and also to the laity, than its cure.



Dr. C. S. N. Hallberg, Chicago, Secretary of the Section on Materia Medica, Pharmacy and Therapeutics.

12. The detection of "eye-strain" in youth is an important step in preventive medicine, and the arrest of a nervous leak may save many a child from a permanent break-down when an adult.
13. The study of facial expression and head posture is destined to become an important aid in diagnosis.
14. The governing boards of institutions for the feeble-minded, the epileptic, and the insane will sooner or later be compelled to investigate more carefully and earnestly than in the past the eye conditions of their inmates.

11. **Intestinal Resection.**—Three cases of interest are reported by Isaacs. The first two show how uncertain the diagnosis of

acute appendicitis may be, even if the symptoms are apparently clear. The first case is also of interest on account of the length of the gangrenous gut, twenty-three inches, included in the intestinal strangulation. The operation with the Murphy button was successful, the button passing the ninth day after operation, and the patient was discharged cured in four weeks. In the second case the symptoms were those of an acute attack of appendicitis with local suppuration, but examination disclosed the appendix perfectly normal, though just above it was a tumor consisting of inflamed omental and cecum adhesions



Dr. Victor C. Vaughan, Ann Arbor, Mich., Chairman of the Section on Pathology and Physiology.

matted together with the parietal peritoneum, and a large abscess was found posterior to the cecum and the ascending colon. This arose from the lumbar spine, and instead of working its way down the psoas muscle took the unusual course of working forward through the abdominal cavity, and pointing toward the site of the usual appendiceal abscess. The appendix was ligated and removed, but, as it turned out, this was ineffectual in closing the appendicular orifice, resulting in fecal fistula. The patient was a boy only eight years old, and he successfully withstood five severe laparotomies within five months, coming out none the worse excepting for the presence of scars and a possible future hernia. The third case was a strangulated femoral hernia so far advanced that strangulation of the constricted end and suppuration of the sac had already taken place. The operation was performed with the Murphy button as in the other cases, and with good results notwithstanding the desperate condition of the patient, a widow 56 years of age.

Philadelphia Medical Journal.

April 18.

12 *The Syphilitic Nature of Tabes and General Paralysis. Dr. Leredde.
13 Pulmonary Abscess Producing Dextrocardia: A Case Report. Thomas L. Coley.
14 Methods of Roentgen-Ray Treatment of Malignant Diseases of The Uterus, Rectum and Bladder, with Descriptions of Tubes. Margaret A. Cleaves.
15 *The Surgical Treatment of Tubercular Peritonitis. D. S. Fairchild.
16 *The Operative Treatment of Laryngeal Tuberculosis. Lorenzo B. Lockard.
17 Pernicious Anemia following Thyroid Enlargement. V. S. Merritt.

12. **Tabes and Paresis.**—Leredde holds to the syphilitic nature of these disorders and their curability under specific treatment. He does not believe in pseudo-general paralysis of syphilitic origin definitely distinct from the true disease, but there is a certain clinical type of cerebral syphilis identical with and impossible to differentiate from true general paralysis. This is singularly frequent. He believes that general paralysis in a syphilitic patient is always syphilitic in nature and may be cured if treated correctly before degeneration occurs. He gives details as to treatment, insisting on the importance of a gradual increase of the mercurial dose to avoid any sudden action of the drug.

15.—See abstract in THE JOURNAL of January 17, p. 189.

16. **Laryngeal Tuberculosis.**—Lockard believes in the surgical treatment of these cases; however, carefully selecting them for operation. For the results to be good, the lesions must be localized and accessible, the pulmonary process incipient or quiescent, and there should be general good health without hyperpyrexia, cardiac weakness and involvement of other organs, and a favorable moral and mental temperament. Lastly, and of great importance, a local, not constitutional susceptibility to cocain. The various operations, curetting, use of the knife, scissors, etc., are mentioned. He would also operate to alleviate or render stationary, disease in cases of gradually increasing stenosis, severe laryngeal tuberculosis with slight pulmonary involvement, and when new infiltrations and ulcerations occur after treatment or when local treatment can not be given on



Dr. Joseph McFarland, Philadelphia, Secretary of the Section on Pathology and Physiology.

account of lack of skill or too widespread involvement, but the inefficiency of all other methods should first be demonstrated. He thinks, in any case, we may anticipate some lessening of pain, increased facility in eating and some subsidence of swelling and inflammation. When the pulmonary condition is not in itself fatal, we may also anticipate some resolution in the diseased tissues, a favorable influence on the lungs, a considerable prolongation of life and, rarely, a cure. He thinks that the treatment of a tubercular larynx should usually be the same

as a case of tuberculosis of other parts, that is, complete removal of diseased tissue at the earliest moment provided a conscientious trial of the more conservative methods has first been made.

American Medicine, Philadelphia.

April 18.

18 *A Plea for More Radical Operations in Malignant Disease of the Testicle. Charles Greene Cumston and William A. Rolfe.
19 *Bacteriologic Studies of the Skin and Throat in Cases of Scarlatina. George H. Weaver.
20 *The Treatment of Insomnia. Hubert Richardson.
21 *The Ocular Complications of Variola. Burton K. Chance.
22 Angioneurotic Purpura. Raymond Wallace.
23 *Limitations of the Dimethylamidoazobenzol Test for Free HCl in the Stomach Contents. Wilbur F. Skillman.
24 *Infection as a Factor in Tuberculosis. Woods Hutchinson.

18. **Malignant Disease of the Testicle.**—Cumston and Rolfe plead for a more thorough operation in these cases, performing not merely a castration, but dissecting out the lymph glands in the groin. The article is illustrated.

19. **Scarlatina.**—Eighteen cases of scarlatina have been studied by Weaver to ascertain the bacteria of the skin in this disease. He finds that the bacteria obtained from the cultures of the skin, epidermic scales, and the surface of the tonsil in case of scarlatina are the same as those found in the same localities during health, no one of these is constantly present except the streptococcus in the throat. On account of the numerous cocci growing in such cultures it is impossible to identify them except by complete study. If made by inexperienced persons or those who do not fully appreciate the importance of avoiding the tongue, the cultures are especially apt to contain large diplococci or sarcinæ. The streptococcus is present in the tonsil of scarlatinal patients in enormous numbers in almost every instance.

20. **Insomnia.**—The causes and treatment of insomnia are discussed at length by Richardson, who reviews the effects of various hypnotics and practically condemns them all as being toxic and producing sleep by intoxication. The methods which he would consider better are sleeping in a well-oxygenated room, keeping the bed warm, reduction of mental activity for some hours before going to bed, and the evening meal at least four hours before retiring; the use of the bath immediately before retiring and sometimes the addition of a nitroglycerin or erythrol tetranitrate tablet after the patient has gone to bed. Small doses of digitalis in neurasthenic cases will sometimes be efficient in producing sleep. In acute mania with low mean and maximum blood pressure, heart stimulants are indicated, but in chronic mania, with high mean and maximum pressure, these are useless and opiates are especially contraindicated. There are cases where hypnotics are absolutely necessary, but he thinks it is better to produce the conditions necessary to natural sleep than to give a poison which produces unconsciousness and not sleep, and which must be detrimental to the patient.

21. **Variola.**—Chance has studied the ocular complications of variola in an analysis of over two thousand cases at the Municipal Hospital at Philadelphia. He finds ocular affections common, occurring sometimes in the acute stages and again not until convalescence, or they may be seen for the first time as sequelæ. The skin of the lids is commonly a site of the pustulous eruption and the eye may not be opened for several days. In such cases severe conjunctivitis is present and often leads to corneal ulceration and abscesses may occur on the lids later. The lachrymal passages may become inflamed and destroyed. Inflammation of the conjunctiva itself is usual, but shortly passes away. The intensity is related directly to that of pustular eruption in general. The cornea does not seem to be subject to the specific lesion of variola, though ulceration does occur independently of the general process as a consequence of conjunctival disease. Inflammation may be only a slight superficial haze or may involve the entire membrane. In severe cases rapid destruction of the cornea may take place as early as the eighth day. Sometimes both the eyes are affected. Two cases of parenchymatous keratitis were observed. Old vaccination, though not effective against the smallpox seemed to relieve the corneal complications to a considerable extent. The uveal tract seemed less likely to be affected than the cornea. Iritis was observed in a few cases. In no case was there circumscribed choroidal inflammation or posterior polar cataract. Chance can report no case of glaucoma, retinitis or neuro-retinitis, though other observers have reported such. While kidney disease was common it did not progress far enough to result in any case of albuminuric retinitis. He has not found any cases of hemorrhage into the retinal sheet or optic nerve reported as actually observed.

23. **Dimethylamidoazobenzol Test.**—Skillman finds certain limitations of this test for free HCl in the stomach, which he summarizes as follows:

1. If the test for lactic acid is positive, Gunzburg's or Boas' reagents, or some other method, should be used to determine whether our dimethyl reaction is due to lactic acid or to free HCl.
2. If the stomach is normal both as to size and position and the peristaltic function is unimpaired, then dimethyl will give fairly accurate results.
3. If the size and position of the stomach are not normal (gastrectasis or gastroptosis), or if the peristaltic function is delayed, then Gunzburg's or Boas' tests should be first performed to test positively whether free HCl is causing reaction, or whether it is caused by organic acids, before proceeding to titration with dimethyl.

24. **Tuberculosis.**—Hutchinson gives an interesting résumé of the present conditions of the question of bovine and human tuberculosis, disagreeing with Koch as to the harmlessness of bovine tuberculosis to man, though he admits his general statement as to the transmission of human tuberculosis to cattle. As regards actual infection from individuals, he finds little to support the extreme opinions which have gained ground. The general balance of evidence in regard to the rôle of infection in tuberculosis seems to him to point to the view that while the introduction of infectious material is necessary, the most potent factors in determining the questions of the development of the disease are those of the soil, viz., resisting power, and environment. He believes there is considerable in the *habitus phthisicalis*, that is, special conformation and physiognomy of those most subject to phthisis, and gives special importance to a high chest index, namely, the relation between the anteroposterior and the transverse diameters of the chest. This is high in consumptives, that is, the phthisical patient has a more round than flat chest. It is a persistence of the fetal condition. He believes in guarding against infection by every possible means; meat and milk inspection, tuberculin tests, destruction of sputum, notification of cases, prevention of expectoration in public, but twice as important, in his opinion, are well-aired rooms, good food, short hours of indoor work and an open-air life.

Boston Medical and Surgical Journal.

April 16.

25 *A Case of Interscapulo-Thoracic Amputaton for Sarcoma of the Brachial Plexus. F. B. Lund.
26 *The Diagnosis of Gonorrheal Urethritis. Alfred H. Gould.
27 *Cream for the Home Modification of Milk. Charles W. Townsend.
28 *Variation in the Composition of Human Milk. Philip P. Sharples and Eugene A. Darling.
29 *Trikresol in Para-urethral Abscess. M. L. Heidingsfeld.

25. **Interscapulo-Thoracic Amputation for Sarcoma.**—The case reported by Lund was a patient 40 years of age, of good muscular development, operated on for sarcoma of the brachial plexus following injury. Rupture of the axillary vein had occurred in attempted removal, and it was relieved by suture and subsequent interscapulo-thoracic amputation was performed with good results, and no recurrence after three months. The points of special interest are the close relations in time between the development of the tumor and the injury of the arm. The early paralysis of the median nerve, while the other nerves were not affected except by pressure, pointed to the origin of the tumor in this nerve. Lund summarizes the indications for this operation: 1. In the majority of cases of malignant disease of the humerus, and especially any that involve the tissues about the shoulder joint. 2. In malignant disease in the axilla involving the axillary vein, which can not be ligated without sacrificing the arm. 3. In extensive injuries, where the scapula has been partially or completely torn away, or the skin over the deltoid has been destroyed, so that it is not available for the covering of an ordinary shoulder-

joint amputation. Points in the technic are noted, the importance of ligating the artery before the vein, and of cocainization of the trunks of the brachial plexus before division, which seems to have no effect on the pulse.

26. **Gonorrheal Urethritis.**—Gould insists on the importance of culture tests as well as microscopic tests to positively establish the identity of the disease. He advises the following general routine method: 1. Cleansing the meatus with water and passing the urine into a sterile test tube. This is centrifugalized in two sterile centrifugal tubes, and the overlying fluid poured off. The sediment is used for cultures. If a few gonococci are found in the first tube, the second tube is treated in the same manner. The Gram stain should always be used. In making culture media he found hydrocele fluid most practicable.

27. **Cream for the Home Modification of Milk.**—The conclusions of Townsend's article are given in the following:

1. Centrifugal cream is probably less desirable for infant feeding than gravity cream. As obtained from dealers it is often far from accurate in percentage.
2. Siphonage for obtaining gravity cream is an accurate method, but one requiring considerable skill to perform accurately and safely.
3. Dipping off the top milk is an accurate and safe method if reasonable care is used.
4. The method for obtaining gravity cream by pouring off the top is very accurate and extremely simple. There is no instrument to be bought and kept clean. By this method it is possible to obtain cream of any desired percentage up to 26 per cent.
5. To ensure perfect accuracy, frequent examinations with the Babcock machine are required; but for practical purposes this is not necessary, provided the mixed milk from a well-regulated dairy is obtained.

28. **Human Milk.**—Sharples and Darling have systematically analyzed samples of human milk collected under uniform conditions. The details of their methods are given. They find that the average composition of human milk as shown by 117 analyses is:

Fat	2.91	Ash	0.13
Sugar	7.01	Total solids	11.39
Proteids	1.34	Solids not fat	8.48

Very wide variations from the average occur in some individuals at different times and marked variations in the average composition from different individuals. The average composition of human milk does not vary markedly at different periods of lactation, but during the first lactation it is weaker in fat and proteids and stronger in sugar than in subsequent lactations. These differences may or may not be due to age.

29. **Para-Urethral Abscess.**—Heidingsfeld gives his experience with four cases of para-urethral abscess following gonorrheal infection and treated by injections of trikresol. In all four it effected a complete cure in from seven to fourteen days, and materially shortened an exceedingly obstinate and distressing gonorrhea. He speaks rather strongly in regard to the utility of this preparation in such cases, and thinks it warranted in every accessible case until its efficacy, unfailing or otherwise, is fully established.

Medical News, New York.

April 18.

30 *Intestinal Indigestion (Dystrypsia). John C. Hemmeter.
31 *A Brief Review of Some of the Etiologic Factors in Intestinal Dyspepsia. E. Franklin Smith.
32 *The Rational Treatment of Tetanus: A Report of Successful Treatment by Spinal Subarachnoid Injections of Antitetanic Serum. W. H. Luckett.
33 *Notes on Systemic Infections by the Staphylococcus Aureus. E. Libman.
34 *Itching: Its Occurrence Both as a Concomitant and as a Cure of Disease. Edward B. Bronson.
35 The Roentgen Ray: Its Mechanics, Physics, Physiology and Pathology. Eden V. Delphey.
36 The Congenital Criminal. Robert T. Irvine.

30. **Intestinal Indigestion.**—The different forms of intestinal indigestion are noted by Hemmeter, who commences with a discussion as to the gastric function, showing the importance of psychic incitation to gastric secretion. It is important first of all, in order to have a normal intestinal digestion to see that the mouth and stomach are in good order. He points out the differences between the jejunal and the catarrhal types of the stools; the former is very rich in bile pigments, with slight fecal odor and generally of an acid reaction, bearing evidence of simply being hurried through the intestine, while the catarrhal shows the presence of epithelium and round cells from the mucous membranes which are absent in the jejunum stools, and it is dependent on general enteritis. The dystrypsia due to carbohydrate fermentation which gives rise to jejunal diarrhea is important because it may entail an ultimate enteritis in either adult or infant. It is not an easy matter to decide between a normal and abnormal, quantitative or qualitative, presence of starch in the feces, but if they give a marked primary fermentation according to Adolf Schmidt's test, he excludes starch from the diet. Normally, Lugol's solution should show no blue color in the stools. An abundance of undigested muscle fibers after a weighed test diet is always significant of abnormal intestinal digestion, and if the nuclei in the muscle fibers are very evident it signifies abnormality of the pancreatic secretion. The presence of connective tissue is another significant point indicating gastric indigestion. According to Hemmeter's experience it is impossible to succeed with a radical enforcing of strict diet of any kind, but he advises a "bland diet"; foods that pass the intestinal canal undigested should be avoided. He makes it a rule to prohibit alcohol, tea, coffee and tobacco, but with great exhaustion he allows small quantities of alcohol under the strictest control. The diet can not be regulated until a dietetic experiment is made. The same holds true as regards constipation. We must ascertain whether this is due to atony or spasm. The majority of these patients require exercise after meals; a few may require rest. Great care must be exercised as regards the last meal of the day; a heavy supper will often produce a restless night. Hypnotics should be avoided for insomnia, and any neurasthenia properly combated. He has been able to get along without intestinal antiseptics, and has seen bad results from irritating drugs of this kind. Creosote, even in small doses, generally deranges the stomach. He gives a number of formulas for special symptoms.

31. **The Etiologic Factors of Intestinal Dyspepsia.**—The first of the exciting causes noted by Smith is the pathologic and anatomic alteration of the intestinal walls, nerves, lymphatics and blood vessels. 2. The absence or deficiency of the intestinal digestive secretions, especially of bile and pancreatic juice. 3. Intestinal indigestion due to qualitative or quantitative irregularities of diet. 4. Intestinal dyspepsia due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry. 6. That of nervous origin—neurasthenia intestinalis. 7. Intestinal dyspepsia caused by abnormal substances, or irritation, reaching the intestines from the blood, as in uremia, severe malaria, septicemia, croupous pneumonia, erysipelas, cholera, etc. 8. Intestinal dyspepsia due to the activity of the intestinal parasites (exclusive of bacteria). 9. That due to hyperperistalsis or excessive motility of the bowel, motor, sensory, secretory neuroses, etc. All these are discussed in detail.

32. **Tetanus.**—Three cases are reported by Luckett, two recovering under intraspinal injections of tetanus antitoxin with withdrawal of a certain amount of cerebrospinal fluid. No attempt was made to maintain an equilibrium between the amount of spinal fluid withdrawn and the amount of serum injected, the former ranging from 100 to 140 drops and the latter usually 8 to 12 c.c. of antitoxin. He holds that this fact indicates that the shock or collapse following spinal subarachnoid injection of cocain is not due to any upsetting of equilibrium of pressure, but is due solely to the physiologic action of the cocain. In case of a tetanus infected wound he is not by any means positive that the anatomical seat of the wound does not play an important rôle in the production of the constitutional symptoms of tetanus; if near a large nerve it will be more likely to be followed by constitutional effects. While recognizing the absurdity of trying to draw conclusions from two cases, in the two patients who recovered the reaction after each injection was so prompt and the improvement so positive that he believes spinal subarachnoid injection of tetanus antitoxin, preceded by the withdrawal of the active, concentrated, highly toxic spinal fluid, supplemented by forced nutrition and proper care of wound, is a very promising method of treatment, offering more hope than any other in this dreaded disease.

33. **Staphylococcus Infection.**—Libman has examined 23 cases of osteomyelitis in septic conditions and found in all of them the *Staphylococcus aureus* in the blood during life. In 330 other blood cultures he has never seen a single colony of *Staphylococcus aureus*. Five of these 23 cases recovered. It does not necessarily follow that the greater the number of bacteria in the blood, the less the chance of recovery. The number of bacteria depends in some cases at least on the time when the examination is made, as the great tendency is for the body to rid itself of bacteria.

34. **Itching.**—Bronson reviews the causes of the symptom of itching and its treatment. Scratching is the natural remedy for itching, but may do more harm than good, but the principle of transference or substitution of sensation, used in scratching, is also applied in other remedies. One of the most valuable of them is menthol, which is not an anesthetic, but relieves itching as it relieves pain, by substitution for this sensation, the disturbance of temperature sense. A 2 to 4 per cent. alcoholic solution is most effective. Other remedies act as cutaneous anesthetics, as hot water, camphor, etc., and of the local anesthetics, carbolic acid is the most valuable and has the most lasting effect. To obtain its best effect it should be used strong. Its corrosive action on the skin is its chief objection. It is well to bear in mind the possibility of carbolic poisoning, though if ordinary caution is observed there is not much danger. The danger of injury to the skin from the caustic action is a more imminent one. We can use subsequent applications of alcohol if necessary. Generally he has found a drying oil, linseed more particularly, the best corrigent. The following is the prescription which he recommends:

℞.	Liquor potassi	3i	4 |
	Acid carbolici	3ii	8 | -
	Olei lini q. s. ad.....	℥i	30 |
	Olei verbenæ	m. ii	|12
M.			

There is not much to be said for internal remedies, but where an urticarial element is prominent, there would seem to be an indication for motor depression to overcome the spastic contractions of the skin muscles. Atropin and pilocarpin are sometimes prescribed, but he does not strongly recommend them. In toxic urticaria there is an indication for antiseptic remedies and with the form due to errors of diet or dependent on idiosyncrasy of the individual, a brisk emetic or later a saline purge may be effective. In senile pruritus he speaks particularly of general stimulation of the skin by elimination, faradization, etc., with internally cannabis indica and strychnia. For pruritus hyemalis it is important that digestion and general nutrition should be kept up and alcoholics avoided. Bath pruritus is more difficult to control, and some times the addition of salt to the water makes it less irritating. For pruritus of the anus or genitals the cause should be searched out, all possible sources of reflex irritation looked for as well as any general condition like lithemia, neurasthenia, or diabetes. Among the local remedies he mentions lotions of aluminum acetate, Lassar paste, without salicylic acid, or with 2 or 3 per cent. carbolic acid. Orthoform may do well if inflammation exists and until it is allayed. Cocain is sometimes useful, but not good for prolonged use. The sovereign remedy for pruritus vulvi or ani is carbolic acid. A single application of the prescription above given is sometimes efficient for the whole night, but it should not, however, be applied too lavishly or too often; more than one or two applications in twenty-four hours would be likely to do injury. Hot water is often useful. Other remedies are also mentioned.

Cincinnati Lancet-Clinic.

April 18.

37 The Future of Gynecology and of Obstetrics. Wm. D. Porter.
38 The Care of Obstetric Cases. Julia W. Carpenter.
39 Cephalalgia. Mark D. Stevenson.
40 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

April 11.

41 *Fistula of the Cornea. James M. Ball.

41. **Fistula of the Cornea.**—This condition, which is rare in occurrence, is treated by Ball as follows:

The keratome is to be introduced into the anterior chamber as in the first step in the operation for iridectomy. The tip of the instrument is to pass beyond the fistulous area, and the instrument is then to be held *in situ* while a cautery is used to destroy the epithelial lining, the tag of iris-tissue which is often present in the fistula, and the bulging bleb of Descemet's membrane. The keratome is to be withdrawn carefully to avoid injury to the lens. Atropin and a compress bandage are to be used in the after-treatment. During the operation the lids should be separated by a speculum and the eyeball should be fixed with forceps. It is necessary that the forceps should be placed several mm. behind the point at which the keratome is to be introduced. If the forceps be placed on the globe at a point opposite the place at which the keratome is to be passed, the globe may be subjected to sufficient pressure to cause a rupture of the weakened area. The operation must be postponed until such time as the anterior chamber shall have reformed.

Bulletin of the Johns Hopkins Hospital, Baltimore.

March-April.

42 Plague in the Orient. William J. Calvert.
43 *Pemphigus Vegetans. L. P. Hamburger and Maurice Rubel.
44 *The Taste Fibers and Their Independence of the N. Trigeminus. Harvey Cushing.
45 On the Use of Clay Modeling in the Study of Osteology. Robert O. Moody.
46 The Treatment of Aural Exostoses. H. O. Reik.

43. **Pemphigus Vegetans.**—Hamburger and Rubel report a case with details, autopsy findings and bacteriologic examination. The condition is a fatal one and was best relieved by continuous immersion under water. Cultures revealed the presence in the mouth of small bacteria in almost pure culture, allied apparently to the pseudo-diphtheria bacillus. After the death of the patient, the *Micrococcus lanceolatus* was isolated from the lungs, and a pseudo-diphtheria bacillus from the blood. Blebs showed the staphylococcus. The article is elaborately illustrated.

44. **The Taste Fibers.**—Cushing has analyzed the literature and a number of cases of his own observation to determine whether the taste fibers reach the tongue through the trigeminus or not. Judging from the uniform results of observation, he says it may be said in conclusion:

1. That the perception of taste is unaffected on the posterior portion of the tongue and never permanently or completely lost on its anterior two-thirds after removal of the Gasserian ganglion. 2. That a temporary abolition or lessening of the acuity of taste may be found to exist over the anterior and anesthetic portion of the tongue for some days after the operation. 3. That this temporary loss of function may possibly be occasioned by some interference with chorda transmission brought about by a mechanical or toxic disturbance due to degeneration of the N. lingualis. 4. That a lesion of the trigeminal nerve may be associated with disturbance of taste over the chorda territory without the necessary inference that the nerve is a path for gustatory impulses. 5. That the N. trigeminus in all probability does not convey taste fibers to the brain either from the anterior or posterior portion of the tongue.

Cleveland Medical Journal.

April.

47 *The Occurrence of Cheyne-Stokes' Breathing in Acute Disease, with Report of a Case. H. C. Mabley.
48 On the Value of Obtaining the Urine from Each Kidney Separately, with a Description of the Different Methods Employed. William E. Lower.
49 A Case of Face Presentation—Mentoposterior Position. F. S. Clark.
50 Instructions Issued by the German Government for the Education of the People on Tuberculosis. Translated by John H. Lowman.

47. **Cheyne-Stokes' Breathing.**—Mabley notes this special symptom and gives illustrative cases personally observed and others from the literature. He thinks the condition is not by any means necessarily associated with chronic disease, though the literature gives but little material in regard to its occurrence in acute conditions.

Annals of Surgery, Philadelphia.

April.

51 *Splenopexy for Wandering Spleen. J. Basil Hall.
52 *Urethroplasty. Albert A. Berg.
53 *Carcinomatous Changes in an Area of Chronic Ulceration, or Marjolin's Ulcer. John C. DaCosta.
54 A Case of Dislocation of the Hip in Acute Rheumatism. J. N. Hall.
55 *Instrument to Protect the Brain While Doing Craniotomy with Gigli Saw. Frederick C. Schaefer.
56 *Primary Tuberculosis of the Breast. W. S. Schley.
57 *The Diagnosis of Intestinal Injury Following Abdominal Contusion. Robert G. LeConte.
58 *Hepatic Duct Stones. Raymond C. Turck.
59 *Primary Carcinoma of the Vermiform Appendix, with a Report of Three Cases. Arthur W. Elting.
60 *The Surgical Treatment of Anuria. Arthur D. Bevan.
61 *Results of Decapsulation of the Kidney. Harold A. Johnson.

51. **Splenopexy.**—Hall reports a case successfully operated on. The conditions were good for splenectomy, but noticing that there was a peculiar structure of the spleen which favored its attachment, the notch being specially situated so as to make sure of an anchorage, he adopted the plan of splenopexy with good results. Of course, this would not be advisable in every instance.

52. **Urethroplasty.**—Berg describes the various methods of performing urethroplasty and reports two cases showing the usefulness of Guyon's operation—that is insertion of a catheter and allowing regeneration over it between the two divided ends—which he holds is the most universally applicable method, though not so ideal as the union of the two ends.

53. **Marjolin's Ulcer.**—Two cases of this condition are reported by DaCosta, who discusses the origin of the cancer from chronic ulcer. He does not adopt the parasitic view, though certain things seem to favor it, such as metastases, etc. He cautions in regard to diagnosis, especially in cases where there has been a pre-existing induration, and the possibility of a syphilitic condition is mentioned. When a positive diagnosis is made of cancer of this sort on the extremities, the only course is amputation well above and removal of the anatomically related glands. The *x*-ray may be tried before amputation if the glands are not obviously enlarged.

55.—This article appeared in THE JOURNAL, Jan. 24, p. 246.

56. **Primary Tuberculosis of the Breast.**—Schley reports a case of this condition and discusses its pathology. The condition is evidently not a common one. It may be mistaken for simple cyst, fibro-adenoma, carcinoma, sarcoma, gumma and actinomycosis. It may also be necessary to distinguish the process from chronic interstitial mastitis. The treatment consists in removal.

57. **Intestinal Injury from Contusions.**—Several cases of this condition are reported by Le Conte and the symptoms and diagnosis analyzed. He thinks that a moderately sure diagnosis of injury must be made before operation is undertaken or we will frequently find no internal trauma, and that the teachings of modern writers who urge operation in all cases presenting pain, rigidity or local tenderness are too radical. The presence of shock is not sufficient for diagnosis. We must wait for reaction. No one symptom is pathognomonic, but the most reliable ones are gradually increasing rigidity and facial expression. Next he would place deep and perhaps radiating abdominal pain, respiration which becomes more and more thoracic, vomiting after shock has ceased, distension, increasing pulse-rate, and secondary fall in temperature. The order of these symptoms is unimportant. Any individual who has received an abdominal contusion sufficiently severe to call for service needs the most constant and careful watching for grave symptoms. We should not wait for them to become so pronounced that a positive diagnosis is assured, but there is a safest position midway between operation on every case and waiting for assured diagnosis.

58. **Hepatic Duct Stones.**—Turck emphasizes the importance of a thorough search for calculi in the hepatic duct and their removal if existing. He thinks it is safer to assume that stones may be formed in the bile ducts independently of gall-bladder influences, and unless the case is undoubtedly uncomplicated, or one with a few or a single large stone in the ducts, with no sign of cholangitis and with the bile clear, simple gall-bladder drainage, removal of the mucous membrane and cholecystectomy may all prove insufficient and drainage of the hepatic duct by tube through a direct incision or common duct opening should be instituted.

59. **Primary Carcinoma of the Vermiform Appendix.**—From a careful study of the subject including examination of three cases, Elting draws the following conclusions:

1. Primary carcinoma of the appendix is not of such rare occurrence as has been hitherto supposed. 2. Every appendix removed at operation or autopsy, if it presents any evidence whatever of disease, should be examined most carefully, and sections should be made from several portions of the organ for microscopical study. 3. The relationship of primary carcinoma of the appendix to chronic appendicitis, especially of the obliterative type, seems to be fairly definitely established. 4. Primary carcinoma of the appendix shows a tendency to develop at a comparatively early period of life. 5. Primary carcinoma of the appendix does not show a marked tendency either to extension or to metastasis. 6. The symptoms of primary carcinoma of the appendix are usually the symptoms of appendicitis of the chronic type. 7. The diagnosis of primary carcinoma of the appendix is in the great majority of cases impossible. 8. The treatment of the condition should always be operative.

60. **Anuria.**—Bevan reports a case and discusses the conditions which may be due to obstruction, traumatic or otherwise, from acute nephritis, from tuberculosis from degenerative conditions, from certain poisons, from a peculiar condition known as urethral fever and hysteria. He draws the following conclusion from his study as regards the operation:

1. The clinical importance of recognizing the three forms of anuria—obstructive, reflex and non-obstructive—is to be emphasized. 2. The imperative necessity of surgical interference in the obstructive and reflex forms, and its possible value in the non-obstructive cases. 3. That in the first two varieties, at least, a rapid nephrotomy on the side of pain, tenderness, and muscular rigidity is the operation of choice. If necessary, do not hesitate to make a double nephrotomy. 4. That nitrous-oxid anesthesia is probably to be preferred. 5. That time-consuming operations to relieve permanently the obstruction are to be postponed to a later period, after the patient has recovered from the anuria. 6. Operate early, by the beginning of the third day.

61. **Kidney Decapsulation.**—Johnson has experimented on fifteen dogs, of which 5 died, and gives a summary of his findings. The capsule of the normal kidney consists of two distinct layers, the outer being much the thicker, while the inner is very thin, the direct continuation of the intertubular connective tissue. In the operation of decapsulation the outer layer only is removed, leaving the inner lacerated but adherent to the kidney's surface. At first a thin exudate appears on the free surface of the kidney, which gradually becomes a fibrous investment, resembling the normal capsule in that it strips readily and becomes more and more firm with time. Microscopic examination shows this to be of varying degrees of thickness, and a homogeneous mass of fibrous tissue which will form under adhesions and can be recognized as distinct from them both macroscopically and microscopically. There is sometimes an infiltration with round cells and a proliferation of the intertubular connective tissue of the cortex, without, however, affecting the glomeruli or the general health of the dogs. Lastly and most important is that in no case was there any considerable anastomosis between the renal and perirenal blood channels. Applying these facts to operations on the human subject, he does not find that Edebohl's claim is sustained that the benefits sometimes derived from this operation are due to the establishment of a collateral circulation, but rather that they are due to relief of tension from splitting the capsule of the kidney.

Interstate Medical Journal, St. Louis.

April.

62 *The Diagnosis and Treatment of Hemorrhoids. James P. Tuttle.
63 *The Heart in Neurasthenia. Frank P. Norbury.
64 What the von Langenbeck Operation Accomplishes in Individuals with Cleft Palate. Willard Bartlett.
65 Treatment of Verruca Plana Juvenalis, with Report of Two Cases. M. F. Engman and W. P. Loth.

62. **Hemorrhoids.**—Tuttle's article is somewhat lengthy, describing the various types of hemorrhoids and their treatment. He believes that in the varicose type of internal hemorrhoids there is a field for the injection methods. In purely internal hemorrhoids, which prolapse through a relaxed sphincter, not ulcerated, this method will frequently give us excellent results. The method, however, is tedious and may be painful. He does not use ligation, but has employed an operation of excision, adapted from the methods of various authorities. He does not advise this, however, to the general practitioner, but counsels him to hold to the old, simple efficient plan of clamp and cautery in the operative treatment of piles.

63. **The Heart in Neurasthenia.**—Norbury calls attention to the heart symptoms occurring with neurasthenia, disturbance of the rhythm, usually increased, acceleration, the Rumpf symptom, palpitation after eating and the general symptoms of heart weakness. The condition does not usually improve until the neurasthenia is well under way of convalescence. He believes in diversion as a part of the rest cure in these cases. The details are largely in regulating sleep, promoting digestion, the use of tonics, care as to the bowels and a careful consideration of nutrition in general.

Albany Medical Annals.

April.

66 *The Unusual Symptoms of the Weakened Foot. Arthur W. Elting.
67 *Ocean Traveling as a Therapeutic Measure. John Hall.
68 *Albany Hospital; First Report of Pavilion F, Department for Mental Diseases, for the Year Ending Feb. 28, 1903. J. M. Mosher.
69 Albany Hospital Report of the Pathologist on the Work Done from March 1, 1902, to March 1, 1903. George Blumer.
70 A Late Laparotomy for Gunshot Wounds of the Intestines; Eleven Perforations; Recovery. James H. Mitchell.

66. **The Weakened Foot.**—Elting discusses the condition and its treatment and describes cases where severe cramps of the calves, pain in the knee and hip joints were experienced as also the symptom of meralgia parasthetica, which has also been attributed to this condition by Pal.

67. **Ocean Traveling.**—The advantages of ocean traveling for invalids are discussed by Hall, who also points out the drawbacks and insists on good judgment in the careful selection of cases to be benefited in this way. The same problems arise as regards land traveling. He thinks it is best not to be too ready to prescribe traveling for a patient because he has the means.

68. **Mental Wards in General Hospitals.**—The first report of Pavilion F. of the Albany Hospital is given by Mosher, who shows a total of 174 cases treated, with 57 recoveries and 53 improved. He finds many advantages in the plan of having a mental ward attached to a general hospital, though it is unsuited for a certain proportion of cases. The principle, he says, may be stated that any patient whose case may be regarded as curable by the means at hand should share the advantages of this style of ward. He speaks highly of the benefit of putting the male wards in charge of female trained nurses.

Illinois Medical Journal, Springfield.

April.

71 *Hemorrhoids: Their Pathology; Indications for and Technic of Operative Treatment. J. Rawson Pennington.
72 *Acute Gastro-enteric Infection of Infants. Margaret T. Shutt.
73 *Six Years in a Dermatologic Clinic. E. A. Fischkin.
74 A Case of Grippe Infection Resembling Puerperal Fever. Joseph Brayshaw.
75 An Unusual Case of Typhoid Fever. J. W. Kelly.
76 Consistency in Medical Practice. J. N. Nelms.
77 The General Practitioner and His Surgery. W. C. Bowers.

71. **Hemorrhoids.**—Pennington describes his operation. It consists in cutting out a section of the mucous membrane covering the pile and removing angiomatous tissue, treating each quadrant of the anus in regular order. A stream of hot sterilized salt solution (115 to 125 F.) flows over the parts continuously during the operation. Spurting vessels, if any, are caught with forceps and thoroughly twisted and, if necessary, ligated. All external tumors and tabs of skin are cut off, care being taken not to make any incision in the muco-cutaneous junction. The field is then dusted with some antiseptic powder and dressed in an extended posture by means of a rubber-covered tampon introduced through a bi-valve speculum, which protrudes about 1.5 inches beyond the anal orifice. Gauze is carefully wrapped around the protruding portion and the whole confined with a T-bandage. The patient is placed in bed and given a hypodermic of morphin, if not contraindicated, and at the end of forty-eight hours is given a cathartic and the tampon removed. From this time on until convalescence is well established, the parts should be washed or irrigated daily with an antiseptic solution, dusted with some antiseptic powder, or sterilized vaselin applied. The bowel should be kept soft for two or three weeks, and wet cotton or cottonoid used as a detergent. He finds this one of the best and most reliable operative methods.

72.—This article is practically the same as that published in THE JOURNAL, xxxix, p. 244.

73.—This article appeared in THE JOURNAL, Aug. 23, 1902.

Texas Medical Journal, Austin.

April.

78 *Neurasthenia in Relation to the Abdominal Diseases of Women. Henry E. Leake.
79 *A Study of Nature's Method for the Cure of Asiatic Cholera. W. B. McLaughlin.

78. **Neurasthenia in Women.**—Leake objects to the reflex theories of neurasthenia, holding that they have been largely overdone. Men's minds have been unduly strained in this direction. The nervous and physical weaknesses so often accompanying abdominal disease in women is not true neurasthenia or strictly pelvic reflexes. He mentions especially, as one of the most intractable symptoms in neurasthenic women, mucomembranous colitis, which is so common that he invariably assumes it to be present in some degree. His experience with it has been large, but not always satisfactory. He protests against the prevailing indiscriminate operations in abdominal conditions.

79. **Asiatic Cholera.**—McLaughlin considers the cholera germ especially sensitive to heat, and believes that Nature attempts to rid the organism of it by vomiting and purgation. If she can not accomplish this by these alone she raises the bodily temperature to a point that interferes with or inhibits its growth. These processes, however, are a severe tax on the vitality, and the febrile process once started may refuse to be controlled, and the patient dies of hyperpyrexia. In McLaughlin's opinion, heat in cholera is an analogue of Behring's antitoxin in diphtheria. Thus he reasons that by causing an early rise of temperature in cholera patients we also lower the mortality. He reports the results of the use of normal salt solution at 112, injecting above the sigmoid flexure in five cases. The first case was moribund at the time and died, the second died within ten hours of hyperpyrexia. After this the temperature of the injection was reduced from 112 to 110 and an ice bag applied to the patient's head during its administration. The three remaining cases made good recoveries, entering the stage of reaction in each case within an hour of the administration of the injection. Illness compelled him to leave the Philippines at this time, and he has had no opportunity to give the method a further trial.

Medical Age, Detroit, Mich.

April 10.

80 Reflex Neuroses in Women. Edward B. Ward.
81 Tumors of the Bladder. Robert Grossmann.
82 Antitoxin in the Treatment of Diphtheria. W. Thornton Parker.

Medical Fortnightly, St. Louis.

April 10.

83 The Use of Mercury in Syphilis. David W. Reid.
84 Psoriasis and Its Treatment. Charles J. S. Digges.
85 Diseases of the Lungs and Pleura (Pulmonary Emphysema). Albert Abrams.

Virginia Medical Semi-Monthly, Richmond.

April 10.

86 Conception in Species, Pregnancy, Sexuality, Etc. Jesse Ewell.
87 Disease of the Antrum of Highmore, and Its Treatment. J. Stiff.
88 Chloroform as a Surgical Anesthetic and Its Administration. Manfred Call.
89 Gunshot Wounds of the Stomach, with Report of a Case. F. Lawford.

Medical Herald, St. Joseph, Mo.

April.

90 Apoplexy: Remarks for the General Practitioner. Hugh T. Patrick.
91 The Brain: Its Relation to Mind and Soul. T. E. Potter.
92 The Diagnosis of Gallstones. A. L. Wright.
93 A Plea for Prostitution. Albert S. Ashmead.
94 Fracture of the Cranium. Thomas M. Paul.

Occidental Medical Times, San Francisco.

April.

95 Address, San Joaquin Valley Medical Society. J. L. Carson.
96 The Municipal Control of Milk Supply as an Important Sanitary Measure. G. H. Aiken.
97 The Subarachnoid Injection of Cocain. A. J. Pedlar.
98 Iritis: Its Symptoms and Treatment. D. H. Trowbridge.
99 End Result Four Years After a Pus Joint at the Knee. Harry M. Sherman.
100 Is Surgical Treatment to Be the Routine Treatment in Basedow's Disease? W. Winterberg.
101 Pancreatic Calculus. L. W. Allen.
102 Report of a Case of Tuberculosis of the Cornea, Iris and Ciliary Body. A. Barkan.

Chicago Medical Recorder.

April 15.

103 *The Diagnosis of Pneumonia. Arthur R. Edwards.
104 *The Treatment of Pneumonia. James B. Herrick.
105 The Pulmonary Aspects and Complications of Influenza. Frank S. Johnson.
106 The Treatment of Influenza. Robert H. Babcock.
107 Abdominal and Vaginal Cesarean Section as Means of Accomplishing Accouchement Forcé. J. Clarence Webster.

108 *Pneumococcus Septicemia. Joseph L. Miller.
109 Report of a Case of Stammering and Methods of Treatment. James M. Brown.
110 Uremia. A. Gaebler.

103.—See abstract in THE JOURNAL of April 11, p. 1017.

104.—Ibid., p. 1018.

108.—Ibid., p. 1017.

Denver Medical Times.
April.

111 Report of Cases of Fracture in the Shaft of the Femur. I. B. Perkins.
112 X-Ray Report of Above Cases. S. B. Childs.
113 Address. Denver and Arapahoe County Medical Society. Leonard Freeman.
114 The Preparation of Surgeons, Nurses and Patients for Surgical Operations, and Remarks Regarding Trained Nurses. Harlan Trask.
115 A Successful Treatment of Rheumatism. H. H. Fletcher.

Physician and Surgeon, Detroit and Ann Arbor, Mich.
January.

116 The Study of Older Medical Writings. James B. Herrick.
117 Excision of the Knee for Chronic Rheumatism. Theodore A. McGraw.
118 The Surgical Treatment of Procidentia Uteri. Reuben Peterson.
119 Surgery in Hydrocephalus. Daniel LaFerte.

Journal of Medicine and Science, Portland, Me.
April.

120 Puerperal Insanity. J. L. Pepper.
121 Report of Cases Operated upon at the Maine Eye and Ear Infirmary, in January, 1903. E. E. Brown.
122 Early Sign of Tuberculosis. T. F. Chmelicek-Luhan.

Washington Medical Annals.
March.

123 Intussusception—Report of a Case Reduced by Operation. George T. Vaughan.
124 Case of Hysterectomy for Fibroids. D. Percy Hickling.
125 Case of Cancer of the Male Breast; Excision. Edward A. Balloch.
126 Cases of Myomectomy and Hysteromyomectomy During Pregnancy. W. Sinclair Brown.
127 Case of Fibromata of the Scrotum; Excision. Edward A. Balloch.
128 Case of Cancer of the Cecum; Excision. Edward A. Balloch.
129 Perforating Ulcer of Foot; Amputation of Leg. R. F. Sillers.
130 A New Sphygmomanometer. J. B. Nichols.
131 Pathological Conditions in the Temporal Bone and Sequelæ. C. R. Dufour.
132 Splenic Infections with Reports of Cases Requiring (1) Splenotomy and (2) Splenectomy. A. L. Stavely.
133 Operation for Cataract with Report of 65 Cases. E. Oliver Belt.

Oklahoma Medical News-Journal, Oklahoma City.
April.

134 Non-Recurrence of Sarcoma Ten Years After Amputation of the Lower Trochanter. John A. Wyeth.
135 The Treatment of Itching. Edward B. Bronson.
136 Tonsillitis in Children. J. A. Reck.

Iowa Medical Journal, Des Moines.
April 10.

137 Death Returns in Iowa's Cities and the Profession. F. I. Herriott.
138 The Roentgen Ray in Diagnosis and Therapy. J. Rudis-Jicinsky.
139 A Case of Septic Meningitis Treated with Intravenous Injection of Formalin. Wm. H. Corrigan.
140 Report of a Case of Puerperal Sepsis Treated with Antistreptococcic Serum. W. T. Schwabland.
141 Radical Operation for the Cure of Varicose Veins. J. A. Bodine.

Indiana Medical Journal, Indianapolis.
April.

142 Concerning Medical Societies and Papers. Robert Hessler.
143 Preventive Medicine in Regard to Heredity. E. J. Kempf.
144 Herpes Gangrenosus; Symmetrical Gangrene; Report of a Case. W. F. Hughes.

Kansas City Medical Index-Lancet.
April.

145 Myositis of the Sterno-cleido-mastoid Muscle. J. F. Welch.
146 Acute Appendicitis and Its Treatment. (Concluded.) John B. Deaver.
147 Some Remarks on the Complications of Pertussis. Clay S. Merriman.
148 Tetanus—Report of Case. C. C. Conover.
149 Report of a Case of Tuberculosis. J. D. Griffith.
150 Symptoms and Treatment of Calculus Anuria. E. L. Keys, Jr.

Proceedings of the Philadelphia County Medical Society.
March 31.

151 A Case of Defective Speech, Due to a Form of Spinal Cord Disease Resembling Disseminated Sclerosis. G. Hudson Makuen.
152 The Use of the Electrothermic Angiotribe in Lieu of the Employment of Ligatures in the Open Operation for the Relief of Varicocele. Orville Horwitz.

SYMPOSIUM ON ANESTHESIA.

153 The Choice of an Anesthetic. Gwilym G. Davis.
154 The Preparation of Patients for Anesthesia. John G. Clark.
155 Treatment of Complications Arising During Anesthesia. G. W. Spencer.
156 The Methods of Administration of Anesthetics. Edward Martin.

Dominion Medical Monthly, Toronto.
March.

157 Case of Pyopneumothorax with Hemiplegia. R. J. Dwyer.
158 Report of a Case of Hemothorax—Probably Due to Secondary Carcinosis of the Lungs. T. B. Richardson.
159 A Case of Hydrothorax. Fred. Parker.
160 A Case of Hemothorax. W. H. Lowry.
161 Cases in Practice (Appendicitis, Fracture of the Pelvis). Frank Hall.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.
April 11.

1 *The Diagnosis of Pregnancy. W. S. A. Griffith.
2 *On Recurrent Abortion, with Special Reference to that Form and Often Associated with Some History of Tuberculosis. Due to Deficient Vitality of the Mother, or Both Parents. John W. Taylor.
3 *Eclampsia of Pregnancy, with Notes on the Use of Bossi's Dilator. T. Arthur Helme.
4 Case of Dystocia Due to Uterine Myoma: Cesarean Section. Gilbert Kempe.
5 Pregnancy Complicated by Suppurative Hydatid Cyst of the Liver. Richard Jones.
6 Puerperal Hyperpyrexia of Malarial Origin. Percy B. Spurgin.
7 The Radical Cure of Inguinal Hernia in Early Infancy. B. H. Nicholson.
8 A Note on Some Radiographs Illustrating Congenital Dislocation of the Hip. David Morgan.
9 Clinical Lecture on the Importance of Early Removal of Doubtful Tumors of the Breast. J. Crawford Renton.
10 Case of Infantile Scurvy. Hugh S. Beadles.
11 The Physiological Laboratory of McGill University, Montreal. W. S. Morrow.

1. **Diagnosis of Pregnancy.**—Griffith calls attention to what he considers the leading points in the diagnosis, which are, first, amenorrhea, which is sudden and not gradual in appearance, development of the breasts and their marked activity, enlargement of the uterus reaching above the pubis, allowing one-half inch for each completed month of pregnancy. The fetal heartbeat, of course, is conclusive, but it must be sought for according to the position of the fetus.

2. **Recurrent Abortion.**—What Taylor calls recurrent abortion includes only those cases where from the beginning or some definite epoch the patient has aborted with every succeeding pregnancy, and in his own usage here, with one exception, he has restricted it to cases of initial or primary recurrent abortion, that is, the patients have never had a living child. Syphilis is undoubtedly the principal cause, but there are other rare ones, such as those due to intraperitoneal adhesions, especially associated with chronic appendicitis. Most intraperitoneal adhesions involving the uterus either stretch or give way or are put up with by the growing organ, but some will not allow of this, and especially those graver ones which fix the cecum and appendix to the right appendages and uterus. There comes a time when the uterus can not enlarge further without starting fresh and sometimes fatal mischief, and then the uterus either empties itself or peritonitis occurs, or both abortion and peritonitis may occur simultaneously. Another occasional cause of recurrent abortion is deep cervical laceration, and, of course, the criminal cases must be remembered. He especially speaks here of a class of cases of nearly equal importance to those belonging to syphilis where the distinguishing features are the indications of a low vitality on the part of the mother or father, or both parents, a "strumous" family history, and what he may call the remarkable result of an essentially "anti-strumous" treatment when carried on for a long period of time or throughout the whole of the pregnancy. He tabulates twelve cases of this class, in the majority of which there is a fairly clear history of "strumous" disease on one or both sides. He treated these cases with compound syrup of phosphates, 1 dram, three times a day, and increasing doses of cod liver oil, 1 dram to one-half ounce, during the whole time, also the use of viburnum, and succeeded in several of his cases in carrying a child to term. In conclusion he

mentions syphilitic abortions and their difference from the type just mentioned. In the syphilitic class the tendency is an upward one, each succeeding abortion is at a later period of pregnancy and finally the child is carried to term. A dead child is usually born, but finally a living one may be expected. Secondly, the clinical history of the miscarriages themselves is different. There is almost always some difficulty connected with them, retention of products, sepsis, etc. There is also a difference in the general character of the abortion, a thicker, larger and fleshier placenta, etc. In cases where he has succeeded in carrying the child to term in the "strumous" type the children have been healthy, and he is inclined to attach a different importance to defective vitality of the mother in these cases. Everything that tends to improve her health and that of the child, including the persistent administration of lime salts and easily digested fats, is of the utmost importance.

3. **Puerperal Eclampsia.**—Helme discusses the theories of eclampsia and its treatment. He has lately employed for emptying the uterus Bossi's dilator, which, he thinks, is a powerful instrument and, if used with care, is safe and effective. He asks the advisability of ending pregnancy when convulsions occur and if the existence of pregnancy is not a vital factor in the production of eclampsia and its cessation an important feature of treatment. Another question is in regard to the wisdom of large doses of morphin hypodermically. The present day practice seems to be to administer morphin in nephritis where there is not too much destruction of renal epithelium, as in the acute forms, but to withhold it where degeneration has advanced. Does not the same apply to eclampsia?

The Lancet, London.

April 11.

12 *Infective Endocarditis Mainly in Its Clinical Aspects. T. R. Glynn.
13 *A Fragmentary Contribution to the Operative Treatment of Chronic Suppuration within the Temporal Bone. Charles A. Ballance.
14 Nerve Suture and Nerve Regeneration. (To be Continued.) Paul B. Henriksen.
15 *Some Dangers of Hypnotics. Nestor Tirard.
16 *The Surgical Treatment of Puerperal Pyemia. Ernst Michels.
17 An Example of Direct Infection in Typhoid Fever. P. Horton-Smith.
18 A Case of Congenital Parosteal Sarcoma in an Infant Arising in Connection with the Acromion Process of the Left Scapula; Removal; Recovery. Henry J. Curtis.
19 A Case of Goiter in an Abnormal Thyroid Gland. Harold S. Barwell.

12. **Infective Endocarditis.**—Glynn divides infective endocarditis, according to the facts thus far ascertained, into two principal classes: 1. Rheumatic, due to the specific organisms of rheumatism, and 2, septic, due to pyococci. In the former, according to Litten, the temperature may be high or low, the spleen enlarged, the urine gives the diazo reaction and petechial and retinal hemorrhages are common, but suppurative infarcts never occur. The lesions localize themselves and tend to develop into fibrous tissue, the infective character being gradually lost. The endocarditis, though infective in origin, is not in itself infective. In malignant endocarditis, on the other hand, the lesions preserve their infective character and tend to diffuse themselves and are not associated with the development of plastic tissue, but, rather, with necrosis. He discusses the propriety of the nomenclature, holding that "malignant" would be better than "infective" for the latter class. The etiology is discussed, and in the majority he finds general debility a precursor and chlorosis and anemia often attend it. Sometimes it is difficult to decide whether they are the cause or complications. It is found that Bright's disease may predispose to infective endocarditis, and Osler has collected numerous cases preceded by pneumonia. In his own cases there was a rheumatic history in 53 per cent. of males and 71 per cent. of females. There was postmortem evidence of chronic disease of the heart in 83 per cent. of his patients, including 8.4 per cent. where the lesion was congenital. Orth goes so far as to say that infective endocarditis does not develop on sound valves.

13. **Mastoid Suppuration.**—Ballance discusses the treatment and advocates radical measures. The ideal plan would involve in one operation all the following details: 1. Complete removal of the disease; 2, fastening of flap from the membranous meatus without causing deformity of the concha; 3, the epithelial grafting of the inner and outer surfaces of the operation cavity; and 4, the complete suture of the mastoid wound—the subsequent after-treatment being carried out by dry gauze tamponing through the meatus. All this, however, is rather impracticable, and an attempt to do too much is to be deprecated. Each step should be done thoroughly before proceeding to another. The plan of treatment which he practices is carried out in three stages; in the first stage of the operation he uses the gouge and burr for the bone operation. In dealing with the membranous meatus the flap is fashioned out of the meatus alone. The cartilage is removed from the flap, the flap is sutured to the raw surface of the mastoid flap with gossamer silkworm gut, which can be removed at the second operation. He finds when the burr is used the patients are less prone to sickness than when the gouge and chisel alone are employed. One week after the first operation the epithelial grafting operation is performed. A few days later, the earlier the better, removal of the dead portion of the graft is done and dry gauze tamponing through the meatus kept up until the gauze comes away unstained. He finds in from five to six weeks from the first operation in the majority of cases the cavity is soundly healed.

15. **Hypnotics.**—Tirard calls attention to the use of various hypnotics, even the mildest having their bad effects. His conviction is that, in the employment and selection of hypnotics, sleeplessness is the least important factor to be considered. The cause must be ascertained and the possibility of idiosyncrasy. The coexistence of other diseases must influence the selection of hypnotics. The risks of repeating moderate doses must be borne in mind. Generally the dose has to be gradually increased, but with some drugs like sulphonal, trional and tetronal, the danger appears to lie in the total quantity taken, though each dose may have been small. The greatest danger, however, is, when patients are given prescriptions for hypnotics, in the risk of setting up a drug habit. In this they are analogous to alcohol. He is in favor of any step that would tend to prevent their administration except under medical advice or under the physician's immediate directions. He would allow them to be dispensed only by a specially dated prescription, which would be retained by the druggist or returned to the prescriber, or would prohibit their sale to the public altogether.

16. **Puerperal Pyemia.**—Michels reports a case in which there was a postpartum fever, while the local condition of the pelvic organs was improved. There was a fulness indicating trouble in the left inguinal region, first attributed to fecal accumulation, but it remained unaltered in spite of thorough evacuation of the bowels. It increased and became slightly tender and the possibility of thrombosis of the ovarian veins was suggested. Later the patient had rigors and high temperature. Operation was performed, revealing a considerably thickened and dilated ovarian vein, which was ligated in two places, and the vein was then slit open and a fetid mass of softened thrombus was removed from its interior and small accumulations of pus evacuated. The effect was immediate. The patient rapidly improved and had an uninterrupted recovery. He says while one case is of very little value, it is suggestive and worthy of reporting in this instance.

The Practitioner, London.

April.

20 The Light-Treatment in Lupus and Other Diseases of the Skin. Malcolm Morris and S. Ernest Dore.
21 Undulant Fever. F. J. A. Dalton.
22 Adenoids: From the Practitioner's Point of View. P. L. Daniel.
23 The Differential Diagnosis Between Croupous and Catarrhal Pneumonia in Infants. S. Vere Pearson.
24 A Case of Acute Pancreatitis. Whewell Hogarth and B. G. A. Moynihan.
25 A Case of Severe Pneumococcic Infection (Acute Glossitis, Arthritis, Double Pneumonia and Double Empyema). Nathan Raw.
26 A Case with Comments (Primary Sarcoma of the Appendix). Peter Paterson.
27 A Review of Recent Work in the Field of Gynecology. John Phillips.
28 Some Recent Surgery of the Nervous System. Donald J. Armour.

29 Public Health. The Infectivity of the Later Stages of Scarlet Fever and Hospital Isolation. Louis C. Parkes.

Australasian Medical Gazette, Sydney.

March 20.

30 Ptomaine Poisoning. B. Burnett Ham.
31 Notes on the Clinical Aspects and Modern Treatment of Pulmonary Tuberculosis. A. Stewart.
32 The Blood in Pneumonia. Sydney Jamieson.
33 Puerperal Sepsis in Country Practice. C. H. Souter.
34 Surgical Gleanings. C. H. W. Hardy.

Revue de Chirurgie, Paris.

36 (XXIII, 3.) *Amputations ostéoplastiques fémoro-rotuliennes. J. A. Bussière.
37 Sur un cas d'onychogryphosis. M. Alexandre.
38 *De l'action combinée des opérations autoplastiques et des appareils prothétiques. Pour les restaurations de la face. Vallas and C. Martin. (Lyons).
39 Déformations congénitales des 4 membres. Lésions symétriques des mains et des pieds (of hands and feet). N. Magnanini.
40 Traitement chirurgical des salpingites. Etude historique et clinique. Acquaviva and Roux de Brignoles. (Commenced in No. 1.)

36. Femoro-Patellar Osteoplastic Amputation.—Bussière has modified somewhat Gritti's original technic to avoid retraction of the muscles and fixation of the patella in a bad position. He preserves the tendons and the tendon processes and also the tendons of the thigh inserted on the tibia. He also sutures the patellar ligament to the tendons or muscles of the posterior region of the thigh with a U suture. The tendon processes and remaining portions of the fibrous or aponeurosis tissues are sutured to fill up the spaces left in cutting the stump. Silver wire is also used to ensure the fixation of the patella to the femur, by two lateral sutures By this method of amputating the stump is strong and movable. One of his patients, operated on in 1899, can be hit a violent blow on the end of the stump without experiencing the slightest pain. The stump does not become emaciated, and there is no retraction of muscles or tendons. He illustrates the various steps of the intervention and the aspect of the stump.

38. Combination of Autoplastic Operations and Prothesis for the Face.—In the case described the conditions resulting from having part of the jaws and tongue shot away at close contact two years before were remedied, 1, by resection of the deformed stump of the lower jaw and appropriate prothesis, and 2, by correction of the functional troubles resulting from the adhesion of the stump of the tongue to the roof of the mouth. This was finally accomplished by progressive stretching of the cicatrix by heavy apparatus. 3. By correction of the prognathism of the upper jaw, accomplished by retropulsion of the median fragment after liberal unilateral osteotomy. A slanting strip of bone, 15 millimeters wide, comprising the two premolars, was resected. This liberated the median fragment and rendered retropulsion possible, a new procedure in such cases. The results of the three-fold intervention have been very satisfactory.

Revue de Medecine, Paris.

41 (XXIII, 1.) Kystes multiloculaires congénitaux des reins (of kidneys). E. Bolnet and A. Raybaud.
42 *Le pancreas dans les cirrhoses veineuses du foie (of liver). Klippel and Lefas.
43 Sur le diagnose et la pathogenèse des myelites aigues. E. Mouratoff (Moscow).
44 Maladies associées. Fièvre typhoide et méningite tuberculeuse. Chavigny.
45 Cas de cancer primitif "juxta-hépatique" des canaux biliaires. P. Planteau and A. Cochez.
46 (No. 2.) *Les nerfs articulomoteurs des membres. J. Grasset.
47 Sur des rêves (dreams) précurseurs de la migraine ophthalmique. Ch. Féré.
48 *Quelques faits d'abcès juxta-laryngés. Deguy.
49 (No. 3.) *Du dédoublement (splitting) du second bruit du coeur (of heart) à précession aortique. P. Cuffer and R. Bonneau.
50 *Etude clinique sur une antitoxine tuberculeuse. Resultats therapeutiques dans les tuberculoses externes. Guerder.
51 Les exutoires (issues) tuberculeux du poumon (lung). C. Sabaurin.
52 *Epilepsie cardiaque et phénomène de rappel (recalling). L. Rueff.

42. Pancreas in Cirrhosis of Liver.—Klippel is convinced that cirrhosis in the liver is merely one manifestation of an affection which in fact primarily involves, at the same time as the liver, the gastrointestinal glands, the spleen and the pancreas. In some of the eight cases that came to autopsy he found the pancreas even more profoundly affected than the liver, while in others both organs seemed to participate in equal degree in the morbid process.

46. Articulomotor Nerves of the Limbs.—Grasset reviews the three-fold action of these nerves on the muscles, contracting, stretching and holding them, and argues that they should be designated differently from the titles now in vogue. Instead of naming them by their topographic arrangement at the periphery they should be grouped into functional units with their cortical centers. We should not call them spinal and cranial nerves as all are cranial. The brain, the cerebellum and the spinal cord should not be studied separately, but, instead, we should speak of and study the ten great nervous apparatus of the body: 1, the nerve apparatus of thought; 2, the general sensory-motor nerve apparatus; 3, the nerve apparatus of orientation and equilibrium; 4, of language; 5 to 8, of the special senses; 9, of circulation, secretion and nutrition, and 10, of digestion and respiration.

48. Juxtalaryngeal Abscesses.—The larynx, like the epigastric region, the utero-ovarian and the perineoscrotal, is an important reflex-generating zone. Exploration and attempts to operate are liable to induce fatal syncope, especially in case of a juxtalaryngeal abscess. It may run a latent course, with no signs of tumefaction, redness or fluctuation. Dyspnea and stridor are no positive evidence of pus, as they may be due to the underlying laryngitis. If syncope occurs when the abscess is being explored or incised, no time should be lost, but tracheotomy should be done at once and artificial respiration commenced, as otherwise the reflex inhibitory action on the heart and respiration centers may prove rapidly fatal. Seven cases are reported.

49. Splitting of the Second Sound of the Heart.—Cuffer calls attention to the importance of the constant or transient breaking up into two sounds of the second heart sound, corresponding to the hypertension of the systemic circulation. He regards it as an early sign of the stage of infectious diseases just preceding the establishment of lesions.

50. "Antitoxin" Treatment of Tuberculosis.—Guerder reasons that beside the products of bacterial origin, which successfully induce immunity when subjects are vaccinated with them, there must be other substances, likewise derived from organic living cells, possessed of the same or similar properties. They probably will not prove so powerful as those of direct bacterial origin, but still sufficiently so to answer the purpose. He has been seeking for such a substance, and believes that he has found it in cod liver oil. This is the product of the living cells of the cod's liver, and he has established that when injected into the heart of an external tuberculous lesion it annuls the inhibiting effect previously exerted by the tubercle bacilli on phagocytosis. The general beneficial effect of these local injections of the active principles elaborated by the cod liver cells is most remarkable, he states. It is partially direct but mostly indirect and consecutive to its local action. Subcutaneous injection of cod liver oil in and around a fresh tuberculous lesion may induce it to heal without leaving a trace. In tuberculous affections of the joints it renders immobilization unnecessary, and it has cured many desperate cases in which the patient was in advanced cachexia. He reports 60 cases in which he has applied this "antitoxin" treatment, as he calls it. One patient succumbed to the results of amputation, another to diabetic gangrene, and one to albuminuria, a total of 4 deaths. As 18 are still under treatment, he can make a definite report of only 42 cases. Omitting the 2 deaths from complications, his record is now 40 cured in 42 cases. The affection was a non-suppurating osteitis in 8, coxalgia in 7, enlarged ganglia in 2, and anal or cutaneous tuberculosis in 2 each. Of the suppurating lesions there were 10 of osteitis and osteoarthritis, 4 of coxalgia and 5 of ganglionary lesions. He injected 1 or 2 gm. every fourth or fifth day in the immediate vicinity of the lesion or into the fistula. The fistulas are hardest to cure, and he has found it necessary sometimes to fill them with the oil every day, injecting it into the vicinity about once a week. In a suppurating lesion it usually induces the formation of an abscess which requires evacuation, after

which the healing proceeds rapidly. The mode of action of the injections is singularly like that of a natural, spontaneous healing process as observed in the healthy cells immediately surrounding the lesion.

52. **Phenomenon of Recall.**—Rueff remarks that a lesion of the nerve centers hitherto compensated or latent, with or without previous manifestations, may suddenly become manifest on the occasion of some disturbance in the local cellular nutrition. The manifestations that follow may be a minute reproduction of some previous clinical syndrome, or they may assume a form showing that they are merely the external realization of some idea or psychic image evolved during the first manifestation of the lesion, retained in the brain during the interim and, when realized, usually becoming the starting point for a new series of morbid phenomena. The communication issues from Bernheim's clinic at Nancy.

Berliner Klinische Wochenschrift.

53 (No. 9.) Die klin.-pathol. Bedeutung (importance) der Autolyse. F. Umber.
54 Ueber die Scopolamin-Morphium-Narkose. L. Wild (König's clinic).
55 Welche Rolle spielt der Sternalwinkel bei der Athmung (role of sternal angle in respiration)? D. Rothschild.
56 *Ueber einige Ursachen von Husten und Schnupfen (certain causes of coughs and coryza). G. Rosenfeld.
57 Gedanken (thoughts on) Neuron-Frage (question). H. Hamel. (Commenced in No. 8.)
58 (No. 10.) Kniegelenktuberculose (of knee). Abwartende Behandlung oder (expectant treatment or) Operation? König.
59 *Immunität und Narkose. J. J. Snel.
60 *Zur Behauptung von der Quecksilber-Etiologie der Tabes. Ein statistischer Beitrag. P. Cohn.
61 Zur Frage der traumatischen Albuminurie. F. Engel (Cairo).
62 Ueber einen auf Herz- (heart) Bigeminie beruhenden Fall von doppeltem Herzstoss (double apex beat). K. Doli.
63 (No. 11.) *Tuberculosebekämpfung (campaign against tuberculosis). E. v. Behring.
64 Schwieriger Kropf- (goiter) Operation unter localer Anesthesie. Riedel (Jena).
65 *Ueber Carcinom und Diabetes. I. Boas.
66 Results of Training Deaf Mutes in Hearing Exercises. F. Treitel.—Ueber die Ergebnisse der Untersuchungen in der Taubstummen Anstalt zu Weissensee, etc.
67 Ueber ein Sklerom-Herd (focus) in Ost-Preussen. Gerber.
68 Zur Frage der traumatischen Albuminurie. H. Senator.

56. **Certain Causes of Coughs and Coryza.**—Instead of ascribing to "nervousness" certain coughs and colds of obscure origin, Rosenfeld thinks we could determine and remove the cause by seeking for it. In some cases he describes the conditions always coincided with the blossoming of plane trees, and in another with the care of a parrot. He gives a view of the feather dust from the parrot, under the microscope, which well shows its irritating character.

59. **Immunity and Narcosis.**—Snel undertook, at Talma's suggestion, to discover whether narcosis reduced the resisting power of guinea-pigs. He found that it does so, but only for the time being. Narcosis suspends immunity and annihilates or temporarily suspends the saving normal bactericidal powers. These findings explain post-operative pneumonia. The narcosis annuls for the time being the bactericidal properties of the normal lungs, and the bacteria in them are thus enabled to exert their pathogenic power. During an operation, also, bacteria are more liable to be inhaled than under ordinary circumstances. As the mucosa is not sensitive, coughing is not induced which would expel the saliva, mucus, etc., flowing into the throat. The surgeon, therefore, should assume the responsibility of disinfecting the mouth and throat as scrupulously as the field of operation before undertaking any surgical intervention requiring narcosis. The air to be breathed during the operation should also be as germ-free as possible, especially in case of a tracheotomy. A contrivance to filter the air as it enters the tracheal canula might ward off threatening complications from this source.

60. **Mercury Not a Factor in Tabes.**—In 86 male patients with tabes at Mendel's polyclinic 61 had a history of venereal ulcers, but only 23 had received mercurial treatment of any kind. In 31 female patients only 5 had ever been treated with mercury. The syphilitic infection had been mild or even latent in all cases.

63. **The Campaign Against Tuberculosis.**—Behring asserts that he has not yet attempted on man any therapeutic measures along the line of his immunization of cattle, and thinks that probably a long time will elapse before he can proceed to anything of the kind. He found that a hypersusceptibility to intravenous injection of tubercle bacilli on the part of the cattle, always coincided with agglutinating properties in the blood. He believes that the same parallelism would be observed in case of tuberculin if it were injected into a vein, as described in the last two issues of The Journal, pp. 1083 and 1178. He thinks that there must be some causal relation between these three phenomena, the agglutinating power of the blood, the hypersensibility to intravenous injection of tubercle bacilli and the reaction to tuberculin. If this assumption be confirmed, then it corroborates Koch's idea that the agglutinating property is an index of the resisting powers of the organism, and would apply also to the susceptibility to tuberculin. It is important, however, Behring remarks, not to confound the diagnostic and prognostic significance of the tuberculin test. The prospect of immunizing human beings by feeding infants with milk from immunized cows is sustained by his experiences with young calves suckled by immunized cows. Recently, for instance, a sucking calf, 14 days old, was vaccinated by his method and no appreciable reaction followed. Other facts that sustain his views are: 1, that several of the immunized cattle kept in infected herds for a year and a half after they had been vaccinated showed no signs of tuberculosis when slaughtered; 2, large numbers of immunized cattle have been slaughtered on stock farms and none has shown signs of tuberculosis; 3, tuberculin tests of 3 immunized cattle one year after vaccination resulted negatively when all the other cattle in the herd reacted positively, and 4, his experiences have been brilliantly corroborated by the results of Thomassen's successful experiments at Utrecht. Behring, in conclusion, qualifies all that has been hitherto accomplished in the campaign against tuberculosis, the sanatoriums, etc., as merely palliative, minor measures, no matter on how extensive a scale they may be organized, even Germany's 57 sanatoriums in active operation, with 27 on the verge of completion, and 4 seaside convalescent homes. The sanatorium movement has accomplished much good, but he proclaims that still more would be realized by isolation of the incurables. The world owes the rarity of leprosy at the present day to the policy of isolating the lepers enforced during the Middle Ages. Model dwelling houses and the strictest hygiene will not prevent tuberculosis infection so long as persons with "open" tuberculosis are housed under the same roof—or, at least, this has been his experience with cattle. Adults are not so much exposed to infection, but newborn infants are so exposed and unprotected that he does not believe it is possible for an infant to avoid infection if kept in a room with a coughing consumptive. He is confident that the young are born free from tuberculosis, but acquire it from tuberculous parents, grandparents or others. He has found that three months may elapse after a calf has been infected before it reacts to tuberculin, while years may pass before clinical manifestations become evident, if they ever do. He has noticed that circumstances depressing the vitality of the cattle were always necessary for the transformation of an animal, merely shown to be infected by the tuberculin test, into a phthisical animal. Cornet, fourteen years ago, demonstrated that the mucous membrane might allow the passage of tubercle bacilli without a local lesion. In harmony with this fact is Behring's experience that in young cattle tuberculosis infection is almost without exception localized in the abdomen, but not in the intestines; it is rather a primary tuberculosis of the glands. He announces that his laboratory research on the immunization of cattle is now at an end, as he has accomplished what he sought. The results have been so invariably successful with animals that he asks: "Shall we not do as much for our children?"

65. **Carcinoma and Diabetes.**—Boas states that there are 6 cases on record in which the patient died in diabetic coma soon after an operation for the removal of a cancer, although for several months or years previously he had been entirely free from sugar. Israel has published 5 cases of carcinoma of the breast in diabetics successfully operated on. In Boas' experi-

ence he has encountered 7 diabetics in 55 patients with carcinoma of the rectum; 2 diabetics with carcinoma of esophagus, and 2 with gastric carcinoma, and 1 of the liver and omentum. All were men. This is a total of 12 cases of carcinoma in diabetics in his total of 366 cases of intestinal carcinoma. In one case an easily operable carcinoma of the rectum in a diabetic, with some sugar and acetone, was extirpated and the patient died in coma three days later. A latent diabetes, he finds, may remain latent after an operation or it may flare up into a fatal coma.

Klinisch-Therapeutische Wochenschrift, Vienna.

69 (IX, 45.) Ueber unschädliche Haarfärbemittel (harmless hair dyes). P. Richter.
70 *Zur Pathologie und Therapie der Influenza. W. Stekel. (Commenced in No. 44.)
71 Nasendouche. A. Thost.
72 (Nos. 46-7.) Ueber Anaemien. H. Senator. Clinical lecture.
73 Combination von Krebs und Tuberkulose im Uterus. H. Szasz.
74 *Advantages of Open Treatment of Obstinate Leg Eczema. S. Behrmann.—Ueber Beinleiden überhaupt und über die Vorteile der zeitweiligen offenen Behandlung hartnäckiger Unterschenkelekzeme.
75 Ueber den Juckausschlag im Kindesalter (strophulus). J. Zappert.
76 (No. 48.) Ueber Pyurie. E. Neusser. Clinical lecture.
77 Ueber die Ausräumung der Nase vom Munde (evacuation of nose through the mouth) her und Freilegung der (exposure of) Basis cranii über der Nase. L. Löwe.
78 *Die intravenose Therapie. V. Patella. (Commenced in No. 46.)
79 Indikationen zu chir. Eingriffen bei Hirnaffectionen (intervention in brain affections). H. Schlesinger.
80 (No. 49.) Ueber die Verwendung der Casuistik in der Urologie. G. Berg.
81 *Kann das Diphtherieserum auch auf andere Krankheiten günstig einwirken? D. Hirsch.
82 Ueber die rectale Untersuchung (examination) in der Gynaekologie. I. Neumann. Clinical lecture.
83 (No. 50.) Iron Splinter in Vitreous for Eight Years. A. Vossius.—Schicksal eines Eisensplitters welcher 8 Jahre im Glaskörper eines 44 jährigen Patienten gesteckt hatte. Clinical lecture.
84 Myxoedem und sporadischer Kretinismus. J. v. Wagner-Jauregg.

70. **Influenza.**—Stekel is convinced that quinin has an almost specific action in influenza, and has known two doses of a gram each of quinin sulphate completely abort an established attack in the first hours. He usually gives .5 gm. of quinin hydrochlorate or sulphate, repeated in half an hour and once more after the same interval, three doses in all. For children under 6 he gives the quinin tan., as many decigrams as the child is years old, two doses. If he does not see the patient until the second or third day, he refrains entirely from quinin medication, as it is seldom effective at this stage. When there is violent frontal sinus headache he gives a combination of .01 gm. morphin hydrochlorate and .5 gm. each of antipyrin and sodium salicylate. Patients must stay in bed until the heart and pulse are normal, in case of influenza. In some instances the influenza assumes a latent or abortive form, but with marked depression, suggesting neurasthenia. One of his patients, after a five-day attack of influenza, was tormented by ideas of suicide for eight weeks, with no cause except the preceding influenza. In these cases the influenza toxins must be eliminated as completely as possible. The influenza bacillus aggravates the action of measles and scarlet fever, but, on the other hand, seems to be antagonistic to certain other infections, possibly the diphtheria bacillus. In one case a patient with gonorrheal cystitis found himself cured after an intercurrent attack of influenza. He suggests that possibly the lesser mortality from diphtheria in late years may be due to the influence of la grippe.

74. **Eczema of the Leg.**—Behrmann advocates open treatment of eczema of the leg with removal of the cause, which may be excessive walking or standing, genu valgum or pes varus, as indirect causes, and hyperidrosis, dilatation of the veins and trauma as the direct. He describes a case in detail to demonstrate the benefits to be derived from staying in bed and refraining from dressings of any kind, merely applying a salve from time to time, zinc at first and later tar. The eczema rapidly healed under this open treatment, and to prevent recurrence the patient wore a tricot stocking leg thereafter. The tricot supplied an imitation of the natural tonus of the parts and kept the pathologic tendency under control. It was left off at night. Behrmann has been very successful with this mode of treatment. He calls attention to the frequency of eczema in persons exposed to tuberculosis.

78. **Intravenous Therapy.**—Patella's article reviews the history and experiences to date of this method of therapeutics, which the Italians have most exploited. Remarkably favorable results have been obtained in threatening general anthrax infection from intravenous injections of sublimate. Corseri saved a woman of 50 stated to be already in extremis; 12 and 10 mg. of sublimate were injected in this case. Experimental intravenous injection of sublimate does not protect against anthrax infection, and intravenous injection of carbolic acid in tetanus, which has been effective in the clinic, is likewise powerless in the laboratory. This is possibly owing to the fact that experimental tetanus is always stormy and rapid, never subacute and gradual, as in the clinical cases benefited by the injections. Colloid silver is most effective in intravenous injection. Patella has tried Landerer's cinnamic acid treatment of tuberculosis by the intravenous route, but derived no benefit from it although his experience confirmed its absolute harmlessness. This was also established in regard to sodium cacodylate and the iodo-iodid solution. Spolverini has obtained wonderful results from the latter in numerous cases of tuberculosis in children, severe rheumatism and tertiary lues, without any local drawbacks. Patella has successfully injected diphtheria serum by way of the veins and also Sclavo's serum in a severe case of anthrax bacteriemia. Kramitzki has reported that intravenous injection of a filtered and diluted warm emulsion of rabies toxin is not only harmless but rapidly renders the animals immune. Silvestri has recently proclaimed that intravenous injection of calcium chlorid is among the most powerful hemostatic measures known. Patella's experience with intravenous injection of iron has not been favorable. In his tests of intravenous injections of sublimate on healthy persons he noted a considerable leucocytosis which lasted for thirty-six hours, thus mobilizing the elements most effective for the struggle with an invading affection. The intravenous sublimate injections were first used for syphilis, and recent writers have reported excellent effects from them in syphilis of the eyes. Renault has cured cases of lues of the central nervous system with the cyanid, which he has also found effective in tabic crises. Tommasoli's success in aborting syphilis by intravenous mercurial injections has been described in these columns. Patella has applied the sublimate injections in 9 cases of articular rheumatism. In one very severe case, rebellious to sodium salicylate, 2 mg. were injected the first day and 2 mg. morning and evening on the four following days. All the severe general and local symptoms entirely vanished after the third injection. The injected vein was indurated after the second injection, but this soon passed away. In 4 other cases, one also rebellious to the salicylate, the results were equally striking. Each injection was followed by a profuse sweat. In another case a man of 32 had a very painful, recurring articular rheumatism. The leucocytes increased from 9,000 to 12,200 after the first injection and general improvement was apparent. The patient refused further injections and returned to the salicylate with recurrence of the symptoms. He allowed later an intravenous injection of 3 mg. of sublimate and improved so rapidly that he could get up in three days. Patella believes that the success of intravenous injection of sublimate depends on the leucocytosis induced. If this is not produced by the first injection, little benefit may be anticipated from continuing in such cases. The intravenous route should not be chosen for general use, but in urgent cases it may prove an invaluable resource, especially in those rebellious to medication by other methods. Intravenous injections are painless. If thrombi develop they are certainly due to defective technic.

81. **Is Diphtheria Serum Effective in Other Diseases?**—Hirsch has derived great benefit from it in cases of eczema, enlarged glands and prurigo, as he describes in detail.

Muenchener Med. Wochenschrift, Munich.

85 (No. 12.) Beitrag zur traumatischen, nicht komplizierten Luxation der Extensoren-Sehnen (tendons) der Finger. A. Becker.

86 *Die Kolpeuryse bei Incarceratio uteri gravidi retroflexi. W. Albert.
87 Is the Addition of Sodium Sulphate to Meats an Adulteration? A. Kraus and H. Schmidt.—Kann in dem Zusatz von schwefligsaurem Natrium zu gehacktem Rindfleisch eine Fälschung erblickt werden? Reply most decidedly in the affirmative.
88 Fall von Nephritis parenchymatosa syphilitica. F. Mühlig.
89 Beitrag zur Cystennieren- (cystic kidney) Exstirpation. O. Seitz.
90 Kurzsichtigkeit (myopia) durch Diabetes mellitus. S. Neuburger. (2 cases.)
91 Zur Behandlung der Perforationen und Zerreissungen der Gallenblase (lacerations of gall bladder). Enderlen. Autoprothesis with Omentum.
92 Geschichtliche Bemerkungen zur Methode des überlebenden Warmblüterherzens (surviving heart of warm-blooded animals). O. Langendorff. Claim for priority.
93 *Ueber die Influenza. W. Ebstein (Gottingen). (Commenced in No. 11.)
94 *Die operative Behandlung des Gebärmutterkrebses (carcinoma uteri). G. Klein.
95 Postgraduatehochschule in New York. C. Beck.
96 (No. 13.) *Zur operativen Behandlung akuter Larynx-Stenosen. Trumpp.
97 Ueber die diuretische Wirkung des Theocins. H. Kramer.
98 *Ein Beitrag zur Frage der Blutregeneration. Schmidt.
99 *Blutuntersuchung (examination of blood) bei Hydatiden-Cysten; lokale und allgemeine Eosinophilie. J. Sabrazes.
100 *Die direkte Perkussion des Epigastrium, ein diagnostisches Hilfsmittel bei Ulcus ventriculi. F. Mendel.
101 Ueber die Bedeutung (importance) der Roentgen-Untersuchung für die praktische Chirurgie. F. Fraenkel.
102 *Bedeutung der nasalen Athmung (breathing) in ihrer Schutz- und Heilwirkung (protection and cure) auf Krankheiten (in disease). G. Trautmann.
103 Ueber isolierten klonischen Krampf des weichen Gaumens (soft palate). L. Roemheld.
104 Fall von Gonokokkenpneumonie. Bressel.
105 Die Gefahr (danger) der Infektion mit Ankylostoma duodenale im Grubenbetrieb. Tenholt.
106 Hans Buchner's Antheil (share) in der Entwickelung (evolution) der Bacteriologie. Gruber.

86. Colpeurysis for Incarcerated Gravid Uterus.—Albert expatiates on the great value of the colpeurynter in case of a retroflexed gravid uterus. He uses it exclusively and has always cured the condition without the slightest trouble. The uterus is gently lifted, as on a cushion, without injury to it or to its contents. In one of his 5 cases the uterus had been incarcerated for three weeks, but was replaced in normal position in two hours by the colpeurynter. If the pregnancy has not passed the fourth month he usually inserts a pessary. After this stage it is not necessary. Lying on the side or abdomen and frequently emptying the bladder will prevent recurrence. He urges the importance of catheterization of the bladder as a routine diagnostic measure in all cases suggesting this condition.

93. Influenza Prophylaxis.—Ebstein insists on the necessity of scrupulous cleanliness to prevent infection of others in case of influenza. The "walking" cases are much more dangerous in this respect than the severe ones in which the subjects stay in bed under proper care. The same prophylactic measures as for tuberculosis should be applied to the sputa. He prefers tonics in treatment, with quinin, although he does not think there is any specific for it. Persons should not visit friends with influenza. The article is a comprehensive historical and bacteriologic study.

94. Operative Treatment of Uterine Carcinoma.—Klein reviews the statistics that have been published to date and deplores that even the best show that only 13.4 per cent. of the patients are permanently cured. The remedy lies in earlier diagnosis. He proclaims that it were better to curette 100 women unnecessarily than allow one woman to succumb to cancer from neglect of curetting. He hails the woman physician as the solution of part of the problem, as he thinks women will allow examination by another woman more promptly than by a man, and not postpone it until too late. He urges stricter regulations against charlatans so that time will not be wasted on them. If women consult the physician earlier, and if they are carefully examined, if necessary with exploratory incision and curette, there is no doubt that the proportion of permanent cures will be much increased.

96. Treatment of Laryngeal Stenosis.—Trumpp illustrates the elastic tubes he uses for intubation. They are made as if with a deep spiral screw thread, which imparts great elasticity.

98. Regeneration of the Blood.—Schmidt proclaims that basophile granulations and polychromatophilia usually appear during convalescence from anemia, at a time when the general health is improving. This is true not only of toxic but also of traumatic anemia, due to loss of blood. The results of experiments with rabbits also all point to the same thing, namely, that the basophile granules are derived from nuclei and are thus a sign of regeneration of the blood, and that polychromasia of the red corpuscles results from the mixing of the dissolved substance of the nuclei with the hemoglobin, whether this dissolving occurs directly in the nuclei or a stage of basophilous granulation intervenes. Both the basophile granulated and the polychromatic reds are young forms of blood corpuscles and are thus a sign of regeneration of the blood. In a case he had occasion recently to examine, the blood was normal on the day of a severe accident entailing profuse loss of blood to absolute pulselessness. On the sixth day afterward polychromatic and basophile granulated red corpuscles were numerous and remained so for three weeks. An increase in the hemoglobin of 50 to 75 per cent. paralleled these signs of regeneration.

99. Eosinophilia with Hydatid Cysts.—Sabrazès investigated the blood of 7 patients with hydatid cysts and found that the echinococci have a remarkable positive chemotactic attraction for the eosinophiles. In one case the eosinophiles had penetrated into the cyst, and also surrounded it with a concentric layer nearly 1 cm. thick. The almost exclusive presence of eosinophiles in the cyst fluid suggested the diagnosis, confirmed by the operation. The leucocytosis was 11,160 and 15,500 in the cases of large cysts in the liver, and was 17,360 with multiple cysts in the abdomen. The eosinophiles were prominent in every case, and usually nine or ten times the physiologic average. If the membrane of the cyst is partially degenerated the eosinophiles penetrate into the cyst and, associated with Charcot-Leyden crystals, serve to differentiate the lesion.

100. Differentiation of Gastric Ulcer by Percussion.—Mendel states that lightly tapping the epigastrium with the percussion hammer is not painful to anyone under normal conditions, but in case of an ulcer, a certain region, usually circular in outline, is found to be extremely painful when tapped. It is surprising how rapidly this circular sensitive area diminishes in size when proper treatment is instituted. As this can not be due to the healing of the ulcer in so brief a time, it is probably to be explained by the subsidence of the surrounding zone of inflammation as the stomach is rested. It is possible by this percussion not only to differentiate a gastric ulcer wherever located, but also to supervise its healing and be able to tell with precision when the last trace of it has disappeared. The same measure and deductions apply in the same way to ulcer in the duodenum. In every case of duodenal ulcer a sharply circumscribed painful area will be found by this percussion on the right, close to the linea alba, somewhat below the center of a line from the costal arch to the umbilicus. It is generally about the size of a half dollar, and like the similar area in case of gastric ulcer, gradually shrinks in size and finally disappears under appropriate treatment. Other lesions in the abdomen and epigastrium will be accompanied by an area of pain on percussion, but none of the others shows such a sharply circumscribed sensitive area as ulcers in the stomach and duodenum. The percussion never caused the slightest harm, but in case of a recent hemorrhage caution would be advisable. The area of pain does not necessarily locate the ulcer, but it always occurs at the same place.

102. Importance of Nose Breathing.—Trautmann reports a case in which the operative restoration of nose breathing was followed by the spontaneous cure of severe and previously intractable throat lesions. He warns against curetting and other destructive measures on the nasal passages, as they deprive the nose of its natural protective properties and render it as defenseless as the passages below.

Lo Sperimentale, Archivio di Biologia norm. e patol., Florence.

107 (LVII, 1.) Sulla tossicità del sangue (toxicity of blood) nell' ipertermia sperimentale. E. Ravenna and P. Minassian.
108 Sul contenuti lecitinico del fegato, dei reni e del cuore (lecithin in liver, kidneys and heart) nella degenerazione adiposa sperimentale. G. Lusena.
109 Contributo alle lesioni prodotte dal fungo raggiato (actinomycosis). V. Remedi.
110 *Ricerche sperimentali sulla peristaltica intestinale. I. Simon.

110 **Intestinal Peristalsis.**—From a series of experimental investigations, the methods of which are described, and from a general discussion of the literature, Simon reaches the following conclusions: 1. In the small intestine the direction of the movement is always peristaltic. There is no antiperistalsis. 2. The movement of peristalsis in the small intestine is more rapid in the upper portion than in the inferior, both in physiologic and pathologic conditions, and is slowest in the large intestine. 3. The velocity of movement varies according to the nature of the food. 4. The introduction of food into the stomach and stimulation of the rectum and small intestine are conditions that cause the phenomena of inhibition of intestinal peristalsis.

Cronica Med. Mexicana, Mexico.

111 (V, 6.) Etiologia de la escoliosis. C. Tejeda.—Accepts static, trophic and nervous factors in etiology.
112 Algunas consideraciones sobre la enfermedad de Addison, sugeridas por la observacion de 6 casos de tuberculosis de las capsulas supra-renales. F. Ocaranza.
113 (No. 7.) El tifo del ganado bovino (study of cattle diseases in Mexico). M. G. Aragon.
114 (Nos. 8-9.) Algunos apuntes sobre (notes on) quinimetria. E. G. Puente.
115 (No. 10.) Notes on Yellow Fever at Orizaba. M. P. Colmenares.—Apuntes para el estudio del vomito en Orizaba.
116 *Consideraciones diagnosticas y operatorias acerca de la hernia diafragmatica. F. Hurtado.
117 La reaccion febril y su tratamiento. E. P. Lamicq.
118 Fiebres palustres. Tratamiento dosimetrico y pambotano (calliandra grandiflora). E. L. Abogado. (See 121 below.)
119 Vomiting in Pregnancy. Ibid.—Los vomitos del embarazo y su tratamiento.
120 (No. 11.) Dispnea y dolor costal. E. L. Abogado.
121 El tlacoxiloxochitl (calliandra grandiflora). E. L. Abogado. (See 118 above.)
122 *Study of Deformed Pelves in Mexico. J. Duque de Estrada.—Estrechamientos pelvicos.
123 (No. 12.) Una forma frustanea de enfermedad de Basedow. F. Ocaranza.
124 La antisepsia de las vias urinarias por la medicacion interna. E. L. Abogado.
125 (VI, 1.) *Caso de tetanos traumatico curado por la pilocarpina. D. Garcia.
126 (No. 2.) La aplicacion de los rayos X al estudio de la angeiologia. S. Garcia.
127 La gota y su tratamiento dosimetrico. E. L. Abogado.
128 La inflamacion considerada desde el punto de vista de la resistencia organica. L. S. Viramontes. (Commenced in No. 1.)
129 Afecciones meningeas agudas, 2 curaciones. E. L. Abogado.

116. **Hernia of the Diaphragm.**—Hurtado's patient was a woman of 50, five months pregnant, who exhibited symptoms of acute intestinal occlusion, suggesting internal hernia. There was no fecal vomiting and the conditions were masked by preceding administration of vigorous purgatives which had failed to purge. An artificial anus was made in the cecum, which relieved the conditions, but nothing was found to explain the occlusion. Abortion followed the next day. The opening into the abdomen had been small, as the surgeon feared the effects of a laparotomy. The patient was free from symptoms after the abortion, except that an attempt to give an anesthetic, in order to explore conditions further, caused dyspnea and was abandoned. Intense pain suddenly developed in the epigastrium and left hypochondriac region, and the patient died in a few hours. The autopsy revealed traces of old pleurisy of the diaphragm, with adhesions and a perforation resulting from an old ulceration. Through this hole nearly 60 cm. of the intestine, including the transverse colon, had irrupted into the thorax. Four years before she had complained of occasional attacks of dyspnea, which had gradually become less intense and less numerous, but still recurred every one to three weeks. She was unable to sleep on the left side, as this position caused dyspnea and she had also complained since this time of a constant pain in the left side at the seventh and eighth ribs, on the axillary line. Pain from this point radiated through the left lung. This pain was always most marked in the afternoon, after eating heartily or after an emotion. The present illness commenced with an exacerbation of this pain and constipation, with occasional vomiting, not fecal. No pain in abdomen. A blister was applied to the spot and vigorous purgatives given, but without benefit. Two other cases of hernia of the diaphragm are described, both traumatic, and, in conclusion, E. Fletcher Ingals' article on the subject in The Journal, xxxvi, p. 1770, is reproduced in full in Spanish.

122. **Deformed Pelves in Mexico.**—Duque de Estrada is chief of the maternity at Mexico, and reviews his extensive experience in this monograph, which is continued as an illustrated supplement throughout the year. He does not find the general type of pelvis different from that of Europe. When a pelvis is deformed it is usually the result of imperfect development, and this condition is frequent. He has never seen elsewhere, however, a contracted pelvis, such as some of the specimens he illustrates, in which the transverse diameters were unusually short but only in the lower part of the excavation. He suggests the term "infundibuliform" for this variety. He also notes that he has never found traces of rachitis in the pelves he has examined, and, in fact, he remarks, there are no clinical records of the existence of this affection in Mexico. He ascribes the deformities observed to defective development from the lack of hygiene, the sedentary and confined life of some, hard work of others, early marriages before the skeleton is formed, and certain occupations, such as making tortillas, washing, etc., followed from girlhood. The pelvis was contracted at the inlet in .58 per cent., but a contracted outlet was much more frequent.

125. **Pilocarpin in Traumatic Tetanus.**—Garcia attributes the recovery of a patient in a case of severe strychnin intoxication to his administration of pilocarpin. The symptoms were alleviated at once after the sweating and salivation induced by it. He has applied the same treatment recently in a case of intense traumatic tetanus, injecting 2 cg. of pilocarpin and administering the same amount by the mouth, supplemented by 1 gm. of sulphonal at night. This was continued intermittently, the symptoms diminishing gradually and always showing a slight marked improvement after each dose of the pilocarpin, which was generally given morning and evening at first. By the thirty-third day the movements were quite normal.

Gazeta Medica Da Bahia, Brazil.

130 (XXXIV, 2-3.) Os novos processos de cura radical das hernias inguinaes. J. Martins.
131 Evolution of Medical Education. D. Ramos.—Desenvolvimento do ensino medico.
132 Ibid. A. Britto.
133 (No. 4.) Servico Medico-legal de Autopsias. A. Peixoto.
134 (No. 5.) Das vegetaciones adenoides, seu valor clinico e da necessidade de uma intervençao radical. R. de Azevedo.

Revista de Med. y Cirugia, Havana.

135 (VIII, 1.) Caso de sarcoma del tejido (tissue) celular pelviano ocupando el espacio retro-peritoneal del fondo de saco de Douglas. L. Ortega.
136 *Intoxicacion alimenticia. G. M. de la Torre.
137 (No. 2.) Diplococcus flogogenus pleuro-pulmonaris. L. Placencia.
138 (No. 3.) *Fiebre paratifoidea. A. Agramonte.
139 (No. 4.) Ataxia cerebelosa experimental. R. P. Vento.
140 (No. 5.) La tecnica de la nefropexia, con referencia especial de un metodo para fijar el rinon en su posicion normal. R. Guiteras (New York). (See p. 1166.)

136. **Food Intoxication.**—Torre has been investigating the cause of a febrile indigestion noticed in children after eating certain kinds of sweets, and thinks that it is due to the toxic action of stale eggs.

138. **Paratyphoid Fever.**—Agramonte reports that paratyphoid fever occurs in Cuba and that the clinical picture is identical with that of typhoid fever except for the absence of sero-reaction and the results of cultures. Typhoid fever, therefore, he remarks, is not a specific entity, as other bacilli besides Eberth's are able to produce it. In the case he describes in detail he is inclined to admit a double infection, true typhoid with the paratyphoid. The first two weeks the symptoms were those of ordinary typhoid, but from the seventeenth to the twenty-fourth day there was marked intermittency in the temperature, with a difference of several degrees between the morning and evening. Repeated examination of the blood for malaria was always negative and there were no signs of endocarditis. The sero-reaction was very faint, but agglutination with Gaertner's bacillus was pronounced, and one of the two paratyphoid bacilli isolated from the feces resembled this bacillus. He reviews the history of paratyphoid, and notes that the intermittent character of the temperature after the twelfth or fifteenth day was noted in nearly all the 46 cases on record.

New Patents.

Patents of interest to physicians, March 31 and April 7:

724382. Tubular metal crutch. Joshua Conn, Dunkirk, N. Y.
723847. Lifter and conveyer for invalids. Priscilla W. Dohoney, Columbia, Ky.
724289. Hot water bag. John H. Holt, Washington, D. C.
724186. Electric apparatus for therapeutic work. Howard Jackson, Newton, Mass.
724014. Truss. Manuel E. Jasper, Wiarton, Ont., Can.
724034. Hemostatic forceps. Wm. L. Nuttall, Newcastle, Ky.
724125. Combined cabinet and examining or operating table. Gilbert H. Prindle, Washington, D. C.
724046. Instrument for intubation of the larynx. Frank E. Sampson, Creston, Iowa.
723929. Aural instrument. Richard M. Sahffer, Baltimore.
724215. Photochemical and electrotherapeutic apparatus. Albert E. Sterne, Indianapolis.
724808. Surgical truss. Blanchard Chamberlain, Bellefontaine, Ohio.
724812. Device for correcting facial defects. Anna C. Cloud.
724680. Inhaler. Alonzo Dow, Wooster, Ohio.
724889. Hernial forceps. John H. Kochenderfer, Galion, Ohio.
724913. Syringe nozzle. John T. Montgomery, Charleston, Ill.
724500. Truss. Alfred A. Raymond, Chicago.
724522. Vaccinating needle. Onesime Thomas, Paris.
724643. Hypodermic syringe case. Benjamin T. Winchester, Baltimore.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

UTERINE AND TUBAL GESTATION. A Study of the Embedding and Development of the Human Ovum, the Early Growth of the Embryo, and the Development of the Syncytium and Placental Gland. By Samuel Wyllis Bandler, M.D., Instructor in Gynecology, New York Post-Graduate Medical School. Illustrated by 93 Drawings. Cloth. Pp. 159. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

U. S. DEPARTMENT OF AGRICULTURE, Bureau of Animal Industry —Bulletin No. 44. Infectiveness of Milk of Cows Which Have Reacted to the Tuberculin Test. By John R. Mohler, A.M., V.M.D., Chief of Pathological Division, Bureau of Animal Industry. Paper. Pp. 93. Washington: Government Printing Office. 1903.

MUCO-MEMBRANOUS ENTERO-COLITIS. Symptoms, Complications, Etiology and Treatment. By Maurice De Langenhagen, M.D., Consulting Physician at Polombieres, Vosges, France. Cloth. Pp. 115. Price, $1.25. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

REPORT OF THE GOVERNMENT LABORATORIES OF THE PHILIPPINE ISLANDS for the Year Ended Aug. 31, 1902. (From the Report of the Philippine Commission.) Bureau of Insular Affairs, War Department. Paper. Pp. 582.

HOW TO BE SUCCESSFUL AS A PHYSICIAN. Heart-to-Heart Talks of a Successful Physician and His Brother Practitioners. Cloth. Pp. 123. Price, $0.50. Meriden, Conn.: The Church Publishing Co. 1902.

TWELFTH REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF MAINE for the Two Years Ending Dec. 31, 1901. Cloth. Pp. 300. Augusta: Kennebec Journal Print. 1902.

PROCEEDINGS OF THE NEBRASKA STATE MEDICAL SOCIETY. Thirty-fourth Annual Session, 1902. Cloth. Pp. 361. Lincoln: Western Medical Review Publishing Co.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending April 18:

Surgeon H. N. T. Harris, detached from the *Monocacy* and ordered to the *Glacier*, at Manila, P. I.

Surgeon N. H. Drake, detached from the *Solace* and ordered to the *New York*, as fleet surgeon of the Pacific Station.

Surgeon A. C. H. Russell, detached from the Naval Museum of Hygiene and Medical School, and ordered to the *Newark*, as fleet surgeon, South Atlantic Station.

Surgeon F. J. B. Cordeiro, detached from the Naval Training Station, Newport, R. I., and ordered to the *Solace*.

Surgeon G. H. Barber, detached from the *Monongahela* and ordered to the Training Station, Newport, R. I.

P. A. Surgeon C. D. Langhorne, detached from the Naval Hospital, Port Royal, S. C., and ordered to the *Monongahela*.

Marine-Hospital Changes.

Official list of the changes of station and Duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 16, 1903:

Assistant Surgeon-General L. L. Williams, granted leave of absence for eight days from April 11.

Surgeon Irwin Fairfax, to proceed to Washington, D. C., for special temporary duty.

Asst.-Surgeon H. C. Russell, relieved from temporary duty at the Immigration Depot, and directed to rejoin his station at Stapleton, N. Y.

Asst.-Surgeon W. C. Billings, to proceed to Quebec, Can., for duty in the office of the U. S. Commissioner of Immigration.

Asst.-Surgeon B. S. Warren, granted leave of absence for five days from April 16.

Asst.-Surgeon A. D. Foster, to proceed to Southport, N. C., and assume temporary command of the station at that port during absence on leave of Asst.-Surgeon B. S. Warren.

A. A. Surgeon John Devereux, granted leave of absence for twenty-three days from April 2.

A. A. Surgeon A. P. McConnell, granted leave of absence for three days from April 20.

A. A. Surgeon E. F. McConnell, granted leave of absence, on account of sickness, for 30 days.

A. A. Surgeon A. W. Slaughter, granted leave of absence for six days from May 5.

A. A. Surgeon R. T. Walker, granted leave of absence for thirty days from April 8.

BOARD CONVENED.

Board convened at Washington, D. C., April 15, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 18, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 4-11, 2 cases.
California: San Francisco, March 29-April 5, 10 cases.
Colorado: Denver, March 28-April 4, 27 cases.
Florida: April 4-11, DeSoto County, 28 cases; Duval County, Jacksonville included, 6 cases.
Georgia: Atlanta, March 4-April 15, 30 cases; Lumpkin, April 7, 6 cases.
Illinois: Belleville, April 4-11, 1 case; Chicago, March 28-April 11, 37 cases, 3 deaths; Galesburg, April 4-11, 2 cases.
Indiana: April 4-11, Evansville, 2 cases; Indianapolis, 4 cases.
Kansas: Wichita: April 4-11, 3 cases.
Louisiana: New Orleans, April 4-11, 5 cases (2 imported), 2 deaths.
Maine: Biddeford, April 4-11, 1 case.
Maryland: Baltimore, April 4-11, 1 death.
Massachusetts: April 4-11, Fall River, 1 case; Lowell, 3 cases; Northampton, 1 case.
Michigan: April 4-11, Ann Arbor, 1 case; Detroit, 7 cases; Grand Rapids, 4 cases; Port Huron, 1 case.
Mississippi: Natches, April 4-11, 1 case.
Missouri: April 5-12, Kansas City, 2 cases; St. Louis, 5 cases.
Nebraska: Omaha, April 4-11, 2 cases.
New Hampshire: April 4-11, Manchester, 7 cases; Nashua, 5 cases.
New Jersey: Newark, April 4-11, 1 case.
New York: Binghamton, March 28-April 4, 1 case, imported; Buffalo, April 4-11, 2 cases; Rochester, March 31-April 14, 16 cases, 1 death.
Ohio: Dayton, April 4-11, 3 cases.
Pennsylvania: Altoona, March 28-April 11, 5 cases; Butler, April 4-11, 1 case; Carbondale, March 31-April 7, 1 case; Johnstown, April 4-11, 1 case; Philadelphia, March 28-April 11, 43 cases, 7 deaths; Pittsburg, April 4-11, 29 cases (2 imported), 3 deaths; Williamsport, April 4-11, 1 case.
Tennessee: Memphis, March 28-April 11, 13 cases; Nashville, March 28-April 4, 2 cases.
Utah: Salt Lake City, March 28-April 11, 17 cases.
Wisconsin: Milwaukee, March 28-April 11, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 14-28, 13 cases.
Belgium: Antwerp, March 14-21, 2 cases, 1 death; Brussels, March 14-28, 6 deaths.
Brazil: Rio de Janeiro, March 6-13, 5 deaths.
Canary Islands: Las Palmas, March 7-21, 44 cases.
Colombia: Barranquilla, March 15-22, 2 deaths.
France: Roubaix, March 1-31, 1 death.
Great Britain: Dublin, March 14-28, 33 cases, 1 death; Hebburn-on-Tyne, March 14-21, 1 case; Leeds, March 14-28, 26 cases; Liverpool, to March 28, 68 cases, 7 deaths; London, March 21-28, 5 cases; Manchester, March 21-28, 18 cases, 1 death; Newcastle-on-Tyne, March 14-21, 2 cases; Nottingham, March 7-28, 11 cases; Sheffield, March 7-21, 4 cases; Walker-on-Tyne, March 14-21, 2 cases; Wallsend-on-Tyne, March 14-21, 2 cases.
India: Bombay, March 3-17, 157 deaths; Calcutta, Feb. 28-March 14, 1 death; Madras, Feb. 28-March 6, 1 death.
Mexico: City of Mexico, March 22-29, 7 cases, 4 deaths.
Netherlands: Flushing, March 21-28, 1 case.
Russia: Moscow, March 14-21, 4 cases, 1 death; Odessa, March 14-21, 6 cases, 1 death; St. Petersburg, March 14-28, 169 cases, 9 deaths; Warsaw, March 14-21, 3 deaths.
Turkey: Alexandrette, March 14-21, 3 cases, 1 death; Constantinople, March 15-22, 1 death; Smyrna, March 1-8, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 6-13, 38 deaths.
Colombia: Panama, March 26-April 2, 4 cases, 1 death.
Ecuador: Guayaquil, March 14-21, 4 deaths.
Mexico: Vera Cruz, March 28-April 11, 12 cases, 2 deaths.

CHOLERA—INSULAR.

Philippine Islands: Provinces, Feb. 14-21, 172 cases, 117 deaths. Not previously reported, 953 cases, 756 deaths.

CHOLERA—FOREIGN.

India: Calcutta, Feb. 28-March 14, 159 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Feb. 14-21, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, March 6-13, 1 death.
China: Hongkong, Feb. 14-28, 15 cases, 15 deaths.
India: Bombay, March 3-17, 2,300 deaths; Calcutta, Feb. 28-March 14, 1,574 deaths; Karachi, March 8-15, 199 cases, 169 deaths.
Mexico: March 8-22, Siqueros, 3 cases, 2 deaths; Villa Union, 3 cases, 1 death.

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Address.

MEDICAL EDUCATION IN THE UNITED STATES.

PRESIDENT'S ADDRESS, DELIVERED AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT NEW ORLEANS, MAY 5-8, 1903.

FRANK BILLINGS, M.S., M.D.
CHICAGO.

One of the chief objects of the organization of the American Medical Association was the elevation of the standard of medical education in the United States. In the president's address, the Father of the Association, Dr. N. S. Davis, stated that "the purpose of the organization was the improvement of our system of medical education and the direct advancement of medical science and practice."[1] That medical education in that day was defective, as recognized by the founders of the Association, is shown by the report of the Committee on Medical Education in the year 1850. The committee said, in part, as follows: "Medical education is defective because there are too many medical schools; the teachers are too few. There are too many students. The quantity of medicine taught is too limited; the quality too superficial, and the mode of bestowal of the honors of medicine too profuse and too unrestricted."

For many years the Association showed its interest in and attempted to influence the elevation of the standard of medical education through a committee on medical education. The Transactions of the Association of the earlier years show many reports of this committee, which display much thought and effort on the part of the Association to improve the status of medical education at that period of time. James R. Wood, as chairman of the committee, in the year 1858, recommended that the various medical colleges of America be requested to send delegates to a convention of medical colleges, to consider the matter of medical education. This movement finally resulted in the formation of the Association of American Medical Colleges, which thereafter represented, to a degree at least, the American Medical Association in its efforts to improve medical education. Later, the Southern Medical College Association was formed. Together these associations represent about 80 per cent. of the regular medical schools of the country, and these colleges have, in a general way at least, fulfilled the minimum requirements prescribed by the rules of the associations in regard to the preliminary education of students, the length of the college course, and the character of the curriculum.

About twenty-five years ago the Illinois State Board of Health, through the splendid efforts of Dr. J. H. Rauch, its secretary, made a report on the number and character of the medical schools of the country. This board adopted a minimum of requirements of medical schools as a necessary step toward the recognition of their diplomas by the State Board of Health of Illinois. This minimum requirement of the State Board of Health was gradually increased from time to time, with the result that many of the medical schools were obliged to raise the standard of medical education to enable their graduates to obtain licenses to practice in Illinois. Other states followed Illinois in requirements for better methods of medical education, with the result that the standard of education in the country was very much improved.

MEDICAL SCHOOLS OF THE COUNTRY.

In the earlier days of our country, the need of physicians was met by the organization of medical schools which were, as a rule, proprietary in character. These schools attempted the education of physicians on the then existing conditions of medicine by teaching in a didactic way the principles and theories of medicine and surgery. The branches usually taught at that time consisted of anatomy, physiology, chemistry, materia medica, obstetrics, the practice of medicine and of surgery. But little opportunity was offered in the great majority of the schools for extensive, practical teaching in anatomy or chemistry, and but a moderate amount of clinical work in the so-called practical chairs. The course of medicine in the college consisted of two annual sessions of four or five months. The course was not graded. The student attended all the lectures and clinics taught during his first year, and the second year was a repetition of the first. This class of schools was rapidly increased in the course of time. The chief reasons therefor were the fact that it was recognized that a connection with a medical school was profitable, directly and indirectly. The prestige which the teacher enjoyed among the graduates and the laity brought him a remunerative consultation and private practice. In most of the states it was easy to incorporate and obtain a charter for a medical college. It cost comparatively little to conduct and maintain the institution. Lecture rooms were obtained at trifling cost. The dissecting room was not worthy of the name of a laboratory, and the chief expense in maintaining it was the cost of dissecting material, which was usually deficient in quantity and poor in quality. Medical schools were organized all over the country, without reference to the needs of the people. Medical education was prostituted. To obtain a sufficient number of students many institutions showed a most degraded disregard of the moral and mental qualifications of the matriculates. The income of the school was wholly derived from the tuition of students, and no applicant was

1. Transactions A. M. A., vol. xvi, 1865.

turned away who had the cash with which to pay his way. To add to the facility of obtaining a medical college course, there were organized in some cities evening schools, the hours of college attendance occurring from 7 to 9 or 10 o'clock at night. These sundown institutions enabled the clerk, the street-car conductor, the janitor, and others employed during the day to obtain a medical degree.

In spite of the general tendency to increase the facility by which a medical degree could be obtained, there was a force at work to improve the methods of medical education. A few older medical colleges and an occasional new one set the standard high in relation to the existing status of medicine. There were earnest, forceful medical men in some of the schools who fought for a higher standard for matriculation and graduation.

The medical college associations exerted a splendid moral influence for good, and the state boards in all the more advanced states have, by mandatory legislation, compelled the colleges to raise the requirements in reference to the preliminary education, the length of the annual session, the time of medical college study, the character of the curriculum, etc. As a result, the status of medical college education has been very much improved in the last twenty, and chiefly in the last ten years. But, improved as it is, there are evils which menace us, the chief of which still are too many medical schools, too many students, and inadequate facilities for the proper teaching of medicine.

The improvement in medical college requirements has increased the cost of the maintenance of the medical college to a degree that it is no longer a profitable financial venture. There can be no dividends. Indeed, the proprietors of the private institution must often make up a deficiency in the annual budget. In spite of this fact, medical colleges have continued to increase steadily.

In 1877 there were sixty-five medical schools in the United States. In 1882 this number had increased to 89, and 1901-2 to 156. The enrolment of students and the number of graduates have also increased, in spite of the fact that the requirements for matriculation and graduation have been increased. In 1882 there were[2] 14,934 matriculates, and this number was increased in 1901 to 26,417, and in 1902 to 27,501, an increase of about 100 per cent. in twenty years.

The number of graduates in 1882 was 4,115; in 1901, 5,444; in 1902, 5,002, an increase of about 25 per cent. in twenty years. If, in 1850, there were too many medical schools and too many students, what can we say of the condition to-day?

It has been estimated that there is an average of one physician to 600 of the population of the United States at the present time. The natural increase in the population of the country, and the deaths in the ranks of the profession, make room each year for about 3,000 physicians, based on the proportion of one physician to 600 of the population. With 5,000 or more graduates each year, a surplus of 2,000 physicians is thrown on the profession, overcrowding it, and steadily reducing the opportunities of those already in the profession to acquire a livelihood. The evil of an overcrowded profession is a sufficient cause of complaint, but the cause thereof is the important point for us to consider and, if possible, remove. To correct the evil, the ease and facility with which a medical degree may be secured in this country must be diminished. As before stated, there are now 156 medical schools in this country. Of these, 30 are sectarian, and 136 are so-called regular schools. Fifty-eight are medical departments of universities, of which 24 are state institutions. The relation of the medical school to the university in most instances is a nominal one only. In but few of them is the control of the faculty, or the finances of the medical department, vested in the university proper. In a very few of them the sciences fundamental to medicine are taught in the university. In the majority of these schools these departments are duplicated in the medical department, and are taught by members of the medical faculty. In most instances, too, the teachers of the fundamental branches are physicians who devote but a part of their time to teaching. They teach without salary, or for a nominal one only. Their remuneration is obtained by private practice, to which they must devote their best energies, to the detriment of their value as teachers. The clinical department of these schools is, in most instances, wholly inadequate. The majority of such schools depend on the general hospitals situated near them for the privilege of the use of clinical material. Necessarily, these clinical advantages have great limitations, inasmuch as they can not be fully controlled for the purpose of proper bedside teaching, or for scientific investigation. Some of the medical schools which are connected with state universities are situated in small cities where it is impossible to command an adequate amount or variety of clinical material. The connection with a university, which many of the schools enjoy, is, therefore, almost valueless in a pedagogic sense. The majority do not differ materially from the private or proprietary schools in their value as teaching institutions. Ninety-eight of the medical schools in the country are private corporations, organized, maintained and, as a rule, owned by the faculty. If, in earlier years, these institutions were sources of direct financial profit to the owners, they have ceased to be so now—at least most of them. The evolution of medicine has made it necessary to extend the laboratory method of teaching. As these schools attempt to teach the whole curriculum, the erection, equipment and maintenance of the necessary laboratories have so increased the cost of conducting the schools that they are usually no longer self-supporting. The temptation is in such schools to conduct them on a plane which shall just comply with the minimum requirements of the various state bodies, which regulate medical practice in the several states. They are maintained ostensibly to teach medicine, but in reality for the prestige which a professorship affords the teacher in his private and consultation practice. Proprietary schools depend on general hospitals and dispensaries for clinical material. What was said of the status of clinical teaching of the medical departments of the universities is true also of the proprietary college. These schools can not hope to improve their present standards. The majority attempt to maintain laboratories and other expensive means of teaching which a modern medical education demands. But in how many are the laboratories worthy of the name? What kind and variety of instruments and apparatus do they afford? Are their teachers of the sciences of the fundamentals of medicine capable? They can not hope for better conditions, because the time when a student's tuition will pay the school for his instruction, if he is properly taught, will never return. Medical education of the future must be based on the status of medical science. That basis is recognized now, but is attempted in the great majority of our medical institutions in a very superficial way.

2. THE JOURNAL A. M. A., vol. xxxix, No. 10, p. 574.

SCIENTIFIC MEDICINE.

The great and important discoveries of Pasteur and the practical methods devised by Koch in bacteriology marked a new era in medicine. Before the facts made clear by these discoveries, the hypotheses and theories of other days have disappeared. Our knowledge of man and the lower animals and of the diseases and evils which afflict them has been revolutionized within the last twenty years. The advance in medical knowledge has been greater in that period than in all preceding time. Medicine now embraces many more subjects, chiefly fundamental ones, than were known twenty years ago. Formerly a very superficial knowledge of a few isolated facts in general chemistry and human physiology and a memorized knowledge of human anatomy and of materia medica enabled the student to learn the practice of the art of medicine and surgery. Now, the problems which confront the clinician and investigator in medicine and surgery compel him to have a good and working knowledge of general, physical and physiologic chemistry, of general biology, bacteriology, pathology, physiology, embryology, pharmacology, histology and anatomy. The physician who has not a practical knowledge of these fundamental subjects can not clearly understand the methods of others engaged in scientific investigation, nor can he rationally utilize the discoveries of others in his work. Medicine to-day is applied science. If we utilize the knowledge of to-day in an attempt to cure and prevent disease, it must also be an experimental science. No one can practically apply or rationally experiment with what he does not know. The fundamental studies of medicine must, therefore, be acquired by all who desire to successfully apply them as sciences. The successful experimental application of these sciences has given us within ten years a knowledge of the method by which the invading bacteria affect the host, and has likewise developed a principle of wide application as a preventive and cure of certain diseases by the use of antitoxic sera. It has confirmed the principle of preventive inoculation, accidentally discovered by Jenner, and has enabled us to apply the principle in other diseases than smallpox. It has enabled us to know the methods of transmission of certain infectious diseases, and to know how to stamp out scourges like yellow fever, the plague and malaria.

Through the evolution of Listerism, it has enabled the surgeon to invade every region of the animal body, and to save scores of lives formerly doomed to death. The freedom with which the surgeon may now operate has not only saved lives, but, indirectly, the knowledge of disease processes so studied during life has taught us many new facts in symptomatology, and has cleared away many fallacies concerning pathologic processes. It has given us many new methods of clinical study, and furnished data from the blood, the spinal fluid, the exudates, the sputa, the sweat, the feces, and urine, which enable us to recognize disease much more readily than before.

Much as has been accomplished by experimental medicine in a comparatively brief period of time, there are vast fields to which the method has not been applied. With most of us, our present methods of clinical observation enable us to do little more than name the disease. In the vast majority of the infectious diseases we are helpless to apply a specific cure. Drugs, with the exception of quinin in malaria, and mercury in syphilis, are valueless as cures. The prevention and cure of most of the infectious diseases is a problem which scientific medicine must solve. What is true of the infectious diseases is also true of the affliction of mankind due to chemical influences within the body. We know but little of diabetes, of the primary blood diseases, or of the various degenerative processes of age and disease. We hopefully look to chemistry to reveal to us the cause of these and other conditions. Experimental medicine must be the means of removing the ignorance which still embraces so many of the maladies which afflict mankind. Not every student, nor every physician, can become an experimenter in applied medicine. Nevertheless, every physician must be so educated that he may intelligently apply the knowledge furnished him by experimental medicine in the cure of such diseases as can be cured. He will no longer juggle with the life of his patient by an attempt to cure with drugs or otherwise, where no help is possible.

METHODS OF MEDICAL EDUCATION.

The phenomenal evolution of medicine has multiplied the subjects of medical study. The character of these sciences requires that they shall be taught by the laboratory method. The laboratory method, too, has been adopted as the chief method of instruction in anatomy, pharmacology and chemistry, formerly almost wholly taught in medical schools by didactic lectures. The laboratory method, while necessary to the proper and practical instruction of the student, involves an expense which is appalling when compared with the methods of teaching formerly practiced in all schools, and still adhered to in many medical schools. The method is expensive, inasmuch as it involves more extensive buildings, much expensive apparatus and an increase of the teaching force. The instruction must be individual or to small groups of laboratory workers, and this involves also an extension of the time of instruction. A physician engaged in private practice can not possess and retain the general and technical knowledge necessary to enable him to teach one of the fundamental sciences properly, nor can he devote an adequate amount of time to it. The teachers of these fundamentals must be investigators in the province of their respective sciences. They must give their whole time to the instruction of students and to original investigation. The thoroughness and accuracy of the training of the special senses, and in experimenting, which a student will receive from such teachers in properly equipped laboratories, will make him keen in intellect and sound in judgment. His desire for knowledge will be stimulated by the atmosphere of his surroundings, and will awaken in him a consciousness that through him and his work the knowledge of the world will be increased and humanity benefited thereby. But teachers of this character must be paid salaries quite as large as the remuneration of professors in the departments of arts, literature and science. The salaries of such professors and of the corps of assistants which the laboratory method implies make the cost of the university or college far beyond the income which could be derived from the tuition of students. I believe it has been estimated that the laboratory method of instruction, now followed by all first-class institutions of learning, costs annually from $400 to $500 per student. But, great as the cost seems, it must be conceded that the present status of medicine demands the thorough instruction of students in these fundamental studies. It matters not whether his future may be that of a teacher or a practitioner of medicine. In either event, he must apply his knowledge of the fundamental sciences to his work, and the result will depend on the thoroughness of his education.

APPLIED MEDICINE AND SURGERY.

To enable the student to utilize the knowledge of a thorough training in anatomy, physiology, chemistry, pharmacology, physiologic and physical chemistry, embryology, neurology and pathology, he should be afforded facilities of equal rank in clinical medicine and surgery. To supply the student with proper clinical facilities involves several important features. Special hospitals, which would be absolutely under the control of the medical school, would be necessary. The hospital should be constructed with a definite idea of teaching students and of making researches into the nature, causes and treatment of disease, as well as to care for a definite number of patients. Hospitals for general medicine, surgery and obstetrics would be essential. Such hospitals, with laboratories and equipped with instruments, apparatus and library, would cost for their building and maintenance a very large sum of money. With such hospitals it would be necessary to choose the professors of medicine, of surgery, and of obstetrics, with competent assistants, of the same type as the teacher of the fundamental sciences. They should give their whole time to the work of teaching and to original research in the hospital. They should be men who have proved their scientific fitness for the important positions by the contributions they have made to medical knowledge. They should rank with and receive the pay given to professors of important departments in arts, philosophy and science. When so paid, they would be free to expend all their energy to teaching, and to experimental medicine—a career which would enable one to be of the greatest possible service to mankind. No life's work could be fuller or of greater self-satisfaction, and surely none would be more honorable. From these teachers and investigators the student would obtain instruction of the same systematic methods of accurate observation and investigation which were employed in the fundamental branches. He would receive thorough, conscientious drill in the fundamental methods of examination of patients, and his knowledge of the fundamental sciences would be constantly applied in this work. The trained clinical teachers would direct the student in thorough, careful observation in the wards and at the operating table, would collect data to be submitted to experimental tests, and would conscientiously carry out the experiments in the laboratories of the hospital.

The brilliant discoveries which have made our knowledge of the cause and means of transmission of many of the infectious diseases have been chiefly due to the introduction of the experimental method of investigation. Teachers and investigators of the type mentioned will have the opportunity to make equally important discoveries in the broad field of the unknown in medicine. They will train students in the methods of research work and constantly increase the number of investigators in the domain of medicine. And there is need for such men. We may give the great practitioners who have taught clinical medicine their due meed of credit for their excellent, painstaking, unselfish efforts as teachers. They have added to the sum total of our clinical data, have utilized the knowledge of the pathologist and the physiologist in diagnosis, and have tested and judged the worth of therapeutic aids in the treatment of disease. But as teachers they have not made students investigators or experimenters. Not one of the recent great discoveries in medicine has been made by such a man. He has used as clinical material hundreds of cases of pneumonia, rheumatic fever, tuberculosis and chronic diseases by the score; his experience has taught him to recognize these diseases, even when the clinical manifestations are obscure, but he is no more successful than when he began to practice, in saving the life of the patient with pneumonia, in preventing endocarditis in rheumatism, in curing tuberculosis, or in checking the advance of a chronic hepatitis. It is time, therefore, that the clinical teacher should have the knowledge necessary to carry on experimental investigation, with hospital facilities for the work that the profession may become purged of the shame of helplessness in curing so many of the common diseases of mankind.

The patients who will be received in these hospitals will be fortunate. They will receive the most painstaking examination and study, and the experiments made on animals in the laboratory will benefit the patients directly, inasmuch as more rational therapeutic measures will be applied in cases so investigated. In addition to the clinical teachers, who will devote all their time to teaching and research work in the special hospitals, there will be quite as much need for the clinical teacher, who is in private practice, in the general hospitals. Under his direction the student may himself investigate a hospital or ambulatory case, and undertake the care of the patient. His rich and varied experience in hospital and private practice will enable him to round out the student's college education. He will impart to the student a better idea of medicine as a whole. He will coordinate and arrange the isolated facts of clinical and laboratory investigation, and give them their true and relative value. He will teach the student the art of medicine; he will teach him that human sympathy and encouragement of the sick and dying are a part of his duty as a physician.

It would be most practical to make the clinical work of the third year a clinical drill and experimental course, given in the special hospitals, and assign the students of the fourth year to the general hospitals and to the clinical teachers who are in private practice. All the general hospitals and dispensaries controlled by the medical schools could be utilized in the fourth year for this purpose, and afford the student an abundance of clinical material and the benefit of the experience of many clinical teachers. Many of the assistants in the special hospitals, of the third year course, would doubtless engage ultimately in private practice, and would, because of their scientific attainments, make excellent clinical teachers in the fourth year. A medical school conducted on the high plane advocated must necessarily be under the control of a university. Such a medical school would cost an enormous amount of money, and this can be commanded only by the trustees of a university of the highest order. That the money for the purpose of establishing and maintaining university medical schools with research hospitals and university clinical courses will be forthcoming can not be doubted. The world is awake to the great discoveries recently made in medicine. The wealthy men of this country have had their interest aroused as never before in reference to the possibilities and benefits which medical investigation will give to mankind. They now recognize that they and all posterity will be benefited by every new fact discovered in medicine, and that physicians thoroughly and scientifically trained are necessary to conserve the health of the people.

Three years ago Prof. W. W. Keen, in his address as President, deplored the fact that medical schools received relatively little aid in the form of endowments as compared with universities and colleges of philosophy, art and theology. Since that time several millions of

dollars have been given for medical education and scientific research. The signs of the times point to a brighter future of medicine in America.

EDUCATION PRELIMINARY TO MEDICAL STUDY.

The subject of the educational requirements for matriculation in medical schools has been discussed at many meetings of this Association in its earlier years, and later by the college associations, by the American Academy of Medicine and by the various state boards of health.

The requirements were at first lamentably low, and the efforts of the Committee on Education of the American Medical Association and of the college associations had but little effect, because they possessed no legal power to control the schools.

The influence of the various boards of health of several states, notably Illinois, was more marked, inasmuch as these state boards possessed a mandatory power. The colleges were forced to adopt the minimum educational requirements of the state boards of health if their diplomas were to be recognized by the respective state boards.

These moral and legal influences to improve the preliminary requirements were almost nullified by the practice of a majority of the medical schools in admitting students whose educational status was examined into and judged by a committee of the college faculty.

This practice is still followed by a majority of the medical schools, and results in the admission of many students who are unable to fulfill the prescribed requirements. As a subterfuge, students are often matriculated conditioned in one or even several subjects. Then the student and the faculty committee forget all about the subject, and the student completes his course, goes into practice, and dies with the conditions still undischarged.

The present requirements of the college associations and of the various state medical examining boards and state boards of health amount, on the average, to a high-school education. The curricula and length of course of the high schools of the different states, and even in the same state, differ very substantially. However, if the medical schools now in existence would honestly require as a minimum education the diploma of a high school, without regard to the rank, it would be a marked advance over the present requirements as practiced by most schools.

We must admit, too, that there are medical schools of such a low educational grade that they have no right to demand of their matriculates as much even as a common school education. This fact that low-grade medical colleges exist is one of the most satisfactory explanations of the difficulty encountered in elevating the standard of preliminary requirements.

To get at the root of the matter the medical college must be brought up to the proper educational standard, and then, and then only, can be made a proper preliminary educational requirement.

UNIVERSITY MEDICAL COLLEGE.

The present status of medical science requires and demands a university medical college course. By university medical college is meant a medical school which is directly connected with and a part of a university; the university fixing the requirements and controlling the admission of students to the medical department. The method of teaching both the fundamental and the clinical branches is on the principles outlined above. To properly prepare for such a course the student should have, as a minimum preparation, at least two years of study in a good college or university. The requirements to enter a good college or university would insure a sufficient knowledge of the ordinary school branches and also Latin or Greek. During the two years' course in college his time would be well spent in the study of English, French, German, mathematics, history, philosophy, physics, chemistry, general and organic, and qualitative analysis, comparative anatomy and general biology. The amount of time to be devoted to each of these subjects would be the same as that of students of general science, as arranged in all college curricula, with the exception of a much more thorough course in chemistry, biology, physics and comparative anatomy.

So prepared, the medical matriculate would be able to grasp all the intricacies of the subjects of the fundamental branches of medicine. With the addition of the full medical college course, as outlined above, his education would be equal in culture to that of the graduate in arts and philosophy. At the same time, it would be practical and especially fit him for his work as a scientific investigator or practitioner, or for both.

With the medical profession so educated a physician would be, in truth, a member of a learned profession. From an educational point of view he would rank as an equal with the scholar in philosophy, law and theology. As a man he would be recognized as the greatest benefactor of mankind.

With the establishment of university medical schools the first two years of work in the medical school will consist of courses in pure science. Then, doubtless, all universities will adopt the plan which two or three universities have already put in practice. That is, that the student who completes the two first years of the science course of a university, or at a college of good standing, may enter the sophomore year of the university and take the first two years' work in medicine, as the sophomore and senior years of the bachelor's course, when he would receive the degree of S.B. The student who completes the three years of the arts or philosophy course at a university, during which he should take a large amount of work in physics, chemistry and biology, could then enter the medical college and after two years receive the degree of A.B. or Ph.B. After two years spent in the clinical school he would receive the degree of M.D.

This telescoping of the literary and medical courses affords the advantage of an economy of time, while it does not in any way lessen the value of the result to the student. In the one case the student secures the degrees of S.B. and M.D. after about six years of study, and in the other the degrees of A.B., or Ph.B., and the degree of M.D. at the end of seven years' study.

THE OUTLOOK OF MEDICAL EDUCATION IN THE UNITED STATES.

Medical education must advance to its proper level if it complies with the present status of the medical sciences and the demands which continued evolution in medicine promises.

What does this imply? It means that the private—the proprietary—medical school which is conducted for commercial reasons must go. Acknowledge, as we must, the great value which the best of these schools have been to the profession and to the country, all such schools have lived past the time when they can be of value. The continuation of these institutions henceforth will be harmful. They can not command the money to build, equip and maintain the laboratories and hospitals which a proper and adequate medical education demands. In the past their graduates have furnished the many great and influential medical and surgical clinicians of

this country. In former days a graduate poorly prepared has been able, by indefatigable labor and post-graduate work, to place himself in the front rank as a clinical physician and surgeon.

To-day medical science demands primary instruction to fit a man as an investigator and scientific physician. If not properly educated he can not grasp the great problems which medicine presents to-day as he did the more simple clinical facts which comprised the art of medicine and surgery a few years ago. In the future medicine must be taught in the large universities of the country and in the state universities which are situated in or near large cities, where an abundance of clinical material may be commanded.

The state university and the college which desires to teach medicine, and is so situated that it can not command clinical material, should confine itself to teaching the sciences fundamental to medicine. These should be taught as pure sciences, and should be included in the course for the degree of S.B. A college or state university ambitious to teach the medical sciences can do so without great cost. To attempt to teach applied medicine without proper and adequate hospitals, and with an insufficient number of patients, would be irrational, nor can they command the necessary funds with which to do it. From such colleges and state universities the students could go to the larger institutions which are able to furnish the proper facilities for teaching applied medicine and surgery.

The general hospitals of many of the cities, now used by proprietary schools, could be utilized as clinical schools for both undergraduate and post-graduate teaching, conducted by the clinical teachers in the existing proprietary schools. Indeed, these hospitals could be utilized as university extension clinical courses. Necessarily they would have to be under the control and direction of a university medical school.

How many schools may be necessary to educate the number of doctors of medicine required annually in the United States? The question one can not answer, but it is safe to say that 2,500 graduates annually will fully supply the demand. This would imply about 10,000 to 12,000 matriculates. A minimum number of twenty-five and a maximum number of thirty-five medical schools should offer sufficient facilities to educate 10,000 students. The various state universities and the colleges which offer adequate science courses would educate a great number of students in the fundamental branches, or in the first two years of the medical course.

MEDICAL RECIPROCITY BETWEEN THE STATES OF THE UNION.

The low requirements of some medical colleges, and the want of uniformity in the requirements for a license to practice in the different states, has resulted in a condition which entails much hardship on a physician who desires to remove from one and to engage in practice in another state. The rules of most state boards of medical examination and of health are so stringent that a physician or surgeon of years of experience and of acknowledged skill and education, and the specialist who may be renowned in his field of work, are obliged, like the recent graduate, to take an examination in all of the branches of medicine and surgery in order to secure a license to practice in the state of his adoption.

To correct this evil it has been suggested by a member of the American Medical Association, and concurred in by others, that a national board of medical examiners be organized; that the board hold examinations at different seasons of the year in the various large cities, and that the diploma so obtained shall be recognized as a license to practice in any one or all of the states and territories. The measure suggested seems to be practical and feasible.

In addition to this plan, it remains to be said that the degree granted by the future university medical school will be undoubtedly recognized as an evidence of fitness to practice in any state in the Union. When we shall have a less number of schools and annual graduates the various states may safely and rationally become more liberal and discriminating in the conduct of their office.

THE INFLUENCE OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association should maintain its interest in the elevation of the standard of medical education, one of the chief reasons of its organization. Its influence in former years was principally moral. This was of considerable value, for the reason chiefly of the high ideals of the founders and first members of the Association, who advocated and fought for a higher standard of medical education. In the future its influence should be many fold that of the past, for with the reorganization of the profession, the better methods of conducting its affairs, the increased and probably very large membership, and its great medical journal, it should wield a great influence for good.

As the direct agent by which the American Medical Association may exert its influence in the elevation and control of medical education, the Committee on Medical Colleges and Medical Education should be made permanent and should be given adequate power and sufficient annual appropriation to make its work effective.

This Association should, therefore, stand for, and should use its whole power to improve, medical education in this country. It is said that we never exceed our ideals in practice, and that if we lower our ideals our conduct sinks to a lower level.

The American Medical Association should take as its ideal and standard of medical education the university medical college, with all the name implies in regard to the fundamental medical sciences, and to the clinical branches. It should use its influence to drive out of existence those proprietary medical schools which are conducted solely as money-making institutions. These measures can not be accomplished at once; but medical science demands it, the profession demand it, the people demand it, and look to the American Medical Association as the chief influence which shall accomplish this end.

To Whom Does a Prescription Belong?—In France it is the custom to give the prescription to the one who pays for it, according to a recent article on this subject by Carles in the "Journ. de Méd. de Bordeaux." The pharmacist in the cities merely keeps a copy of it and the prescription is given up with the medicine as it is paid for. In the country, the proportion of illiterate is so large that the pharmacist is always urged to keep the paper, and this is now the custom. The prescriptions are also kept when dispensed to members of benefit societies, as payment is made by the treasurer on presentation of the prescriptions. In case secrecy is desired the member can pay for his medicine out of his own pocket and thus claim the prescription. The pharmacist also keeps the prescription if he discovers that the physician signing it has made a mistake, rendering it impossible for him to dispense the medicine called for, until after consultation with the physician.

Orations.

CANCER AND IMMUNITY.

ORATION IN SURGERY, DELIVERED AT THE FIFTY-FOURTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT NEW ORLEANS, MAY 5 TO 8, 1903.

A. F. JONAS, M.D.
OMAHA.

On such occasions as this we take great pleasure in recalling the past and dwell with great delight on the achievements along the lines that have most engaged our attention. We, as surgeons, especially those whose professional activity began in the pre-antiseptic period, review the successive changes from that period of expectancy to the present period of aseptic accuracy with the greatest satisfaction. No one can fully appreciate the present status of surgery who is not personally familiar with the period when wound complications were the rule and when faith was pinned on the belief in "laudable pus."

However great the change has been in surgical mortality, in the great improvement in wound repair and in the comparative freedom from wound complications at present, when we consider the number of diseases treated surgically we must confess that many problems remain unsolved. We are not prepared to say, even now, as Boyer did in his great work, Traite des Maladies Chirurgicales (1814-1822), that he believed that surgery had reached perfection. The great advances of the past have taught us the imperfections of the present and have pointed out to us the lines of research for the future.

At the outset, we are not unconscious of the fact that the profession itself is not yet agreed on many well-founded propositions. Many still cling with too much tenacity to old and deeply-rooted doctrines. Progress has been so rapid. The surgeon has, perhaps, been in advance of the physician along scientific and practical lines. The physician has observed that the surgeon has gradually invaded his field, thus creating some antagonism, but it has become less apparent and more co-operation has been the rule since bedside observation and a clearer pathology have demonstrated the actual conditions.

In this connection, we are convinced that there is still too much difference of opinion between the physician and the surgeon regarding the so-called borderland cases. In that class of affections which primarily are so-called medical, and later may become surgical, in which the early stages are obscure, where no positive diagnosis can be made, where there is no improvement from the usual internal treatment, these constitute a class where an exploratory incision would not only make a diagnosis clear, but would frequently lead to a cure.

Still, too much time is wasted in the medicinal treatment of such affections as goiter, tubercular lymph nodes, pulmonary abscesses and gangrene, empyema, abscesses and tumors of the liver, obstruction of the biliary passages, diseases of the pancreas and tubercular peritonitis. Chronic Bright's disease and ascites due to hepatic affections, always believed to be purely medical, have recently received the attention of surgeons and the success has been sufficient to give much encouragement. The foregoing constitute a class of borderland cases in which it is often impossible to state where medical management ends and where surgical treatment begins.

Surgical advancement in the future will not consist so much in the radical changes in operative technic as in improvement in diagnosis and diagnostic aids. Many of our diagnostic formulæ are even now undergoing complete changes, and the future will lead us to a precision in the recognition of disease that we little dream of now. The early recognition of malignant disease is a problem of future development, especially malignancy affecting the internal organs. With our present aids it is impossible to recognize internal cancers sufficiently early to do a radical operation. Our only course at the present is an exploratory incision as soon as reasonable grounds for malignancy exist.

The field that seems full of promise and gives us hopes for great expectations in the future is that of immunity and immunization. It now seems that many tissue changes will be solved along these lines.

From our present viewpoint the question of immunity seems to tower above and overshadow all others. It involves the greatest problems for the future investigator to solve. Out of these researches will be evolved methods for the exact treatment of that great list of surgical affections which, at present, we can fortunately, to a great measure, avoid by exact asepsis and can control, to a great extent, by antiseptic measures when once developed. But we still stand helpless in the presence of severe forms of septicemia, pyemia, tetanus and other toxic invasions. Infections sometimes occur after the most carefully executed operative procedures. Accidental infections will always comprise a large proportion of our surgical material, a group of cases that furnishes a fatality all too great.

Our present helplessness in the presence of extreme toxemia, we must confess, lies in our imperfect knowledge of the exact conditions under which the toxins operate. We may say, in a general way, that toxic bodies attack and destroy cellular elements. When, however, we study this question of infection in a more serious manner, we find that a flood of light has been thrown on this problem by Ehrlich and his followers.

The two greatest problems of the future, cancer and immunity, shall engage our attention to-day. Malignant disease seems to be on the increase. We stand so helpless in its presence when fully developed that we exert our feeble energies and grasp eagerly for any fact that seems to offer new light for its better understanding. It will be our effort at this time to review, as briefly as possible, the more important facts known regarding the etiology of cancer and then, after making clear to ourselves the revelations thus far made in the recent studies of immunity, determine, if possible, what relations, if any, exist between the two.

These considerations were prompted by personal observations made in a number of cases of undoubted malignancy that indicated the probable infectiousness of cancer. It is well known to us all that the infectiousness of most infectious diseases was first determined clinically and that the clinical observations were later determined and confirmed microscopically and experimentally. The cases to be here related came under the author's personal care, and it is hoped that they may serve as contributory evidence to the observations already recorded by others *that malignant disease, under certain conditions, is infectious.*

CASE 1.—Mrs. H., aged 40, of spare build, very small amount of adipose tissue, presented in the outer and upper quadrant of the left breast a hard, nodular, painful, movable, walnut-sized growth, of one year's duration. In the axilla could be

felt a hazelnut-sized nodule. She had frequent lancinating, radiating pains in the breast. There were no evidences of acute or subacute inflammatory signs, no local redness or elevation of temperature. The clinical diagnosis of cancer of the breast was made and a radical operation was advised. Various family matters prevented her from submitting to an immediate operation, so that several months passed, after which it was observed that the neoplasm had diminished in size and it finally disappeared.

It may be urged that this may not have been a cancer or that no one should make a diagnosis unless there be a confirmation by the microscope. Is the microscope always certain? We have all observed cases that ran a clinical course of malignancy after the microscopic findings indicated benignancy, and vice versa. The pathologist always inquires after the clinical features. He is disinclined to give an opinion unless he can know something of the history and symptomatology. The above case, in every detail, resembled many others that were demonstrated microscopically to be malignant, consequently it would appear that we are justified in the clinical diagnosis of cancer.

CASE 2.—Mrs. J., age 35, presented herself with an inoperable, extensively ulcerating carcinoma, involving the outer half of the right breast. The breast was unusually large. The outer portion of the ulcerating surface had been in constant contact with the upper and inner side of the arm. Portions from both breast and arm were removed for microscopic examination and proved to be alveolar carcinoma. No operation. She died in three months.

CASE 3.—Mrs. D., age 35. She came under observation with a typical epithelioma of the cervix uteri. The vagina was large and relaxed, so that the neoplasm rested in contact with the lower portion of the posterior vaginal wall. Hysterectomy was recommended, but was refused. She presented herself again in two months, in which time there had developed an epithelioma at the point of contact between the cervical growth and the posterior vaginal wall. An operation was done, but the patient died from recurrence eight months later.

CASE 4.—Mrs. G., age 45. Came under observation with a typical cauliflower growth involving the cervix uteri. Small particles were removed, which proved, microscopically, to be carcinoma. The uterus was fixed, the growth appearing to be too extensive for operative interference. No operation was advised. After several months the neoplasm became smaller and gradually disappeared, the uterus becoming movable. At the present time, eight years later, she appears well.

Here we have four cases of undoubted cancer, each one of which presented some of the features of an infection, as in lupus or syphilis. Cancer is extremely slow in its development, its premalignant stage often lasting many years. This fact possibly may account for the negative outcome of inoculative experiments hitherto conducted. This long developmental stage is not unlike lupus, leprosy and other forms of undoubted infection. In two of our cases we observed secondary growths which appeared at points where the primary neoplasm was brought, more or less continuously, in contact with previously healthy surfaces, a very common occurrence in nearly all forms of infection. In two of our cases the neoplasm disappeared spontaneously, the disappearance depending, no doubt, on some form of katabolism not yet understood. The elucidation of this form of cytomorphosis will give the key to the control, inhibition and elimination of the atypical cell proliferation which constitutes malignancy.

The term cancer, so commonly employed, refers to growths made up chiefly of epithelial cells. There is really no good reason why the term cancer should be limited to epithelial growths. Cancer signifies "crab." It was originally used to signify malignancy and meant connective tissue growths as well as those of epithelial origin. For our purpose at this time we will limit the term cancer to epithelial neoplasms and we will confine these considerations to its etiologic factors.

The mystery of its origin seems as deep almost as in the days when cellular pathology was unknown. No problem in pathology has received more thought and speculation, no subject has had bestowed on it more earnest effort and unremitting toil. Regarding its etiologic evidence we must confess that we have only a mass of negative proof. When observers believed that they had found the specific organisms, scores of workers in the same field soon demonstrated their error. So, today, we can only say that the evidence which shows what we do *not* know of the cause of cancer is voluminous, and we must admit that we know little of its etiology.

We know something of its cell characteristics. We know that malignant disease is essentially a cell proliferation that has, biologically, many features that are opposed to the physiologic tissues in which they take their origin. We find an atypical life history in the cancer cells. The nucleus divides in an asymmetrical way. We note that unusual karyokinetic figures in the nucleus are usual in new growths, pointing to changes in the cellular life history. Regarding carcinoma, certain bodies have been demonstrated, believed by some to be parasites, having some causal relation to the cell changes.

It is a well-established fact that the nucleus perpetuates the nature and function of the cell, and any change in the nucleus changes the cell in its function and process of division. According to W. V. Shaw, "the growth of cancer cells is then to be looked on as an effort of reproduction in damaged tissue, the incidence of the damage falling on the nuclear structures."[1]

This statement is based on observations made by him in connection with experiments on free swimming larvæ which developed from the stimulation of ova of certain lowly organized animals, causing a proliferation of cells. The ova had not been fertilized by spermatozoa. Adult organisms were not developed, but larvæ capable of independent life. These results were obtained by stimulating the ova with strychnia and by mechanical movements of the ova. This cell growth was compared to growth of tissue in partially damaged structures. Shaw believes that such damage alters the nature of these cell structures so that the vegetative functions of the cell run riot and the cells become parasitic toward the organism in which the growth is taking place. This view seems to find support in those connective tissue growths that develop in tissues that have sustained a trauma and in which the sarcoma develops; or in epithelial growths that form on surfaces that have been subject to prolonged irritation, as exemplified by the chimney-sweep's and paraffin-worker's cancer forming on an old chronic dermatitis; or a cancer forming on the site of a prolonged irritation by the smoker's pipestem on the lower lip. We have seen many times that cancer develops in epithelial tissue that has been subjected to irritation for a long time, usually extending over a period of years. We have long recognized irritation to be at least one of the causative factors. Just what metabolic disturbances take place and what the underlying causes are, is not yet clear. That cancer is infectious has been proven by many clinical observations. This has been shown by Eberth, who collected 22 cases where cancer was transmitted from lip to lip, tongue and palate. Behla reported

1. The Lancet, Sept. 20, 1902.

eight instances of death from malignant growths in physicians and surgeons who were inoculated from tumors and four instances of apparent human infection from cancerous animals, dog and hen. He also alludes to a cancer epidemic among the white mice in the Pathological Institute at Freiburg as evidence of the contagiousness of cancer (Hektoen). Roswell Park believes that, for New York state at least, cancer is increasing at an alarming rate.

Attempts have been made to show that cancer is endemic, peculiar to certain localities. Behla cites cases of Behrens, who found in a village ten deaths out of thirty-eight to be due to cancer. Pfeiffer, Powers and Friesinger maintain that in certain houses (cancer houses) and marshy districts in the vicinity of ditches and streams containing sluggish water, especially if the stagnant and polluted water were used for watering garden vegetables and for drinking purposes, cancer is relatively frequent (Hektoen). This would point rather to a microphyte than to a microzoon as the etiologic factor.

Since infection of living tissue is believed in every instance to be due to bacterial invasion, naturally bacteriologists directed their attention toward the discovery of a specific germ. Very soon we had a long list to enumerate. Plimmer of London examined in six years 1,298 carcinomata, and in 1,130 he believed that he found parasitic bodies. Sjöbring laid much stress on cell inclusions. Russell described his fuchsin bodies, which were spherical or oval. L. Pfeiffer of Weimar published several monographs on the protozoa as a cause of cancer. Eisen brought out his *Cancri amœbæ*. Korotneff believed that he had found an organism which he termed *Rhopalocephalus carcinomatosus*. Bosr found and described an organism that he called *Myxosporidia coccidia*. Gaylord of Buffalo described at great length bodies that he believed bore an etiologic relation to cancer. Sanfelice of the University of Cagliara emphasized the etiologic importance of bodies that he named *Saccharomyces neoformans*. A very large number of other publications on this subject made their appearance, none of which differed in any essential point from those bodies just mentioned.

While the presence of the aforesaid bodies described by the different observers can be demonstrated and are present in a large proportion of the cases of cancer, all the requirements necessary to prove them to be the organisms solely responsible for cancer have not been fulfilled. The requirements necessary are (1) the organism must be isolated; (2) a cancer must be produced when the organism is introduced into another body; (3) the organism must be recovered from the cancer produced. It has been shown that, while the first requirement has only apparently been fulfilled, the second has been, in a number of cases, seemingly produced. More careful investigations have proven that the experimental growths were not cancer. The third requirement has not been fulfilled.

All of the work mentioned above was carefully reviewed in all its details by the cancer committee, who, in their second annual report to the surgical department of the Harvard Medical School, showed conclusively that the bodies described by the various investigators under different names were not cancer nor the cause of cancer. I can do no better than to quote in full the results of their labors. They bear the marks of painstaking and conscientious work. The conclusions of the Harvard cancer committee were written by Edward H. Nichols and are as follows:

It has been claimed by the adherents of the theory of the parasitic origin of cancer that

1. A proliferation of epithelial cells analogous to the lesions seen in cancerous tumors can be produced by certain well-known protozoa (nodules caused by the Coccidium oviforme).

2. Certain skin lesions characterized by epithelial cell proliferation are due to the action of a so-called protozoon (Molluscum contagiosum).

3. Blastomycetes are constantly present in human cancers and are the cause of the lesion.

4. By experimental inoculation of animals with blastomycetes, true epithelial or cancerous nodules can be produced.

5. Finally, the well-known endocellular bodies seen in the protoplasm of cancer cells have a definite morphology, are parasites and the cause of cancer.

It has been the object of the investigators, the results of whose work appear in the preceding pages, to study each of these questions. As a result of the lines of work pursued by them under the direction of the Cancer Commission during the past year, it is concluded that:

1. The lesion produced by the Coccidium oviforme is essentially a process of chronic inflammation and is not analogous to the lesion seen in cancer.

2 The lesion of Molluscum contagiosum is characterized by certain changes in the epidermis, is not due to the action of a protozoon and is not analogous to cancer.

3. The so-called "blastomycetes" (saccharomycetes) of Sanfelice and Plimmer are torulæ.

4. The lesions produced by these "blastomycetes" (torulæ) are, essentially, nodules of peculiar granulation tissue, are not cancerous, nor, in any sense, true tumors.

5. Blastomycetes are not constantly present in human cancers.

6. The peculiar bodies seen in the protoplasm of a cancer cell are not parasites, nor the cause of the lesion, but probably are, in part at least, atypical stages of the process of secretion by glandular epithelium.

It is clear that in the present status of the etiology of cancer, bacteriologically considered, the case has not been proven. But it does not follow that it will not be shown that cancer is due to a specific and well-defined organism. It may be an organism so minute as not to have been brought within the range of the microscope. It is possible that no stains have yet been found that possess the requisite affinity for its complex molecular constitution. The necessary artificial medium for its cultivation remains for some future investigator to solve. Be it what it may, since the clinical features give strong evidence of the infectiousness of cancer, the search must and will be continued along the same lines.

In this search for a specific contagium, cellular metabolism must not be forgotten. Its consideration and study is perhaps more important than the isolation of a specific germ. It can not be denied that the more exact our knowledge of cytomorphosis becomes the clearer will be our understanding of cell proliferation. It has long been understood that there must be certain stimuli that cause cell growth and certain inhibitors that limit cell development and exercise control in accordance with the requirements of the tissues. Certain other influences bring about a disturbance of the normal equilibrium between the stimuli and the inhibitors. It is evident that the exact nature of the stimuli, the inhibitors, and the disturbers must be ascertained. This involves a study of the cell constituents and the fluids that surround it. As we see, it is a question of chemistry.

In this connection, it is important to take note of a very novel hypothesis bearing on the formation of new growths propounded by Homer Wakefield.

He believes that a neoplastic formation is not an exaggeration of anabolism, increased or excessive prolifera-

tion, but that it is a product of katabolic stasis; that is, normal cell division is unimpaired, the anabolic process continuing to the point of maturity of the cell. It attains the meridian in its life and reaches the post-meridian state when it should undergo normal katabolism, a complete dissolution and disappearance of the cell. Instead, something has supervened to check katabolic changes, the cell becomes superannuated and its existence is prolonged until finally it undergoes various degenerative changes. Normal cell production continues, but normal cell dissolution is retarded or abolished, hence the cells accumulate, producing the appearance of what is regarded as cell proliferation.

This condition Wakefield has termed katabolic stasis or subkatabolism. He states that the intercellular substance is richly alkaline and that the tissue cells are more or less soluble in it. The cells, during the period of their growth, generate sarcolactic acid and during this period they are richest in protoplasm. After the meridian the cells offer decreased resistance to the solvent powers of the alkaline medium and lose their protoplasm, the nucleus alone remaining.

He infers that, before the meridian is reached, the acidity produced by normal cellular activity protects the cells by its neutralizing effects on the intercellular alkalies and that this preserves the investment of protoplasm. Now, if from any cause, the normal alkalescence of the intercellular substance is reduced or if, in a given area, the acidity increases, katabolic stasis affects all the cells in that area. Suboxidation consequently takes place. It is therefore believed that cancer formation is an acid process.

Briefly, tumor formation, according to this hypothesis, rests on a stasis of katabolism, subkatabolism and suboxidation, in the presence of normal anabolism. The cell inclusions, observed by many investigators and regarded by them as protozoa, cancer parasites and as blastomycetes, Wakefield regards as products of disturbed nuclear division. This new hypothesis, at present, rests only on theoretical grounds, but the arguments are so thoughtful and so suggestive that they deserve careful attention. Their chief importance, at this time, consists in the bearing out and support of the methods of research along chemical lines.

We are all familiar with Virchow and the birth of cellular pathology, with Ehrenburg and the growth of bacteriology, and now we have arrived at, and are in, the humoral or chemical era. The trend of all research at the present time is beyond cells and beyond bacteria. It is to determine the chemical operations in and around the cells. This line of research began in the leucocytes because they were the most available. In their study it was possible to establish basic principles. From the leucocytes to the erythrocytes was only a step and then the epithelial and connective tissue cells received attention. This field of research is a new one. It is occupied by a vast army of patient and earnest toilers. The fruits of their labors will be beyond our greatest expectations. It is our present purpose to see if the cancer problem can be solved along these lines.

What has malignant disease to do with immunity? The entire subject of immunity has to do with infection. It has to do with its nature, mode of action and control. Has cancer any characteristics that pertain to infection? Bacteriologically we have found none. Clinically we have a mass of evidence that would seem to place cancer among the infectious diseases.

In order to have a clear understanding of the modern conception of immunity it is necessary to review as briefly as possible and in barest outlines without comment the most important features of our present knowledge of the subject. Much material that may seem essential to a complete elucidation of this great and important subject, had to be eliminated on account of the limited scope of this dissertation.

More than a century ago we find that John Hunter was familiar with some antiseptic properties of the blood. He found that a small amount of putrefying material could be added to a given quantity of fresh blood without producing putrefaction. Consequently, he advanced his doctrine of "the living principle of the blood." This, as an observation, was almost forgotten and its import was not fully realized until Nuttall, in 1888, began his systematic work in Flugge's laboratory, studying the antibacterial properties of the body fluids, especially the blood serum.

The greatest impetus to the study of immunity was given by Metschnikoff in calling attention to the participation of the leucocytes and other cells in the process of infection, establishing his well-known theory of phagocytosis. His views are so well understood that we need only to call attention to them at this time.

Following Nuttall, Pfeiffer discovered, in 1894, "the extracellular disintegration and solution of cholera spirilla in the peritoneal cavity of immunized guinea-pigs."

The greatest attention and interest was aroused by Behring's great discovery of antitoxic immunity. Bacteriologists at once endeavored to elucidate by elaborate researches the exact way in which immunity was established. Chief among these was Ehrlich. It was soon shown, however, that immunity in most bacterial infections did not depend, in the main, on the antitoxic principle.

Pfeiffer's phenomenon afforded a starting point from which Metschnikoff, Bordet, Ehrlich and Morgenroth began their labors and brought forth a series of discoveries that have been epoch making.

A series of antibodies were differentiated and classified as antitoxins, antienzymes, cytotoxins, agglutinins, precipitins and coagulins. Antibodies were in turn produced by these, with the exception of the antitoxins.

It was determined that to every cellular group of an animal species there appears to correspond a specific cytotoxin. These various toxins have been termed leucotoxin, neurotoxin, spermotoxin, nephrotoxin, thyrotoxin, etc.

These antibodies have been divided into two groups, first, the antitoxins which are single bodies; second, the cytolysins, whose antagonistic effects require the cooperation of two bodies.

Of these two bodies, the one which actually destroys the foreign cells is normally present in the cells or fluid of the organism, but it seems incapable of action without the intermediation of a body which is distinguished from it by a greater resistance to heat. The two elements composing cytolysins exist quite independently of each other so that one may be present without the other or be artificially removed without affecting the other.

To demonstrate the mode of action and constitution of the specific antibodies, Ehrlich has propounded the theory of receptors or side-chains. The atomic grouping of the toxin molecule, which affects the union with antitoxin as well as with a particular cell, he has designated as haptophore groups.

In view of the fact that certain molecule groups of the living protoplasm favor the taking up of certain poisons, he has termed them receptors. According to his theory of antitoxic formation, after the introduction of toxins the receptors are produced in excess and finally are thrown off into the blood as useless ballast. The free circulating receptors are the antitoxins, termed amboceptors, intermediary bodies. The action of antitoxins is explained thus. They take charge of the haptophore groups of the toxin molecules and prevent them from approaching the receptors of the tissues.[2] There are as many receptors as there are toxins, while almost every day new ones are discovered.

Behring gives the most exact and brief definition of Ehrlich's antitoxin theory: "The same substance, which, when incorporated in the cells of the living body, is the pre-requisite and condition for an intoxication, becomes the means of cure when it exists in the circulating blood." Every antiserum protects only against substances through which it becomes immunized. Every antiamboceptor protects only against its particular amboceptor.

Ehrlich and Morgenroth found, in experiments with goat's blood, thirteen different new lysins which represent so many receptors. "The receptors are in the cells, not for the purpose of linking poisons to the cells, but to seize certain foodstuffs, particularly proteids, and the toxins, bacterial and other foreign cellular substances, if capable of inducing the immunizing reaction, chance to have the requisite combining affinities for the receptors."

The living body possesses bactericidal and cytolytic substances which may protect it by destruction of invaders or may injure it by destruction of its own cells, according to the mates with which they are paired.

In considering the physiologic mechanism of the cells we find that they are designed, primarily, for the assimilation of food, and secondarily, to meet pathologic conditions, the production of antitoxins, cytolysins and other similar bodies. The receptors are in the cells for the purpose of taking up foodstuffs, chiefly proteids. The toxins and bacterial cellular substances have combining affinities for the food receptors, if they are capable of inducing an immunizing reaction.

In producing immunization against bacteria, it is the intermediary body (amboceptor) which is generated. It has been found that these antibodies have a specific relation to the substances which caused their formation, as has been shown by the injection of a specific serum into an animal at certain intervals, of toxins, against which an antitoxin is desired.

The specific nature of these antibodies is further shown in their application to serum diagnosis, as shown by the Widal agglutination test for typhoid fever and the serum test in the diagnosis of bacillus dysenteriæ Shiga, an organism shown to be the cause of acute dysenteries by Flexner, Vedder and Duval.

When Roux and Yersin discovered diphtheria antitoxin and Ehrlich the origin and mode of action of antitoxin, a lasting foundation for the study of immunity was laid. It was positively shown that "soluble toxins enter, as assimilable substances, into combination with constituents of the body cells for which they have an affinity," and are enabled to produce immunity or to exert toxic effects.

The expectations that we should soon be enabled to solve all questions regarding the action of toxins after the discovery of soluble bacterial toxins, have only partly been realized, especially regarding the action of the pyogenic micrococci, which concerns us most as surgeons.

However fruitless, hitherto, the practical results regarding toxins of many pathogenic and especially pyogenic organisms, the principle has been established, and it is only a question of method and time when all body toxins and their antitoxins shall be definitely known.

Pfeiffer directed his attention to the bacteria and found substances, toxins, in cholera spirilla, which became free only after the bacteria were dead and which were termed intracellular poisons. This was a most important step in advance, but we must acknowledge that we know as yet very little about the action and nature of intracellular bacterial poisons.

It is interesting to note from the result of Flexner's experiments with venom that their action on red blood corpuscles, leucocytes and nerve cells is like that of duplex cytotoxins, which depend on the combination of intermediary bodies contained in the venom on one hand, with corresponding complements in the cells or fluids acted on. This is shown by the addition of venoms to fresh blood, which brings about the quick destruction of the red blood corpuscles. If the fresh blood has been washed with an isotonic salt solution, so as to remove all the complement, we find that the corpuscles are not dissolved, but agglutinated. It seems that the venom serves chiefly to bring "into necessary relations with constituents of the body cells, poisons we already harbor or may generate, but which are harmless without the intervention of intermediary bodies."

Flexner and Noguchi have shown that the leucotoxic, the neurotoxic and other cytotoxic properties of venom depend on combinations of venom, intermediary bodies with complements contained in the cells poisoned by venom, or in the fluids bathing these cells, indicating that the snake venom contains only a part of the complete poison.

Flexner and Noguchi also demonstrated that hemorrhages in various tissues of the body resulting from poisoning from certain venoms is due to the presence in venom of a cytotoxin which has the power to dissolve endothelial cells, which they termed endotheliolysin (hemorrhagin). It causes extravasation of blood through its direct solvent action on capillary endothelium.

The hemolysins have been most extensively studied because of their great pathologic significance, and it has been found that many bacteria have hemolytic power. The secondary anemias, so constant in streptococcus infections, in pneumonia, typhoid fever and other diseases, afford a most striking example.

Normal blood serum contains antihemolysins which protect red blood cells from bacterial hemolytic agents. Associated with hemolysins are bacterial hemagglutinins, possessing the power to clump red corpuscles.[3]

Heuter and Klebs believed that thrombi were due to the coalescing of red blood corpuscles. Welch calls attention to hyaline thrombi formed by agglutinated red corpuscles. White corpuscles are agglutinated by certain bacteria and also by pus cells.

What is urgently needed is a separation of these poisons and a determination of their source, constitution, mode of action and degree of specificity.

It will not be out of place here to allude to the studies made of the ductless glands, because of their supposed

2. Ehrlich: Schlussfolgerungen, p. 176.

3. Heuter-Klebs, p. 731.

bearing on immunity. Sajous urges that the adrenal extractives have a decided affinity for oxygen, offering a key to tissue respiration and to the functions of all other organs now classed as the ductless glands. It has been found that the red corpuscles are not the only carriers of oxygen, but that the blood plasma contains and distributes this gas. Schmiedeburg, Jacquet, Claud Bernard and others demonstrated the existence of an oxidation ferment in the plasma, and these bodies are now entertained as an oxygen-laden secretion. This secretion is believed to permeate nearly all the body elements. The blood also contains a fibrinogen body which combines in certain quantities with fixed portions of the plasma's oxygen. The changes in the temperature of the blood were traced to variations in the amount of the fibrinogen in the plasma. The adrenals have been shown to be connected with the anterior pituitary body by various sympathetic ganglia. The anterior pituitary body is regarded as the governing center of the adrenal system. Over-activity of this body increases the adrenal secretion, consequently oxidation, therefore vital resistance. Depression of the activity of the pituitary body causes decreased supply of oxygen, consequently depressed vital processes.

The thyroid secretion, thyreoidin, has been shown to sustain the efficiency of the pituitary body. Excessive thyreoidin production stimulates the pituitary body and produces exophthalmic goiter. Deficient thyreoidin production leads to myxedema. The adrenals, the pituitary body and the thyroid gland constitute the adrenal system. According to this line of research, it is believed that toxins act directly on the adrenal system, and, by decreasing or increasing its secretion, decrease or increase the oxidation process. Certain toxalbumins and many drugs stimulate the adrenal secretory powers to a certain limit, and, when exhibited in excessive doses, depress or arrest the functions of this system.

The posterior pituitary body has been shown by Berkley, Andriezen and others to be the chief functional center of the nervous system. It is the center for such emotions as shock, excitement, etc. It governs all organic functions through the nervous system. The secretions of the pancreas and spleen, according to Schiff, and later by Herzen, unite and change trypsinogen into trypsin, a solvent for the albuminous bodies in the pancreatic juice. This ferment performs an important part in immunizing processes, in that it destroys toxalbumins.

Viewing these labors in the light of Ehrlich's researches, the oxidizing substance represents the amboceptor; the spleno-pancreatic internal secretion, trypsin, represents his complement. To produce a proteolytic action of trypsin, fibrinogen and the oxidizing substances are required. These views are somewhat at variance with those commonly accepted, but are of sufficient importance to deserve consideration in this connection.

From the foregoing it would seem that the doctrine of phagocytosis plays an unimportant rôle. But we find that the French, or phagocytic school, at the head of which is Metschnikoff, recognizes the full significance of acquired immunity and the cytolytic principles represented by the co-operative action of intermediary bodies and complements. The German, or humoral school, led by Ehrlich, recognizes the leucocytes to the fullest extent.

The chief difference between the French and the German schools consists in the belief by the advocates of phagocytosis that the complements reside in the leucocytes, whereas the adherents of the humoral school believe that they exist in the blood plasma.

While, in what has here preceded, we have been concerned in the consideration of chemical problems, we must not overlook the fact that behind all is a governing force which resides in the central nervous system.

The practical outcome of these studies has been found in the production of antitoxic sera, some of which have been proven to have a definite and exact effect under certain conditions. We find these sera divided into two principal groups, (1) those that have an anti-bacterial action, and (2) those that have a purely antitoxic action. Of all the sera the diphtheritic is best known. According to Welch the mortality of diphtheria has been reduced from 40 per cent. to 15 per cent. by its use.

Antitetanus serum has been disappointing. Reports coming to us from different sources are conflicting, the mortality ranging from 0 per cent. to 70 per cent. from practically the same methods, which consist in administering the serum by the subcutaneous, intracerebral and the spinal methods. Antityphoid serum has failed to fulfill expectations even more than antitetanus serum. The antistreptococcus serum of Marmorek, while it seems to have exerted a specific effect in purely streptococcic infections, appears to exert no influence in the presence of mixed infections. The antipneumococcic serum has not yet emerged from the experimental stage. Nothing can be said of its effects. The antiplague sera of Haffkine and Yersin demonstrated that, as a preventive, it reduced the number of cases to one-twentieth and the mortality in a given number of cases was reduced from 33 per cent. to 13 per cent. (Calmette). The antitubercle serum has been shown to have a specific effect on tuberculous tissue, but remains powerless in the presence of mixed infections. The antivenom serum has been demonstrated to have a positive usefulness in certain snake bites. Calmette's antivenin has been proven to be of undoubted use in leprosy.[4]

Many other sera have been described, but their usefulness thus far has been shown to be of an uncertain nature. Consequently, we will leave them out of consideration at this time.

When we pass in review all that is positively known in relation to the question of immunity, we can not deny that some of the principles underlying this great question have, in a measure at least, been revealed. The evidence is conclusive that "the same substance which, when incorporated in the cells of the living body, is the pre-requisite and condition for an intoxication, becomes the means of cure when it exists in the circulating fluid."[5]

Ehrlich, in his investigations of diphtheria toxins, demonstrated "that soluble toxins enter as assimilable substances into direct combination with constituents of the body cells for which they have an affinity, and only thereby are enabled to bring about immunity or to exert toxic effects." Further, in connection with Metschnikoff, Bordet, Morgenroth and Ehrlich, it is shown that "the organism possesses a power to produce substances specifically antagonistic to all sorts of foreign cells, cellular products and derivatives. The substances capable of inducing this immunizing reaction appears to be mainly of an assimilable, albuminous nature, or at least intimately associated with such material."

4. F. A. Packard and Robt. M. Willson: American Journal of the Medical Sciences, December, 1900.

5. Behring's Definition of Ehrlich's Theory Concerning Antitoxin. Welch.

The principle of toxins and antitoxins has become as firmly established as any other in medicine or surgery. We have noted that antitoxins from pure cultures have a certain affinity for and possess immunizing power in specific infections, but fail in the presence of mixed infections. We see at once that failure to immunize does not violate the principle, but that the method of application has been at fault. We know that diphtheria toxin has a specific effect for the products of the Klebs-Loeffler bacillus, and that it controls and cures in the presence of these, but fails when there is an admixture of other forms of infection. This is shown by the 15 per cent. mortality which still exists. We have noted that antistreptococcus, tubercular and plague sera have a specific and a decided effect in pure infections, but that they fail in the presence of other specific germs. We observe with satisfaction the certainty of the action of a given antitoxin in its union with the toxin from which it was produced. It at once becomes apparent that, in the presence of several toxins or a mixed infection, it will require several antitoxic substances, a combination of antitoxic sera, or a serum containing different kinds of amboceptors, so combined as to meet and unite with the several toxins in a given case. Coley endeavored to meet such indications by combining streptococcus and bacillus prodigiosus sera in treating inoperable sarcoma.

These observations presage a revolution in therapeutics, which perforce means a refinement in diagnosis, beside which, what we do now will scarcely bear comparison.

The inferences to be drawn from the foregoing indicate that the future work will be biochemic. It appears that the solution of cell metamorphosis, as it is observed in pathologic conditions, will be in the field of chemistry. Ehrlich's theory of the side-chains has given us a working hypothesis almost as practical as the atomic theory when applied to chemistry. It is not an idle dream to believe that the revelations of the future will not only consist in a complete exposition of cells and body fluids, or a perfect understanding of the governing brain centers, but may extend to the life principle itself, although life itself may and will ever belong to the unknowable.

Our chief interest, however, will always center in the cell and its governing influence. Just what influences are responsible for normal cell division may never be known. But it is within the bounds of human possibility to know what influences may be responsible for atypical and excessive cell growth. Excessive cell growth, both in the leucocytes and connective tissue cells in acute infections, we can assume to be due to toxins that are in excess of the amboceptors. The existence of cytolysins and anticytolysins is now undisputed. The one destroys, the other protects the cells. We have noted that the chief function of a receptor molecule is to combine with nutrient molecules, a metabolic, a chemical process. The birth and growth of the cell is restricted within certain limitations and is regulated by chemical law. Now the problem depends on our ability to ascertain the exact influence that carries cell division beyond its normal bounds and causes excessive cell growth as we observe it in malignant new growths. That the process is one of localized excessive nutrition is apparent. The localities of predilection are frequently at points where the cellular elements are exposed to frequent insults, where the tissues are damaged, establishing a *locus minoris resistentiæ,* as, for example, in the mouth, gastrointestinal tract and the female reproductive organs. A point of least resistence, damaged tissue, if you please, always offers a soil for bacterial invasion. Cancer very often develops in tissues that have long been irritated, no doubt liberating a complement that unites with a specific infection when introduced under proper conditions. Such is not always the case, however. In fact, we know that in the majority of tissues that sustain irritations and almost constant traumatism for many years never become malignant. The simple traumatism does not develop cancer. A specific toxin must be introduced, probably also an intermediary body to complete the side-chain, which increases karyokinetic energy. We have noted in our studies of immunity that the life or death of the cell depends on its intra- and extra-cellular composition, so we may say that the whole process, whether it relates to normal or excessive cell growth, is chemical.

An objection may be urged at this point, which consists of the fact that the propositions of immunization thus far considered affect groups of cells extending over a wide range, i. e., the vascular, the muscular and the glandular or cerebrospinal systems. It has been shown that cancer is always at the outset, and often throughout its entire course, absolutely a local disease. It would not seem rational to attempt immunization of the entire system against a strictly local disturbance. We will naturally turn our hope toward a method that will enable us to affect local immunization.

That local immunization is possible has been demonstrated by P. Römer in the following convincing abrin-immunization experiment. As is well known, abrin, which is the toxalbumin of the jequirity bean, will produce a severe conjunctivitis in animals and men. Ehrlich had demonstrated that rabbit's conjunctivæ became immune after the instillation of abrin. Römer instilled into the right eye of the rabbit weak abrin solutions, the dosage being rapidly increased until immunization was produced. In three weeks the rabbit was killed. It was then shown that if the right conjunctiva, which had undergone severe inflammation, were rubbed and macerated with a certain amount of abrin and injected into a healthy animal, it had no effect. But, if the conjunctiva of the left eye, which had received no instillation, were rubbed and macerated with abrin and injected into an animal, death always followed. Römer concluded from this observation that in conjunctival immunizations a part of the autotoxin existed in the conjunctiva itself. A local antitoxin was produced.

It would seem that these results establish definitely the principle of local immunization in indifferent tissues. These observations have an important bearing on the adaptation of the cells in local affections. That local affections of various forms or general affections with local manifestations can be best managed by the local introduction of exceedingly small doses of the specific remedy, was shown by Professor Bouchard before a recent meeting of the Egyptian Congress. He found that articular rheumatism disappeared after the injection *in situ* of small doses of salicylic acid, in some cases only half a grain. We must conclude that local cell metabolism can be influenced by local rather than by general diffusion. The inhibition of excessive cell growth must be accomplished in the same way.

It would seem, then, that the cancer question must be solved along the lines of chemistry. Since we know that contagious or infectious energy does not depend on the bacterium itself, but on its products, which are purely chemical, it would seem that it matters little whether the

specific parasite is found or not. Since the cancer germ has thus far successfully eluded the most vigilant search it becomes more and more evident that in the field of chemistry will be found the solution for our problem.

It will be difficult to rid ourselves of time-honored views. Purely theoretical speculation, like the hypothesis of cell proliferation from inclusions of embryonal matrices according to Cohnheim, must give way to the demands of modern science that insist on actual observations and practical demonstrations.

Now then, will it be unreasonable to hope, that when protoplasmic changes are thoroughly understood and when the body sera have given up their secrets and the influences that govern cell growth, that we may also find the antibodies which will inhibit cell multiplication beyond natural bounds?

The studies in the field of immunity have, as yet, only assumed the proportions of the initiatory stage. A vast unexplored wilderness lies before us. The pioneers have begun their work well. They have outfitted themselves in a manner that will, in the near future, enable them to throw unexpected light in the pathway of their conquest of discovery. They are only on the verge of this vast domain. What lies beyond the borders we can no more foretell than could Boyer know that in twenty-four years after his death we should have anesthesia and that in fifty years the world would have antiseptic surgery. And yet, in the light of our present knowledge the hope, amounting to a conviction, arises in us that even in our lifetime, if we are spared a few years more, we will have an exact bio-dynamic and bio-chemic science that will make diagnosis accurate and precise and one that will enable us to treat and control all infections with an exactness not now possible. While the surgeon is now constantly encroaching on the field of the internist, the time is not far distant when the physician may not only reclaim his own, but with it that large group of neoplasms known as malignant growths that from time immemorial has been the exclusive property of the surgeon.

REFERENCES.

Ueber Antikörper gegen die bacteriolytischen Immunkörper der Cholera. R. Pfeiffer und E. Friedberger. Berl. Klin. Woch., No. 1, 1902.

Das Streptokokken-Gift. A. Marmorek, Berl. Klin. Woch., No. 12, 1902.

Ueber die Vielheit der Complemente des Serums. P. Ehrlich und H. Sachs, Berl. Klin. Woch., Nos. 14-15, 1902.

Ueber den Mechanismus der Amboceptoren-Wirkung. P. Ehrlich und H. Sachs, Berl. Klin. Woch., No. 21, 1902.

Ueber die Complementophilen Gruppen der Amboceptoren. P. Ehrlich und H. T. Mashall, Berl. Klin. Woch., No. 25, 1902.

Ueber die Receptoren der Milcheiweissk örper. F. Meyer und L. Aschoff.

The Huxley Lecture on Recent Studies of Immunity, with Special Reference to Their Bearing on Pathology. Wm. H. Welch, The Medical News, Oct. 18, 1902.

The Present Status of Serum Therapy. Frederick A. Packard and Robert Willson, The American Journal of the Medical Sciences, December, 1902.

A Résumé of Some Recent Researches Relating to Cytolysis and Immunity. Dr. T. Mitchell Prudden, The Medical Record. Feb. 14, 1903.

Experimentelle Untersuchungen über Abrin- (Jecquiritol) Immunität. P. Römer, Archiv für Ophthalmologie, I-II Band, 1 Heft, S. 73.

The Internal Secretions and the Principles of Medicine. C. E. de M. Sajous, The Monthly Cyclopædia of Practical Medicine, January, 1903.

New Methods of Medical Treatment. Editorial, Medical Record, March 7, 1903, p. 380.

Leukaemie-Pseudoleukaemie-Haemoglobinaemie. Schlussfolgerungen von Geh. Med. Rat. Prof. Dr. P. Ehrlich, Frankfurt a. M.; Privatdocent Dr. A. Lazarus in Charlottenburg, und Dr. F. Pinkus in Berlin. Verlag, Alfred Hölder, Wien, 1901.

Ehrlich's Seitenkettentheorie und ihre Anwendung auf die kunstlichen Immunizirungsprozesse. Prof. Dr. Ludwig Aschoff. Verlag von Gustav Fischer, 1902.

The Recent Buffalo Investigations Regarding the Nature of Cancer. Address of the President, Trans. American Surgical Association, 1901.

SOCIAL CONDITIONS IN AMERICA IN THEIR RELATION TO MEDICAL PROGRESS AND DISEASE.

ORATION IN MEDICINE, DELIVERED AT THE FIFTY-FOURTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT NEW ORLEANS, MAY 5 TO 8, 1903.

J. M. ANDERS, M.D., LL.D.
PHILADELPHIA.

Another spacious year with its varied channels of energy and activity in medicine has closed. While a faithful chronicle of the facts, data and achievements showing the progress of internal medicine for that brief period would have proved an appropriate topic, I have availed myself of the choice privilege granted by this Association of selecting my theme, and purpose to consider the subject of the relation of American social conditions to the progress of medicine and disease and the import of modern economic and professional tendencies in forecasting the immediate future.

The state of American society, founded on democratic ideals, is one in which the true function of the physician has ever been both intellectually and morally beneficent. It has ever been the fate of the medical profession, however, to have its past outgrown and stifled by the enthralling energy and life of its present and to forget to fix its gaze on what is grand and significant in inherited associations and opportunities. Conversely, the fundamental principle of human development, to-wit, that the present is quickly passing under the control of the future, which transcends an enlightened self-interest in the present, is yet to be fully realized and appreciated. In the life of our civilization the physician has constantly found himself in the presence of golden opportunities to render a service to the community, to add his private thought to the public opinion. His high calling and the stage of social development from which he has proceeded have ever invited to the development of an expanding and humane spirit. He has been, however, in many cases too closely chained to his special work. Per contra, the individual member of commanding worth and formidable individuality, like the Spartan and the Greek, has fortunately lent his own spirit to the genius of the great organism—the medical profession—and its higher destiny. That genius is no sluggard, and the motive of action is not the pursuit of gain or of personal aggrandizement, but an incessant advancement of our art and science and an application of the faculties to the higher interests of civilization. What is needed in medicine from the standpoint of sociology at the present day in America is the true "scientific spirit clothed with human interest," to give force and direction to the means available, not only with a view to the application of science to the healing art, but also to enable our profession to find its true place in the body politic and its intrinsic importance as a factor in modern civilization.

While there are certain things and events common to all in our psychic and social development, enlightened society will grant that the larger events in American history, assuming that "the first duty of society is the preservation of life and the comfort of its units," have not been so much dominated by legislative authority and social customs as by the march of science, more particularly medical and hygienic. In a country as vast as ours, however, there could be no uniform law covering the details of results in matters medical. These have

been in the past and will in the future vary somewhat with the climate, physical conditions, degree of culture and opportunities presented by the widely separated regions. As a consequence, in displaying proportions and the practical results of scattered sections, the final adjustment of their claims only becomes perceptible and appreciable in their broader and higher generalization. The whole range of American historic data and events indicates an imperishable foundation of scientific achievement, and furthermore establishes firmly a relationship between medicine and the scientific principles underlying social conditions and phenomena that is both positive and vital. As touching the American medical history of the long past, we can see the major advances and their influence on social laws and the progress of civilization only by grouping data and established facts and applying the process of generalization to these composite phenomena. In this connection it is to be regretted that our possession of unclassified facts is increasing with uncomfortable rapidity. A comparative and historic study of the medical literature of America, taking any of the older countries as a standard of comparison, in respect to this method of generalization, can scarcely prove even measurably satisfactory. Much of the history of native medicine is crude and it were impossible to give it either crystallized or concrete form. Epoch-making discoveries and important, far-reaching scientific effort is justly the boast of the American profession. Systematic effort at a rigid classification of facts by the modern statistical method, however, has not been made, and only a partial scientific use of the ever-advancing events for the different historical periods has been attempted.

The concrete, comparative and historic method of study which alone furnishes a proper basis for generalization and serves to point out the relations of medicine to other human activities, would insure a wholly fresh treatment of the earlier medical annals of America. The physician in his economic or professional dealings has not followed his self-interest in comparison with his measure of enlightenment to an equal extent with men in other lines of human activity, but the fruits of his unselfish labors are, when taken collectively, presented in the form of a heterogeneous mass of details. It should be recollected that it is only the larger events, the accurately grouped facts after the method of generalization to which I have referred, that go to make up the bulk of medical history and medical law. The practical results of the method of simple generalization would show clearly the final utility of medical and sanitary knowledge in the social universe and manifest its relation to everyday life. Obviously in a young republic like ours something must be allowed to propinquity—to nearness to a confusing and disordered mass of facts and phenomena.

It has been well said: "A landscape is beautiful because distance has reduced its chaos of details into order."

Those endeavoring to make a personal study of the medical and sanitary requirements of our insular possessions, more especially under new and changed conditions, can not hope to gain more than a fragmentary knowledge. Much important and accurate information touching the social, climatic and medical conditions and necessities, however, is available through the Division of Insular Affairs, in the War Department at Washington. It is clearly incumbent on the organized profession of the United States to undertake studies on a larger scale than that of individual effort. Moreover, the interrelations between tropical medicine and the sciences before alluded to, i. e., social and sanitary, is a question for the immediate future; thus step by step may we hope to erect a stairway that will lead to a new temple of knowledge.

The foundation for social order, education and a fair measure of self-government under military rule having been laid both in Porto Rico and the Philippines, there is presented to the profession of the United States an opportunity amounting to an obligation to carry into those new possessions the light of modern sanitary and medical science. The peoples of those islands are as clearly entitled to the benefits offered by our science and art as they are to those pertaining to their fundamental civil and personal rights, as guaranteed by the Constitution of the United States.

From the America that Cortez invaded until the present the most treasured resource of our nation to the physician has, in a peculiar sense, been human life, and in respect to this economic principle we are, at present writing, merely following in spirit our thoughtful forebears. The medical profession never has valued life in terms employed in denomination nor by its productive power, but rather measured it from a divine and humanitarian standpoint. Certain it is that with advancing civilization there has come a higher and higher appreciation of the value of agencies intended to promote longevity and minimize disease and suffering. And this tendency to preserve human existence, apart from sentimental considerations, is born of a principle long adhered to by the medical profession and continuously unfolding itself in the individual and in organized medical bodies. It is clear, without seeming extravagance of statement, that greater justice is done by the medical profession of America to the condition of society just pointed out than in foreign lands, since it is more thoughtful for the youth and hope of our profession. It is to the flower of that youth, with its new and hidden virtues, that we must look for disclosures in the province assigned to the higher and more complex professional bodies of the future. Modern democratic institutions, including medical schools, are in the ascending scale of civilization, infusing into our profession men who are armed with potent resources from the pedagogic world.

The present-day educational facilities and developments show an ever-increasing beneficent tendency, and the standard of qualification has passed, or is passing, beyond the stage in which there is a mere desire to acquire an elemental knowledge of disease and its treatment in this country; a new character and a new vital and moral force is happily presuming to show itself in public action for the benefit of mankind. This genius stands ready to kindle its fires and materially aid in offering the means of human welfare and the revelation of new truths.

An appreciation of this fact by professional bodies is necessary in respect of the future; for medical societies organized to obtain the highest potency must compete successfully with other societies, or they will vanish from view in the stress of social and scientific evolution.

But though the obscure rival of the Goddess of Minerva, who had broken the loom of Arachne in her jealousy, executed wonderful tasks by her unaided strength, in the process of progress towards higher efficiency the individual ceases to be a factor of first importance. The process of development, whether con-

sidered in its economic, political or purely professional relations, demands the subordination of the interests of the individual to the larger interest of the organic whole. The dominant and controlling feature underlying an infinite variety and complexity of details of that upward movement of professional and social evolution is compatible with a remarkable simplicity of governing principle. Our plain duty is accordingly to endeavor to understand the nature of that governing principle which is distinctive and characteristic in that it does not regard the interest of existing members as supreme, but is seeking to establish conditions which are favorable to the interests of a larger future.

As regards the question of the relation of medical work and progress to our social system, the time is probably ripe for a revision of certain elemental and fundamental principles and customs, although it is obvious that neither social agencies nor the general public manifest a proper comprehension of its necessity. While science is telling us about the pathologic intricacies of disease processes, their bacteriologic causation and cure with unparalleled rapidity, important social and economic questions that affect especially the comfort and health of our teeming town-bred populations are subordinated. Again, in a land of popular civil government the medical profession should be organized in a manner that would render it equal to enlarged duties which naturally should devolve on it. I refer to such matters as the control and regulation of asylums for the insane, municipal health boards and the municipal hospitals for the sick poor, for contagious diseases and the like.

Certain tendencies of modern American life, considered with reference to the welfare both of the medical profession and general public, offer a most promising field for investigation and progress. The temptations of the practical, over-strenuous life of the present and past generations have left their impress on our profession. Something, however, must be ascribed to our nervous climate, reinforced by certain elements of the American spirit-aggressiveness and an unconcealed idealism. Neither should the power of the initiative of the American, his shrewdness and his energy be overlooked. It may be doubted, however, whether there have been accomplished achievements and results commensurate with the impetuosity that characterizes all paths of professional activity. The universal spirit of haste has taken possession of our professional life; it permeates the air of the age, and the principal cause of this state of affairs is to be found in our ardent, every-day ways of living, and its cure must result from a readjustment of the home life and habits of the professional and other classes. It means a return from our present-day restlessness and rush to a quieter period, to a "Mansfield Park," with its charm of quiet village life; a return to a normal life, with natural intellectual tastes, and to calm, patient, original observation that fosters vital force and successful endeavor.

If authors and investigators were to bring forward only definitive and well-weighed pronouncements on all points at issue, it would carry us from the surface to the heart of things, and our labors would be more strongly marked by originality and power.

The spirit of undue haste which characterizes our national life is nowhere better exemplified than in American medical literature, despite its many virtues, its broad, liberal spirit and freshness. Never, in American history, whether deliberately or unconsciously, has so much current literature been placed at the disposal of physicians. Too generally medical thought and opinion, which is not of necessity medical truth, finds literary expression. The obvious weakness of it all is an enforced tendency to waste one's time in reading matter which is unapproved by common opinion. Extending this thought, it may be questioned whether to carry views and ideas beyond the domain of existing knowledge does not hinder rather than facilitate progress.

There is a list of honor among American writers, and it embraces authors whose literary product shows not only a sharp scrutiny of facts, but also the highest and most characteristic utterances in medicine. Indeed, the worth and power of American medical literature, either in its content or method, scarcely receives an unprejudiced estimate abroad.

In the field of letters we point with inordinate pride to the late Dr. Oliver Wendell Holmes, and our contemporary, Dr. S. Weir Mitchell. Fiction by medical authors lives and will live in America.

It may be questioned whether American nationalism, as evidenced by the creation of a native literature, should be the principal aim, although the consistent use of American material is to be advised and encouraged. We need to retain the conservative European spirit and keep wide ajar the door that leads to the treasures of continental literary traditions. Foreign peoples are and have been immigrating by the hundreds of thousands yearly; they have penetrated into the remotest points of this country, carrying effective training with them in many instances. Hence, admitting that the prescience of genius is the possession of many, there are fewer distinctly American medical authors than at first blush would appear.

> "The Celt is in his heart and hand,
> The Gaul is in his brain and nerve;
> Where, cosmopolitanly planned,
> He guards the Redskin's dry reserve."

Acknowledgment is due the great value and significance of the unparalleled heritage handed down by the older nations, particularly England, Germany and France. The path of fame for a nation no less than for an individual lies in the direction of constructive effort and sensitive receptiveness of the impressions and tendencies of the age irrespective of territorial limitations, and of a keen sympathy and close touch with the movements of the times in all lands.

Our literature is not an indigenous growth, yet stern of purpose; it is not, and, let us hope, never will be, sluggish in turning to foreign sources. It has, however, developed certain characteristic features, a distinct national flavor and a perfume "as plainly native as the arbutus."

American industry, with its attendant wealth and power, and the enlarged opportunities it offers to all classes of society for successful business enterprise, has quite generally proven attractive to and often filled with fervent hope the American physician, and with increasing means he has found his social position to improve.

In America the achievement of considerable financial success, however, is possible without taking high ground in a professional or ideal sense. The medical profession is integral in the effects of our economic evolution; it obtains stray glimpses of the avenue of glittering gold; but its central effort, if it desires to remain true to human perspective, contemplates a systematic development of its pecuniary, mental, moral and social powers.

The tendency to gregariousness in American cities is in no specific direction more evident than in the med-

ical profession; hence, success is and will continue to be an increasing difficult problem, a circumstance to be reckoned with, no matter what our meaning and ideals as a national profession. This portends in its last analysis the necessity of better training and equipment for every-day duties of the practitioner.

America stands in need of further reform in medical education and the immediate establishment of one authority—one licensing body; and self-created schools must place themselves in a position in which they can worthily assist in the execution of a scheme of higher national medical education. Professional ascendency in future will demand the creation of a homogeneous and adequate standard of qualification for entrance into medical schools.

The relation of social conditions to disease is a topic that is becoming more and more insistent with the reflections that are the natural accompaniment of advancing knowledge.

A backward look reveals an embryo nation steeped in an arduous task, the subjugation of a continent, at the expense of unceasing physical toil. This necessitated an open-air existence, which resulted in a vigorous, hardy race. Then followed the integration of frontier villages, of larger and smaller towns, and life meanwhile became brighter and more piquant. For long generations the abandonment of rural life, the changed habits of living, the enforced pursuit of new and less healthful callings, too often from motives of personal comfort and even social expediency, and the universal tendency to overcrowding in town populations, resulted in a modification of the character and incidence of all leading diseases. It goes without saying that respecting the effects of our social conditions and climate on disease, the particular standpoint of our fathers was radically different from that of their children. Floyd M. Crandall has recently directed forcible attention to the fact "that never have such radical changes been witnessed in the habits of life and in human diseases as those in this country during the last half century."

Fortunately, agencies are at work looking to the socialization of the American agriculturist and the amelioration of the ills due to overcrowding in large municipalities. This is a movement which in the entirety of its scope embraces numerous potent forces whose federation promises to effect in time rural social regeneration. An organized effort has in several states been already initiated, and in the conferences held and in contemplation looking to the betterment of rural life, the co-operation of the medical profession is invited. Modern agencies, as improved highways, the introduction of the telephone, trolley lines, rural mail delivery, are socializers no less than economic facilities. In addition to these physical influences, marked improvement also comes from increased educational opportunities, farm organization and the various functions of the church.

These socializing influences and forces tend to counteract the current of bygone days from the farm to the city; they likewise bid fair to become a factor of first importance in minimizing, if not actually counteracting in due season, the ill effects of over-dense urban populations. It may, however, be remarked that the impoverished classes, especially the great immigrant contingent, will be far less likely to return to a rural environment than the well-to-do, and yet it will shortly affect the social and economic conditions as well as the vital statistics of the wage-earning classes. We may confidently expect a greater physical efficiency, a higher bodily standard, though municipal sanitation will be always required, and remain the principal factor in strengthening the powers of resistance to hostile environment. One point of common agreement is that as a result of the rapid advances in sanitation and improved methods of treatment, there has been a notable decrease in prevalence and fatality of most infective diseases, particularly those more or less fostered by overcrowding (e. g., phthisis, diphtheria, diarrheal diseases, etc.). Three well-defined classes, however, have, according to the census for the decade ending May 30, 1900, distinctly increased; they are cancer, affections of the kidneys and the degenerations, fatty and fibroid. Thus during an increase in the population of 50 per cent. in the United States myocardial degenerations have increased 150 per cent. and certain types of chronic nephritis have also risen in frequency to nearly 200 per cent. The determination of the causes of this rapidly increasing frequency of these morbid states is clearly the task of the medical profession.

Respecting the degenerations—myocarditis, arteriosclerotic changes and kidney diseases—Crandall says: "The power of alcohol in the form of malt liquors to produce degenerate changes is so well known to pathologists that the conclusion is irresistible that the radical increase in these diseases comes largely from changed drinking habits."

The notable increase in these morbid conditions, however, is not due to a single cause, and substantial progress can not result from too much emphasis on any one agency whose undoubted potency remains undemonstrated.

It is probable that a more universal application of refined methods of diagnosis accounts in a measure at least for the apparent disparity in the number of cases of nephritis and myocardial degeneration in recent times as compared with the showing of older statistics.

The census between 1890 and 1900 indicates an increasing prevalence of two additional diseases, in respect to both of which progress in our knowledge has been slow and never encouraging. I refer to diabetes mellitus and lobar pneumonia. The census previously referred to indicates that chronic diabetes mellitus has nearly doubled in point of frequency in a single decade.

While we shall continue to look to the bacteriologic laboratory for the discovery of the definitive cause of this metabolic ailment, and to the pathologist for a mind's-eye picture of the morbid state of the tissues, the data obtainable from an investigation of the manner and habits of life, which exert more or less etiologic influence, are of intrinsic medical importance and would serve as accessory factors in diagnosis as well as straws for the application of measures for treatment.

Although impossible to recognize a boundary line between the "variables of health" and disease in chronic diabetes mellitus, it can not be doubted that abnormalities of the glycolytic functions of the liver and pancreas, associated with inappreciable structural changes (more especially in the cells forming the islands of Langerhans) which interfere with proteid metabolism and the metabolic disturbances, are dependent in large measure on the overuse of the mind, intemperance and irregular habits of body; in a word, on improper modes of living.

Physiology has contributed much to the intricate processes involved in the nutritional diseases. Morbid physiology (general pathology) is most intimately bound up with the modes and predilections of American life, particularly of the so-called privileged classes.

TABLE I.

No.	Age.	Sex.	Nationality.	Accompanying Circulatory Lesions.	Accompanying Renal Lesions.
1	54	Male.	German.	Absent.	Absent.
2	56	Male.	Irish.	Absent.	Acute diffuse nephritis.
3	66	Female.	Irish.	Chronic endocarditis, mitral and aortic.	Chronic interstitial nephritis.
4	35	Male.	American.	Hypertrophy with dilatation.	Chronic interstitial nephritis.
5	68	Male.	American.	Hypertrophy with dilatation.	Absent.
6	63	Male.	American.	Mild carditis with dilatation.	Chronic interstitial nephritis.
7	11 m	Male.	American.	Mild carditis with dilatation.	Acute nephritis.
8	82	Male.	Not given.	Chronic endocarditis.	Fatty kidneys.
9	56	Male.	American.	Mitral reg.	Absent.
10	36	Male.	American.	Chronic endocarditis.	Acute parenchymatous nephritis.
11	60	Male.	American.	Arterial sclerosis.	Interstitial nephritis.
12	50	Male.	Italian.	Acute endocarditis (vegetative).	Interstitial nephritis.
13	43	Male.	American.	Hypertrophy, left ventrical.	Chronic interstitial nephritis.
14	50	Male.	Italian.	Acute endocarditis (vegetative).	Chronic nephritis.
15	67	Male.	Not given.	Beginning endocarditis.	Slight chronic nephritis.
16	87	Female.	Scotch.	Hypertrophic arterial sclerosis.	Chronic diffuse nephritis.
17	36	Male.	Italian.	Dilatation.	Chronic diffuse nephritis.
18	27	Female.	American.	Dilatation.	Acute parenchymatous nephritis.
19	24	Male.	Austrian.	Dilatation.	Acute parenchymatous nephritis.
20	20	Female.	Irish.	Chronic endocarditis.	Chronic interstitial nephritis.
21	58	Female.	American.	Gen. atheroma.	Chronic interstitial nephritis.
22	27	Male.	East Indies.	Pericarditis, chronic.	Chronic interstitial nephritis.
23	47	Female.	Irish.	Acute pericarditis.	Chronic interstitial nephritis.
24	46	Male.	American.	Fib. pericarditis.	Chronic interstitial nephritis.
25	27	Male.	American.	Fib. pericarditis.	Chronic interstitial nephritis.
26	47	Female.	German.	Absent.	Parenchymatous nephritis.
27	39	Male.	Irish.	Acute pericarditis.	Chronic parenchymatous.
28	50	Male.	Irish.	Acute pericarditis.	Absent.
29	26	Male.	Italian.	Pericarditis.	Absent.
30	60	Male.	Irish.	Pericarditis, diffuse.	Absent.
31	34	Male.	American.	Mild carditis, chronic.	Absent.
32	70	Female.	Irish.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
33	78	Male.	American.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
34	34	Male.	Italian.	Hypertrophy and dilatation.	Tuberculosis of kidneys.
35	18	Male.	Italian.	Pericardial effusion.	Cloudy swelling.
36	19	Male.	American.	Acute endocarditis.	Acute nephritis.
37	51	Female.	American.	Acute endocarditis.	Acute nephritis.
38	62	Male.	Irish.	Atheroma coronary arteries.	Diffuse nephritis.
39	69	Male.	American.	Arterial sclerosis.	Absent.
40	62	Male.	Irish.	Arterial sclerosis.	Chronic nephritis.
41	74	Male.	Irish.	Hypertrophy and dilatation.	Chronic diffuse nephritis.
42	55	Male.	Not given.	Aortic endocarditis.	Chronic interstitial nephritis.
43	82	Male.	American.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
44	45	Female.	English.	Chronic pericarditis.	Absent.
45	49	Female.	American.	Chronic pericarditis.	Chronic B. disease.
46	62	Female.	American.	Brown atrophy.	Absent.
47	22	Male.	Not given.	Brown atrophy.	Chronic diffuse nephritis.
48	60	Female.	Irish.	Chronic endocarditis.	Chronic diffuse nephritis.
49	27	Male.	Scotch.	Chronic pericarditis.	Absent.
50	63	Male.	Irish.	Arterial sclerosis.	Chronic nephritis.
51	73	Male.	English.	Mitral reg.	Chronic interstitial nephritis.
52	50	Male.	American.	Chronic endocarditis.	Absent.
53	50	Male.	American.	Endocarditis and myocarditis.	Atrophy left kidney.
54	73	Male.	English.	Endocarditis and myocarditis.	Chronic diffuse nephritis.
55	51	Male.	American.	Aortic endocarditis. Chronic pericarditis.	Parenchymatous degeneration.
56	38	Male.	American.	Aortic endocarditis. Acute pericarditis.	Cloudy swelling.
57	77	Male.	Not given.	Mitral reg.	Chronic diffuse nephritis.
58	68	Female.	Irish.	Arterial sclerosis.	Chronic nephritis.
59	45	Male.	Irish.	Acute Fib. pericarditis.	Parenchymatous degeneration.
60	58	Female.	Irish.	Chronic endocarditis.	Chronic diffuse nephritis.
61	17 m	Female.	American.	Chronic endocarditis.	Absent.
62	54	Female.	Irish.	Brown atrophy and aortic stenosis.	Chronic interstitial nephritis.
63	53	Male.	American.	Dilatation and hypertrophy.	Chronic parenchymatous nephritis.
64	66	Female.	Irish.	Chronic mild carditis.	Chronic interstitial nephritis.
65	53	Male.	Not given.	Chronic mild carditis.	Parenchymatous nephritis.
66	24	Male.	American.	Chronic mild carditis.	Slight chronic nephritis.
67	26	Male.	Chinese.	Chronic mild carditis.	Cloudy swelling.
68	49	Male.	Irish.	Mitral reg. and mild carditis.	
69	23	Female.	American.	Mitral reg.	Fatty acute parenchymatous.
70	71	Female.	Not given.	Chronic endocarditis. Arterial sclerosis.	Small w. kidney.
71	47	Male.	American.	Chronic endocarditis. Arterial sclerosis.	Cloudy swelling of kidney.
72	41	Male.	American.	Endocarditis, chronic.	Cloudy swelling.
73	74	Female.	Irish.	Endocarditis, chronic.	Chronic diffuse nephritis.
74	83	Male.	German.	Endocarditis, chronic.	Chronic interstitial nephritis.
75	47	Female.	German.	Mitral reg. and fatty degeneration.	Chronic parenchymatous nephritis.
76	65	Female.	Irish.	Acute endocarditis.	Sclerotic kidney.
77	67	Male.	English.	Acute endocarditis.	Absent.
78	46	Male.	American.	Cardiac hypertrophy and dilatation.	Parenchymatous nephritis.
79	34	Female.	American.	Cardiac hypertrophy and dilatation.	Chronic interstitial nephritis.
80	26	Male.	American.	Mitral reg.	Parenchymatous nephritis.
81	67	Female.	German.	General atheroma.	Parenchymatous nephritis.
82	24	Male.	American.	Chronic pericarditis and endocarditis.	Parenchymatous degeneration.
83	2	Female.	American.	Chronic pericarditis and endocarditis.	Absent.
84	56	Female.	Irish.	General atheroma.	Sclerotic kidney.
85	16	Female.	American.	Chronic endocarditis.	Chronic interstitial nephritis.
86	55	Male.	Norwegian.	Endocarditis	Acute nephritis.
87	50	Male.	Irish.	Mitral reg. and aortic stenosis.	Acute nephritis.
88	57	Male.	American.	Mitral reg. and aortic stenosis.	Sclerosis of kidney.
89	72	Male.	German.	Cardiac hypertrophy.	Chronic parenchymatous nephritis.
90	70	Female.	Irish.	Arterial sclerosis.	Chronic parenchymatous nephritis.
91	85	Female.	Not given.	Ulcerative endocarditis.	Chronic nephritis.
92	45	Male.	American.	Endocarditis, chronic.	Chronic nephritis.
93	53	Male.	American.	Endocarditis, chronic.	Cloudy swelling.
94	64	Female.	Irish.	Arterial sclerosis.	Cloudy swelling.
95	14	Female.	American.	Cardiac dilatation.	Acute nephritis.
96	72	Female.	Irish.	Chronic endocarditis.	Parenchymatous nephritis.
97	79	Female.	German.	Arterial sclerosis.	Chronic nephritis.
98	58	Male.	American.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
99	60	Female.	American.	Beginning pericarditis.	Congestive.
100	53	Male.	Not given.	Chronic endocarditis.	Congestive.
101	49	Male.	Hungarian.	Dilatation, heart.	Congestive.
102	58	Male.	American.	Atheroma of aorta.	Congestive.
103	81	Male.	Irish.	Acute pericarditis.	Chronic parenchymatous nephritis.
104	53	Male.	American.	Acute pericarditis.	Chronic parenchymatous nephritis.
105	32	Male.	American.	Acute pericarditis.	Chronic parenchymatous nephritis.
106	34	Male.	American.	Acute pericarditis.	Parenchymatous nephritis.
107	31	Male.	American.	.....	Parenchymatous nephritis.
108	50	Male.	Irish.	Acute pericarditis	Parenchymatous nephritis.

TABLE I.—CONTINUED.

No.	Age.	Sex.	Nationality.	Accompanying Circulatory Lesions.	Accompanying Renal Lesions.
109	71	Male.	Swiss.	General atheroma.	Chronic interstitial nephritis.
110	63	Male.	Irish.	General atheroma.	Chronic interstitial nephritis.
111	73	Male.	Irish.	Mitral reg.	Chronic interstitial nephritis.
112	40	Male.	American.	Mitral reg.	Chronic interstitial nephritis.
113	55	Female.	Irish.	General atheroma.	Chronic interstitial nephritis.
114	19	Female.	American.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
115	62	Male.	American.	Hypertrophy and dilatation.	Beginning inter. change.
116	65	Female.	English.	Arterial sclerosis.	Chronic nephritis.
117	60	Male.	American.	Fibrinous pericarditis.	Cloudy swelling.
118	62	Female.	American.	Mitral disease.	Interstitial nephritis.
119	43	Male.	American.	Cardiac hypertrophy.	Chronic diffuse nephritis.
120	47	Female.	American.	Sero-fib. pericarditis.	Acute diffuse nephritis.
121	62	Male.	American.	Cardiac hypertrophy.	Chronic interstitial nephritis.
122	37	Male.	American.	Hypertrophy and mitral lesion.	Chronic diffuse nephritis.
123	62	Male.	Irish.	Mitral and aortic disease.	Chronic interstitial nephritis.
124	42	Male.	American.	Hypertrophy and arterial sclerosis.	Chronic interstitial nephritis.
125	81	Female.	American.	General arterial sclerosis and hypertrophy.	Chronic interstitial nephritis.
126	64	Male.	Irish.	Endocarditis and pseudocarditis.	Chronic interstitial nephritis.
127	56	Female.	Irish.	Mitral disease.	Chronic diffuse nephritis.
128	19	Male.	German.	Mitral valvulitis.	Acute parenchymatous nephritis.
129	46	Female.	American.	Pericarditis and endocarditis.	Chronic interstitial nephritis.
130	36	Male.	American.	Pericarditis and endocarditis.	Chronic parenchymatous nephritis.
131	45	Male.	Irish.	Pericarditis and endocarditis.	Chronic interstitial nephritis.
132	55	Female.	American.	Aortic stenosis.	Chronic parenchymatous nephritis.
133	41	Female.	American.	Aortic stenosis.	Beginning parenchymatous nephritis.
134	40	Male.	American.	Chronic pericarditis.	Chronic interstitial nephritis.
135	23	Male.	American.	Chronic pericarditis.	Chronic interstitial nephritis.
136	28	Female.	American.	Chronic endocarditis.	Parenchymatous chronic nephritis.
137	60	Male.	American.	Fatty degeneration.	Parenchymatous chronic nephritis.
138	48	Male.	American.	Acute pericarditis.	Chronic interstitial nephritis.
139	37	Male.	American.	Atheroma of aorta.	Slight parenchymatous nephritis.
140	79	Male.	American.	Atheroma of aorta.	Abscess of kidney.
141	50	Female.	American.	Hypertrophy and dilatation.	Interstitial nephritis.
142	71	Male.	Irish.	Hypertrophy and dilatation.	Stone in left kidney.
143	27	Male.	Russian.	Mitral disease.	Chronic diffuse nephritis.
144	34	Male.	American.	Acute endocarditis.	Chronic diffuse nephritis.
145	53	Male.	American.	Acute endocarditis.	Large pale kidney.
146	61	Male.	American.	Mitral stenosis.	Large pale kidney.
147	54	Male.	Not given.	Beginning endocarditis.	Parenchymatous nephritis.
148	59	Male.	Irish.	Fatty degeneration.	Parenchymatous nephritis.
149	36	Male.	American.	Dilated right heart.	Cloudy swelling.
150	14	Male.	American.	Chronic pericarditis.	Congested kidney.
151	43	Male.	German.	Hypertrophy and mitral reg.	Multiple cysts.
152	19	Male.	American.	Hypertrophy and mitral reg.	Cloudy swelling.
153	31	Male.	German.	Hypertrophy and mitral reg.	Cloudy swelling.
154	75	Male.	American.	Hypertrophy and mitral reg.	Chronic interstitial nephritis.
155	64	Male.	Irish.	Chronic endocarditis.	Chronic interstitial nephritis.
156	41	Male.	Irish.	Chronic endocarditis.	Cloudy swelling.
157	53	Male.	Scotch.	Mild carditis.	Interstitial chronic nephritis.
158	21	Female.	American.	Endocarditis.	Interstitial chronic nephritis.
159	63	Female.	Not given.	Aortic endocarditis.	Parenchymatous nephritis, chronic.
160	36	Male.	American.	Fatty degeneration.	Chronic parenchymatous nephritis.
161	70	Male.	Italian.	Fatty degeneration.	Chronic interstitial nephritis.
162	38	Male.	Scotch.	Fatty degeneration.	Chronic parenchymatous nephritis.
163	38	Male.	American.	Chronic endocarditis.	Large white kidney.
164	55	Male.	Irish.	Mitral reg.	Chronic interstitial nephritis.
165	61	Male.	Irish.	Chronic pericarditis.	Chronic interstitial nephritis.
166	50	Female.	American.	General atheroma.	Chronic interstitial nephritis.
167	31	Male.	American.	General atheroma.	Chronic parenchymatous nephritis.
168	29	Male.	American.	Chronic endocarditis.	Cloudy swelling.
169	26	Male.	Irish.	Acute pericarditis.	Fatty degeneration.
170	28	Female.	Irish.	Acute pericarditis.	Cloudy swelling.
171	62	Male.	German.	Mitral lesion.	Chronic interstitial nephritis.
172	78	Male.	Irish.	Cardiac hypertrophy.	Chronic interstitial nephritis.
173	53	Male.	American.	Chronic endocarditis.	Chronic nephritis.
174	26	Female.	Not given.	Chronic endocarditis.	Chronic nephritis.
175	76	Female.	German.	Mitral and aortic.	Chronic interstitial nephritis.
176	47	Male.	American.	Acute pericarditis.	Chronic nephritis.
177	54	Female.	Irish.	Mitral and aortic lesion. General atheroma.	Chronic diffuse nephritis.
178	50	Male.	Not given.	Chronic endocarditis.	Chronic interstitial nephritis.
179	59	.....	American.	Acute fibrinous pericarditis and endocarditis.	Chronic diffuse nephritis.
180	27	Male.	American.	Ulcerative endocarditis.	Fatty degeneration.
181	70	Male.	American.	Arterial sclerosis.	Acute nephritis.
182	43	Male.	Not given.	Chronic pericarditis.	Chronic interstitial nephritis.
183	37	Male.	English.	Chronic pericarditis.	Chronic interstitial nephritis.
184	45	Male.	German.	Pericardial effusion.	Fatty kidney.
185	52	Male.	American.	Cardiac hypertrophy.	Chronic parenchymatous nephritis.
186	73	Male.	German.	Myocarditis.	Chronic interstitial nephritis.
187	52	Male.	American.	Myocarditis.	Chronic interstitial nephritis.
188	23	Female.	American.	Myocarditis.	Chronic interstitial nephritis.
189	67	Male.	Irish.	Myocarditis atheroma.	Fatty degeneration.
190	40	Male.	German.	Fatty heart.	Acute nephritis.
191	53	Male.	Irish.	Fatty heart.	Interstitial nephritis.
192	46	Female.	Irish.	Fatty heart.	Fatty kidney.
193	52	Male.	American.	Chronic myocarditis.	Chronic interstitial nephritis.
194	26	Female.	Scotch.	Fatty heart.	Subacute parenchymatous nephritis.
195	39	Male.	American.	Hypertrophy.	Chronic interstitial nephritis.
196	60	Female.	Hungarian.	Endocarditis, mitral.	Chronic parenchymatous nephritis.
197	50	Female.	Irish.	Arteriosclerosis.	Diffuse nephritis.
198	38	Male.	American.	Arteriosclerosis.	Slight parenchymatous nephritis.
199	28	Male.	American.	Chronic pericarditis.	Slight parenchymatous nephritis.
200	39	Female.	American.	Brown atrophy.	Gran. kidney.
201	38	Male.	American.	Cardiac hypertrophy.	Interstitial nephritis.
202	53	Male.	German.	Sclerosis, mitral and aortic balms.	Interstitial nephritis.
203	51	Male.	Irish.	Hypertrophy and fatty degeneration.	Chronic parenchymatous nephritis.
204	75	Female.	Irish.	Chronic endocarditis.	Slight interstitial nephritis.
205	67	Female.	Irish.	Hypertrophy, left ventricle.	Chronic interstitial nephritis.
206	65	Female.	American.	.....	Interstitial nephritis.
207	3 m	Male.	American.	.....	.....
208	70	Male.	German.	Old valvulitis.	Gran. kidney.
209	45	Male.	American.	Aneurism arch aorta.	Chronic interstitial nephritis.
210	6 m	Female.	American.	Aneurism arch aorta.	Chronic interstitial nephritis.
211	2	Female.	American.	Aneurism arch aorta.	Chronic interstitial nephritis.
212	47	Male.	American.	Aneurism arch aorta.	Interstitial nephritis.
213	85	Male.	Not given.	Endocarditis with calcification.	Chronic interstitial nephritis.
214	29	Male.	American.	Endocarditis with calcification.	
215	49	Male.	American.	Sclerosis, mitral.	Chronic interstitial nephritis.
216	56	Male.	American.	Sclerosis, mitral.	Parenchymatous nephritis.
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TABLE I.—Continued.

No.	Age.	Sex.	Nationality.	Accompanying Circulatory Lesions.	Accompanying Renal Lesions.
218	18	Male.	American.	Sclerosis, mitral.	Parenchymatous nephritis.
219	68	Male.	German.	Endocarditis.	Interstitial nephritis.
220	72	Male.	Irish.	Endocarditis, mitral.	Interstitial nephritis.
221	63	Male.	Irish.	Sclerotic valvulitis.	Interstitial nephritis.
222	46	Male.	American.	Chronic valvula H. D.	Chronic parenchymatous nephritis.
223	68	Male.	Irish.	Myocarditis.	Parenchymatous nephritis.
224	42	Male.	American.	Atheroma aorta.	Parenchymatous nephritis.
225	52	Male.	American.	General atheroma.	Absent.
226	54	Male.	German.	Cardiac hypertrophy with dilatation.	Swollen and mottled.
227	60	Male.	Irish.	Cardiac hypertrophy with dilatation.	Acute nephritis.
228	42	Female.	Scotch.	Chronic pericarditis.	Pyonephrosis.
229	40	Male.	American.	Chronic pericarditis.	Acute diffuse nephritis.
230	40	Male.	American.	Chronic pericarditis.	Chronic parenchymatous nephritis.
231	32	Male.	American.	Chronic endocarditis.	Absent.
232	2	Male.	American.	Chronic endocarditis.	Fatty degeneration.
233	76	Female.	Irish.	Hypertrophy and dilatation.	Chronic diffuse nephritis.
234	50	Female.	American.	Hypertrophy and dilatation.	Chronic diffuse nephritis.
235	61	Female.	German.	Cardiac hypertrophy.	Fatty degeneration.
236	32	Female.	Austrian.	Mitral reg.	Small contracted kidney.
237	57	Female.	American.	Arterial sclerosis.	Chronic interstitial nephritis.
238	75	Male.	English.	Mitral reg. and hypertrophy.	Contracted kidney.
239	19	Male.	American.	Arterial sclerosis.	Acute parenchymatous nephritis.
240	70	Female.	English.	Aortic sclerosis.	Chronic interstitial nephritis.
241	54	Female.	Irish.	Aortic stenosis.	Chronic interstitial nephritis.
242	59	Female.	American.	Mitral and aortic reg.	Chronic diffuse nephritis.
243	50	Female.	German.	Hypertrophy and dilatation.	Chronic interstitial nephritis.
244	50	Male.	American.	Mitral reg.	Chronic interstitial nephritis.
245	74	Male.	German.	Hypertrophy, aortic stenosis.	Acute hemorrhagic.
246	71	Male.	American.	Arterial sclerosis. Mitral reg.	Chronic diffuse nephritis.
247	52	Male.	American.	Chronic endocarditis.	Chronic interstitial nephritis.
248	32	Male.	Irish.	Chronic endocarditis.	Chronic diffuse nephritis.
249	19	Male.	Italian.	Chronic endocarditis.	Chronic diffuse nephritis.
250	52	Female.	American.	Hypertrophy, dilatation, arterial sclerosis.	Acute diffuse nephritis.
251	39	Male.	American.	Hypertrophy with arterial sclerosis.	Acute diffuse nephritis.
252	58	Male.	English.	Cardiac hypertrophy and endocarditis.	Cloudy swelling.
253	28	Female.	German.	Aortic atheroma.	Interstitial nephritis.
254	21	Male.	American.	Hypertrophy and dilatation.	Parenchymatous changes.
255	79	Female.	American.	Acute mild carditis.	Chronic interstitial nephritis.
256	41	Male.	Italian.	Acute mild carditis.	Acute parenchymatous nephritis.
257	76	Male.	Italian.	Acute mild carditis.	Acute parenchymatous nephritis.
258	55	Male.	English.	Slight atheroma.	Chronic interstitial nephritis.
259	17	Male.	Italian.	Slight atheroma.	Acute parenchymatous nephritis.
260	20	Male.	American.	Slight atheroma.	Acute parenchymatous nephritis.
261	54	Male.	English.	Slight atheroma.	Acute nephritis.
262	36	Male.	American.	Acute pericarditis.	Acute nephritis.
263	46	Male.	American.	Cardiac dilatation.	Chronic nephritis.
264	65	Female.	Irish.	Cardiac hypertrophy.	Interstitial nephritis.
265	43	Male.	English.	Pericarditis and arterial sclerosis.	Interstitial nephritis.
266	60	Female.	Irish.	Mitral endocarditis.	Interstitial nephritis.
267	81	Female.	Irish.	Valvular endocarditis.	Interstitial nephritis.
268	26	Male.	American.	Hydro pericardium.	Subacute nephritis.
269	70	Female.	American.	General atheroma.	Chronic interstitial nephritis.
270	43	Male.	American.	Endocarditis, mitral and aortic.	Chronic interstitial nephritis.
271	69	Female.	Irish.	Endocarditis, mitral and aortic.	Acute parenchymatous nephritis.
272	46	Male.	American.	Endocarditis, mitral and aortic.	Cloudy swelling.
273	1	Male.	American.	Acute endocarditis.	Cloudy swelling.
274	67	Male.	German.	Chronic endocarditis.	Acute nephritis.
275	40	Male.	American.	Chronic endocarditis.	Chronic interstitial nephritis.

Diseases and conditions that are successfully treated by a correction of the mode of life are apt to be regarded as functional in nature, when, in reality, definite although undiscoverable structural lesions already exist, the foundation of an insidious and progressive disease already laid.

Now it is conceivable that a broader application of data as yielded by vital statistics would render more clearly recognizable the terrible significance of an enlightened public, living in idle acquiescence to positively injurious prevailing customs. A federation of forces, however, in connection with the investigation of special diseases even, is necessary to make this branch of inquiry productive of really important information; for example, the co-operation of committees on vital statistics with the creation of centers under the auspices of a national organization, such as the American Medical Association, would prove effective. I would instance lobar pneumonia, which, as before stated, is increasing in prevalence, as a disease in which the light of future investigation after this method of research would prove preliminary to important discoveries and decisions. Indeed, the local diversity in social conditions and climate in different sections which are far separated by geographical distances in this country, renders such a procedure an absolute necessity. The statistical data gathered by individuals, notable those of E. F. Wells, are of real value, and one point approximately settled is that the death rate by decades during eighty years is practically unaltered—"certainly not decreasing." The census for the decade between 1890 and 1900 shows an increased prevalence of this disease from 186 to 191 per 100,000.

A marked numerical increase in the number of cases of pneumonia has taken place since the advent of epidemic influenza,[1] but this does not account for the slowly rising incidence of the disease during previous non-epidemic seasons. Other reasons have been given for the augmenting prevalence of pneumonia: increased facilities for travel and the tendency for people to congregate (Wells), the highly infectious character of the disease and the neglect of prophylactic measures in crowded centers (Walsh). Among accessory causes of the increased prevalence of pneumonia may be mentioned a change in the prevailing meteorologic conditions. As shown elsewhere the wanton destruction of the native forests has been attended with an exaggeration in the range of variability of such meteorologic conditions as temperature and humidity. It has been long known and universally recognized that this disease bears a vital relation to the seasons, and that the greatest morbidity coincides with the most pronounced climatic changes. It is probable that the increased incidence of the disease will be shown to be dependent in part on augmenting prevalence of visceral degenerations, particularly of the cardio-vascular system and the kidneys. Be it remem-

bered that in a large measure these are the direct or indirect result of an era characterized by undue devotion to business, social excesses and club life, with its attendant unseemly hours and unconcealed conviviality. It must be confessed that the extent to which lobar pneumonia is dependent on these degenerations acting as predisposing factors is imperfectly known, but it can not be doubted that a conservative attitude toward the question accords to them a prominent position among the agencies unfavorably affecting the prognosis, as shown by Table 1.

This table comprises all necropsied cases of lobar pneumonia at the Philadelphia Hospital for a period of 6 years, from Jan. 1, 1896, to March 1, 1903.[2] Out of a total of 275 cases, 250, or about 90.9 per cent., showed cardio-vascular lesions, principally chronic endocarditis and general atheroma of the vessels. A small number of the cases, 14, or 5 per cent., showed acute plastic pericarditis, and 11, or 4 per cent., chronic pericarditis. Renal lesions were recognized in 90.5 per cent. of the totality of cases. Chronic interstitial nephritis was noted in 145, or 52.7 per cent.; chronic parenchymatous nephritis in 50, or 18 per cent., and acute nephritis in 38, or 13.8 per cent. Among the remaining 25 cases was one of renal calculus, another of renal tuberculosis, and in many of the remainder subacute nephritis was noted.

These figures afford strong presumptive evidence that renal and cardiovascular degeneration rank as potent predisposing conditions, and clear and convincing proof that they bear a close and vital relation to the high mortality rate of lobar pneumonia. It should be stated that the patients admitted into the Philadelphia Hospital belong to the pauper element of society and the subjects are principally adults.

The reports of the health departments of leading cities, in particular that of New York, furnish valuable data from which important tentative influences may be drawn, but sure ground can result only from research work of a broader character than has yet been undertaken in this country. From the record of vital statistics of Philadelphia and New York I have compiled two tables (*vide infra* tables No. 2 and 3), which show that pneumonia is more or less limited to centers, and these correspond in the main to the most densely populated areas, with their allied conditions of squalor and poverty.

Pneumonia, like other acute infections that prevail epidemically, shows a wave-like character, on comparing different years for the same locality. Exclusive of epidemic outbreaks there is an evident tendency to a preponderating incidence in overcrowded districts, and among the impoverished classes. Thus the average mortality rate for four years in New York (*vide* Table 2), taking the eight wards which are most densely populated, from the tabular list is 18 per cent.

The fourth, sixth, seventh, tenth, eleventh, thirteenth, fourteenth and seventeenth wards of New York City were embraced in this estimation. In contrast with the figures just given, eight wards representing the most sparsely settled portions of the city of New York (e. g., first, fifth, eighth, ninth, fifteenth, sixteenth, eighteenth and nineteenth) gave for the same period of four years an average mortality of 14.3 per cent.[3] It was observed in the compilation of these mortality statistics that an elimination of the epidemic periods would make the differences in percentage dependent on the population somewhat greater.

In arranging the statistics for Philadelphia I have included only those wards in which the inhabitants were equally distributed throughout the entire ward. Per contra, wards having large area and a low population, per acre, but this population located in certain sections of the ward only, have not been included. Thus the following wards became available for the purpose of contrasting those giving the highest with others showing the lowest mortality: First, second, third, fourth, fifth, sixth, seventh, ninth, tenth, eleventh, twelfth, thirteenth, fourteenth, fifteenth, sixteenth, seventeenth, eighteenth,

TABLE II.

Ward.	Area in Acres.	Population U. S. Census of 1900.	Population per Acre.	Percentage of Deaths from Pneumonia.			
				1899	1900	1901	1902
First	154	9,516	62	11.2	11.8	10.9	12.1
Second	81	1,488	18	2.9	9.1	11.5	7.1
Third	95	1,797	19	10.3	9.6	12.9	10.5
Fourth	83	19,554	222	20.4	22.8	18.0	20.1
Fifth	168	8,298	49	12.1	15.3	15.5	12.6
Sixth	86	20,004	266	18.8	18.0	15.8	20.4
Seventh	198	89,237	451	16.9	17.5	16.0	17.1
Eighth	183	29,059	159	15.4	16.9	15.0	19.0
Ninth	322	59,650	185	13.1	15.3	13.4	12.9
Tenth	110	71,879	638	18.1	15.8	15.5	16.9
Eleventh	196	99,144	443	18.2	18.4	17.4	18.0
Twelfth	5,504	476,602	86	12.8	15.2	12.7	14.4
Thirteenth	107	64,117	550	21.6	23.7	18.3	21.3
Fourteenth	96	34,035	332	18.2	20.7	22.4	20.1
Fifteenth	198	24,066	122	14.1	21.4	14.0	18.6
Sixteenth	349	52,808	123	12.1	13.2	11.1	12.3
Seventeenth	331	130,796	395	13.8	17.3	13.7	17.2
Eighteenth	450	61,325	163	11.2	13.2	10.8	12.2
Nineteenth	1,481	257,448	174	12.0	16.7	14.4	11.4
Twentieth	444	89,798	202	13.7	13.0	12.3	11.9
Twenty-first	411	60,211	147	12.9	16.4	12.9	13.6
Twenty-second	1,529	189,261	124	13.7	14.5	12.0	12.8
Average percentage.	.....	.....	....	13.9	16.0	13.8	14.4

TABLE III.

Ward.	Area in Acres.	Population for 1900.	Population per Acre.	Percentage of Deaths from Pneumonia.		
				1899.	1900.	1901.
First	448.0	37,919	85.0	8.92	12.93	10.16
Second	282.8	35,206	128.0	14.10	17.75	14.52
Third	122.2	24,693	202.0	14.46	17.93	17.80
Fourth	146.6	22,562	154.0	11.37	16.69	18.09
Fifth	215.4	16,868	78.0	10.46	11.81	11.96
Sixth	215.4	8,042	37.0	9.86	19.57	13.12
Seventh	281.0	28,137	100.0	13.10	13.92	13.05
Eighth	278.4	15,757	55.0	10.21	17.25	9.65
Ninth	256.0	6,953	27.0	6.21	11.90	8.64
Tenth	229.8	19,967	86.0	8.47	10.84	12.29
Eleventh	134.4	11,843	88.0	13.89	10.46	8.00
Twelfth	113.5	13,850	122.0	7.79	10.75	7.42
Thirteenth	165.8	17,427	105.0	6.61	15.69	7.75
Fourteenth	151.7	19,405	121.0	7.51	10.81	8.04
Fifteenth	771.4	50,379	65.0	12.59	12.73	10.14
Sixteenth	179.8	15,788	88.0	7.82	8.74	11.29
Seventeenth	160.6	17,908	111.0	9.80	10.09	12.09
Eighteenth	416.0	29,643	71.0	10.29	11.18	9.56
Nineteenth	446.7	55,246	121.0	10.63	11.65	9.46
Twentieth	469.8	43,276	92.0	8.33	11.15	11.79
Twenty-first	4,562.6	32,168	6.0	10.28	13.71	10.96
Twenty-second	12,738.6	64,832	4.0	8.97	12.39	10.76
Twenty-third	2,051.2	26,109	12.0	10.39	8.86	9.50
Twenty-fourth	2,656.0	53,023	20.0	7.37	8.70	10.93
Twenty-fifth	2,640.6	51,723	20.0	12.53	12.97	11.56
Twenty-sixth	896.0	45,615	51.0	10.63	12.96	10.45
Twenty-seventh	2,308.2	28,004	12.0	*	*	*
Twenty-eighth	655.4	43,931	67.0	8.10	7.82	10.33
Twenty-ninth	896.0	60,096	67.0	13.49	11.11	9.71
Thirtieth	332.2	28,874	87.0	9.32	12.79	10.86
Thirty-first	456.3	33,139	73.0	10.07	11.61	10.90
Thirty-second	517.8	39,889	77.0	9.76	9.47	9.11
Thirty-third	2,844.2	65,372	23.0	10.27	12.86	11.64
Thirty-fourth	3,568.0	43,706	12.0	10.63	12.46	9.01
Thirty-fifth	21,287.0	8,614	0.4	7.25	9.36	10.37
Thirty-sixth	3,891.8	46,811	12.0	10.28	13.43	11.93
Thirty-seventh	332.8	22,445	67.0	12.89	11.03	13.12
Thirty-eighth	255.4	33,104	128.0	9.21	9.29	9.47
Thirty-ninth	3,077.8	40,377	13.0	10.59	11.75	11.87
Fortieth	5,177.0	19,438	4.0	6.68	9.42	10.09
Forty-first	400.0	11,328	28.0	.....	7.69	4.57

* Population and deaths occurring in Almshouse (Twenty-seventh Ward) do not appear in this table. Deaths in Almshouse, 1,637.

Forty-one (41) per cent. of deaths from pneumonia occurred after the age of 40 years.

nineteenth, twentieth, twenty-eighth, twenty-ninth, thirtieth, thirty-first, thirty-second and thirty-seventh.[4] The eighth ward was not included on account of being inhabited principally by a better-to-do class and on account of containing the Pennsylvania Hospital, the former condition lessening the liability of pneumonia, while the latter institution named would tend to increase the mortality from this disease since many of its patients come from the third, fourth, fifth and sixth wards. The portion of the city west of the Schuylkill River was excluded from this computation for similar reasons.

Out of the 25 wards included in our figures I have estimated a percentage of deaths from those showing the most dense population per acre, allowing for the location of hospitals, homes, etc. (e. g., second, third, fourth, seventh, thirteenth, seventeenth and nineteenth wards), and I find the percentage of deaths from pneumonia to be 12.8 per cent. Those wards showing less dense population, the first, ninth, tenth, sixteenth, twenty-eighth and thirty-second, gave an average of 9.5 per cent.

The second, third and fourth wards were occupied largely by foreigners (Italians, Russians) and showed the highest percentage of deaths from pneumonia, while the seventh ward, which contains a large colored population, also shows a very high death rate.[5]

As shown by MacDougall's statistics, unfavorable occupational conditions probably have less effect in causing pneumonia than phthisis. In my own investigations it was observed that divisions of Philadelphia having an industrial population modestly though comfortably housed furnished a death rate but little in excess of that of the sections inhabited by the well-to-do. The whole subject of occupational diseases, eminently important to the medical world, is closely united with the social and economic conditions of the wage-earning classes, but its consideration here would lead me too far a-field.

REFERENCES.

1. Phila. Hospital Reports, vol. 14, p. 57, 1896, by the writer.
2. For permission to examine and employ the records of this hospital, the writer is indebted to Dr. J. V. Shoemaker, president of the Board of Charities and Corrections.
3. The writer desires to acknowledge, with thanks, the kind aid of Dr. William H. Guilfoy, registrar Department of Health, N. Y., in furnishing data for the above table.
4. The following wards have not been included in the estimation of the lowest percentages for the following reasons: The Twelfth Ward, while it shows a low population per acre (86), has a number of hospitals and homes which contribute largely towards its high death rate from pneumonia. The Second and Third Wards show a population of 18 and 19 per acre; there are but few children under 5 years and few aged persons living in these wards, and this lessens the mortality from pneumonia. The Twenty-first and Twenty-second wards, because they are occupied mostly by the well-to-do classes. The Fifteenth, while it has been included in my calculation, contains a large colored, Italian and French population.
5. My acknowledgments are here due to Dr. L. Napoleon Boston for assistance rendered in connection with the statistics gathered in Philadelphia.

Eye Affections in Egypt.—Baudry, professor of opthalmology at Lille, on his recent visit to the Egyptian Medical Congress, made a special study of the endemic eye affections, for which the country is notorious. He reports in the "Nord Méd." of January 15 that the ocular lesions there are the same as elsewhere and that there is no special morbid entity peculiar to the country. The famous Egyptian ophthalmia is merely trachoma complicated by a catarrhal or purulent condition of the conjunctivæ, and does not differ from such conditions anywhere. The climatic and hygienic conditions of the country explain the prevalence of eye affections and the frequency of contagion. Some ideas of hygiene have already percolated among the masses and the number of cases of trachoma has materially diminished of late years.

Preliminary Note.

DIAGNOSTIC VALUE OF BLOOD PRESSURE DETERMINATIONS IN THE DIAGNOSIS OF TYPHOID PERFORATION.

GEORGE W. CRILE, M.D.
CLEVELAND, OHIO.

The highest systolic pressure in uncomplicated cases, and with normal arteries, as measured by a Riva-Rocci sphygmomanometer in 115 cases of typhoid, was 138 mm. mercury; the lowest, 74 mm.; the mean in the first week was 115; the second, 106; the third, 102; the fourth, 96; the fifth, 98.

In 20 cases of acute peritonitis, recorded by the same observer with the same instrument in otherwise similar cases, the highest systolic pressure was 208 mm. mercury; the lowest, 156; the mean, 166 mm. The mean pressure of all the typhoid was 104 mm.

In 5 cases diagnosed typhoid perforation, in which blood pressure determinations were made, 4 were verified either by operation or autopsy. The case not operated on was a typical one. The pressure rose from 116 mm. to 190 mm. during four hours. The second case, a lad of 12, was admitted to Lakeside Hospital in general peritonitis. Blood pressure was 105; Widal reaction was positive. Immediate operation was performed and a perforation found. Later the abdominal symptoms of peritonitis disappeared. The blood pressure fell to 80 mm. On the eighth day infection passed through the thinned wall of another ulcer, causing peritonitis; blood pressure then rose promptly from 84 mm. to 110 mm.

In the third case, a patient in the ward at Lakeside, developed a slowly forming perforation, blood pressure rose from 116 mm. to 165 within two hours. The pulse in the meantime had but slightly increased. At operation a small perforation and diffuse peritonitis were found.

The fourth case, that of a physician who entered Lakeside with general peritonitis, blood pressure was 165; no operation. Autopsy revealed perforation and diffuse peritonitis.

The fifth case was one of typical perforation, blood pressure 208 mm. At operation perforation and diffuse peritonitis were found.

The blood pressure in the perforation cases assumed the high level attending peritonitis from other causes.

The Lay Press as Physicians' Censors.

A new method of restraining the physician who is anxious for newspaper fame has been discovered. The Indian Territory Press Association, in session at Muscogee April 25, discussed the proposition of excluding from their newspapers the names of physicians who consider it contrary to the ethics of the profession to advertise and pay for the same, but who are willing or desirous of having their names mentioned in connection with operations, interesting cases, etc. We regret to learn that the resolution to take this action was finally voted down, having, however, excited a warm dispute. The Indian Territory Press Association is on the right track; the measure ought to pass, not only there, but elsewhere. The press has here far more power than the medical societies can exert. Such a measure would relieve from temptation many an erring physician and from anxiety many a grieved observer.

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THE INVESTIGATING FORCE AT THE ROCKEFELLER INSTITUTE.

In a previous number of THE JOURNAL we ventured to comment on the drawings of plans for the buildings projected by the Rockefeller Institute for Medical Research. Of much greater importance, however, for the success of the institute is the policy which will be adopted in the selection of the investigative force which will work there. Mistakes with regard to the construction of buildings would be deplorable; serious errors in judgment in the choice of the men who are to undertake the scientific research of the institution, or in the organization of the staff, might prove fatal to its welfare. In this connection there are one or two points to which we desire to call attention.

We approve, and we believe that there is general approval, of the choice of a scientific director made by the board of directors. Dr. Flexner seems to us to be the logical man for the place. But we shall be, and we believe others will be, deeply interested in the method which is followed in the appointment of the investigating force as a whole.

Either one of two plans may be adopted. It may be decided that the institute shall be developed as a unit centering in the personality of the scientific director, whose province it will be to determine the problems to be undertaken and the methods by which their solution is to be approached; in this event the members of the staff would consist of a group of men, skilled in diverse directions, whose functions it would be to follow the leadership of the director, at least in a general way. This is the kind of organization that obtains, so far as we can learn, in the Institute for Experimental Therapy in Frankfort, over which Paul Ehrlich presides with success. The other plan which might be chosen would be that in which the scientific director, with the sanction of the board, selects a number of eminent men, each to have autonomous charge of a department of work in the institute, say one in physiologic chemistry, one in physiologic physics, one in experimental therapy, one in experimental surgery, one in the field of enzymes, etc., the scientific director to have charge of one of the departments himself and to stand in much the same relation to the men in charge of the other departments that the president of a modern university stands to the heads of departments in the university. This second plan of organization corresponds in the main to that adopted in the Pasteur Institute in Paris.

While each of the two modes of organization may lead to successful results, it appears to us that the second possesses many advantages over the first. For, in the first plan, it might be exceedingly difficult for the director to secure appointees who would approach the level of his own mental caliber; there would be danger that the staff would be made up, very largely at any rate, of assistant natures, lacking in power of original thought and initiative; indeed, the success of this plan would be in large part dependent on the willingness of the staff to faithfully carry out the ideas and instructions of the director and to stifle their own tendencies to tangential excursions and suppress their own ideas regarding the overcoming of obstacles when these were opposed to the director's plans. Conditions such as these, while important and desirable for the aspiring scientist in his period of pupillage, are insufferable when that period has been passed. The second plan, on the other hand, permits of a much broader development, and it is, of course, the much more costly plan of the two. Here each head of a department may be a man of mental powers equivalent to or in many ways even superior to those of the director; the research along each of various lines may be guided by an expert; younger men undertaking investigations may begin under conditions of pupillage and be gradually led into positions of ever-increasing independence; the occupants of the higher positions have all the advantages of companionship and consultation with their colleagues of allied subjects with none of the restraints or limitations which a rigid monarchial organization imposes. The scientific director must, it is true, in this instance, be a man of large personality, of wide sympathies, above petty jealousies, and more interested in the advance of medical science than anxious for the recognition and forwarding of his own reputation. It is only this kind of a man who is not afraid to have strong men near him.

It seems probable that the Rockefeller Institute for Medical Research will not be compelled, for financial reasons, to adopt any mode of development other than the best. THE JOURNAL hopes that when a decision regarding details of organization has been reached it will be found that a scheme has been devised which will bring together an active group of skilled investigators and which will combine all the advantages of concentrated effort with the greatest possible opportunity for individual freedom of thought and experimentation.

REMARKABLE PROPERTIES OF RADIUM.

Though only discovered in 1898, the new metal, radium, bids fair to set the physical-chemical world agog. The prospect of securing energy for nothing has stimulated the imagination of a certain number of human beings from time immemorial, but the nearest approach to the mythical "perpetual motion" thus far made would seem to be that presented by the phenomena manifested by radium and its salts. It was startling enough to be told that radium can give out light continuously

without exciting cause; that it can emit rays, some of which are identical with cathode rays, thus representing showers of electrons, while other rays are very penetrating and can pass through solids as do *x*-rays, and still others which are easily absorbed; that it can act on sensitized plates; that it has the capacity to cause air to conduct electricity; that its rays can kill the *Bacillus prodigiosus;* and that an emanation from it that behaves like a gas, can make bodies submitted to its influence temporarily active like itself.

These facts were, by themselves, sufficiently marvelous, but two French observers, Curie and Laborde, have just added to the list of "radium miracles" by having brought the demonstration that salts of radium emit heat continuously and to a measurable extent. The heat given off is relatively a very large quantity. Only minute quantities of radium are available for experimentation, but it is estimated from the actual measurements made that one gram of this substance would emit 100 small calories of heat per hour.

The source of the heat as well as that of the other forms of energy given out by radium is entirely obscure. It is not explicable by any recognizable chemical action, and so it must be assumed that it is due to some change in the atom itself. Physicists will be most unwilling to accept the statement that radium can melt more than its own weight of ice per hour and yet undergo no change in potency. The laws of conservation of energy, the principles of thermodynamics, have hitherto been thought to be unassailable, but the manifestations of radium have led some to think it possible that they, too, must yield to the eternal flux of opinion.

But little wonder, in view of the reports of the scientists before us, that the uncontrolled imagination of the newspaper scribbler should see in radium the inexhaustible illuminant of the future, and a substitute for anthracite which will be independent of the difficulties incident to the struggles between capital and labor. The newspaper reporter's reckonings are, however, without knowledge of the conditions under which radium is, and is likely to be, obtainable; it would appear that it exists in extremely minute quantities in even very large masses of a rare raw material, and that thus far probably not more than a teaspoonful has been obtained in the whole world, and this at the cost of many thousands of dollars.

A comparison of its effects on tissues with those produced by the *x*-ray would be of exceptional interest. Up to the present time we have at least the observation that a small quantity of it, carried in a bottle in the waistcoat pocket, burned holes into the flesh in six hours; the superficial necrosis produced resulted in sores that required several weeks to heal.

CONDENSED MILK AND INFANT MORTALITY.

The causes of infant mortality are always living questions with the medical profession. Why so much incipient human life is destined to be an early failure is one of the most important problems that confronts us. Many of the reasons for this are obvious; but there are still factors that escape us, either from defective observation or because of peculiar difficulties of their detection. What is required more perhaps than anything is a reliable, complete and uniform system of reporting vital statistics so that we can have the exact facts for which we must account. With this desideratum a careful study of environmental and other conditions and a comparison of the findings in different localities showing different morbidity and mortality ratios could hardly fail to be instructive.

An interesting investigation of the sort by Dr. Louis C. Ager appears in the *Brooklyn Medical Journal* for February. Dr. Ager compares the infant mortality statistics of the various boroughs of Greater New York, but more especially those of Brooklyn and Manhattan, and finds that while the deaths from diarrheal diseases in children under 5 years has been more than cut in two, the improvement has been of late much more marked in Manhattan than in Brooklyn and the adjoining counties of Queens and Richmond. Brooklyn has been in the past called the city of homes, and its earlier health statistics were decidedly more favorable than those of old New York, certain portions of which are probably among the most densely populated areas in the world. Now, however, the more rural the region the worse the conditions in Greater New York. Thus, while in New York county (Manhattan borough) the diarrheal mortality in 1900 was 170 per 100,000 population, in Kings County it was 209, in Queens County 216, and in Richmond County 228. Dr. Ager finds three principal causes for Brooklyn's greater mortality, the first, unsanitary tenements, which is being remedied to a considerable extent; second, unsanitary streets and lots, and third, and on this he seems to lay most stress, the greater prevalence of feeding with condensed milk, as compared with Manhattan or New York City proper as generally understood. He finds a striking difference in the methods of artificial feeding of infants in the two boroughs. Sixty per cent. of the infant diarrheal mortality in Brooklyn is in children fed with condensed milk as against 27 per cent. in New York. His paper is, in fact, a striking showing of the advantages of natural milk feeding as revealed by the mortality figures of these two boroughs. Good natural milk can be obtained from reliable dealers—not necessarily certified milk, the cost of which is prohibitive to most tenement house dwellers—but fairly good milk which can be made safer by pasteurization at times when most subject to contamination. Popular education on this point has done much, he states, in Manhattan, and the same good results can be brought about elsewhere if pains are taken by the medical profession to this end.

It seems probable that similar conditions and contrasts exist elsewhere than in Brooklyn and Manhattan, and that studies similar to that of Dr Ager might bring out facts leading to useful generalizations.

THE SO-CALLED "KOCH LUNG CURE" FRAUDS.

The magazine *Physical Culture* has published a very interesting expose of the different so-called Koch lung-cure institutes and sanitaria, which are pretending to be connected with the famous Berlin scientist. The exposure is certainly a complete one and should go a long way to prevent this sort of quackery and imposition on the public. This magazine, while we can not endorse it in all of its contents, is doing excellent work in this particular and we hope that it will keep on and do still more. There is a large field for this kind of work and they seem to have the author in Mr. Gerald Keating, who knows how to do it well.

DEFEAT OF EDDYISM IN PENNSYLVANIA.

Sometime since, as the readers of THE JOURNAL are aware, a charter was refused to the Eddyite organization in Philadelphia by a Pennsylvania judge on the ground that it was a corporation for profit and against public policy. The case has been carried to the Supreme Court and a decision just received. The findings of the lower court are confirmed. The Supreme Court holds that the state regulates the practice of medicine and requires certain qualifications in its practitioners. While faith and prayer may be of use, common sense as well as public policy demands that other measures be taken in certain cases. The decision fixes the status, or rather the non-status of Eddyism in Pennsylvania; as a healing cult it has no standing whatever, for which fact the citizens of that commonwealth are to be congratulated.

THE W. C. T. U. AND PATENT MEDICINES.

We have occasionally seen in our contemporaries criticisms of the W. C. T. U. for not fighting the drink evil along the line of patent medicines. The charges have been made that leaders of the said body have been induced to endorse for popular use some strongly alcoholic preparations, alleged to be of a medicinal nature. In a recent communication to the *Dietetic and Hygienic Gazette* for May, Mrs. Martha M. Allen, who has charge of the W. C. T. U. work in this particular line, shows that they have not been inactive in this particular, but have carefully obtained official analyses of large numbers of patent medicines and distributed pamphlets and books exposing them to such an extent that they have been threatened with legal proceedings on the part of the manufacturers. These threats, of course, were futile, in view of the fact that the analyses given were made by state officers and published as such. In 1898 the Woman's Christian Temperance Union, with the assistance of the editors of several high-grade pharmaceutical journals, issued a pamphlet entitled "The Dangers and Harmfulness of Patent Medicines," thousands of copies of which were distributed. The work is still being continued along this line. It is not surprising that unsuspecting reformers should sometimes be misled to give their names to what they would not with full knowledge have endorsed, and we can not accuse them of anything more than a lack of consideration. It is simply a matter of unsuspicious ignorance. This is the reason why we have so many clergymen and other good people endorsing patent medicines, and we believe that no one would be more sorry than they for any evil they may have thus unwittingly aided. The question might be asked whether we as physicians always do our duty in regard to informing patients who may be misled as to these nostrums. It is satisfactory, however, to know that an organization which has been charged with neglecting this matter has by no means been guilty of such negligence, but has been an active factor in the publication of the dangers of alcoholic patent medicine dosing.

ANOTHER GOVERNOR'S VETO.

Some time ago we had occasion to notice what seemed to us a very poorly advised veto of a medical practice act by the then governor of Colorado, and we commented rather plainly on the reasons given in the veto message. They have changed governors in Colorado since that time, but unfortunately the precedent seems to have been set that is slavishly followed. The last medical act which recently passed the house and senate and was supported by the medical profession in the state has also been vetoed by the governor. It was not a radical measure; in some respects we think it might have been better by having been made more radical, but it seemed to be altogether too much so for the administration. The governor's ideas on the subject are rather curious. He remarks that reliable statistics show that the death rate of Colorado is as low as it ever has been, therefore medical matters are just where they ought to be and the proposed law was useless and likely to make things worse. He says, guided by the late experience of similar legislation in other states, the conclusion is irresistible that "all such legislation has a tendency to restrict the citizen in the employment of whomsoever he pleases in the treatment of his diseases," and goes on further to say that it will build up a medical trust made up of certain schools, to the exclusion of others equally meritorious, including among the latter, we presume, faith healers, osteopaths, Dowieites, Eddyites, *et id omne genus*. The statistical method of showing the expense to a community from evil is a popular one, and we wish that some one would get up the statistics of the money spent in Colorado on this class of practitioners, especially adding the amount given to itinerant frauds who go through the country and rob the innocent and confiding public of the state. We believe a true statement of things would be a little appalling to the governor who is so fond of letting the individual employ whomsoever he pleases unrestricted. The Colorado contributions to quacks, frauds and pretenders thus favored by the governor will, we presume, go on and grow until the time may come when a little common sense will penetrate the executive cranium and allow a reasonable medical practice act to go into force. There are just as good arguments in favor of the itinerant gambler, if every citizen has a right to lose his money in the way he pleases, as there are in favor of the irregulars championed by the governor of Colorado. The common sense to be found in the message of Governor Wells of Utah,[1] accompanying his veto of the osteopathic bill, is in happy contrast.

1. THE JOURNAL A. M. A., April 25, p. 1156.

VACCINATION AND SMALLPOX.

As was told in THE JOURNAL last week, in our special telegraphic report from Boston, the etiology of smallpox is now known through the work of Drs. W. T. Councilman, Geo. B. McGrath and W. R. Brinckenhoff. It is a sporozoon first suggested by Guarnieri as the cause of variola and named by him *Cytoryctes vaccinia*. On Monday evening, at another large meeting of medical men, at the Boston Medical Library (soon to be the Academy of Medicine), Dr. E. E. Tyzzer described his elaborate work on the organism of vaccinia, performed during the spring and summer of last year. Experiments were made by inoculating rabbits' corneas with vaccine virus and with the contents of the pustules of variola. Microphotographs showed every stage of the asexual cycle of *Cytoryctes vaccinia* in the cases in which virus was inoculated, the sporozoa appearing in sixteen hours in the epithelial cells, and every cell containing them by the end of the third day. Dr. Tyzzer, like Dr. Councilman, is sure that the organism of the two diseases, vaccinia and variola, is identical, the two results differing for the reasons described above. This elaborate research brought to so successful a result appears as a model of no little significance for those who would accomplish results of real scientific worth. It illustrates, as few recent discoveries illustrate, the benefit to be derived from systematic and co-ordinated endeavor, under the guidance of a wisdom which is always more than mere learning. Several factors combined to the result. First, there was an epidemic of smallpox; second, a city board of health, imbued with the true scientific spirit, gave the widest possible privilege and opportunity for the collection of pathologic material; third, an adequate directing mind; fourth, a number of younger men who knew neither fatigue nor fear in pursuit of the common good; fifth, adequate financial means, and sixth, pervading all, the tireless energy which kept and which still keeps, for future further gains, the research up in all its laborious and infinite detail. These fruitful elements should be present to-day in every large city of the land—disease, a board of health, some earnest medical scientists, money from some one of the great funds now available and the energy of discovery. Combining these factors, why should not some other unsolved problems be compelled to give up their hidden solutions?

Medical News.

ILLINOIS.

Chicago.

Personal.—Dr. Albert H. Hoy and family have returned from California.——Dr. Frederick Mueller gave a dinner, April 28, in honor of Dr. Adolf Lorenz.

Heavy April Mortality.—During April 2,628 deaths were reported, equivalent to an annual death rate of 16.96 per 1,000. Not since the year following the great fire has there been such a prevalence of the graver diseases.

Women Want Hospital.—At the meeting of the alumnæ of the Woman's Medical College it was proposed by Dr. Mary Coons that a hospital for women, to cost $500,000, be erected near Jackson Park. A committee of five was appointed to report on a plan for the enterprise.

Deaths of the Week.—During the week ended May 2, 637 deaths were reported, an annual mortality per 1,000 of 17.62. Pneumonia again heads the list with 167 deaths; consumption comes next with 65; violence and heart disease follow, each with 39. Nervous diseases caused 38 deaths; measles 28, whooping cough 5, scarlet fever 4 and smallpox 2.

How Not to Lose Diphtheria Patients.—The department of health, in its latest bulletin, makes the following statements regarding diphtheria:

> There are numerous physicians who treat yearly a large number of diphtheria cases who have not lost a patient from this disease for years. Their inflexible rule is to take a culture at the first visit and to administer antitoxin at once when the diphtheria bacilli are found.
>
> For a physician to treat a patient with an acute inflammation of the throat for days without a microscopic examination is little short of criminal neglect. The essentials in the treatment of diphtheria are an early diagnosis and the prompt administration of antitoxin. Physicians who are prepared in these essentials are seldom called on to give a death certificate.

The Captain of the Men of Death.—Under this title the department of health characterizes pneumonia:

> Pneumonia remains as the opprobrium of the medical profession. Its treatment, notwithstanding more than one vaunted anti-pneumococcic serum, is as unsatisfactory as ever, while its increasing ravages make all other acute infectious diseases relatively insignificant.
>
> The commissioner calls attention to the fact that of the total of 2,628 deaths in April, 604 were caused by pneumonia and only 283 by tuberculosis. This is an excess of 113.4 per cent. of pneumonia deaths over consumption deaths, and, while the deaths from consumption have increased 30.4 per cent. in actual numbers over those of April, 1902, the deaths from pneumonia have increased 41.1 per cent. this April over last.

The department repeats its warning to physicians and those in charge of the sick, urging the combating of the spread of the disease by cleanliness, ventilation, etc.

MARYLAND.

Baltimore Vital Statistics.—Two new cases of smallpox were reported last week and 36 of diphtheria. Among the deaths consumption led with 34, pneumonia and Bright's disease following with 16 each.

Medical Banquets.—The annual banquet of the Alumni Association of the College of Physicians and Surgeons was held April 27. Prof. William Royal Stokes was toastmaster. The menu was written in prescription form, the courses being all in Latin.——The sixth annual banquet of the Baltimore County Medical Association will be held in Baltimore, May 13.

Personal.—Dr. Norman M. Harris, associate professor of bacteriology in the Johns Hopkins Medical School, Baltimore, has accepted the position of first assistant in bacteriology at the University of Chicago.——Dr. George Warner Miltenberger, Baltimore, has recovered from the operation done on him several weeks ago at the Union Protestant Infirmary.——Dr. Frank Oldham Miller has completed his term as resident physician in Bay View Asylum, Baltimore, and is now settled in practice at Uniontown.

P. and S. Commencement.—At the commencement of the College of Physicians and Surgeons, Baltimore, April 30, 76 out of 79 candidates for the degree received diplomas. The first gold medal was awarded to Dr. Samuel T. Darling, Maryland; the second to Dr. T. J. Cummings, New Jersey; the third to Dr. F. W. A. Mayer, New Jersey, and the fourth to Dr. W. S. Evans, Utah. The following received honorable mention: Drs. George E. Merrick, Pa.; Frank H. Cutler, Utah; George L. Fawcett, Ala.; A. W. Deal, Pa.; T. J. Brothers, Ala., and E. H. Cohoon, Nova Scotia. Appointments were announced as follows: Dr. L. J. Owen, resident physician, City Hospital, with Dr. Z. P. Henry, and S. L. Page, associates, and Drs. W. S. Evans, A. W. Deal, A. C. Biddle, Major M. Allen, and C. W. Lurking, assistants. Dr. T. J. Cummings was made assistant to Dr. N. G. Keirle of the Pasteur Institute, and Dr. Samuel T. Darling was appointed resident pathologist. Drs. Wright S. Sadler, A. Ferdinand Ries and George F. Sargent were appointed resident physicians at Bay View Asylum. Drs. C. G. Laslie and J. Plumer Cole were appointed resident physicians at the Maternité Hospital.

MASSACHUSETTS.

War Against Mosquitoes.—The mosquito war is on in Brookline, where $1,000 will be expended this year in "petrolizing" pools, catch-basins, etc. Worcester will spend $3,000 and Fairhaven $300 for the same purpose.

Smallpox in Adams.—An advanced case of smallpox was discovered at Adams, May 1, and the 650 children in the public schools were promptly vaccinated, as the patient had undoubtedly exposed a number of children living in the house.

Marathon Racers' Hearts.—The eight physicians who examined the Marathon runners before and after their twenty-

mile race, April 19, have reported no unusual findings except that the two cases of severe exhaustion noted were due to the unwise use of alcohol.

Hospitals Benefit.—By the will of John W. Shapleigh of Brookline, the Free Hospital for Women, the New England Deaconesses' Home and Training School Hospital will largely benefit, the amount being a proportionate part of a trust fund left to his wife and daughter.

Personal.—Prof. O. T. Wadsworth has resigned the chair of ophthalmology at Harvard Medical School.——Arthur I. Kendall, Ph.D., will work, as fellow of the Rockefeller Institute for Medical Research, this summer on the Boston Floating Hospital, under the supervision of Dr. Simon Flexner, in his study of the Shiga bacillus and the serum treatment of infantile diarrhea.

For a Control of Tuberculosis.—Thirty-five hundred cases of tuberculosis reported to the board of health of Boston in the last three years has aroused the public interest, and the Boston Association for the Relief and Control of Tuberculosis has been formed, with Dr. Edward O. Otis, president; Dr. Arthur K. Stone, vice-president; Miss Alice L. Higgins, secretary; George S. Mumford, treasurer, and a strong executive committee. The organization seeks to educate the people in treatment and in prophylaxis.

More of Councilman.—The Medical Library meeting of May 4 was a fuller exposition of the studies of Dr. Councilman and his associates of smallpox. Dr. Ralph L. Thompson presented a full statement of his new methods for determining the bacteriolytic complement content of the blood serum, which he has most carefully worked out in variola in his research, under the auspices of the Rockefeller Institute. This is undoubtedly a great step forward in the revelation of an index of the vitality of a patient and, hence, the progress of his disease. Dr. E. E. Tyzzer told of his studies of vaccinia, and Dr. William I. Councilman again demonstrated and described his discovery, the protozoon of smallpox.

NEW JERSEY.

Physician Wins Suit.—The case of Hiram J. Shoemaker against Dr. Henry W. Elmer, Bridgeton, for alleged wrongful treatment of an injured shoulder, was decided in favor of the defendant.

Osteopath Bill Fails of Passage.—A bill to establish a board of examiners in osteopathy who would have power to examine and license persons to practice osteopathy in the state, met the determined opposition of the legislative committee of the Medical Society of New Jersey, and was strangled in the senate committee.

The Legislature's Good Record.—The legislature which has just adjourned has left a good record behind it in general and, so far as medical legislation, has done particularly well. A bill was passed granting $200,000 to the State Sanatorium for Tuberculosis, a site for which has already been secured in Hunterdon County. The erection of the buildings will be pushed with all possible dispatch, under the architectural direction of George B. Post of New York City.

New Requirements for Medical Licenses.—The State Board of Medical Examiners announce that after July 4 the following changes in the requirements for a New Jersey license will go into effect:

1. The date of examination will be the third Tuesday and Wednesday in June and October.
2. The academic requirements will be a certificate or diploma, issued after four years of study, either in a normal, manual training or high school of the first grade, in this state, or in a legally constituted academy, seminary or institute of equal grade, or a student's certificate of examination for admission to the freshman class of a reputable literary college or an academic education considered and accepted by the state superintendent of public instruction as fully equivalent.
3. The medical requirements will be four full school years of medical study, of at least nine months each, including four satisfactory courses of lectures of at least seven months, in four different calendar years, in a legally incorporated medical college or colleges, prior to receiving the degree of doctor of medicine.

NEW YORK.

Insane Hospital Improvements.—The bill introduced by Mr. Rogers, appropriating $1,070,000 for improvements to the state hospitals for the insane, has been passed by the legislature.

Filtration Plant Completed.—The filtration plant for the water supply of Cornell campus at Ithaca is completed and the water was turned into the main. This is the plant for which Andrew Carnegie has paid.

Presentation to Dr. Knight.—On the occasion of his seventieth birthday anniversary, Dr. Charles Calvin Knight invited the members of the medical staff of the Peekskill Hospital and their wives to dine with him. His guests surprised Dr. Knight by presenting him with a magnificent silver punch bowl and ladle.

For Consumptive Camp.—The assembly, on April 21, failed to pass the Goodsell-Bedell bill, requiring the consent of county and town authorities for a camp for consumptives. The bill, while of a general nature, was intended to prevent the establishment of a hospital camp for New York City consumptives at Central Valley, Orange County.

Lectures to State Alienists.—Dr. Adolf Meyer, director of the Pathological Institute of the New York State Hospitals on Ward's Island, has finished the third course of instruction to the physicians of the fourteen state hospitals. These three courses of lectures and clinics have been given by himself and his assistants at Ward's Island during the past winter. In all, 61 physicians belonging to the staffs of the state hospitals at Buffalo, Utica, Gowanda, Middletown, Rochester, Ogdensburg, Poughkeepsie, Brooklyn, Central Islip, Kings Park, Matteawan, Dannemora and New York City have been in attendance.

Application Against Raybrook Denied.—The attorney general has refused to order proceedings to declare void the purchase of the lands at Raybrook, Essex County, as a site for a state consumption hospital. The basis of the opposition to the purchase is that it is contrary to the constitution, which provides that forest preserve lands shall be forever kept as a wild forest. The attorney general holds that the power to locate the institution involved a decision by the governor and that the constitution did not prohibit the location of the hospital on the lands in question and that the selection of the site, being an executive function, the courts would not presume to review its correctness.

New York City.

Bequests to Hospitals.—By the will of Adolphi Openhym, $5,000 is left to the Mount Sinai Hospital and $5,000 to the Montefiore Home for Chronic Invalids.

No quarantine against Cuba will be enforced unless yellow fever appears at Cuban ports. This announcement has already been made as regards Florida and Louisiana.

Awarded Fifteen Per Cent.—In the suit for $25,250 brought by Dr. John B. Acken against the estate of the late William R. Clarkson, the jury returned a verdict for $400.

Found Guilty of Manslaughter.—Convicted by a jury of being responsible for the death last September of Miss Agnes Lynch, Dr. Henry C. Hibbe, a physio-medical practitioner, was found guilty of manslaughter in the first degree, April 18. A sentence of twenty years' imprisonment may be imposed.

Buffalo.

Commencement.—The medical department of the University of Buffalo held its fifty-seventh annual commencement May 6. Degrees were conferred on 40. The alumni association held its annual meeting on the same day, at which the classes of '53, '63, '73, '83 and '93 held reunions. At the afternoon session Dr. William T. Sedgwick, professor of sanitary science in the Massachusetts Institute of Technology, Boston, presented the subject of protection of the public health by the filtration of water supplies, illustrated by stereopticon. A banquet was held at the Iroquois in the evening.

Personal.—Dr. William G. Taylor has been appointed to the medical staff in the children's department of the St. Mary's Infant Asylum.——Dr. William C. Krauss has been reappointed a member of the board of visitation for the Buffalo State Hospital.——Dr. Montgomery A. Crockett, who has been at Pinehurst convalescing from a severe illness, has returned to Buffalo and resumed his practice.——Drs. Hibbert Roberts, Edwin A. Riesenfeld, W. S. Goodale and Albert J. Harris have been appointed resident physicians at the German Hospital. ——Dr. F. J. Carr will spend several months in Europe.——Dr. William J. Bissell, major of the Seventy-fourth regiment, and Dr. Frederick Busch, of the Sixty-fifth regiment, have been appointed medical officers of the New York State Provisional regiment, which escorted Governor Odell to the dedicatory exercises of the Louisiana Purchase Exposition at St. Louis.

GENERAL.

Professor Hans Kehr, the famous surgeon of Halberstadt, Germany, has come to the United States, it is said, at the

invitation of the American Surgical Society, to visit American clinics and hospitals and to hold a number of clinics.

Pan-American Congress in 1905.—The International Executive of the Pan-American Medical Congress has accepted the proposal of the Argentine Republic to hold the Fourth Pan-American Congress in Buenos Ayres in 1905, instead of 1903, as had been announced in their invitation of February, 1901.

Mikulicz in Chicago and Elsewhere.—Prof. J. von Mikulicz, while in Chicago, attended some of the meetings of the Illinois State Medical Society. He was tendered a banquet on Wednesday evening by the Chicago Surgical Society, at which there were present nearly one hundred. He said that he appreciated the extraordinary kindness and courtesy extended to him so lavishly by the profession in America and that he could not help admiring the great skill of the American surgeon of the present time and the prominent part he takes in the advancement of our art. He said that Drs. Murphy, Keen, Allen, Halstead and Richardson represent the type of the American surgeon who rank as leaders and pioneers in scientific research and progressive surgery. It is to be hoped that medical science and the advancement of the surgical art will reap the rich harvests which must follow a close union, good understanding and earnest co-operation among such men as these and the English and German surgeons. On April 30 he operated in the amphitheater of Mercy Hospital on a case of incomplete inguinal hernia in a man of 32, and also on a young woman for cholelithiasis. In the evening a reception was given in his honor by Dr. and Mrs. John B. Murphy. He went to Rochester to see the Mayos operate and to New Orleans to attend the session of the American Medical Association.

CANADA.

Smallpox in Winnipeg.—During the past winter Winnipeg has been almost free from smallpox, there having been but four cases, all of which came from the south of the boundary line. This has been a very fortunate winter for that city in this respect, as the disease was quite prevalent throughout the province of Manitoba. Prompt action on the part of the medical health officer in isolating cases and keeping them in strict quarantine has produced these good results.

Ontario Hospital for Epileptics.—The Ontario government will erect a hospital for epileptics at Woodstock, and has appropriated $30,000 for it. The insane in Ontario are classified as harmless (such as epileptics, which number 1,000), curable and incurable. All three classes will in time be kept in separate buildings. The buildings at Woodstock will be constructed on the detached principle. It is expected that the initial buildings will be completed by the end of 1904.

Darcy Island Leper Station, B.C.—After years of agitation on the part of the city council of Victoria, B.C., the dominion government has passed an order-in-council, which provides that the lazaretto will pass entirely from the hands of Victoria and will come under the jurisdiction of the provincial government of British Columbia. The order further provides that before the British Columbia government gets its share of the Chinese capitation tax, they shall pay over to the various cities in the province affected the amounts which they have expended in maintaining the lepers on the island. At the present time there are but three patients at the station, to whom weekly visits are paid by an inspector and quarterly visitations by the health officials of Victoria.

The Insane of British Columbia.—Dr. Manchester, the medical superintendent of the British Columbia Insane Asylum, has issued his report for the past official year. The year began with 284 patients in residence and 8 on probation. During the year 121 were admitted, 95 of these being males and 26 females. The increase in admissions over the previous year was 6. The discharges numbered 61 and the deaths 26, which figures are almost identical with those of the previous year. The year closed with 311 in residence and 16 on probation. Comparing the insane in British Columbia with those in the other provinces, it is found that the total official insane in Canada is 16,495, or 3.1 to the 1,000 of population. Manitoba has 565; New Brunswick, 1,054; Nova Scotia, 1,392; Ontario, 7,511; Prince Edward Island, 351; Quebec, 5,245.

Medical Students Graduate.—The graduating class of the Manitoba Medical College this year numbers 22, and the examinations are to be held May 11 to 25. The faculty have been eminently pleased with the past session as the attendance has been the largest in the history of the institution. A new building will be erected. With the great growth taking place in Manitoba and the Northwest Territories, the authorities see a great future ahead of this medical college.——The annual conferring of medical degrees at Bishop's Medical College, Montreal, took place April 24. Dr. F. W. Campbell, dean of the faculty, stated that the past session was the most successful in the history of the institution, the freshmen class being the largest that had ever entered the college, numbering 32. Dr. W. W. Kelly delivered the valedictory.

Amendment to British Columbia Medical Act.—A delegation of medical practitioners in British Columbia recently interviewed the premier with regard to an amendment to the medical act which is now before the legislature of that province. Apparently this amendment is the outcome of the recent medico-legal case with which the medical council would have nothing to do and whose action was upheld by judicial authority. It was pointed out by the medical men that if the present amendment were adopted by the house, any trifling complaint would have to be heard by the medical council, and that the amendment should be altered in such a way as to only permit of legitimate grievances being considered. The doctors suggested that the complainant should first make an application to a supreme or county court judge, and it would be for the judge to determine on the evidence submitted whether the complaint was of sufficient gravity to be the subject of investigation by the medical council. The premier considered that these representations were reasonable, and stated that they would likely be adopted by the house.

Medical Council Complications.—The medical faculty of the University of Toronto has called attention to recent developments, which they think may prejudice the course of medical education in this province of Ontario. It is now well known that Dr. Roddick, after years of persistent effort, secured at the last session of the dominion parliament, the passage of the Canada Medical Act, which provided for a Dominion medical council, to hold examinations in medicine and grant licenses to practice in any portion of the dominion. This council can, however, be constituted only when all the provinces of Canada have accepted the provisions of the act. Since the act was passed all the provinces but Quebec have expressed their acceptance. Although the College of Physicians and Surgeons of Quebec did not sanction the introduction of any ratification legislation in the Quebec legislature, it was nevertheless introduced, with the result that it was defeated by a very large majority of that house. The explanation for this action is that the medical profession in that province and one of the universities were unable to accept the act as it stands. This influenced the action of the legislature. One of the recent developments referred to is the agitation which has arisen in the lower province for amendments to the act. The Montreal Medical Society favors inter-provincial registration, without the intervention of a Dominion Medical Council, or, if such reciprocity could not be brought about, federal legislation in the way of an amendment to the Roddick act. The difficulty seems to lie in the fact that one of the universities of Quebec desires to extend over the whole dominion its prerogatives which at present are confined to that province, that is, to give the holder of a Quebec University degree in medicine the right, without further examination, to practice anywhere in the dominion. Such an amendment can not be accepted in Ontario; and the whole question must be thrashed out again at the various meetings of the medical societies until an understanding is reached.

FOREIGN.

Ecuador's sanitary improvements, it is reported, are to cost $2,500,000 and will better the port of Guayaquil.

Mazatlan's new hospital, to replace the lazaretto burned to destroy any possible remaining plague infection, will be a modern one, well equipped.

Copenhagen Prize.—The university gold medal for 1901-1902 was awarded to Dr. Einar Hall for the best work on the inflammation of the nerves induced by malignant neoplasms.

St. George's Hospital May Move.—St. George's Hospital, London, is on Piccadilly and Hyde Park, a very valuable frontage, whose sale, it is stated, would provide funds to buy ample grounds elsewhere and to erect a new hospital and a new medical school building. The proposition is under consideration.

Charlatan's Ads.—The Magdeburg Medical Society has been energetically at work trying to curb quack practices in that city. At a recent meeting it was shown that charlatan ads were becoming very much more moderate in tone and the writers now take pains to avoid conflicting with police regulations. The responsible editors of the journals publishing the

extravagant claims of the charlatans, are made parties to the suit when such is brought. According to the German law a charlatan is liable to prosecution if his promises to cure the patient delude the latter until the time is past when scientific medical or surgical aid might have been effective.

The Contract Practice Trouble in Germany.—The Berlin medical press urges reflection and moderation in the matter of the impending modification of the legislation in regard to sickness insurance, and warns against the possible consequences of such a serious step as a general strike of the contract doctors, referred to on p. 1,229 of our last issue. The newsy "Allg. Med. Ct.-Ztft." refrains from discussing the subject, and the "Deutsche Med. Wochenschrift" hints that more can be accomplished by moral suasion in the proper quarters than by the belligerent spirit manifested in southern Germany. It bids the profession ponder the saying "respice finem" (look to the end). A lay cablegram brings word that a duel with broadswords has recently taken place at Gera between a factory proprietor and a physician, Dr. Hirsch, said to be a former army officer. It states that the feeling of bitterness on account of the local physicians' strike is rather increasing, with no signs of compromise on either side.

Prophylaxis of Ankylostomiasis in Germany.—A conference to discuss the means of preventing the spread of miners' disease was held recently at Berlin, summoned by the government. The importance of prompt and repeated medical inspection and treatment was emphasized, and a law to check the removal of miners from one part of the country to another was advocated, prohibiting mine owners from employing newcomers until after they have undergone a searching physical examination. It was stated that disinfection with lime, salt, carbolic acid and other substances had not proved satisfactory, but that a thorough drying out of the affected mine for a long period had proved especially effective. The temporary substitution of dry for wet methods of mining was, therefore, advocated for certain mines. In treatment, the extract of fern was said to be effective in killing the parasite, but recurrence is possible, consequently the subjects should be examined afterward and supplementary courses instituted as needed. Hospital treatment is necessary.

Damage Suit for Inoculation of Malaria.—A medical journal published at Rome, "Il Policlinico," contained an article not long ago in which a physician described his successful inoculation of an elderly man with malaria in order to demonstrate a certain theory. The man had been in the hospital a number of years for an incurable nervous affection. The experiment was so successful that the malarial fever induced nearly proved fatal. The public authorities brought suit against the physician for voluntarily injuring the patient, and the suit was dismissed with a reprimand only because the subject of the experiment himself did not enter any complaint. The physician, in his defense, stated that his motive had been solely in the interests of science and the welfare of suffering humanity, and that such experiments had frequently been made in other countries. Galli describes the particulars of the suit in a recent letter to the "Muenchener Med. Wochenschrift," but does not mention the physician's name. The case is probably the same as that mentioned in THE JOURNAL in another column, p. 1,332, paragraph 53.

Medical Women in Russia.—On Feb. 20, 1903, was celebrated in Russia the twenty-fifth anniversary of the graduation of women physicians in Russia. On that date in 1878, 40 women had graduated and 20 more soon followed on their return from service in the Turko-Russian war. Dworetzky writes to the "Muenchener Med. Wochenschrift" describing the cordial welcome and facilities offered by the profession in Russia to medical women. More than forty years ago they were admitted free to the university lectures at St. Petersburg, Charkow, Kiev and Odessa, and were excluded from Moscow and Dorpat only on account of political uprisings at the time. They were admitted to the regular medical course in 1872, and finally in 1897 the Woman's Medical Institute at St. Petersburg was opened for them and is now taxed to its fullest capacity. Subscriptions poured in from all sides for this institute as the value of medical women for Russia is appreciated by physicians and laymen alike. They are especially needed among the Mohammedan women, who are not allowed to consult male physicians. Among others, the emir of Bokhara contributed largely to the institute. It has now 1,314 students, and 111 graduated last year. There are 35 professors and certain branches of medicine are taught here which are not yet in the curriculum of other Russian medical colleges. Twenty-four scholarships have been endowed and the minister of public instruction has applied to the authorities for permission to place the institute on the same footing as the other university medical colleges. Russian medical women have always, Dworetzky adds, held high the standard of the profession and served with conscientious and loyal devotion to duty. Their work is prolific of results among the poverty-stricken and ignorant peasants to whom they bring the light of civilization, as well as medical aid. Lewschin's new Cancer Research Institute at Moscow expressly states in its by-laws that medical women may be appointed to any post in the institution.

Advertisement as a Weapon Against Quacks.—Professor Folet of Lille publishes a strong article in the "Echo Med. du Nord" of April 19, entitled "Réclame contre Réclame." He has long contended that the best way to fight alcoholism and quacks is by way of publicity—advertising. Last February the Paris authorities posted the city with placards warning against the abuse of alcohol, and he states that it was like stirring up an ants' nest. Every liquor dealer, wholesale or retail, was up in arms at once, and yet the publicity was of the mildest form. He suggests that great good might be accomplished if the recent resolutions voted by the Académie de Médecine in regard to the dangers of liqueurs and alcohol were placarded, signed by the Académie. He would like to see such a measure perseveringly carried out with money behind it for an effective advertising campaign. He also suggests "An Appeal to Common Sense," to be published in the newspapers as a "display ad" among the various cure-alls, warning the public that a moment's reflection will show that it is impossible for a single remedy to be suitable for all kinds of diseases, all ages, sexes and temperaments; that the testimonials and photographs of persons cured, even if genuine, say nothing of the others who have not been cured or whose condition has been aggravated by these vaunted panaceas. The dupes say nothing and do not count, but nearly every physician might cite examples of such experiences. If an appeal of this nature were signed by several well-known names or by a local or national medical association, the public could not fail to be impressed sooner or later by persistent advertising of this sort. The medical mayor of Lyons has banished from public places under his jurisdiction the ads of venereal specialists, but Folet comments that a circular might have been placarded beside them warning against the consequences of venereal disease unless thoroughly and scientifically treated and giving notice of free consultations for the poor at certain places and hours. If wise councils and appeals to common sense were encountered on every hand, signed by persons whom the public has reason to respect, and such warnings were trumpeted far and near, fighting charlatans with their own weapon, he thinks the results would at least justify the attempt. The same number of the "Echo" contains a monograph on "Means of Repressing Quackery, from the Legal Standpoint." The conclusions are not encouraging for physicians.

Correspondence.

Cocoanuts for Worms.

MALDEN, MASS., April 27, 1903.

To the Editor:—In THE JOURNAL, April 4, 1903, is a query as to the value of cocoanut in the destruction of tapeworms. Having repeatedly seen statements in reliable medical publications asserting its value, I gave it a trial in two cases. The first case was prepared by a laxative of compound licorice powder followed by an aperient water; the patient was then kept on an exclusive diet of cocoanut and water for two days. On the morning of the third day a dose of castor oil brought away most of the worm. The patient was given cocoanut freely every day for a month with the hope that if the head remained in the intestine that the diet would be so unsuited to it that it would be easily swept out by the weekly laxatives which were advised. Joints of the worm reappeared after the usual period. In the second case the bowels were kept open and cocoanut was given as a prominent part of the diet for two weeks. Oleoresin of male fern 3iss, followed by salines, then removed so much of the worm that it seemed probable the head had passed and been overlooked. The treatment failed, although the patient partook freely of cocoanuts every day for four or five weeks following the administration of the fern. Possibly a different method of giving the remedy would prove successful, but I have nowhere seen a definite course laid

out for this treatment. These cases occurred in men in middle life, and were afterward cured by male fern given after the usual preparation of the patient. A. J. STEVENS, M.D.

Claudius Method of Preparing Catgut.

OAKLAND, CAL., April 23, 1903.

To the Editor:—After giving a faithful trial to the Claudius method of preparing gut according to the article of Senn in your issue of April 4, I find the gut worthless and brittle and absolutely dangerous to use; it also stains the fingers and is too elastic. One good point it has in its favor, the infected gut gave no growth on bouillon after eight days' immersion in the iodin solution. M. LEWIS EMERSON, M.D.

CHICAGO, May 1, 1903.

To the Editor:—The above failure is not due to the preparation of the catgut, but was the result of inferior catgut. We have had the same experience with inferior material, but with good catgut the result has always been ideal. In fact, the tensile strength has been greatly increased.

EMANUEL J. SENN, M.D.

Medical Organization.

The New York State Medical Association.

County associations have recently been formed in the counties of Allegany, Lewis, Monroe, Tompkins and Wayne and there are several others which are about to be organized.

Henry County (Ala.) Medical Society.

At a meeting of this society held in Dothan, April 7, the members residing in Houston County withdrew and the society was reorganized, with Dr. Thomas J. Kennedy, Halesburg, president.

Clay County (Neb.) Medical Society.

The medical fraternity of the county met at Clay Center, April 20, at which a medical society was organized, with the following officers: President, Dr. O. P. Shoemaker, Clay Center; vice-president, Dr. John W. Thompson, Sutton; secretary, Dr. Adam R. Ray, Fairfield, and treasurer, Dr. Fordyce H. McCabe, Fairfield.

Houston County (Ala.) Medical Society.

On May 7, the physicians residing in Houston County who withdrew from the Henry County Medical Society, met at Dothan, and organized a county society with Dr. John R. G. Howell, president; Dr. Henry Green, secretary; Dr. James L. Ellis, treasurer, and Dr. Mercer S. Davie, Jr., county health officer, all of Dothan.

Clinton County (Ohio) Medical Society.

This society met, April 29, at Wilmington, adopted the constitution recommended by the American Medical Association for county societies, and continued the following officers until the annual meeting in December: Dr. Allen T. Quinn, president; Dr. Eldorado Briggs, secretary, and Dr. George W. Wire, treasurer, all of Wilmington.

Madison County (Ill.) Medical Society.

The county organization was perfected at Alton, April 23, by the election of the officers of the Alton Medical Society to serve as officers for the county society for the remainder of the year. These officers are: Dr. Frank Worden, North Alton, president; Dr. Waldo Fisher, Alton, vice-president; Dr. George E. Wilkinson, Alton, corresponding secretary; Dr. Homer W. Davis, Alton, recording secretary, and Dr. Westley W. Halliburton, Alton, treasurer.

Allegany County (N. Y.) Medical Association.

The physicians of Allegany County met at Belmont recently and organized a county association, to be in affiliation with the New York State Medical Association, with an initial membership of 21. The officers elected are as follows: President, Dr. George H. Witter, Wellsville; vice-president, Dr. William O. Congdon, Cuba, and secretary and treasurer, Dr. Horace L. Hulett, Alientown. Dr. Charles M. Post, Alfred, and Nathaniel H. Fuller, Friendship, were elected delegates to the state association.

Societies.

COMING MEETINGS.

American Academy of Medicine, Washington, D. C., May 11-12.
American Therapeutic Society, Washington, D. C., May 11-13.
Oklahoma Territorial Medical Association, Guthrie, May 12.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 12-14.
American Dermatological Association, Washington, D. C., May 12-14.
American Surgical Association, Washington, D. C., May 12-14.
American Orthopedic Association, Washington, D. C., May 12-14.
American Pediatric Society, Washington, D. C., May 12-14.
Association of American Physicians, Washington, D. C., May 12-14.
American Medico-Psychological Association, Washington, D. C., May 12-15.
American Ophthalmological Association, Washington, D. C., May 13-14.
Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.
West Virginia State Medical Association, Charleston, May 26-28.
Indian Territory Medical Association, South McAlester, June 2-3.
Medical Society of the State of North Carolina, Hot Springs, June 2.
Ohio State Medical Society, Dayton, June 3-5.
Rhode Island Medical Society, Providence, June 4.
Wisconsin State Medical Society, Milwaukee, June 3-5.
Maine Medical Association, Portland, June 3-5.
Indiana State Medical Society, Richmond, June 4-5.
Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

Columbia (S. C.) Medical Society.—At the regular meeting, April 6, Dr. Lawrence B. Owens was elected president; Dr. D. Strother Pope, vice-president, and Dr. Mary R. Baker, secretary-treasurer.

Louisville Medical and Surgical Society.—This society was organized April 20, with Dr. R. Lindsay Ireland, president; Dr. Frank J. Kiefer,, vice-president; Dr. Harry A. Davidson, secretary, and Dr. W. Jennings, treasurer.

American Medico-Psychological Association.—This association, formerly known as the Association of Medical Superintendents of American Institutions for the Insane, will hold its fifty-ninth annual meeting in Washington, May 12, 13, 14 and 15.

South Idaho District Medical Association.—At the annual meeting held at Boise, April 8 and 9, Dr. Lewis C. Bowers, Boise, was elected president; Dr. J. S. Stewart, Boise, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary-treasurer.

Hampden District (Mass.) Medical Society.—The annual meeting was held in Springfield, Mass., April 21. Dr. James W. Hannum, Ludlow, was elected president; Dr. Angelo O. Squier, Springfield, president, and Dr. James E. Marsh, Springfield, secretary and treasurer.

Whiteside County (Ill.) Medical Society.—At the annual meeting held in Morrison, April 15, Dr. James A. Nowlen, Morrison, was elected president; Dr. Charles E. Parker, Sterling, vice-president; Dr. Perry F. Purdue, Lyndon, secretary, and Dr. John F. Keefer, Sterling, treasurer.

Cecil County (Md.) Medical Society.—The annual meeting was held at Elkton, April 16, and the following officers were elected: Dr. David L. Gifford, Zion, president; Dr. George M. Stump, Perryville, vice-president; Dr. Howard Bratton, Elkton, secretary, and Dr. John H. Jamar, Elkton, treasurer.

Northeast Missouri Medical Association.—At the annual meeting held in Memphis, April 14, Dr. Frank B. Hiller, Kahoka, was elected president; Dr. James B. Bridges, Downing, vice-president, and Dr. E. E. Parrish, Memphis, secretary-treasurer. The next meeting will be held in Kahoka, in October.

Brainerd District (Ill.) Medical Society.—The annual meeting was held in Lincoln, April 23. Dr. Algernon M. Sargent, Lincoln, was elected president; Dr. Irving Newcomer, Petersburg, vice-president; Dr. Harry S. Oyler, Lincoln, secretary; Dr.

Charles C. Reed, Lincoln, treasurer, and Dr. James Lowrie, Lincoln, delegate to the Illinois State Medical Society.

State Society of Iowa Medical Women.—The medical women of Iowa met in annual session at Sioux City, April 14 and 15, and elected the following officers: Dr. Jennie McCowen, Davenport, president; Drs. Kate A. Mason-Hogle, Mount Vernon, and Lenna L. Meanes, Des Moines, vice-presidents; Dr. Anna Burnett, Mount Pleasant, secretary, and Dr. Agnes Eichelberger, Sioux City, treasurer.

Washington County (Ark.) Medical Society.—At the annual meeting in Fayetteville, April 14, the following officers were elected: Dr. William B. Welch, Fayetteville, president; Drs. John Young, Springdale, and E. G. McCormick, vice-presidents; Dr. Charles M. Robinson, Dutch Mills, secretary; Dr. Robert R. Dinwiddie, Fayetteville, librarian, and Dr. Frank B. Young, Springdale, delegate to Arkansas Medical Society.

Rock Island County (Ill.) Medical Society.—At the annual meeting in Rock Island, April 14, the following officers were elected: Dr. William R. Freek, Cordova, president; Drs. Charles C. Carter, Rock Island, and Lewis D. Dunn, Moline, vice-presidents; Dr. Thomas J. Lamping, Moline, secretary; Dr. Louis Ostrom, Jr., Rock Island, treasurer; Dr. George L. Eyster, Rock Island, official reporter, and Dr. Albert M. Beal, Moline, delegate to the Illinois State Medical Society.

Lewis County (N. Y.) Medical Association.—At the annual meeting held in Lowville, April 13, Dr. Alexander H. Crosby, Lowville, was elected president; Dr. George H. Littlefield, Glenfield, vice-president; Dr. Leroy W. King, Lowville, secretary; Dr. Charles E. Douglass, Lowville, treasurer. Dr. Alex. H. Crosby was chosen member of the nominating committee of the First District Branch of the New York State Medical Association. As fellow to the New York State Medical Association Dr. Charles E. Douglass was chosen; alternate, Dr. Ira D. Spencer, Croghan.

Northwestern Wisconsin Medical Association.—At the annual meeting, held at Stevens Point, April 14, the following officers were elected: President, Dr. Douglas L. Sauerhering, Wausau; vice-presidents, Drs. Karl W. Doege, Marshfield, Levi H. Pelton, Waupaca, and Frank A. Southwick, Stevens Point; secretary and treasurer, Dr. Carl von Neupert, Jr., Stevens Point, and censor for three years, Dr. William W. Gregory, Stevens Point. Hereafter, this association will constitute a district of the Wisconsin State Medical Society, and will comprise Portage, Waupaca, Waushara, Clark, Marathon and Wood counties. Quarterly meetings will be held at Waupaca in July, at Wausau in October, at Grand Rapids in January, and the next annual meeting at Stevens Point in April, 1904.

Kentucky State Medical Society.—At the annual meeting held in Louisville, April 22, 23 and 24, 424 members were registered. It was reported that the membership of the society exceeded 1,600. Lexington was selected as the meeting place for 1904. The following officers were elected: President, Dr. Steele Bailey, Stanford (secretary for 18 years); vice-presidents, Drs. John F. Reynolds, Mount Sterling, Milton P. Creel, Central City, and Frank P. Strickler, Elizabethtown; secretary, Dr. James B. Bullitt, Louisville (for five years); treasurer, Dr. William B. McClure, Lexington; orator in medicine, Dr. Joseph B. Marvin, Louisville; orator in surgery, Dr. Philip H. Stewart, Paducah, and delegates to the American Medical Association, Drs. J. N. McCormack, Bowling Green; Ap Morgan Vance, Louisville, and Isaac A. Shirley, Winchester.

FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held in Madrid, Spain, April 23-30, 1903.

President Julian Calleja y Sanchez presiding.

[*By Cablegram from Our Special Correspondent.*]

[*Continued from page 1231.*]

MADRID, April 30, 1903.

Fuller reports have been mailed.

Section on Medicine.

Professor Lorand, Carlsbad, in a paper on "Diabetes, Acromegaly and Basedow's Disease," spoke of their related pathogenesis. Diseases of the vascular glands are often associated with the glycosuria of Basedow, and glycosuria is invariably associated with hyperactivity of the thyroid body as in chlorosis, poisonings, lactourea and pregnancy. Thyroidin produces it. Marasmus, myxedema and hereditary syphilis are never associated with glycosuria. True atrophy of the thyroid is rare in infancy.

DISCUSSION.

Drs. Castellvi, Madrid, and Parkinson spoke, agreeing with the points made.

Professor Lorand said that diabetic patients are improved by new conditions producing thyroid atrophy, such as cancer or tuberculosis of the thyroid. Hypertrophy is rare in tuberculous abscess. There is swelling of the gland in infections. An antibacterial function was inferred from the action of the gland *in vitro*. Secondary thyroid atrophy in marasmus produces an indurate edema like myxedema and there is a similar loathing for meat.

Clinical Forms of Hyperchlorhydria.

Dr. Thorena, Madrid, said that this condition is only a symptom of some functional, organic or constitutional disease. Its treatment is chiefly symptomatic and rather unsatisfactory, and relapses are frequent. The diet should be albuminous. Condiments should be omitted. Alkalies are useful. Gastroenterostomy may be required in severe cases with myasthenia, dilatation and inability to diet.

DISCUSSION.

Dr. Maragliano, Naples, protested that the condition was invariably functional and subject to nervous influences. The symptom is controllable medically and operation is absolutely contraindicated. He thought that the profession commonly overestimates the importance of HCl.

Luetic Arthritis.

Professor Singer, Vienna, described this condition, which he said was found in the tertiary stage of syphilis. The character of the process is a torpid thickening of the capsule and of the periosteum accompanied by exostoses. It may last for years without much functional disturbance; the latter is usually slight. Diagnosis is to be made in most cases by the absence of fever, and by the exclusion of an associated endocarditis or gonorrhea. The "mixed treatment," he thought, secured the best results.

Section on Pediatrics. Discussion of Artificial Feeding.

Professor Concetti, Rome, emphasized that the artificial feeding of infants was inadvisable, but occasionally became necessary. It is inadvisable because the natural milk of the mother is never replaced by the most perfect substitute, while sterilization of cow's milk and other artificial foods destroys their susceptibility to the action of the digestive ferments and renders assimilation imperfect.

DISCUSSION.

Dr. Raimondi, Paris, said that he had been able to secure aseptic milk for the use of 200 children from birth to two years of age. He described his method, which was to have the udders of the cows and the hands of the milkers thoroughly washed in a 1-1,000 solution of biehlorid. He did not have the milk itself subjected to sterilization or alteration, but it was given to the children within 20 minutes after it came from the cows. This plan had met with almost invariable success as no digestive disturbance traceable to the food was found among the infants. General congratulations were offered Dr. Raimondi.

Scarlatina.

Dr. Moser, Vienna, described the results of his scarlet fever serum. He said that 142 children had received treatment. The serum was obtained from horses which had been immunized by a mixture of cultures of streptococci and the heart blood of scarlatina. Seven months were required to complete the immunization; 150 c.c. produced an exanthematous fever. The use of the serum counteracts the constitutional vomiting and the delirium reduces the pulse and temperature in less than twenty-four hours. Its administration should be begun as early as possible in order to prevent the occurrence of angina and nephritis. These complications have been markedly reduced by its use and the mortality lessened one-half. Agglutination of the scarlet fever coccivis obtained in dilutions of 1 to 250,000.

DISCUSSION.

Dr. Merfan, Paris, suggested the division of cases of scarlatina into four grades, according to their severity.

Drs. Latour and Marmorek regarded the serum as useless.

Dr. Escherich had had convincing personal experience in its use. His mortality had been lower than that of any other Vienna hospital which did not use the serum.

[Moser's serum was described more fully in THE JOURNAL of Nov. 8, 1902, p. 1189.]

Treatment of Tuberculosis in Children by Meat Juice and Raw Meat.

Dr. A. Josias and Dr. T. C. Roux, Paris, presented the results of their treatment, 150 gms. of muscle juice and 100 gms. of raw meat each day, in 46 cases of tuberculosis of all types, of which 30 had pulmonary affections. They conclude that the treatment ameliorates the general condition noticeably, increases the weight and arrests the progress of the local disease. Moreover, the cure is permanent. In cases of very profound disturbance and advanced cavity-formation, the treatment is frequently without avail.

The Bacterial Agent of Chorea, Endocarditis and Rheumatism.

Dr. F. J. Poynton emphasized the clinical evidence in favor of the rheumatic origin of chorea. He said that after injecting a rabbit with the diplococcus of rheumatic fever, the animal developed a chorea, and the micro-organism was demonstrated in the pia mater and the endothelium of the cortical capillaries. This demonstration had been repeated by Fritz Meyer and Paine had also found micrococci in the mitral valve, the cortex and the pia, in a case of human chorea. The urine in one case of chorea presented the same diplococcus which produced chorea, endocarditis, and rheumatism in a rabbit. But, he said, chorea might also be caused by other bacteria, as those of erysipelas, or the pyogenic forms.

Spinal Cocainization in Children.

Dr. P. B. Diaz, Laragossa, presented reports of a series of 15 operations on children varying from 4 to 16 years of age with spinal cocainization. The results were very satisfactory.

Treatment of Ophthalmic Neonatorum.

Dr. J. V. Portello, Valencia, read a paper in which he detailed his methods in the treatment of ophthalmic neonatorum at length. He condemned the use of silver nitrate, corrosive sublimate, and of iodoform, which, he said, aggravated the inflammation and furthered the infection. He was thoroughly pleased, however, with protargol.

Coryza and Hereditary Syphilis.

Dr. L. Carralero, Madrid, said that the coryza of nurslings was one of the most constant, in the majority of cases the earliest, and at times the only symptom of precocious hereditary syphilis. The diagnosis presents difficulties when there are no other symptoms, but every case of purulent rhinitis in a nursling was to be regarded as symptomatic of a diathesis of syphilis. The condition is per se of serious import, inasmuch as it impairs the act of sucking and also leads to bronchopneumonia and otitides. Treatment is by general antiluetic courses and local measures.

Periodicity in Growth.

Dr. T. Atlassaff, Kiew, said that the periods of growth varied from one to three, rarely more, in the life of an individual. At these periods the rapid development of the organism was accompanied by an especial predisposition to disease. Consequently, it was important not to enhance this especial vulnerability by straining the individual with extra toil and lessons.

Serotherapy in Diphtheria.

Dr. Jules Comby, the famous pediatrist of Paris, in a very full paper on the various aspects of serotherapy in diphtheria, said that the beneficial effect of the serum was evident both in the local and in its constitutional effects. The subsequent enemia, languor and feebleness were due not to the serum but to the diphtheria. In every case of even suspected diphtheria the injection should invariably be made, even if the case be of mild type. In cases of laryngeal diphtheria, of malignant types or late cases the dose should be doubled, and may be repeated in twenty-four hours. The injection is indicated in all localizations of the infection and for post-diphtheritic affections (paralysis). Malign cases present no contraindication. In benign cases, if complicated by a pulmonary tuberculosis or by an old nephritis, only feeble doses should be employed. The serum decreases the mortality by three-quarters and, if employed within the first forty-eight hours, abolishes it. The most serious and confusing complication is furnished by the exanthemata, which occur immediately (first days), early (first week), or late (two weeks or more), and mimic measles and scarlet fever. Arthralgias, myalgias, anginas, also occur.

Treatment of Clubfoot.

Dr. O. Vulpius, Heidelberg, said that congenital clubfoot should be invariably treated by redressement, and only in cases in which this had failed was surgical intervention admissible. Paralytic clubfoot was to be treated by redressement for the deformity and by tendon transplantation, if there were sound muscles, for the paralysis; if there were no sound muscles, arthrodesis was advisable. Orthopedic apparatus were only the last resort.

Human Milk for Infants.

Dr. Monti, Vienna, urged that, in view that human milk was the only proper food for infants, it should be made accessible to all classes of the population. He proposed the foundation of institutions of wet nurses for the use of such of the poor as have need for it.

Is Tuberculosis Transmissible by Cow's Milk?

Dr. H. Rehn, Wiesbaden, stated that in a case under observation bovine tuberculosis had not been transmissible through the milk to a human infant.

Paraffin in Umbilical Hernia.

Professor Escherich, Graz, reported his interesting experience with paraffin injection in the cure of infantile umbilical hernia, the treatment of which had heretofore been very unsatisfactory. He had introduced the paraffin at the temperature of 113 F. into the sac of the small hernia, where it cooled and became firm almost instantly. The result was an immediate narrowing of the sac and contraction of the opening. A radical cure had been uniformly obtained.

Splenic Hypertrophy in Infants.

Professor Marfan, Paris, presented a paper on enlargement of the spleen in infants. This condition he usually regarded as a syphilitic interstitial splenitis. It should be differentiated from the enlargement of the organ accompanying rachitic splenoptosis. If associated with anemia it is safe to diagnosticate hereditary syphilis, despite the absence of other characteristic symptoms.

Typhoid Fever Serotherapy in Children.

Professor Josias, Paris, reported the results of this method of treatment as employed by him in fifty cases.

Professor Chantemesse said that the benefits obtained from serotherapy in typhoid fever were very great and no ill effects had so far been observed. The rule was to inject 1 c.c. for every 70 pounds of the patient's weight unless there was evidence of unusual depression, in which condition a diminished dose was desirable. The effects are a reduction of temperature and pulse rate, an abbreviation of the attack with a diminished tendency to relapses and complications and a remarkable improvement of the mortality rate. A mortality of 4 per cent. had been obtained under this mode of treatment, whereas 14 per cent. was the average rate in other Parisian hospitals.

Dr. Vargas, Madrid, expressed himself as favorably impressed with the serum treatment of typhoid fever, and said he was experimenting with an antipertussis serum.

Professor Josias explained that the Widal reaction was precisely the same in children as in adults; 70 per cent. gave evidence of agglutination before the tenth day, and the re-

action was equally as marked before the age of 8 as afterward, notwithstanding Kasal found four retarded cases among children. The Widal reaction is unaffected by injection of the antiserum.

Rhinoscleroma.

Professor Schroetter, Vienna, said that this condition, although common in Austria, was never described elsewhere. It must occur in other countries, especially in America, as a result of the large Austrian immigration thither. At times it would be found difficult to distinguish it from syphilis or tuberculosis, as it was manifested by nodules, ulcers and cicatrices. Rhinoscleroma is a highly infectious disease and, on this account, is worthy of governmental inquiry and attention.

Professor Garcia said that, in twenty years' experience as a pathologist, he had never encountered an example of the disease in Spain.

Section on Neurology—Voluntary Motion.

Dr. H. Fraenkel, Switzerland, famous for his work in locomotor ataxia, urged certain novel ideas in relation to voluntary motion. Motion never exists as the function of the will alone, but is always determined by sensory stimuli. Serious disturbances of sensibility and anesthesia consequently result in pronounced disturbance (ataxia), or abolition of motion. Dr. Fraenkel then passed on to a discussion of the value of re-education in tabes, which, he said, completely overthrew the doctrine of the progressive nature of the disease. He was successful, he said, in re-education of even the severest cases of ataxia. He deprecated the use of the apparatus of Leyden and Jacob.

Pseudosclerosis.

Dr. L. von Frankl-Hochwart, Vienna, read a paper on this type of disease first described by Westphal, in which he said that it could be diagnosed, though with difficulty, during life. From multiple sclerosis it differs in the absence of nystagmus, of the lesions of the optic nerve, and the sensory disturbances, of the facial and palatal paralysis, and finally of the sphincteric paralyses, and in the frequent presence of mental disturbances; the scanning speech and the tremor also differ in certain details. The disease presents no anatomic lesions, but is not hysterical, from which it is distinguished chiefly by its occasionally rapidly fatal course, the decubitus and other symptoms. He then considered diffuse sclerosis.

Psychiatry as a Clinical Science.

Dr. P. Pregowski, Heidelberg, said that the chief element of progress in modern psychiatry has been the recognition of mental states (depression, mania, etc.) as symptoms, or periods, of various types of disease and not as diseases *sui generis*. He said that the study of the associated bio-chemical changes in such cases and of pathologic psychology were of the greatest importance for future progress.

The Thalamus.

Professor Ramón y Cajal, Madrid, reported his recent studies. He described the investigations on this important part of the cerebral anatomy which have been made by German anatomists and by himself. As a result of these researches it is now established that the thalamus is connected with certain sensory tracts as well as with the organs of hearing and vision. It accordingly has much wider and more important relations than had heretofore been accorded it.

Section on Drug and Food Adulteration—Intestinal Therapy.

Professor Bernheim, Paris, has found the stomach frequently intolerant of many drugs which are administered in gelatin or keratin coatings, which, he declared, often dissolve while yet in the stomach. By experiments he has found that commercial gluten dissolves in the stomach in about two hours, pure gluten in from three to seven hours and in the intestine in three hours. By the addition of a resin the physiologic dose may be depended on to pass through the most delicate stomach without irritation.

Salicylic Acid in Food.

Professor Brouardel, Paris, called the attention to the wide use of salicylic acid as a preservative of food. There were annually manufactured over 150,000 kilograms of this drug, far more than enough for all the rheumatics in the world. Salicylic acid is a weak and supposedly harmless antiseptic. Large quantities are required in the manufacture of beer and, while in medicinal doses it is ordinarily harmless, the habitual consumption of minute amounts may develop a cumulative effect and bring about very undesirable chronic changes. While an occasional drink of cognac may be innocent, a daily glass will pretty surely excite an arteriosclerosis. The elimination of salicylic acid or its salts is rapid in the young, but it is likely to be slow and even prolonged for days in the aged or infirm and in pregnant women or young children. In regard to arsenic, he said that the effect of repeated minute doses is known to be disastrous to the digestive organs, as well as the nervous system. An epidemic of diarrhea, traceable to arsenic, affecting no less than 4,000 persons was cited. Although arsenic is one of the oldest known poisons, its influence when received in minimal doses may escape detection for months. Cases of nephritis and arteriosclerosis are among the effects of salicylic and boric acid on the weak. Dogs subjected to experimentation with these and similar drugs soon collapsed with diabetic paralysis.

Section on Surgery—Prostatectomy.

Dr. S. Clado, Paris, declared the suprapubic route to be indicated only for cases in which the middle lobe formed a tongue in the bladder. The operation of choice is by the perineal route; complete extirpation is advisable, but not absolutely necessary. If there is an independent, pedunculated projection into the bladder, the perineal operation is to be supplemented by a suprapubic incision. In prostato-vesical tuberculosis alone is incision of the urethra advisable. In other cases it is to be carefully avoided.

Radical Cure for Hypertrophy of the Prostate.

Dr. A. Pousson, Bordeaux, reported his experiences and discussed the various methods for the treatment of the prostate. Orchidectomy, single or double, has its dangers for old men and produces very inconstant results. Vasectomy and angioneurectomy do not reduce the prostate, but tend to prevent the congestive attacks of that gland which so often induce acute ischuria. Suprapubic prostatectomy rarely improves spontaneous micturition, but facilitates lavage of the blood, and so diminishes the chances of ascending infection. It is better borne by very old men than is the perineal operation. The latter procedure, however, with total extirpation of the gland, is the single rational and radical cure.

Surgical Intervention in Nephritis.

Dr. A. Pousson, Bordeaux, said that his results agreed with those of Harrison and of Edebohls and indicated that operation could ameliorate or arrest for a time the course of a case of chronic Bright's disease. He advises decortication only for the more or less latent periods, while cases of plain uremia, with oliguria, diminution of urea, etc., demand nephrotomy. The good effects are attributable to relaxation of intrarenal tension, to improved circulation and to absorption of infiltrations. In all his cases he has seen improvement in the urine and disappearance of the hydremic and uremic symptoms.

Functional Renal Diagnosis.

Dr. A. Hogge, Liege, discussed the new methods of diagnosis. All are of value, but they fail to exactly measure the kidney functions. In other words, they allow a comparison of the two organs and so serve as a check on surgical intervention.

Filling of Bone Cavities.

Dr. M. Silbermark, Vienna, described Professor Mosetigmoorhof's method of removing all diseased bone, drying the cavity with hot air, and then filling with a preparation of lead. He exhibited the metal and the instruments. He showed by Roentgen photographs that the lead is gradually absorbed and replaced by fresh bone. The cavity should be excavated well into the healthy area.

Surgery of the Stomach.

Dr. H. Hartmann, Paris, said that ablation was the only operation for neoplasms. Wherever medical treatment had

been inefficacious in a suspected case, laparotomy is indicated. For benign stenosis, operation affords immediate relief and has no greater mortality than herniotomy. In hour-glass contraction and painful adhesions this procedure gives good results. For the acute hemorrhage of ulcer Dr. Hartmann recommends operation only in those cases complicated by pyloric stenosis, with gastric unrest; here gastroenterectomy is the best sedative and hemostatic. Ulcers which remain painful in spite of treatment, gastrosuccorrhea and rebellious hyperchlorhydria, if accompanied by the pyloric syndrome, probably indicate an ulcer at the outlet, and demand operation.

General Sessions—Immunization of Man Against Tuberculosis.

Prof. E. Maragliano, Genoa, said in his address before the general conference that there existed in most individuals a natural immunity against tuberculosis. By this fact is explained the escape of the large number of persons who are daily exposed to infection. This power of resistance is apparently potent in direct ratio to the standard of good health maintained in the individual. Any decline of the vital strength renders the organism just so much more liable to invasion. The truth of this assertion is confirmed by experimentation on lower animals and by observation on the denizens of the tenement districts. The object for which the author had been zealously laboring for thirty years was the establishment of this standard of immunity through improved methods of living and also by the use of an immunizing serum that might be injected hypodermatically or perhaps taken by the mouth. Professor Maragliano thought he had made some progress in this direction, as his experiments on animals had met sufficient success to justify a trial on man.

Closing Session.

At the close of the general session addresses were delivered by representatives of the several nations that had taken part in the congress. It was regrettable that the committee representing the United States should have been refused admission to the stage at the inauguration of the ambassadors and that our delegate alone failed to deliver his address. In this connection and in explanation of the above-mentioned irregularities it should be stated that the preparations for the accommodation of the scientific and public meetings of the congress were very inadequate. The sections were forced to occupy widely separated halls, to which there were unsatisfactory means of transportation. Perhaps the most noticeable lack of organization was to be seen in the want of an authoritative bureau of information. Even the committees were unable to tell when or where many of the important proceedings would occur.

The social festivities, however, were abundant and enjoyable. Americans especially appreciated the hospitality of Mr. and Mrs. Arthur S. Hardy, the United States minister to Spain.

Prizes.

At the session held in 1897 at Moscow that city voted, in honor of the Russian meeting, a prize to be awarded for original research. This was unanimously awarded Professor Metschnikoff. A similar prize, donated by the city of Paris, was awarded, after a spirited contest, to Professor Grassi. On the first ballot the votes stood Grassi 42, Roentgen 39, and Lavaran 5.

The next place of meeting will be at Lisbon, Portugal, in 1906, with Professor Alfredo da Costa of that city as president.

(To be continued.)

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held in Chicago, April 29 and 30, and May 1 and 2, 1903.

The society convened in Tremont Hall of Northwestern University, under the presidency of Dr. M. L. Harris, Chicago.

Addresses of welcome were delivered by Dr. Taylor, prosecuting attorney of Chicago; Hon. Henry G. Foreman, president of the county commissioners, and by Dr. James H. Stowell.

The response to these addresses was made by Dr. M. L. Harris, the president.

President's Address.

PRESIDENT HARRIS, in his address, stated, among other things, that success, as applied to the life of the physician, meant something else than his own opinion of himself. It meant the realization by others of the value of his labors, of their value, not simply from a commercial standpoint, but from the standpoint of the scientist and the humanitarian, to others of his knowledge and skill. That natural aptitude and ability count for something in determining the degree of success to which an individual may attain must be granted, as it is a common observation in all walks of life that some individuals with scarcely any opportunities in early life have struggled to the top, over almost insuperable obstacles; notwithstanding this fact, the scientific child study which so many are now vigorously prosecuting with such rich rewards for their labor, demonstrates clearly that much of the dulness, the apparent stupidity and lack of capacity to learn in the early years of life were closely related to, if not dependent on, certain physical defects, and that many of these defects and the capacity to learn had, in a broad sense, a nutritional basis.

He recapitulated briefly the factors which contribute most to the scientific success of the physician, namely: 1. A thorough knowledge of the rules of logic and the theory of reasoning, in order that the physician might be able to deduce warrantable conclusions from the evidence at hand. 2. The physician must train his powers of observation, in order to present to his reasoning faculties correct data. 3. He must be familiar with what is known on the subject before him, in order that he may correlate his own observations with the facts presented by others.

Approximately seventy papers were read before the three Sections, and three general addresses delivered. We present abstracts of some of the more interesting papers.

The Dangers of Exclusive Milk Diet in Nephritis.

DR. A. C. CROFTAN of Chicago read a paper with this title. The popular prejudice in favor of an exclusive milk diet in nephritis, and the fundamental fallacies of this prejudice, were pointed out. The three indications for dietetic treatment of nephritis were: 1. Protection of the secreting epithelium of the kidney. 2. Protection of the cardio-vascular apparatus. 3. Protection of the general nutrition of the patient. The author presented reasons why an exclusive milk diet met none of these requirements. The best substitute for an exclusive milk diet, as deducted from modern investigations into the causes of nephritis and the excretion of urinary solids in inflammatory diseases of the kidneys, was pointed out.

The Breast Versus the Bottle in Infant Feeding.

DR. ALFRED C. COTTON, Chicago, compared the mortality statistics of natural and artificial feeding. He referred to the relative morbidity attending each method. Human milk was compared with that of other mammals. He pointed out the dangers of the acceptance of even the best known methods of artificial feeding. The more nearly perfect the food laboratory the greater were the possibilities of harm from over-confidence in artificial methods. Infants were too frequently denied the breast for trivial and insufficient reasons. In view of our knowledge of the morbidity and mortality of artificially fed infants what right had physicians needlessly to expose any infant to such chances? He made a plea for the establishment of a bureau of information and supervision, to facilitate the procuring of wet nurses when required.

Cockroaches as Typhoid Infection Carriers.

DR. ROSA ENGELMANN, Chicago, discussed this subject under the following heads: 1. Vermin as active intermediary hosts of various infections. 2. History of a house epidemic of typhoid fever. 3. Cockroaches, sewage and water denizens not heretofore classed as typhoid infection carriers. 4. Need of examination and cultures from intestinal contents and from feet of cockroaches for pathogenic germs—especially the Eberth bacillus. 5. Opportunity the coming summer (after necessarily prolonged rainfall) for such work in the vermin-infested slums of Chicago. (A portion of this paper was reported in THE JOURNAL, Feb. 14, 1903, p. 464.)

Hysteria.

DR. HUGH T. PATRICK, Chicago, reported cases of hysterical paraplegia, hysterical amblyopia with rigid pupil, hysterical anorexia, hysterical pseudo-meningitis and hysterical deaf-mutism.

The Treatment of Some of the Degenerations of the Cerebro-Spinal Apparatus, with Particular Reference to Optic Atrophy.

DR. ARCHIBALD CHURCH, Chicago, said that the general feeling was that degenerations taking place in the conducting tracts of the cord, as in locomotor ataxia and atrophy of the optic nerve, arising from any cause, as well as the changes in the brain and cord that are found in paretic dementia, are quite unamenable to treatment. In all of these conditions the tendency to remission was, in itself, a confusing element in judging the therapeutic value of any line of treatment. In the case of the optic nerve, the ophthalmoscope enabled the physician to accurately see changes which were taking place, and by approximate tests variations for better or worse could be actively determined and systematically recorded. A number of cases of optic atrophy associated with a secondary syphilis had been under observation for from two to ten years, and were made the basis of an estimate of the value of mercury in controlling these degenerations. Ophthalmoscopic examinations and perimetric records made in these cases by competent oculists demonstrate that in some instances degenerations in the optic nerve could be distinctly controlled. Other cases of locomotor ataxia and paretic dementia were adduced, in which the clinical records indicated a similar retarding influence on the processes of degeneration in the brain and cord.

Euphthalmin as a Mydriatic for the General Practitioner.

DR. ALBERT B. HALES, Chicago, said that the use of the ophthalmoscope was becoming more general in medical diagnosis. He pointed out the need of a drug to dilate the pupil, not only to study the condition of the fundus, but also to note the condition of the cornea, iris and lens. Atropin was too powerful, and destroyed accommodation. Homatropin was of only less strength, and was expensive. Cocain was good, but dangerous to the eye. Euphthalmin scarcely affected accommodation; it dilated the pupil fully and in a short time. It had no dangerous element about it, and its effect passed quickly away. He detailed experiments.

Abdominal Pain in Pleurisy and Pneumonia.

DR. JAMES B. HERRICK, Chicago, said that pain in pleurisy and pneumonia might be referred not only to the affected side of the chest, but to the opposite side of the abdomen. In the latter case, abdominal disease, for example appendicitis, might be simulated. He dwelt on the importance of recognizing the thoracic organ of pain, as it might thus prevent surgical interference. Illustrative cases were reported. The anatomic basis for the referred pain was found chiefly in the course and distribution of the intercostal nerves. The diagnosis was generally easy when once the possibility of the thoracic cause for the abdominal pain was thought of, and a careful examination of the chest made.

Some Unusual Cases of Chorea.

DR. L. HARRISON METTLER, Chicago, reported cases and advanced the idea that chorea was a symptom and not a disease; that its etiology was not so obscure as it appeared to be; that it has some remarkable frequently overlooked features in its symptomatology, and that its treatment was varied and deserving of more careful study.

The General Practitioner and His Relation to Early Surgical Operations.

DR. E. B. MONTGOMERY, Quincy, called attention to the fact that the internists were too often apt to be influenced by the law opinion that surgical operations were only to be done as a last resort, and unconsciously lent themselves to delay in a large class of cases that should have surgical intervention early in their course. He contended that the unfavorable results which were shown to follow in too large a percentage of cases of carcinoma of the breast and uterus were due to late operation. Appreciating this, the general practitioner should encourage among his patrons immediate consultation of the physician concerning every trouble with the breast in women, however insignificant, or any irregular hemorrhage, occurring after the age of 40 years, and, if there was the slightest question concerning the presence of malignant disease, should associate a surgeon with him in the case. In the author's opinion, the same rules should obtain in typhoid fever, with any evidence of perforation; in appendicitis; in cholecystitis with enlargement of the gall bladder, and in enlargement of the prostate gland after the catheter life has begun; in pleuritic effusions lasting over two weeks, either purulent or not, and in hypertrophic cirrhosis of the liver, the early presence of the surgeon was advocated. In support of these opinions, facts and cases were adduced.

The Traction Injury of Arteries.

DR. S. M. WYLIE, Paxton, said that normal nutrition and vascularization of the extremities depended on an unobstructed flow of normal blood. Stagnation, partial or complete, favored the formation of fibrinous clots. Traction injuries of the arteries, by disturbing the normal relation and function of the various coats, favored the formation of thrombus in two ways: 1. The ruptured walls of the interna curling up in the lumen of the vessel act as an obstructant to the current. 2. The loss of contractile power from the overstretched or torn muscular fibers favored stagnation and arrested the flow. Both were factors in the function of occlusion thrombi, causing complete arrest of the circulation and subsequent death of the part. This was a surgical accident often overlooked at the time of the first dressing of an injured extremity, and when subsequent gangrene ensued, as it often did, it was attributed to faulty methods of applying the dressing.

Modern Surgery of Congenital Cleft Palate.

DR. S. R. HOPKINS, Springfield, gave a description of the uranoplastic operation in its infancy, and its advantages over later operations, with the statistics furnished by different operators. He likewise gave a description of staphylorrhaphy in later life; also made remarks on the power of speech following operations. He recommended a change from the usual *modus operandi* of closing continuous clefts in children over six months of age, with a report of two cases illustrating the proposed method.

The Treatment and the Causes of Death in Placenta Previa.

DR. P. M. BURKE, La Salle, pointed out that the cause of death in placenta previa was extensive rupture of the uterus and not hemorrhage due to a mere separation of the placenta in the act of turning, as was popularly believed. Out of 9 cases, in all of which he turned, there were 4 extensive ruptures. Three of the patients died and one recovered. The cause of death applied to the mother, as the cause of death of the child was self-evident. The only deaths were in the ruptured cases unrepaired. The lack of knowledge was due to small individual experience, consequent on the infrequency of such cases. In numerous cases of turning, in about a thousand cases of obstetrics, he never had had a rupture except in placenta previa. The occurrence of rupture in these cases was not a coincidence, but due to the friable, brittle condition of the lower segment of the uterus. The treatment was surgical operation, prompt, heroic and successful repair of the rupture.

Tuberculosis of the Vestibule of the Female Genitals.

DR. J. H. STEALY, Freeport, reviewed the literature and referred to the rarity of the lesion; the possible cause of the unfavorable course taken by the disease in this region; the difficulties attending the determination of whether the lesion was primary or secondary, and its bearing on the prognosis. He said the tuberculin test was the only accurate method.

Officers for the Ensuing Year.

The following officers were elected: President, Dr. Carl E. Black, Jacksonville; secretary, Dr. E. W. Weis, Ottawa; treasurer, Dr. Everett J. Brown, Decatur. Bloomington was selected as the place for holding the next annual meeting.

The new constitution, in conformity with the plan of the American Medical Association, was adopted without material change.

Marriages.

HORACE M. SIMMONS, M.D., to Miss Caroline F. Johnson, both of Baltimore, April 22.

EDWIN H. EHLERT, M.D., to Miss Elizabeth S. Pike, both of Hartford, Wis., April 25.

MAYNARD A. AUSTIN, M.D., to Miss Anna Grace Baker, both of Anderson, Ind., April 29.

S. EDWARD SANDERSON, M.D., to Miss Clara May Stevens, both of Detroit, Mich., April 28.

AUGUSTA V. WENDELL, M.D., to Miss Catherine F. Klein, both of Newark, N. J., March 25.

THOMAS C. PEEBLES, M.D., to Miss Maud Van Tine, both of Lutherville, Baltimore County, Md., April 23.

Deaths.

James Bonaparte Greeley, M.D. Vermont Medical College, Woodstock, 1855, died at his home in Thornton's Ferry, N. H., April 21, from heart disease, after an illness of two days, aged 71. He was born in Nashua, N. H., served as surgeon of the First Rhode Island Regiment in the Civil War, and was one of the best-known physicians in Southern New Hampshire. He also represented the town of Merrimack in the state legislature.

Washington Franklin Anderson, M.D. University of Maryland, Baltimore, 1844, the oldest physician in Utah; once medical adviser to Brigham Young, a resident of Salt Lake City for forty-six years; first president of the Utah Medical Society; a member of the territorial legislature in 1860 and 1861, died at his home in Salt Lake City, April 22, after a short illness, aged 80.

Herman H. Schaberg, M.D. Detroit College of Medicine, 1878, a member of the American Medical Association, and the Kalamazoo Academy of Medicine, at various times health officer and city physician of Kalamazoo, died at his home, April 24, from pneumonia, after an illness of one week, aged 54.

Hiram Long, M.D. New York Medical College, New York City, 1859, surgeon in the Civil War, for several terms president of the Sunbury (Pa.) Medical Association, died at his home in Sunbury, from heart disease, April 24, after a short illness, aged 71.

Benjamin Morris, M.D. University of Virginia, Charlottesville, Va., formerly of Martinsville, Va., died at the home of his father, Dr. William W. Morris, near Rangeley, Va., from consumption, April 15.

William H. Wooden, M.D. Medical College of Ohio, Cincinnati, 1879, a member of the Decatur County (Ind.) Medical Society, died at his home in Greensburg, April 23, aged 45.

Addison Cyrus Hinkson, M.D. College of Physicians and Surgeons of San Francisco, 1901, of Nevada City, Cal., died suddenly in San Francisco, April 22, from heart disease, aged 28.

William R. Davis, M.D. Eclectic Medical College of the City of New York, 1891, died at his home in Utica, N. Y., from consumption, April 19, after a lingering illness, aged 47.

Joseph A. Stegmann, M.D. Hahnemann Medical College, Philadelphia, 1886, died at his home in Philadelphia, April 24, from typhoid fever, after an illness of two weeks, aged 40.

Thomas A. Pineo, M.D. Long Island College Hospital, Brooklyn, 1898, died at his home in Brooklyn, April 19, from pneumonia, after an illness of nine days, aged 38.

James R. Todd, M.D. Kansas City Medical College, 1883, died at his home in Gridley, Cal., April 21, from septicemia, following an accident, after a long illness, aged 59.

H. T. Breckbill, M.D. Pulte Medical College, Cincinnati, 1878, died suddenly while walking from his office to his house in Columbus Grove, Ohio, April 22, aged 60.

Roswell E. James, M.D., died at his home in Kalamazoo, Mich., April 23, from internal hemorrhage, after an illness of two days, aged 68.

Richard R. Breisch, M.D. Jefferson Medical College, Philadelphia, 1881, retired from practice, died at his home in Ringtown, Pa., April 22.

Charles E. Reese, M.D. Jefferson Medical College, Philadelphia, 1855, died at his home in Lowndesboro, Ala., April 25, after a short illness.

William W. Miller, M.D. Western Pennsylvania Medical College, Pittsburg, died at his residence in that city, April 16, from pneumonia.

Edwin B. Reed, M.D. University of Pennsylvania, Philadelphia, died at Little Togus, Me., April 24, from dropsy, aged 65.

D. J. Grandstaff, M.D. Louisville Medical College, 1878, died at his home in Mason, Texas, from exposure, April 22.

Jared M. Newell, M.D. University of Buffalo, 1873, died at his home in Rochester, N. Y., April 23, aged 82.

Robert M. Morgan, M.D., died at his home in Decherd, Tenn., April 25, from heart disease, aged 70.

State Boards of Registration.

Rhode Island Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the examination held at Providence, April 2 and 3, 1903, as follows: Number of subjects examined, 7; total questions, 70; percentage required to pass, 75; written examination; total examined, 14; passed, 9; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
203	R.	Illinois Medical College	1903	81.4
204	R.	Yale University, Medical Dept	1903	*86.8
205	R.	Dartmouth Medical College	1900	79.0
212	R.	Dartmouth Medical College	1903	79.6
206	R.	University and Bellevue Med. Coll.	1899	82.0
208	R.	Harvard Medical School	1876	76.8
209	R.	Harvard Medical School	1900	81.1
210	R.	Coll. Phys. and Surgs., Baltimore	1902	75.0
216	R.	Leonard Medical College	1902	78.6

FAILED.

207	R.	Illinois Medical College	1902	67.3
211	E.	Georgia Coll. Ecl. Med. and Surg	1895	67.6
213	R.	Tufts Medical College	1903	*74.2
214	R.	University of Vermont, Med. Dept.	1898	72.1
215	R.	Baltimore Medical College	1893	58.2

* Undergraduates, about to receive diplomas.

Minnesota Report.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at St. Paul, April 7 to 9, 1903, as follows: Subjects, 12; questions, 95; percentage required, 75; written examination; number examined, 23; passed, 20; failed, 3.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2155	R.	University of Michigan	1898	84.0
2156	R.	University of Pennsylvania	1883	77.9
2170	R.	University of Maryland	1900	77.4
2158	R.	Medico-Chirurgical College, Phila	1902	82.8
2159	R.	McGill University	1900	87.3
2160	R.	Coll. of Phys. and Surgs., Milwaukee	1902	*75.0
2163	R.	Coll. of Phys. and Surgs., Chicago	1902	†77.6
2167	R.	Coll. of Phys. and Surgs., Chicago	1902	†76.7
2168	R.	Coll. of Phys. and Surgs., Chicago	1902	*75.0
2164	R.	Coll. of P. and S., Keokuk, Iowa	1900	75.0
2161	R.	Rush Medical College, Chicago	1901	75.7
2169	R.	Rush Medical College, Chicago	1901	83.1
2166	R.	Kansas City Medical College	1899	*76.1
2171	R.	Kansas City Medical College	1901	84.1
2172	R.	Hamline University	1902	80.8
2173	R.	Hamline University	1902	77.5
2174	H.	Hahnemann Med. Coll., Chicago	1895	77.1
2175	R.	Dartmouth (N. H.) Medical College	1902	78.8
2176	R.	Vanderbilt University, Tenn	1900	78.3
2177	R.	Laval University	1902	83.4

FAILED.

2157	R.	Hamline University	1902	71.3
2162	R.	Marion Sims Med. Coll., St. Louis	1902	‡63.5
2165	R.	Sioux City College of Medicine	1896	+64.5

* Second examination.
† Third examination.
‡ Failed four times.
+ Failed twice.

Association News.

New Members.

New members for the month of April, 1903:

ALABAMA.

Ellis, J. L., Dothan.
Parker, E. C., Montgomery.
Mertins, Paul S., Montgomery.
Henderson, W. T., Mobile.
Lull, Cabot, Birmingham.
Jenkins, J. F., Coleanor.
Campbell, Douglas G., Mobile.
Kennedy, J. O., Kennedy.
Parke, T. D., Birmingham.
Atkins, Jas. M., Troy.
Arnold, L. W., Florence.

ARKANSAS.

Dickson, H. N., Jamestown.
Stewart, W. S., White Oak.
Morrow, F. R., Green Forest.

CALIFORNIA.

Farrow, E. J., San Francisco.
Eaton, G. L., San Francisco.
Steinwand, O. W., Selma.
Cumming, H. F., Angel Island.
Van Dyke, E. C., San Francisco.
Jones, L. F., Tuolemne.

COLORADO.
Spaulding, W. F., Greeley.
Espey, J. G., Trinidad.
Robinson, G. W., Trinidad.
Blackman, A. A., Colorado Sprgs.

CONNECTICUT.
Miller, G. R., Hartford.
Anderson, H. G., Waterbury.
Murphy, W. G., East Hartford.

DISTRICT OF COLUMBIA.
Perry, G. N., Washington.
Prentiss, D. W., Washington.

FLORIDA.
Fernandez, J. D., Jacksonville.

GEORGIA.
Thornton, H. E., Hartwell.
Sikes, J. A. B., Iron City.
Wright, T. R., Augusta.
Corry, J. A., Barnesville.
Kenyon, O. T., Dawson.
Moore, N. McH., Augusta.
Dean, R. H., Jacksonville.

IDAHO.
Bibby, S. E., Grangeville.
Allen, O. J., Custer.

ILLINOIS.
Neale, R. A., Chicago.
Eberhart, N. M., Chicago.
Mastin, J. G., Chicago.
Ryerson, E. W., Chicago.
Pirosh, Berthold, Chicago.
Rice, May C., Chicago.
Hecht, D'Orsay, Chicago.
St. Clair, F. P., Chicago.
Williams, W. C., Chicago.
Wright, S. E., Chicago.
McEwen, E. L., Chicago.
Snyder, K. F., Freeport.
Kercher, W. L., Freeport.
Wilson, W. H., Kankakee.
Hagler, A. Lee, Springfield.
Horner, Clyde F., El Paso.

INDIANA.
Cannon, G. H., New Albany.
Weathers, J. F., New Albany.
Potter, Theo., Indianapolis.
Bailey, G. D., Spiceland.
Lynch, J. Y., Rosedale.

IOWA.
Fisher, E. E., Rodney.
Burge, A. J., Iowa City.
Spearman, F. S., Hawkeye.
Martin, D. T., Pomeroy.
Frank, C. S., Epworth.
Castello, W. E., Zwingle.

KANSAS.
Barnett, B. M., Rosedale.
Smith, A. J., Leavenworth.
Alkire, H. L., Topeka.
Fear, J. C., Waverly.

KENTUCKY.
Dangherty, C. G., Paris.
Bruner, B. L., Hardyville.
Yazell, W. S., Maysville.
Manning, H. R., Louisville.
Bohannon, J. G., Greenville.
Moren, J. J. Louisville.
McClure, W. B., Lexington.
Cartwright, F. D., Bowling Green.
Mason, H. M., Hazel.
Robins, Vernon, Louisville.
Jenkins, G. B., Louisville.
Moneyhon, T. J., Augusta.
Abell, Irvin, Louisville.
Phythian, J. L., Newport.

LOUISIANA.
Butterworth, W. M., N. Orleans.
Campbell, R. C., Shreveport.
Holt, Jos., New Orleans.
McIlhanny, P. A., New Orleans.
Brosnan, D. S., New Orleans.
Calhoun, W. W., New Orleans.
Pray, A. A., New Orleans.
Pothier, O. L., New Orleans.
Oechsner, Herman, New Orleans.
French, T. T., New Orleans.
Cazenavette, L. L., New Orleans.
Castellanes, J. J., New Orleans.
Caire, Arthur, New Orleans.
Szabary, Latzi, New Orleans.
Richard, J. I., New Orleans.
Noto, Cosimo, New Orleans.
Landauer, S. C., New Orleans.
Parker, J. P., New Orleans.
Seemann, W. H., New Orleans.
Richards, W. T., New Orleans.
Mandeville, W. R., New Orleans.
Clark, S. M. D., New Orleans.
DeGrange, J. T., New Orleans.
Keltz, Gustav, New Orleans.
Hale, S. E., New Orleans.
Wolfe, J. T., New Orleans.
Hoefeld, A. O., New Orleans.
Siekmann, I. F., New Orleans.
Wolff, H. D., New Orleans.
Kendall, W. S., Ruston.
Roberts, R., Ruston.
McBride, J. S., Ruston.
Quirk, Wm. A., Evergreen.
Biggs, O. A., Columbia.
Hagaman, W. F., Norwood.
Hawkins, R. G., Palmetto.
Scott, J. J., Shreveport.
Knolle, W. H., New Orleans.
Barker, W. E., Plaquemine.
Bellinger, P. L., Waterproof.
Edgerton, C. E., Coushatta.
Mayer, F. J., Scott.

MARYLAND.
Watson, W. T., Baltimore.
Theobald, Sam'l, Baltimore.

MASSACHUSETTS.
Lynch, Chas. F., Springfield.
Pease, E. A., Boston.
Tucker, S. Chase, Peabody.

MICHIGAN.
Elwood, C. R., Menominee.
Noer, Peter J., Menominee.
Rowley, A. S., Traverse City.
Robinson, D. E., Jackson.
Knight, F. J., Charlotte.
Warner, J. H., Detroit.
Bonning, Carl, Detroit.
Strong, Martha C., Jackson.
Donald, W. McI., Detroit.
Suttle, Geo., Detroit.

MINNESOTA.
Hart, M. J., LeRoy.
Kilbride, J. S., Canby.
Golberg, Martin Luther, Twin Valley.
Miller, W. A., New York Mills.
Christenson, C. R., Starbuck.

MISSISSIPPI.
Johns, W. A., Corinth.
Brister, S. L., Greenwood.
Wood, G. H., Batesville.
Stennis, I. E., McComb City.
Davis, W. W., Ora.
Wiss, Rosa D., Meridian.
Reynolds, W. W., Meridian.
Crigler, L. W., Columbus.
Howard, E. F., Vicksburg.
Plunkett, J. H., McComb City.

MISSOURI.
Calvert, W. J., St. Louis.
Boyson, J. P., St. Louis.
Johnson, H. McC., St. Louis.
Cummings, H. J., St. Louis.
Bartlett, Willard, St. Louis.
Gross, J. H., St. Louis.
Riesmeyer, L. T., St. Louis.
Stewart, Floyd, St. Louis.
Buckwalter, J. C., St. Louis.
Bishop, F. L., St. Louis.
Parker, O. H., Kansas City.
Thrailkill, E. H., Kansas City.
Moss, Woodson, Columbia.
Polson, John, Laclede.
Buck, U. G., Rothville.

NEBRASKA.
Tornholm, Frank, Ashland.
Cleveland, Luella S., Shelton.
Raines, R. F., Red Cloud.

NEW JERSEY.
Lee, S. G., East Orange.

NEW MEXICO.
Henry, J. A., Albuquerque.

NEW YORK.
Starke, G. H. E., New York City.
Tuttle, G. A., New York City.
Schlegel, G., New York City.
Simmons, J. G., New York City.
Simmons, C. E., New York City.
Peck, C. H., New York City.
Lisle, J. de, New York City.
Jackson, C. W., New York City.
Foster, G. V., New York City.
Smith, A. A., New York City.
Ruhl, Henry, New York City.
Ward, Jr., G. G., New York City.
Elebash, C. S., New York City.
McCoy, John, New York City.
Sarll, H. D., New York City.
Tracy, I. O., New York City.
Lewinthal, D. C., New York City.
Schondelmeier, C. T., Brooklyn.
Fuhs, Jacob, Brooklyn.
Thelberg, Elizabeth B., Poughkeepsie.
Robertson, Victor A., Brooklyn.
Northway-Meyer, Oscar, Montlcello.
Slade, Mary, Castile.
Payne, A. E., Riverhead.
White, A. D., Ithaca.
Armstrong-Hopkins, Saleni, Tyre.
Wieber, Adolph, Brooklyn.
Steele, Wellington G., Mongaup Valley.
Mahady, C. R., Rome.
Wheelock, A. A., Elizabethtown.
Mears, John Bowdoin, Buffalo.

NORTH CAROLINA.
Banner, C. W., Greensboro.
Pendleton, A. S., Henderson.
Anderson, T. E., Statesville.

OHIO.
Woodson, O. M., Wellston.
Spohr, Carl Louis, Columbus.
Hendershot, B. S., New Philadelphia.
Jones, E. J., Oak Hill.
Felker, Gertrude, Dayton.
Everhard, Eleanora S., Dayton.
Hermann, G. A., Hamilton.

OREGON.
Henderson, Thos. M., Pendleton.
Spencer, W. O., Huntington.

PENNSYLVANIA.
Van Sickle, F. L., Olyphant.
Wakefield, A. N., Johnstown.
Porter, John, McKeesport.
Bessey, Herman, Scranton.
Norris, G. W., Philadelphia.
Ostheimer, Maurice, Philadelphia.
Zeutmayer, Wm., Philadelphia.
McCurdy, J. R., Pittsburg.
Brenneman, R. E., Pittsburg.
Yagle, J. L., New Freedom.
Koontz, D. M., New Kensington.

SOUTH CAROLINA.
Harmon, S. E., Columbia.

TENNESSEE.
Hudson, Alberto, Nashville.
Blackburn, E. C., Memphis.
Holder, Eugene Michel, Memphis.
McKinney, Richmond, Memphis.
McLean, J. L., Memphis.
Henning, D. M., Memphis.
Rowland, J. F., Nashville.
Cooke, A. B., Nashville.
Cullom, M. M., Nashville.
Stephens, J. Bunyan, Nashville.
Wood, E. G., Nashville.
Brower, Chas., Nashville.
Smith, Larkin, Nashville.
Anderson, W. B., Nashville.
Brew, Jas., Nashville.
Anderson, W. E., Chattanooga.
Abernathy, G. L., Hill City.
Cochrane, H. P., Franklin.
Pitts, Rufus, Murfreesboro.
Rees, H. C., Murfreesboro.
Porter, O. J., Columbia.
Pillow, Robert, Columbia.
Hill, J. F., Memphis.

TEXAS.
Torbett, J. W., Martin.
Buie, John, Hillsboro.
Barnitz, H. D., San Antonio.
McDaniel, A. S., San Antonio.
Shelmire, J. B., Dallas.
Yates, J. D., Jasper.
Thompson, J. H., El Paso.
Haskell, Pliny F., Keene.
Hertzberg, E. F., San Antonio.
Barber, Lyman A., Ft. Worth.
Scott, Chas. T., El Paso.
Smith, M., Sulphur Springs.

VIRGINIA.
Old, W. L., Norfolk.

WASHINGTON.
Holt, Chas. L., Whatcom.
Case, C. E., Tacoma.
Foster, M. H., Pt. Townsend.

WEST VIRGINIA.
Hansford, J. H., Crown Hill.
Young, H. H., Charleston.
Peck, Nelson, Clarksburg.

WISCONSIN.
Carr, Bernard J., Beloit.
Moffatt, Henry L., Poy Sippl.
Lemmer, G. N., Spooner.
Ritchie, G. A., Appleton.

Miscellany.

The Formula of Disease.—An exchange quotes the formula of disease as

$$D = \frac{MVN}{R}$$

D represents the disease; M the microbe, multiplied by V, its virulence, and N its numbers; divided by R, the resisting powers of the organism. We would suggest, as an improvement, to multiply the resisting powers of the organism by P, the wise guidance of the physician, which immeasurably reduces the quotient of the disease as expressed in the first formula. The laity have the impression that the physician alone fights the disease. They seldom or never realize that the ablest physician can work only through the resisting powers of the organism, and if these are defective he is baffled at every turn and all his efforts are fruitless; he can not save the patient any more than the pilot can save the vessel if it is leaking too badly. The pilot takes the helm and steers the ship past the shoals and rocks by the shortest route to the dock, inspiring and aiding the officers and crew to do their utmost to keep it afloat a little longer, but if the ship is too badly scuttled it will sink before reaching the dock, in spite of all his knowledge and skill. If the public once realized that the same is true of the physician, they would cease to expect the impossible of him, and the platform on which charlatans and Eddyites build would be cut from under them with the general recognition of the truth in the amended formula:

$$D = \frac{MVN}{R+P}$$

Phototherapy in Neurasthenia.—Joire has found that red light has a marked beneficial action in neurasthenia. It soothes the nerves; increases the vitality and appetite; improves digestion, and the nutrition in general seems to appreciate the benefit. He has been applying it for this purpose on a large scale during the past year, and lauds it highly in his communication on the subject to the "Nord Méd.," ix, No. 181.

THE NEW ORLEANS SESSION

RECORD-BREAKING ATTENDANCE.

New Orleans Session Attended by Large Delegations from All Parts of the Country.

The fifty-fourth annual session of the American Medical Association at New Orleans has proven a great success in point of attendance and in scientific interest. Reports by telegraph received as we go to press predict that this will be the largest session ever held. At the close of the registration department Wednesday night, 1,941 members had registered. This was at the close of the second day, and, although most of those present at the annual sessions register before the end of the second day, there are always a number who register later. It is, therefore, probable that the New Orleans session will be the largest ever held. It will be remembered that at the Atlantic City session in 1900 there was a total registration of 2,019, at St. Paul 1,806 and at Saratoga 1,425. The New Orleans session needs only 79 more registrations in order to break the record. All parts of the United States are represented.

ARRANGEMENTS SATISFACTORY.

Chief Hotels Crowded but Ample Accommodation Elsewhere. Weather is Fine.

It was feared last week that the temperature might interfere with the pleasure of those in attendance, but this fear has not been realized, for the weather is delightful and no complaint is heard in this regard.

The Committee of Arrangements, whose efficient chairman is Dr. Isadore Dyer, are being praised for the excellent way in which their work has been done, and while there is some crowding in the leading hotels, ample accommodations have been provided for all the visitors.

HOUSE OF DELEGATES MEETS.

Busy Meetings Held Daily—The Reports of Trustees and Officers Read.

The House of Delegates met in preliminary informal session Monday afternoon and evening and transacted considerable business. The meetings of Tuesday and Wednesday have been very busy ones and a large amount of business has been transacted.

Labor on the Code of Ethics.

The question of the Code of Ethics and its revision was met by referring the matter to a committee composed of one representative from each state represented in the House of Delegates, together with the original special Committee on Revision of the Code of Ethics. This enlarged committee held several meetings and carefully and thoroughly considered the matter.

EXCELLENT SCIENTIFIC PROGRAM.

Sections Have Large Attendance and Much Interest Is Shown.

The scientific part of the convention is very well organized, and almost all of the sections started out with prospects of valuable series of meetings. The attendance at the section meetings is unusually good and excellent work is being done.

The publication of the scientific proceedings of the New Orleans session begins in this issue with the address of the President, Dr. Frank Billings, on "Medical Education in the United States." This was delivered at the first general meeting, in Tulane Theater, Tuesday, May 5, at 11 a. m. The same day, at 7:30 p. m., Dr. A. F. Jonas, Omaha, delivered the annual Oration on Surgery, taking as his subject "Cancer and Immunity." This oration appears in full in this issue.

Wednesday evening, at 7:30, Dr. J. M. Anders, Philadelphia, gave the Oration on Medicine. This also appears in full in this issue, the subject being "Social Conditions in America in Their Relation to Medical Progress and Disease."

SECTION PAPERS READ.

The Great Problems of the Art of Healing Are Discussed.

The good work done by the officers of the various sections in preparing their programs has been followed up by the co-operation of those listed to read papers. The publication of the papers read in the sections will commence in THE JOURNAL, May 16, and will be pushed rapidly. Some of the papers read in the Section on Surgery and Anatomy, the Section on Cutaneous Medicine and Surgery and the Section on the Diseases of Children will be printed in full in next week's issue.

Section on Hygiene and Sanitary Science.

The important subject of "Vital Statistics" was the subject of a spirited discussion in the Section on Hygiene and Sanitary Science. Dr. H. M. Bracken, chairman of the section, in his address in opening the program, emphasized the need of uniformity in this regard, and he was followed by Dr. Cressy L. Wilbur of Lansing, Mich., who urged co-operation in vital statistics' gathering. Dr. Wilbur said that those who use vital statistics most ought naturally to be the ones who should say what is wanted in those statistics and how they should be arranged to be of the most service. Then, when it is known just what is wanted, the general practitioner should be educated to exactness in reporting deaths, for it is he who reports the most of the deaths.

The section agreed on the importance of this endeavor to secure uniformity of registration of vital statistics and general agreement in methods and passed a resolution endorsing this plan. The exact wording of the resolution is not given in our telegraphic report. It will be given in a later issue.

Section on Surgery and Anatomy.

Dr. James E. Moore, Minneapolis, chairman of the Section on Surgery and Anatomy, chose to present as the theme of his address before that section, "A Plea for Exploratory Operations." He urged that modern aseptic methods in the hands of experienced surgeons made an opening into the body justifiable for the sole purpose of determining just what condition was present. He made the plea with carefulness, lest he should give any encouragement to those who "rush in where angels fear to tread," and laid emphasis on the fact that most exploratory operations should be done only by the able surgeon, who is fully competent to know indications, to recognize conditions found and to immediately repair anything needing attention.

Prof. Adolph Lorenz was one of the distinguished foreigners present at the meetings of this section. He was introduced to the audience and made a few remarks.

Section on Diseases of Children.

Dr. John C. Cook, chairman of the Section on Diseases of Children, had copies of a little pamphlet for distribution to the members of that section in connection with his chairman's address, which was on the de-

velopment and care of children. This pamphlet was a catalogue of the various articles on pediatric subjects that have appeared in American and foreign medical publications during the past year.

PHYSICIAN ON CANAL COMMISSION.

President Roosevelt Asked to See that Health Matters at the Isthmian Canal are thus Supervised.

A resolution was unanimously adopted Wednesday urging the President to name a reputable medical man on the Isthmian Canal Commission in order to insure energetic sanitary control and thereby avoid repetition of the enormous loss of life from preventable disease.

VIVISECTION.

Association Praises Work of Legislation Committee and Makes Memorial to Congress on the Subject.

The action of the Committee on Legislation in securing the defeat of the anti-vivisection bill in Congress was indorsed, and a resolution was adopted memorializing Congress to give no further attention to the subject.

OTHER NEW ORLEANS MEETINGS.

Association of American Medical Colleges Meets and Raises Medical College Standard.

At the annual meeting in New Orleans, May 4, the report of the committee on requirements for admission to medical colleges was adopted, after amendment, by the Association of American Medical Colleges. It now requires four full years of work in the high school or its equivalent for eligibility to admission in a medical college.

The American Association of Medical Editors was also in session, and elected Dr. Sajous of Philadelphia president.

The Southern Medical College Association, also meeting at New Orleans, re-elected Dr. Christopher Tompkins of Richmond president. It will meet in Birmingham, Ala., next year.

FULL REPORT OF THE SESSION.

Minutes to Appear Next Week—Proceedings of House of Delegates.

As stated above, the publication of section papers will begin in THE JOURNAL next week. No attempt is made to give an account of the session in this issue, owing to the fact that THE JOURNAL goes to press on Wednesday. It is felt that the readers will appreciate receiving their copies at the usual time this week instead of waiting for an issue delayed for further telegraphic reports. Next week's issue will contain a full account of the New Orleans session.

The Board of Trustees and the Committee on Prophylaxis of Venereal Diseases made their reports to the House of Delegates. These appear in full below.

Revised Code Adopted—Atlantic City Next Session.

By telegram Thursday afternoon: The revised Code was unanimously adopted amid great enthusiasm. Atlantic City was selected as meeting place for June, 1904.

Report of the Board of Trustees of the American Medical Association for the Year 1902.

To the Officers, Members and House of Delegates of the American Medical Association:

Your Board of Trustees, in complying with the requirements of your Constitution and By-Laws, beg leave to submit the following as our annual report.

Last year we presented you as Exhibit "A" the Auditor's "Balance Sheet" made from the books of the Association, including those of THE JOURNAL office, and of your Treasurer. This year, as Exhibit "A," we give you the cash receipts and expenditures taken from the monthly reports of THE JOURNAL office; Exhibit "B," your Treasurer's report, and to our report we append as Exhibit "C" the Auditor's "Balance Sheet."

RECEIPTS.

1902. Journal Office.	Dr.
Jan. 1—Cash on hand	$ 522.10
Dec. 31—Cash from:	
Advertisements	69,340.55
Subscriptions	41,570.48
Reprints	3,115.00
Sales	1,268.30
Buttons	336.00
Binding	120.30
Jobbing	2,126.75
Electros	131.38
Postage	49.42
Section reports	294.00
Sundries	20.65
Interest	3.57
Loss and gain account	43.80
Requisition on Treasurer	11,000.00
Total receipts	$130,021.30

DISBURSEMENTS.

1902. Journal Office.	Cr.
Dec. 31, by amount paid for:	
Second class postage	$ 8,595.63
Stamps	3,701.89
Salaries	13,966.60
Pay roll	32,350.05
Rent	1,633.36
General expenses	2,282.46
Electric power	969.49
Traveling expenses	160.30
Commissions on subs. and adv	5,978.61
Journal stock	34,362.00
Miscellaneous stock	2,930.76
Binders	61.00
Binding	441.15
Building supplies	34.79
A. M. A. express charges	185.97
Sundries	8.55
Machinery supplies	795.81
Electros	1,017.17
Type	247.41
Ink	1,732.65
Metal account	247.31
Buttons	341.34
Exchange	228.50
Collection fees	55.30
Subscriptions refunded	77.80
Advertising	6.66
Office furniture, etc	222.20
Press room furniture, etc	13.50
Electric motor	122.50
Postmaster inc. dep	15.00
Carried to loss and gain	235.00
Editorial news and rept	5,740.70
Transfers to Treasurer	10,706.83
Balance cash on hand	535.01
Total credits	$130,021.30

EXHIBIT "B."

H. P. Newman, Treasurer, in account with American Medical Association.

1902	Dr.
Jan. 1—Cash on hand, per report	$ 30,760.48
March 1—Amount from sale of Government Bonds for value $10,000.00	11,075.00
June 1—Registration fees, Saratoga meeting	3,375.00
Nov. 1—Int. on $14,000.00 Chicago School Bonds	560.00
Dec. 31—Membership fees for year exclusive of registration at Saratoga	55,805.00
Dec. 31—Amount from rents, A. M. A. property	1,464.65
	$103,040.13

DISBURSEMENTS.

1902. Real Estate Account.		
To amount paid for:		
Five houses and lots	$42,646.96	
Survey of property	50.00	
Building Journal office	30,350.00	
Architect's fees	1,500.00	$ 74,546.96
Betterments Account.		
Cleaning and repairing houses	$ 42.15	
Water tax	7.24	
Allowance, rents, obstructing street	214.50	
Commissions on rents	10.40	
Repairs on furnaces	40.00	
Painting on houses	8.00	
Plumbers' account	3.95	
Photo. A. M. A. property	15.50	$341.74
Expenses of Treasurer's Office.		
Honorarium Treasurer	$ 1,000.00	
Treasurer's clerk	962.00	
Sundries for office	76.53	
Premium on Treasurer's bond	100.00	
Premium on clerk's bond	50.00	
Postage, Treasurer's office	610.00	

Safe for Treasurer	$ 24.00	
Nat. Deposit Co., trustee of bonds.	10.00	
Safety box rent	10.00	$ 2,842.53
General Expenses.		
Auditing books	$ 200.00	
Attorney's fees	370.25	
Expenses, trustees, Chicago meet.	550.88	
Trustees' expense account	21.60	
Charges on drafts	48.70	
Card index	4.37	
Protest on draft	3.10	
Cutting and perforating cards	1.15	
Telegrams	1.06	
Certificates, 1903	75.00	
Polk's Directory	10.00	
Dues refunded	30.00	
C. M. Taylor messenger service	14.80	$ 1,330.91
Expenses Saratoga Meeting.		
Expenses trustees and officers	$ 1,247.34	
Sal. Secy. Board of Trustees	50.00	
Printing acct., Saratoga meeting	6.00	
Stenographers, Saratoga meeting.	1,474.41	
Registration cards, Saratoga	2.27	
Special R. R. agt.	23.00	
Badges for delegates	36.00	
Exp. Pathologic Exhibit	375.30	$ 3,214.32
Expenses of Committee.		
To amount paid for:		
Exp. Committee on Reorganization	$ 360.40	
Exp. Committee on Arrangements.	55.79	
Exp. Com. on Local Registration.	263.54	
Exp. Committee on Legislation	661.70	
Committee on Transportation	36.16	$ 1,377.59
Machinery Account.		
Folder Journal office	$ 2,148.55	$ 2,148.55
Subscriptions transferred		$ 350.00
On requisition		11,000.00
Balance cash on hand		$ 5,887.53
		$103,040.13

SUMMARY.

Dec. 31, 1902—		
Bal. cash in hands of Treas	$ 5,887.53	
Bal. cash in hands, Journal office.	535.01	
Chicago City School Bonds, par value $14,000.00, worth	15,168.13	
Amount invested in real estate	74,546.96	
Inventory acct. shown by auditors	35,683.53	$131,821.16
Dec. 31, 1901—		
Assets as shown by auditors	$87,839.91	
Dec. 31, 1902—		
Miscellaneous account payable	3,840.69	
Balance net profit, 1902	40,140.56	$131,821.16

A comparison of this summary with the statement made at the Denver meeting will show the great growth made financially by the Association in the short period of five (5) years.

At Denver your Treasurer reported total cash received from members for the year, $32,200.00.

Receipts for 1902 from same sources, $59,180.00, showing a gain of $26,980.00, indicating but little short of twice as many members.

The total amount of cash in your Treasurer's hands was $17,092.85, which included the then reserve for building purposes of $3,000.

The tables above show cash, etc., on hand, $21,590.67, being a gain in cash of $4,497.82, and a building on which we have spent $74,546.96, a gain of 71,546.96 over the reserve funds.

Our total JOURNAL business, including cash in hand, as shown by the report of the Trustees for 1898, was $47,140.07.

This year the books of THE JOURNAL office show in cash $130,021.30, which amount includes $9,000 less in requisitions, but, not considering that, the face of the books show a gain of $82,891.23 in business over 1898, the gain being almost double the total business reported that year.

Last year (1902) report for year 1901 showed net assets $87,839.91.

This year, deducting balance due on property, our net assets are as follows:

Real estate, etc.	$ 74,546.96
Furniture and fixtures	2,351.70
Machinery	17,174.40
Chicago City School Bonds	15,168.13
Inventories, paper, ink, etc	2,407.67
Bills receivable	901.67
Accounts receivable (earned)	12,848.09
Cash on hand and in bank	6,422.54
Total, 1903 report, for year 1902	$131,821.16
Excess over 1902 report	$ 43,981.25
Less miscellaneous account payable	3,840.69
Net profit	$ 40,140.56

REAL ESTATE.

1902—		
Amount paid for house and lot	$42,646.96	
Amount contract in full for Journal office	40,018.30	$ 82,665.26
Amount paid for houses and lot	$42,646.96	
Amount paid on building account	31,900.00	
	$74,546.96	
Dec. 31, 1902—Balance due	8,118.30	$ 82,665.26

EXHIBIT "C."

JAN. 27, 1903.

E. Fletcher Ingals, Esq., American Medical Association, Chicago.

DEAR SIR:—In accordance with your instructions, we have examined the books of THE JOURNAL of the above Association and such records as were available in the office of its Treasurer, and we beg to hand you herewith statements of: Assets and liabilities as at Dec. 31, 1902; profit and loss account for the year ending Dec. 31, 1902.

We have examined vouchers or other evidence for all cash disbursements and have verified the cash in bank as shown by the above statements with statements furnished by the banks.

We found the books of THE JOURNAL to be neatly and accurately kept.

Yours faithfully,
THE INVESTORS' AUDIT COMPANY.
(Signed) E. M. Mills, Manager.

AMERICAN MEDICAL ASSOCIATION.

BALANCE SHEET, DEC. 31. 1902.

ASSETS.

Real estate and buildings		$ 82,665.26
Machinery		17,174.40.
Furniture and Fixtures:		
Press room	$ 788.30	
Office of Journal	1,523.90	
Office of treasurer	39.50	2,351.70
Chicago city school bonds, par value	$14,000.00	15,168.13
Inventories of paper, ink, type, metal, binders and buttons		2,407.67
Bills receivable		901.67
Accounts receivable	$39,197.70	
Less reserve for unearned advertising	26,349.61	12,848.09
Cash in bank and on hand		6,422.54
		$139,939.46

LIABILITIES.

Accounts payable:		
For new building	$ 8,118.30	
Miscellaneous	3,840.69	$ 11,958.99
Surplus:		
Balance as to Jan. 1, 1902	$87,839.91	
Add net revenue for the year as per account annexed	40,140.56	127,980.47
		$139,939.46

AMERICAN MEDICAL REVENUE ACCOUNT FOR THE YEAR.

PUBLICATION EXPENSES.

Inventories of paper, ink, type and metal, Jan. 1, 1902	$ 2,550.03	
Purchases of paper, ink, type and metal	41,073.99	
Pay rolls	32,350.05	
Electros	940.76	
News reporting and editorials	5,770.55	
Binding	149.00	
Machinery repairs and supplies	723.36	
Advertising and sub. commissions	5,750.85	
Postage, first and second class	11,805.95	
Salaries	13,966.60	
Rent	1,633.36	
Power	969.49	
General expenses	3,474.34	
Traveling expense	160.30	
Exchange	228.50	
Collection fees	422.55	
Office jobbing	660.90	
Building supplies	34.79	
Advertising transportation	736.05	
Interest and Discount	1,050.47	
Bad debts and miscellaneous losses	562.00	
Depreciation of machinery, furniture and fixtures, estimated	2,165.10	$127,178.99
GENERAL EXPENSE.		
Treasurer's honorarium		1,000.00
Expenses Saratoga meeting		4,821.73
Expenses of committee on legislation		661.70
Premium on treasurer's bond		150.00
Auditing accounts		200.00
Salaries treasurer's assistants		962.00
Postage		610.00
Salary of secretary board of trustees		50.00
Miscellaneous expenses		1,720.21
Membership commissions		264.70
Net revenue for the year ending Dec. 31, 1902		40,140.56
		$177,759.79

ASSOCIATION, ENDING DEC. 31, 1902.		
Membership dues	$55,455.00	
Subscriptions	30,863.65	
Advertisements	76,046.83	
Registration fees—Saratoga meeting	3,375.00	
Rents of association properties	1,464.65	
Reprints	3,008.55	
Miscellaneous sales	1,511.00	
Jobbing	2,733.38	
Buttons	149.71	
Binders	75.90	
Interest on bonds	560.00	
Profit on sale of government bonds	262.50	
Inventories of paper, ink, type and metal, Dec. 31, 1902	2,253.62	$177,759.79

COMPARISONS.

A comparison of the tables presented from the monthly report, "A" and "B," with the Auditor's report, shows apparent but not real differences, which have arisen from the system of bookkeeping which has been in vogue up to this time, but will not appear in the future. It will be sufficient to note a few points.

On the last page of the Auditor's report, "membership dues" is given as $55,455, while in Exhibit "B" it is given as $55,805. This arises from the fact that the Treasurer charges himself with $350, which he afterwards turned over to THE JOURNAL office as subscriptions, and when this $350 is deducted it leaves "membership fees" as given in Auditor's report. Again, on the same page of Auditor's report you note subscriptions $30,863.65, while in Exhibit "A" this same item is given as $41,570.48, but this amount includes an item of $10,706.83 collected by THE JOURNAL office, and afterwards passed to "membership dues," and when it is deducted we find the balance as shown by Auditor's report, $30,863.65, but it was necessary to enter, as shown in Exhibit "A," to keep entries correct, and you find in the credit side of "A" the amount, $10,706.83. You find on the same sheet of the Auditor's report "advertisements" $76,046.83, whilst Exhibit "A" shows only $69,340.55, the difference between the two, $6,706.28, being the amount earned on contracts not expired, and, hence, not collected at that time. Other items differ because of different combinations, but the result, as shown by the net profit, is the same.

The changes made in bookkeeping, by which all collections will be made through THE JOURNAL office, except interest on investments, will prevent all the difference to which reference has been made, except when the Auditor's report combines items differently from the way in which they are presented in our monthly reports. The change thus made will result in your Treasurer being the custodian of your surplus funds, and also of all invested funds, and the interest arising therefrom, and not a collector of anything. This consolidation of work and change in bookkeeping will save to the Association clerks' wages in the Treasurer's office.

AMERICAN MEDICAL ASSOCIATION.

Comparative statement for the years from 1895 to 1902 (inclusive):

1895—Membership fees for the year	$19,760		
Registration fees at Baltimore meeting	4,610		$23,370
1896—Membership fees for the year	$23,130		
Registration fees at Atlanta meeting	2,945		$26,075
1897—Membership fees for the year	$24,620		
Registration fees at Philadelphia meeting	7,580		$32,200
1898—Membership fees for the year	$28,945		
Registration fees at Denver meeting	4,815		$33,760
1899—Membership fees for the year	$32,840		
Registration fees at Columbus meeting	6,125		$38,965
1900—Membership fees for the year	$40,550		
Registration fees at Atlantic City meeting	6,150		$46,700
1901—Membership fees for the year	$46,505		
Registration fees at St. Paul meeting	5,050		$51,555
1902—Membership fees for the year	$55,805		
Registration fees at Saratoga meeting	3,375		$59,180
Dec. 31, 1901—Number of members	11,121		
Dec. 31, 1902—Number of members	12,540		1,419
Dec. 31, 1901—New members during the year	1,722		
New members at St. Paul.	232	1,954	
Dec. 31, 1902—New members during the year	1,962		
New members at Saratoga	109	2,071	117
Dec. 31, 1901—Number of discontinuances for the year			674
Dec. 31, 1902—Number of discontinuances for the year			547
			127
Number of three-year delinquents Jan. 1, 1902			169
Number of three-year delinquents Jan. 1, 1903			159
			10
Number of two-year delinquents Jan. 1, 1902			322
Number of two-year delinquents Jan. 1, 1903			298
			24
Number of one-year delinquents Jan. 1, 1902			1,293
Number of one-year delinquents Jan. 1, 1903			1,513
			220
Dec. 31, 1901—Membership fees paid during year.	$51,555		
Dec. 31, 1902—Membership fees paid during year.	58,800		$7,245
Cash collected during January, 1902	$17,625		
Cash collected during January, 1903	21,485		$3,860

ADVERTISING.

The amount actually earned from avertising during the year was $76,046.83, an increase of $13,813.47 over 1901.

Table 1, enclosed, shows comparative statement of the increase in advertising, cash collections, for the past five years, which indicates a gain of $9,898.73 for 1902 over 1901. The table represents actual collections, and is given only for a comparative basis.

During 1902 THE JOURNAL carried 3,046 advertising pages; of these 199 were for officers of the Association, the Contents and Digest, Journal, Association, State and National Society Announcements, Application Blanks, etc.

Advertisements to the amount of at least $8,000 have either been refused or dropped as being unacceptable to THE JOURNAL'S pages. We call attention to this fact to show that we are endeavoring to keep our advertising pages as clean as possible.

ADVERTISING DEPARTMENT.

The following comparative statement indicates the increase in advertising collections during the past four years:

	1898.	1899.	1900.	1901.	1902.
Jan.	$2,061.98	$3,292.84	$4,581.42	$5,998.63	$6,967.05
Feb.	2,415.67	2,391.65	3,133.42	4,829.22	4,617.17
March	1,557.51	2,763.23	2,701.08	3,657.68	4,936.53
April.	2,603.23	2,595.11	4,431.01	5,620.98	6,842.31
May.	1,095.43	3,240.89	3,238.98	4,915.41	5,522.46
June.	1,568.44	2,343.75	2,665.99	3,715.91	5,341.44
July.	2,689.05	3,453.41	3,764.67	6,683.78	7,580.32
Aug.	1,187.84	2,698.22	3,175.84	3,505.33	4,167.41
Sept.	1,635.44	2,093.68	2,953.72	3,923.05	4,501.35
Oct.	3,350.31	3,891.30	5,869.39	7,164.00	7,796.05
Nov.	1,719.96	2,734.25	4,116.64	4,807.84	5,276.18
Dec.	1,735.85	2,262.49	3,428.54	4,619.99	5,792.28
	$23,629.71	$33,760.82	$44,060.70	$59,441.82	$69,340.55

Indicating a gain for 1899 over 1898 of	$10,131.11
Indicating a gain for 1900 over 1899 of	10,299.88
Indicating a gain for 1901 over 1900 of	15,381.12
Indicating a gain for 1902 over 1901 of	9,898.73

SUBSCRIPTION DEPARTMENT.

The following figures indicate the gross issue of THE JOURNAL each week during 1902:

Weekly Edition.			*Weekly Edition.*		
Jan. 4	24,125		July 5	25,000	
Jan. 11	24,150		July 12	25,100	
Jan. 18	24,100		July 19	24,894	
Jan. 25	24,150		July 26	24,875	
		96,525			99,869
Feb. 1	24,175		Aug. 2	24,854	
Feb. 8	24,150		Aug. 9	24,847	
Feb. 15	24,025		Aug. 16	24,858	
Feb. 22	24,415		Aug. 23	24,851	
		96,765	Aug. 30	25,164	
March 1	24,683				124,574
March 8	24,417		Sept. 6	25,265	
March 15	24,364		Sept. 13	24,963	
March 22	24,375		Sept. 20	25,380	
March 29	24,400		Sept. 27	25,185	
		122,279			100,793
April 5	24,340		Oct. 4	24,950	
April 12	24,319		Oct. 11	25,375	
April 19	24,349		Oct. 18	25,878	
April 26	24,400		Oct. 25	27,000	
		97,408			103,203
May 3	25,200		Nov. 1	27,000	
May 10	31,182		Nov. 8	26,922	
May 17	25,180		Nov. 15	27,000	
May 24	25,105		Nov. 22	26,637	
May 31	25,100		Nov. 29	26,450	
		131,767			134,009
June 7	25,770		Dec. 6	26,900	
June 14	25,303		Dec. 13	26,900	
June 21	25,320		Dec. 20	27,000	
June 28	25,310		Dec. 27	27,000	
		101,703			107,800
		606,447			670,248

Grand Total	1,316,695
Weekly Average	25,321

The total number of copies used during 1901 was 1,146,575, indicating an increase of 170,120.

The following is the detailed count of the mailing list by states, indicating the gains and losses in members and subscribers for the year 1902:

State.	Members.	Sub. scribers.	Totals.	Gain for Year.	Loss for Year.
Alabama	97	165	262	37	...
Arkansas	119	136	255	52	...
Arizona	25	26	51	27	...
Alaska	...	2	2	1	...
California	426	223	649	131	...
Canada	6	92	98	32	...
Cuba	3	4	7	1	...
Colorado	297	108	405	..	14
Connecticut	173	113	286	12	...
Delaware	28	16	44	5	...
North Dakota	66	52	118	18	...
South Dakota	69	97	166	17	...
Dist. of Columbia	137	246	383	170	...
Florida	71	60	131	51	...
Georgia	156	265	421	..	29
Illinois	1,272	1,629	2,901	329	...
Indiana	521	489	1,010	..	5
Idaho	26	29	55	23	...
Indian Territory	29	96	125	17	...
Iowa	543	442	985	18	...
Kansas	162	251	413	53	...
Kentucky	234	299	533	10	...
Louisiana	120	181	301	44	...
Maine	84	31	115	4	...
Maryland	234	448	672	230	...
Massachusetts	482	265	747	229	...
Michigan	458	721	1,179	346	...
Minnesota	422	263	685	41	...
Missouri	368	574	942	105	...
Mississippi	79	109	188	13	...
Montana	58	48	106	5	...
New Mexico	25	23	48	13	...
Nevada	10	11	21	10	...
Nebraska	199	187	386	47	...
New Hampshire	87	42	129	..	10
New Jersey	370	179	549	40	...
North Carolina	130	109	239	80	...
New York	967	622	1,589	317	...
Ohio	936	691	1,627	69	...
Oklahoma	51	112	163	43	...
Oregon	99	73	172	18	...
Pennsylvania	1,355	572	1,927	75	...
Rhode Island	79	61	140	..	...
South Carolina	65	143	208	49	...
Tennessee	188	308	496	..	41
Texas	243	483	726	..	1
Utah	53	29	82	25	...
Virginia	164	222	386	79	...
Vermont	78	17	95	14	...
Washington	114	96	210	34	...
West Virginia	113	112	225	67	...
Wisconsin	408	428	836	146	...
Wyoming	21	22	43	5	...
U. S. Army	...	249	249	..	48
U. S. Marine Hosp.	...	30	30	3	...
Hawaiian Islands	10	6	16	2	...
Mexico	8	19	27	2	...
Philippine Islands	10	7	17	1	...
Porto Rico	1	4	5	1	...
Foreign	14	41	55	16	...
	12,553	12,378	24,931	3,177	148

The figures given below indicate the count of the mailing list Jan. 1, 1903, compared with that of Jan. 1, 1902:

	Jan. 1, 1902.	Jan. 1, 1903.
Copies to members	11,107	12,553
Copies to subscribers	10,795	12,378
Copies to advertisers	272	332
Copies to exchanges (domestic)	140	150
Copies to exchanges (foreign)	47	64
Copies to medical colleges and libraries	117	114
Copies to subscription agents	72	81
	22,550	25,672

Indicating an increase for the year 1902 over 1901 of 3,122.

The following is a comparative statement of the net subscription collections for the years 1898, 1899, 1900, 1901 and 1902:

	1898.	1899.	1900.	1901.	1902.
Jan.	$576.31	$1,094.46	$3,614.08	$4,911.89	$7,575.03
Feb.	605.61	525.25	1,167.24	1,991.31	2,308.44
March	502.55	952.76	1,388.89	1,996.65	1,954.52
April	419.90	741.27	1,719.06	3,122.78	4,660.65
May	389.32	669.93	1,585.90	2,062.42	2,230.02
June	442.00	733.05	1,334.75	1,431.93	2,250.85
July	964.90	1,851.73	3,456.32	6,011.47	6,077.21
Aug.	638.18	1,208.38	1,246.03	1,974.59	2,337.87
Sept.	546.91	798.36	1,273.91	1,707.95	1,995.61
Oct.	623.33	1,313.20	3,285.49	4,152.10	4,355.48
Nov.	434.64	920.71	1,784.12	2,270.10	2,953.37
Dec.	602.90	1,474.42	1,872.14	2,160.26	2,871.43
	$6,746.55	$12,283.52	$23,697.03	$33,793.45	$41,570.48

Indicating a gain for 1899 over 1898 of.....$ 5,536.97
Indicating a gain for 1900 over 1899 of..... 11,408.51
Indicating a gain for 1901 over 1900 of..... 10,096.42
Indicating a gain for 1902 over 1901 of..... 7,777.03

In this connection we beg to call attention again to two items in the Auditor's report: (1) Membership dues is given as $55,455; (2) subscription is given as $30,863. It is only fair that we should say that of this $55,455 THE JOURNAL collected and transferred $10,706.83. Of this amount $2,364.93 was for old members; $3,105 was for new members, which had been obtained through our traveling men, by circular letters, etc., and $5,236.90 was for subscribers that were transferred to the membership list. In other words, THE JOURNAL office should be credited with $8,341.90 more than the amount given by the Auditor's report, as this amount was paid to the Treasurer for new members obtained through work done in THE JOURNAL office.

As mentioned last year, our subscription account is practically a clearing-house for membership. Subscribers are urged to become members as fast as possible. With each receipt for subscription a letter is enclosed by the Editor suggesting that the subscriber join the Association. This accounts for the difference in the percentage of collections from subscribers and members.

As shown above, last year there was transferred $10,706.83 to the Treasurer. In addition to the amount collected at THE JOURNAL office, quite a number of subscribers who became members during the year, paid direct to the Treasurer. For every name transmitted THE JOURNAL office handed the Treasurer $5, and there is quite an expense attached to these transfers, for which THE JOURNAL receives no credit, since THE JOURNAL had paid agent's commission for securing the orders, in addition to giving THE JOURNAL free for three months.

On Dec. 30, 1902, the Treasurer handed in a list of 158 names of those who were delinquent members for the years 1900, 1901 and 1902, to be dropped from the mailing list. Two letters, one on January 7th and another on the 17th, were sent to these members, urging those to whom they were addressed to retain their membership. To date we have collected from 47 of these delinquents the amount of $462.50. These have since been restored to our mailing list, and the amount turned over to the Treasurer, leaving still 111. On February 11 another letter was sent to these delinquents.

PAPER STOCK.

Following is the cost of paper stock for the past three years:

1900.	1901.	1902.
$25,598.00	$29,835.00	$35,675.06

This shows a gradual rise each year, but, as the price was the same, the rise is accounted for in the increased circulation.

The following table shows the total number of copies issued each year, total pages, and amount of paper stock used:

	Total No. Copies.	Pages.	Reams.	Lbs. of Paper.	Tons.
1898	597,282	4,756	3,395	321,525	157.0
1899	710,950	5,382	4,832	461,420	230.0
1900	907,200	6,087	6,747	607,230	303.5
1901	1,146,575	6,510	9,052	814,680	407.0
1902	1,316,695	6,522	10,430	938,700	469 1/3

As will be noticed, the increase, in round numbers, of 1902 over 1901 was 62 tons.

Our mailing lists of 25,672 names on Jan. 1, 1903, show that our Editor has given us a journal mailed to more than 25,000 persons. This was scarcely considered possible five (5) years ago, but it should now be regarded as a starting point, *a locus a quo*, to a bona fide circulation of 100,000. This can be attained in the next decade at furthest, if every member of the Association will do his duty. If the secretary or president of each county society in every state can be induced to regard it as one of his duties to lay before his organization the claims of THE JOURNAL as the organ of the whole profession of these United States, and impress on the members that it is not only their privilege but their duty, a duty owed the regular medical profession of our common country, to subscribe for and support it, new names will be added to the list of members, not by tens, but by hundreds. There should be an honest and earnest rivalry in the profession of the different states to show the greatest percentage of gain in subscribing for THE JOURNAL. To aid in carrying out this idea, your Board of Trustees, being impressed more, if possible, than ever before with the necessity of promptly pressing to a successful termination our plan of reorganization, secured the services of Dr. McCormack of Kentucky, who is to visit the different state societies and as many county medical societies as possible up to the May session of the Association, and present the matter clearly to them.

This action of the board was also necessitated by the fact that our Editor was being overworked and needed to be relieved of labors not belonging to his editorial department, that he had cheerfully done, up to the point where he could go no further, and yet the work could not be dropped. THE JOURNAL is worthy of the support of every member of the profession, be he a physician in our largest city or an humble practitioner in a most remote corner of some small county. Each one can find in its pages thoughts and suggestions adapted to his individual needs. THE JOURNAL is in no sense the organ of any specialty. Its pages are open to all, but contributions to be accepted must

show thought, not mere book papers, which could be read more easily in the originals from which they have been culled.

PRESSROOM AND OFFICE FURNITURE AND FIXTURES.

There was spent under this head in 1902 $259.70, but for 1903 still further expenses will have to be incurred in furnishing our new building, but when once made, since they are placed where there will be no need of moving, they will last for years, and soon the expense under this head will be nominal.

PLANT.

The machinery account as presented by the Auditor foots up $17,174.40 (last year the inventory showed $16,808.25), after adding a folder costing $2,148.50 and a motor $122.50, total additions $2,271, showing a deduction of about 10 per cent. for depreciation from use.

This inventory does not include two (2) large new presses, costing about $9,000, and two (2) automatic feeders, costing $2,750, which have been bought and placed in the new building, but have not been accepted; nor several electric motors, costing $1,200, for the same reason Total new machinery bought, but not accepted Jan. 1, 1903, but to be paid for when accepted and working satisfactorily, $12,950. Your Board of Trustees ordered the purchase of a new linotype machine. When this is installed night work will not be needed in the office. During the past year it was frequently necessary to have one or more of the linotype machines run overtime and at night, adding materially to the expenses of THE JOURNAL. This can now be avoided.

PRESSROOM FURNITURE AND FIXTURES.

Many additional conveniences under this head have been added since THE JOURNAL moved into its permanent home. The report of last year referred to the fact that in its then quarters THE JOURNAL was much hampered for space in which to transact its business, as needed conveniences could not be added. In our new building all these conditions are changed, and gradually everything necessary to the economical running of a first-class plant is being installed. We do not deem it necessary to publish in this report an inventory of all our fixtures and furniture. Suffice it to say that, whereas the inventory presented at the Denver meeting occupied a space of fifteen (15) lines in the report, a full page would be needed for this. I would call attention to only one item. The Denver report showed three (3) Miehle presses and one (1) Gordon press. We now have two (2) double and three single Miehle presses, and one Gordon and one Universal press, more than double what we then had. The change is greater in every other portion of the office.

Besides these two large presses, we have three single, presses, so that in case of failure of either of the large presses, we could still get out THE JOURNAL without much crowding.

Hence, our press facilities are practically perfect and give us an opportunity to do much work that has heretofore been out of the question. Further, it will enable us to get out our reprints within a reasonable time, as well as the Transactions of the various Sections and other work.

OFFICE FURNITURE AND FIXTURES.

Additions have been made to this department also, but as they were made since Dec. 31, 1902, they do not belong in this report. The office is now up to date.

LIBRARY ROOM.

On the third floor the front room has been arranged for a library. In it will be found the latest books, etc., sent to THE JOURNAL for review, etc. It will be used as a reading and reception room, where members of the Association will always be welcomed by the Editor. In this room will be held the meeting of your Board of Trustees from year to year.

The whole building is a credit to any organization, and the arrangement of the building in its relations to the balance of the property is such that it can be added to at any time that there should arise any demand for more space.

RESIDENCE PROPERTY.

It must not be forgotten that we own, in addition to our JOURNAL building, three (3) residences on ground sixty by eighty feet. These we rent for about $140 per month, yielding us an annual rental of about $1,600, which we hope to increase to $1,800, being about 4 per cent. on the original purchase money for the five lots and houses. Instead of being compelled to pay out about $5,000 for rent, as we would have had to do for room enough to carry on our JOURNAL work, we not only pay out nothing, except for taxes and insurance, but we receive an income of at least $1,600 from our own rents, making a difference of $6,600 to offset the interest on our investment, $82,665.26. For one to have suggested five years ago the possibility of this consummation of our hopes and wants, he would have been considered a veritable Colonel Sellers, and yet the profession of regular medicine now has its home, a building of which none of us need be ashamed. But while we present to you this pleasant picture, we do not wish you to imagine the work is completed. Much yet remains to be done. The success of your JOURNAL depends as much on the future as the past, probably more. You have simply laid a foundation sufficiently broad on which you can build a superstructure in a journal of which the whole medical profession can be proud.

To make it a success there must be, as in all other enterprises, money behind it to tide it over any emergency. A successful bank lays up a reserve fund of undivided profit. Manufacturing enterprises do the same; so, too, must the American Medical Association begin to lay up judiciously a sum of money for future use The minimum of this fund, in the estimation of your Board of Trustees, should be $100,000. Less than that will not do. Times of depression and stagnation in business must come. We appear to be floating now on a tidal wave of prosperity, but the ebb must just as surely be met. To do this as it becomes you, you must have this reserve fund. As a basis of this reserve fund, we have $14,000 in Chicago city school bonds, worth now a little over $15,000. We ordered the local trustee, Dr. Ingals, to add to this sum, $6,000, so as to make our investment $20,000. We would suggest that the Association be just as careful about its expenditures for the next five years as it has been in the past, and all will be well. A false step will blight what now appears to be the brilliant possibilities of your JOURNAL. We do not mean that THE JOURNAL should not be improved. For that purpose money should be expended prudently, but freely. Your editor should be encouraged in every way to strive to keep THE JOURNAL to the forefront. More and better reading matter and less advertising matter about which any question could be raised should be a *sine qua non* in the conduct of your organ. Reference has already been made to the fact that advertisements have to be refused though the medicines presented in them are endorsed not by D.D.'s, but by M.D.'s who stand high. The manufacturers of proprietary preparations are fast learning that THE JOURNAL is living up to its rule of requiring the formula of every internal remedy advertised in its pages. The trend in regard to external remedies is in the same direction, though your board has not taken as decided and definite action in regard to them as we hope soon to do.

ACCOUNTS AND COLLECTIONS.

Several accounts for postage were presented during the year that has just passed, but as your board decided that the appropriation made at the Saratoga meeting could not be used to meet the expenses already incurred, none of them was paid, but the fund will be available for Section use at the New Orleans session. For these accounts to be promptly met, they must be presented to some member of the board by the third day of the New Orleans session, viz., May 7, 1903. If presented after that time they can not be properly audited and paid before the February meeting.

Your Board would report further that questions of the compensation of committees have been before us, but where there was no specific appropriation of money for their use, we have declined and will continue to decline to meet such requests. If the House of Delegates desires to expend money for committee work, as was done in the case of the Committee on Organization, we recommend that an appropriation not to exceed a definite sum be made, and then your Board of Trustees will have no trouble in adjusting all such claims. This has been your rule in reference to your Pathologic Exhibit, and we would ask that the same course be pursued in all such cases. For the reason that indefinite appropriations would have to be made (among many other as good or better reasons), your Board of Trustees would recommend that the exhibits at our annual meeting be left for the present at least under the control of the local committee, with a continuation of the restrictions already imposed, that no exhibit should be made of and for which advertisements would not be received for our JOURNAL.

We feel that, whilst in many respects it would make the Association more independent in selecting a place for its annual session, yet it would appear undignified for us to be sending an agent to the place of meeting to arrange for halls of all kinds, and then to sell floor space to interested exhibitors, as would have to be done to save an enormous expense to the Association. All these things can be better done by the local profession, and we feel that, for the present, at least, the wisest course to pursue would be to keep in the beaten path, and go on as we have been doing till the Association has a sufficient reserve fund on hand with which to meet emergencies.

CODE OF ETHICS.

To avoid the possibility of an unnecessary expense, the Editor was directed not to print and send out, as he has done for several years, the "Code of Ethics" to medical students, in view of the fact that a special committee has under consideration a revision of the code, and are to report at our next annual meeting As changes may be made, we thought it would be better to await the action of the House of Delegates on the matter, and then have copies of the code printed and sent out.

NATIONAL INCORPORATION.

In regard to the question of a national incorporation, which would permit the American Medical Association to meet in any state or territory in the Union, to transact and complete its business without being compelled to hold an adjourned meeting in Illinois for the purpose of ratifying its acts done at the place of meeting, your Board of Trustees has considered it at much length. Much correspondence has passed and repassed between interested parties and various members of the board. All felt that if such an end could be attained, it certainly should be done. At our annual meeting the secretary of our board, Dr. Montgomery, arranged much of this correspondence, and presented it to us on the afternoon of the first day. The attorney, Mr. Baldwin, who had been advising with us, being present, by request, took part in the lengthy discussion of the question. At the end of the session, he was requested to take the correspondence, arrange and go over the same, and furnish an opinion which could be employed by the board as an explanation, should it decline to proceed in accordance with the requests made for them to act in this matter of national incorporation. We can arrive at no better way of presenting this matter so that it may be fully and clearly understood than by giving to the House of Delegates and, through you, to the whole Association, Mr. Baldwin's report verbatim. Whilst it is lengthy, it could not be well condensed without the omission of matters necessary to a clear comprehension of this mooted question. The sum and substance of this opinion is: (*a*) That the constitution and by-laws adopted at St. Paul had no binding force at all until they were readopted in Illinois; but the action had at Saratoga, and readopted in Chicago, is binding, and the charter and by-laws under which we are now acting are legal, since they were readopted in Illinois, where the Association is incorporated. (*b*) That a national incorporation such as is desired seems at present impossible. This communication constitutes Exhibit "D."

Respectfully submitted,
E. E. MONTGOMERY, Secretary,
T. J. HAPPEL, Chairman,
W. W. GRANT,
MILES F. PORTER,
JOHN F. FULTON,
E. FLETCHER INGALS,
H. L. E. JOHNSON,
W. S. RODMAN,
A. L. WRIGHT, *Trustees.*

ADDENDUM: Your Board of Trustees would further report, that on March 31 the books of the Association showed your real estate account balanced—not a dollar being outstanding on any of our contracts. At that date we had on hand, including our Chicago City School Bonds, $39,427.23, but from this amount would have to be deducted unpaid bills for machinery not accepted at that time. We would recommend that the secretary of each Section of the American Medical Association be allowed the sum of $50 as compensation for services, postage, etc., annually, believing that this sum would enable the Sections to frequently retain an efficient secretary for a term of years. We would further recommend the following changes in the Association button: Leave the first "M" from the face of the button and make the bars plain, straight bars, instead of the present bars. We present you a model of this button and believe that it presents a neater appearance.

EXHIBIT "D."

LAW OFFICES, JESSE A. AND HENRY R BALDWIN,
CHICAGO, March 13, 1903.

To the President and Board of Trustees of the American Medical Association, care Dr. E. Fletcher Ingals, Chicago.

Gentlemen: On Friday, February 20, 1903, at your invitation, I attended a meeting of your board, held in this city, at which time there was discussed the propriety of certain of the by-laws of your Association, as well as the legality of their adoption, and the further, and perhaps more important question, whether or not your board ought to then proceed toward securing a national charter for the American Medical Association. You will remember that there were read at that meeting the following:

1. A letter from Dr. F. H. Wiggin to Dr. Simmons, dated November 18, 1902, raising the question whether the various changes made in the by-laws, at the meeting of the Association held in Saratoga, in 1902, and afterwards ratified at an adjourned session of that meeting, in Chicago, Illinois, were properly made, it being stated that such changes had not been proposed in conformity with the rules of the Association adopted at its meeting at St. Paul, June 5, 1901.

2. A letter from Dr. F. H. Wiggin to Dr. Johnson, as secretary of your Board of Trustees, dated November 19, 1902, raising substantially the same questions, and suggesting that the Association be incorporated "under the National Law."

3. A letter from Dr. F. H. Wiggin to Dr. Montgomery, dated December 8, 1902, criticising the method by which the changes in the by-laws had been made, quoting a portion of the law of the state of Illinois, and arguing that the changes which had been made in the articles of incorporation had not been made in conformity with the law of Illinois, and again suggesting that the Assocaition should "get a National incorporation rather than to continue its existence under the Illinois law."

4. Letter from Jesse A. Baldwin, Esq., to Dr. George H. Simmons, dated December 15, 1902, replying to objections made in the letters previously mentioned as to the method by which the changes had been made.

5. Communication dated December 22, 1902, from James Taylor Lewis, Esq., entitled "Opinion of the Counsel of the New York State Medical Association," addressed to Dr. Wiggin, criticising the conclusion reached in Mr. Baldwin's letter.

6. Letter from Jesse A. Baldwin, Esq., to Dr. Ingals, dated December 26, 1902, reporting that, at the request of Dr. Ingals, he had investigated to ascertain whether the American Medical Association could better accomplish its purposes by securing a National charter (if one could be secured), or by organizing under the laws of some other state or territory of the Union; and in which he advised, 1, that congress would have no power to create a National corporation for the purposes contemplated, by giving it a National charter; and 2, that, having communicated with the secretaries of state or attorneys-general of forty-seven states and territories, and having examined a large amount of printed and written matter, bearing on the corporation laws of the various states and territories, he was of the opinion that the proposed object sought to be accomplished, viz.: the right to hold its meetings, from time to time, and transact its business in any of the various states and territories of the Union, could not be secured by incorporating under the laws of any of the other states or territories. The letter further stated that while the laws of some of the states were more liberal in some of their provisions, with respect to corporations similar to our own, there were none in which the advantages offered were sufficiently superior to those granted by the laws of the state of Illinois, as to make them worthy of serious consideration; that in the letter from the Hon Attorney General from Wisconsin, replying to my inquiry, he had said:

> I am very clear that the corporation could not be formed under our statutes, which would result in the general offices and the books and records being kept outside of the state. I also think it would be necessary to have the meetings for the transaction of business of the corporation, held in the state. Of course, this would not prevent other meetings being held for other purposes, in other states, but I think that the meetings of the stockholders and directors, for the transaction of business must be held here.

7. Extract from a letter from Dr. Simmons to Dr. Wiggin, dated Jan. 7, 1902, which does not relate to the subject matter, concerning which I was asked to advise

8. Letter from Dr. Wiggin to Dr. Montgomery, dated Jan. 9, 1903, in which Dr. Wiggin states that he sends with letter copies of opinions on the matter of the changes in the constitution or articles of incorporation of the American Medical Association at Saratoga; one being an argument sustaining their legality, from the counsel of the American Medical Association (myself), and the other questioning their legality, from the counsel of the New York State Medical Association (James T. Lewis, Esq.).

9. Copy of a letter signed by James T. Lewis, counsel, dated Jan. 16, 1903, addressed to Dr. Wiggin, president, New York State Medical Association, stating that there could be no possible question but that "the American Medical Association could be, and should be, incorporated under an act of congress," and, stating further, that "the case of McCulloch against the state of Maryland, 4 Wheat, 316, is the leading case and takes up and discusses the whole question and determines it finally" He further states that the "American Social Science Association" was thus incorporated, as also "The Jeanette M. Thurber Conservatory of Music," the charter for the former having been drawn up by Mr. Justice Simeon F. Baldwin, an able constitutional lawyer. The letter further says (referring to the opinion of your counsel, Jesse A. Baldwin, Esq., that congress has no power to incorporate the American Medical Association as a national organization, with rights to business anywhere in the United States), "The statement that it is impossible is absurd, I care not who makes such a statement." He further states that, in his judgment, there is but one course

to pursue, and that is to have the trustees of your Association forthwith apply to congress for a special charter, and have the Association "made a national body in fact," and further adds that he "would be glad to do it."

10. Letter from Dr. Wiggin to Dr. Montgomery, dated Jan. 21, 1903, evidently transmitting the previous letter to Dr. Montgomery.

11. Letter from Dr. Wiggin, president New York State Medical Association, addressed to Dr. Montgomery, secretary of your Association, dated Jan. 31, 1903, in which he says that it seems clear to him that the alterations made in the articles of incorporation at the Saratoga meeting were improperly made (though the mistake was unintentional), because they had not "been proposed in open meeting of the House of Delegates one year previous to being acted on," nor had they been "published at least three times in THE JOURNAL during the interim," etc, according to the provisions of the constitution or articles of incorporation adopted at the St. Paul meeting, June 5, 1901, and quoting a part of the statutes of Illinois. He suggests that the counsel for the American Medical Association (meaning myself) should not have taken advantage of the failure to file with the secretary of state of Illinois, as required by its laws, the constitution or articles of incorporation adopted at St. Paul. He also suggests that it would be wise for your board to secure a "national incorporation" rather than to continue its existence under the laws of Illinois, etc. He says that "in case a national incorporation should be procured by a special act of congress, the House of Delegates could complete its business at its annual meeting, wherever it might be held." He further states that the only objection to this proposition which has been raised is that (raised by myself) the Association could not so incorporate; and he then refers to the McCulloch case, and mentions the incorporation of the American Social Science Association and the Jeanette M. Thurber Conservatory of Music, and adds his endorsement to the deservedly high standing of Mr. Justice Simeon E. Baldwin, who drew up the "charter" for the American Social Science Association. He expresses his belief that, whatever the expense and trouble incurred in procuring a national organization, it would be worth all it would cost "so to organize the American Medical Association that its interests may be carried on in future free from any disturbance from schemers and others who might seek their own, rather than the interests of the organization."

12. Letter from Dr. Wiggin to Dr. Montgomery, dated Feb 10, 1903, offering to procure and send a copy of the charter of the American Social Science Association, and suggesting that Dr. Montgomery look at the McCulloch case, 4 Wheat., 316, which Dr. Wiggin says he is informed "discusses the whole question and determines it finally, and which your correspondent, the Hon. O. U. Underwood, did not seem familiar with," and suggesting that Speaker Henderson be requested to look up the McCulloch case.

13. Letter from Dr. Wiggin to Dr. Montgomery, dated Feb. 15, 1903, suggesting that your Board of Trustees appoint a committee to secure a national charter, with the help of Mr. Lewis and one or two others.

14. Letter from James Taylor Lewis, Esq., to Dr Montgomery, dated Feb. 17, 1903, explaining why he can not send to Dr. Montgomery a copy of the charter of the American Social Science Association, and adding that the attorney general has stated that he could not give any assurance that a charter could be secured during the then present congressional session, and suggesting extra effort on the part of the special committee of your board to procure this charter.

15. Letter from Hon. D. B. Henderson to Dr. Montgomery, dated Feb. 8, 1903, transmitting a letter from Hon. O. W. Underwood of Alabama, formerly a member of the House Judiciary Committee.

16. Copy of a letter from Dr. Montgomery to General Henderson, speaker, etc., dated Feb 4, 1903, stating that the American Medical Association is incorporated under the laws of Illinois, conducting a journal and owning property in Chicago; that a large part of its members is dissatisfied with the conditions which make it necessary that its transactions should be ratified by meetings held in Illinois in order to make them valid, and inquiring whether it would be possible to secure through congress a charter "which would give us the privilege of holding our meeting in any state in the Union while still carrying on the business in Chicago. I am told that the American Social Science Association has received a national charter through congress," and requesting Mr. Henderson to inform him of the "method" by which he should proceed.

17. Letter from O. W. Underwood to Speaker Henderson, dated Feb. 7, 1903, stating that Mr. Henderson desired Mr. Underwood to write him "an opinion as to whether congress could properly grant such a charter." He then cites a paragraph from the opinion of Chief Justice Marshall, as follows:

> The power of creating a corporation, although appertaining to sovereignty, is not like the power of making war or levying taxes or of regulating commerce, a great substantive and independent power which can not be applied as incidently to other powers or used as a means of executing them. It is never the end for which other powers are exercised but a means by which other objects are accomplished.

The remainder of Mr. Underwood's letter is as follows:

> It is therefore clear that Congress may create corporations as a means of executing the other powers of government, for instance, a bank for carrying on the fiscal operations of the United States, or a railway corporation for the promotion of interstate commerce, but unless the creation of the corporation is intended as a means of exercising, using, or controlling some of the great powers dedicated to the federal government, there is clearly no authority for Congress to incorporate such a company.
>
> From the statement contained in Mr. Montgomery's letter, I do not see wherein the incorporation of the company he proposes would come within the powers above mentioned, and, therefore, I do not believe that Congress would have power to incorporate this company. Of course, on the other hand, Congress has unlimited power to legislate for the District of Columbia, and would have power to incorporate a company for the purpose of doing business within the District of Columbia, and incidentally it might transact its business throughout the United States as all other corporations do, but such a charter would not be a general charter, but would be local to the District and would have the same limitations on it that charters issued by the State Government have. I return herein Mr. Montgomery's letter.

18. Letter from James Taylor Lewis, Esq., to Dr. Montgomery, dated Feb. 14, 1903, in which he states that he has read the opinion of Mr. Underwood and the letters from Speaker Henderson, and that he can not see anything in either of them that goes to the point "except as an argument in favor of congress granting a charter to the American Medical Association." He adds:

> The Government has a Department of Education, and a Commissioner of Education, and it is along the lines of development in science and education that this corporation seeks federal recognition, and has a precedent granted in the charter granted the American Social Science Association, and the Jeanette M. Thurber College of Music.
>
> The learned remarks of Chief Justice Marshall are very apt in this connection because you are seeking a corporation which is to be the means of advancing and executing the educational branch of the Government, and this corporation should very properly receive recognition as a part of the educational system of the United States.

He further adds that he is ready to be of any service in bringing about the securing of a charter, and is willing to present the matter to the attorney general or the president, and he adds, referring to the proposed charter, that "of course, it is a great concession by congress"

19. Letter from Dr. Lambert to Dr. Montgomery, dated Feb. 18, 1903, stating that Dr. Wiggin and Mr. Lewis had asked the writer to help obtain a national charter in case one should be applied for, and tendering his services.

20. Telegram from Dr. Wiggin to Dr. Happel, dated Feb. 20, 1903, mentioning vol. 30, U. S. Statutes at Large, page 804, as giving the charter of the American Social Science Association.

After the foregoing communications had been read, I was called on to address the board with respect to the matters involved. You will remember my statement made at that time, that the various modifications made in the articles of incorporation and by-laws of the American Medical Association were advised in an honest effort on my part to utilize to the fullest degree possible the elaborate and (in the main) well devised and carefully worked out scheme of organization for the Association, and that I had advised only such changes as seemed to me necessary to make the organization legal under the laws of the state in which it had been incorporated long before I became its legal adviser; that at no time had there been any suggestion made to me by any person that I do more than this; that I confidently believed the objections urged against the propriety of the legality of what had been done were based on a misapprehension of the situation, and were due to a lack of accurate knowledge as to the laws of the state of Illinois with respect to corporations of this character.

I am sure that the intimation of Dr. Wiggin, in his letter to Dr. Montgomery, dated Jan 31, 1903 (No. 11, supra), that the organization is in danger "from schemers and others who might seek their own rather than the interests of the organization," is inadvertent, and can not be intended as a deliberate insinuation that the able and honorable men comprising the membership of the American Medical Association are either now, or are likely to be, engaged in such a perfidious purpose.

The men who are, to the best of their ability, conducting the affairs of this Association, and endeavoring to make its existence and proceedings conform to the laws of the state of Illinois under which it is organized, are no more proper subjects of distrust and suspicion than would be the men prominent in the management of the New York State Medical Association, of which Dr. Wiggin is the honored president and James Taylor Lewis, Esq., the able counsel.

Assuming, as we are compelled to do, that the counsel for the New York State Medical Association is in error with reference to the corporation laws of the state of Illinois, and is in further error in supposing that congress could confer on you a national organization with the powers indicated, and that he would find (if he looked) that the American Social Science Association is, by the very act creating it, "constituted a corporation by that name in the District of Columbia," assuming all these things to be true, yet they do not afford sufficient reason for suspecting his motives, nor in any manner reflecting on him, other than to show that he is mistaken.

The contention that the amendments to the articles of incorporation (or constitution) and to the by-laws adopted at the Saratoga meeting, in 1902, and ratified at the adjourned session of that meeting, held in Chicago, were not properly adopted, because they were not severally proposed "in open meeting" one year previous to being acted on, nor published at least three times, etc., according to the so-called constitution and by-laws adopted at the St. Paul meeting, in 1901, is erroneous, because:

1. Corporations exist not by natural right, but because they are allowed by the sovereignty (state or national) creating them.

2. No sovereignty (state or national) can give to a corporation created by it, rights and privileges which can be exercised and enforced outside of the jurisdiction of the sovereignty (state or national) creating such corporation.

3. The American Medical Association was incorporated under the laws of the state of Illinois, in 1897. Its meetings for the transaction of business could only legally be held within the territorial limits of the state of Illinois. Therefore, the so-called constitution and by-laws supposed to have been adopted at St. Paul, Minn., were not valid, because not adopted at a meeting held within the state of Illinois.

The amendments to the articles of incorporation voted on at your Saratoga meeting, in 1902, and ratified at the adjourned session of that meeting held in Chicago, were properly made, because the state of Illinois permits such amendments to be made at any annual meeting or at any adjourned session thereof.

As to the propriety of the present by-laws permitting so small a number to constitute a quorum at the adjourned sessions, that is a matter which the Association must decide for itself. If the present number does not correctly represent the judgment of the Association, it should be changed. However, there is nothing in the by-laws to prevent any number, even to the full membership of the Association, attending the adjourned sessions. Nor can I think it probable, as seems to be feared, that even as small a number as constitute a quorum will be likely at such adjourned session to exercise bad faith toward the remainder of the Association.

On the question of a national incorporation, suggested by Dr. Wiggin and strongly urged by counsel for the New York State Medical Association, which Dr. Wiggin says should be procured by a special act of congress, at which "the House of Delegates could complete its business at its annual meeting, wherever it might be held," and which, in the language of the letter from Dr. Montgomery to Speaker Henderson, "would give us the privilege of holding our meeting in any state in the Union while still carrying on the business in Chicago," and in which the advocates have so repeatedly referred to the case of McCulloch vs. State of Maryland, 4 Wheaton, 316, as an authority, and the incorporation of "The American Social Science Association," as a precedent, I have to say:

First. As to the authority: McCulloch vs. State of Maryland, was a suit brought to recover a tax levied under "An act to impose a tax on all banks, or branches thereof, in the state of Maryland," etc., and was a direct attempt, on the part of the state of Maryland, to tax the business of a branch of the "Bank of the United States." The decision of the Supreme Court of the United States involved two questions:

1. Whether congress had constitutional power to incorporate the "Bank of the United States," and

2. Whether the state of Maryland might, without violating the constitution, tax a branch of that bank, located in the state of Maryland.

The case was argued by eminent counsel, including, among others, Mr. Webster and Mr. Pinkney, and the court decided:

1. That congress has power to incorporate a national bank, under that branch of the constitution which gives to congress the power to lay and collect taxes; to borrow money; to regulate commerce; to declare and conduct a war; to raise and support armies and navies, etc.; and

2. That the state of Maryland could not legally tax the branch of the "Bank of the United States."

This decision has been cited by the Supreme Court of the United States more than one hundred times, and in the various Federal Reports thirty-eight times, so that the case is not at all new or startling to a lawyer in active practice.

It is easy, however, to see a very distinct difference between the incorporation of a "Bank of the United States" and an association of this character. The constitution of the United States confers on congress the power to make laws respecting the coining of money, etc., and it is easy to see where the Supreme Court found authority for the position that the creation of this "Bank of the United States" was a fit instrumentality to carry into effect the powers distinctly conferred on congress by the constitution, but no such power has been conferred on congress with respect to educational institutions, churches or similar institutions.

Congressman Underwood was undoubtedly correct in denying that "congress would have power to incorporate" this Association. He is also correct in saying that, "on the other hand, congress has unlimited power to legislate for the District of Columbia, and would have power to incorporate a company for the purpose of doing business within the District of Columbia, and, incidentally, it might transact its business throughout the United States, as all other corporations do, but such a charter would not be a general charter, but would be local to the District, and would have the same limitations on it that charters issued by the state government have."

And now, a reference to the "American Social Science Association": On the 28th of January, 1899, an act of congress was approved, which reads, word for word, as follows:

An Act to incorporate the American Social Science Association.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Daniel C. Gilman, Carroll D. Wright, Andrew D. White, Dorman B. Eaton, James B. Angell, William T. Harris, Frederick J. Kingsbury, Oscar S. Straus, Francis Wayland, Saint Clair McKelway, Simeon E. Baldwin, and their associates, members of the voluntary association organized in eighteen hundred and sixty-five and known as the American Social Science Association, and their successors, are hereby constituted a corporation by that name, in the District of Columbia, for the purpose of promoting studies and researches in social science in the various departments in which said association is or said corporation may be organized.

Sec. 2. That this act shall take effect upon its acceptance by said voluntary association at its next regular annual session.

Sec. 3. That the right to alter, amend, or repeal this act at any time is hereby expressly reserved.

Approved, Jan. 28, 1899. 30 U. S. Statutes at Large (55th Congress, 1897-1899), page 804.

It will thus be observed that this act of congress provides that this American Social Science Association "are hereby constituted a corporation by that name in the District of Columbia," and it has, therefore, the same relative territorial limits to its rights and privileges that it would have if incorporated in any other territory or in any of the states of the Union; and, as stated by Congressman Underwood, "such charter would not be a general charter," but is "local to the district," and has "the same limitations on it that charters issued by the state government have."

I have never doubted that an association like ours could be incorporated, by act of congress, in the District of Columbia, but that would carry with it the same limitations with respect to the necessity of holding business meetings within the District of Columbia, that now make it necessary for them to be held in Illinois, and it is more than doubtful whether this would be any improvement over present conditions.

IN CONCLUSION.

The matters considered by your Board of Trustees at its meeting in Chicago on the 20th day of February, 1903, involved:

1. The suggestion that the present articles of incorporation and by-laws, as acted on at your annual meeting in Saratoga and ratified at the adjourned session of that meeting, in Chicago, were not legally adopted, because the changes had not been proposed and published in conformity with the rules of the Association, adopted at St. Paul, in the year 1901, in relation to amendments.

2. That the provisions of the by-laws, fixing a quorum at the adjourned session, permitted too small a number; and

3. That your board ought immediately to take steps to secure from congress a national incorporation, which would give it the privilege of holding your meetings in any state in the Union, and thus "complete its business at its annual meeting, wherever it might be held."

After extended discussion by you, and after you had listened to the presentation of the law applicable to the situation which, as counsel for your Association, I made, your Board of Trustees reached its conclusions with respect to the several propositions, and instructed me to prepare an opinion, setting out, in detail, the situation. This detail is furnished in the previous portion of this letter. A summary of the conclusions reached, with reasons as to each proposition, is as follows:

1. The amendments to the articles of incorporation and the by-laws, adopted at the Saratoga meeting, and ratified at the meeting in Chicago in 1902, are legal. The requirements above referred to—that they should have been proposed "in open meeting" one year previous to being acted on, and published, etc—had no binding validity, because the American Medical Association is a corporation of the State of Illinois. Its meetings for the transaction of business could only be legally held within the territorial limits of this state; therefore, the so-called constitution and by-laws, supposed to have been adopted at St. Paul, and the limitations they provide as to amendments, were not valid, because not adopted at a meeting held within the state within which the Association is incorporated; besides which, the statutes of Illinois expressly permit such amendments to be made at any annual meeting or at any adjourned session thereof.

2. As to the propriety of so small a number constituting a quorum at an adjourned session, that is a matter which the association must decide for itself. There is nothing in the by-laws to prevent any number, even to the full membership of the Association, attending the adjourned session, if they so desire; nor does it seem probable that so small a number as constitutes a quorum will be likely, at such adjourned session, to exercise bad faith toward the remainder of the Association.

3. The board decided that it was not its duty to take steps toward securing the proposed national incorporation, because:

(a) It seems very clear that congress has no power to create a national incorporation for the purposes mentioned in the charter of our Association, and to give to such Association the power to do business in any of the states or territories of the Union.

(b) While congress undoubtedly has the power to create, by special act, a corporation of this kind, and has, in fact, created somewhat similar organizations, among which is "The American Social Science Association," yet, when created, such corporations are (as is the American Social Science Association) only a corporation of the District of Columbia, and not national, and such corporation would have the same territorial limitations on it as would have charters issued by the various state governments, so that whether the Association be incorporated in the District of Columbia or in some of the other states or territories of the Union, it would be necessary to have its meetings, for the transaction of business of the corporation, held in the District of Columbia or in the state or territory in which it is incorporated. This, however, does not prevent other meetings being held for other purposes outside the state or territory creating the corporation. Precisely that condition exists to-day, so that unless it would be more convenient for you to hold your meetings for the transaction of the business of the corporation in the District of Columbia than it is to hold them in the state of Illinois, there would be nothing gained by the proposed change. In addition to this, your attention was called to the fact that as Trustees for the American Medical Association, a corporation of the state of Illinois, having large property interests here, you were, in fact, trustees for the entity—the Association—and for its various members bound to preserve its and their property in this corporation, and that you would be justly censurable if, without unanimous consent, you took measures involving the expense and uncertainty of securing the proposed corporation to take the place of the present one.

Yours truly,

JESSE A. BALDWIN.

REPORT OF THE COMMITTEE ON PROPHYLAXIS OF VENEREAL DISEASES.

Dr. Ludwig Weiss, chairman, read the report of his committee as follows:

To the President and House of Delegates of the American Medical Association: Gentlemen—The Committee on Prophylaxis of Venereal Diseases begs leave to submit the following report:

The Committee elected Dr. Henry D. Holton of Brattleboro, Vt., Chairman, and Dr. Ludwig Weiss of New York, Secretary.

Several meetings were held by correspondence; and in order to expedite matters, it was agreed on to appoint Drs. Holton, Bulkley and Weiss as a sub-committee with power to act. Dr. Frank H. Montgomery of Chicago resigned his membership on account of leaving the country, and Dr. Frank Billings, President of the American Medical Association, appointed Dr. Louis E. Schmidt, Chicago, to fill his place.

The scope of the work which the Committee has set before itself consisted at first in corresponding through its Secretary with medical men and philanthropists, with the view of gathering such information and suggestions as they may have had to offer. This step, however, did not seem productive of what the Committee considered helpful hints. It did not elicit new facts and only gave occasion to ventilate different and uncompromising views, which, while proper before an assembled body like a congress, did not open new avenues to aid the Committee in its preliminary work.

In looking for another more promising basis for its studies, the Committee has very keenly felt the utter want of statistics from boards of health, etc. There was absolutely nothing on which to build, or from which to draw conclusions. While other contagious diseases are controlled and combated by boards of health with great vigor and excellent results, venereal diseases are ignored by our sanitary authorities, and the morbidity therefrom is consequently not a matter of record; officially, there are no venereal diseases in these United States.

There remained only one other source of information, viz., the utilization of the records of the different municipal and general hospitals in the larger cities of the union. But this task would have needed a large clerical force and a substantial appropriation to cope with. It was, however, tried tentatively in many instances and proved futile.

The returns were utterly disproportionate to the number of inquiries sent out; but, had they all replied, as will be seen later, the statistics therefrom would not have proved of great value. In most general hospitals, venereal diseases are not treated; or, if so, those cases figure under different names, pertaining to the late manifestations of these diseases. This had been the experience of the Committee of Seven appointed by the Medical Society of the County of New York in 1901, for the study of measures for the prophylaxis of venereal diseases. Furthermore, the imperfect records, the various designations and omission of diagnosis and other necessary particulars for fairly definite statistics would have made it illusory to draw conclusive statistics.

These sources, while they yield interesting deductions, do not represent the amount of venereal diseases treated in the public institutions.

Your Committee then decided to enlist the help of the medical press of the country, and to this end issued a circular letter, with a request to support the movement.

Your Committee embraces this opportunity to extend publicly its thanks to the medical journals for the readiness with which the appeal was given place in their columns, either in extenso or in abstract. Without their powerful aid, surely a movement like this must fail; with their co-operation, it has a good chance to succeed.

Simultaneously with this move and in order to ascertain any laws in regard to prostitution and free treatment of venereal diseases, your Committee drafted the following questions and assigned to each member a division of the United States, so that every state and territory was covered. The following questions were asked of the different states:

1. What laws exist in the different states relating to prostitution?
2. Is there a sanitary marriage law which provides for medical examination of the contracting parties?
3. Is there any law against wilfully or knowingly communicating venereal diseases?
4. What, if any, municipal regulations exist in any city of your state regarding these diseases?
5. Is notification required of these diseases in your state?

Up to the time of completion of this report, 20 states have responded, and many more are confidently expected to do so. But even from this limited number, the utter lack of laws to combat venereal diseases can be ascertained.

The following is a summary of the returns from the states which have responded, viz.: Arizona, Connecticut, Colorado, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, North Carolina, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Utah, Virginia, West Virginia, Washington, Vermont.

Each of these states, with the exception of Rhode Island and Connecticut, has, in answer to question 1, the usual laws and sundry police regulations of general character against houses of ill fame, including specified nuisances therein against soliciting in streets, and against enticing of females under 16 years. To questions 2, 3, 4 and 5, the answer in all instances as far as relating to venereal diseases is negative.

It is gratifying to note that this circular letter elicited a number of responses from physicians, medical associations and health officers. Through the latter source, we could ascertain that, independently of the general state laws, some municipalities have their separate local laws or ordinances regarding the social evil.

The fact that states and municipalities in most instances have different laws on this question, as is the case in several states, made the task of gathering reliable facts one of great difficulty.

In order to ascertain the extent of such divergencies and also to become acquainted with the different ways municipalities settle this question, your Secretary has issued a circular letter to the health officers of the forty largest cities of the United States. The letter and questions are herewith appended:

> Dear Sir:—The undersigned, Secretary of the Committee on Prophylaxis of Venereal Diseases of the American Medical Association, takes the liberty of requesting you kindly to answer the following questions, to be used by the Committee for compiling statistics.
>
> The Committee is already in possession of data on this topic emanating from the state authorities; but, inasmuch as there seem to exist in several large cities separate laws governing these questions, independent of state laws, the Committee would be greatly indebted to you, if you would kindly furnish it the data embodied in its questions.

As the Committee has to report at the next—New Orleans—session of the American Medical Association, May 5-8, a prompt answer would greatly oblige.

Very truly yours, L. WEISS, Secretary.

1. Is there any law or ordinance in your city relating to prostitution? If so, what are its provisions?

2. Is there any law for wilfully or knowingly communicating venereal diseases?

3. What, if any, municipal regulations exist in your city regarding these diseases?

4. What are the accommodations and the number of beds for venereal patients in the hospitals under the jurisdiction of the health board of your city?

At this writing, the following twenty cities have been heard from: Albany, Baltimore, Buffalo, Cleveland, Detroit, District of Columbia, Louisville, Lowell, Minneapolis, Newark, New Orleans, New York, Philadelphia, Pittsburg, Providence, Rochester, St. Paul, Syracuse, St. Louis, Scranton, Worcester.

The summary of these answers elicited the fact that as to question 1, there are in existence the police regulations of the general character, confessedly a dead letter; Detroit and Cincinnati have a regulation on the continental plan. Questions 2 and 3 are in each instance answered in the negative, and as to question 4, there is the usual scarcity of beds for venereal patients, in some cases absolutely out of all proportion to the number of inhabitants.

That the interest towards the recognition of venereal diseases is increasing and that the profession is conscious of the great social danger from it, is shown by the activity of different medical societies in this direction. Among others may be mentioned the State Medical Association of Maine, which had a committee appointed to study the expediency of adding syphilis and venereal diseases to those required to be reported to the boards of health. It will instruct its delegate to vote in favor of a congress. The Missouri Valley Medical Association passed a resolution unanimously endorsing this progressive movement of the American Medical Association, appointing a committee of three to aid this Committee in every way, if so desired. Your Secretary has extended thanks for the offer.

A similar movement was contemplated by the state and provincial boards of health of Vermont. The secretary of the State Board of Health of Iowa expressed his hearty sympathy with the Committee's efforts looking towards the prophylaxis of venereal diseases.

The Board of Health of the City of New York expressed its interest in the matter and hopes that the department can take some action regarding it. The chancellor of the University of Nebraska expressed his sympathy with the movement tending to combat the spread of venereal diseases and most of the city officials to whom the above questions were sent expressed their sympathy with the movement and promised to take steps for municipal control of venereal diseases.

After having passed in brief review the steps taken by your Committee, we may be permitted to deduce from our preliminary study such facts as may perhaps prove of some value or importance in the further consideration of this question. The Committee does not commit itself to anything except the opinion that it regards the prophylaxis of venereal diseases as of sufficient moment to receive deliberate and careful consideration by this honorable House of Delegates.

The dire consequences of venereal diseases do not only affect the working and earning capacity of the people, but also their well being. The well being of the people is encroached on not so much by the active incidents of these diseases, but much more through their chronic manifestations, especially in women. The tedious and invalidating course of chronic pelvic inflammations, their painful and ever-recurring accidents diminish the exercise of motherly care of the children, forces to relative or absolute inactivity the helpful mate. The working capacity being thus diminished, of course, the earning capacity suffers also, and the type of an ill-nourished, careworn and poverty-stricken family is established. And as poverty and squalor are the stranglers of morals, virtue in the children takes its leave, the demon alcohol takes possession of the despairing husband and father, and mute resignation and despair dulls the sensibilities of the wife and mother.

It has been approximately determined that among the communicable diseases in Prussia, typhoid represents a yearly money loss of 8,000,000 marks, while the increased expenses and decreased income caused by venereal diseases amounts to 90,000,000 marks yearly, an amount which supersedes that caused by consumption. But the financial loss is of minor importance compared with the enormous social danger and consequent social misery. Gonorrhea, especially its latent form, destroys the procreative functions in both sexes; in men through chronic inflammation of the adnexa, causing a zoospermia and necrospermia (and further stricture and ascending inflammation of the kidneys). In women through most serious involvement of the pelvic generative organs and their adnexa, destroying fecundity and giving rise to mutilating surgical operations. Eighty per cent. of all deaths from pelvic diseases in women are due to gonorrhea. Twenty per cent. of all blindness is due to gonorrheal infection of the newborn. Fifty per cent. of all involuntary childless marriages are caused by gonorrhea of the female organs of generation, of which 45 per cent. are due to marital infection by men. Taking this view of the existing conditions, the mooted question of "race suicide" so eminently emphasized of late as a voluntary cause of barren marriages, finds its explanation in a quite unexpected but entirely natural, if even in a not quite as voluntary a way as was generally presumed.

The original source of this gonorrheal infection is traceable in about 70 per cent. to prostitutes, and as 80 per cent. of all men had had gonorrhea once or several times, the conclusions reached are obvious.

While almost every prostitute must be looked on as infected with gonorrhea, compilations have shown that about every fourth disseminates syphilis. This means that syphilis is about four times rarer than gonorrhea. But, notwithstanding, it stands higher in its fatality. With lessened morbidity it unites a more profound activity in the visceral organs; it is always a constitutional infection with a high mortality and transmissible through heredity. In contradistinction to gonorrhea, it can be acquired also in a non-venereal way.

In countries of inferior culture, it is disseminated in nine-tenths of all cases in an extragenital way. Syphilis insontium is acquired in about 5 per cent. of all cases. It causes abortion in from 60 to 80 per cent., and propagates this tendency up to the third generation. Marital infection takes place in about 5 per cent. of syphilitic women and from 60 to 80 per cent. of this is due to prostitution.

There are, according to some authorities, 150,000 syphilitics in Berlin, or 12 per cent. of the inhabitants; in Paris, from 13 to 18 per cent. In Copenhagen, 1 of every 55 young men of the age between 20 and 30 has syphilis and 1 in 8 has gonorrhea. In the City of New York the number is estimated to reach 200,000. The same ratio holds good with very little oscillations in every capital or large city.

An approximate idea of the prevalence of venereal diseases can be gotten from the records of the various armies. There, from a body of men living under almost similar social conditions and with every case duly reported, the morbidity from venereal diseases can easily be ascertained. Although very valuable, these statistics, however, do not elucidate conditions in the great mass of the population.

As to the armies, these are the figures per thousand:

Germany	27	Austria	65
Russia	43	Italy	71
France	44	Great Britain	204

(Parliamentary Report, July 15, 1897, made by the Earl of Dunraven.)

The admission rate for the whole army of the United States for 1901 was 133.97 per 1,000. In the Philippines, those diseases have increased materially in their prevalence. In 1901 they constituted 20.42 per cent. of the total sickness, as compared with 8.97 in 1900. In consequence of this dire condition, medical inspection of the troops at regular intervals and reglementation of the prostitutes has been instituted there. The navy of the United States, i. e., the force afloat, participated with 112 per thousand, against 119.7 of the German navy.

A much more reliable statistic, because embracing the whole population, can be gathered from Sweden and Denmark, where, since 1874, venereal diseases are among the reportable contagious diseases. Physicians there are held to make weekly returns. Every venereal patient is obliged to have himself treated and treatment is given gratuitously. Statistics there show that since 1887 the number of venereal diseases has diminished 34 per cent. In the Dukedom of Braunschweig, where every hospital is open for those afflicted with venereal diseases, constitutional syphilis has greatly diminished in proportion to other venereal diseases.

The latest and most original departure to ascertain the prevalence of venereal diseases was instituted by Prussia. By request of the Government, all venereal diseases coming into treatment on the 30th day of April, 1900, had to be collected by physicians and their reports returned for statistical purposes. It appears, then, that on this day there were in the Kingdom of Prussia 40,920 venereal patients under treatment. (Seventy-five per cent. males and returns and in consequence of other errors the real number of 25 per cent. females.) Among which were 11,000 cases of recent syphilis. But since, only 63 per cent. of all physicians made venereal patients on this day would amount to 64,000, making a yearly aggregate of 773,000 and possibly more venereal patients. This means that in Prussia three-quarters of a million people are afflicted yearly from venereal diseases; or that, out of 22 adults, 1 becomes infected every year. By computation, it has further developed that in Berlin, among men who marry after their 30th year, every one had gonorrhea twice and every fifth was infected with syphilis. These are appalling numbers and far outdistance even consumption.

Finally, we will scan cursorily the hospital facilities of different countries for the treatment of venereal diseases.

In Prussia, every 29th venereal patient is admitted to the hospital. The other 28 must either content themselves with dispensary treatment or fall into the hands of quacks. In all Germany only 7 per cent. of venereal diseases are admitted to the hospitals.

The main cause of this dereliction lies everywhere in the insufficient supply of hospital facilities and that most general hospitals do not admit venereal patients, or only occasionally so; and in the contemptuous and unkind treatment of patients so afflicted. The poorest accommodations, the meanest food are given them and no wonder that they try to avoid the hospital terror.

We must, in order to combat venereal diseases, first sterilize its sources, and this can only be done by early and judicious treatment of the afflicted.

London has one general hospital bed for each 1,000 of its population. New York, one bed for each 5,000. London treats 88 per cent., New York only 9½ per cent. of its infectious diseases in hospitals. In order to effectually cope with venereal diseases, London ought to have for its 6,300,000 inhabitants about 2,500 beds for venereal patients, and Greater New York, with its 3,500,000 inhabitants, at least 1,800 beds at its disposition.

In the northern countries of Europe where venereal diseases are classed among the reportable ones, and gratuitous treatment and generous hospital facilities are within reach of every one, venereal diseases have greatly diminished.

Stockholm is in the enviable position of having more beds than needed (366), and complains only of the lack of polyclinics for outdoor patients. In Hungary, the treatment of sick prostitutes as outpatients is strictly forbidden and hospital treatment required; transmission of venereal diseases is made punishable. Punitive legislation against wittingly communicating venereal diseases is in existence in Norway, Denmark and Finland. The countries of middle Europe have no such laws yet.

The foregoing fragmentary statistics will convincingly prove that venereal diseases stand next to tuberculosis and alcoholism, if not superseding them. They are permeating the very root of the population, as 15 to 20 per cent. of adult males are infected with syphilis, and about 80 per cent. of them had gonorrhea, tainting those yet unborn, maiming those born with the virus already in their blood, deteriorating the race, devitalizing the individual.

The dangers from venereal diseases to the people, their socio-economic importance, their causing premature invalidism are of sufficient moment for all governments to exert their utmost to cope with them.

Gentlemen of the House of Delegates: It is a grave responsibility which rests on the shoulders of the medical fraternity. It is a complex and intricate question, consisting of ethico-moral and sanitary-medical components, which forces itself inevitably and in an ever recurring way to the attention of the medical profession. To shirk it, we must not. To evade it, we dare not. To pass it over in silence, we can not!

We are brought face to face daily with the primary and late manifestations of venereal diseases, their devastating influence on the affected, on the family and on the well being of the people in general.

In combating them, we must not fail to take into consideration both components of the question, although in our dealings, the sanitary side will be of paramount interest. We can do an enormous amount of good by inculcating in the young sexual purity, respect for women and the possibility of continence. On the other hand, we must insist, in order to combat the spread of the disease and to sterilize its sources, that larger hospital and dispensary facilities should be made available. There has been a most effectual crusade instituted against tuberculosis everywhere. Through a high tax license the barriers against alcoholism are raised. Only against the third curse of humanity—venereal diseases—there is a lack of action, a sin of omission, almost as bad as the sin of commission of sexual profligacy. The legislator does not legislate, the registrator (of the boards of health) does not register it, the hospital does not house it! As Bulkley puts it—ignored through ignorance, neglected through negligence of our duty! So, ostracized and outclassed, venereal diseases, through ignorance, false shame, concealment, prejudice, carry on their slaughter unhampered, unchecked and undisturbed, devastating coming generations, ruining the present one.

Your Committee would most strenuously emphasize the fact that, in its labors, it has not taken any stand, neither pro or con regarding the licensing or suppression of the social evil. True to the wording of the resolution, it has confined its studies only to the question whether the enormous spread of venereal diseases could be inhibited by a systematized action emanating from the profession. It has come to the conclusion that, looking at it from whatever point of view, it is the medical profession which will have the decisive word in the premises. It is convinced that the profession, to which the first and ultimate appeal for help is made by the afflicted, is, in consequence of its intimate relation to the physical ailments of humanity, well able to cope with both components of the question. The unselfish perception of its duties will and always did prompt the medical profession to exert an educational as well as sanitary influence towards the diseased in body and towards those morally dejected.

Your Committee, therefore, is impressed that, inasmuch as only a concerted action is promising of results, it is incumbent on the medical profession to discuss and recommend means and ways against the great and growing danger of the most serious and lasting of all contagious diseases that afflict humanity. It most respectfully recommends to the honorable House of Delegates that a national congress for the prophylaxis of venereal diseases should be convened under the auspices of the American Medical Association. This will mark an epochal event in the history of this great national body of medical men, to have contributed their mite towards the welfare of the people, by endeavoring to check the spread of some of the most persistent and virulent poisons conveyed into the blood of the people. Your Committee respectfully submit, in a preliminary way, the following points which would serve as a basis for such a congress.

First.—As the states can not with impunity ignore the existence of venereal diseases, and as it is the duty of the state to protect the people from the ravages of contagious diseases, there should be instituted through the state and district societies a propaganda of action in each state or district society looking towards a proper recognition of venereal diseases by the different legislatures.

Second.—That the American Medical Association authorizes its accredited delegates from each state, or by appointing special committees for this purpose, to organize such a movement in their respective state and district societies and to send delegates to such a congress.

Third.—That such delegates may then, fortified by the authority of the American Medical Association, in such a congress convened, bring to bear on their home legislature the necessity of legislation against the spread of venereal diseases.

Fourth.—To appoint a central committee of organization to be in touch with the various state committees.

The congress would discuss and act on the following questions:

SOCIAL MEASURES.

Prostitution.—Its causes and how to diminish its extent. (*a*) Safeguarding minors. (*b*) By raising the age of consent. (*c*) Socio-economic measures. (*d*) Educational measures. (*e*) Creation of a provident education law.

SANITARY MEASURES.

Prophylaxis by Treatment.—(*a*) Making venereal diseases reportable without giving names and addresses, solely for statistics of morbidity. (*b*) Liberal and enlarged hospital and dispensary facilities, with gratuitous treatment.

LEGISLATION.

(*a*) State laws against diffusing syphilis and venereal diseases in an extragenital way. (*b*) Certifying the health of wet nurses. (*c*) Regulating the profession of ritual circumcisors, of barbers, of dentists. (*d*) Trade sanitary laws against transmission of syphilis (glassblowers, cigarmakers, manicurists, etc.).

INDIVIDUAL PROPHYLAXIS.

(*a*) By teaching the avoidance of dangerous contact. (*b*) By instructing the diseased how to avoid infecting others.

MISCELLANEOUS MATTERS.

(*a*) Recommending a uniform nomenclature. (*b*) Broader education of medical students in venerology. (*c*) National and international statistics. (*d*) To petition the Congress of the United States for the creation of a Cabinet position to be called Department of Health. (*e*) Creation of societies to wage battle against the spread of venereal diseases like the Société Internationale de Prophylaxie Sanitaire et Morale, in Brussels, in connection with the international conference held there. And the German society of Berlin for combating venereal diseases; with periodicals issued by such societies.

The name of the congress to be National Congress for the Prophylaxis of Venereal Diseases, under the auspices of the American Medical Association. Respectfully submitted,

Henry D. Holton, Ludwig Weiss, George M. Kober, W. H. Sanders, L. Duncan Bulkley, Louis E. Schmidt, Committee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Asthma.

The following combination appears in the "Indian Med. Record," and is recommended in the treatment of bronchial asthma:

℞.	Pot. iodidi	gr. x	65
	Spts. ammon. arom.	m. xx	1 30
	Spts. etheris sulph.	m. xx	1 30
	Tinct. belladonnæ	m. x	65
	Aquæ camphoræ	℥i	30

M. Sig.: To be taken at one dose.

The author places emphasis on the good effects of the potassium iodid, especially in those cases accompanied by a bronchitis. The dose of this preparation may be repeated three or four times a day, and gradually increased to thirty (2.00) or forty (2 65) grains at a dose.

He recommends it given in a glass of milk, without any admixture of syrup and on an empty stomach. When combined with potassium carbonate the iodin is not set free in the stomach, and consequently prevents disturbance of that organ. It may be combined with ammonium preparations which act on the skin and so relieve the mucous membranes.

Poulet, in "Bul. Gen. de Ther.," recommends the following combination containing oxalic acid in the treatment of asthma and capillary bronchitis:

℞.	Acidi oxalici	gr. xxx	2
	Sodii bicarb.	gr. xlviii	3 20
	Syr. aurantii	℥ii	60

M. Sig.: One tablespoonful every hour.

In ordinary forms of bronchitis, "Press Medical" recommends the following:

℞.	Thiocol	gr. xxx	2
	Sodii benzoatis	gr. xxx	2
	Tinct. aconiti	m. xx	1 30
	Aq. laurocerasi	℥iiss	10
	Syr. senegæ q. s. ad	℥v	150

M. Sig.: One tablespoonful three times a day.

Robin recommends the following in chronic bronchitis:

℞.	Antimonii oxidi (white)	gr. viii	50
	Syr. ipecac.	℥ii	8
	Terpin hydratis	gr. iii	20
	Dionin	gr. 1/6	01
	Mist. acaciæ	℥iv	120

M. Sig.: One tablespoonful several times a day.

Iodin Solution for Furuncles.

According to an abstract in the "Med. Standard" Gallois and Courcoux recommend the employment of a concentrated solution of iodin in acetone in the treatment of boils, as acetone will hold in solution four times as much iodin as alcohol. The following formula is advised:

℞.	Iodi (metallic)	℥i	4
	Acetone	℥iiss	10

M. Sig.: Apply locally to the inflamed part.

This preparation produces only slight pricking sensation to the unbroken skin, but sharp pain is experienced if applied after the boil is opened. It is claimed that a boil, by this means, may be arrested before it reaches the suppurative stage.

Effects of Tight Diapers.

Dr. Alfred C. Cotton, in an article in "Arch. of Ped.," condemns the effects of tight diapers as being the cause of deform-

ity by compression on the tissues which are still in the formulative period. Skiagraphs are given, showing the results of pinning diapers of firm, unyielding substance tightly around the pelvis, thus producing a retardation of its growth. The thorax, according to the author, may likewise be constricted. Genu valgum may be produced by wadding a lot of diaper material between the thighs. The material should be light, made of absorbent cotton, covered with cheese cloth. The clothing should be supported from the shoulders. Knitted, seamless underclothing may be worn.

Pertussis.

The following combination is recommended by the "Month Cyc. of Med." as a local application in the treatment of pertussis:

℞. Acidi carbol. crys. .....gr. xv 1
Sol. cocainæ hydrochlor. (2 p. c.) ..m. lxxx 5
Glycerini .....ʒiv 15

M. Sig.: To be brushed over the pharynx before or between the paroxysms.

Yeo recommends the following combination as a favorable mixture in lessening the severity of the paroxysm and rendering the mucous less tenacious:

℞. Sodii benzoatis .....gr. lxxii 5
Sodii bicarb. .....gr. xlviii 3 | 20
Ammonii chloridi .....gr. xxiv 1 | 65
Aquæ chloroformi .....ʒi 30
Aquæ anisi q. s. ad.....ʒiii 90

M. Ft. mistura. Sig.: One to four teaspoonfuls, according to the age of the child, in a little hot milk, every four hours.

Syphilis.

The treatment of syphilis, according to W. D. Trentwith, in "Med. News," should be divided into four stages, as follows:

1. The pre-eruptive period.
2. The eruptive stage, including the first six or seven months.
3. From the sixth or seventh month to the end of the second or third year.
4. The tertiary stage.

In the pre-eruptive stage attention should be given to the general condition of the patient. Smoking or chewing tobacco and the use of alcoholics should be stopped and the patient given plenty of fresh air and a nutritious diet. If the chancre does not properly heal it should be washed with castile soap twice a day, followed by a 1 to 2,000 bichlorid solution and that followed by an application of lint saturated with the same solution or a 50 per cent. solution of lotio nigra. If an indurated nodule remains after the sore has healed, the author recommends the application of a 50 per cent. mercurial ointment. In the same way an application can be made to the inguinal glands as soon as any enlargement is made out, applying about gr. 15 (1.00) of the ointment and rubbing it in well each night. The mouth and teeth should be carefully looked after in order to prevent lesions in the oral cavity if possible. As an antiseptic tooth powder he recommends the following:

℞. Potass. chloratis.....ʒss 15
Pulv. saponis .....ʒiss 45
Olei gaultheriæ .....m. iii | 20

M. Sig.: As a tooth powder; or:

℞. Potassii chloratis .....ʒi 4
Aquæ .....ʒviii 240

M. Sig.: As a mouth wash, to be used several times through the day.

In the eruptive stage the treatment should be promptly carried out. It is on the new, young cells, according to the writer, that mercury is most destructive, so that loss of time in its administration diminishes to that extent the patient's chance for recovery. He sometimes begins with the protoiodid of mercury in doses of gr. 1/8 (.008) to gr. 1/4 (.0015) three times a day. This may be continued two or three weeks. He prefers, however, inunctions rubbed thoroughly into various portions of the body, naming the ten or eleven selected areas, not omitting the spaces between the fingers and the toes, the palms of the hands and the soles of the feet. A 50 per cent. mercurial ointment is used so divided that thirty or forty grains may be used at each inunction. The patient is instructed to take a warm bath daily or to cleanse the region to which the ointment is to be applied and then thoroughly rub it in; from fifteen to thirty minutes being required before all the ointment disappears.

Each part of the body should serve its term until the body is entirely covered; at the same time the indications of too large doses should be watched for, such as salivation, anemia, loss of weight, etc., when the ointment should be omitted for a few days and again resumed in smaller doses. Elimination by the bowels must be carefully inquired into.

If no untoward symptoms arise the daily amount of the ointment may be raised to gr. 45 (3.00) and finally to gr. 60 (4.00). The inunctions are stopped, and after one or two days potassium iodid begun, commencing with ten drops (.65) of a saturated solution, well diluted and gradually increasing it to twenty (1.20) or twenty-five drops (1.65) three times a day. This should be continued for 15 or 16 days, when the inunctions are repeated for 10 to 11 days, followed by the potassium iodid for 15 or 16 days. This plan should be carried out until the sixth or seventh month, in which time the entire body will have been covered from seven to twelve times. The author then advises a rest of three or four weeks, when he places the patient on the following mixed treatment:

℞. Hydrarg. biniodidi .....gr. 1/30-1/24 | 002-.0025
Potassii iodidi .....gr. v-xv | 30-1.00
Aq. destil. q. s. ad.....ʒi 4

M. Sig.: At one dose, to be repeated three times a day in plenty of water. The foregoing mixed treatment is prescribed, with intermissions, occasionally, of three to four weeks, until twelve or thirteen months have passed, after which time potassium iodid is given, in doses reaching gr. 50 (3.30) to gr. 60 (4.00) three times a day, about two months out of every four, and changing to the mixed treatment at times. This treatment is continued to the second year, when no bad signs being present the treatment may be stopped and the patient kept under proper observation.

For the treatment of mucous patches the author recommends an application of a 5 per cent. solution of silver nitrate every other day and the use of a gargle as follows:

℞. Hydrarg. bichloridi .....gr. iii | 20
Tinct. myrrhæ .....ʒss 2
Aquæ destil. q. s. ad.....ʒviii 240

M. Sig.: As a gargle; or:

℞. Alumeni .....ʒi 4
Potass. chloratis .....ʒiss 6
Aq. destil. .....ʒviii 240

M. Sig.: To be used as a gargle.

The treatment of salivation should consist in stopping the inunctions, moving the bowels with salts (either Rochelle or Epsom). In cases where syphylides or gummata reappear large doses of potassium iodid are given internally and inunctions applied or calomel fumigations may be employed or a local application applied as follows:

℞. Hydrarg. bichloridi .....gr. i | 06
Collodii .....ʒi 30

M. Sig.: Paint over the affected area and renew from time to time.

As a fumigation the following:

℞. Hydrarg. chloridi mitis .....gr. xx 1 | 30
Cinnabar .....gr. xl 2 | 65

M. Sig.: As a fumigation.

Fumigation and the hypodermic method are both of value when other methods fail.

Tabes Dorsalis.

Dr. C. Pope, in the "Alienist and Neurologist," states that he has never seen any benefits derived from mercury in either large or small doses, nor from a course at Hot Springs, but on the other hand untoward results have been observed. The only preparation from which he has obtained the expected results is silver nitrate in doses of grain 1/6 (.01) to 1/4 (.015) given three times a day, one or two hours after each meal. The crisis is best treated by morphin, used with great caution. Strychnin should be rarely used, and when given it should be administered in very small doses.

Peritonsillar Abscess.

The following is recommended by the "Phil. Med. Jour." in the treatment of quinsy:

R.	Ichthyol	3iii	12 |
	Ung. belladonnæ	3ii	8 |
	Olei citronellæ	m. iii	| 20
	Adipis lanæ hydros.	3iii	12 |

M. Sig.: To be applied externally.

Medicolegal.

Power of Board to Revoke License for Immoral Conduct.—Chapter 254 of the Laws of Kansas of 1901 provides, among other things, that the state board of medical registration and examination may refuse to grant a certificate to any person guilty of felony or gross immorality, and may, after notice and hearing, revoke the certificate for like cause. The Supreme Court of Kansas says, in the case of William M. Meffert vs. the State Board of Medical Registration and Examination, that a surfeit of authority might be cited holding that the state, in the exercise of its police power, may prescribe the qualifications which a physician must possess before entering on the practice of medicine or surgery. The State Board of Medical Registration and Examination is not a judicial tribunal; while it may be said to act *quasi* (as if) judicially it is only a ministerial board and performs no judicial functions. It is classed with such boards as the county boards of equalization, boards for the examination of applicants for teachers' certificates, city councils in granting and refusing a business or occupation license, and numerous other boards of similar character. Such boards perform no judicial functions, are not judicial tribunals, and have never been classed as such. It was contended that the procedure before the board in the admission and rejection of evidence was violative of the rights of Meffert, in that the evidence received and acted on was made up largely of unsupported accusations, hearsay and street rumor, and was not sufficient to sustain the findings. The provisions of the act creating the board, the court goes on to say, plainly indicate that such investigation was not intended to be carried on in observance of the technical rules adopted by courts of law. The act provides that the board shall be composed of seven physicians. These men are not learned in the science of law, and to require of a board thus composed that its investigations should be conducted in conformity to the technical rules of a common law court would at once disqualify it from making any investigation. It is subversive of the morals of the people and degrading to the medical profession for the state to clothe a grossly immoral man with authority to enter the homes of her citizens in the capacity of a physician. It was the intention of the legislature to adopt a summary proceeding by which the morals of the people and dignity of the profession might be protected against such a possibility without being embarrassed by the technical rules of proceedings at law. Meffert was timely notified of the charges preferred against him and the time when a hearing would be had and was given ample opportunity to refute such charges. The findings by the board are conclusive on this court. Next, it was contended that the immoral conduct with which this party was charged was not practiced in the line of his profession, therefore not cognizable by the board, and the court says that it only mentions this contention to condemn it. The law is not that the board must find that such person has been grossly immoral with his patients, but that he is grossly immoral in his general habits. The object sought is the protection of the home of the sick and distressed from the intrusion therein, in a professional character, of vicious and unprincipled men—men wholly destitute of all moral sensibilities. It was not the purpose of the lawmakers to clothe a man with a certificate of moral character and send him out to prey on the weak and unsuspecting, on those who would be entirely at his mercy, and quietly await the accomplishment of that which observation and experience has taught us is certain to follow before depriving such person of the endorsement which gave the opportunity to commit such wrong. The law disqualifies one guilty of a felony. It would hardly be contended that the felony for which a license may be revoked must have been committed on a patient or against the property of a patient, or while such physician was attending a patient. Nor does the court agree with the contention that to deprive a physician of his right to practice medicine otherwise than by a judgment or forfeiture by a judicial tribunal violates the fourteenth amendment to the constitution of the United States, which forbids any state to deprive any person of property without due process of law. It says that we have seen that it is within the police power of a state to prescribe the qualifications of one desiring to practice medicine, and also to provide for the creation of a board or tribunal to make the examination and determine whether the applicant for a license to follow this profession possesses the required qualification, and, if so, to issue to him such license. It must follow that the state may confer on the same board or tribunal the power to revoke such license, if it should thereafter be made to appear that the license should not have been issued, or if for any reason the holder thereof since its issuance had become disqualified. This constitutional provision is not a restriction or limitation on the police power of the state to pass and enforce such laws as in its judgment will inure to the health, morals or general welfare of its people. Such power is reserved to the state, and has been so recognized by all courts since the adoption of this amendment. Another contention was that the state board of medical examiners had no power to revoke the license theretofore issued, because the acts for which the commission was revoked, if committed at all, were committed before the passage of the law creating the board and, therefore, as to such acts the law was *ex post facto*. But the court says that an *ex post facto* law is meant one which imposes a punishment for an act that was not punishable at the time it was committed or imposes an additional punishment to that then prescribed, etc. The revocation of a license to practice medicine for any of the reasons mentioned in the statute was not intended to be, nor does it operate as a punishment, but as a protection to the citizens of the state; such requirements go to his qualifications, and where the qualification imposed is reasonable, one has no right to complain that he is deprived of the right to practice his profession because he has not conformed to such reasonable regulations. If the revocation was intended as a punishment, there might be force in this argument, but, since the only purpose of the law was to require a certain standard of morals of the physician, the argument is without force.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

April 25.

1 Problems in Sanitation. Henry D. Holton.
2 *The Association of Tabes and Multiple Sclerosis: Report of a Classical Case of Tabes with Intention Tremor and Nystagmus. Charles J. Aldrich.
3 *The Curative Powers of the X-Rays upon Lupus and Malignant Growths, with Reports of Cases. Thomas J. Buchanan.
4 *Splenic Anemia, Note of a Case. A. L. Benedict.
5 Report of a Case of Cranial Fistula Cured by Operation. J. A. Keown and E. B. Schallenbach.

2. **Tabes and Multiple Sclerosis.**—The case reported by Aldrich gives a perfect type of intention tremor with nystagmus in a classical tabetic, yet, in view of the man's age and the fact that we may have nystagmus in locomotor ataxia as well as motor irritations and intention tremor, he sees no necessity of complicating our pathology by assuming simultaneous existence of the two diseases.

3. **The X-Rays.**—Buchanan reports and illustrates a case of epithelioma and lupus treated by the *x*-rays. He holds that they act in carcinoma largely through disturbance of the trophic nerves supplying the blood vessels and skin and interfering with the blood supply of the neoplasm with subsequent atrophy. His conclusions are given as follows:

1. Superficial epitheliomata, lupus, rodent ulcers, eczema and many kindred skin affections can positively, in many cases, be cured with the *x*-rays.
2. The growth of deep-seated carcinomata can sometimes be retarded, and the pain very much lessened by means of the *x*-rays, but that such patients can be permanently cured is, as yet, not demonstrated.
3. A tube of medium-high vacuum is better suited for *x*-ray therapy than a tube of low power, particularly for deep-seated carcinomata.
4. The part exposed should never be nearer the tube than 12 inches.
5. An exposure should never last longer than 5 or 10 minutes at one sitting.
6. An interval of three or four days should intervene between each sitting.
7. In order to produce a cure it is neither necessary to produce a burn nor to cause any reaction whatever.
8. All cases of inoperable carcinomata, sarcomata, etc., should be treated with the *x*-rays before they are abandoned as hopeless.
9. The operator must be one well skilled in the use of the *x*-ray apparatus.
10. After the suspension of treatment, carcinomata show a strong disposition to return quickly.

4. **Splenic Anemia.**—After reporting a case, Benedict suggests the probability of the occasional relations of hepatic sclerosis to splenic anemia.

Medical News, New York.
April 25.

6 *The Treatment of Syphilis. W. D. Trenwith.
7 *The Treatment of Acute Gout. J. R. Clemens.
8 *Chronic Parenchymatous Pulmonary Tuberculosis. Wm. N. Beggs.
9 *Spinal Cord Injury, So-called Concussion of the Cord. Frank Parsons Norbury.
10 Report of a Case of Monocular Inferior Hemianopsia. E. S. Saylor.
11 Hydragogin—Some Observations upon Its Use in Diseases of the Heart and Kidneys. M. Loewenthal.
12 The Use of Normal Salt Solution. Harry F. Thompson.

6.—This article is noticed in the Therapeutic Department.

7.—Ibid.

8. **Tuberculosis.**—The form here described by Beggs under the title of chronic parenchymatous pulmonary tuberculosis, consists in a general inflammation of the lung substance. The designation he considers is not satisfactory. We might call it pan-pulmonary tuberculosis, but there are objections. In all forms the parenchyma is involved and in the present form all the pulmonary structures are equally affected. He thinks the type is worthy of attention and recognition for the following reasons:

1. It is a perfectly characteristic type of pulmonary tuberculosis, distinctly different from those generally recognized. 2. It is constant in its progress and bad in its prognosis. It is scarcely less fatal than phthisis florida though its duration is longer. 3. It is very insidious, and this tends to cause error on the part of the physician and a mistaken sense of security to both patient and medical adviser. 4. The preceding two reasons render its early recognition of great importance to both physician and patient.

9. **Spinal Concussion.**—Norbury reviews the conditions and concludes that the underlying lesion, as far as the cord is concerned, is a disturbance of the circulation and injury to the blood vessels. Intramedullary hemorrhage, he thinks, is the result. It is impossible to eliminate the psychic element altogether, but pathologically, while more or less speculative, there is a leaning toward the injury theory.

American Medicine, Philadelphia.
April 25.

13 On Volumetric Testing for Sugar. John Marshall and Leon A. Ryan.
14 *A Contribution to the Study of Manubrial Dulness, Especially as Related to Enlarged Bronchial Glands. H. B. Whitney.
15 *A Study of Weights in Pulmonary Tuberculosis. Lawrason Brown.
16 Wounds of the Thorax. Isaac R. Trimble.
17 Transient Unilateral Ophthalmoplegia Exterior of Peripherical Origin with Atrophy of the Optic Nerve. Charles J. Kipp.
18 *Glycosuria Gravidarum. William Ruoff.
19 The Bureau of Government Laboratories for the Philippine Islands: Scientific Positions Under It, Etc. Richard P. Strong.

14. **Manubrial Dulness.**—Whitney reports cases with illustrations showing the areas of manubrial dulness in connection with enlargement of the bronchial glands. In all the cases the chief enlargement was toward the left side, contrary to the dulness of aneurism, which is generally on the right. Pressure symptoms may be very pronounced and the value of this little point is considerable.

15. **Tuberculosis.**—Brown has studies the weight variations in tuberculosis and concludes that the decrease is due to toxic absorption. It is not the amount eaten but the amount assimilated that is of value to the consumptive. Carefully regulated rest and exercise are of most importance as regards the bodily weight in pulmonary tuberculosis. Forced exercise should be avoided; change of residence or climate may aid in assimilation. An excessive gain in weight may be a bad sign. The gain in weight is usually first evident on the chest, next on the abdomen in men and the hips in women. A constant rapid loss of weight indicates as much as any other phenomena that the patient is losing ground, while the gain of a few pounds is of little value in the prognosis, but if the gain is continuous over a period of two or three months, the patient is probably improving. A gain of weight is no sure sign of betterment, but on the whole the patients who gain over twenty pounds do better than those who do not. Sunshine and dryness are not necessary factors to gain in weight; cold weather stimulates assimilation and gain in weight more than warm weather.

18. **Glycosuria Gravidarum.**—This condition is studied by Ruoff, who reviews the cases he has collected from the literature and reports his personal observations. He sees no special difference between glycosuria in the pregnant woman and that in other conditions. It may develop during pregnancy or pregnancy may occur after the establishment of the disease, and in the latter event its malignant character is soon established. The infants usually die early. The conclusions are given as follows:

Glycosuria gravidarum may arise at any stage of pregnancy. It is not so serious as when diabetes antedates pregnancy.
It may disappear in one pregnancy and reappear in another, and end fatally after successive attacks. It frequently arises during parturition, but is of no great importance.
Labor is not materially affected, other conditions being equal.
Pregnancy is most likely to be interrupted.
Is very destructive to the fetus. More so than syphilis.
Maternal mortality is nearly 50 per cent.
Diabetics should not marry.
Death is usually by coma, no case of eclampsia having ever occurred in a diabetic.

Medical Record, New York.
April 25.

20 *Observations on Some Limitations of Diagnosis. Edward G. Janeway.
21 *The Toxicity of Appendicitis, with a Report of Two Cases of "Appendicular Vomito Negro." George R. Fowler.
22 *Cardioptosis and Its Association with Floating Liver. Max Einhorn.
23 *The Pathogenesis of Diabetes. Henry S. Stark.
24 A Case of Acute Dilatation of the Right Side of the Heart. P. P. M. Jorgensen.
25 Tumor Complicating Labor. George W. Squires.

20. **Limitations of Diagnosis.**—Janeway calls attention to the possibility of errors in diagnosis, and especially to the importance of study of the history and antecedents. This is practically illustrated in contagious diseases. He mentions variola, a type resembling varicella and the confusion that has taken place, and also purpuric forms. He gives instances of the difficulties of investigation of typhus and typhoid, and the importance of the diagnosis of gastric ulcers and growths, the confusion between general syphilis and tuberculosis in certain cases, between the various forms of heart disease, etc., all illustrating the limitations of diagnosis and the necessity of a careful study of the histories and antecedents.

21. **Appendicitis.**—The toxicity or toxic effects of appendicitis on the organism are especially noted by Fowler, who particularly calls attention to the complication of vomiting of blood which Kirmisson seems to have been the first to observe. It has also been noticed by Nitzsche, Dieulafoy, and the author, who reports two cases of his own observation. He thinks the occurrence of hematemesis adds another to the already long list of the grave complications of appendicitis. In one of his own cases emboli of the gastric mucosa were found, which fact did not agree with Nitzsche's findings.

22. **Cardioptosis.**—Einhorn first reviews the literature of cardioptosis and then describes the symptoms, reporting cases. He finds that emaciation, enteroptosis and neurasthenia all seem to play an important part in its etiology, but are not alone sufficient to cause it. It is less likely to occur in women, which fact he attributes to their habit of wearing corsets, which serve as a preventive. The chief symptoms are palpitation, brachycardia, tachycardia, etc., and occasional in-

ability to lie on the left side, none of which are absolutely characteristic of this condition. In nearly one-half the cases general enteroptosis is found. It does not endanger life and its subjective symptoms may be alleviated or removed. The main hopes of treatment are improvement of nutrition and strengthening of the nervous system. He also advises avoidance of the stooping position, and sleeping with the head and thorax as nearly horizontal as possible. Direct supports are hardly indicated, though he mentions the possibility of their being of some little use.

23. **Diabetes.**—Reviewing the theories of diabetes, Stark concludes with the following statements:

1. The exact truth of the pathology of diabetes is not known. 2. There are no acknowledged and constant, anatomic appearances of liver or pancreas associated with diabetes. 3. There are no characteristic lesions in any other organ. 4. An impairment of the physiologic functions of the ductless glands may be at the root of the disease. 5. Artificial glycosuria is not diabetes. The facility with which this phenomenon can be elicited, implies its insignificance as a pathologic factor. 6. As far as can be ascertained from competent sources, there is hope that the vacuum in our knowledge of the nature of diabetes will soon be filled.

Boston Medical and Surgical Journal.

April 23.

26 *The Reaction Time of Corrosive Sublimate in Different Dilutions Against Various Species of Bacteria. Charles Harrington and Harold Walker.
27 *The Cortical Cell Changes in Epilepsy; Their Significance and Clinical Interpretation. L. Pierce Clark and Thomas P. Prout.
28 Double Uterus and Vagina. C. H. Hare.
29 A Case of Uterus Bicornis Duplex, with Two Cervical Canals Above One External Os and Stricture of Vagina. W. L. Burrage.
30 Pregnancy in a Uterus Bicornis Simulating Extra-uterine Pregnancy. Frank A. Higgins.

26. **The Bactericidal Action of Corrosive Sublimate.**—Harrington and Walker have experimented on bacteria with solutions of corrosive sublimate, 1 to 1,000, 1 to 5,000, and 1 to 10,000. The authors find that the different species and different cultures of the same species vary considerably in their resistance to corrosive sublimate. In some species the resistance is markedly diminished by dryness, so that even the 1 to 10,000 solutions can destroy the germs in a short time. Some species, however, are not materially affected by dryness, thus the typhoid bacilli is much more resistant when dry than the diphtheria germ. Corrosive sublimate in as weak a solution as 1 to 5,000 is ineffective against the common pathogenic bacteria, including the pus organisms, when they are moist, excepting after prolonged contact. Since fifteen minutes' contact is not sufficient for the destruction of the *B. coli communis*, *B. pyocyaneus* and *Staphylococcus pyogenes aureus*, whether moist or dry, the use of this and of weaker preparations in surgical work and for irrigation and similar purposes should be abandoned. The 1 to 1,000 solution of corrosive sublimate is very slow in its action on some of the commonest of the skin bacteria, and since under the most favorable conditions more than ten minutes' contact may be necessary for it to kill *Staphylococcus pyogenes albus*, it should not be relied on to any great extent to ensure sterility of the hands or of instruments. The mere dipping of the hands for a few seconds into solutions of this strength can serve no useful purpose, but may lead to a false sense of security. Absolute dryness of the bacteria would be essential for the method to be effective, but this can not be insured. In any of the strengths commonly used it is a much overrated disinfectant and under the best conditions is so uncertain in its action that it would be of advantage to abandon its use altogether in surgery.

27. **Epilepsy.**—Eighteen cases of epilepsy from the Craig Colony, 7 of which died during status epilepticus, were examined microscopically as to the changes in the cortical cells and are reported by Clark and Prout. For comparative study, sections of normal brain were also used. The special conditions found in the cortical cells, especially in those of the second layer and other cells of that type, were striking and differed only in degree in the different cases. The cells were swollen, with chromatic substance almost entirely gone. The nucleus was often swollen out of proportion and ill-defined. The nucleus itself presented a finely granular appearance, and in many cases the nucleolus was dislocated in the process of section cutting. This artefact is much more frequent in these cases than in normal brains. The authors think these facts point to a destruction and ultimate disappearance of the cell as a unit in the cerebral cortex. They do not claim that this represents the final pathology of epilepsy, but the conditions indicate cell death, and teach us something as to the manner of its occurrence. The constancy of the lesion warrants the general conclusion as to the significance of the epilepsy lesion. Epilepsy they say must be considered a sensory phenomenon with motor manifestations. This is also supported by the fact of the action of the bromids, which appear to be effective on the sensory type of cells of the cortex. The anatomic and physiologic integrity of the large motor cells in the cerebral cortex shows the autonomy of these elements. They draw deductions as to the treatment and further study of the disorder from these facts. We should endeavor to exclude toxic agencies, overcome hereditary tendencies, by regulating the diet, exercise, etc., and using the bromids.

New York Medical Journal.

April 25.

31 The American Italy. Charles E. Nammack.
32 *The Kidney of Pregnancy. John O. Polak.
33 *Report of a Case of Infection by the Bacillus Coli Communis. A. Jacoby.
34 *The Surgical Treatment of Empyema. Frank McMorrow.
35 *Fatal Meningitis with Myosis and Salivary Suppression as the Only Symptoms—Autopsy—A Study in Diagnosis by Exclusion. H. Altshul.
36 Sarcoma of the Femur Following Traumatism: Amputation at the Hip-Joint by Wyeth's Method. George S. Brown.
37 *The Surgical Treatment of Ascites of Hepatic Cirrhosis, with Report of a Case. L. W. Pearson.
38 Operation in a Case of Extradural Hemorrhage the Result of Whooping Cough. George S. Brown.

32. **The Kidney of Pregnancy.**—This kidney, according to Polak, is one in which there are no inflammatory changes, but which presents a fatty infiltration of epithelial cells lining the uriniferous tubules, with anemia of the organ. The more recent opinion in regard to the changes is that they are due to imperfect metabolism and a sort of autointoxication. The indications of albumin in the urine as regards prognosis, etc., are noted. It may occur with pregnancy in the healthy woman, and is known to be present in about one-third of the cases of labor. The kidney of pregnancy in the latter part of the period is often to a certain degree pathologic, especially with primiparæ. There is liable to be more or less edema of the legs, but the condition returns to the normal immediately after delivery. The transition from the normal to the pathologic one is, however, very insidious and gradual, often culminating in eclampsia, which the author considers due to a combined toxemia produced by defective elimination from all the emunctories, but particularly the intestinal tract. When the preeclamptic state is recognized by urinary examination and the toxic symptoms like headache, neuralgia, nausea, edema, etc., the amount of nitrogenous food should be reduced and the absorption of toxic materials in the intestines and the tissues of the body be prevented and their elimination assisted by the bowel, liver, kidneys, skin and lungs. If absolutely necessary, remove the source of fetal metabolism and irritation by emptying the uterus.

33. **Infection by the Bacillus Coli Communis.**—Jacoby reports a case resembling typhoid fever, with the negative Widal reaction and the presence of *Bacillus coli communis* in large numbers in the urine. The autopsy showed no inflammatory condition of Peyer's patches, but a general congestion of the ileum and jejunum mucosa.

34. **Empyema.**—McMorrow emphasizes the importance of free opening in the pleural cavity in cases of empyema so that there can be no chance for retention of irrigated fluid or putrid secretions.

35. **Meningitis.**—From a study of his case, Altshul concludes:

1. That extensive meningitis can exist without giving rise to its characteristic and usual symptoms.
2. That sepsis does not always cause changes in pulse and temperature, and that their being normal does not warrant our excluding this condition.
3. That a spasmodic and complete occlusion of the ureter, which is not due to impaction of renal calculi, may last for some time and thus prevent the detection of extensive pyonephrosis.
4. That myosis and salivary suppression may be the first symptoms of meningitis or myelitis.

37. **The Talma-Morison Operation.**—Pearson reports a case and discusses the value of the Talma operation. He admits that it will often cure ascites, but some of the patients will nevertheless die of hepatic cirrhosis. It is often employed too late to be a fair test of the value of the operation. He thinks that a certain percentage of cases may be permanently benefited and hopes that future experience will be more cheering than that of the past.

St. Louis Medical Review.

April 18.

39 *Street-Car Colds. Fayette C. Ewing.

39. **Street-Car Colds.**—The cautions sent out by the Chicago Health Board are noticed by Ewing, who considers the conditions for acquiring street-car colds are far worse in St. Louis than in Chicago. He lays special stress on the importance of traveling on ill-ventilated street cars for long distances, and thinks that cars making long runs, compelling long-distance passengers to endure a temperature under 60 F., should be condemned as dangerous, and a menace to the health of the passengers.

Cincinnati Lancet-Clinic.

April 25.

40 *Lupus and the Finsen Ray. M. L. Heidingsfeld.
41 *A Résumé of Rectal Diseases. George J. Monroe.
42 Diet and Arterio-sclerosis. A. E. Powell.
43 Surgery of the Prostate, Pancreas, Diaphragm and Spleen (Surgery of the Pancreas). (Continued.) B. Merrill Ricketts.

40. **Lupus.**—Heidingsfeld describes the apparatus and reports several cases refractory to the *x*-ray, but relieved by the Finsen method.

41. **Rectal Diseases.**—Monroe criticises Pennington's operation for hemorrhoids, claiming that it is no improvement on the other methods of ligation, clamp and cautery, injection, and the Whitehead method.

Northwest Medicine, Seattle, Wash.

February.

44 *Uretero-cystostomy, with Traction on the Ureter. Clarence A. Smith.
45 *Beri-beri, a Clinical Study. John W. Bailey.
46 Surgery in and Around the Gall Bladder and Ducts. Casper W. Sharples.
47 *Appendicular Dyspepsia. James B. Eagleson.

March.

48 The Causes and Treatment of Hydronephrosis. J. Wesley Bovée.
49 A Report of Typhoid Fever Cases. Charles B. Ford.
50 The Behavior of the Iris in General Diseases. Hamilton Stillson.
51 *Post-Operative Hematemesis. Kenelm Winslow.

44. **Uretero-Cystostomy.**—Smith's article is a report of the experimental studies of anastomosis of the bladder and ureter under tension. He finds that by the use of an oblique anastomosis the ureter and the bladder may be united whenever they can be approximated in spite of tension. Nephritis and atrophy of the kidney on the side operated on may be a consequence, but this condition may follow any operation for uretero-cystostomy.

45. **Beri-Beri.**—Bailey's article is an interesting clinical study of beri-beri as observed among the Japanese in a small settlement on Vancouver Island. His observations seem to favor the dietetic origin of the disease, a too exclusive diet of rice being conducive to the condition.

47. **Appendicular Dyspepsia.**—The dyspepsia preceding many cases of appendicitis is considered by Eagleson as not an etiologic factor, but, as a rule, the result of irritation around the appendix. He supports this view by various quotations as to the pathologic process and his own personal experience. From his study he concludes that there is a form of dyspepsia of appendicular origin, largely reflex in one class of cases, depending on the presence of a fecal concretion within the organ, or a slight ulceration or catarrhal condition of its mucosa. In another class of cases it is mechanically caused by an obstruction or irritation resulting from adhesions following a more or less acute attack of inflammation at some previous time. Such cases are suitable for surgical treatment. In case of chronic dyspepsia the condition of the appendix should be studied. When the disease has resisted all medicinal treatment and its origin has been diagnosed as appendicular, an operation should be advised.

51. **Post-Operative Hematemesis.**—Winslow reports a case occurring in his own practice. No lesion of mucous membrane was discovered on careful search. He is disinclined to accept the explanation of sepsis as the origin as offered by Rodman.

Archives of Otology, New Rochelle, N. Y.

April.

52 A Brief Report of Forty Radical Operations for Chronic Purulent Otitis and Complications, with Remarks. Arnold Knapp and C. H. R. Jordan.
53 *A Study of the Pathology of the Internal Ear and the Auditory Nerve. Paul Manasse.
54 The Usual Methods of Treatment and Operation in the Ear and Throat Clinic at Rostock. O. Koerner.
55 *After-Treatment of Radical Operations without Packing. A. von zur Muehlen.
56 An Anatomical Method of Demonstrating the Accessory Cavities of the Nose. G. Bruehl.
57 *The Contagiousness of Acute Otitis Media. L. Wolff.
58 The Occurrence of Rhodan in the Nasal Secretion, and Its Absence in Ozena. Dr. Muck.
59 Entotic Murmur Due to Aneurism of the Occipital Artery. Dr. Muck.
60 *The Masto-squamosal Suture. Dr. Aderman.
61 Acute Mastoiditis Complicated by Scleroderma. M. Kamm.
62 *On the Duplicity of the Accessory Sinuses of the Nose. G. Bruehl.
63 *Are There "Variations in the Course of the Facial Nerve Having Bearing upon the Mastoid Operation?" B. Alex. Randall.

53. **Pathology of the Internal Ear.**—Manasse reports two cases, one of multiple disseminated gray degeneration of the auditory nerve in a tuberculous patient in which the perceiving apparatus of hearing was specially involved. The anatomic changes in the internal ear in no way resembled other tuberculous processes and were very questionably tubercular. In the other case similar disturbance of the perceiving organs of hearing was observed in a syphilitic patient, but the process in the ear was also a specific one.

55. **Packing in Radical Operations.**—Von Zur Muehlen has lately modified the after-treatment of his radical mastoid operations by leaving out the packing after the first or second dressing, and he finds a decided advantage in this. The procedure of packing is often painful and difficult, especially in children, and leaving out the packing in a certain number of cases seems to shorten the length of treatment. The cavities left at the time of operation filled in with newly-formed tissue appear smaller and less deep, and, consequently are easier to oversee and keep clean. The anatomic relations under favorable conditions resemble the normal. He removes only as much of the bone as is necessary to expose the diseased bone, making the cavity as small as possible. The first tampon of iodoform gauze remains as usual for six days, the second one, introduced much more loosely, remains only two or three, eight days being sufficient to fixate the flap. As soon as this is accomplished he leaves off packing. If subsequent packing seems desirable he introduces it as loosely as possible and dispenses with it as soon as he can. The wound is dressed every day and the area irrigated with warm water, and in case of fetid discharge 10 per cent. naphthalin solution is of use.

57. **Otitis Media.**—Wolff has observed the simultaneous occurrence of otitis media in several members of the same family and follows Lermoyez in considering the condition a contagious one.

60. **The Masto-Squamosal Suture.**—From a study of a large number of skulls Aderman finds that the masto-squamosal suture is distinctly more frequent than is held by Kieselbach and Kirchner, who had previously investigated the subject. He examined 2,554 skulls. In 1,413 of unknown age, 219 presented distinct sutures on both sides; in 54 the suture was distinct on one side and a trace on the other; and in 7 it was unilateral. He has not been able to find any particular racial difference as to the frequency of the suture with the exception of the negro skull, in which it seems to be less frequent than in others.

62. **Duplicity of the Accessory Sinuses.**—Bruehl finds that the double cavity is frequently encountered in frontal and sphenoidal sinuses, but rarely in the maxillary antrum. Anatomic investigation shows that in most cases this is due

to the ethmoidal cells which have extended to the frontal bone, the sphenoid bone and the superior maxillary. A true duplication of the accessory sinus due to a division of the rudimentary condition is extremely rare.

63. **The Facial Nerve.**—The danger of encountering the facial nerve in operations on the carious middle-ear has been noticed by various authors, and special stress laid on the variability of the course of the facial canal. Randall has studied this subject and finds that the variance is far less frequent and extensive than has been claimed, and that the descending course of the facial nerve to its stylo-mastoid exit is in all the cases studied almost exactly vertical and crosses the oblique plane of the drumhead some 3 mm. back of the middle of the posterior margin of the annulus. Therefore, in removing the back wall of the meatus we should aim to cut a little below the tympano-mastoid suture if we are to keep in safe territory.

American Journal of Obstetrics, New York.

April.

64 *What Is Eclampsia? Samuel W. Bandler.
65 *Utero-vaginal Tamponade: Its Obstetric Uses. Joseph B. De Lee.
66 *Primary Carcinoma of the Urethra in the Female. J. F. Percy.
67 *Constipation as an Etiological Factor in Eclampsia. John Aspell.
68 *A Plea for "Bloodless" Surgery in Gynecology. O. B. Will.

64. **Eclampsia.**—Bandler emphasizes the importance of internal secretions of the ovary and placenta as a pathologic element in eclampsia. A lack of proper control of the placental secretion by the ovarian, and malsecretion on the part of the placental gland, or preferably, a relative malsecretion due to insufficient or abnormal modification of the placental secretion by the elements furnished by the ovaries, furnishes, he thinks, the most plausible and logical explanation of the lesions of eclampsia.

65. **Utero-Vaginal Tamponade.**—The utility and disadvantages of this procedure are discussed by De Lee, who finds it especially useful in the stoppage of hemorrhage, especially postpartum, after operative procedures; and in cases of cesarean section it may be necessary to tampon the uterus because of atony. He advises the use of a single piece of gauze on account of facilitating removal, and removing it in 16 to 36 hours. It stimulates the uterus to contract, tampons directly the site of the hemorrhage, favors clotting of blood in its meshes, fills up an empty uterus and lifts up and supports the uterus, relieving it of congestion. He is willing to admit that it sometimes has disadvantages, and sometimes women are tamponed that could get along without it. In fact, perhaps this is true of many of his own cases, but what one considers necessary to do in cases of postpartum hemorrhage depends on the standard of obstetrics practiced. The present obstetrical standard is not attempting to save the woman's life, and most of the babies; we must save all the women and the babies that are healthy, and secure them against bad consequences. He has seen the effects of hemorrhage last for months and years, and the loss of over a pint of blood at labor should be prevented. He has found but little use for the measure in placenta previa, excepting where it is necessary to tampon the patient while waiting for help or instruments. It is one of the milder measures to induce labor and is useful in certain cases of abortion. He advises, however, the passing of a thin strip of gauze into the uterus in cases where part of the ovum is expelled and it is impossible to take away the rest, then tampon the vagina tightly with sterile gauze and leave the case until next day. The cervix will then be found soft and easily dilatable, if not fully dilated, and the gauze, with uterine contents, expelled on top of the cotton tampon. As a means of carrying medication to the parturient tract, he considers its usefulness very restricted; indeed, the method is capable of much harm. Constant manipulation of an infected uterus by douches, curettage, medicinal applications, packing, etc., only aggravates things.

66. **Carcinoma of the Urethra.**—Percy reports a case at length and tabulates a number of others from the literature. From his search and correspondence he has come to the conclusion that cancer of the urethra is as rare as he was at first inclined to believe. He also in this paper calls attention to the more important pathologic conditions that may be confounded with primary cancer of this part, such as syphilitic disease, etc. As regards treatment he says he can repeat that the axiom of free and wide incision holds in the treatment of this condition.

67. **Constipation as a Factor in Eclampsia.**—Aspell calls attention to this factor in the causation of eclampsia and reports several cases. All the patients were constipated and had had no exercise in the open air for weeks before the attacks. He is, therefore, inclined to look to the liver as being the source of the toxic influence that produces the convulsions.

68. **Bloodless Surgery in Gynecology.**—Will's article is a plea for massage and manipulation to break up adhesions and reduce displacements, together with the use of pessaries and vaginal tampons to retain them. Other conditions also are amenable to this method. Chronic inflammation, neuralgias, morbid changes in the ovaries, etc., may be favorably affected and subdued by resort to compression, stretching and friction sufficient in degree to produce radical changes in the structure and renewed nervous and vascular activity.

American Gynecology, New York.

March.

69 *A New Method of Suturing the Fascia and Levator Ani Muscle in Perineorrhaphy; Also an Operation for Complete Laceration of the Perineum Designed for the Purpose of Eliminating Danger of Infection from the Rectum. George H. Noble.
70 Pus in the Female Pelvis. John B. Deaver.
71 *A New Method of Treating the Suppurating Abdominal Incision. Wm. Edgar Darnall.
72 The Constituents of the Colloid of an Uterine Fibroma. Torald Solimann.
73 *The Age of First Menstruation at Pole and Equator. George J. Engelmann.

69.—The second division of this article appeared in THE JOURNAL, Aug. 9, 1902, p. 302.

71. **Suppurating Abdominal Incisions.**—In case an abdominal incision for laparotomy suppurates and requires to be re-opened, Darnall would use hydrogen peroxid and formalin and a solution of the newer silver salts or a weak bichlorid of mercury solution until the profuse discharge of pus can be stopped. Then he closes such a wound by slightly anesthetizing the patient, curetting the sides of the incision to freshen up the granulations, placing in the bottom of the wound a narrow strip of iodoform gauze or a few strands of silkworm gut for drainage, and then laying a strip of zinc oxid adhesive plaster about 6 cm. wide in each side of the incision and about 2 cm. from its margin and passing an interrupted suture between the inner edges of the adhesive plaster across the incision without penetrating the skin. An assistant brings the edges of the incision together over the drain by using pressure from each side of the wound. The sutures are now tied tightly across the incision, closely approximating its sides and union takes place promptly, leaving only a straight line scar when the drain is removed.

73. **The Age of First Menstruation.**—Engelmann has investigated the subject of the appearance of first menstruation and finds it is quite different from the ordinary conception; instead of there being precocious puberty in the tropics and late in the arctic regions, the reverse is often the case. Early puberty is the rule at the arctic region rather than at the equator. The mental factor has much to do with the early development of the function, and he suggests that the carnivorous diet and the habits of the Eskimo may account for their early development, while in the tropics the only possible explanation for the retarded development is perhaps to be found in the torpid nervous system.

American Journal of the Medical Sciences, Philadelphia.

April.

74 *A Contribution to the Anatomy and Surgery of the Temporal Bone. A. E. Schmitt.
75 Gangrenous Cholecystitis, with a Report of a Case in Which a Successful Cholecystectomy Was Done. John H. Gibbon.
76 *Jaundice, with Reports of Interesting Illustrative Cases—A Contribution to the Toxic Forms of This Condition. James M. Anders.
77 *Abscesses of the Liver Following Typhoid Fever. James G. Sheldon.

78 *A Preliminary Communication Concerning the Nature and Treatment of Recurrent Vomiting in Children. David L. Edsall.
79 *Unilateral Renal Hematuria. Augustus A. Eshner.
80 Bence Jones Albumosuria with Peculiar Nervous Phenomena. L. Napoleon Boston.
81 *On a New Method for the Application of Widal's Test for the Diagnosis of Typhoid Fever. Arthur J. Wolff.
82 *Late Systolic Mitral Murmurs. J. N. Hall.
83 *Concerning the Rôle of Intracellular Catalytic Processes in the Pathogenesis of Malignant Neoplasms. John C. Hemmeter.
84 Rubber Tissue as a Dressing. G. Tucker Smith.

74. **Surgery of the Temporal Bone.**—Schmitt's article is an elaborate description of the temporal bone, its anatomy and the surgical technic of the operations involving it.

76. **Toxic Jaundice.**—Anders reports cases which, while not furnishing a basis for definite conclusions, suggest the following queries and propositions:

1. Is there a true polycholia due to the conversion into bile pigment of the hemoglobin that is suddenly liberated by certain poisons, as ether, chloroform, and the like, or the toxins of the acute infections, as, for example, lobar pneumonia? 2. Doubtless other causative agents are often operative in cases that fall under 1. 3. As there could be no jaundice without the presence of the liver, the term "hematogenous" is misleading, and should be regarded as obsolete; the term "toxemic jaundice" may be, however, appropriately applied to the cases of "hepatogenous" icterus, in which the blood changes are a more or less striking pathological feature. 4. May not the jaundice rarely seen in secondary syphilis be toxic in nature, at times at least, rather than purely "hepatogenous"? 5. Admitting that there are well-established causes for the hepatic cirrhosis, more particularly of the atrophic form, the etiology is but imperfectly understood. 6. Clear evidence to show that the hepatic cirrhoses are, in many cases at least, of microbic origin is accumulating. 7. The intercurrent acute inflammatory conditions with jaundice in the course of cirrhosis of the liver are doubtless micro-organismal in nature. 8. Relapsing febrile jaundice is also to be classified as an infection; it will probably be shown on further investigation to be due to a member of the colon group. 9. It is probable that the jaundice of hepatic cirrhosis is, in a certain sense at least, toxic in nature.

77. **Typhoid Abscess of the Liver.**—Beginning with a case reported in full, Sheldon discusses the subject of hepatic abscess from typhoid, reviewing the literature and ending with a number of similar cases that have been reported. He finds that the symptoms extend over varying periods. The cases that recovered were undoubtedly the result of pylephlebitis. He can not find a record of a case of hepatic abscess of arterial origin that got well. Prognosis in the cases following typhoid is always grave, and death may be expected in all cases associated with suppurative foci elsewhere in the body. The diagnosis is sometimes easy, but may be difficult or impossible. The treatment is always surgical.

78. **Recurrent Vomiting in Children.**—Edsall discusses this condition and concludes that there is a severe acid intoxication at the time of the attack, not during the interval, of the type seen in diabetes mellitus and occasionally in other conditions. The treatment directed to this acid intoxication is by full dosing with alkalies, which has been in his cases strikingly successful, excepting in one in which the results are still in suspense. He has found in the urine of cases acetone and diacetic acid and notes Marfan's experience, who has also found acetone in the urine in the beginning of the attacks. He disagrees with the latter's theory as to its being due to acetonemia, and considers the cases as confirmatory of his own views. He admits that it is possible that some cases may not have been dependent on the same primary disorder, but it will be an easy matter to determine when this intoxication is present and how frequently flooding the organism with alkalies will prove to be an effectual treatment.

79. **Unilateral Renal Hematuria.**—Eshner reports a case of renal calculus with hematuria in which after the kidney was exposed and found apparently healthy and left undisturbed the symptoms permanently disappeared. He has collected from the literature a number of similar cases and concludes that there are occasional occurrences, in men and women alike, mostly at middle adult life, of hemorrhage from a single kidney—from either with equal frequency, in many instances in consequence of demonstrable organic disorder, and in the remainder of obscure and undetermined origin. This hematuria may cease after simple exposure of the kidney or after nephropexy or nephrotomy, or in the failure of these, after nephrectomy. Since the preparation of his paper he has come across the report of an additional case in which slight mobility of the kidney was accompanied with profuse hematuria.

81. **The Widal Reaction.**—Wolff has modified the Wyatt Johnson method; taking a loop from the feces, smearing it on the agar slant in prepared tube and making one or more bouillon cultures from this specimen. The bouillon must react from 1 to 2 per cent. alkaline with the decinormal acid, using phenol phthalein as an indicator. The infected bouillon is incubated at the usual temperature for twelve hours, when an examination can be made. A sample of blood is taken at the same time a specimen of the feces is procured. This is mixed with the bouillon culture as usual and placed on the microscope stage. If there is sufficient agglutinating material present, the typhoid bacilli, if they exist in the cultures, will shortly form clumps in the field. The rest of the field will be observed full of colon bacilli in active motion. If this same reaction occurs with the patient's own blood we can, of course, safely say that the case has advanced at least to the second stage of the disease. Should no reaction take place, another sample of bouillon culture is tested with blood from advanced cases of typhoid, the agglutinating power of which has been tested by the ordinary method of pure typhoid culture. It is necessary for the proper use of this test to keep in stock a number of specimens of blood from well-marked cases, and if kept in a dry place they retain their effectiveness probably indefinitely. With this blood, if the feces contain any typhoid bacilli, a positive and distinct reaction will shortly occur, while the still motile colon bacilli occupy the rest of the field. This indicates that the case is one of typhoid, and that the disease is in the early stage from the middle to the end of the first week. By this method we can make an early diagnosis and also be able to state that the patient has advanced into the second week of the disease, or beyond the seventh day. He has made a number of tests of this method and has in no case had even a doubtful reaction.

82. **Late Systolic Mitral Murmurs.**—Hall concludes from a study of the subject and of typical cases that in a general way we can explain these murmurs by an asynchronous ventricular contraction.

83. **Malignant Neoplasms.**—Hemmeter has studied the pathogenicity of cancer from the standpoint of the chemist and physiologist. He reviews the various hypotheses and points out the difficulties in the way of the parasitic theory. The paper is largely a report of experimental observations and a number of interesting points and suggestions are thrown out. He admits the possible traumatic origin of adenoma and discusses the effect of the ordinary causes on cell division and the influence of physical laws on cell growth. He believes in intracellular catalyzers and the derangement of intracellular catalysis as a factor in producing malignant growths. In conclusion, he suggests that possibly the blood serum contains defensive substances effective in the destruction of cancer cells, and from this deduces the possible hope for a successful form of treatment.

Medicine, Detroit, Mich.

April.

85 *The Sudden Atrophic Influence of Craniospinal Nerves, with Report of Case. F. E. Coulter.
86 Clinical Experiences with Acetozone. Wm. Parsons.
87 Turbinotomy. James M. Brown.
88 Bacteriologic Study of the Blood in 30 Cases of Clinical Typhoid Fever, 2 of Which Proved to Be Paratyphoid and One Doubtful. E. H. Ruediger.
89 The Surgery of the General Practitioner. Raymond C. Turck.
90 *Responsibility in Active Algophily. J. G. Kiernan.

85. **Nervous Alopecia.**—Coulter reports a case in a child 7 years of age who, subsequent to convulsions, lost her hair from the area behind her ears on both sides. The new growth was irregular, lighter in color, finer and softer to the touch than the normal. The areas were nearly symmetrical on both sides, though extending a little more anteriorly on the left. He considers that in certain conditions the cranio-spinal nerves may have a sudden atrophic influence on the skin and its appendages. The nutritive difficulty, he thinks, was transitory as the hair is approaching more the normal condition. He suggests a blood condition, a toxin formed by a very sudden and severe convulsive stage, manifesting itself in this particular

area because of some special histologic character in the nerve trunk as yet undetected.

90. **Algophily.**—The medicolegal relations of this form of sexual perversion are discussed by Kiernan. He thinks that in many of these cases the responsibility is not destroyed.

University of Pennsylvania Medical Bulletin, Philadelphia.
April.

91 *Effects on the Nervous System of Electric Currents of High Potential, Considered Clinically and Medicolegally. Charles K. Mills and Theodore H. Weisenburg.
92 A Case of Intradural Spinal Cyst, with Operation and Recovery. W. G. Spiller, J. H. Musser and Edward Martin.
93 A Case of Spasmodic Torticollis Unsuccessfully Treated by Hypodermic injections of Atropin. Charles S. Potts.
94 *Anno Noki, or Bushi: The Arrow Poison of the Ainus. Edward T. Reichert.
95 *A Consideration of the Facial Reflexes and Nerve and Muscle Phenomena in the Distribution of the Fifth and Seventh Nerves. T. H. Weisenburg.
96 *Experiments in Disinfection with Formaldehyd Gas. Mazyck P. Ravenel and S. H. Gilliland.
97 A Simple Humane Holder for Small Animals Under Experiment. J. Edwin Sweet.
98 Two Cases of Tic Douloureux Treated Hypodermically with Massive Doses of Strychnin. Charles S. Potts.

91. **Accidents from Electric Currents.**—Mills and Weisenburg report a case of apparent bulbar spinal paralysis or myasthenia gravis due to frequently repeated small electrical shocks. There was a late appearing general paralysis of nearly all the musculature, with loss of reflexes. The pathology of the condition is discussed and also the medicolegal bearings of the effects of electric currents of high potential.

94. **Anno Noki or Bushi.**—This substance, the arrow poison of the Ainus of Northern Japan, is described by Reichert, who holds that there is no doubt that it is essentially or solely an inspissated extract of the aconitum frischeri. The experiments which he has made on dogs seem to leave little doubt as to this, as its physiologic action was clearly that of aconite.

95. **Facial Reflexes.**—The reflexes and muscular phenomena in the distribution of the fifth and seventh nerves are reviewed by Weisenburg. The ophthalmic and supraorbital reflex, first mentioned by Overend in 1896 and later by McCarthy, is obtained by striking a light blow with a percussion hammer over the distribution of the supraorbital nerve, the eyes open. A fine fibrillary tremor is first observed in the lower eyelid, and on gradually approaching the tapping to the eyebrows the tremor becomes coarser, the upper lid also being involved and slight approximation produced. This has been found absent in peripheral facial paralysis where the upper branch of the seventh nerve has been involved, and in cases where the Gasserian ganglion has been removed. Weisenburg has found it lacking in superficial facial palsy, but in a large proportion of brain or cord lesions it is normal. The lachrymal reflex may be produced by irritating the nasal mucous membrane, an increased secretion of tears resulting. Care should be taken to avoid a strong light on the eye. This reflex is present in hysterical anesthesia or conjunctivitis, but is diminished where the Gasserian ganglion has been removed. Weisenburg found it diminished in three cases of hemiplegia and hemianesthesia. The cornea mandibular reflex described by von Solder in 1902 is produced by touching the cornea and is shown by a movement of the lower jaw to the side opposite the irritated cornea. The mouth must be partly opened and the lower lid held down for the purpose of observation. The reflex arc is contained in the sensory and motor fibers of the fifth nerve. It is not always present in normal persons, is easily exhausted, but soon restored. Chvostek, in 1876, described the phenomenon named after him, where, as in cases of tetany, by striking over the pes anserinus and in some cases a mere stroking, a spasm of all the muscles of the facial distribution is produced. He thought it was due to a heightening of the mechanical irritability of the facial nerve. It has been found in a variety of conditions, as in hysteria, neurasthenia, epilepsy, tubercular and rachitic conditions, bulbar paralysis, spinal tumors and the late stages of facial paralysis. The malar phenomenon described by Bechterew is the reflex produced by percussion over the malar bone resulting in an upward and backward movement of the corner of the mouth. Weisenburg found this phenomenon not at all constant. The risorius phenomenon is caused by percussion over the angle of the lower jaw, producing retraction of the corner of the mouth backward and slightly downward. The risorius muscle can be distinctly seen contracting. He has observed this in a case of peripheral facial palsy on the affected side, in epilepsy on one side, and in two cases of cerebrospinal syphilis with basal involvement. The last reflex noticed is the depressor labii inferioris phenomenon, caused by percussion over the side of the lower jaw, about an inch and a half back of the symphysis, producing a retraction downward of one side of the lower lip. It is due to irritation of the supramaxillary branch of the facial nerve, which supplies the depressor labii inferioris. In some cases, instead of producing a depression of the lip, it produces an upward movement of the same. This is most probably, also, a phase of the Chvostek phenomena.

96. **Formaldehyd.**—Ravenel and Gilliland conclude the report of their experimental study, with the following:

1. Formaldehyd gas well deserves the high place which has been accorded it as a germicide. 2. The employment of special apparatus for generation of the gas, while convenient, is not requisite for its successful application, and no one should be discouraged from using it by the lack of such appliances. 3. The germicidal action of formaldehyd gas is largely controlled by certain factors which are, as yet, imperfectly understood. Other things being equal, the most important of these are moisture and temperature. 4. Each operation must be controlled by the exposure of test cultures distributed in every portion of the room to be disinfected, and no operation is to be regarded as successful until all such cultures are proven to have been destroyed.

Northwestern Lancet, Minneapolis, Minn.
April 15.

99 The Chronic Round, Septic, Perforating Ulcer of the Stomach. Gustav Fütterer.
100 Gastric Ulcer from a Surgical Point of View. James H. Dunn.

Woman's Medical Journal, Toledo, Ohio.
March.

101 Medical Gleanings in Europe and the Far East. Fredericka C. Zeller.
102 Contributions of the New Psychology to Medicine. Mary L. Neff.

Western Medical Review, Lincoln, Neb.
April 15.

103 Diagnosis of Diastolic Heart Sounds. LeRoy Crummer.
104 Syphilitic Affections of the Eye. H. B. Lemere.
105 Syphilis of the Nervous System. F. E. Coulter.
106 Treatment for Relief of Nasal Reflexes, with Report of Cases. F. W. Dean.
107 Diagnosis and Treatment of Chronic Gastritis. Alfred O. Peterson.

Medical Examiner and Practitioner, New York.
April.

108 The Problem of Tuberculosis. S. Eisenstaedt.
109 Chronic Nephritis Unaccompanied by Albuminuria. Arthur R. Elliott.
110 Appendicitis. Robert Abbe.
111 A Résumé of the Most Potent Factors of Disease and Death in the World's History, with a Review of Modern Prophylaxis. (Continued.) W. H. Irvine.
112 Some Phases of Albuminuria. William S. Gordon.

Journal of Cutaneous Diseases, New York.
April.

113 Erythrodermie Pityriasique en Plaques Disseminées. Charles J. White.
114 Myositis Syphilitica. J. A. Fordyce.
115 A New Form of Focus Tube. Charles Warrenne Allen.

Old Dominion Journal, Richmond, Va.
April.

116 Mouth Breathing. Clifton M. Miller.
117 Condylomata Vulvæ. Greer Baughman.
118 The Digestive Disorders of Pregnancy. John W. Scott.
119 Chloroform as a Surgical Anesthetic and Its Administration. F. Manfred Call.
120 The Burial of Ophelia. William H. Taylor.

Proceedings of the Pathological Society of Philadelphia.
April.

121 A New Hemo-alkalimeter. Arthur Dare.
122 Preliminary Report of a Study of the Urine for Tubercle Bacilli in Cases of Tuberculosis (60 Cases). L. F. Flick and Jos. Walsh.
123 Two Examples of Lesions of the Jaw. M. H. Cryer.

Medical and Surgical Monitor, Indianapolis.
April 15.

124 Goiter—Exophthalmic Goiter—Cretinism. John E. Lockridge.
125 The Virtue of Valerian. Samuel E. Earp.
126 Some Elements to Be Considered in Urinalysis. J. W. Crismond.
127 The Importance of Heat, Water, Electricity and Diet in the Treatment of Rheumatism. Alfred S. Jaeger.
128 Neurasthenia. W. H. Williams.

Alabama Medical Journal, Birmingham.

April.

129 Mastoiditis. L. G. Woodson.
130 Puerperal Sepsis, with Report of Cases. J. C. Abernathy.
131 Contract Doctor. M. H. Collins.
132 Adenoids. S. L. Ledbetter.
133 X-Ray Therapy. J. D. Gibson.

Southern California Practitioner, Los Angeles, Cal.

April.

134 Municipal and Personal Hygiene. J. McFadden Gaston.
135 Cystitis in the Female. Charles D. Lockwood.
136 Roentgen Rays in the Diagnosis of Gallstones. Albert Solland.
137 Some Remarks upon Ethmoidal Disease. Ernest W. Fleming.

Pacific Medical Journal, San Francisco.

April.

138 Chronic Cough of the Aged—Its Rational Treatment. G. A. Gilbert.
139 Appendicitis. Winslow Anderson.
140 The Advantages of the Vaginal Operation in Obese Patients. W. H. Humiston.
141 Specific in Pneumonia. H. B. Stanley.

Medical Bulletin, Philadelphia.

April.

142 Alopecia Circumscripta—Chronic Eczema—Ichthyosis. John V. Shoemaker.
143 The Treatment of Pleurisy with Effusion. George W. Pfromm.

Vermont Medical Monthly, Burlington.

March 25.

144 The Regular Treatment of Pneumonia. W. W. Browne.
145 The Homeopathic Treatment of Pneumonia. Edgar A. Fisher.
146 The Eclectic Treatment of Pneumonia. Pitts Edwin Howes.
147 The Alkaloidal Treatment of Pneumonia. Wm. L. Johnson.
148 A Report of Two Cases of Septicemia, Successfully Treated with H_2O_2 Medicinal. E. J. Melville.

Bulletin of the American Academy of Medicine, Easton, Pa.

April.

149 *May a Hospital Steal? P. Maxwell Foshay.
150 Politics in the Medical Profession. Donly C. Hawley.
151 *Compensation for Medical Services Rendered the State. T. D. Davis.
152 *The Political Side of Medicine. John B. Roberts.
153 *Medical Representation in Hospital Management. Augustus A. Eshner.
154 The Personal Equation in Examinations for Licensure. Charles McIntire.

149.—See abstract in THE JOURNAL, xxxviii, p. 1665.

151.—Ibid.

152.—Ibid.

153.—Ibid.

Mobile Medical and Surgical Journal.

April.

155 Infant Feeding. P. M. Lightfoot.
156 The Early Diagnosis of Smallpox, and Its Importance to the Physician and to the Public Generally. Julius Jones.
157 Ergot: Its Uses and Abuses. G. R. Burney.
158 Surgical Clinics at Mobile City Hospital. W. R. Jackson.
159 Some Further Observations in the Treatment of Typhoid Fever. O. L. Shivers.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 18.

1 *Gastric Hyperacidity (Hyperchlorhydria). William Russell.
2 *The Operative Treatment of Enlarged Prostate. William Thomson.
3 *Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ. P. J. Freyer.
4 On the Operative Treatment of Prostatic Obstruction. F. A. Southam.
5 *Note upon a Possible Relationship between Carcinoma and Nerve or Trophic Areas. G. Lenthal Cheatle.
6 *On the Etiology of Sleeping Sickness. Annibal Bettencourt, Ayres Kopke, Gomes de Resende and Correia Mendes.
7 Note of Some Further Experiments Regarding the Nature and Specific Treatment of Hay Fever. Felix Semon.

1. **Gastric Hyperacidity.**—The comparatively recent recognition of the cause of dyspepsia by excess of hydrochloric acid is Russell's subject. In his method of examination he questions the patient as to each symptom throughout the day, with special reference to the time of meals, intervals of relief, time of recurrence of pain or discomfort, etc. He explains the symptoms by the excess of hydrochloric acid digesting the proteid element and leaving the starchy food unaltered as an irritant, keeping up gastric secretion after the normal period of digestion and beyond what can be utilized. He considers this in part due to a special dyscrasia and is willing to admit this among our list of constitutional conditions. The neurotic theory is rejected. He finds this variety common; about 25 per cent. of the dyspeptic cases in the Royal Edinburgh Infirmary came under this category. As regards treatment the correction of constipation may suffice in mild cases. In other cases the use of alkalies taken sometime before food neutralizes any acid residuum facilitating the transformation of the starchy elements, which is in accordance with Pawlow's work on the secretions of the digestive glands. The diet must be regulated by the severity of the symptoms. Proteids ought to be reduced to a physiologic minimum and should be so selected and cooked as to be easy of digestion. The starches should be as much altered as possible, and the quantity of food should not exceed the physiologic requirements.

2. **Enlarged Prostate.**—Thomson favors the suprapubic method, considering the objections as to the danger of extravasation, sepsis and tediousness of recovery as of slight importance. The objections to the perineal route seem to him more weighty; the difficulty in reaching the enlarged organ, the impossibility of making a complete exploration of the bladder, and the danger of missing an encysted or loose calculus. There are cases, however, where operations through the perineum may be advisable, such as cases of extensive adipose development, and in case of small prostate. He calls attention to the predominance of the lateral lobes as obstruction, the fact that the bulk of the prostate is felt in the rectum gives no indication of its intravesical contour and the fact that the size of the prostate has no necessary relation with the severity of the urinary symptoms. While hemorrhage is usually controlled by hot boric solution and does not long continue, it may be advisable to utilize some contrivance to prevent it, and he illustrates a rubber pad, which is introduced through the wound and is attached to a string passed through the urethra by which it can be fitted against the prostatic scar and another string attached to its edge allows of its removal when required. Thomson has no doubt as to the possibility of enucleation in enlarged prostate.

3. **Enlarged Prostate.**—Freyer briefly reports cases and sums up his experience in 31 cases of complete removal within two years in patients varying in age from 58 to 79 years with prostates weighing from 1.5 to 10.25 ounces. A very large proportion of the patients were almost moribund when operated on; scarcely any of them were free from serious complications; 22 of the cases were perfect successes, both immediate and remote, and he means by this complete recovery, the patients being able to retain and pass their urine as well as ever. In no case has there been any relapse, time seems only to consolidate the cures. There were four fatalities, 2 from mania after the operative wound had practically healed and the functions become normal, 1 from heatstroke during convalescence and 1 from coma due to retention of morbid products of the urine in the blood, which had set in before operation. In only one of the four cases could death be attributed to the operation. In all his cases Freyer used the suprapubic method.

5. **Carcinoma.**—Cheatle illustrates cases of rodent ulcer as the most common form of cancer in which secondary deposits in the lymphatic glands are rare and in which the morbid processes are largely confined to certain special nerve areas or branches of the fifth nerve; also cases of squamous epithelioma. He shows that rodent ulcers may be multiple on the two areas of the fifth nerves at the same time; and that they may be multiple on the area of one fifth nerve; and no lesion elsewhere. He notes that cancer belongs to a period of bodily degeneration as a point which is of some importance. He found in one case a degeneration of the posterior ganglion of the spinal nerve supplying the part occupied by the cancer, and this agrees with Lugaro's findings of the effects of peripheral irritation on the effects of the posterior root ganglia. He does not wish to infer that a ganglion degeneration preceded the carcinoma, but can not help alluding to the clinical fact that irritation is a great precursor of cancer, and added to this it causes degeneration in the particular ganglia whose peripheral ramifications

are irritated. Carcinoma often appears in tissues which are associated with disorders of growth, like moles, and these latter are themselves associated with definite nerve areas in the incidence of cancer. He does not want to be taken as offering a new theory of cancer but merely as attempting to show the grounds for considering the possibility that the genesis and spread of cancer may be connected directly or indirectly with the nerve influences, which preside over the areas affected.

6. **Sleeping Sickness.**—The members of the Portugese commission to investigate the cause of sleeping sickness argue for the identity of the streptococcus described by Castellani with their own previously reported type and point out the common characters. While they claim priority they admit the independence of Castellani's work and its importance as a verification of their own.

The Lancet, London.

April 18.

8 *Infective Endocarditis Mainly in Its Clinical Aspects. T. R. Glynn.
9 *An Analysis of 22 Cases of Sudanese Leprosy. T. J. Tonkin.
10 *Nerve Suture and Nerve Regeneration. Paul B. Henriksen.
11 Three Cases of Ligature of the Common Carotid Artery. W. J. Collins.
12 Narcotile, Bichlorid of Methyl-ethylene: A New General Anesthetic. Tom Eastham.
13 *The Treatment of Epilepsy by Psychical Methods. H. Campbell Thomson.
14 A New Method of Treating Suppurating Catarrh of the Middle Ear. Albert A. Gray.
15 A Case of Acute Trional Poisoning; Remarks. F. P. Wightwick and H. D. Rolleston.
16 Two Cases of Tubal Gestation with Operation: Recovery. Russell Coombe.

8. **Infective Endocarditis.**—Glynn's second lecture discusses the mode of entrance of the pathogenic organisms. He thinks entrance is often through the lungs and air passages or mouth. The aortic and mitral valves were involved in 21 of his cases, the aortic in 10, the mitral in 15, and the endocardium or the ventricles alone in 1. In a number of his cases there were congenital cardiac defects, stenosis of the pulmonary valves, imperfect ventricular septum, etc. The vegetations in the disease are usually of considerable size and infarcts or emboli occur nearly three times as frequently in the infective cases as in the simple cases of endocarditis, though less commonly in the lungs where suppuration or infarcts rarely occur. This does not mean that the emboli causing these were benign. His classification of endocarditis is according to the severity and the duration of the symptoms: acute, subacute and chronic. The character of the temperature offers some indications of the type and the severity, and more frequently pursues an anomalous course in the protracted forms of the disease. In only a very few were there rigors; fever is often fugitive so that the temperature must be taken often.

9. **Leprosy in the Soudan.**—Tonkin gives the results of study of 220 cases of leprosy in the central Soudan. He finds that the macular variety predominates, while the tubercular type is comparatively infrequent. Males appear to be more subject than females. A very large proportion of cases occur at an early age, from 6 to 20 years, which is not in accordance with observations elsewhere. The primary characteristic lesions were more frequent on the face, the outer surface of the extremities, the scapular region and the buttocks. He has never seen the nodules on the palms or soles of the feet, though the outer borders are often the seat of a dense leprous infiltration. He tabulates the duration of the disease in his cases, which ranges from 1 to 55 years. He has little doubt of the possibility of leprosy undergoing a spontaneous cure. He thinks leprosy seldom lasts more than twenty years in any person. If one lives longer, the disease has terminated. In the post-leprous period there appears to be good general health, though there may be evidences of former trouble in the mutilations, etc. The hereditary element is slight and has very little support from his researches. Very few of the cases observed were descended from leprous parents or grandparents. Leprosy is a disease that itself tends to sterility, the average number of children from leprous husbands and healthy wives was less than one and from both parents leprous not more than one and a fraction per couple. Predisposition is not specific. It often occurs in those that have had no leprous ancestors, and he thinks that deficiencies of diet have much to do with it. Wherever leprosy exists we have certain habits as regards clothing, bedding, etc., and a super-carbohydrate diet which leaves a good deal to be desired. In the Soudan the clothing is rarely washed and handed about freely from person to person. The natives show an utter indifference to the disease.

10. **Nerve Regeneration.**—Henriksen's paper is a full study of the disorders affecting the division of the nerves, showing a regeneration in both the peripheral as well as the central sections. When the nerve is divided it loses its motor conductibility after some little time, and he does not think a certain degree of capability is impossible, for sensory conduction may exist during the whole process of regeneration. The further from the periphery the nerve is hurt the longer time it will take before motor power may be affected and the slower the recovery, but this is not evidence that the nerve is growing out from the central end as held by Vanlair and others. Experiments on animals show that the divided nerve unites equally rapidly whether it is sutured or not, but this does not make it inadvisable to suture as circumstances may take place to prevent union and function. Infection of the wound is of fatal significance, leading to the formation of dense scar tissue and there may be dislocation of the ends of the nerves. If union of the nerve has not occurred or if it is incomplete, examination of sensation shows when interference is required. After about three weeks the tissues at the ends of the nerves are transformed into dense scar tissue which is an obstacle to further development. At the same time a corresponding muscle change will take place and no complete recovery may be expected. It is not absolutely necessary, as shown by experiments, that the ends of the nerves should be at first in absolute contact. The time that may elapse before operation is done without the risk of slow and possibly incomplete recovery may scarcely be estimated at more than about one month. New nerve fibers grow most rapidly the first few weeks, and if union does occur it will be rapidly succeeded by recovery of sensation. If sensation does not return, or if it is incomplete or is proceeding slowly at the time scar tissue has been formed, it means that serious obstacles to the union of the nerve are present and that complete restitution of function can not be expected without operation. Still secondary suture may be performed with good results after a long lapse of time. Jessop reports a case where after the lapse of nine years after division of the ulnar nerve above the wrist, there was still complete anesthesia and paralysis. A secondary suture was performed with the result that sensation returned after eight days, motor power after ten weeks and full restitution after nine months. The important thing in either primary or secondary suture is asepsis. In secondary suture it is important that not only all the scar tissue should be removed, but also that the uppermost part of the end of the nerve should be cut off, the nerve fibers being buried in dense connective tissue.

13. **The Psychic Treatment of Epilepsy.**—The effects of psychic conditions on epilepsy are noticed by Thomson and deductions made as regards the use of psychic stimulus. He quotes from J. W. White's well-known article on the supposedly curative effects of operations *per se* and also from the recent work of Boris Sidis on psychopathic researches in mental dissociation as suggesting the value of the psychic treatment. He also reports the case of a patient which he has carefully studied who has been able by will power not only to ward off attacks, but to retain consciousness of events going on during the partially complete attacks. The author firmly insists on the importance of the early diagnosis of epilepsy so as to prevent the growth of the epileptic habit and the loss of inhibitory power.

Bulletin de l'Academie de Medecine, Paris.

17 (No. 12.) *Gualacolated and Camphorated Oil in Incipient Infection. Matignon and Bernex.—De la valeur thérapeutique des injections souscutanées d'huile camphrée galacolée dans certaines infections au début.
18 *Sur le séparateur des urines de M. Luys et ses applications. Le Dentu.
19 *Sur une blastomycose intra-péritonéale. R. Blanchard.
20 *Present Status of Operation for Ptosis by Substitution of the Superior Rectus. Motais.—Etat actuel de la méthode opératoire du Ptosis par la suppléance du muscle droit supérieur.

21 Hygiène de l'enfance. Committee Report and Discussion.
22 (No. 13.) Le rachitisme considéré comme maladie de dégénérescence. Hérédité du rachitisme. La famille rachitique. V. Galippe and Mayet.
23 *Maladies épidémiques et contagieuses qui ont régné dans les colonies françaises au cours de l'année 1901. Kermorgant.
24 *Discussion sur la maladie de Paget et la syphilis héréditaire tardive.

17. **Guaiacolated Camphorated Oil in Incipient Infections.**—More than 150 soldiers have been treated by subcutaneous injection of 2 gm. of the mixture described. It proved an excellent measure in the extreme depression accompanying incipient grippe, follicular tonsillitis, bronchitis, etc. The injections display a marked and durable antipyretic action. They are particularly valuable in the army to combat the extreme lassitude observed among the men at certain seasons and among the new recruits. The formula used is guaiacol .1 gm. to .5 gm. camphor and 15 gm. olive oil.

18. **Segregation of Urine.**—Le Dentu states that Luys' segregator has been used now on 45 men and 55 women, and with perfect success. A small model has also proved successful on a boy and a girl. Lambotte of Brussels suggested, in 1890, the idea of such an instrument for intravesical segregation of the urine, but his device for the purpose was not practical, and Luys, without knowledge of it, invented his instrument which has been previously described in these columns, followed seven months later by Cathelin's segregator. The principle is the dividing of the floor of the bladder into two compartments, and thus differs from the instruments devised by Harris and Downes on Neumann's suggestion.

19. **Intraperitoneal Blastomycosis.**—Blanchard's patient was a young mechanic, who had noticed a feeling of oppression in the right side of the abdomen for two months, with constipation and painful indigestion, loss of appetite and considerable emaciation. As he lay on his back, the abdomen above the umbilicus protruded and palpation revealed a fluctuating mass, filling the right half of the abdomen, and especially the iliac fossa. McBurney's point was slightly painful. The skin appeared normal, the veins were not swollen. The presumptive diagnosis was tuberculous peritonitis and appendicitis. The peritoneal cavity and iliac fossa contained a large quantity of a whitish yellow, gelatinous substance in which the appendix and cecum were floating. The former was resected and the jelly removed as thoroughly as possible and the cavity drained. The patient rapidly recuperated and is in perfect health, with no signs of recurrence, more than a year since the intervention. The substance removed was not at all of a neoplastic nature, and the organism had no share in its production except by serous exudation. It consisted of an amorphous fundamental substance containing spherical cells and filaments of a blastomyces pathogenic for laboratory animals, but to date it has not reproduced a jelly pseudotumor like the mass from which it is derived. Strange to say, the organism adapts itself without reaction to the presence and proliferation of this parasite, although the resulting mass compresses and modifies the relations between the elements. There is no zone of irritation, no phagocytosis and no giant cells. This absence of irritation seems to indicate that the blastomyces generates a toxin which paralyzes the leucocytes in the vicinity. The fact of the existence of such a toxin is confirmed by the intense fatty degeneration of the liver and the emaciation of the animals inoculated. The patient himself was also much emaciated. The details of culture growth, etc., are reviewed and the complete illustrated description will soon be published in the "Archives de Parasitologie."

20. **Motais' Operation for Ptosis.**—Since Motais first described, in 1897, his method of treating ptosis by substitution of the superior rectus a large number of ophthalmologists have performed the operation. Some have modified it slightly, but none essentially, and the method can now be considered as firmly established, he states, as the method of operating on strabismus. He shows the physiologic condition and the various points of the intervention in 11 cuts. The movement communicated to the lid by the graft of the superior rectus reproduces exactly the physiologic action of the levator palpebræ. The conditions, therefore, are perfect as regards the esthetic outcome. There is a possibility of two complications, vertical diplopia and ulcer of the cornea. The latter can be avoided and the former is not constant. When it occurred it became gradually attenuated, disappearing completely in fifteen days to five months in all the cases on record. The first step in the operation is to draw the ball down and lid up until the superior cul-de-sac is completely smoothed out and forms a flat surface. The conjunctiva is then incised horizontally about 5 to 6 mm. from the cornea, for a distance of 12 to 15 mm. From the center of this horizontal incision a perpendicular incision is carried upward to the edge of the tarsus. The tendinous expansion of the superior rectus is then exposed through the opening thus made and it is lifted up with a large hook. A buttonhole is cut in the tendon 3 mm. from its insertion in the sclerotic coat, and from this buttonhole two parallel incisions are made for 10 mm. lengthwise of the tendon, thus cutting out of its center a long narrow flap, while not disturbing its attachment to the eyeball. The tip of this flap is held in broad forceps to spread it to its fullest width and a thread is passed through it in a U stitch. The outer surface of the tarsus is then detached from surrounding tissues and the flap is drawn into the recess thus made, the needles on each end of the thread emerging on the outer or inner aspect of the lid as desired. The ends of the thread are tied over a roll of cotton or gauze. The flap is drawn nearer to the edge of the eyelid according as the ptosis is more pronounced. In the 32 operations by this method that have been published, ulcer of the cornea was observed in 5, but this could be attributed in every instance to irritation from the catgut knot of the suture or to direct irritation from the dressing. Motais now uses very soft silk, and has had no irritation in 10 cases in which he has tied the knot of the thread on the inner side of the lid.

23. **Epidemics, etc., in the French Colonies.**—We note, among the items in this official report, that an epidemic of bubonic plague among the natives in the northern part of New Caledonia abruptly ceased after four days of violent rains, "which completely swept the ground." The report states that leprosy is increasing at an alarming rate. During the last twenty-five years entire tribes on this and adjoining islands have been annihilated by it. French Guiana, New Caledonia and points in Oceania are particularly dangerous on this account for Europeans. New cases of leprosy are frequently encountered among French officials returning from these colonies, unconscious that they have been infected. The incessant arrival of these new cases of leprosy is a menace to Paris and the country at large. In New Caledonia a fifth of all deaths is due to tuberculosis. The report comments on the lack of resistance to tuberculosis of the natives of Oceania, notwithstanding their stature and athletic forms. Young men built like a Hercules succumb in a few months to phthisis.

24. **Paget's Disease and Tardy Hereditary Syphilis.**—Fournier replies to Lannelongue's communication asserting the heredosyphilitic nature of Paget's disease. His experience has not been conclusive, but he is inclined to consider it a parasyphilitic affection, like tabes, general paralysis, pigmented syphilid of the neck, leucoplasia and tabic exostosis, which, although largely dependent on syphilis, are yet not influenced by antisypilitic medication. He also discusses the question whether a heredosyphilitic should be informed of his condition, and takes a decided affirmative stand. If young, the parents must be warned, in order that the child may have suitable treatment and that the specific nature of possible lesions may be recognized in time. If the subjects are of riper years, he informs them that they have syphilis, but does not consider it his business to tell them whence they derived it. The source is a secondary matter. The main point for the physician is that the subject has syphilis and must be on his or her guard against its manifestations. The question of marriage for heredosyphilitics imposes the necessity that they should know their condition. He describes several cases to illustrate this point. Robin continued the discussion, reporting some

research on the composition of the bones in syphilitics and in Paget's disease. A syphilitic tibia contains more water and more nitrogenized substances than the Paget tibia, with less fats, while the mineral elements are about the same. The fatty matters in the syphilitic tibias averaged .176, while the Paget tibia showed 13.19, and the other sound tibia of the same subject showed 11.2.

Presse Medicale, Paris.

25 (No. 21.) Campaign Against Tuberculosis. M. Letulle.—La lutte contre la tuberculose et l'anarchie médicale.
26 L'extirpation de l'esophage thoracique. J. L. Faure.
27 (No. 22.) Valeur clinique de l'examen cytoscopique des urines. L. Bernard.
28 L'arrhénal dans le traitement des Fièvres palustres à Tananarive. M. Fontoynont.
29 (No. 23.) Angiocholite chronique et insuffisance hépatique avec symptomes d'acromégalie. Klippel and Vigouroux. One case.
30 L'alcool. H. Labbé.
31 Treatment of First Permanent Molar. G. Mahé.—Conduite à tenir a l'égard de la dent de 6 ans.
32 (No. 24.) Les injections mercurielles intra-musculaires dans la syphilis. F. Tremolières.
33 Bactériologie et histologie urinaires. Technique microscopique et clinique. G. Borne and P. Vadam.
34 *Anesthesia of Inflamed Tissues with a Mixture of Cocain and Adrenalin. E. Foisy.—Nouveau procédé d'anesthésie des tissus enflammés.
35 Mutual Benefit Societies and the Campaign Against Tuberculosis. A. Calmette.—Les sociétés de secours mutuels et la lutte contre la tuberculose.
36 (No. 26.) *Cryoscopy of Milk. E. Parmentier.—La cryoscopie du lait.
37 A propos de la phlébalgie. E. Censier.
38 Rhinoplastic Restoration of Sub-Septum of Nose. A. Raoult. —Nouveau procédé de rhinaplastie partielle pour la restauration de la sous-cloison nasale.
39 (No. 27.) *La tuberculose. Maladie sociale. L. Landouzy.
40 *Adrenalin in Treatment of Cancer. G. Mahu.—L'adrénaline. Remède du cancer.
41 Improved Keratin Coating for Pills. H. Dumont.—La médication keratinisée.

34. Cocain-Adrenalin Anesthesia of Inflamed Tissues.—Foisy proclaims that this method of local anesthesia is far superior to all others, as it suppresses both pain and hemorrhage. He has removed with it large carbuncles on the neck and suppurated ganglia in the inguinal region and operated on anal fistulas without pain. He uses a mixture of 20 to 25 c.c. of a 1/200 solution of cocain, with 13 to 15 drops of a 1/1000 solution of adrenalin. In case a smaller amount of a more concentrated solution is preferable, his formula is 1 c.c. of a 1 per cent. solution of cocain with 4 or 5 drops of a 1/1000 solution of adrenalin. The patient reclines and the injection is made along the line of the proposed incision. The needle is then introduced deeper into the tissues, using three or four syringefuls in all of the first mixture. The first prick of the needle is all that the subject perceives. Anesthesia is complete in two or three minutes, but exaggerated pressure or traction on the tissues should be avoided, and the incision must be made through each layer separately. Every vessel oozing even very slightly must be ligated to prevent secondary hemorrhage as the effect of the adrenalin wears off.

36. Cryoscopy of Milk.—Parmentier's first communication on the importance and value of cryoscopy as a means of detecting the watering of milk was reviewed in these columns, p. 1032. He gives his experiences in this article and portrays the benefit derived from this simple method of controlling the purity of the milk. In one case two children were suddenly affected with a gastrointestinal trouble traced to the milk, which had a freezing point of .64 C., showing the addition of some foreign substance, found to be an irritating alkali used to clean the cans. In another case an infant was several times affected with enteritis, and the freezing point of the milk was .48 C., which indicated 12.72 per cent. of water. By this means he detected that the milk in certain hospitals was being watered in a proportion of 7, 12, 25 and even 34 per cent., but since the dealers know that the cryoscopy test is being applied the milk has been pure. There is no doubt that many small epidemics among children are caused by impure water being used to adulterate the milk. Some of the crèches were found to be distributing milk containing 12 per cent. water. This may explain many cases of gastroenteritis among infants, and possibly is responsible for the high infantile mortality, especially in summer. He found that the higher-priced milk was as liable to be watered as that sold at ordinary rates. The dealers aim to produce a milk so rich that it supports all the usual tests while still containing a large proportion of water, which hitherto has escaped ready detection. The normal freezing point of normal milk is minus .55 or .56 C. When it is .53 it indicates a proportion of water of 3.63 per cent.; .52 indicates 5.45 per cent.; .51 indicates 7.27; .50 indicates 9.09; .49 indicates 10.90; .48 indicates 12.72; .44 indicates 20 per cent.; .40 indicates 27.27 per cent., and .36 indicates 34.54 per cent. The formula for the calculation is that the water added is equal to the amount of milk multiplied by the quotient of the normal freezing point minus the freezing point observed, divided by the normal freezing point. If the freezing point is above .57 C. foreign substances must have been added, generally sodium borate or bicarbonate.

39. Tuberculosis from the Social Point of View.—In this address Landouzy arraigns the armed peace of Europe as one of the most prolific sources of the spread of tuberculosis. He states that during the last eight years alone France has lost 36,000 young soldiers on account of tuberculosis, either by death or dismissal from the service. They may have brought the germs of disease with them into the army, but under more favorable conditions the germs might not have developed. He urges the instruction of girls in the prophylaxis of disease and in hygiene, remarking "that every time a woman is trained a little school is founded." Young mothers thus instructed will guard their babes from intercourse with coughers and from their kisses. They will bring the sun into their homes and abolish dust and dry sweeping. Alcohol makes the bed for tuberculosis. Lancereaux found 1,229 alcoholics among 2,000 consumptives. In the manufacturing centers in the department of the Rhone and of the Seine, tuberculosis claims 255 out of every 1,000 deaths. The proportion of deaths from tuberculosis is 50 per 10,000 inhabitants in the crowded portions of Paris, while it is only 20 in the wealthier parts of the city, as in the Madeleine, and 11 in the Champs Elysées, where the very rich reside. In conclusion, he urges that all the various anti-tuberculosis and anti-alcohol societies, leagues, etc., should be co-ordinated into one grand federation to include every organization working for sanitary and social improvement. Such a combination for the purpose of stamping out tuberculosis, the social evil of our epoch, would be the most exalted expression of the ideas of mutual co-operation and fellowship which ought to govern modern society.

40. Adrenalin for Cancer.—Mahu has found that it is possible to arrest the pain and hemorrhage and thus improve the general health, by merely swabbing the ulcerated surface of a cancer with a 1 per 1,000 solution of adrenalin. He describes 3 cases thus treated. It is, of course, only a palliative measure, but in every instance the benefit derived was most remarkable. The neoplasms partially retrogressed and then remained stationary, free from pain or hemorrhage, the patients apparently in robust health. On 4 others the results were nearly as good. The cancers were in the mouth, throat, breast, rectum, or on the face.

Semaine Medicale, Paris.

42 (XXIII, 13.) The Unconsciously Deaf. E. Féiix.—Les sourds inconscients.
43 Letter from America (Chicago). La fièvre typhoïde aux Etats Unis. F. Münch.
44 (No. 14.) *Valeur pratique de la suture arterielle. F. Lejars.
45 Letter from America (Chicago). La radiothérapie à Chicago. F. Münch.

44. Suture of Arteries.—Lejars has found in the literature 23 cases in which an artery was sutured lengthwise, and 4 in which a circular suture was made. The axillary was sutured in 7, the femoral in 6, the popliteal in 3, the common iliac, external iliac, common carotid and internal carotid in 1 each. In a certain number the results were perfect, both immediate and afterward. Even in 7 cases in which the sutures passed through into the lumen, there was no thrombosis or obliteration. This was especially noticeable in experiments on animals, even when a piece of catgut traversed the lumen. Thrombosis is directly connected with infection; when the surroundings were aseptic success was almost invariable. When there is

infection, intervention of this nature is always risky. There are very few arteries at present which it is dangerous to ligate, but lateral suture is to be preferred in case of a small wound on a large artery in aseptic conditions. Under other conditions the results to date have not sustained the hopes raised by the first successful cases reported.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

46 (XXIX, 14.) *Phlorizin- Diabetes und chemische Eigenart (chemical individuality). F. Kraus.
47 Beiträge zur Morphologie der pathogenen Bakterien. Cholera-Bacillus und Vibrio Metschnikoff. E. Saul.
48 Cerebellar Abscess with Sudden Paralysis of Respiration Center. H. Fliess.—Kleinhirn-Abszess mit plötzlicher Lähmung des Respirationscentrum.
49 Peculiar Cutaneous Syphilid. P. Thimm.—Ein eigenartiges hemorrhagische Syphilid der Haut.
50 *Action of Bismuth. G. Fuchs.—Zur Theorie der Bismuthwirkung.
51 *Clinical Importance of Infusoria in Digestive Tract. P. Cohnheim.—Ueber Infusorien im Magen und im Darmkanal des Menschen und ihre klinische Bedeutung. (Commenced in No. 12.)
52 New Double Stethoscope. Heermann (Posen).—Ein neues Doppel-Hörröhre.
53 *Das Path.-Anat. Institut in Rom und das Werk über Malaria von Proff. Marchiafava und Bignami. G. Galli.
54 *Bericht über die Untersuchungen an den Dauergehern beim Distanzmarsch, etc. A. Albu and W. Caspari.

46. **Chemical Individuality of the Species.**—The glycosuria induced by phloridzin affords a base for the study of the chemical individuality of the species much better than inanition. Kraus has been conducting such research on several dozen white mice, and describes the details and results. They seem to indicate, among other points, that there are probably atom-complexes especially favorable for the formation of sugar out of albumin in case of phloridzin diabetes. Also that leucin in some way forms a chemical bridge between the carbohydrate and protein bodies. He remarks, in conclusion, that this research demonstrates the incorrectness of rating as equal to each other the various albuminoid substances in the body.

50. **Action of Bismuth.**—Fuchs has been studying the action of bismuth in cases of gastric ulcer, and has established that it is not merely a mechanical protection for the diseased part but has also a specific influence. It is decomposed by the action of the mucus into a bismuth oxydul, which penetrates into the granulation tissue and protects it. Magnesia usta and other chemicals are not able to substitute it, as they lack the specific properties of the bismuth and its derivatives. Bismutose seems to possess these properties in a marked degree and is proving its efficacy in the clinic.

51. **Clinical Importance of Infusoria in Digestive Tract.**—Cohnheim did not discover infusoria in the majority of his cases of chronic gastroenteritis, but he found them in a certain number and also in healthy persons. After careful study of the subject, he proclaims that they are harmless and are not responsible for the clinical manifestations observed. They live and flourish in pathological conditions and are thus important from a diagnostic point of view. When infusoria are discovered in the esophagus and stomach they can be regarded as an extremely probable indication of the presence of an ulcerating carcinoma in one of these organs, still free from any signs of stenosis of the pylorus. Infusoria may be encountered as the first and an almost positive sign of carcinoma of the stomach. Live infusoria in the feces are a symptom of a primary, chronic gastric affection, a gastritis, generally atrophicans, except in cases in which they afford a further sign of a severe enterocolitis. Encysted infusoria are found sometimes in healthy persons, but there is always a history of a preceding gastritis or gastroenteritis. The infusoria, the flagellates and ciliated forms, have no pathogenic, but merely a symptomatic-diagnostic importance and, consequently, attempts to destroy the infusoria by drugs or otherwise are not only useless but directly harmful, as they aggravate the underlying affection.

53. **Marachiafava and Bignami's Work on Malaria.**—These professors of pathologic and general anatomy at Rome accept three parasites in malarial infection, the tertian, quartan and estivo-autumnal, and also three modes of infection, inoculation by mosquitoes, by artificial inoculation and by inoculation through the maternal placenta. They do not admit the possibility of infection through air or water. Bignami was the first to inoculate a human being with malaria by means of mosquitoes, his first attempt dating from Nov. 1, 1898, when he artificially induced malarial infection by this means in a patient who had never had malaria and had been in the hospital for six years on account of a nervous affection. Both M. and B. accept an average duration of thirteen days for the incubation of quartan fever, of ten days for tertian, and of three days for estivo-autumnal. They ascribe but a secondary importance to the telluric, atmospheric and physical conditions. They have found that in the comatose and choleraic forms of pernicious malaria the parasites are found in enormous quantities in the brain and intestines respectively; sometimes every blood corpuscle contains one. They have noted that malarial patients are especially susceptible to pneumonia, and it assumes a protracted and severe form as resolution is tardy and incomplete. The lung involved develops sclerosis by neoformation of connective tissue; it is accompanied by endocarditis and meningitis, a triad to which Marchiafava was the first to call attention and is, therefore, called by his name. They never noticed an antagonism between malarial infection and tuberculosis, but, rather, the contrary. In case diagnosis is urgent, they advise puncture of the spleen to obtain blood. The prognosis should be reserved in the estivo-autumnal malarial infection, but in the other varieties it is favorable, although the duration, the individual and the locality must be taken into account.

54. **Observations on Competitors in Distance Walking Match.**—Albu and Caspari examined the three "favorites" in the international walking match between Dresden and Berlin last May. The distance was 202 kilometers, about 126 miles, and was covered in twenty-seven hours less two minutes by one, in two hours longer by the second, and in nearly two hours more by the third. All were 20 and 27 years old. They each exhibited symptoms at the close of the match resembling those of collapse, but the heart rapidly recuperated, and after several hours had entirely regained its previously determined physiologic condition, as also the kidneys and other organs. Albu is convinced that such strains on the heart and liver must have a predisposing tendency to disease later, and urges physicians to insist on avoidance of such excesses and to inquire for them in cases of heart and kidney disease. True sport should induce physiologic action alone, not pathologic.

Monatshefte f. Prakt. Dermatologie, Hamburg.

Last indexed page 434.

55 (XXXV, 12.) Histology of Elastic Cartilage. Rasch.—Zur Histologie des elastischen Knorpels.
56 New Staining Method for Collagen. A. Maruilo.—Eine Färbungsmethode für Kollagen.
57 (XXXVI, 1.) Staining of Spongioplasm and "Foam Cells." P. G. Unna.—Die Färbung des Spongioplasmas und der Schaumzellen.
58 Vaccinal Affection of Female Genitals. G. Löwenbach and A. Brandweiner.—Die Vaccineerkrankung des weiblichen Genitales.
59 *Application of Constant Heat to Skin and Organs. K. Ullmann.—Ueber Wirkungen konstanter Wärme auf die Haut und andere Organe mit Demonstration des Hydrothermoregulators und verschiedener Thermokörper.
60 Modification of Unna's "Zinc Glue" Dressings. Rasch and Sack.—Noch einmal die Zink-Leim Puderdecke. (Commenced in No. 12.)
61 (No. 2.) Differentiation between Hyalin and Bacteria Enveloples in Rhinoscleroma. P. G. Unna.—Zur Differentialdiagnose zwischen Hyalin und Bacillen-Hüllen im Rhinosklerom-Gewebe.
62 *Die Elektrisierung der Prostata und die neueren Instrumente Elektropsychrophor für Rectum und Urethra). M. Porosz (Budapest). Ten cuts.
63 Fall von positivem Gonokokkenbefund in einem epididymitischen Abscess. A. v. Karwowski. Eighth case on record.
64 (No. 3.) Ueber eine Epidemie von Trichophytie des Kopfes bei Schulkindern (of head among school children). Werther.
65 Ueber Helmitol, ein neues Harn- (urine) Desinfiziens. E. Heuss.
66 Ueber generalisierte Xanthome, besonders das Xanthom "en tumeurs." Richter. (Commenced in No. 2.)
67 (No. 4.) Ueber chron. streptogene Haut- (skin) Affektion sub forma einer bullösen Dermatitis (eines Pemphigus). F. Krzysztalowicz.
68 *Einige Bemerkungen zur Behandlung der Furunculosis. M. Cohn.
69 In eigener Sache. A. Pappenheim. Criticism of Maximow's work on inflammatory neoformation.
70 (No. 5.) 2 Fälle von Chyiurie infolge von Filariosis. Rembiniger and M. Hodara. (Constantinople.)
71 *Ueber das Wesen (essence) der sexuellen Neurasthenie. M. Porosz.

72 Zur Lehre von den Syphilis-Bacillen. J. Paulsen.
73 Ibid. M. Joseph. (Commenced in No. 3.)
74 (No. 6.) Adipositas dolorosa und schmerzende symmetrische Lipome. P. Thimm.
75 Gonorrheal Affection of Paraurethral Passages. J. Seilei.—Ueber die gonorrhoische Erkrankung der Paraurethralgänge.
76 Staining Gonococci. F. Krzysztalowicz. Eine Notiz über die Anwendung der Pappenheim-Unna'schen Protoplasma-Färbung bei der Färbung der Gonokokken.
77 Ibid. Unna.

59. **Application of Heat in Therapeutics.**—Ullmann's apparatus was described in THE JOURNAL of July 26, 1902, p. 225. The local sweating is merely an accessory factor in the cure. The chief benefit is from the bactericidal effect of the high moist temperature, the promotion of absorption and the histoplastic and sedative action of the heat. The bactericidal effect is most marked in the abortive treatment of venereal ulcers and other necrotic ulcerative bacteriogenic processes in the derma. It is accompanied by absorption in the abortive treatment of acute gonorrheal rheumatism, also in prostatitis, gonorrheal periurethritis, follicular abscesses, epididymitis, gonorheal funiculitis and inflamed or ulcerating buboes, infectious granulomata, sycosis, actinomycosis, etc. It is especially valuable for the promotion of absorption of old inflammatory infiltrates or acne and in the "borderland" affections, remains of exudates in joints after rheumatism and gout, periostoses, ostitis, inflamed varices, hemorrhages after dislocations or other trauma, and to promote the healing of suppurating wounds by checking the profuse leucocytosis. Its histoplastic action is especially marked in atony and torpid granulation, tendency to serpiginous growth and destruction of tissue. It soothes the pain in inflammatory and neuralgiform conditions of all kinds, even including the cases of tissue alienation in the nerves themselves. The only contraindications seem to be a tendency to hemorrhages and tuberculosis or acute infectious diseases. Application of constant heat by this method has been eminently successful in the domains of laryngology, ophthalmology and gynecology, and is being used extensively in veterinary practice to supplant blistering, and in laboratory experiments. By gradually raising the temperature to 39 or even 48 C., and keeping it at this point for two to five hours, the local active hyperemia, edema, hemorrhages and necrosis induced at first gradually retrogressed to complete restitution, with the exception of the necrosis. Rabbit skin is much more tolerant to high temperatures than human skin. The loosening up of the tissue by this moist heat and the changed and increased metabolism in the parts, with its unquestionable powerful influence on the nerves, are important factors in the benefits of this form of thermotherapy.

62. **Electric Treatment of Prostate, Urethra and Rectum.**—See Porosz' other article below.

68. **Treatment of Furunculosis.**—Cohn suffered from a remarkably severe case of furunculosis himself, and perseveringly applied all the ordinary remedies without avail. Even yeast and a four weeks' course at the strongest sulphur baths in Europe (Nenndorf) proved ineffectual. He attributed the primary infection to a flea bite, either from germs transmitted by the insect or introduced in scratching. The following method of treatment finally proved effectual on himself and has since been regularly employed in his practice, with results far surpassing those obtained by the other methods in vogue. As soon as the incipient pimple or furuncle shows itself he anoints it with a little ichthargan salve, from the size of a pinhead to that of a bean, rubbing it first into the vicinity and then over the lesion itself two or three times a day. All internal medication is avoided except that the bowels should be regulated and, possibly, sulphur waters or arsenic be taken. The formula for the salve is 10 gm. ichthargan, 5 gm. aq. dest., 10 gm. glycerin, 35 gm. lanolin, and 40 gm. vaselin. When the inflammation has subsided, a 1 per cent. ichthyol paste can be substituted. Furuncles on or near the genitalia require caution, as the ichthargan is not able to display its full power and the ordinary measures may be preferable. Cohn warns against the use of the knife except in case of a large carbuncle. It is then too late for ichthargan treatment, and he uses a platinum cautery and applies a salicylated soap plaster and zinc plaster covering. As an adjuvant he recommends a daily bath with 60 gm. ichthyol in the water or sulphur baths. If the expense is prohibitory he advises Arning's creolin baths. A course at Nenndorf, continued, if necessary, for six weeks, may possibly be useful.

71. **Essence of Sexual Neurasthenia.**—Porosz presents in detail the arguments which have convinced him that the true cause of sexual neurasthenia is exhaustion, atony, of the prostate. The imperfectly developed prostate of puberty becomes exhausted sooner than the better developed. The exhaustion is due to abuses in venere, and the characteristic symptoms of sexual neurasthenia are always associated with certain objectively evident changes in the prostate. The loss of energy noted in the prostate may be due to one of five causes, each of nearly equal pathologic importance, gonorrhea, masturbation, abuses in coitu, coitus interruptus and abstinence. He explains that the alternation of abusus in coitu and months of abstinence is particularly harmful. Nature knows no such abrupt transitions. By raising the tone of the prostate it is possible to restore it to normal conditions and thus cure the sexual neurasthenia, as he has accomplished in 4 cases, chiefly by means of Faradization of the prostate.

74. **Adipositas Dolorosa and Painful Symmetric Lipomata.**—Thimm is convinced of the identity of these two affections. He describes a case of multiple symmetrical and painful lipomata and points out the close resemblance to adipositas dolorosa. He also cites published cases in which the two affections coincided.

Wiener Klin. Rundschau, Vienna.

Last indexed page 1114.

78 (XXVII. 3.) Urologic Notes. J. Preindlsberger.—Urologische Mitteilungen.
79 *Cancer Research. L. Seeligmann.—Mitteilungen über Studien zur Erforschung und Heilung des Krebses beim Menschen.
80 (No. 4.) Ligation of Carotid. M. Sattler.—Zur Kasuistik der Unterbindung der Arteria carotis externa.
81 *Gastro-Spleen Reflex. J. Hnatek.—Ueber den sogen. Gastrolienal-Reflex.
82 (No. 5.) Zur Kasuistik der congenitalen Syndactilie. M. Kulischer and D. Epstein.
83 Tardy Pneumonia with Gangrene After Elbow Injury. Heimann.—Traumatische Spätpneumonie mit dem Ausgange in Gangrän nach Ellenbogenverletzung. (Commenced in No. 4.)
84 (No. 6.) *Beiträge zur Pathologie der Prostata. E. Remete.
85 Postpartum Equipment for Midwives. A. Hink.—Eine Hebammenausrüstung für das Wochenbett.
86 (No. 7.) Surgical Treatment of Chronic Maxillary Sinusitis. L. Harmer.—Ueber die chir. Behandlung der chronischen Kieferhöhleneiterung.
87 *Improved Roentgen Technic. Wiesner.—Eine Blende zu Roentgenaufnahme.
88 Midwives' Equipment. W. Hahn.—Zur Hebammenausrüstung.
89 Face Presentations. A. Ostreil.—Ueber Gesichtslagen.
90 (No. 9.) Origin of Blood-Plates. E. Schwalbe.—Haben die Blutplättchen eine einheitliche Genese?
91 Origin of Drumstick Finger in Heart Affections. E. v. Czyhiarz.—Beitrag zur Lehre von der Entstehung der Trommelschlägelfinger bei Herzaffektionen.
92 Hypertrophy of Tongue. Ibid.—Fall von Hypertrophie der Zunge bei Osteohypertrophie pneumique.
93 (No. 10.) *Treatment of External Anthrax. E. Graef.—Zur Behandlung des äusseren Milzbrandes.

79. **Carcinoma Treated by Carcinoma Extract.**—Seeligmann's researches were based on the assumption that the tendency to carcinoma is a constitutional affection, whether from infection or other cause is immaterial. The consequence of this constitutional tendency is intense proliferation of the epithelial cells in the same way as the thyroid gland proliferates under certain conditions. The proliferating epithelial cells may produce some internal secretion which may prove to be the antitoxin of the primary constitutional affection. If this antitoxin could be supplied to the organism in sufficient measure, it might be able to arrest the morbid growth, as thyroid treatment influences the morbid thyroid gland. The natural production alone is not adequate. Proceeding on this assumption, he first administered steriiized and desiccated cancer substance to numerous rabbits, guinea-pigs and mice and established its absolute harmlessness. He then gave it to a number of patients with inoperable carcinoma. The objective and subjective symptoms were much improved, the general health much benefited. The postmortem findings in one case showed that there had been no metastasis of the primary tumor. The patients were all in such advanced stages that no better results could have been anticipated.

They confirm those published by Bra, Marchand, von Leyden Blumenthal and others, with organ and serum treatment of cancer.

81. Stomach-Spleen Reflex.—Hnatek reports comprehensive experimental study of the phenomenon that the spleen increases in size on chemical, thermic or mechanical irritation of the stomach. He found that the phenomenon occurred after the vagus was severed and that it is a reflex by way of the sympathetic. He also established that it was not due to congestion in the veins of the spleen.

84. Pathology of the Prostate.—Remete publishes an account of 2 cases of atrophy of the side of the prostate corresponding to resection of the testicle, twenty-two and nine years before, for trauma or sarcoma of the penis. He proclaims that we can expect atrophy after castration only when the prostate is comparatively normal. After it is once pathologic or degenerated it is no longer capable of a process of involution and, consequently, castration is powerless to effect it.

87. Improved Roentgen Technic.—Wiesner makes the exposures through a round hole in the center of a lead-coated board. A metal cylinder is fastened in the hole in the center and can be raised or lowered by a screw. The board is also adjustable on a standard which also carries the vacuum tube above. As the subject reclines, the board is lowered to fit over the part to be radiographed and the metal cylinder is pressed down into the skin, and the radiograph taken through it. By this means only the parallel rays are admitted and no radiation occurs. The pictures are much clearer than those otherwise obtained. It is possible to obtain in this way the most instructive radiograms of the sacrum and spine, even in corpulent persons, in two minutes. The contrivance is illustrated.

93. Treatment of External Anthrax.—Graef states that in 62 out of 75 cases of serious external anthrax he was able to transform the threatening lesion into an innocent scab in less than twenty-four hours. Ten of the remainder finally recovered, and 3 died. This percentage of deaths is small in comparison to the statistics published by others, and he attributes his success to his method of treatment. This consists in cauterizing the lesion with caustic potash. He first cuts out the necrotic plug in the center, but carefully refrains from excising into sound tissue, and then uses the caustic pencil.

Riforma Medica, Palermo.

Last indexed page 945.

94 (XIX, 1.) Percussion of Heart from Rear. L. Ferranini and G. Arnone.—L'ottusita posteriore del cuore in condizioni normali e patologiche.
95 *L'uso del cacodilato di sodio in alcune dermatosi. G. Pabis.
96 Sull' isterotomie vaginale. B. Nigrisoti.
97 Sepsis of Air Passages in Early Infancy. E. Mensi.—Sulla sepsi dell'apparato respiratorio nella prima infanzia.
98 (No. 5.) Contributo alla patogenesi della tetania gastrica. L. D'Amato.
99 Le indicazioni degli interventi chirurgici nelle malattie degli intestini. R. T. Giovanni.
100 *Sulle ippuropatie (lesioni della cauda equina) e sull' innervazio radicolare. S. Pansini. (Commenced in No. 1.)
101 *New Method of Hysteropexy. G. Foschini.—Nuovo processo di isteropessia a cura delle retrodeviazioni e dei prolassi. G. Foschini.

95. Sodium Cacodylate in Dermatoses.—Pabis found this drug effective in improving the general nutrition in cases of eczema, ichthyosis, prurigo and lupus and thus indirectly benefiting the dermatosis.

98. Gastric Tetany.—D'Amato reports a case of acute and fatal gastric tetany occurring in a robust man of 32, who for five years had suffered from gastrectasia, the results of stenosis of the pylorus, with hyperchlorhydria. Guinea-pigs were injected with a filtrate of the stomach contents after a test meal, obtained by the stomach pump during the last days of life, as lavage was resorted to as a palliative measure. The 21 animals all died with symptoms closely resembling those of the tetany observed in the patient. The query then arose as to whether the convulsions observed were due to some special toxin in the tetanic stomach or merely to the hyperchlorhydria. Further experiments were made with other animals injected with the filtrate of the stomach contents from a patient with pronounced Reichmann's disease, but no pathologic results were noted in these animals, not the slightest tendency to tetany. He concludes, therefore, that the convulsive toxin found in the stomach of the patient with tetany was a specific, transient toxicity connected with the tetany. The other organs at the autopsy showed also evidences of the action of some toxin.

100. Lesions of the Cauda Equina and the Radicular Innervation.—Pansini concludes his extensive monograph on this subject with the statement that everything points to the fact that the terminal peripheral nerve distribution corresponds to the metameres. The plexuses and the peripheral nerves all follow the distribution of the roots, but superposed and intertwined to ensure the multiplicity of innervation of every point at the periphery.

101. Foschini's Method of Hysteropexy.—The round ligament is drawn up through a buttonhole on each side, about 3 cm. outside of the inner edge of the rectus. The loop of the ligament is then cut and the two ends sutured to the aponeurosis. He has found this procedure a most effective means of correcting prolapse and retrodisplacement, while it is simple and easy of execution and does not interfere in the least with future pregnancies, as he has several times had occasion to observe. It also holds the adnexa and prevents their displacement, which Pozzi considers as the most important factor in the production of the disturbance accompanying displacement of the uterus.

Hygiea, Stockholm.

Last indexed page 683.

102 (No. 1.) *Nervous Heart Affections. J. G. Edgren.—Om de s. k. nervösa hjärtsjukdomarna.
103 Preparation of Yeast for Medicinal Use. A. Blomqvist.—Om jästpreparat (Saccharomycetes slcc. pulv. 1 : 1 m. fl.) for medicinska ändamål.
104 *En ny metod för operation af entropion senile. G. Ekehorn.
105 Notes from Foreign Lands. S. Lysander.—Räknekort vid epidemiska sjukdomar (Hamburg).—Kyrkogarden i Hamburg.—Gatubeläggning med trä i Paris.—Le musée social i Paris.
106 Three Cases of Cancer of Liver. E. Rodhe.—3 fall af primar lefverkancer.
107 (No. 2.) Model Tuberculosis Pavillion at Stockholm General Hospital. F. W. Warfvinge.—Nagro ord am tuberkulos och om tuberkulospaviljonge vid Sabbatsberg sjukhus.
108 *Addison's Disease in Sweden: Carcinoma in Lung, Etc. A. Josefson.—Sällsyntare sjukdomsfall.
109 Combined Night Lamp and Nursing Bottle Warmer. J. Rodling. Kombinerad nattlampa och snabbvärmare for diflaskor.
110 (No. 3.)) *Fall af hernia obturatoria. Nils Hellström.
111 *"Ether Drunk." J. Landström.—Om eterrus.
112 Kolpohysterostomi vid inkarcerad gravid uterus. G. Wennerström.
113 *How Can the Dangers to Society of the Pregnancy of a Syphilitic Woman Be Averted? E. Welander.—Till fragen: huru kunna hämma den sociala fara som et syfilitiskt hafvandeskap kan medföra?
114 Warning Circular for Prophylaxis of Venereal Diseases. Ibid.—Nagra ord om sattet att upplysa allmanheteb angaende de veneriska sjukdomarnas stora sociala betydelse.
115 History of Modern Treatment of Wounds. G. Naumann.—Den moderna sarbehandlingens, etc.

102. Nervous Heart Affections.—Edgren reviews his extensive experience with essential or paroxysmal tachycardia, true angina pectoris and other heart diseases, seeking to formulate a base for differentiation of the merely nervous angina pectoris. The latter he finds occurs usually in younger subjects, although he has exceptionally observed it in persons over 60. The attacks do not follow physical exercise, but are rather relieved by it. They seldom occur at night; are more protracted than true angina pectoris. The subjects complain of their sufferings, throw their arms around, move about restlessly, and appeal to the sympathy of people around. The pains are ascribed to the heart region, but spread around it for quite a distance. In true angina, on the other hand, the pains are more circumscribed and radiate in determined directions, to the left axilla, arm, hand, neck and head. The subject stands immovable and grasps some support, without uttering a word. The oppression in the chest, sensation of constriction around the neck and fear of impending death overshadow the actual pain experienced. The attacks also are brief. In the nervous form periods of tachycardia are liable to alternate with normal heart action. The latter is influenced by slight causes, the physician's examination, change of position, etc., may send the pulse up 20 to 30 beats a minute. A blowing sound is often noted in nervous heart affections, usually systolic, but occasionally diastolic, the maximum over the pulmonic valves. It is brief and

variable. A nervous heart affection may accompany an organic lesion in some other organ. The discovery of other nervous symptoms, neurasthenia or hysteria, will aid in the diagnosis. The objective signs of a nervous heart affection include tachycardia or less frequently bradycardia, "palpitations," a slight degree of arrhythmia, accentuation or reduplication of the heart sounds, and the above-mentioned blowing sound. All these symptoms are variable, some noted at one time and some at another. If constant, they indicate an organic lesion. If the heart is found to be hypertrophied, the case can not be one of purely nervous origin and requires different treatment, as also valvular affections, etc., bearing in mind that it is possible for a mitral stenosis to occur without the usual signs for a time. It is sometimes a difficult matter to exclude sclerotic alterations, especially in case of an old syphilitic, and also slight degrees of cardiac insufficiency. Dyspnea is an important symptom. In nervous heart affections the inciting cause is not physical exercise as in the physiologic and organic pathologic conditions, but is the result of some emotion or nervous disturbance. Treatment should commence with the most careful, repeated physical examination, even when the physician is convinced of the nervous nature of the trouble. The patient should at once be told that the findings are negative and this alone will aid the cure. Therapeutic measures must harmonize with the statement, to ensure the confidence of the patient which prescribing of digitalis, for instance, would have a tendency to undermine. The principal reliance is on dietetic and hygienic measures; a sedentary mode of life must be changed and the fanatic sportsman restrained. Some of the patients suffer from inanition, not from poverty, but from improperly prepared food, irregular meals, etc. Others, on the contrary, indulge too freely in the pleasures of the table. It is important, however, not to attempt to reduce obesity too rapidly or the nervous symptoms may become aggravated to an alarming degree. Treatment of concomitant gastrointestinal or genital affections, chlorosis and anemia is naturally of great importance. Purely medicinal treatment is of subordinate importance. The bromids and other nervines have merely a transient effect. As important adjuvants, mineral waters and baths, gymnastics, massage and, possibly, electricity will be found useful, as also other measures beneficial for neurasthenia.

104. **Operation for Senile Entropion.**—The lids are left untouched and a crescent-shaped piece cut out of the conjunctiva, about as long as the tarsus, and in the middle about as wide or slightly wider than the latter. The wound is then sutured. Ekehorn has successfully performed this operation, the details of which are illustrated, on both eyes of one patient. The entropion dated from about a year previously. The eye appeared normal afterward and showed no traces of having been operated on unless examined closely. Judging from the results in this case recurrence seems to be impossible.

108. **Addison's Disease in Sweden; Carcinoma in Lung, Etc.**—The clinical records and pathologic anatomic findings are described in detail of a successfully diagnosed case of stenosis of the isthmus of the aorta and of 4 cases of primary carcinoma of lung. Josefson also cites 7 cases of Addison's disease that have been published in Sweden and 3 personally observed. One of the latter was distinguished by hyperglobulia. Recent articles on Addison's disease have ignored the contributions of Swedish writers, which now include a total of 10 cases. The age ranged from 24 to 50 and 7 of the patients were men. The autopsy findings are given in his cases.

110. **Incarcerated Obturator Hernia.**—Hellstrom has collected 37 cases of this rare form of hernia and gives the particulars in tabulated form. Death occurred in all but 12. All are from the European literature except Elder's case in the Annals of Surgery, 1900. He describes a case personally observed. The patient was a woman of 67 who had noticed a small tumor for twelve years at the obturator foramen. The hernia was readily reduced at first, but finally caused pains extending down toward the knee and symptoms of incarceration. Complete recovery followed a radical operation by Borelius. In the collected statistics, as in this case, there was a coincidence of some other hernia with the obturator in 4 cases, and in one there was bilateral obturator with bilateral femoral hernia, and in another five hernias at once. The neuralgic pain extending down to the knee was denied in 6 and not mentioned in 8, but was noted in the others. The age ranged from 38 to 84. Sprengel's patient was 80 and recovered after a laparotomy

111. **"Ether Drunk."**—Sudeck called attention in 1901 to the possibility of operating during the first phase of unconsciousness caused by the fumes of ether. Landström reports that more than 100 operations have been performed at the Stockholm hospital with this anesthesia alone, using merely 10 to 20 c.c. of ether and operating as soon as this has been inhaled in a few deep breaths. In some cases 5 c.c. were sufficient. The operations were mostly short, painful ones, but in one instance a Gritti amputation of the thigh was done, and the patient was kept under the influence of the ether with merely 70 c.c. for thirty-two minutes, giving a few drops the fifth, ninth, eighteenth and twenty-fourth minutes. There is no danger of syncope or unfavorable action on the respiratory organs. Lennander, Ehrlich and von Bruns also report very favorable results with the "Ether Rausch," alone or in combination with local anesthesia, and by repeating it several times in succession have been able to do long operations with it.

113. **To Minimize Dangers from Pregnancy in a Syphilitic.**—Among the measures which Welander advises are the thorough mercurial treatment of the women, preferably by his "pillow case" method. The children should be brought up if possible under medical supervision in a special asylum for three or four years at least. He has organized such an asylum which has accommodations for 10 or 12 children. Eight of the mothers were under treatment at the general hospital before the termination of the pregnancy. None of their children exhibited symptoms of syphilis at birth or since. The other children were marked with hereditary syphilis when admitted to the asylum. All of the children are treated intermittently with the mercurial "pillow-cases." The little asylum has prevented the contagion of others, while it offers the children the very best chances for minimizing their evil inheritance.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PRACTICAL POINTS IN NURSING. For Nurses in Private Practice. With an Appendix Containing Rules for Feeding the Sick; Recipes for Invalid Food and Beverages; Weights and Measures; Dose List; and a Full Glossary of Medical Terms and Nursing Treatment. By Emily A. M. Stoney, Late Superintendent of the Training School for Nurses, Carney Hospital, South Boston, Mass. Third Edition, Thoroughly Revised. Fully Illustrated, Including 8 Colored and Half-Tone Plates. Cloth. Pp. 458. Price, $1.75 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

THE PRACTITIONER'S GUIDE. By J. Walter Carr, M.D. (Lond.), F.R.C.P., Physician Royal Free Hospital; T. Pickering Pick, F.R.C.S., Consulting Surgeon, St. George's Hospital and Victorian Hospital for Children; Alban H. G. Doran, F.R.C.S., Surgeon to the Samaritan Free Hospital; Andrew Duncan, M.D., B.S. (Lond.), F.R.C.S., M.R.C.P., Physician Branch Hospital Seamen's Hospital Society. Cloth. Pp. 1107. Price, $6.00. New York, London and Bombay: Longmans, Green & Co. 1902.

HANDBOOK OF CLIMATOLOGY. By Dr. Julius Hann, Professor of Cosmical Physics in the University of Vienna. Part I—General Climatology. Translated, with the Author's Permission, from the Second Revised and Enlarged German Edition, with Additional References and Notes, by Robert DeCourcy Ward, Assistant Professor of Climatology in Harvard University. Cloth. Pp. 437. Price, $3.00 net. New York: The Macmillan Co. 1903.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Third Edition, Thoroughly Revised. Cloth. Pp. 436. Price, $1.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by Frederick Peterson, M.D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and Walter S. Haines, M.D., Professor of Chemistry, Pharmacy, and Toxicology, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Pp. 750. Price, $5.00. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

MEDICAL JURISPRUDENCE, INSANITY, AND TOXICOLOGY. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College, Philadelphia. Third Edition, Thoroughly Revised, Greatly Enlarged, and Entirely Reset.

Fully Illustrated, Including Four Colored Plates. Cloth. Pp. 329. Price, $1.75 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

SUCCESS IN DENTAL PRACTICE. A Few Suggestions Relative to the Most Approved Methods of Conducting a Practice. By C. N. Johnson, M.A., L.D.S., D.D.S., Professor of Operative Dentistry in the Chicago College of Dental Surgery. Cloth. Pp. 159. Price, $1.25. Philadelphia and London: J. B. Lippincott Co. 1903.

TUBERCULOSIS: Recast from Lectures Delivered at Rush Medical College, in Affiliation with the University of Chicago. By Norman Bridge, A.M., M.D., Emeritus Professor of Medicine in Rush Medical College. Cloth. Pp. 302. Price, $1.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

TRANSACTIONS OF THE FOURTEENTH SEMI-ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY, at Lincoln, Neb., March 20, 1902. Paper. Pp. 47. St. Joseph, Mo.: The Medical Herald. 1902.

TRANSACTIONS OF THE LUZERNE COUNTY MEDICAL SOCIETY, for the Year Ending December 31, 1902. Volume X. Paper. Pp. 162. Wilkesbarre, Pa.; The E. B. Yordy Co. 1903.

TWENTY-FIRST ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF LOWELL, for the Year 1902. Paper. Pp. 67. Lowell, Mass.: Courier-Citizen Co. 1903.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., from April 10 to 17, 1903:

Devereux, John R., first lieut. and asst.-surgeon, is directed to proceed to Fort Snelling, Minn.; for duty, instead of Fort Columbus, as heretofore ordered.

Gilchrist, Harry L., first lieut. and asst.-surgeon, will proceed to Philadelphia, Pa., and New York City on business pertaining to the medical department of the Army.

Kenuedy, James M., captain and asst.-surgeon, having completed the duty for which he was ordered to Washington, D. C., will, on the expiration of his present leave, proceed to Allentown, Pa., New York City, Boston, West Point, N. Y., Buffalo, N. Y., Cleveland, Ohio, Chicago and St. Louis, on business pertaining to the medical department of the Army, and on the completion of this duty will rejoin his proper station at the Presidio.

Miller, Edward W., contract surgeon, will report to the commanding officer, 14th battalion, field artillery, in camp at the Presidio, for duty therewith en route to Fort Sheridan, and on the completion of this duty, will proceed to his home, Chicago, for annulment of contract.

The following named medical officers are detailed to represent the medical department of the Army at the annual meeting of the American Medical Association to be held in New Orleans, from May 5 to 8, 1903: Major Louis A. LaGarde, surgeon; Major Charles F. Mason, surgeon; First Lieut. James Carroll, asst.-surgeon.

The following named officers are detailed to represent the medical department of the Army at the Interstate National Guard Association, to be held at Columbus, Ohio, May 4 to 6, 1903: Captain Merritte W. Ireland, asst.-surgeon, Captain Frederick P. Reynolds, asst.-surgeon.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 25:

Medical Director T. H. Streets, detached from the Naval Laboratory, New York, and to duty at the Naval Hospital, Philadelphia.

Medical Inspector G. R. H. Harmon, ordered to the Naval Laboratory, New York.

Asst.-Surgeon J. Stepp, ordered to the Naval Hospital, Portsmouth, N. H.

Medical Director J. B. Parker, detached from the Naval Hospital, Philadelphia, and ordered home to wait orders.

P. A. Surgeon H. H. Haas, detached from the Naval Hospital, Portsmouth, N. H., and granted sick leave for four months.

Surgeon J. D. Gatewood, detached from the *Lancaster* and ordered to the *Yankee*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 23, 1903:

P. A. Surgeon A. C. Smith, leave of absence for 15 days from April 8, 1903, granted by bureau letter of March 25, 1903, amended so that it shall be for 10 days only.

P. A. Surgeon J. A. Nydegger, relieved from duty at Baltimore, and directed to proceed to Gulf Quarantine and assume command of the service at that port.

P. A. Surgeon L. L. Lumsden, to proceed to New Orleans, and report to medical officer in command for duty and assignment to quarters.

P. A. Surgeon J. F. Anderson, to proceed to Great Falls, Mont., for special temporary duty.

Asst.-Surgeon J. W. Kerr, to proceed to Gallipolis, Ohio, and Point Pleasant, W. Va., for special temporary duty.

Asst.-Surgeon T. F. Richardson, to proceed to Bay St. Louis, Pascagoula, Pass Christian, Long Beach, Handsboro, Gulfport, Biloxi, Ocean Springs and Scranton, Miss., for special temporary duty.

Asst.-Surgeon Jos. Goldberger, relieved from duty at Ponce, P. R., and directed to proceed to Vera Cruz, Mex., for duty in office of the U. S. Consul.

Asst.-Surgeon Edward Francis, to report to director of hygienic laboratory for special instructions.

A. A. Surgeon, D. M. Echemendia, granted leave of absence for seven days from April 15, under provisions of Paragraph 210 of the regulations.

A. A. Surgeon John Frick, relieved from duty at Havana, Cuba, and directed to proceed to Tampico, Mex., for duty in office of U. S. Consul.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for 3 days from April 28.

A. A. Surgeon W. C. Mason, granted leave of absence for 3 days from May 5.

A. A. Surgeon M. V. Safford, granted leave of absence for 2 days from April 10, under provisions of Paragraph 210 of the regulations.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended April 25, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 11-18, 3 cases.
California: San Francisco, April 5-12, 15 cases.
Colorado: Denver, April 4-11, 28 cases.
Florida: Jacksonville, April 11-18, 1 case.
Illinois: April 11-18, Belleville, 3 cases; Chicago, 17 cases, 2 deaths; Galesburg, 4 cases.
Indiana: April 11-18, Evansville, 3 cases; Indianapolis, 4 cases, 2 deaths.
Kentucky: Covington, Jan. 10-April 18, 98 cases.
Louisiana: New Orleans, April 11-18, 8 cases (imported).
Maryland: Baltimore, April 11-18, 2 cases.
Massachusetts: April 11-18, Fall River, 1 case; Lowell, 2 cases.
Michigan: April 11-18, Detroit, 11 cases; Flint, 1 case; Grand Rapids, 7 cases; Port Huron, 1 case.
Minnesota: Winona, April 11-18, 1 case.
Mississippi: Gulf Port, April 16, 16 cases.
Missouri: St. Louis, April 12-19, 9 cases.
Nebraska: Omaha, April 11-18, 2 cases.
New Hampshire: April 11-18, Manchester, 8 cases; Nashua, 5 cases.
New York: Buffalo, April 11-18, 2 cases, 1 death; New York, April 11-18, 2 cases, 1 death; Rochester, April 14-21, 4 cases.
Ohio: Cincinnati, April 10-17, 15 cases, 1 death; Cleveland, April 11-18, 1 case, 1 death; Dayton, April 11-18, 2 cases; Toledo, April 4-18, 19 cases, 1 death.
Pennsylvania: April 11-18, Altoona, 1 case, 1 death; Johnstown, 1 case; Philadelphia, 10 cases, 1 death; Scranton, 8 cases.
South Carolina: Charleston, April 11-18, 5 cases; Greenville, April 4-11, 1 case.
Tennessee: Memphis, April 11-18, 1 case.
Utah: Salt Lake City, April 11-18, 3 cases.
Washington: Tacoma, April 6-13, 2 cases.
Wisconsin: Milwaukee, April 11-18, 1 case.

SMALLPOX—INSULAR.

Philippines: Manila, March 4-11, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, March 28-April 4, 8 cases.
Belgium: Brussels, March 28-April 4, 9 deaths.
Brazil: Bahia, March 21-28, 1 death; Rio de Janeiro, March 20-29, 13 deaths.
China: Hong Kong, Feb. 28-March 7, 1 case, 1 death; Shanghai, March 9-16, 12 deaths.
Colombia: Barranquilla, March 22-29, 1 death; Bocas del Toro, to April 6, 21 cases, 3 deaths.
France: Paris, March 28-April 4, 1 death.
Germany: Hamburg, March 28-April 4, 1 case.
Great Britain: Birmingham, March 22-April 4, 25 cases; Dublin, March 29-April 4, 12 cases, 1 death; Leeds, March 29-April 4, 10 cases; Leith, March 29-April 4, 2 cases; Liverpool, to April 4, 62 cases, 6 deaths; London, March 29-April 4, 13 cases; Manchester, March 29-April 4, 24 cases, 1 death; Sheffield, March 21-April 4, 4 cases.
India: Bombay, March 17-24, 85 deaths; Calcutta, March 14-21, 3 deaths; Karachi, March 16-22, 1 case, 1 death.
Italy: Milan, Feb. 1-28, 4 cases; Palermo, March 28-April 4, 1 case.
Japan: Yokohama, March 14-21, 1 case.
Mexico: City of Mexico, March 29-April 5, 8 cases, 6 deaths.
Russia: March 21-28, Moscow, 3 cases, 2 deaths; Warsaw, 7 deaths.
Straits Settlements: Singapore, Feb. 21-March 7, 2 deaths.
Turkey: Alexandretta, March 21-28, 6 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 13-20, 81 deaths.
Colombia: Panama, April 6-13, 3 cases, 1 death.
Costa Rica: Limon, April 10, 2 cases.
Ecuador: Guayaquil, March 21-April 4, 6 deaths.

PLAGUE—INSULAR.

Philippines: Manila, March 4-11, 10 cases, 8 deaths.

PLAGUE—FOREIGN.

China: Hong Kong, March 7-14, 19 cases, 17 deaths.
India: Bombay, March 17-24, 1,270 deaths; Calcutta, March 14-21, 751 deaths; Karachi, March 15-22, 120 cases, 97 deaths.

CHOLERA—INSULAR.

Philippines: Cebu, Feb. 21-28, 2 cases, 1 death; Manila, Feb. 21-28, 2 cases, 1 death; Opan, Island of Cebu, Feb. 28, 4 cases, 4 deaths; Talisay, Island of Cebu, Feb. 24, 17 cases, 10 deaths; Provinces, Feb. 1-28, 135 cases, 84 deaths; not previously reported, 532 cases, 319 deaths. Total, 667 cases, 403 deaths.

CHOLERA—FOREIGN.

India: Bombay, March 17-24, 1 death; Calcutta, March 14-21, 215 deaths.
Straits Settlements: Singapore, Feb. 21-March 7, 10 deaths.
Turkey: Damascus, to March 22, 28 cases, 28 deaths.

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Address.

A PLEA FOR EXPLORATORY OPERATIONS.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON SURGERY AND ANATOMY AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT NEW ORLEANS, MAY 5-8, 1903.

JAMES E. MOORE, M.D.

MINNEAPOLIS.

One duty of the Chairman of this Section, as prescribed by our by-laws, is to open the exercises with a brief comment on some surgical topic or topics of live interest.

During the past year no one subject has been of such paramount interest as to overshadow all the rest, but a steady and even rapid advancement has been made along old lines, and an exceptional amount of preliminary work or foundation laying has been done along new lines. More time and money have been expended in original research than in any previous year. The year has been made memorable by the permanent location in New York of a great laboratory for medical research, which has been placed in the hands of most eminent men, and from which we have reason to expect great results. The prevailing sentiment in the surgical world is one of wholesome conservative optimism.

Those of us who began the study of medicine before Koch made his immortal discovery of the tubercle bacillus can recall how hopelessly we endeavored to comprehend the term scrofula, that mantle of our ignorance which has happily disappeared, and how after this discovery the clouds began to disappear like snow before the sunshine. Have we not much greater reason, by virtue of our laboratories of research, to hope for the discovery of the cause of cancer in the near future?

Many of our medical colleges have established laboratories for the instruction of students in operations on animals, and these laboratories are being used more and more each year by practical surgeons in experimental work for the perfection of their technic and for original research. Every surgeon, no matter how much laboratory and experimental work he may have done, or how good a clinician he may be, will frequently meet cases in which conditions obtain within some one of the great cavities of the human body which are endangering the life or comfort of his patient, and which, after having exhausted all ordinary means of diagnosis, he can not diagnosticate. Under these conditions the surgeon should primarily, in the interest of his patient, and, secondarily, in his own interest, perform an exploratory operation. The mere fact that with our aseptic methods we can open the abdomen or the head with impunity gives us no license to make this a means of diagnosis until after all other methods have been exhausted. Nor does the fact that a man has learned to be reasonably certain of his asepsis entitle him to this privilege until after he is thoroughly familiar with both normal and pathologic conditions that he may find. I know of one instance, for example, in which a man opened an abdomen and was then unable to differentiate between the bladder and the sigmoid flexure, yet this patient did not die from sepsis. Such a man has no moral, and should have no legal, right to open an abdomen. This is simply an example of one of the dangers of asepsis.

This humble plea for exploratory operations is made with diffidence, for, "Fools rush in where angels fear to tread," and if this were an accepted method of diagnosis without most rigid restrictions, the ignorant and inexperienced would be the most ready to resort to it.

Owing to the brief time allotted for the reading of this address it will be limited to exploratory abdominal operations.

The term exploratory operation in this paper means a free opening made by the knife. The aspirator and the grooved needle no longer occupy a very prominent place as a means of diagnosis among surgeons, unless it is at the bottom of a wound. It is an open question whether these instruments have done more harm or good. Even the grooved director, which at one time occupied so important a place in a surgeon's armamentarium, has fallen into "innocuous desuetude."

We should no longer be content to divide our cases into operative and non-operative until after we have exercised the same care to form an accurate diagnosis that our colleague, the internist, would, and in addition, in doubtful cases, have made an exploratory incision, for some cases which from external examination would be pronounced inoperable prove on closer inspection to be operable, and in many cases in which a radical operation can not be performed a palliative operation may add somewhat to the patient's life and save him from a great amount of suffering.

It is in the abdomen that the exploratory operation is most frequently indicated, for in this region it is comparatively free from danger, and almost invariably results in some benefit to the patient. It is very rarely, indeed, that a good surgeon will make an exploratory abdominal incision without finding some condition which can be benefited.

At the beginning of abdominal surgery, which is within the recollection of many of those present, most operations were exploratory and were made for conditions in the pelvis, but at the present time, thanks to our accumulated experience and to the fact that in this region we can make bimanual examinations with one

or more fingers inside, the diagnosis can and should, as a rule, be made before operation. In a case, however, in which a surgeon strongly suspects an ectopic pregnancy without being able to make a positive diagnosis, it is safer to make an exploratory opening than to take the chances of a rupture. Bimanual examination through the rectum is sometimes more helpful than through the vagina, and should never be neglected in doubtful cases.

After a traumatism, when the symptoms indicate a rupture of the bladder, an exploration should be promptly made. An abdominal opening is safer and better in these cases than the injection of either air or liquids. Up to ten years ago the mortality following operations for rupture of the bladder was about 65 per cent., but since then it has dropped to 25 per cent. or less, and this is very largely due to the fact that explorations have been more promptly made. The only other prominent factor in reducing this mortality is that we have learned not to include the mucous membrane in our stitches. Occasionally we will find that a patient who is in collapse, with excruciating pain in the lower abdomen and an empty bladder, has a sound bladder but a ruptured intestine, which makes an exploratory opening even more imperative because of the septic character of the bowel contents.

Every surgeon has so much experience in the right iliac region that he usually feels quite certain of his diagnosis, yet we all meet with some cases in which we are in doubt and in which exploration should be the established rule. Few of us regret having followed this rule, and we all have had occasion to regret its neglect. There is a class of cases in which the patient complains of chronic indigestion accompanied by constipation and some pain and tenderness in the region of the appendix, in which an exploratory opening will disclose a chronically inflamed appendix, which may contain an enterolith and which may be surrounded by peritoneal adhesions, and in which the removal of the appendix will entirely relieve the symptoms. No experienced surgeon would hesitate to advise operation in such a case when the patient gave a history of having had an acute attack of inflammation in this region; but there are a great many such cases demanding operation in which the patient has never had an acute attack. Almost all cases of acute appendicitis, if not every case, has as a sequel a chronic appendicitis, but there are a great many cases in which the order is reversed, and the acute attack is the sequel of a chronic inflammation.

Surgery in the abdominal regions above the umbilicus is not nearly so well developed as it is below that point. Gall-bladder surgery is farther advanced than that of any other organ in this region, but even here we have much to learn. At the present time we are learning that in a good many cases drainage of the gall bladder is not sufficient, but that it must be removed. If our medical brethren will learn to refer to us for exploration their patients suffering from chronic "dyspepsia" and "gastralgia," to whom they have been giving pepsin and bismuth for years without benefit, we can demonstrate to them that most of these patients are suffering from gallstones, and that all of them have some mechanical condition which can be relieved by surgery. Until the surgery of this region is much better understood than it is now, acute epigastric peritonitis should indicate exploration, because there are so many etiologic factors here, some of which demand immediate operation and which we are as yet unable to differentiate. Diseases of the pancreas, for example, which are exciting so much interest in the surgical world, have no pathognomonic symptoms, and exploration is our only means of positive diagnosis. In acute hemorrhagic pancreatitis the patient's only hope is in early exploration, for without it the diagnosis will only be made at the postmortem.

Perforative symptoms in this or any other region, from any known or unknown cause, in civil life, demand exploration so long as the patient is not in articulo mortis.

The consensus of opinion among surgeons who have had the most experience in surgery of the stomach is, that when malignant disease of that organ is so far advanced that a positive diagnosis can be made by ordinary means, radical operation is almost hopeless, and exploration with the view of palliative operation is scarcely worth while, because the immediate mortality about offsets the time added to human life by these operations. Chemical, clinical and all other means of early diagnosis of malignant disease of the stomach have failed us, and our only hope is in early diagnosis by exploration followed by radical operation. The most interesting point bearing on this subject at the present time is the relation between gastric ulcer and cancer. Clinicians have long maintained that in a certain percentage of cases gastric ulcer stands in a causative relation to carcinoma. That percentage has been gradually increasing until now at least one eminent authority (Fütterer) believes that all cases of carcinoma of the stomach are preceded by ulcer. If this is true, all gastric ulcers should be operated on as soon as it is demonstrated that they will not heal under medical treatment.

It is estimated that at least 65 per cent. of penetrating wounds of the abdomen are perforating. Taking this conservative estimate as a working basis we should assume that all penetrating wounds are perforating, and in civil life we should make an exploratory operation as soon as possible. To wait for symptoms of perforation means to wait for peritonitis, and this is not in keeping with modern surgery. The mortality following operation for perforating abdominal wounds is probably not over 25 per cent. in competent hands, and will be still less when the rule advocated in this paper is better understood by general practitioners. Timidity and hesitation in these cases always means loss of time, and loss of time often means loss of life. Although typhoid perforation is usually looked on as being a different proposition from perforations from other causes, it should be treated by the same surgical rules because perforation from this cause terminates fatally just the same as from any other cause. The fact that the patient is ill before the perforation makes operation all the more imperative. When symptoms during typhoid indicate perforation, exploration should be promptly made. When the patient's condition contraindicates a general anesthesia, which is very rarely, the opening should be made under cocain. Reported cases teach us that operation may save life when the patient is seemingly hopeless. Although prompt operation should be advocated and practiced, my personal experience teaches that all hope is not lost even at a late date. Of three cases of typhoid perforation operated on the only one that lived was operated on three days after the perforation occurred.

Although surgeons have long and persistently advocated early exploration in obstruction of the bowels, our medical confrères, with many honorable exceptions, have not yet grasped the situation. The attitude of many

medical men in this matter is beyond comprehension. With a 95 per cent. mortality rate staring them in the face they very often neglect to call in the surgeon until it is too late. Our homeopathic brethren are the worst offenders in this grave matter, for they usually give the patient a dose of medicine every fifteen minutes until he dies. The excuse usually given by the medical man for his neglect in these cases is that he was not sure of his diagnosis, and that he does not approve of the knife as a diagnostic agent. Exploration has enabled us to reduce the medical mortality of 95 per cent. in these cases to 45 per cent., and when we secure the co-operation of all practitioners it will fall much lower.

At this point I can not refrain from calling attention again to the restrictions that should be thrown around exploratory abdominal operations, for it is worse than useless for an inexperienced operator to open the abdomen in suspected perforation, or in cases of obstruction of the bowels, except when the obstruction is caused by strangulated hernia.

Chronic peritonitis is a condition very frequently demanding exploration. When the condition is tubercular the operation *per se* will often prove curative. We have learned with the development of abdominal surgery that the old idea that all cases of chronic peritonitis are tubercular was a mistaken one. The majority of cases of chronic peritonitis are the sequels of acute appendicitis, salpingitis or cholecystitis, but a great many cases develop independent of an acute inflammation. There are many chronic invalids in every community suffering from peritoneal adhesions caused by chronic non-tubercular peritonitis who could be restored to health and comfort through an exploratory opening. It is very important to remember that a patient may be a great sufferer from peritoneal adhesions who has never had an acute abdominal inflammation. When making an exploratory operation in a case of suspected peritoneal adhesions it is very important to so locate the incision that all parts of the abdomen may be reached. My personal preference is for an incision through the right rectus muscle, large enough to admit a hand, thus enabling the surgeon to explore the pelvis, the appendix and the gall bladder.

In conclusion, allow me to express the hope that this brief paper will be understood as denouncing the abuse of exploratory incisions as emphatically as it advocates their use. An earnest endeavor has been made to make such clear statements that no honest man can offer them as an excuse for the unwarranted substitution of the knife for surgical knowledge or diagnostic ability, and to convince the doubting ones that their refusal to use the knife as a means of diagnosis where other means have failed is to sacrifice human life on the altar of prejudice.

Fatal Emotions.—Keraval is director of an insane asylum in France, and he reports three deaths occurring there recently which demonstrate anew that a vivid emotion is capable of affecting the cerebral circulation to such an extent as to entail lesions immediately or rapidly fatal. One patient was a man of 44, with atheromatous degeneration, but apparently robust. He succumbed to a cerebral congestion induced by intense delight at the news that he was to be released from the asylum. The other cases were those of a man of 65, with ideas of persecution, and a man of 57, a general paralytic. Both died from cerebral congestion following a comparatively slight annoyance. The autopsy revealed in the last case the fresh hemorrhage among the lesions of old meningo-periencephalitis.—"Nord Méd.," vi, 30.

Original Articles.

ILLUSTRATIONS OF MIXED INFECTIONS IN PULMONARY PHTHISIS,

WITH NOTES ON COMPARATIVE TREATMENTS.

PAUL PAQUIN, M.D.

Formerly Director of the Laboratory of Comparative Pathology, and Professor of Bacteriology and Comparative Medicine, University of Missouri.

ASHEVILLE, N. C.

The important significance of mixed germs and certain débris of the respiratory organs in phthisis is evidenced by the confusing variety of grave symptoms and lesions that accompany them and their too frequent fatal sequence. Yet the problems of mixed infections in this ruthless malady are still considered very largely with the same old indifference and skepticism that bred empirical treatments one hundred years ago. Impractical theories continue to sway a vast army of medical and laymen. The practitioners who seriously undertake to differentiate and individualize among their tubercular patients, with a view to ascertain the true conditions existing, and select appropriate remedies and proper nutrition are still in the minority; and the patients who look upon consumption with discriminating common sense are few. For many of the profession and laity consumption is consumption and usually fatal anyway; for a large number of others, in all walks of life, they will procrastinate till broken down, and then expect relief or cure in a few weeks or months—a thing impossible without a miracle. This is very unfortunate, because many consumptives are curable if they have the courage to begin to arrest the development early enough, the patience to persist, and if they are not too dissipated. No case is cured quickly. On the other hand, too many rash promises are made by too many doctors in desperate cases.

In order to present the significant differences in the microbiology and pathology of the various classes of consumptives, and suggest the errors of stereotyped treatments and the reasonableness of discriminate therapeutics, I beg leave to present a résumé of clinical and laboratory observations dating back a few years. For the purpose I have reviewed carefully a number of microscopic slides and macroscopic specimens and sections prepared for diagnosis and medical advancement in the course of practice. In fact, I have ransacked clinical histories related thereto and many works bearing on the subject. I shall here attempt to place briefly the most important data and findings before the profession. Each of the microscopic pictures represents the important things found in a given specimen of sputum. In some of them, however, I have grouped the findings of two or more differently stained slides of one expectoration in order to render more appreciable and clearer the various germs and débris present in the case. The macroscopic cut needs no attention at this point.

Fig. 1 shows the usual appearance of sputum in pure, so-called subacute pulmonary phthisis. Pus cells, bronchial epithelial cells, bacilli of tuberculosis and some mucus are present. There were none of the complication germs in this case of the kind and quality that do harm. The patient presented an area of dulness about three inches in diameter below the right apex, some fine moist murmurs and considerable expectoration, which was occasionally grayish and occasionally yellowish, or a mixture of both colors. Few bacilli of tuberculosis were present. The patient had come from

a country home away from the influence of smoke. In my opinion the grayish color was due to pathologic pigmentation and not to carbon inhaled. (This is often the case in most of gray sputa, many observers to the contrary notwithstanding.) He had been coughing six months and had lost twenty pounds and had had night sweats several weeks. His temperature had seldom risen above 101 2/5 F. in the afternoons; mornings it had often been subnormal. Being a case of clear tuberculosis, he was placed under the serum therapy as the specific basis of anti-tubercular treatment, and the various special phenomena of his malady were met as they appeared by such measures as were deemed best at the time. Nourishment and out-door air were of course insisted on. Neither creosote, guaiacol or inhalations were used. All these had been employed without good results for six months previously. Creosote and guaiacol seemed to have produced a severe form of dyspepsia, which yielded only to weekly lavage of the stomach. He steadily improved and got well in the course of eighteen months. He has shown no sign of illness for over four years. Infiltration seems to have disappeared absolutely. It would be difficult now, if not impossible, to find any lesion by any form of examination. Indeed, an insurance examiner of experience failed to find anything wrong in his chest.

The most significant features of this case are that it presented the evidence of pure pulmonary tuberculosis; that there never existed in the sputum any of the pathogenic germs that so frequently complicate tuberculosis; that the temperature seldom was higher than 101 2/5 F., and that the case recovered under the natural law measures indicated above, whereas he had been going down grade steadily and rapidly under the influence of the haphazard treatments which had been enforced before. This is one instance of several in my experience tending to show that pure tuberculosis is curable, often with comparative ease, by serum alone, provided such serum has been tested and is really effective. Such a product is not common on the market.

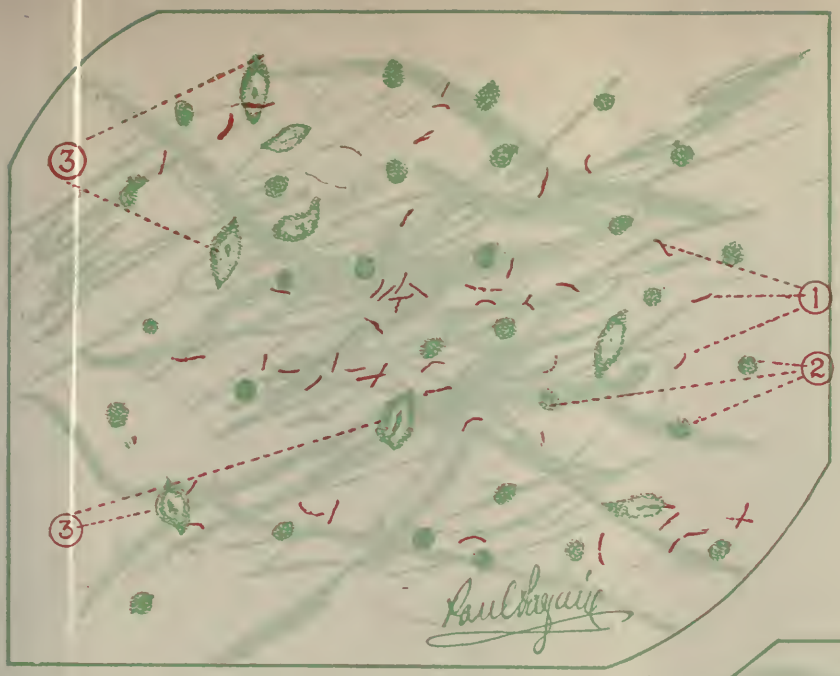
Contrast this case with the next two illustrated, viz.: pictures designated as Case 38 and Case C. The one marked No. 38 presents pus cells, bacilli of tuberculosis very few, and two forms of pus germs—the streptococci and staphylococci, each of them in small number. The sputum which contained these germs was gathered during the existence of an extensive area of more or less dense consolidation and involvement of lymphatic glands. All three of these classes of microbes are poison producers. Five weeks previous the patient had presented unmixed tuberculosis. He in the meantime contracted typhoid fever, and after his recovery from it the pus germs were present. Soon after small vomicæ were found. His temperature arose a few times as high as 103 F. at night, and there appeared occasionally night sweats and chills, but generally the highest point was 101 F. This was when the pus germs were few. The disease gained ground steadily in spite of all possible care, and the remedial measures applied included many remedies approved by authoritative teachers. Classic inhalations, which were begun at the first sign of softening, served seemingly to increase the irritation. Creosote injured the stomach and kidneys. Combined antiseptic and antitubercle sera were used without changing the situation. The strychnin tonics, iodin and sera, combined, and climate had a better effect, causing reinforcements which prolonged life three years. Here we had not higher fever than in pure tuberculosis, except when pus bacteria were numerous, and it was produced doubtless largely by pus toxins, or the mixture of these toxins and tubercular poison, and also by the influence of the lesions and their débris. Did not such complications argue earnestly for discriminate treatment?

Now consider picture of Case C and note all the differences carefully. The picture of its sputum shows pus cells, bacilli of tuberculosis, tetragenii and staphylococci (the latter numerous), each kind of which is capable of producing toxins that may separately, in a measure at least, cause cell, nerve and blood poisoning and fever. What special damage the combined toxins may cause I will not undertake to say. It is sufficient for our purpose to know that this mixed case, with only a very few small tubercular spots scattered in the upper third of one lung, exhibited temperature to 102 F. in the afternoon, coughed and expectorated a good deal of muco-pus with yellowish tinge, and did not do well under antitubercular serum alone. The disease yielded somewhat to a combined treatment, including antitubercle and antipyogenic sera hypodermically with iodin and various forms of judicious inhalations of respiratory sedatives and disinfectants. The patient is patched up, perhaps, only for a limited time. Yet to-day (five years after manifestation of disease) he is living in comparative comfort, without fever, and is working. But there yet remains in him evidence of lesions in quiescent state. These are liable to break down in the future, although with proper care he may retain his improvement.

I now draw your attention to Fig. 4, designated as of "Clinical Records," 1902. It shows sputum containing epithelial cells, few pus cells, tubercle bacilli, pneumococci, and some pyogenic bacteria. This patient exhibited infiltration in the upper half of the front of the right lung, with considerable aching opposite that locality. Fever arose as high as 104 F., but usually wavered between 100 and 103. A confused kind of pneumonia, limited in area, existed, and persisted for three months, after which resolution began and progressed slowly for weeks, leaving the lung impaired in elasticity, but not crepitant. Bronchial râles of a mucous kind were of course often present. Finally the pneumococci disappeared and the pus germs increased. As long as the latter were present in large quantities the temperature ranged from 99 F. in the morning to 102 F. in the afternoon. Later the pus germs decreased considerably, the bacilli of tuberculosis remaining scattered; then the fever wavered between normal and 99 or 100 F. At the time of this writing the temperature was between 97 and 99 F.

As soon as placed under my care this case received treatment applicable in limited pneumonia lesions of this type. It would, I am sure, have been useless to have put such a case under the influence of any therapeutic measure strictly within the line of the routine or specific treatments of consumption. What, for instance, could forced or voluntary inhalation have accomplished? Nothing but harm. The case lives in semi-comfort.

The microscopic display in Fig. 5 is from a case with a cavity four years old. La grippe and hemorrhages had been the first features of the development of the malady. The patient had done poorly most of the time for two years—la grippe recurring three times at least—but for the last year the case has presented comparatively few bacilli of tuberculosis, and this rarely. Cicatricial tissues and membranes seem to be slowly forming in the cavities and the healing process seems to be generally gaining ground. A mixed treatment,



A CASE OF UNMIXED INFECTION OF TUBERCULOSIS.
① BACILLI OF TUBERCULOSIS. ② PUS CELLS.
③ EPITHELIAL CELLS.
TEMPERATURE 96 TO 101 4/5 °F.

FIG. 1.



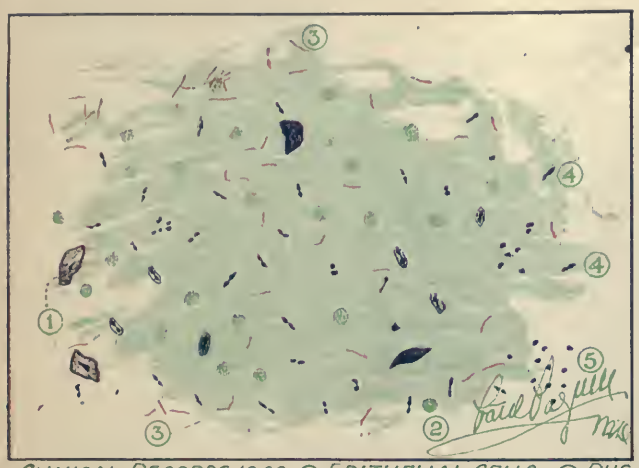
CASE 38 - RECORDS 1899-1900 ① PUS CELLS
② TUBERCLE BACILLI. ③ STREPTOCOCCUS
④ STAPHYLOCOCCUS.
TEMPERATURE 99 TO 103 °F

FIG. 2.



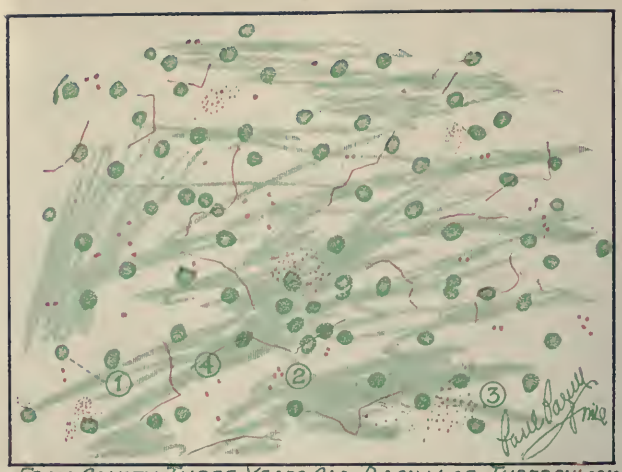
CASE C - THREE YEARS AFTER EVIDENT MANIFESTATION OF CONSUMPTION. ① PUS CELLS. - ② BACILLI OF TUBERCULOSIS
③ MICROCOCCUS TETRAGENUS. ④ STAPHYLOCOCCUS ALBUS
TEMPERATURE 97 4/5 TO 102 °F.

FIG. 3.



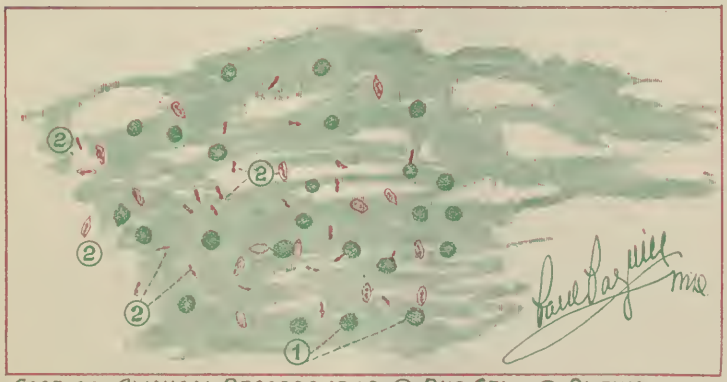
CLINICAL RECORDS 1902. ① EPITHELIAL CELLS. ② PUS CELLS. ③ BACILLI OF TUBERCULOSIS. ④ PNEUMOCOCCI. ⑤ MICROCOCCUS PYOGENES ALBUS. TEMPERATURE 99⅘° TO 104° F.

FIG. 4.



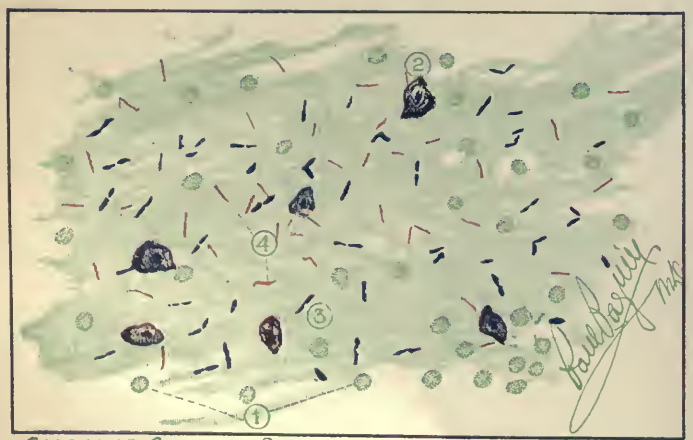
FROM CAVITY THREE YEARS OLD. BACILLI OF TUBERCULOSIS ABSENT SEVERAL MONTHS. PATIENT NOW ABOVE NORMAL WEIGHT. ① PUS CELL. ② STAPHYLOCOCCI. ③ ZOOGLEA OF FINE COCCI UNDEFINED. ④ FILAMENTOUS BACILLI UNDEFINED. TEMPERATURE 95° TO 98⅗° F.

FIG. 5.



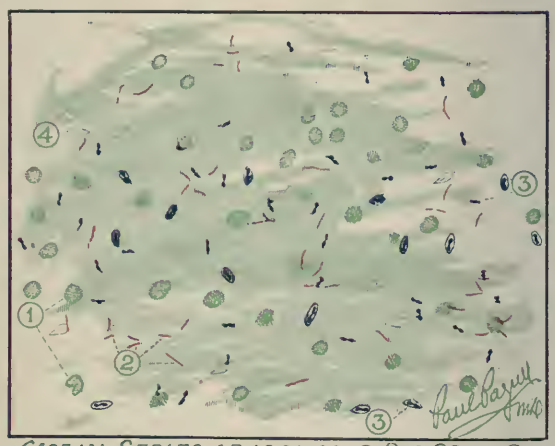
CASE 44. CLINICAL RECORDS 1902. ① PUS CELL. ② PNEUMOCOCCI WITH & WITHOUT VISIBLE ENVELOPE. TUBERCLE BACILLI HAD BEEN PRESENT UNTIL ONE WEEK PRIOR TO CONGESTION IN WHICH THESE GERMS APPEARED. TEMPERATURE 99° TO 103⅔° F.

FIG. 6.



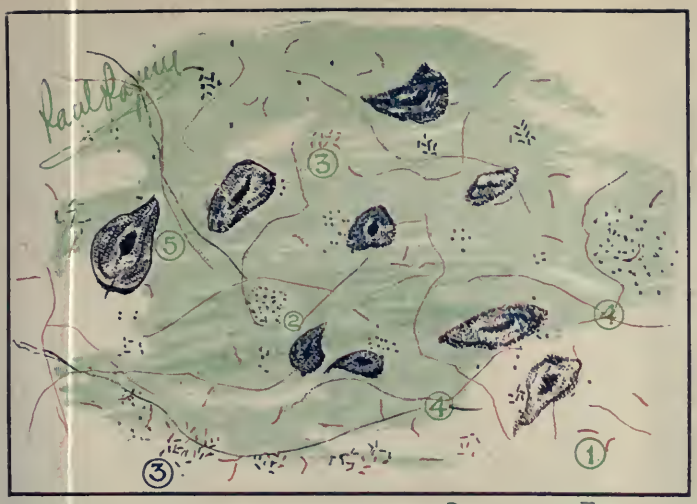
CASE 16 OF CLINICAL RECORDS OF 1900. ① PUS CELL. ② EPITHELIAL CELL ③ PNEUMOBICILLUS (OF FRIEDLANDER) ④ BACILLI OF TUBERCULOSIS. TEMPERATURE 99° TO 103° F.

FIG. 7.



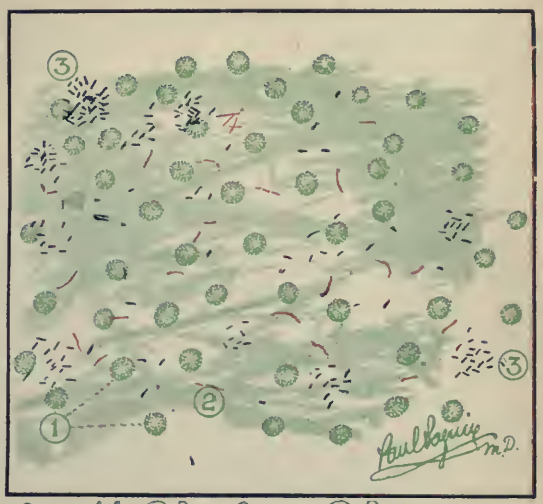
CASE IN SERIES OF 1901-02. ① PUS CELL. ② BACILLI OF TUBERCULOSIS ③ PNEUMOCOCCI ④ CHARCOT-LEYDEN CRYSTALS OF ASTHMA. TEMPERATURE 99⅘° TO 103⅔° F.

FIG. 8.



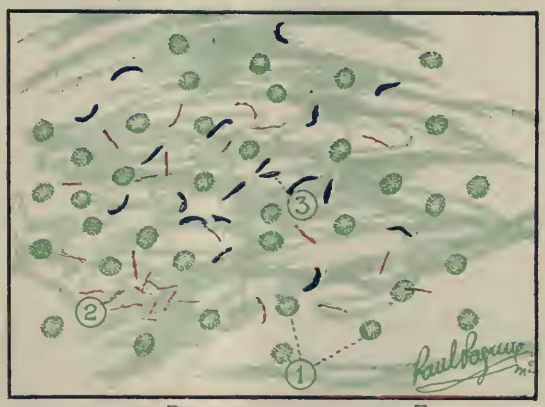
CASE OF DR. B. ANALYSIS 1901. ① BACILLI OF TUBERCULOSIS. ② GROUPS OF UNDEFINED COCCI. ③ SMALL BACILLI - PROBABLY PFEIFFER'S GRIPPE GERM. ④ FILIMENTS KNOWN AS LEPTOTHRIX BUCALIS. ⑤ EPITHELIAL CELLS; - UPPER AIR PASSAGES.

FIG. 9.



CASE AA. ① PUS CELLS. ② BACILLI OF TUBERCULOSIS. ③ NUMEROUS PYOCYANUS BACILLI (GREEN PUS) TEMPERATURE 97° TO 101° F.

FIG. 10.



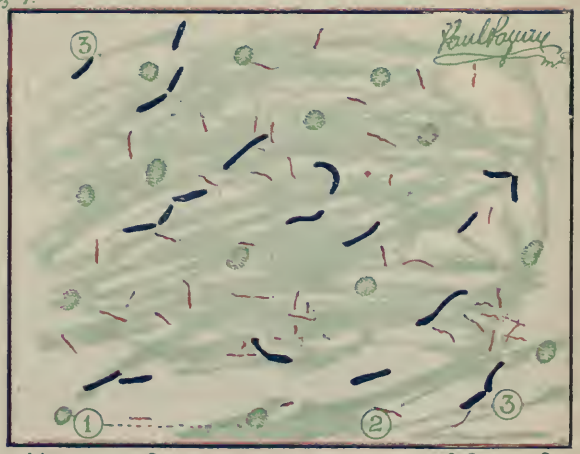
CASE II OF RECORDS OF 1899. FOETID EXPECTORATION ① PUS CELL. ② BACILLI OF TUBERCULOSIS. ③ LARGE BACILLI, PROBABLY THE LUMNITZER BACILLI OF FOETID BRONCHITIS. TEMPERATURE 97⅖° TO 101⅖° F.

FIG. 11.



CASE NO. 13 OF RECORDS 1898-99. LA GRIPPE & TUBERCULOSIS PRESENT. ① PUS CELLS. ② BACILLUS OF TUBERCULOSIS, ③ DIPLOCOCCUS IN CAPSULE. (PERHAPS AN INFLUENZA GERM) TEMPERATURE 98⅘° TO 102⅘° F.

FIG. 12.



NO. 12 OF RECORDS 1901-02 (CASE BB) ① PUS CELL. ② BACILLUS OF TUBERCULOSIS ③ LOOKS LIKE THE ORGANISM KNOWN AS BACILLUS CRASSUS SPUTIGENUS. (PATHOGENIC GERM) TEMPERATURE 96° TO 100⅖° F.

FIG. 13.



Material in Sputum of Bronchiectasey - Peyer- Author found such sputum material in complicated case of tuberculosis and Bronchiectasey - 1894.

FIG. 14.



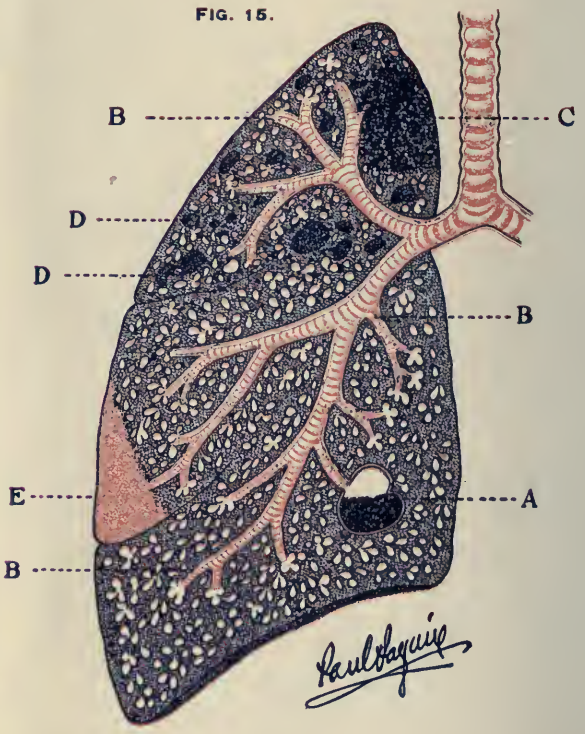
Elastic Fibres in tuberculosis. Found in cases of softening, etc., important diagnostic & prognostic feature; - (from Peyer, Paquin and others.

FIG. 15.



Fibrinous cast of small bronchi (Peyer & others Rarely met in tuberculosis. Found by the author in few instances under special conditions.

FIG. 16.



Tubercular Lung. Adapted from Da Costa and recent case of Paquin's. Ⓐ Cavity with pus, Ⓑ Ramifications of large bronchi. Ⓒ Dense consolidation in apex, Ⓓ Scattered Tubercular lesions. Ⓔ Infiltration.

FIG. 17.

including serum as the chief remedy, the cacodylates and climatology, are constantly in use.

This expectoration shows the existence of staphylococci in small numbers, some zooglea of more minute cocci, which I am not prepared to name, and some bacilli. also of an undesignated character. At one time the bacilli of tuberculosis, different pus and air germs, were numerous, and the temperature then ran as high as 103 F. When this specimen was taken the tubercle bacilli happened to be absent, as they had been for some months, and the temperature did not reach higher than 99 F. In fact, the last year it rarely ran over this point, except during occasional periods of congestion. At present, however, in the morning it sometimes goes down as low as 96 and 95 F. without appreciable discomfort. (Such a depreciation of temperature in the morning is not an uncommon thing in many kinds of tuberculosis.) The patient is now better nourished than at any period of her life, being several pounds above her best weight of her healthiest days. Temperature still wavers between 96 and 98 F.

The sixth picture of the series, Case 44, shows pneumococci and pus cells. The patient had tubercular laryngitis mildly and a large consolidation with pain in the upper third of the left lung. The temperature ranged between 99 and 103 F. Three months before the bacilli of tuberculosis alone had been found. The patient escaped my observation during this period, after which he again presented himself for examination. At this time a congestion of the diseased lung was manifesting itself, the pneumococci appearing in small numbers, as in this cut. In two days, however, they increased enormously. Evidence of congestion and some inflammatory manifestations remained for several weeks. Then a few bacilli of tuberculosis were found. After the pneumonia symptoms had disappeared these bacilli appeared in greater numbers than ever before, but the temperature went down to between 98 and 100 F.

Here is a case of localized pneumonia, complicating consumption, something like in the preceding exhibit, and naturally it suggests also forms of treatment other than those for simple or different forms of mixed tuberculosis. Such measures were instituted, specific and general, to fit the conditions at the proper moment, including special diet, milk, cream, plasmon during sore throat particularly. The patient is now at work, walking miles daily, as an insurance agent, but he is hoarse, though not suffering.

The next picture, known in my records as No. 16, 1900, presents a peculiar mixed infection of tuberculosis. In it are exhibited Friedlander's pneumobacilli, with bacilli of tuberculosis, amid a considerable amount of pus and a few epithelial cells. This case, which died a couple of years ago, suffered at first in the right lung, front and back, from top to bottom, almost complete consolidation. No treatment succeeded in reducing it in the least. Portions of it softened after a while and were expectorated in pieces mixed with pus. About that time the left lung became seriously involved, and finally death resulted. These pneumobacilli remained almost to the last—long after various pus and putrefaction germs had appeared. The temperature never was normal and often went as high as 105 F. It usually wavered between 99 and 103 F.

The eighth figure or case in series 1901 and 1902 is intended to show the finding of the microscope in the sputum of a patient who was suffering from asthma and tuberculosis, with a very limited area of consolidation. The bacilli of tuberculosis and pneumococci were present, and here and there we see Charcot-Leyden crystals and pus cells. As long as the pneumococci remained in large numbers and the infiltration kept prominent the temperature went as high as 103 2/5 F. By degrees resolution took place to a considerable extent, and these germs finally disappeared. The lungs remained impaired, however, and the bacilli of tuberculosis are still present at this writing. But fever with these germs alone does not rise higher than 100 F.

No argument is necessary to show in this case also the need of some circumspect, judicious differentiation in diagnosis and treatment.

Picture 9 (from a patient of Dr. B.) presents a rare combination of débris and bacteria. It includes nasal, bronchial and pharyngeal secretions and excretions with germs. In it we see bacilli of tuberculosis, some fine cocci that do not resemble much, and yet perhaps are, Pfeiffer's influenza (or grippe) bacteria, some long *Leptothrix buccalis* and some epithelial cells. I do not know the history of this case further than was indicated by this presentation, and that la grippe was said to exist in the patient when the sputum was gathered.

I now draw your attention to the tenth picture, designated as AA. In it you will find pus cells, bacilli of tuberculosis and small bacilli of green pus. In this case, analyzed in 1900, there existed scattered areas of consolidation, having respectively, doubtless, a tubercle or more as their nucleus. Patient suffered greatly from bronchorrhea, the matter from which was usually green in the morning. Bacilli of tuberculosis were not always present. Temperature seldom went higher than 99 F. Occasionally it reached 101. He has remained under my observation for nearly three years and is still living, although practically incapacitated for regular manual labor. Remedial measures, including hygiene, nourishment, climate, the cacodylates with iodin used at proper times, and occasionally antitubercle serum, seemed to have served the purpose of holding him in comparatively good condition and free from suffering. There is a decided improvement since 1900.

Fig. 11, designated as Case II, 1899, records bacilli of tuberculosis and other chief characteristics of sputum of a peculiarly offensive kind, which came from a case that fell under my observation in 1899. This patient also suffered from profuse bronchorrhea, but the color of the sputum was brownish and had a very fetid odor. He died with evidences of gangrene a few weeks after my first examination. Every form of supposedly useful treatment, including antiseptic inhalations, had been used without avail before I was called in consultation, and further efforts were not more successful. The patient had used creosote at enormous doses daily for a year without benefit.

The twelfth picture shows germs that I found in the sputum of a case which I examined for a St. Louis physician in 1898. You will notice that the bacilli of tuberculosis are present, some small pus cells and small diplococci and single cocci, with and without surrounding envelopes. (The difference in appearance of these supposedly grippe germs and those seen in Fig. 9 may be due to different staining processes and microscopic amplification.) Temperature 98 4/5 to 102 4/5 F.

The thirteenth picture, No. 12 of records, marked BB, shows the germs found in a patient who died in a sanitarium in 1901. He was not under my care and the history of the case is not at hand. This picture is shown chiefly to present a large germ which I had never found but once before in connection with tuberculosis.

While these thirteen pictures are practically all of different kinds, it will be noted that some pneumonia germs were present in four instances. In my experience of many years the pneumococcus has been present and a common complicator of pulmonary tuberculosis. It is perhaps as frequently found as either of the pus germs that reach the lungs, and sometimes assists in the pathologic processes.

If so many kinds of germs and complications in phthisis indicate anything, they surely indicate the necessity to pay the strictest attention to exact methods of differential diagnosis, whether the cases appear before us early or late, and that we can never be sure that we are applying proper measures without possessing proper knowledge of the pathology of each individual.

I shall now present to you a few pictures of another class, leaving out the bacteria, but showing certain débris and lesions which also have their indications in therapeutics. Two or three of these illustrations are familiar to most of my readers; they have been borrowed in part or in whole or adapted from Peyer and Da Costa.

In the first of these are to be seen the debris found in bronchiectasy. I have seen but one case in which tuberculosis and this bronchial affection clearly coexisted. But the combination is probably more common than this instance would indicate. The material in this expectoration includes pus cells, fatty globules (probably from broken-up leucocytes) and crystals of triple phosphates (irregularly formed) produced by the liberation of ammonia from the nitrogenous compounds in presence of magnesium. Bacilli of tuberculosis in such a mixture are not easily stained, and some other germs, too, are sometimes hard to discover. But the voluminous amount and mixed nature of expectoration in similar conditions should not mystify us or lead us to hasty conclusions eliminating tubercular complications. Prolonged observations, oft-repeated analyses in the course of weeks and months, may be required for proper diagnosis.

Next we come to the elastic fibers, Fig. 15, the significance of which every physician knows. Unfortunately, in sputum analyses they are too often overlooked or neglected. When it is known that they constitute evidence of the destruction of lung tissue, even in early stages of softening, their presence or absence should in all cases, if possible, be established as a guide in prognosis and treatment.

In the third of these, or Fig. 16, is represented a fibrinous cast of bronchi usually existing but rarely expectorated in cases of chronic croupous bronchitis, and very rarely found in connection with tuberculosis. In this particular case, however, the bacilli of tuberculosis had been present in small numbers, but there had been a prior history of chronic bronchial catarrh. At the time the patient came under my observation both sides of the bronchial tree suffered from this condition and dyspnea was very great. Partial infiltration of small areas existed here and there in both and increased slowly. All treatments failed to produce any good results. One day this patient, after using home inhalations of creosote, guaiacol and other antiseptics in glymol, which he had kept up under the advice of another physician for some months, undertook to climb a hill three hundred feet high. On his return he was seized with very serious congestion of both lungs and severe coughing, and died, asphyxiated, in two hours.

Next in order is the consideration of certain important gross lesions in pulmonary tuberculosis. For this purpose I here exhibit an illustration, Fig. 17, showing the essential common features in certain stages of phthisis. With it before us, and bearing in mind the microbiology of tuberculosis, as discussed in this paper, let us endeavor to realize the merits and demerits of various treatments and their effects on the anatomy, the physiology and mechanism of the respiratory organs, as well as, in a measure, on the system generally.

This section of the right lung, trachea and large bronchi shows the following structures and lesions: first, the lower half of the lung appears sound, excepting a cavity (*a*) (although in this half of the lung the tissues may contain concealed small tubercles); second (*b*), the distribution of the large ramifications of the right bronchial tree (down to about the point where the bronchi are about one-sixth of an inch in diameter), penetrating infiltrated and consolidated spots in their course and communicating with the cavity mentioned above; third, a dense and old consolidation (*c*) at the apex, with slight surrounding infiltration; fourth (*d*), tubercle centers scattered in upper third with sound intervening tissue; fifth (*e*), a diffuse, comparatively new infiltration at the side in the middle lobe.

Now, it may be well at this point to refresh our memory about the normal anatomy and physiology of the lungs in order to realize the nature and significance of these lesions and the kind of therapeutics indicated.

Briefly, the lungs consist of a mass of aerial tissue made up of lobules which are "joined together by interlobular cellular membrane, each lobule constituting a distinct lung in miniature, having its own separate vein and artery; that these lobules do not communicate directly with each other;" that their ultimate terminals consist of a collection of microscopic air cells, "alveoli of exceedingly delicate nature, ranging in size from 1/200 of an inch to 1/100 of an inch in diameter," which are in communication with the air by means of filiform bronchioles; that these bronchioles are formed of delicate circular and longitudinal elastic fibers with flattened epithelium up to the point in their outward course, where they reach 1/24 of an inch in diameter; that further out they possess cartilage and a mucous coat, and gradually become larger and denser and stronger as they simplify and progress toward the trachea; that the pulmonary artery accompanies the bronchi branch for branch to the minutest divisions (making possible direct medication by means of the blood); "that the circulatory system forms a network of capillary blood vessels of the alveoli where the exchange of the gases (the oxygen of the air and carbonic acid of the system) takes place;" that amid this capillary network of the alveoli, beneath the endothelial layers, there exist lymph spaces which communicate with lymphatic vessels, that get eventually in communication with the air on one hand and the pleura on the other, thus opening innumerable channels for lymphatic and pleuritic infection by microbes inhaled into the lungs.

The important facts I wish chiefly to draw attention to are that the remote divisions of the bronchioles are of microscopic size, therefore invisible to the naked eye; that their infundibula are made up of minute cells of about 1/200 of an inch in diameter, and that the mass of the lungs consists of inflated, spongy tissue, which these cells and connected structures form, and that the blood vessels permeate them everywhere, assisting in the exchange of carbon for oxygen, and finally, that a system of lymph vessels, glands and interstices involves all the air cells and puts them in communication with the outside air and pleural cavity.

We may add that the bronchi, large and small, and the air cells secrete mucus and that, under irritation, they may form sufficient of it and of certain pathologic material to fill them more or less and obstruct patches of lung enough to prevent sufficient communication with the air; and, furthermore, that by inflammatory processes the plasma of the blood may in part filter through the vessels and cause infiltration of the lung tissue, making it more or less impermeable to the air inspired.

The facts related in the two preceding paragraphs suggest and explain some questions of interest in tubercular pathology and therapeutics. To begin with, the anatomy and physiology of the lymphatic system in the lungs show how nebular intrapulmonary medication is wholly impotent in perhaps all cases involving the necessity of reaching lymphatics, which is so common. The lymphatics do not breathe, therefore the vaporized drugs can not get into them. This anatomy and physiology show also how and why we have so many cases of tubercular pleurisy and so many kinds of secondary tuberculosis in various organs of the system. Diffusion of the disease germs takes place through the lymphatic channels.

In the circulatory system, affecting the spongy tissues so thoroughly, we find, on the other hand, the explanation of the success often obtained in the treatment of tuberculosis by internal or hypodermic medication where direct lung measures fail. More of this farther.

To bring the important question of therapeutics to a focus, I will specify that there are two chief divisions of treatment. First, the aerial division, which includes in part climatology, pure or medicated air, and the artificial efforts to drive remedies directly down into the lungs; second, the circulatory division, which means all the efforts to reach the lungs and influence the system generally by means of the blood and lymph circulation. This includes internal medicine, hypodermic injections and dietetics, either of which can be of service only after absorption of the remedy or food in the system. Both of these divisions have their advocates, both have their usefulness and limitations, and both are abused by those who prescribe mindless of pathology (among whom, by the way, are very widely known men, who seem not to understand analytical work or have it done crudely by inexperienced persons). In the first or aerial division belong numerous, often reckless, usually haphazard forms of inhalations, tracheal injections, sprays and nebula, which in their place and at the proper time have a measure of usefulness. How far can inhalations reach, for instance? Even if the normal anatomy and physiology of the lungs permitted it, it is evident that the consolidations exhibited in the picture of the section of the lung here presented would allow very little or no air to reach the alveoli or to reach properly even the periphery of the lesions, far less the structure of the central portions. By what law, I ask those who commend and apply intrapulmonary medication generally or as a routine practice, can any form of pressure cause medicated air, or any other remedy, to reach the ultimate structure of such diseased tissues and heal them? Is there any way to force nebula into such patches? Decidedly no, and when it is remembered that all tubercles, large or small, are to some extent accompanied by more or less consolidation, which precludes even proper natural respiration, who can not realize the futility of all efforts to force inhalations into them? Yet it is claimed that not only such consolidations *en masse* can be reached by fine nebula, but that the air cells that constitute them can also be medicated by this means under a pressure of thirty, forty or eighty pounds! This claim is so remarkably contrary to known physiologic and pathologic facts that one who reads it or hears of it wonders at the daring of those who advocate it before the intelligent minds of the medical profession. It is wholly incompatible with the laws of physics and physiology. Indeed, while nebulized medicines are really very fine divisions, these are individually visible to the naked eye, and to drive one of them down in an air cell would be practically like forcing a globe the size of a baseball into a receptacle the size of a marble.

It must be remembered, besides, that the air cells are always partly filled with residual air, which can not be forced out, and that these cells can not be unduly dilated without tearing them open. Furthermore, the lungs within and without sustain an average (at our altitude, at least, Asheville, N. C.) of 10 to 12 pounds of pressure. They are maintained in their natural condition of partial expansion by this in and out equilibrium of air pressure. Suppose the pressure within the lungs is increased without compensation on the outside, what law would prevent dilation or rupture? We see, then, that certain kinds of intrapulmonary medication preached to the profession and public are far from always being right and safe. In truth, only three benefits can be derived from the best forms of direct pulmonary medication; that is to say, from tracheal injections and inhalations, to-wit: a limited degree of disinfection of such parts as such treatments may reach; second, a limited palliative influence over such irritated points as they traverse or touch (more or less poorly), and, finally, a limited degree of influence in subjugating cough. In no case is the *indiscriminate* use of such measures and their medicines right, and some conditions sometimes forbid them; for instance, seriously inflamed bronchi and acute congestions. To obtain the results possible by nebular medication, all that is necessary is to have an apparatus capable of forming fine nebula or sprays, such as the Globe Nebulizer or the Robertson and De Vilbiss instruments, and then have the patient inhale proper remedies at their leisure; or a room may be filled with nebula or medicated vapors. High pressure simply makes finer nebula; these, as made, are sent with the full force back of them into the throat, from which the patients breathe in what they can. It does not appear to be good practice to apply 40 to 80 pounds of pressure into the throat of tubercular patients. They have more than enough trouble in keeping their throats from hyperemia and secondary infections without increasing the tendency to these dangerous conditions by unnecessary rough treatment of sensitive and delicate membranes. Evidence showing the correctness of this estimate is not wanting.

I need not dwell on the value of the second division or circulatory medication. It is established beyond controversy that certain drugs in certain forms can be sent through the lungs by means of the blood just as easily as they can be sent to all tissues that receive nourishment. Whoever knows the physiology of the circulation must accept this as a fact. It is true that those lesions which are more or less solid fail to receive blood freely, but even they absorb the essentials of the blood from neighboring sources. Besides, this form of medication, administered hypodermically or otherwise, may be used so as to produce most beneficial effects by direct and indirect influences on the blood, the nerves, the digestive organs, etc., etc.

Having in mind the numerous different kinds of pulmonary tuberculosis, we can not escape the conviction

that many forms of treatment now in vogue, besides the mechanical means discussed here, are also useless and some of them dangerous, if not fatal, when applied without respect to the pathologic conditions present at the time, as, for instance, the use of creosote in a reckless manner and the abuse of alcoholics. Nor is full knowledge and realization of tubercular pathology and microbiology sufficient for the best work. It is, moreover, necessary to realize the condition of the digestive, eliminative, circulatory and nervous organs and to apply properly the means necessary to correct whatever faults they may exhibit. Observe, for instance, the sudden rise of temperature from normal to 103, 104 and 105 by indigestion alone, or in connection with absorption of pus, etc.! Such conditions do arise, complicating consumption by addition of auto-intoxication to it. I have seen such occurrences (auto-intoxication from the alimentary canal) arrested by one stomach and one intestinal lavage, which, by the way, is a particularly common necessity for the control of digestion, because indigestion is so common in almost every case of pulmonary phthisis in which ordinary drug measures are not always applicable.

To be specific as far as possible on a general question, what, then, constitute the most reasonable and most promising methods of treatment of tuberculosis pulmonalis, particularly in mixed conditions?

The details are not appropriate here. In fact, I have gone already beyond my first intention on the subject of treatment. But there is reason to indicate the basic elements that need be understood in mixed and simple tuberculosis if one is to pursue a right course and try to cure. In all cases we need first, nourishment, by which I mean the assimilation of proper food supplies, including under this head, for convenience, the breathing of proper air. Without these in sufficient quantity and good quality, no remedy will succeed. With them as foundation, diverse treatments, applicable in different conditions, may be properly selected after understanding each case. Thus the reliable, tested antitubercle sera (not the ordinary, untested commercial stuff), the cacodylates, the assimilable and non-irritable iodins, tonics, appetizers, stomach lavage, raw beef juice are useful in probably all cases, provided the proper moments for each or certain combinations of them are not neglected.

No matter what their nature, special complications demand special measures of relief. For instance, pulmonary congestion may be relieved by a hygroscopic plaster; cough by camphor, hyoscyamus, heroin, codein, hydrocyanic acid, etc.; dyspepsia by stomach and intestinal lavage, pepsin, takadiastase, and other dietetics; intestinal auto-intoxication by high colon lavage and intestinal antiseptics; anemia by soluble iron, milk albumin, protonuclein, etc.

I repeat that the most important problem in the treatment of consumption of any kind is that of nourishment. It must be sufficient in every instance or failure is unavoidable. Speaking in a general way, milk, cream, meats, a dozen of whites of eggs in water every day, whole eggs in sherry wine, fish, oysters and appropriate meat juices are among the very best foods. Potatoes and bread are among the most useful of vegetable origin. Unfortunately, in the majority of cases that come to the physicians, there arises the necessity of feeding them, at times, with more highly nutritious and assimilable substances than is afforded by natural products. This is especially common in enfeebled stomachs and sore throats. Thus, in throat tuberculosis, for instance, both local pains and indigestion are usually present. The pain produced by swallowing is so excruciating at times that even water produces torture. In such unfortunates, raw eggs, milk and cream are usually the most easily swallowed natural foods. But they may not always suffice, and often they upset digestion very much. This is often true of sweet milk. I have tried all sorts of artificial nourishments to assist these, or alone in many conditions. I have made numerous trials of many manufactured and home-made products in cases accompanied by poor digestion, assimilation and painful deglutition. Several are pleasant, but few are nourishing enough.

There is one kind of food used by many now which is possessed of special virtue as nourishment and medicine at the same time. It is the fresh juice made daily from raw beef.

Professors Charles Richet and J. Héricourt, both medical experimentalists and teachers of international reputation, presented to the Congress of Medicine in 1900, and afterward to the Academy of Medicine of Paris, many reports on their clinical experiments with such juice in consumption. Since then numerous physicians in every country have verified the claims of these scientists that raw beef juice is not only nutritious to the highest degree, but that it possesses specific curative virtues to arrest the malady. But it must be raw, not heated in the least. Its serum must be unimpaired, for this is internal sero-therapy, so to speak. To get good results large quantities must be given daily—all of the juice of four to six pounds of steak between meals. Strange to say, this does not interfere with the regular meals or the application of a special diet. It will be a pleasant surprise to those who have horror of raw meat to know that this fluid is very palatable and may be made delightful. My experience with raw beef juice in large quantities has been most gratifying, particularly in connection with plasmon, the cacodylates, serum, iodin, etc.

The unfortunate part of this most useful measure is that few presses can extract more than 25 per cent. of the juice from raw meat, thus reducing the chances of its use and making it expensive. I have tried everything in the shape of press I could find on the market, excepting high-priced hydraulic presses, and only the Hayes Meat Crusher have I found to extract more or less easily 75 to 85 per cent. and stand the effects of hard pressing without breaking, but it is in the present size a little expensive. As it is essential, as I have said, to use large quantities of beef juice to get any good results, and, as all that exists in six pounds of good beef is usually necessary every day, it will be seen at once how costly it would be to use presses extracting only 25 or 30 per cent.

In conclusion, I urge the study of the results obtained in France and elsewhere with the cacodylates, reliable sera, iodin and beef juice in consumption.

THE NEW UNITED STATES PHARMACOPEIA.

JOSEPH P. REMINGTON, Ph.M., F.C.S.
CHAIRMAN COMMITTEE OF REVISION OF THE U. S. PHARMACOPEIA.
PHILADELPHIA.

The numerous inquiries from all parts of the United States with regard to the appearance of the new Pharmacopeia would seem to require at this time a communication as to the progress of the revision, and the writer takes this opportunity of stating that the work is progressing favorably. On account of the death of the distinguished chairman of the Committee of Revision, Dr. Charles Rice, May 13, 1901, revision was necessarily retarded; nevertheless, the subcommittees

to whom the details had been assigned have performed a large amount of work. The twenty-six members from all sections of our country, composing the Committee of Revision, were selected by the United States Pharmacopeial Convention in May, 1900, to complete the work of revision, because of their fitness for their work, and necessarily the majority are specialists in the various departments of therapeutics, pharmacognosy, chemistry, botany, analytical chemistry and various other departments which are represented.

ORGANIZATION.

The work of the subcommittees is placed, from time to time, before the general committee by the chairman, in the form of a report, and this report is then voted on; the opportunity being given for each individual member to record his approval or disapproval of any of the details, although naturally much greater weight is given by members to the views and opinions of those who have devoted the greater part of their lives to the special work for which they were selected. Communication between members is mainly by correspondence, and the circular letters and private letters which have been sent out during the last two years number over four thousand.

METHOD BY CORRESPONDENCE.

Prior to the year 1880 pharmacopeia revision was conducted through personal meetings of the members, but in 1880 a different method was inaugurated, the committee was enlarged nearly fourfold and the method by correspondence established. The reasons for making the change were mainly to secure a larger geographical representation and a wider scope, because, as our republic progressed rapidly and the center of population moved westward, it became necessary to recognize the changed conditions and make the book as thoroughly representative of all sectional demands as possible. It can not be said, however, that either of the plans of revision—by correspondence or personal meetings of the committee—are without faults. There are members living to-day who have served the committee under both plans. The method by correspondence loses the value of that individual contact which every one recognizes as so important in revision work. Members are oftentimes loth to vote on certain subjects which are out of their special line, as they would greatly prefer to take the judgment of their colleagues, and a personal conference of the committee of twenty-six would result in the settlement of many questions, after hearing argument, in a much shorter time than would elapse after correspondence among the twenty-six members. But it was foreseen, when the change was made to the method by correspondence, that it would be impracticable to have frequent personal meetings of the committee, not only on account of the great expense involved (for some of the members would have to travel from one to two thousand miles), but as each member of the committee is a busy man it would entail great sacrifice and inconvenience to give up all home engagements and meet often at some distant point.

On the other hand, revision by correspondence has many advantages. It places on each member of the committee a greater sense of responsibility for each vote that he sends in to the chairman. His individual judgment is not swayed by oratory or the superior argumentative abilities of a speaker, and he may take more time to arrive at a correct judgment on the question than would be possible at a personal conference. The committee of 1900 has endeavored to secure the merits of both plans, for those questions which can not be well settled by correspondence are deferred until a personal meeting can be held. An experience of twenty years in revising the Pharmacopeia by correspondence mainly has developed many improvements over the methods first adopted, one of the greatest, undoubtedly, being the stability of organization, now assured through the incorporation of the convention and the separation of the purely business functions from the special work of the revision.

DIVISION OF LABOR.

All of the financial work and the publication of the book is now vested in a board of trustees, while the preparing of the manuscript and the revision proper rest alone with the committee of revision. The board of trustees secures information and the co-operation of the interests of the convention and the committee of revision by making the chairmen of these two bodies members of the board. It will thus be seen that the machinery employed to make a new pharmacopeia is not needlessly complex, and it is believed that all interests are properly guarded and the work of the judicious selection of medicines, the best processes for their preparation and the fixing of fair standards will be duly accomplished.

DIGESTS OF CRITICISMS.

One of the most valuable features connected with the work of revision of the Pharmacopeia of 1880 and 1890 has been the preparation of what are known as "Digests of Criticisms." These are bound books which contain a compilation of all of the criticisms and suggestions on the United States Pharmacopeia, gathered from pharmaceutic journals throughout the world. The criticisms are classified and arranged alphabetically, and are published for the benefit of any one interested in pharmacopeial work. They are furnished freely, without cost, except a trifling one to cover postage, and it is thus possible for any member of the committee to have constantly before him, when studying the preparations, all of the published criticisms that have appeared up to the time of the publication of the digest. It can easily be seen that this most excellent method, which was devised by our late chairman, will prove of the utmost value to the members.

INTERNATIONAL PHARMACOPEIA.

The idea of establishing an international pharmacopeia, which shall be an authority in all civilized countries of the world, has practically been abandoned, after having been under consideration by various international congresses for the last forty years. An international pharmacopeia once reached the stage of the manuscript form, and it was this actual practical demonstration which has had more to do with the abandonment of the idea than any other influence. When, after consultation among European physicians, pharmacists, chemists, botanists and experts, the international list of preparations appeared it was almost universally condemned. The French would not accept it because there were too many German and Austrian preparations found in the book and not enough French; the English would not give it serious consideration because medicines which had been used for generations by them were omitted; and Americans scarcely felt enough interest to inquire about it when they found that American preparations had been completely ignored. And so it must ever be, until the great day of universal peace, harmony and goodwill, and when this time is reached probably no pharmacopeia will be needed at all.

An idea has, however, grown out of this long-continued agitation which promises practical results, and this is, for all civilized nations to agree on a uniform strength of what are known as "potent remedies," or as the French term it, "medicaments heroiques," and the International Congress, held in September, 1902, at Brussels, recommended such uniformity. The principal reason for establishing this kind of an international pharmacopeia is to secure uniformity in the dosage of such important medicines as solutions of arsenic and preparations of opium, digitalis, nux vomica, belladonna, etc., so that a patient traveling in any country and having a prescription containing a potent remedy runs little risk of danger on account of the substitution of Fowler's solution made by either a Swiss, German or English pharmacist for the one originally prescribed. For instance, if arsenical preparations were made throughout the world of 1 per cent. strength, all danger from this source would be removed.

It can not be hoped that the new United States Pharmacopeia will please everybody. No pharmacopeia in the world was ever published which was universally accepted by all of the affected interests. Anyone can be convinced of this fact who chooses to consult medical and pharmaceutic literature bearing on the pharmacopeias of the various countries. This is particularly the case with regard to admissions and expurgations. One physician or pharmacist sees in the book some drug or preparations which he has never used and possibly never heard of. Another looks through its pages and does not find his favorite remedy; but it must be remembered that the title of the book is "The Pharmacopeia of the United States of America," and a drug which may not be used in one section is largely used in some other. And again, some preparation which may have considerable local use finds no favor outside of a circumscribed locality, and it would be impossible to think of loading the Pharmacopeia with preparations which have merely a circumscribed use.

Neither can a pharmacopeia be expected to contain all of the new remedies which are exploited by the various manufacturing firms throughout the world. This ever-changing, yet never-to-be-suppressed condition imposes on the revision committee a most difficult task of selection. It can only recognize the newer remedies which have stood the test of sufficient time to demonstrate their value, and of late years the "embarras de richesses" has been so pronounced, and one good new remedy has been so rapidly supplanted by something better (if the advertisements of the manufacturers are credited), that the task of the committee has been greatly increased. Nevertheless, it is believed that the new Pharmacopeia, when it appears, will be abreast of the times and be recognized as fully worthy to stand with any of its predecessors, and contain between its covers a list of medicinal substances with descriptions, tests and formulas for preparing the same, which will be recognized throughout the length and breadth of the land as authoritative.

Music for Insane.—The "Medical Times" says that the authorities of Manhattan Asylum, Ward's Island, are making systematic experiments with the music cure, and have treated a dozen cases of melancholia, giving them concerts an hour long every afternoon with the harp, violin and piano. They report, after a month's trial, that improvement is shown, and that patients suffering from acute mania and hallucinations show more mental alertness and cheerfulness, and that one patient has been assisted almost to recovery by the violin alone.

CASE OF FUNNEL PELVIS WITH CESAREAN SECTION.

CHARLES B. REED, M.D.

Assistant Professor of Obstetrics, Northwestern University Medical School; Associate Obstetrician Chicago Lying-in Hospital; Obstetrician Cook County Hospital.

CHICAGO.

HISTORY.

On May 4, 1900, in my service at the Chicago Lying-in Hospital, I saw the patient, aged 19, in her first confinement. She had been in labor twenty-four hours, the membranes had ruptured and dilatation was complete. The unengaged head presented, mobile above the inlet in L. O. A., and the woman was nearly exhausted by her long labor. The external measurements of the pelvis were small and the conjugata diagonalis could not be obtained. The outlet seemed contracted, but an estimation of the size of the child's head did not apparently preclude its passage and, with the usual preparations and precautions, a combined external and internal version was done. The anterior foot was seized and brought down and the extraction followed directly. No trouble was experienced until the head reached the inlet and refused to enter; under the combined use of pressure from above (on abdomen), the Walcher position and the Smellie-Veit method of delivery, the head slipped through the inlet, passed rapidly and without difficulty through the excavation to the bony outlet, where its progress was stopped. In spite of our utmost efforts the attempts to complete the delivery failed. The child was asphyxiated, craniotomy was done through the roof of the mouth and the mutilated head passed the contracted outlet with some difficulty.

In October, 1901, she reappeared, pregnant for the second time, but with no knowledge of the date of conception. She did not remember when her periods were interrupted, nor when she first felt life.

From examination it seemed probable that labor would occur about Feb. 1, 1902, and, appreciating the difficulties which the case presented, her own and her husband's consent was secured for the performance of any operation which would most nearly promise a living child.

Labor began at 2 a. m., February 16, and 8 a. m. she went to Wesley Hospital and was immediately prepared for cesarean section. No internal examination was made. The operation began three hours later, with the courteous assistance of Dr. Watkins and the resident hospital staff. Through the usual median celiotomy incision the uterus was delivered, the blood supply manually compressed and a median longitudinal incision made in the uterus, through which the child was easily extracted by the anterior foot. Contraction of the uterus was secured by massage and hot applications and the placenta was delivered. The opening in the uterus was closed by through-and-through sutures of chromicized catgut. After direct measurement of the inlet the abdominal wall was closed.

The thoroughly mature male child was cared for by Dr. Farrell and cried lustily. The head was well ossified and nonconfigurable; a small caput was found over the left eye. The child weighed 3,400 grms. (7½ lbs.) and gave the following measurements: Length, 52 cm.; bitem., 7.5 cm.; bipar., 9.75 cm; occ-front, 12.5 cm.; occ-mental, 13.75 cm.; suboce.-breg., 10.0 cm.; occ-front-circum., 37.0 cm.; suboce. greg. circum., 33.0 cm.

The involution progressed rather slowly and at the time of the removal of the sutures the uterus was found to be adherent to the abdominal wall throughout the entire line of the wound, resulting in an involution which took place laterally, but hardly at all longitudinally—the uterus being long and narrow in form and extending to the umbilicus.

The convalescence was interrupted by a slight pleuritis, but at the end of the fourth week she left the hospital with her babe in excellent condition. Examination about three months later showed the condition practically unchanged.

IDENTIFICATION.

The measurements in this case are very interesting as showing a pure type of the "funnel pelvis" (masculine

or infantile pelvis), by which is meant a pelvis with normal or only slightly contracted inlet and high lateral walls which converge strongly downward to a markedly contracted outlet. In the identification of this pelvis it is necessary to exclude certain anomalous pelves wherein the contracted outlet exists only in association with characteristic deformity of the vertebral column, such as kyphosis and spondylolisthesis, as well as those cases of uniform generally contracted pelves wherein there occurs a slight increase of contraction toward the outlet.

The absence of vertebral deformity excludes the first two, and the measurements are so characteristic of the funnel type that the diagnosis can not be confused with the uniform generally contracted pelvis.

The patient is 158 cm. high, with large, full and mature breasts, noticeably slight in figure with narrow hips and strongly converging genitocrural folds. The physiologic lumbar lordosis is diminished, no kyphosis, no rostration of symphysis, iliac venters rather straight and no evidence of early rachitis.

External measurements with tape and pelvimeter give sp., 19.0 cm.; crests, 22.0 cm.; troch., 26.0 cm.; Baudelocque, 19.0 cm.; circumference, 77.5 cm.; left oblique, 19.5 cm.; right oblique, 20.5 cm.; post spines, 8.5 cm. (average 7.5); and on same plane with sacrum. The sacrum is 16.0 long (average 10.3) and very narrow. Tip of coccyx to lig. arcuatum 7.0 cm.; tip of sacrum to lig. arcuatum 9.7 cm. outside, or allowing 1.0 cm. for thickness of sacrum 8.7 cm. inside (Klien's average 12.5, Garfunkel's average 12.3 cm.). The distance from tuberosity to tuberosity measured by the Breisky or Chantreuil methods and the Ayers pelvimeter was 8.5 cm., there being no practical difference in the result from either method.

The tip of the sacrum is easily accessible by the vagina and the coccyx projects acutely into outlet without ankylosis. The pubic arch is narrow, the symphysis high, the ischiatic spines also project markedly into the outlet. The linea innominata appear to be almost parallel, and the attempt to measure the conj. diag. never succeeded, as the promontory was apparently pushed upward and backward and was inaccessible to examining finger.

The inlet measurements were made directly before closing the abdomen and gave c.v. 11 cm. and transverse of 13.0 cm. Thus the inlet is as large as the average and the outlet is contracted in both diameters.

CLASSIFICATION.

Klien, who has made an exhaustive study of this pelvic deformity, classifies the varieties as follows:

1. Funnel pelvis with normal or only slightly diminished conjugate of strait in which—

A. Distance between the two tuberosities is only relatively short, but distance from tuberosities to sacrum is so small that both together make labor impossible.

B. Distance between the two tuberosities is absolutely so small that the head can not pass.

2. Funnel pelvis with conj. of pelvic strait absolutely too short for head to pass unreduced—

A. Without shortening of transverse diameter of outlet.

B. With contraction of transverse diameter of outlet.

The very great importance of the pelvis strait is here well emphasized. Contraction in the sagittal diameter may be so great that the unreduced head can not possibly pass, even though the tuberosities are far apart—on the contrary, the antero-posterior diameter of strait may be normal, or relatively so, but the contraction of the distance between the tuberosities is so great that this point assumes the position and importance of the pubic arch, the occiput stems against it and the head is forced so far back that labor is impossible.

In the study of 439 labors Klien makes the following deductions, which I quote in brief:

Where the pelvis is otherwise normal and the distance between the tuberosities is less than 9.5 cm., a mature child will give trouble during labor whenever the presentation is pelvic or shoulder.

For unreduced heads in vertex position the boundary line for serious but not insuperable obstruction is found when the distance between tuberosities is 9.8 cm., other pelvic measurements normal.

The conjugate of the pelvic strait is absolutely too small to permit the passage of the mature unreduced child when it is under 9.0 cm.

Hence, in classifying our pelvis according to Klien's system we find that the conjugate of the strait being less than 9.0 (8.7 cm.) and the marked transverse contraction of the outlet being associated therewith, it should be placed in group 2 B., which corresponds to the uniform generally contracted funnel pelvis of Schauta. According to Klien it is impossible for a mature unreduced head to pass this outlet.

ETIOLOGY.

Very little can be said concerning the etiology of this pelvic anomaly. Schauta believes it results from an original abnormal formation (abnormal height of small pelvis), whereby the promontory is placed high and pushed back, and under the influence of the body weight the shape is brought about in a manner similar to the kyphotic pelvis.

The altered direction of the burden explains the further changes in the reciprocal positions of the pelvic bones which unite for a common purpose.

While unable to add to this unsatisfactory explanation, I would like to emphasize the fact that the significant length of the sacrum and the abnormal height of the lateral pelvic walls must, in a normal convergence of the same, produce a definite contraction of the outlet as compared with the pelvis of normal height.

In support of the theory which minimizes the influence of the body weight, Fehling (confirmed by Thompson) shows that transverse expansion of the brim is present even at the third month of intrauterine life, and that the "long oval" form supposed to be normal in the fetus and newborn is a rare and pathologic—hence the name "infantile" as applied to the funnel pelvis is a misnomer. He concludes: (1) that the transverse expansion depends on the original formation and appears early, hence its production by the body weight is superfluous; (2) that sexual differences are generally present from the fourth month intrauterine, and are perfectly distinct at birth. These facts support the theory that the funnel pelvis is a primary developmental anomaly, and also if so much importance could be attributed to the unusual distribution of the body weight, a kyphosis might result therefrom, and the evident relationship between the kyphotic and the funnel pelvis could be explained, certainly in some instances, along the lines suggested by W. A. Freund in his paper on the pelekogenous origin of vertebral deformity.

FREQUENCY.

It is almost impossible to secure a definite idea of the frequency of this deformity. In Breisky's clinic at Prague, where more than usual attention is given to the contraction of the outlet, there were found 122 funnel pelves of all kinds among 2,070 contracted pelves, or

5.9 per cent. of the total collection as quoted by Schauta. Klien quotes Munch 17.8 per cent. of contracted pelves, Frankenhauser 13 per cent.

Both Schauta and Klien agree that these statistics are in no sense reliable, since no routine measurement of pelvic outlet is undertaken, and when performed a great variety of opinion exists as to what constitutes "funnel pelvis," and what degree of contraction shall determine. Prickards quotes 3,000 labors at Würtzburg, with 252 contracted, but no "funnel pelvis" is mentioned. Ludwig Savor among 50,621 labors reports four cases. Williams (Johns Hopkins) 1,000 labors with no funnel pelvis. Dobbin (Johns Hopkins) one of masculine type in 350 pelves. Fleischmann 2,700 labors with 24 cases of funnel pelvis, which subsequent writers agree must be of slight degree. Schroeder says: "This is a very rare form of pelvic deformity, and even more rare is contraction to a serious degree." Ahlfield gives 8 cases of all kinds in 3,000 labors at Marburg. Olshausen in discussion says: "Very rare, one always thinks of kyphosis."

Klien states that pelves which conform to No. 2 B of his classification, namely, with an absolutely contracted sagittal diam. associated with contraction of transverse diam. of outlet, are extremely rare, and he gives only four cases which have been reported up to 1896—one being his own, and the writer has been unable to find another, diagnosed and reported in literature up to the date of the present case, which produced an insuperable obstacle to labor by the natural passage.

CLINICAL COURSE.

It can not be supposed that these deformities occur without producing a pronounced effect on the clinical course of pregnancy and labor. Where the inlet is not markedly contracted the pregnancy will not differ from other cases, and where definite contraction exists the babe will be carried high, but the principal difficulty will occur when labor begins, for contraction of pelvic outlet is more serious than contraction of the same degree at inlet.

In mild degrees of contraction where spontaneous labor is possible the second stage will be prolonged and serious lacerations are probable. Difficulties in rotation will be noticed because the form of the pelvic outlet prevents normal rotation. Pain weakness from the low position of the child in the lower uterine segment with its scanty musculature is also probable, especially in primaparæ. It is in cases of serious contraction of the outlet, however, that most difficulties arise.

As the case is not usually diagnosed until the first labor is well on nearly every variety of obstetric emergency and operation is met. The conditions are worst when the child is mature with an after-coming head.

In Ahlfield's 8 cases are found, 2 forceps operations, 1 perforation, 1 spontaneous premature labor, 2 artificial induction of premature labor, 2 labor stool. Greuser, craniotomy at outlet. Brummerstadt 2 cases, one stillborn, one saved with difficulty and mother died 36 hours later. Landau, 2 cases craniotomy. Jewett 1 case symphysiotomy. Newman 1 case symphysiotomy, mother died, child lived. Winterberg 1 case symphysiotomy, both lived. Klien reports:

CASE 1.—Tub., 7.6 cm.; ant. post., 12 cm.; forceps after long tedious labor. Second stage, nine and one-half hours, laceration cervix, pressure necrosis in vagina; recovery. The head was easily configurable in this case.

CASE 2.—Tub., 8 cm.; ant. post., 12.25 cm.; head four hours visible at outlet; forceps; good result.

CASE 3.—Tub., 7.6 cm.; ant. post., 12 cm.; version and ext.; good results.

These cases, quoted in brief, serve to show the difficulties associated with labor in this variety of contracted pelvis. In all of Klien's cases the contraction was transverse only, antero-posterior diameter normal, which accounts for his results. Where the head is small and easily configurable, and this I regard as most important, the results are moderately satisfactory, especially if the space between the tuberosities and the sacrum is large enough to permit the passage of the head, but a very slight anomaly, such as a small protrusion of the ischiatic spines will disturb the entire mechanism and possibly cause death of mother or child, or both.

Another feature of this pelvis which has an important bearing on the severity of the labor, is the height of the lateral walls and the length and straitness of the sacrum.

Undoubtedly the long converging walls which are characteristic of the true "funnel pelvis" are the frequent cause of errors in rotation and position, which seriously complicate a condition already sufficiently grave.

PROGNOSIS.

Prognosis in general is not favorable in these cases, but the result depends on the degree and variety of contraction, and especially on the operation, which latter in turn depends on an accurate appreciation of the size and shape of the pelvis.

If left to Nature the soft parts experience deep crushing injuries, which in some cases expose the pubic rami besides producing fistulæ from the long compression. The extreme distention of the lower uterine segment may lead to uterine rupture. For the child the danger of asphyxia is greater than in other deformities, owing to the earlier escape from the uterine body. We find also the characteristic pressure marks appear on skull of babe and even fractures occur. The prognosis is most favorable where the fetal head is small and easily configurable and the outlet is contracted in one diameter only.

POSSIBLE OPERATIONS.

The measurements of the child's head in the present case demonstrate conclusively that its passage unreduced through the pelvis was impossible, and even if the head had been easily configurable, instead of hard and well ossified, I believe the birth of a living child could not be expected. These conditions could only result in a long, hard labor, with operative termination and doubtless a dead child.

In view of the strong desire of the parents for a living child the various operative procedures were carefully considered. The induction of premature labor naturally came first in point of time, and with the modern aids to the preservation of the child after birth, presented many hopeful features, but aside from the uncertainty of the date of conception there was continually in mind the imperfections and uncertainties of our means of determining the size of the fetal head, either by instrumental or external palpation and the necessity was urgent to determine not alone the size, but especially the form and consistency of the head, and as this could only be approximate at best, the success of the operation becomes highly problematical, even in cases where the time of conception is approximately known.

Besides this, the fetal mortality for many reasons is large, and shows, according to Krönig, a variation from 55 per cent. in the pelves showing the most contraction to 25 per cent. in pelves with c.v. between 9.5 to 10.5

cm. Consideration must be given also to the fact that premature children show a large mortality during the first year of life (from 19.5 per cent. to 28 per cent., as given by different authors), which directly or indirectly may be attributed to the prematurity, and the maternal mortality in these cases is from 1 to 2.2 per cent.[1]

Hence the chances seemed slight that a living child could be promised by this method, and it was rejected. The choice then rested between symphysiotomy and conservative cesarean section at term. The statistics give approximately the same mortality for each (2 to 10 per cent.), and a fetal mortality ranging from 15 to 25 per cent. in symphysiotomy as compared with 2.5 per cent to 5 per cent. in cesarean section, and in accordance with these conditions the cesarean operation was decided on as giving a maximum chance for a living child and a maximum of safety for the mother.

FUTURE PREGNANCIES.

The termination of this pregnancy has been in every sense satisfactory, but as the patient is only 21 years old and has the greater part of her sexual life before her, we must consider her future pregnancies. The moral question of sterilizing a woman by removal of the tubes or a portion thereof after the cesarean operation is still unsettled, but there seems to be no justification for depriving the woman of her ability to conceive and bear children when the mortality by the various operative procedures is so low. Both the cesarean operation and ventrofixation seem to lessen the chances of subsequent conception. But we can not rely on sterility, and it is probable that pregnancy will again occur. The adhesion of the uterus to the abdominal wall amounts to a ventrofixation and must be considered in reference to subsequent pregnancies. Abel reports several cases of abdominal adhesions after cesarean section where the operation was done two or three times on the same patient.

If the adhesions remain broad and firm (1/3 of the cases) the course of the pregnancy will be materially interfered with and expansion can occur only in breadth —the uterus can not rise toward the sternum—the axis will not correspond with the pelvic axis and malpresentations will occur, and abortion takes place in about 8 per cent. of the cases.

If pregnancy goes to term the risk of sepsis in subsequent operations will be diminished where the adhesions permit opening into the uterus *in situ* without entering the peritoneal cavity (Spencer). Usually these adhesions produce some stretching and tearing pains during subsequent menstruation, but inside of a year, or during the first half of the next pregnancy they disappear or remain only as long loose strings which cause no difficulty.

A review of the patient's first pregnancy and labor, in the light of our present knowledge, shows that the version and extraction was unwise; indeed, when the head is non-configurable version must not be attempted, for Klien's report demonstrates the aftercoming, non-configurable head is impossible of delivery in such a pelvis. Head-first labors give a possibility of delivery when the child is premature and head soft, and under such conditions version is permissible.

Either craniotomy or cesarean section should have been done, with a preference for the first, since she had been repeatedly examined, but there seems to be no valid reason against terminating all subsequent pregnancies in this patient by cesarean section.

1. Heyman: Arch. f. Gyn., Bd. lix, Heft. 2, 1899.

BIBLIOGRAPHY.

Abel: Arch. of Gyn., 1900.
Ahlfeld: Lehrb. d. Geb.
Bauer: Ztsch. f. Geb. u. Gyn., 1898.
Champneys: Tr. Lond. Obs. Soc., vol. xxv.
Dobbin: Am. Jour. Obst., vol. xxxvi.
Dickinson: Am. Jour. Obst., 1901.
Fleischmann: Ztsch. f. Heilk., 1888.
Freund, W. A.: Gynakol. Klinik.
Fehling: Arch. f. Gyn., 1876.
Heyman: Arch. f. Gyn., 1899, Bd. lix, Heft. 2.
Klien: Volkman's Samuel Klin. Vortrag, 1896.
Krönig: Therap. beim. Engen Becken.
Prickards: Inaug. Diss., Mainz. 1897.
Reynolds: Tr. Am. Gyn. Soc., 1890.
Schroeder: Lehrb. d. Geb.
Schauta: Muller Handbuch.
Veit: Ztschr. f. Geb. u. Gyn., Bd. ix, 1883.
Williams: Obstetrics, vol. i.

THEORIES OF THE TRANSMISSION OF HEREDITARY SYPHILIS.*

ALFRED SCHALEK, M.D.

Instructor of Dermatology and Genito-Urinary Diseases, Rush Medical College.

CHICAGO.

The fact of the heredity of syphilis was known to Paracelsus, who, in the year 1560, asserted that this disease was due to some unknown virus circulating in the blood, which also infests the semen and during conception is transmitted with it to the fetus.

Still, at the present time, we are not able to recognize positive laws as to the methods and conditions of the transmission of hereditary syphilis, and must fall back on theories based entirely on empirical conclusions. Until the specific micro-organism of syphilis is demonstrated scientifically and beyond doubt, these theories will never be more than probabilities—the more so as we find ourselves heavily handicapped in the attempt to make use of our clinical material. The protean nature of syphilis, where we might say that exceptions form the rule, the necessity to observe cases over periods of many years and finally our dependence on the history of at least three persons involved—an evidence which is none too free from objections as to its trustworthiness—all these factors make it difficult to arrive at satisfactory results.

We do know that syphilis is transmitted from the parents to the fetus. The questions which arise next are the following: 1. Which of the parents may be responsible for the transmission of the disease? 2. What are the ways and means by which the virus is transmitted? 3. What are the circumstances most favorable for the hereditary propagation of the disease?

The possibilities of a communication of the virus to the fetus are threefold: the generative organisms, the sperm cell or the ovum, or both, may contain the contagious substance a priori; the fetus may become infected through the maternal blood circulation; and finally, all these factors may act in combination. To determine how much is real in these different influences, to which the transmission of syphilis is attributed, we must take the problem to pieces and examine one after the other separately.

INFLUENCE OF THE FATHER.

The point whether syphilis can be conveyed to the child by the father alone, without infection of the mother, is a subject of much controversy. We shall now try to establish such a possibility on the basis of logical conclusions. To prove this supposition we must in the first place be able to exclude any participation of the mother, and for this reason be absolutely certain of her health. The mere absence of specific manifestations

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are not sufficient evidence of this. Cases have been reported by Lewis, Barthelemy and others where women, known to be syphilitic, remained entirely free from syphilis for a time up to fourteen years and yet continually gave birth to diseased children. A more confirmatory proof of absence of syphilis in the mother is likely to be found in such cases, where perfectly healthy children were born, when the syphilitic father underwent treatment, to be followed by diseased children, when treatment was suspended. The objections which have been brought forward against these records were that frequently treatment of the syphilitic father was not successful in procuring a healthy progeny unless the mother herself, who never exhibited any symptoms of the disease, has undergone specific treatment; but this seeming contradiction may be explained by the assumption that the mother was already infected either directly or through the placentar circulation by one of her first offsprings (the so-called *chock en retour*), and then participated in the transmission.

An undeniable evidence of the absence of syphilis in the mother during conception and pregnancy would be the fact that she became infected with syphilis after the birth of her syphilitic child; it is known that people once syphilized become, with very few exceptions, immune against a new infection. But according to the law, which was first observed and recorded by Colles, these cases are extremely rare, and even then not distinguishable from reinfections and therefore impracticable for our argument. Baumes[1] and Colles[2] have first brought out the fact that mothers of syphilitic children are immune against syphilis; innumerable observations have shown that mothers nurse their syphilitic children with impunity, while wet nurses acquire chancres of the nipple, followed by specific manifestations. Caspary[3] went even further and inoculated a woman who had aborted a syphilitic fetus, but had always been free of any syphilitic symptoms, with the secretion of an active syphilitic lesion; the result was absolutely negative—the woman remained healthy. This immunity may be acquired in two ways: the mother may have been infected directly by her husband and the manifestations of syphilis were so mild that they were overlooked entirely, or the virus has been conveyed to her secondarily from the fetus through the placentar circulation. Finger[4] claims that the placenta acts as a perfect filter and wholly prevents the passage of solid particles of matter, but that the products of syphilitic infection are ptomains or toxins, which are soluble and may traverse in the interchange of placentar serum. This process does not necessarily render the mother syphilitic, but confers on her an immunity, an effect which would be the same as that of vaccination for immunization against smallpox.

Still another way to prove the spermatic transmission is by analogous evidence. Pasteur[5] discovered that the germs of the disease of silkworms, called "pebrin," pass into the spermatic cells of the worm, which still retain the power of germination, but simultaneously transmit the infection to the offspring. Similar experiments by Baumgarten have shown that the inoculation of chicken eggs with tubercle bacilli has resulted in the production of chickens with evidences of tuberculosis. All these observations prove that the infectious material may be communicated to the normal ovum by external agencies, including the semen, and result in a diseased product. We are certainly entitled to the belief that the same principle applies to the human organism.

While the majority of syphilographers shares this opinion, others, as Cullerier, Charrier, Parry and Notta, assert that the transmission of syphilis from the father to the child is impossible without participation of the mother. In evidence of this, they published many cases of recently acquired syphilis of the father where neither the wife nor children suffered from the disease. These records are not free of objections from unbiased investigators. Beside, if their view is correct, it would do away with the most probable explanation of immunization of the mother; that is, through the medium of the fetus. We would then have to ascribe the immunity of the mother in every case to a direct infection from her husband, and assume at the same time that this acquired syphilis had always run such an extraordinary mild course as to be overlooked entirely, a theory which does not appear very plausible.

The pathologic changes in the placenta may in time clear up some of the mooted points. Fränkel finds different conditions in the placenta, according to whether the disease has been conveyed by the father alone, the mother being healthy, or when the mother also is syphilitic. In the first case the placenta is affected along with the fetus, displaying a cellular granulation growth, complicated with obliteration of the blood vessels of the villi and marked thickening of the epithelium; in the second case not only the maternal and fetal parts of the placenta are involved, but the endometrium may also show a gummatous condition.

INFLUENCE OF THE MOTHER.

There is no doubt whatever that syphilis is transmitted from the mother to the child, while the father is and remains healthy. A woman suffering from syphilis may affect the fetus in two different ways, either directly through the vitiated ovum or by furnishing it during gestation with elements of nutrition imbued with the specific diathesis. Both these influences, or either one alone, may act if she had syphilis at the moment of conception. That the ovum alone may be responsible for the transmission is probable from the analogical action of the paternal procreative cell since we are justified to assume the same faculties for the female generative organism. If the mother contracted syphilis subsequently to fecundation, the transmission of the disease to the fetus could have been caused only through the placentar circulation. In all these cases the health of the father must be assured as proven by a later infection. An infection of the child during the passage through the birthways, which belongs in the class of acquired syphilis, can easily be excluded if pathologic lesions characteristic of hereditary syphilis are found.

The final conclusions as to the influence of either of the parents on the child could then be formulated from the above arguments as follows: 1. The father's sperm cell may contain the syphilitic virus and convey it to the child without participation of the mother. 2. The maternal generative cell may contain the virus and result directly in a diseased fetus. 3. The placentar circulation permits the passage of the infectious matter either way from mother to child, and vice versa. 4. Several or all of these factors may combine, and the more of them that are present the less probable the escape of the child. 5. The probabilities of the transmission of syphilis through the mother are greater because of more ways of possible influence on the fetus.

The next question to be considered is, what are the pre-existing circumstances and conditions most favorable for the transmission of hereditary syphilis? From

our clinical experience we may positively assert that the probability of the appearance of hereditary syphilis is reversely proportionate, 1, to the time of infection of the parents, and 2, to the length and thoroughness of specific treatment. The nearer to the time of fecundation the infection of either parent took place the more certain is the disease to become evident in the child and the more malignant will be the type of its manifestations. Some writers claim that this applies mainly to the man in whom the syphilis, after a period of years, enters a state of latency and loses its contagiousness. It is no rare occurrence, however, they say, for a woman to give birth to a syphilitic child ten years and later after her infection; they explain this by reasoning that an ovum infected with the syphilitic germ may be retained in the ovaries for a long time before it is expelled and fertilized, while the spermatic cells are eliminated constantly, and with them the specific virus as long as it is present. The other influential factor is the effect of treatment. A judicious, methodical and sufficiently long-continued treatment of the syphilitic parent will, in many cases, result in a favorable fate for the offspring.

Another interesting question is: At what period of pregnancy may a woman become syphilitic without communicating the disease to the child? Ricord's belief that infection of the mother within the last three months of pregnancy does not affect the child, was generally accepted until cases were reported where syphilis, acquired by the mother as late as the eighth month of pregnancy, was transmitted to the child.

Can hereditary syphilis be transmitted to the second generation? To prove this we must have positive evidence, 1, of acquired syphilis of either, or of both, of the grandparents; 2, of hereditary syphilis in either of the parents with the absolute proof that no new syphilitic infection of the parents took place, and 3, of hereditary syphilis in the grandchildren. The difficulties attached to the task of acquiring a trustworthy history of a disease running through three generations, make the reliability of the reported cases very uncertain and do not, therefore, permit any correct deductions.

In conclusion I would like to add a few practical points which, in connection with this subject, may be of interest.

While the energetical treatment of syphilis will help a great deal to reduce the probability of its hereditary transmission, still the more important task of the physician is to prevent marriage at a time where the disease is still active and prone to be propagated. According to Kassowitz,[6] about 30 per cent. of syphilitic children die *in utero,* another 30 per cent. die within the first six months after birth, while the balance is still more reduced by diseases developed on a tainted system. As long as there is no absolute proof of a positive cure of syphilis, a thorough, systematic treatment of at least two years' duration and an absence of specific manifestations during three consecutive years should be made the condition *sine qua non* for the consummation of marriage.

34 E. Washington Street.

BIBLIOGRAPHY.

1. Baumès: Précis theorique et pratique de mal. ven., vol. I, 1840, p. 180.
2. Colles: Pract. Observ. on the Vener. Dís., London, 1837, p. 285.
3. Caspary: Vierteljahr. für Derm. und Syph., 1875, p. 473.
4. Finger: Archiv für Derm. und Syph., 1890.
5. Pasteur: Monatshefte für pract. Derm., vol xx, 1895.
6. Kassowitz: Die Vererbung der Syphilis, Vienna, 1876.

Rashes appear in various diseases as follows: Typhoid, seventh to ninth day; typhus, fourth or fifth; smallpox and measles, third or fourth; scarlatina, first or second.—"Med. Summary."

THE TREATMENT OF LEPROSY.*

A. H. OHMANN-DUMESNIL, M.D.

ST. LOUIS.

Leprosy, that awe-inspiring scourge of the human race, stands to-day an unsolved problem awaiting a proper solution. It is the great riddle of the Sphinx which some unknown Œdipus may perhaps solve. From time immemorial it has engaged the attention of the most learned sages, philosophers and men of science, and it stands to-day as mysterious and as awful as it did at the beginning. It is the black and lowering cloud over humanity which even we, with our boasted scientific attainments, have not yet been able to dispel, and all our puny efforts have resulted in the same failures that the misdirected labors of our forebears did. It is the one problem before which every one must bow and acknowledge *non possum.* It is the most stubborn, as well as the most difficult with which to grapple, of the great triad, the two other members of which are tuberculosis and syphilis.

The great similarity to one another which these processes present has led to the idea wrongfully entertained by some that one was merely a different stage of the other; as, for instance, that leprosy is the quarternary stage of syphilis, when we know it to be a fact that the two diseases have no such close relationship; and so for tuberculosis. What we do know is, that all three are essentially chronic in character and insidious in their beginning. They are also essentially destructive in character and they all attack every tissue of the human organism. We further know that leprosy and tuberculosis present specific bacteria of the bacillus form, and the best investigators are of the opinion that syphilis also is characterized by a specific bacterium. It is also held to be most probable that the bacteria are not the direct causes of the diseases, but rather their toxins, a most reasonable view in consideration of the fact that serum therapy, based on this manner of considering the subject, has proven so successful.

There is another point of more than ordinary interest in this whole question, in view of the fact that it is the one of highest interest to the victim of any one of these diseases, which is, what is the proper treatment and is there a cure? In the case of syphilis we are positively assured by some that there is an absolute cure, whereas others deny it. A third class tells us that the disease cures itself spontaneously. It is certainly a difficult matter to decide such a question, especially when our methods for a final determination are so defective. So far as tuberculosis is concerned, we have given to us positive assurances that it can not only be cured, but that it has been in numerous instances. And yet, even here, some doubting investigators have more or less maliciously demonstrated some remains of undoubted tuberculous nature in certain of the reputed cured cases.

Quite different is it in the case of leprosy. A cure has not yet been claimed by a leprologist who knows the disease thoroughly. Marked improvements under certain forms of treatment have been noted, and no one has denied these; but a cure has only been suggested as possible under the treatment which has been employed. But of this I will speak later on in the course of this paper. What I purpose noting is the treatment of the disease, and this will, very naturally, give rise to a few remarks on subjects connected with it. I do not purpose

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speaking of the cure of leprosy, for this has not yet been discovered. The methods of study have been improved and we are daily making some steps which bring us nearer to the wished-for solution of this great problem. We can not say that it is impossible; we can only acknowledge that our methods are impotent.

The problem which confronts us is to devise, discover or formulate a successful method for the cure of leprosy. For its complete eradication perfect isolation is sufficient; for its cure we must have something equally as certain.

It is not proposed here to speak of all the methods of treatment of leprosy, for their name is legion, and the majority of them have fallen into ignominious desuetude. They have been tried and found wanting and have fallen into a merited oblivion. Many of these methods were based on superstition, the craft of magic, white or black, religious recitations, incantations, amulets, prayers, ex-votos, and the entire arsenal of the belief in the miraculous and outlandish. These are still practiced in districts remote from all the semblance of even the beginnings of civilization. And we have no doubt that certain creeds have followers to-day who believe or pretend to believe that they cure even leprosy by their prayers, which are really blasphemies in the eyes of those whose faith is pure and true. With all these we have nothing to do. What will be considered are medical measures and the success which has so far attended their exhibition; and of these but a few will be chosen and such as have proven of some value.

It may not be inopportune, before entering into a consideration of the different methods of treatment, to pass in short review some of the views which have been held in regard to the manner in which the disease is acquired. There are those who have invoked telluric influences, especially dampness, and yet the disease is seen to occur in places of such varying meteorologic conditions that this can not be considered as entering into the question any more than a hot or a cold climate. For leprosy is observed to occur in the torrid heat of India and in the glacial zone of Norway as an endemic disease. The theory that it occurs principally in those who live on the sea coast and, incidentally, chiefly in fish eaters, as has been advanced by Mr. Hutchinson, is not supported by facts, as is aptly proven by its occurrence in those who have never been near the sea and those who have never eaten fish, either from fresh or from salt waters. Then we have a cause which has been invoked, which has met much opposition and which has caused, as it is yet causing, much acrimonious discussion. Of course, you will immediately recognize this cause as contagion. The contagionists advance some very good arguments in support of their views, and the non-contagionists are not slow to adduce facts to prove their position. The most active among the latter is, beyond all doubt, Zambaco, who has made it the object of his life to endeavor to prove the non-contagiousness of leprosy. He makes a very strong plea for this view in his "Voyages parmi les lépreux," a small book full of very interesting matter, rendered doubly so from the fact that it is from the pen of a capable leprologist. That this question of contagion is anything but easy of solution is evidenced by the fact that the lepra conference held in Berlin did not pronounce itself definitely on the subject. Under these circumstances it has been considered the safest course to follow by both sides party to this discussion to agree on isolation as the best measure to pursue until something more definite is known concerning the nature of leprosy.

Another theory to account for the increase in leprosy, and it is one which has a number of adherents, is the one which makes the disease a hereditary one. This manner of thinking is one of the offshoots of the non-contagionists. They contend that, while lepers are, as a rule, sterile, they propagate to a sufficient extent to furnish a continually increasing number of lepers, and where the sexes are not separated the intermarriage or concubinage of lepers with non-leprous individuals inevitably results in the production of offspring which are lepers. And, as a further proof of heredity, is adduced the fact that the disease will skip a generation to appear in the succeeding one. It is this question of heredity which has led so many eminent leprologists to advocate a strict system of segregation, which, if carried out properly, is certainly destined to ultimately cause the disappearance of leprosy were it not for one factor which should be taken into consideration. This important factor is inoculation. No one denies the inoculability of leprosy, but all are not yet agreed on the method in which it occurs. The introduction of the bacillus of Hansen directly into the human tissues or through an intermediate host function has been proven to be possible. These bacteria have been found in the soil on which homes of lepers were built, and subsequently destroyed by fire for the purpose of destroying all possible causes of future infection. Mr. Impey of South Africa has successfully inoculated leprosy in some natives so that we may look on the inoculability of leprosy as a proven fact.

Now come certain students of leprosy who contend that the disease can not be inoculated except under certain conditions. They further contend that these conditions must be present, and, as a matter of fact, are usually present; all of which is yet a matter of *sub judice*. Many of these also sustain the thesis that there exists no such thing as cases of leprosy acquired through contagion, and that all are inoculated. Some very harassing discussions owe their origin to the proper interpretation of the terms contagion and inoculation, but this is neither the time nor the place to indulge in hair-splitting distinctions. That which concerns us more is a consideration of the conditions which are regarded as necessary to the acquiring of leprosy. In the first place, and regarded as the most important, is the existence of a predilection to the disease. This is considered a racial condition and accounts for the rapid dissemination and increase of leprosy among certain peoples or races. Of course, this is merely a theory which, unfortunately for its upholders, is not supported by facts. A short inquiry into its weak points may not be uninteresting. In this theory of predilection it has been found necessary to call in certain racial characteristics. Thus the Chinese, Japanese, Hindus and Sandwich Islanders were considered sufficient at first. Then it became necessary to add Norwegians and the Indians of the different North American countries, which very naturally led to the inclusion of the natives of the West Indies. This gradual accretion has finally resulted in the inclusion of all countries with the exception of nearly all the European states and of the United States. And yet we find that the natives of some of these become lepers, albeit purely Caucasian. The argument that these have traveled in countries where leprosy is endemic and lepers are common and thus acquired the disease by contagion will not hold. For cases are noted and I have seen some in which the disease was sporadic; in which the affected individuals not only never traveled where leprosy was ever observed, but had never seen or had any dealings

with any one who might have a predilection for leprosy. It is true that such cases are few in number, but there are enough of them on record to prove a stumbling block in the road of those who spin fine theories out of very weak material. But it would certainly prove a wearisome task to take into consideration all the theories which have been advanced and examine into the validity of the arguments which are made to hold the various views which are announced. Enough has been said to give an idea of one of the many problems set before leprologists and of the difficulties which surrounds the task of arriving at a solution of any one of them. With these few preliminary remarks to introduce the subject I will now enter into a consideration, necessarily short, of the question of the treatment of leprosy; and, in this, I do not propose to give a complete and detailed account of all those which have been proposed and tried, but rather pass in review a few which have offered the most encouragement and seemed to be the most rational in their application as well as the best in the results obtained by means of them.

In speaking of the treatment of leprosy the first agent to which we naturally feel our attention called is chaulmoogra oil. It is perhaps the oldest one which has been employed in the treatment of leprosy, and even to-day it enjoys a reputation far superior to all others on account of the very good effects which have followed its use. Originally used in India, if we are to believe those who have written of it, it is still regarded there as the only medicinal agent of any worth in this disease. And it is not only in India, but in other countries as well that it enjoys this exalted reputation. Those who have had an opportunity of observing its action and its effects in a cold, deliberative manner, are also ready to accord to it the praise which it certainly deserves. But to attribute to it the power of curing which has been claimed for it none who has observed it is willing to concede. It is universally admitted as a fact that it will bring about improvement in a case of leprosy, but that it will cure is conceded by none. And it is right here that the function of the leprologist is called into active requisition. In a case of reputed cure he should examine it with all due regard and not jump at conclusions because external appearances of a general character are such as to lead to a mistaken idea that no leprosy exists. Every small symptom and sign must be carefully noted and the complete absence of all must be looked on as deceptive, for it must never be forgotten that while chaulmoogra oil improves much, it has never yet cured leprosy. And right here let me warn you in regard to the administration of this remedy. It is fairly well borne when given by the stomach, but the time inevitably arrives when the nausea and other untoward symptoms which this method produces force it to be administered hypodermically. This should be done at the very beginning, and the oil should be applied externally. In this manner much better results may be obtained, although the hope of a final cure by this means may be considered *nil*. We are well acquainted with the claims which have been made for this agent, but none has ever been substantiated in a manner that would prove satisfactory to one who has made this disease a study. In fact, the result has usually been the reverse. Not very long since a Chinese leper, who was quarantined on the grounds of the St. Louis Smallpox Hospital, was declared cured by the medical superintendent. Among those called to examine into the alleged cure was the reader, who unhesitatingly declared that the Chinaman was not cured of his leprosy, and he was ordered back to his isolation. He still presented some indubitable marks of the disease, and, in point of fact, was not cured. This opinion was shared in by the others who examined him.

It has ever been thus with cases declared cured by oil of chaulmoogra, and doubtless will be. One point to which attention should be called in connection with this agent is that in reputed cured cases there is always present the liability of a relapse into a form which will be more severe than the original one for which it was administered. This is an evil of more than ordinary importance, and it is on this account that those acquainted with the fact have hesitated about using this medication. Promises can not be safely made beyond a certain point, and a severe relapse is certainly very difficult to explain. The enthusiasm of one who has seen but a portion of the results is not sufficient to guarantee the hope of a final cure, and the experience of him who has not devoted years to the study of the subject and who has not had the opportunities of following any form of treatment can not be taken either as a positive proof or as a reasonable encouragement to adopt a method which has proven itself fallacious on so many occasions. Do not depend on oil of chaulmoogra even for a temporary improvement; it is better to resort to other methods.

You will no doubt find many advocates of this oil, and if you do, inquire into their experience and ask them for how many years did reputed cured cases remain cured. Everything in this matter must be carried on in a judicial manner, and the *ipse dixit* of no one can be accepted. Let not the wish be father of the thought, but consider only those things which are proven. We can not afford to jump at conclusions to-day; we can not even afford to accept what are but factitious proofs. The absence, supposed or absolute, of Hansen's bacillus is not always a positive proof of the absence of leprosy. Besides, in such a case, what proof is afforded that this self-same bacillus is not lurking in some tissue beyond the reach of the investigator? Who is it that will be enabled to examine every organ and every tissue of a living subject and who will take the pains to do so with a dead one? As you can plainly see, the honest investigator is seriously handicapped in an honest endeavor to determine whether a case of leprosy has been or has not been cured, no matter what treatment has been used. But, to briefly summarize the expressed opinions on the use of chaulmoogra oil in the treatment of leprosy, it may be stated that all investigators as well as leprologists are of the opinion that it has a rapid effect in the way of improving any case. Also, that it is best administered hypodermically; and, furthermore, that its discontinuance is attended by relapses of a more or less severe character. Furthermore, all are agreed that it can not be continued very long by the mouth: These are certainly not very encouraging conclusions, and would lead very few to the adoption of this agent in a country where the propriety of complete segregation is under consideration. In fact, it would lead to the use of other means which would encourage the hope of ultimately successfully obtaining a cure. This is the objective point of all leprologists, and will explain why all frown down any method which can not afford anything better than relief.

This treatment by means of chaulmoogra is purely empirical, and not based on any rational cause therefor; it was simply found to be good to produce an improvement in the symptoms of leprosy, and this led to its adoption in the treatment of the disease. And, up to the present, but little improvement has been made in its ad-

ministration beyond that of employing the hypodermic method in lieu of that by the mouth. Naturally the former method has resulted in the advantage of its being possible to continue the remedy for a longer period of time without any untoward symptoms; but no better final effects have been observed. This is certainly demonstrative of the fact that the method does not repose on a rational therapeutic base, but is rather in the nature of a haphazard measure, in which a partial effect only is taken, and very illogically, as an indication of what the permanent result should be.

Another method to which I desire to allude is that which was inaugurated by P. G. Unna of Hamburg, and which was based on his pathologic findings. As is well known to all who are present, he claimed that lepra bacilla are aerobic and need oxygen in order to continue to exist. It matters but little whether these bacteria be distributed along the walls of blood vessels and lymphatic channels or whether they be located in the substance of cells. The theory which he promulgated was, in substance, to use such agents as are greedy for oxygen and by their aid deprive the bacteria of that on which they depend for existence. These agents he found in that class he has so well described—the reducing agents. He expected great things from ichthyol, and his results have been what I have found them to be: improving but not curing. I will not burden you with the details of his method and its modification. It is sufficient to state that it has never produced more than an improvement. It has never cured. That in which we are more particularly interested is the question of a treatment which will cure. The therapeutics of lepra is improving daily, and we can not rest satisfied with the dictum that it can not be cured, any more than we can be with the unproven assertions that certain methods which are prematurely lauded have effected such a result. It is, indeed, a burning question in view of the fact that so many cases of this disease exist and that it is apparently increasing the number of its victims. The only manner of successfully combating it is to cure, not to attempt to repress it. Attempts at repression are but too frequently futile and amount to nothing more than a *pis aller*. Segregation and complete isolation will dispose of the cases found and recognized, but can hardly prevent the development of new ones, which experience will lead to conceal themselves and thus encourage the formation of new foci from which lepra will be disseminated until it again assumes large proportions.

It may perhaps be best to merely mention some alleged cures for lepra which, unfortunately, have not yet been proven to be such. One which has been announced with a great flourish of trumpets by its originator is the treatment by means of the Carrasquilla serum. As has occurred in the introduction of all new methods in so-called incurable diseases, wonderful improvements were observed, and even apparent cures. As in all these cases the inventors were filled with the enthusiasm produced by the delight of having at least discovered a possible cure; and, as has been the fate of all, the ultimate results have been failures. Critical experiments made by competent observers have resulted in unfavorable verdicts, and the alleged wonderful cure has hardly lived long enough to be even a nine days' wonder. It has ever been thus with all these alleged cures for lepra. So many have the disappointments been that many who began with high hopes have become disheartened and merely plod along the beaten tracks of the past, which, at all events, offer some little modicum of satisfaction.

The latest treatment which it has been attempted to make a vogue is that by serpent's poison or the so-called antivenene method. Accidentally discovered and repeated later on with design, it was hailed with delight on account of the great improvement which was observed to follow its use. Great expectations followed the results which were obtained, but, like all its predecessors, it fell by the wayside and it failed to accomplish the much desired effect, that of producing a cure. Theories and hypotheses, numerous enough and sufficiently varied, were advanced to prove theoretically that it was the Hermetic stone of leprology. And it, too, failed. It were a loss of time and a trespass on your patience to recount all the will-o'-the-wisps of leprology. It would be sad to give naught but a catalogue of failures, and yet these are the monuments which line the highway along which leprologists have been traveling for many, many years. The fairy edifice of cure is as far away as ever and seems as difficult to reach as the foot of a rainbow.

The solution of the problem of the true treatment of leprosy is the one which now confronts us. It is one surrounded by difficulties as well as one fraught with the highest importance. It is the true solution of the whole lepra question which, unfortunately, has aroused but comparatively little attention from the governments of the civilized world. The number of those afflicted with lepra, the cost of maintaining those who are unable to earn a living and similar economic considerations are the only questions which have aroused any interest. Not enough attention has been given to the treatment of this scourge of humanity, and yet this is the paramount issue at the present time. This treatment must, of a necessity, be curative. After all has been said there can be no doubt whatever that the cure of lepra is the paramount issue. Leprologists, who are such in the true sense of the term, do not concern themselves much about the palliative treatment of the disease. This is certainly sufficiently well known not to require any further investigations. The methods now known and tried are sufficient for this purpose. A cure for leprosy has not yet been discovered, nor is it my purpose to announce one. The conditions which are offered in the problem are such that certain lines of investigation and experiment must necessarily be followed. The method in general which holds out the best promises of success is, beyond doubt, that based on serotherapy. This is, comparatively, still in its infancy, and yet it holds out many hopes for an extended usefulness. Roux and Behring have demonstrated the possibilities in the method by the results which have been obtained by the use of antitoxin. Among the conditions necessary to the production of a serum possessing specific properties is the production of a pure culture of the specific bacterium. In the next place, an animal who is immune to the particular disease for which a serum is to be obtained must be found. In the next place, this animal must be of a hardy nature and of a sound constitution when inoculated. Finally, the inoculations must be limited in number, as the serum becomes deteriorated in quality if the animal be inoculated and bled too many times or at intervals which are not sufficiently far apart.

A question of some importance which naturally suggests itself is, what animal would be the best to furnish the serum? In this question are involved many conditions; but, so far as present knowledge on the matter extends, there is little doubt that the male goat and the mule are the animals best adapted to the purpose, both on account of immunity and because their physique is refractory to nearly all the diseases of the capric and

equine families. Of course, we have not yet arrived at that point when anything of a definite nature can be positively stated. A most vital corollary to the whole question is the one involved in the question as to whether, conceding a case has been effected, the cured individual is subject to or capable of being inoculated a second time by leprosy. In other words, does he then become immune to the disease and, if so, is the immunity a permanent one? Of course, this opens up anew the great question of immunity which will not be touched here.

The writer is fully aware that the entire subject of the treatment of leprosy has but been barely outlined in this paper, but it has been offered in the hope that some one will take it up and elaborate it completely and that it may call some little attention to the questions of a cure for leprosy. Now that the American possessions include a number of islands in which leprosy is endemic and cases exist in large numbers, it is certainly the duty of the American medical profession to devote more attention to this disease and to search for a cure with more diligence than it has done heretofore. Those physicians who are located in these possessions have ample opportunities to pursue their studies and make experiments such as are certainly not offered in this country. We perhaps do not hope in vain when we express the one that the opportunities offered will, in time, produce fruit of the highest value to all humanity.

DISCUSSION WILL APPEAR LATER.

ANATOMIC AND PHYSIOLOGIC CORRESPONDENCES OF CHILD AND ADULT.*

W. T. ECKLEY, M.D.
CHICAGO.

I have made an endeavor in this paper to indicate a few salient points of correspondence between child and adult along anatomic and physiologic lines. The task is difficult because: (1) The similarity is so great between child and adult that it is practically impossible to draw a definite dividing-line between the two. (2) There are certain generally accepted adult qualities, such as judgment, discretion, physical and mental precosity inherent in some individuals universally recognized as children. (3) Some persons, adults to all external appearances and known as such among their fellows, have the mental and physical traits of childhood and youth.

This paper will deal in a brief way with: 1. Correspondences in temperature. 2. Correspondences in respiration. 3. Correspondences in circulation. 4. Correspondences in articulations. 5. Correspondences in accessory sinuses of the nose. 6. Correspondences in fetal vestiges. 7. Correspondences in emissary veins. 8. Correspondences in cerebral sensorial areas. 9. Correspondences in cerebral association centers (Flechsig).

I am indebted to J. S. Brown, M.D., of Chicago, for the following brief comparison of the infant and adult as regards temperature, respiration circulation and joint structures with clinical observations.

While in many minor points the infant and adult are nearly identical in their anatomy and physiology, it is essential to note certain differences: (*a*) For the benefit that may result to the infant from non-interference; (*b*) for the peace of mind which the attending physician may thereby secure.

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TEMPERATURE.

The temperature in early infancy does not exhibit that stability seen in later life. Immediately after birth it is about the same as or perhaps a little higher than that of the mother. Under the influence of a bath and radiation from the skin it falls in the first few hours after birth from 1 to 3 F. Very soon it rises to 98.5 or 99 F., which figures practically persist during the succeeding months or even years. However, we must note that the infant will for a given cause show much greater variation in temperature than the adult, a circumstance readily accounted for when we consider the relatively greater radiating surface, the dilatability of the superficial capillaries, the thinness of their investments and the undeveloped state of the heat-regulating centers in children. It is a continuous high temperature, rather than a single abrupt elevation which lends significance to diseases of infancy.

RESPIRATION.

According to Uffelmann the rapidity of respiration during sleep is as follows:

At birth	35 per minute.
End of first year	27 per minute.
At two years	25 per minute.
At six years	22 per minute.
At twelve years	20 per minute.

To this I would append Kirk's statement:

The number of respirations in a healthy adult person usually ranges from 14 to 18 per minute.

Holt, commenting on Uffelmann's statement, says:

During waking hours this rate may be very materially increased, and from comparatively slight disturbance may be nearly twice as rapid. The type of respiration in infants is diaphragmatic, and it continues to be chiefly so until after the seventh year, when the costal element becomes more and more prominent. The rhythm of respiration is easily disturbed. In very young infants the regular rhythm is seen only in sleep. Regular rhythmical respiration is not fully established before the end of the second year. At times the infant's respiration may be carried on for a few moments almost entirely by one lung, and, indeed, it may also, in a brief time, change from superficial to deep breathing.

Cotton says:

It has been demonstrated that young infants inhale more oxygen and exhale more carbon dioxid relatively than adults. The ratio of respiration to pulse in very young infants is so inconstant that it is of little value.

CIRCULATION.

Kirk's table on the force and frequency of the heart's action gives the following averages:

Before birth	150 per minute.
Just after birth	140 to 130 per minute.
During first year	130 to 115 per minute.
During second year	115 to 100 per minute.
During third year	100 to 90 per minute.
About seventh year	90 to 85 per minute.
About fourteenth year	85 to 80 per minute.
In adult age	80 to 70 per minute.
In old age	70 to 60 per minute.
In decrepitude	75 to 65 per minute.

Some persons preserve their youthful rate of heart action throughout life, but on the authority of Babcock not without pathologic causes, which, indeed, may be difficult or even impossible to discover.

On the authority of Cabot the following is the cellular constituency of the blood: At birth both the red and white corpuscles are considerably in excess of those in adult life. During the first day the red and white corpuscles increase markedly in number. At the end of the seventh day both the red and white corpuscles have been reduced; the red corpuscles are something near the adult figures, and the white to about 15,000 per mm.

JOINT STRUCTURES.

In the articulation of the bones of the cranial vault sutures are absent, and in their place are fibrous septa continuous internally with the dura mater and externally with the pericranium. At the angles of the parietal bones are six fontanelles which gradually become filled by bone. Ankylosis of the sacral and coccygeal elements of the spine may be mentioned, this process in part being continued well on into adult lift. The diaphyseo-epiphyseal line of junction is of great practical interest, since growth in length in long bones takes place here. Separation of epiphysis from diaphysis, a condition difficult to diagnose from other traumatisms, may occur at this line. And, again, much of the pathology of bone tuberculosis is near this line of union. For evident reasons operations in children near the epiphyseal line should be avoided as much as possible.

ACCESSORY SINUSES OF THE NOSE.

The pneumatic bones of man are confined to the head. They contain, after childhood years, air cavities, variously called cells, sinuses and antra. The naming is founded rather on differences in size than on structural peculiarities, for they are similar in location, development, nutrition, function and liability to local and constitutional disorders. They are accessible from without, and on this fact depends doubtless the frequency of invasion by disease as well as the fine technic of their medical and surgical treatment.

The accessory sinuses are evaginations of the nose, hence their lining epithelial cells are of ectodermic origin. They partake of the nature of the nose because evaginated structures in general partake of the nature of the primitive cavity from which the evagination occurs.

The accessory sinuses occur in the frontal, ethmoidal, sphenoidal and maxillary bones. They are variable in size in different races, in people of the same race, and even in the same person; those of the two sides may differ in magnitude. In short, the sinuses admit of general, not of specific, limitations. Their openings into the nose are relatively larger in the young than in adults, and like other evagination routes, may occur doubly.

The sinuses are tardy in appearing and with no demonstrable reason develop *pari passu* with the generative organs. The completion of the sinuses is heralded by adult qualities of voice. At birth the frontal sinus is absent, the maxillary sinus is a shallow groove on the outer wall of the nose, the ethmoidal cells are shallow depressions and the sphenoidal bone has no traces of air cells.

The pterygoid plexus of veins is situated in the region of the pterygoid muscles and is composed of veins corresponding in name and number to the branches of the internal maxillary artery. This plexus is proportionately larger in children than in adults, and communicates with the cavernous sinus through the vein of Vesalius.

The empiric practice of counter irritation behind the ear, as well as in other regions of the scalp, finds anatomic justification in the emissary system.

In view of the large number and the large size of the emissary veins in children, diligence should be exercised on the part of both nurse and physician in preserving immaculate toilet of the scalp, since septic thrombi gain access to the dural sinuses, as previously pointed out.

Adults are more liable than children to infection of the dural sinus system by septic thrombi from the deep parts of the face. Children, on the other hand, are more liable than adults to epistaxis of cerebral origin, a fact attributable to greater frailty of emissary veins and greater constancy of a vein in the foramen cecum.

FETAL VESTIGES.

A number of structures in the embryo survive as vestiges in both child and adult. When their obliteration is complete, as often occurs, the very obliterating process itself is not infrequently a menace to the child's welfare. When the obliterating process is incomplete the survival of the structure may assume medical or surgical importance.

For our purpose let us define an anatomic vestige as a structure which, by virtue of loss of function, has become dispossessed of its specific characters as an anatomic entity. When a structure does not lose its specific qualities then, as a survival, it may acquire pathologic importance. The greater number of fetal vestiges belong to the digestive, circulatory and generative systems.

The embryonal yolk sac is attached to the ventral surface of the alimentary canal by a constricted neck—the vitelline duct. The somatopleure closes in around this duct, leaving the umbilical opening. The vitelline duct usually disappears. In some cases, however, it persists, being attached to the ileum from one to three feet distant from the ileo-cecal junction. When its existence coincides with an unclosed umbilical opening, a fecal fistula results. The persistent duct is called Meckel's diverticulum, and is usually from one to seven inches in length.

Meckel's diverticulum, in adults and children alike, may appear as a very small thread-like structure and still remain pervious. In abdominal operations necessitating invasion of this diminutive variety of Meckel's diverticulum, ligation should always precede its division, in order to avoid the possible escape into the peritoneal cavity of gas or other noxious intestinal contents.

The allantois supplants the yolk sac as an organ of respiration and nutrition. Its stalk passes through the umbilical opening. With the appearance of the placenta the allantois loses its primitive function, certain parts becoming vestigial while other portions assume entirely new functions.

The allantoic vessels become the umbilical vessels and are concerned in the placental aëration of the blood, forming integral parts of the umbilical cord. The intra-embryonal part of the allantois forms the urachus, urinary bladder, urethra of the female, cloaca in part, and the prostatic urethra of the male.

The urachus is usually impervious, still obliteration may fail to occur; when its obliteration occurs coincidentally with an unclosed umbilical opening a urinary fistula results.

The vessels of the placenta—the hypogastric arteries and the umbilical vein—pass through the umbilical opening and obtain in child and adult as subsequent lifelong disturbing factors. The urachus and remnants of the hypogastric arteries assist in delimiting the inguinal fossæ, hence they are causative factors in the determination of inguinal hernia.

The umbilical opening left by the closing in of the somatopleure transmits: 1. The vitelline duct, whose persistent Meckel's diverticulum may result in a fecal fistula. 2. The stalk of the allantois, whose persistent urachus may form a urinary fistula. 3. The hypogastric arteries, whose fibrous remnants are causative factors in inguinal hernia. 4. The umbilical vein, whose cord-like remnant forms the round ligament of the liver. Umbilical hernia may occur in child and adult.

The foramen ovale—the causative factor in "blue baby"—is an unclosed part of the inter-auricular septum. It persists until birth or shortly thereafter. Its ultimate closure may be a matter of weeks or months, or it may persist throughout life. In 200 bodies I found 20 instances in which it was possible to pass a broom straw through the unclosed foramen ovale, but in only three of this number was the opening large enough to be of antemortem importance.

The thyroid body is formed by a median and two lateral diverticula. The lateral diverticula arise from the sides of the fourth inner branchial cleft; the median diverticulum arises from the ventral wall of the pharynx, and extends downward in relation with the ventral surface of the trachea, forming the isthmus of the thyroid body. The proximal part of the course of this diverticulum lies in the conjunctional area of the tuberculum impar and the two symmetrical segments of the tongue. The foramen cecum on the dorsum of the tongue represents the persistent part of the median diverticulum. That portion of the diverticulum intervening between the foramen cecum and the isthmus of the thyroid is called the thyroglossal duct, and may persist as accessory thyroid glands and lingual duct.

EMISSARY VEINS.

The emissary veins are more constant in childhood than in adult life. They communicate intracranially with the dural sinuses, extracranially with deep and superficial veins of the face, scalp and neck. They have no valves, hence the direction of the current of blood in them at any given time depends on the relative character of intracranial and extracranial pressure.

The emissary veins pass through foramina in the bones of the cranium. In childhood, these foramina are constant; in adult life, however, some tend to disappear, and their veins become obliterated.

The emissary veins in erysipelas and suppurative diseases of the antrum of Highmore may transmit septic thrombi to the sinuses of the dura mater, in childhood as well as in adults. Epistaxis of cerebral origin frequently occurs in childhood and is due to rupture of an emissary vein passing from the superior longitudinal sinus of the dura mater through the foramen cecum to terminate in the venous capillaries of the mucous membrane of the nose.

The mastoid emissary vein is proportionately larger in the child than in the adult and its severance may cause troublesome and even dangerous hemorrhage in surgical operations in this locality.

The angular vein of the face communicates at the inner part of the orbit with the ophthalmic vein, and this latter opens into the cavernous sinus. This is a favorite route pursued by septic thrombi to the cavernous sinus in erysipelas about the root of the nose. The anatomic fact just mentioned regarding the angular vein accounts for the large size of this latter in intense cerebral congestion.

At birth the brain is relatively of large size. Its general form closely approximates that of the adult. The dura is tough, and its sinuses are in free communication with veins of the face, neck and scalp by means of rather numerous emissary veins. The pia mater is very delicate, a physical condition favoring traumatic cerebral hemorrhage at birth. The frontal lobe and the cerebellum are small. The sensorial areas are large, while the association centers of Fleschig are probably potential only.

SENSORIAL AREAS.

The sensorial areas are four in number. Each corresponds to a definite peripheral region of greater or less extent, and thus there is, as it were, a constant picture on the highly sensitized plate of the collective sensorial areas, projected by the terminal end organs of vision, hearing, smell and common sensation.

The retina corresponds to and projects a visual picture on the visual sensorial center in the cuneate lobe. The cochlea corresponds to and projects an auditory picture on the auditory center in the superior temporal convolution. The olfactory filaments correspond to and project an olfactory picture on the olfactory center in the anterior perforated space, trigonum olfactorium, uncus and collosal convolution. The nerve endings in skin, tendon, muscle, joint and viscera correspond to and project a picture on the somaesthetic area of the cortex —the largest and by all means the most important area, for in this all motor nerves originate and all nerves of ordinary sensation end.

According to Fleschig, two-thirds of the cerebral cortex is occupied by what he designates association centers, the remaining one-third being occupied by the sensorial areas previously enumerated. In very early childhood the sensorial areas are everything—the association centers are probably potential existences only. Later, with the dawn of intelligence and reason, the sensorial areas and association centers strive for cerebral supremacy.

The association centers are regarded as the part of the brain in which the higher intellectual functions are carried on, and they occupy considerable parts of the frontal, parietal, temporal and occipital lobes of the cerebrum. These centers are believed to exercise control over the sensorial areas. They are in abundant communication with the sensorial areas by association fibers, and thus receive from all parts of the body impressions which they are supposed to transform into consciousness and give definite form to impulses. The commendable product, then, of the association centers is mature judgment.

The association fibers acquire their sheaths of medulla and become functional only after education and intellectual effort have stimulated the different regions of the cortex to harmonious action. Different forces acting peripherally on retina, cochlea and sentiment surface are thus the stimuli of the sensorial areas. The result of cerebral stimulation, after having been transformed and unified by the association centers, is education. The manufactured product of the association centers, awaiting consignment and shipment, constitutes the visual, auditory, olfactory, muscular and other memories.

It would be illogical to assume that Nature, who delights in diversities, should dispose the sensorial areas and association centers with reference to child brain and adult brain according to a rule to which there could be no exceptions. Rather should there be overlapping or telescoping of the fields of the higher intellectual faculties in the adult brain and its juvenile prototype. In fact, observation would seem to confirm this view, and the investigations of Fleschig seem to point to its rational explanation in anomalous development of association centers.

Adult thought, application, acquisitiveness and mature judgment in a child is precocity. Inclination for childish things, destructive tendencies, extravagent expenditure of energy and resources, incommensurate with physical strength and fortune respectively, on the part of an adult, is evidence of an unbalanced mind. It must be assumed that as soon as all parts of the nervous

system act in harmony—that is, as soon as the association fibers become invested by medullary sheaths—the brain is at its very best and, mechanically speaking, a perfect machine. If now we determine a table of doses of medicinal drugs capable of definite stimulation of sensorial areas, we shall have arrived at the proper dose for the healthiest human organism. Empiric practice has ascertained and recorded this table under the head of minimal doses. Let us also remember the table of adult doses of powerful drugs, and account anatomically for the great difference between infantile and adult toleration of drugs.

Instances are on record where minimal doses produced the most alarming toxic symptoms in adults, and rumor has it the cause of all this was an idiosyncrasy on the part of the patient. We are then driven to the conclusion that along with precocity and unbalanced mind should be recognized idiosyncrasy, a condition in which the adult sensorial centers have retained their pristine purity and responsitivity.

How are we to regard anatomically and physiologically a patient who, as experience shows, reacts only to heroic doses? In the same light in which we regard an engine which, when new, consumed ten tons of coal and two gallons of oil, but which, after twenty years' wear and tear, consumes a hundred tons of coal and twenty gallons of oil in a given time. What is the practical deduction regarding idiosyncrasy? Begin every new case on minimal doses, for who knows which patient may not be idiosyncratic. Herein lies the value of the family physician, for he knows the patient's peculiarities. The physician who has no time to understand the patient by confirming or disproving idiosyncrasy is a dangerous man to society and on a par with one who swears on skeletal evidences to sex, regardless of the scientific findings of the influence of contrary sexuality on the osseous system.

The precocious youth, the man of unbalanced mind, the idiosyncratic patient are victims of developmental processes. The first is not responsible for his scintillating wit, the second is not to be held accountable for his childish actions, the third should not be treated with indifference if he succumbs to a dose of medicine prescribed for his baby.

"When I became a man I put away childish things," were possibly as reliable a definition anatomically for man as jurisprudence can summon for insanity. Manhood can not be said to have begun until there is evidence of judgment, discretion and control of the impulses under trying circumstances; here childhood ceases; here have the association centers of Fleschig obtained a dominating influence over the sensorial areas.

979 Jackson Boulevard.

Clinical Reports.

SUTURE OF THE GREAT SCIATIC NERVE.

REPORT OF A CASE.*

JAMES H. DUNN, M.D.

MINNEAPOLIS.

Wounds and suture of the great sciatic nerve are perhaps sufficiently rare to lend some interest to the following case:

J. S., an Irish farmer boy, aged 19, was struck by a scythe in the hands of a younger lad who was swinging the instrument on a level with his own waist. The lads were facing each other and the blade entered the outer side of the patient's left thigh, passed back of the femur, and the point emerged on the inner surface of the thigh just below the crotch. Between the points of entrance and exit the blade slipped under the skin and severed most of the muscles to the bone and divided the great sciatic nerve just below the gluteal fold. In removing the blade it was turned and the wound of entrance was slit downward some two or three inches.

The accident occurred July 18, 1898. Dr. J. B. White of Montgomery, some miles distant, was summoned hastily and found hemorrhage severe, and complete paralysis of motion and sensation in the sciatic distribution. He arrested the bleeding and dressed the leg as skilfully as possible, and on the next day brought him by rail to St. Mary's Hospital, where he arrived in the evening.

On the morning of July 20 we examined the patient together. Despite such antiseptic precautions as it had been possible to carry out at the scene of the accident, the wound was badly infected. After thorough cleansing I cut down on the nerve by the usual incision for stretching the sciatic at this point. (See illustration.) The severed ends were found retracted somewhat more than an inch. The ends were stretched, approximated and sutured by medium and fine catgut, three through-and-through sutures with the former and numerous sutures of the sheath



Scar of operation.

with the latter. Several of the severed muscles were also sutured with catgut, and extensive drainage employed in all three of the wounds. The extremity was dressed and fixed in slight flexion. The wounds had all fully healed by August 20. A superficial slough the size of a dime on the posterior surface of the heel had appeared despite attempts to prevent pressure.

September 1 there had been decided improvement in sensation, possibly some motor improvement, and he was allowed about on crutches.

September 10 a rubber muscle was stretched from the toe of his shoe to a band below the knee, and he was sent to his home in the country. He wore the rubber muscle till the following May, at which time the improvement, both motor and sensory, was sufficient for him to resume his work as a farm laborer without any artificial appliances.

I had no opportunity to watch and record the progress of the case very accurately, but the patient reported by letter from time to time, indicating that some lesser improvement continued up to the end of two years, since which there is no perceptible change. That is to say, the improvement was progressively greater during the first year and tapered off, so to speak, during the second, when it ceased. The early decubitus healed quite promptly and never gave further trouble.

In the summer of 1901, I chanced in his neighborhood and went over to his place to see and examine him. I found him working in the hayfield. On taking off his rather dirty shoe

* Read before the Hennepin County Medical Society, March 3, 1903.

and stocking I found he had a small perforating ulcer of the heel. This had come on during the past few weeks while working hard, and he thought it had been irritated by a wrinkle in the lining of his shoe. I secured a promise from him to visit me after his fall work was done, for a more complete examination than we could make in the field. In December, 1901, about three and one-half years after the accident, he appeared for examination, and Dr. W. A. Jones kindly examined him and made the following record for me: "There is some dulness of sensation in the external saphenous, external plantar and left half of the musculocutaneous, beginning at the ankle-joint region. Sensation above either nominal or slightly hyperasthenic; knee-jerk exaggerated in the left leg. Partial paralysis of the anterior tibial group only."

The right thigh measures 48.5 cm., the left 46.5 cm. The right calf measures 34.5 cm., the left 33.5 cm.

I have recently seen the patient, and his present condition, four and one-half years after the operation, is practically the same as last year, the ulcer has not healed, though a slightly better care of it has kept it at about a standstill. I believe it would heal if he were to lay up and attend to it properly. He has never done so for more than two weeks, during which time it showed improvement. It is a wonder to me that working as he does with dirty stockings and shoes, it has not proven more destructive and malignant.

The conditions for successful nerve suture were not good. The wound was forty-eight hours old, and badly infected. Prolonged drainage was necessary. The result is a perfect restoration of function, excepting decided paresis of anterior tibial group of muscles and consequent loss in extension of the foot, which, however, does not much interfere with his gait. Sensation is nowhere entirely lost, but slightly diminished on outer aspect of the leg, and quite decidedly so on the outer dorsal aspect of the foot. Trophic disturbance is indicated only by the characteristic perforating ulcer on the heel, which is about the size of a dime, very deep, reaching almost to the bone, and very indolent. The secondary factors of traumatism, infection and neglect, have been allowed full sway.

It has been a question in my mind whether it might not have been better to have first drained the wound, stamped out the infection and have made a secondary nerve suture, but I think not. The result is, I imagine, about an average good one. In the larger nerves some loss of function, especially motor or trophic, is, I believe, the rule.

A CASE OF RODENT ULCER.

J. C. O'DAY, M.D.
OIL CITY, PA.

The following case of ulcus rodens I believe is worth reporting, because of the extensive destruction to the face and the compatibility of a fair degree of health extending over a period of ten years. The history of the case is substantially as follows:

The patient is a male, aged 56, married, father of five children living and well. The family history is negative. The personal history is negative, except that prior to the onset of ulcer patient drank considerably.

Sixteen years ago a small pimple appeared over the right eye, becoming pustular and painful. The patient consulted a physician, who opened it with a needle, allowing the pus to escape. The margin now began to break down until the eyelid was threatened. Every effort of the physician to arrest the destructive character of the disease not only proved fruitless but seemed to aggravate it.

The patient, now thoroughly alarmed, sought the advice of several eminent surgeons of New York and Philadelphia, but in spite of every effort the disease progressed steadily, attacking skin, muscle, bone, eyes, nerves and all structures of the face. This continued six years, when the destructive tendency ceased. For the past ten years it has remained in about the same condition.

Examination shows the complete loss of the superior maxillæ, including all the soft structures up to the horizontal portion of the frontal bone. The tongue and remnant of the upper lip remain. In eating, he has his food minced and made into gruel with milk. This, with the aid of a spoon, he throws back on the base of the tongue, and it is readily swallowed. Words of the full vowel sound he utters distinctly, but with a peculiar horn-like pitch. He writes readily with slate and pencil, and in this way makes his wants known.

DR. GARCELON'S NINETIETH BIRTHDAY.

ITS CELEBRATION A PLEASANT FEATURE OF THE NEW ORLEANS SESSION.

Dr. Alonzo Garcelon, who is perhaps the oldest member of the Association, celebrated his ninetieth birthday at New Orleans May 6. Through the suggestion of Dr. L. Duncan Bulkley of New York, which was warmly seconded by others, Dr. Garcelon's birthday was not allowed to pass without a suitable memento from his many friends who were gathered at New Orleans. Over one hundred members each contributed one dollar, with which a loving cup was purchased. Subscriptions were limited to a dollar, so as to give a large number an opportunity to take part.

The presentation was a surprise to Dr. Garcelon; he had been informed that a few friends would come in, but he was not prepared for the surprise that awaited him. The loving cup was a beautiful present, on which was inscribed the following:

TO ALONZO GARCELON, M.D., ON HIS NINETIETH BIRTHDAY. IN LOVING REMEMBRANCE FROM SOME OF HIS FRIENDS IN THE AMERICAN MEDICAL ASSOCIATION, NEW ORLEANS, 1903.

Speeches were made by Drs. Bulkley, Lawrence, Bonifield, Gordon, Holton, Carstens, Montgomery, Marcy and others. They spoke of their great love for Dr. Garcelon and their pleasure in having him at the Association session. They held up Dr. Garcelon as a model medical practitioner, and likened him to a tall, native pine tree, standing sturdily as a monarch of the forest.

Dr. Garcelon, in his response, spoke very appreciatively of the favor shown him, and added a few words about the difference in medical conditions between his early days and the present.

After this enjoyable presentation a second took place. A handsome gold-headed cane was given to the former member of that body by the Board of Trustees, together with the Secretary and Treasurer of the Association. The inscription on the cane was:

DR. GARCELON. FROM THE MEMBERS OF THE BOARD OF TRUSTEES OF THE A. M. A., MAY 6, 1903.

Dr. T. J. Happel, chairman, made the presentation. He reviewed Dr. Garcelon's long career as a Trustee, and spoke in appreciation of the untiring labors he had performed and the great interest he always took in watching over the affairs of the Association and of THE JOURNAL.

Dr. Garcelon, in accepting the cane, said that with the permission of Providence he hoped he would have the pleasure of greeting the members of the Board of Trustees and of the Association many years more.

This event was a very pleasant feature of the visit to New Orleans for all those who took part. Dr. Garcelon is worthy of these honors and of many more, and the realization of this made the speeches very hearty and lent emphasis to all the eulogies.

Population Statistics in Germany.—The official figures for 1901 have just been published and are quoted in the "Allg. Med. Ct.-Ztg." for April 25. The proportion of births was 42.31 per 1,000 inhabitants in 1875, and has since been gradually declining to 36.79 in 1900, but in 1901 shows a slight rise to 36.89. The number of illegitimate births is the lowest for thirty years, 8.57, and in the manufacturing district of Westphalia only 2.60. The number of stillborn infants is also the lowest for many years, 3.13. During 1901 there were born in all 2,097,838, the proportion of girls to boys being 100 to 106.1. There were 26,127 twin births, 241 triplets and one case of quadruplets.

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THE NEW ORLEANS SESSION.

The session of the American Medical Association just closed has been a success in every respect. The New Orleans arrangements were almost perfect, the general hospitality and feeling was most admirable, and the social functions passed off with delight to all. The Section meetings were above the average in the quality of the papers and the interest in the discussions; the business meetings disposed of matters which have long been a trouble to the profession. The President's Address and the orations have already been placed before our readers and need no comment. The attendance was far beyond expectations, and made it one of the largest sessions that the Association has ever held. The general spirit throughout was excellent, and we may say, altogether, that perhaps there has been no session that will leave pleasanter memories with those who attended it.

THE NECESSITY FOR REORGANIZATION OF OUR LARGE HOSPITAL SERVICES.

There is a well-known popular distrust of public hospitals—a distrust not always intelligent, certainly, and not always deserved. On the other hand, there are reasons for the failures of the great public hospitals which are not understood by the laity, though only too clear to the profession. From time to time, at more or less regular intervals, attention has been called through the public press to various irregularities, if not abuses, in the conduct of the public hospitals of our large cities. One point which is occasionally emphasized is the insubordination of internes, who have been especially charged with performing major operations, etc., in violation of long-established rules. According to the rules of the majority of such hospitals all surgical work, except minor emergency operations, must be performed, not by internes, but by a member of the staff, and internes are prohibited from administering anesthetics except under the supervision of some member of the staff.

This is excellent, but the truth is that too many of the public hospitals of this country suffer from a general lack of medical organization, and however sternly abuses may be dealt with, they will persist or recur so long as the present loose methods of hospital organization are continued. Many of these hospitals have at their head lay wardens or governors, who can not be expected to exercise authority in medical matters over attending men or internes. The visiting staff usually consists of a large number of physicians, appointed by the favor of the board of trustees, or of the president of the board. It consists in part of the most eminent physicians in town, who bestow on the hospital but little personal presence, and for the rest, of men who have eagerly sought these appointments for the prestige they could gain and whose presence in the wards is of doubtful value to the patients, and certainly fails to inspire the internes with respect. As this great unsalaried staff can not be held to strict service rules, the care of the patients actually devolves on the internes, who are brilliant young fellows, usually selected by severe competitive examination, but who too frequently cherish the delusion that they learn best by experimentation, untrammeled by the directions or interference of their elders.

Instead of welcoming the opportunity for receiving instruction afforded by the visits of attending men, the average interne resents their advice as an infringement of his rights. Superficially such hospitals are often spoken of as giving the best training to the interne. In fact, from a sternly scientific point of view, and quite without regard to the mere humanitarian considerations, this is a fallacy. No one would take a young man just graduated from a technical school and put him in charge of a great electrical manufacturing plant. Yet we take young men, fresh from a medical school, whose practical experience has been almost *nil,* and place them in sole charge of hospitals in which, the twenty-four hours round, desperate accident cases demand instant action, obscure ailments require the utmost diagnostic skill and operations involving life and death must be constantly performed. Does any one seriously believe that the young physicians, who in fact do a large part of this work alone and unguided, learn so much as they would under intelligent supervision? This state of affairs is known and deplored by the profession. The general public, however, which furnishes the material for these hospitals, does not know it, but is dazzled by the distinguished names at the head of the list of "attending men," and fancies them actually in charge.

Our large public hospitals need to be reorganized. They require a competent, specially trained physician as superintendent, whose appointment and tenure depend only on his efficiency and good faith, a small salaried, permanent medical and surgical staff, whose members can be held to responsible service and who will thus give the internes the instruction and discipline which is their due, and will secure to the patients the best possible care. The hospital services should be organized into definite and well-defined departments, each with its head, an adequate corps of assistants and residents.

In the majority of our large hospitals the term of service of an interne is nearly two years. By shortening

this term to one year twice as many persons would be granted the opportunities for clinical experience that is offered to internes and which the fierce competition shows is valued most highly, and rightly so. The appointment of more permanent resident physicians and surgeons, as is now done in the best hospitals at home and abroad, would more than compensate for the more frequent change in the internes, and would give us properly trained men for the higher positions in the hospital services.

The time is unquestionably ripe for a vital change in many public hospitals if they are to fulfill their function as training ground for young physicians, and if they are to retain the confidence of laity and profession, which is their due. Nor should the task be very difficult. If the members of the staff are allowed their proper privilege of bedside clinics and are assured a reasonable tenure of office there will be no difficulty in securing the faithful service of the best men in the profession for the wards of our public hospitals.

FLIES AND TYPHOID FEVER.

The paper we published[1] a few weeks ago on "The Fly as a Carrier of Typhoid" acquires special emphasis in the light of two researches that have since been published in European journals. Levy and Kayser[2] have just reported some interesting observations on the duration of life of typhoid bacilli in stools that had not been disinfected, but had been thrown into a privy vault in the ordinary household routine. From such material they recovered a micro-organism which responded to all the usual cultural tests for the typhoid bacillus and agglutinated macroscopically with typhoid serum in a dilution of 1/5000. The feature that lends particular interest to this observation is that the full history of the infectious material was secured. In this instance the feces of a typhoid patient were first thrown, without disinfection, into a cemented vault and remained there during five winter months. The contents of the vault were then spread on the soil of a garden, and after the material had lain in this situation for fifteen days at winter temperature, the investigators succeeded in cultivating from the garden soil true typhoid bacilli. The authors call special attention to the fact, shown by this observation, that the contents of privy vaults containing typhoid bacilli may continue dangerous even after the lapse of months.

On the experimental side of the same question, particular interest attaches to an article by Ficker from the Hygienic Institute of the University of Berlin.[3] This investigator, after noting the fact that he had previously isolated typhoid bacilli from the bodies of flies caught in a house where eight cases of typhoid had occurred, proceeds to describe some interesting experiments made to determine the length of life of typhoid bacilli in or on bodies of flies that had been fed with infectious material. As a result of these experiments it appears that flies fed with typhoid bacilli are able to convey the microbes to objects with which they may come in contact for as long as twenty-three days after the feeding. Ficker's attempts to determine the region of the body in which the bacilli were located did not lead to altogether conclusive results, although he succeeded in isolating bacilli from the head, from the wings and from the legs in five days, and from the intestine nine days after feeding.

The independent investigations of these several authors will certainly tend to increase the suspicion with which the wanderings of the house fly are coming to be regarded. The protracted vitality of the typhoid bacillus in privy vaults, the long period during which the fly itself is capable of disseminating infection and the rapidly accumulating epidemiologic evidence all point to the importance of a source of infection, the very existence of which has until lately been insufficiently recognized.

1. Feb. 28. 1903. p. 576.
2. Centralbl. f. Bakt., Originale 1. March 20. 1903. p. 489.
3. Arch. f. Hyg., 1903, xlvi, p. 274.

LIVER SPOTS AND THEIR SIGNIFICANCE.

The popular name for certain yellowish or brownish yellow patches variously located in the skin has long been liver spots. Old school physicians have, as a rule, agreed with their patients as regards the designation of liver spots, though the newer school of physicians have been very much inclined to doubt the possibility of any connection between the liver and these localized pigmentations, and some have even deemed such connection entirely out of the question. In recent years much has been learned of their true character. When limited to the eyelids the patches of chamois or wash-leather appearance so familiar to the practitioner, have been called xanthelasmata. Other yellowish patches variously distributed over the body usually associated with some increase of the fibrous tissue of the corium, with some fatty degeneration of the overgrowth, and therefore deserving to have a hint of their tumorous character in their name, have been called xanthomata.

Under their new and ambitious names these patches seem to have lost much of their interest for the general practitioner, but undeservedly so, for they are a constitutional rather than a purely dermatic condition. A recent publication of the New Sydenham Society by Jonathan Hutchinson,[1] bears the significant title "Xanthelasma and Xanthoma, with Special Reference to Their Association with Functional and Organic Diseases of the Liver." Dr. Hutchinson has shown by the investigation of a number of cases that the coloring matter in the yellow fatty patches, known as xanthomata, is undoubtedly of liver origin. Not infrequently the spots are associated with jaundice or with some functional liver disturbance. Occasionally crystalline accumulations occur just over them in the skin, due to the precipitation of cholestearin which may persist for some time, or be reabsorbed.

1. An atlas of illustrations of clinical medicine, surgery and pathology, compiled for the New Sydenham Society, Fasciculus xv, London, the New Sydenham Society, 1902.

Their occurrence should always lead one to examine carefully the condition of the patient's liver. The individuals who most frequently present "liver spots" are, in Dr. Hutchinson's experience, the so-called bilious subjects in whom functional liver disturbances are usually demonstrable without difficulty. The skin and hepatic conditions are frequently associated with severe headaches and migraine. Generalized xanthoma occurs, especially in diabetic subjects, and would seem to furnish some confirmation of the ideas of those who insist that the liver has a special function with regard to the metabolism of sugar in the system, which function is disturbed in diabetic patients.

Recurring liver disturbance, as Dr. Hutchinson points out, is prone to produce more or less significant changes in the eyelids. Three forms of palpebral skin alterations have been especially noted in this regard: First, a distinct pigmentation, more or less persistent, but prone to temporary increase in those parts of the eyelids now known as xanthelasma positions, that is especially around the inner canthus on the upper or lower lid. Second, the development of grouped comedones in these same positions with tendencies to subsequent pigmentations. Third, patches of yellow fatty deposit which constitute true xanthelasma. The old tradition of liver spots then and the associated etiology and significance are, it would seem, in spite of doubts in the matter, to be accepted and substantiated by twentieth century medicine.

ILLINOIS NURSES' BILL VETOED.

Among the governor's vetoes which have been announced is one by Governor Yates of Illinois, who has vetoed the trained nurses' registration bill; simply, as it appears, on the ground that the examining board was to be appointed from names selected by the Illinois State Medical Society. The governor objects to this as taking from the executive his prerogative, and, we might add, political perquisites. Why otherwise he should object to the assistance of a qualified organization in the selection of persons for a purely professional function is a little difficult to see from our point of view, though probably clear enough from his.

THE GERMAN REVOLT AGAINST CONTRACT PRACTICE.

The evils of contract practice and the extent to which the exploitation of doctors by workingmen's benefit societies has gone in some parts of the world are shown by a recent statement that a general action is going to be taken by the profession in Germany against employment by these sick-fund societies. In Germany, as in Great Britain, these societies have brought the average cost per call down to a ridiculously small amount. In the former country the average compensation per call is said to be only 4 cents. At Gera and Mülhausen the physicians have already refused to act for the societies, and in consequence these associations are obliged to pay the ordinary fees. Feeling is high, and at least one duel has been the result of the condition of affairs. We believe our brethren in Germany are in the right. We do not care to call the thing a strike, for this does not seem to be properly its name, though it has a resemblance to that movement so popular in this country at the present time. In England the same difficulties have been felt for a considerable time, and it will not be surprising if a general action similar to that of the physicians in Germany should be inaugurated there. In either case our confrères will have our best wishes for their success.

THE APPLICATION OF THE BIOLOGIC TEST FOR SPECIES TO BONES.

The above caption may suggest to those who remember the famous Luetgert murder case in Chicago, that it might have been possible to determine whether the boiled and alkali-eaten bones found in the vat were of human or animal origin. Experiments which Schütz[1] has been carrying out go to show that this differentiation could probably not have been made by the serum precipitation test of Wasserman. It is possible to determine the specific identity of bone only when a sufficient amount of albuminous material is attached to it, either in the marrow or in accidentally adhering muscles. For example, one wishes to know if a certain bone belongs to species A. An animal is immunized with the serum of a member of species A; an extract is then made of the bone in question, to get into solution albuminous bodies present in the marrow or adhering muscles. It is rather indifferent whether the material is fresh or dried. The extract is filtered and to the filtrate is added serum from the immunized animal. The occurrence of a precipitate indicates that the bone was from species A; if no precipitate, it was from some species other than A. Obviously bones in which the organic matter has been destroyed would be unsuited to the test. Schütz properly emphasizes the limited medicolegal value of this application of the precipitation test.

TYPHOID ON THE PACIFIC COAST.

The recent epidemic of typhoid at Palo Alto, the site of Leland Stanford, Jr., University, has excited some attention, but fortunately it appears to be associated with a very small mortality. Unlike the Ithaca epidemic it had no connection with the remissness of local authorities as regards water supply, and seems to have been entirely traced to one or two infected dairies. The comparative mildness of the epidemic as opposed to that of Ithaca is noteworthy, and in this connection we would remark on an editorial discussion of the subject in the *Medical Sentinel* for April, which antedated the Palo Alto epidemic. The editor finds from his observation and that of others that, while the disease is most unnecessarily and disgracefully present on the Pacific coast, the general mortality from typhoid is low, especially in Oregon, where his experience allows him to speak most authoritatively. There is a decided difference in this respect from the disease in the eastern states, though east of the Cascade range in the eastern portion of Oregon and Washington territory the condition is not the same. He has seen there several cases approaching the old typical typhoid of the eastern states, and the mortality appears, from such information as he has been able to obtain, distinctly higher than in the western part of the state. It would be especially interesting to know

1. Deutsche Med. Wochenschrift, 1903, p. 62.

whether this same contrast prevails between eastern and western Washington. Whatever may be the cause of this difference, it has nothing to do with the locality of the bacillus. It is just as ready to defile the water supplies or to spread in other ways as in other sections of the country, but he suggests that some difference in the soil or water, while allowing it to grow and spread, diminishes its virulence, possibly by reducing its vitality from the onset. One possible cause is suggested, that is, the cooler temperature of the soil and ground water in Oregon, which is shown by the fact that in excavations almost anywhere eighteen or twenty inches below the surface, a temperature can be obtained at which butter remains firm and cream sweet all through the summer. Whatever may be the value of this fact as an explanation, the study is an interesting one and would indicate that the virulence of the typhoid bacillus is distinctly diminished in Oregon, and presumably in Washington and northern California. The subject is worthy of further careful investigation.

Marriages.

Albert L. Stuttle, M.D., to Miss Pearl Jones, both of Williamsville, Ill., April 29.

Walter N. Miner, M.D., Calais, Me., to Miss Estella Delahay, at Baltimore, April 29.

Nathan Porter Colwell, M.D., to Miss Agnes Louise Peterson, both of Chicago, May 5.

James M. Anders, M.D., Philadelphia, to Miss Margaret Wunderlich, at Ardmore, Pa., April 29.

Martin H. Fischer, M.D., Berkeley, Cal., to Miss Charlotte Leonard of Chicago, May 6.

John Calvin Young, M.D., Roanoke, Ill., to Miss Elizabeth May Monser of Wenona, Ill., May 6.

Louis M. Friedrich, M.D., Hobart, Ind., to Miss Minnie Batterman of Chicago Heights, Ill.

Gustave Adolph Thiede, M.D., Baltimore, to Miss Mary MacCreager of Walkersville, Md., April 30.

Deaths.

Edwin Ellis, M.D. University of the City of New York, 1846, died at his home in Ashland, Wis., from paralysis, after an illness of a few hours, May 3, aged 78. Dr. Ellis was a pioneer of Northern Wisconsin, and was known as the "father of Ashland." He had seen the city grow from the primeval forest to its present magnitude, and was closely allied with every good feature of its growth, more especially with the school system. On account of his death the city offices and public schools of Ashland were closed on the day of his funeral.

James Conland, M.D. University of Vermont, Burlington, 1878, died at his home in Brattleboro, Vt., from nervous exhaustion, May 2, aged 52. He was a member of the state tuberculosis commission, and had served two terms in the state legislature. He was best known as the most intimate friend in the United States of Rudyard Kipling.

Eben J. Cutler, M.D. Cleveland Medical College, 1866, lecturer on surgical pathology and minor surgery in that institution; for two terms a member of the health board, and once police commissioner, died at his home in Cleveland, April 28, from pneumonia, after an illness of one week, aged 65.

Lucius C. Herrick, M.D. University of Vermont, Burlington, 1864, assistant surgeon in the Fourth U. S. Colored Cavalry in the Civil War, secretary of the Old Northwest Genealogical Society, died at his home in Cleveland, Ohio, April 30, after an illness of five days from gastritis, aged 63.

William Holbrook, M.D. New York University, 1848, surgeon throughout the Civil War; a member of the legislature in 1882, and Medical Examiner for East Hampden since 1877, died at his home in Palmer, Mass., from disease of the stomach of long standing, April 27, aged 79.

DR. JOHN HENRY MUSSER.

THE NEWLY ELECTED PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION.

Dr. Musser is one of a group of able young men whom the late Prof. Wm. Pepper gathered around him in the University of Pennsylvania—a group notable for ability, means and social standing; a group which Professor Pepper brought up in his own line of teaching, making them consummate diagnosticians and clinicians of unusual ability.

Dr. Musser was graduated from the University of Pennsylvania in 1877. He immediately started in practice in West Philadelphia, one of the poorer districts of the city, and soon built up an enormous practice. After a few years he associated himself in practice with his uncle, on the West Side, and on the death of his uncle succeeded to his extensive practice. During this time he gradually associated himself with his alma mater, beginning as instructor in medicine, his colleagues being Drs. Alfred Stengel, John K. Mitchell and the late Frederick A. Packard.



On the death of Professor Pepper Drs. Musser and Stengel were made professors of clinical medicine in the university, and Dr. Packard was made a trustee.

Later on Dr. Musser moved down town, and now has perhaps the largest family and consultation practice in Philadelphia. He has been physician to the Philadelphia and Presbyterian hospitals, and for many years a member and formerly president of the Philadelphia Pathological Society. He is one of the most modest and unassuming of men, but is surpassed by none in Philadelphia as a diagnostician and clinician.

Beside being the author and editor of standard works like his treatise on diagnosis, which is almost universally known to the profession, Dr. Musser has been for the last twenty years a contributor to periodical medical literature, both in this country and in Great Britain. His wide experience and clinical acumen have contributed a large amount of very interesting matter scattered through various journals which, if collected, would make volumes.

AMERICAN MEDICAL ASSOCIATION.

Proceedings of the Fifty-fourth Annual Session, held at New Orleans, May 5, 6, 7 and 8, 1903.

GENERAL MEETINGS.

Official Minutes.

MAY 5—FIRST GENERAL MEETING.

The Association met at 11 a. m. in the Tulane Theater, and was called to order by the President, Dr. Frank Billings of Chicago.

Prayer was offered by the Rev. H. G. Davis, New Orleans.

Address of Welcome to the City by the Mayor.

Hon. Paul Capdevielle, mayor of New Orleans, was introduced, and delivered the following address of welcome:

Mr. President, Ladies and Gentlemen of the American Medical Association:

Only a few days ago I said to the Convention of American Manufacturers that, although many onerous duties were put on the mayor of a town like this, that of welcoming them to New Orleans was one which gave me nothing but pleasure.

The same idea occurs to me as I stand up before the body of learned and scientific men here assembled to-day. I owe it to the profession to add that except for the skill and devotion of the surgeons and physicians who came to my relief in a recent illness of the most serious character I would not have enjoyed the opportunity of meeting you on the present occasion.

The city of New Orleans is, and has always been, proud of its medical men. It has been the seat for many years of a medical college of the highest reputation.

The state of Louisiana, as its first and largest charity, has supported a great hospital in our midst, which was founded by Don Andres Almonaster y Roxas in 1786, where clinical instruction has been carried on with more practical advantages open to the student than are to be found anywhere else, perhaps, in the United States. Early in her history, the state of Louisiana became instructress in the science of medicine to her sister states of the west and southwest. The study of diseases peculiar to the climate has progressed in this way, with immense advantage to society and to science.

The problems of engineering involved in the drainage and sewerage of the great alluvial plain on which New Orleans is built, the settlement of plantations in different parts of the state, and the treatment of epidemic diseases have been constantly carried on with extraordinary benefits because of the success achieved in their profession by scientific physicians, benevolent men, the benefactors of their kind, who have practiced their calling in the interest of humanity.

In bidding you, as I do, a truly heartfelt welcome, I represent the feeling and sentiment of all our people. They ask your aid and counsel. They hope your deliberations will be marked by entire freedom of inquiry, as well as by harmony, and they look to the results, with assured confidence that these will inure to both private and public good. (Applause.)

Welcome to the State.

In behalf of Governor Heard, Gen. Leon Jastremski spoke as follows:

Mr. President and Members of the American Medical Association:

Called to the dedicatory exercises of the Louisiana Purchase Exposition at St. Louis, the Governor could not extend to you Louisiana's official welcome to the metropolis of the south. It is due to this circumstance that he deputized me to perform this very pleasing duty, which I regard also as a high honor. I would fail in my effort did I not say that in no state or country is the medical profession, or, better still, the calling of medicine, held in greater esteem or admiration than in Louisiana. It is the noblest and most ancient of all professions, dating back, according to the records extant, to the seventeenth century before the Christian era. To the land of the Pharaohs and the pyramids, to ancient Egypt is given the fame of inaugurating the records of the researches of medicine. In that remote era, and in succeeding ages, medicine was combined with theology and philosophy and was held in a reverence akin to superstition. The Jews, the Greeks, the Romans and afterward the Latins propagated the science throughout Europe and America. Amid the desolating plagues, in the camps of the Crusaders, the physician and surgeon went forth braving and enduring every hardship in pursuing his mission and acquiring knowledge. Then, as now, in his merciful work he made no discriminations between the king and the knight, the artisan and the peasant, the high born and the lowly, friend or foe. For him mankind has always been a vast brotherhood, at whose call for help he feels in duty bound to respond.

Some divine inspiration lifts the physician above the level of his fellow men and ennobles his nature. No danger, no loathsome disease repels him. He is found on the battleship, in the camp and the battlefield, attending the sick, the wounded and the dying. He is the presiding genius in the hospital and in the asylum for the insane. Everywhere he is the good samaritan, the tireless searcher for that knowledge that will more speedily cure, abate and prevent disease. For his science every decade is a decade of progress. He is of that army for which there are no hours set apart for repose. When others are resting from labors of the day, the physician is rising to bring hope and relief to the chamber of the sick. We can see him in the lurid conflagration at Moscow and in the appalling retreat of the Napoleonic army over the frozen and snow-covered steppes. We can see him in the column that marched to the relief of Lucknow, and with the famous expedition to Obdurman, across the burning sands. We descry him with the blue and gray at Gettysburg, at Shiloh, at Franklin and at Petersburg. All this is but a shadowy portrayal of the glories and the achievements of those knights of the medical profession, "without fear and without reproach," whose mission is to save, when other men, when nature itself, seek to destroy. Look the world over to-day, and you will be amazed at the progress that medical science has wrought. With its remedies it has mastered hitherto incurable ills, and by the wonderful operation of surgery it saves life and limb in cases that were helpless only a few years ago. By its discoveries in sanitation it has arrested the depopulation of cities and minimized contagion, so that the population of the world is increasing at a ratio never before attained.

You are here to impart to one another the additional knowledge that you have garnered separately for the expansion of the science to which you have devoted your lives. From your conferences, from your discussions, there will flow for mankind beneficences far more precious than heaps of gold.

For all the good that your profession has showered on mankind; for all the good that the American Medical Association has done in the past, and for all the good that it will do in the future, do I extend to you the most profound, the most friendly and the most loving welcome of the state of Louisiana. (Applause.)

Layman's Welcome.

Henry P. Dart, of the local Bar, spoke the welcome of the laymen as follows:

When I was notified to deliver one of the addresses of welcome on this occasion, I inquired who were the other speechmakers. The good doctor who was communicating with me said that the governor would deliver one on behalf of the state, the mayor one on behalf of the people of the city, and then, after some deliberation, he added: "and you may consider that you are going to appear on behalf of our patients."

While the prayer of the chaplain just delivered would indicate that you have also taken thought on the subject and have left your patients to the care of one who never fails, it is quite appropriate that I should convey to you the compliments of your patients and their congratulations that you are so harmlessly engaged on this fair morning in New Orleans. I almost regret to have to add that this city is so distressingly healthy that you would not be able to find substitutes to operate on in lieu of those you have left behind. (Laughter.)

I was further admonished that time was a factor in this address, inasmuch as it was known that 1,500 or more of the brethren would be in the audience, each with a thesis in his pocket and that delivery thereof was essential to the health of the author—a most unparalleled condition of affairs among people who usually do so little talking.

I was also warned to keep away from strictly technical subjects, leaving pulmonary complaints and disordered joints and things of that sort to the consideration of the fraternity. In fact, it was suggested that I should try to get on some ground of common understanding with the people at large, where the sects and divisions of the assemblage could do their thinking without undue effort to follow the speaker. This was, I thought, a delicate hint that while on this task my predecessors

from my profession had exhausted the great question of medical jurisprudence, expert testimony, etc., and had exhausted their audience also.

It certainly is a great pleasure to participate in a gathering of so many of the best and strongest of a great profession, and it tempts one to wish that he could suggest something that would leave a lasting reminiscence in the minds of his hearers. As it is, I shall content myself with a mere note or suggestion of something which seems to me worthy of consideration in this wide and splendid life that you gentlemen lead.

From a layman's point of view, one of the most noteworthy contributions to an age full of noteworthy things is the modern hospital, which is supported entirely by the labors of the medical profession, without whose time, strength and money it would be impossible for its doors to open for the service which it professes.

Statistics show that these great institutions are managed under an expenditure and with as much care and pains taken as is found in the great industrial occupations of the day; and yet, marvelous to relate, the entire medical machinery of the same is furnished absolutely without cost. It is true that one or more men in each institution receive a stipend for their services, but that only proves the rule. All over the country these institutions are accustoming the people to the free services of the physician and surgeon. The rank and file of the community have learned that in these hospitals they will get the best of care, the best apparatus, and the best hand and brain that the profession can furnish, and they appreciate that they get all of this free; and so deep is their appreciation that I fear that they have fallen into the habit of looking on the members of the profession as walking eleemosynary institutions.

The hospital is built on private munificence. The state, it is true, here and there, as in the case of our own noble institution in New Orleans, makes an annual contribution; but this in no wise represents the great sum total of wealth that flows in and out of their portals. How long will the present system continue? Will the people of the coming generation and the members of your profession continue to serve as you have in the past, following literally the mandate of the Divine One to go forth and heal, taking thought neither of scrip or raiment, and depending, as did Elijah in the desert, on the ravens of chance and accident for your subsistence?

The mind is staggered when it contemplates the extent of the sacrifice made annually by the body of your profession in the service of humanity, by way of the hospitals of the country. No other sect or profession can point to an equal record. The preacher follows a philanthropic course by desire, and can not be blamed if his Maker gives him plenty to do while man fails to compensate him. The lawyer is fond of thinking that he is a great contributor to the public welfare without due compensation, paradoxical as that may seem to some of you; but it must be conceded that in the presence of this magnificent giving of the medical profession of their health, their strength and their time, there is no parallel in the world. It comes in on me as a real thing that this tremendous development on charitable lines is a marked characteristic of the times, and it suggests a tendency of the race. It is not accidental, it is an educated taste for which you are responsible, and it opens a great social question, whether or not some day the state will be forced to take it up as a state problem, and to manage charity in so far as healing and curing are concerned as a state institution. But I have not come here with a problem or a theme. I have merely thrown out a thought to fructify while you are bearing, like Atlas, the world of suffering and sorrow on your mighty shoulders.

Response to the Addresses of Welcome.

By the First Vice-President, Dr. J. A. Witherspoon of Nashville, Tenn.:

Mr. President, Ladies and Gentlemen:

I feel hopelessly unable to respond to the welcomes received this morning, especially on such notice as thirty minutes, were it not for the fact that I belong to and am a son of the south and know that every sentiment expressed by these gentlemen is a demonstration of the hearts of every citizen in New Orleans and Louisiana. (Applause.) I feel especially honored in being called on to respond to these addresses of welcome, in view of the fact that I live in the very shadow of the home of that grand old man, Andrew Jackson, who once, with his 3,000 Tennessee squirrel hunters, defended this fair city against the British. (Applause.)

So far as the hospitality at New Orleans is concerned, it was well illustrated by an Irishman, whose friend came to this country, and, having died here, his body was immersed in alcohol and sent back to his native country for burial, and his remark was, "Begorrah! The gentleman leaves in better spirits than he came." (Laughter and applause.) Even the dead in Louisiana are in good spirits.

The work of this state and of this city, headed by your remarkably intelligent State Board of Health, reflects credit on the medical profession, and it is a work that we can point to with pride. New Orleans has been visited so frequently by that particular scourge, decimating our people, blanching the faces of the bravest, so that the medical profession has sprung up as a unit to fight back those terrible diseases that knock at the citadel of our fair land. By the efforts of the Marine-Hospital Service and your State Board of Health we have now reached that proud position where we can say to that death-dealing monster—yellow fever—thus far shalt thou go and no further; you shall not wreck this fair land and take the loved ones from our bosoms, stop the commercial and agricultural interests of the entire people by your death-dealing poison. (Applause.)

We feel, in coming to New Orleans, that we come to one of the oldest and grandest and most hospitable places in this broad land. Many of us come from the east and north for the first time, and they have learned to look on our mountain peaks and our rivers as the most beautiful. It is even claimed that in some of our mountain districts we can stand on the very top of them and tickle the feet of the angels above. (Laughter.) But when we get down here to this temple in the universe, we feel very much like those who have not reached that state of married blessedness; likewise, we do not want to tickle the angels' feet, but we do like to tickle the fancies of some of them. (Laughter.)

Now, ladies and gentlemen, we thank you very much for the courteous and hearty welcome you have extended to us. We all feel at home. We have all left home to give our patients a chance to get well. I want to say to my good friend the lawyer, who has addressed us, that I feel very proud that one of his profession should have at last seen the beacon light and found out the medical profession stands on a pinnacle so high that law can only talk at it. (Applause.)

I have been called on unexpectedly to address you, and I feel very much like the old darky in Virginia who was carrying a turkey along under his arm, and a ventriloquist threw his voice to him: "What are going to do with me?" The old negro looked at the turkey, and said, "I'se gwine drop yuh right heah." (Applause.)

We thank you for your hospitality; we assure you that we feel perfectly at home, and, with these words, I leave the subject with you. (Applause.)

Report of the Committee of Arrangements.

Dr. Isadore Dyer, chairman of the Arrangements Committee, read the following report:

Mr. President and Gentlemen, Members of the American Medical Association:

I understand that a brief report is expected from the chairman of the Committee of Arrangements.

As soon as the medical profession of New Orleans was officially advised of the fact already published in the daily press that the American Medical Association was to meet in New Orleans, organization of the local members of the American Medical Association was effected.

The history of their work has been related in the Association JOURNAL. It remains only for the chairman to convey his high estimation of the individual services of the several sub-chairmen, who have been constant in their labors and earnest in effecting the result which we submit to you.

Whatever fault you may find must be attributable to our crudeness and newness to so stupendous a task; whatever credit or praise, to the work of every man on every committee.

The President's Address.

The First Vice-President, Dr. J. A. Witherspoon, at this juncture took the chair, and President Billings delivered his address. He selected for his subject, "Medical Education in the United States." [This appeared in full in THE JOURNAL, May 9, pages 1271 to 1276.]

TUESDAY, MAY 5—SECOND GENERAL MEETING.

The meeting was called to order by the President, Dr. Frank Billings, in the Carondelet Methodist Church, at 7:45 p. m.

Oration on Surgery.

The President introduced the orator of the evening, Dr. A. F. Jonas of Omaha, who delivered the Oration on Surgery. [This oration, on "Cancer and Immunity," appeared in full in THE JOURNAL, May 9, pages 1277 to 1284.]

Report of Committee on Portraits of Ex-Presidents.

Dr. J. R. Pennington, Chicago, chairman of the Committee on Portraits of Ex-Presidents, reported progress. He said that of the several portraits of ex-presidents in preparation for presentation to the Association, two have been received by the committee and will be formally presented by gentlemen who have been selected for that purpose.

Presentation of the Portrait of Dr. T. G. Richardson.

Dr. Edmond Souchon, New Orleans, presented the portrait of Dr. T. G. Richardson. In doing so, Dr. Souchon said:

It is indeed a great honor that was conferred on me to present the portrait of the first Louisiana President of the Association, Dr. T. G. Richardson, to the American Medical Association for its Hall of Fame. It is a labor of love, however, as I had the happiness to be intimately associated with this good and remarkable man, having been his prosector, his chief of clinic, his assistant also in almost all his operations in private practice and having been his friend and his fervent admirer.

It would require a book to tell of all his life and a pen much more gifted than mine to do justice to this noble man and his great work, but in the brief moments that are allotted me I can only recall the most salient traits of his life and achievements.

Dr. Richardson was born in Kentucky in 1827, and at the age of 18 he began the study of medicine under the direction of the great S. D. Gross, who was the professor of surgery in the Louisville Medical College, and the influence of Dr. Gross on his young pupil was magnetic and most beneficial. Dr. Richardson graduated in 1848 from the medical department of the University of Louisville, and he was immediately appointed demonstrator of anatomy in the medical department of that university. In the midst of his numerous labors he found time to write in several medical periodicals, and founded and edited, with Dr. Gross, in 1855, the "Louisville Review."

In 1856 he resigned his position as demonstrator to accept the chair of anatomy in the Pennsylvania College at Philadelphia, as Dr. Gross at that time had accepted the chair of surgery in the Jefferson Medical College, when they both founded in Philadelphia the "North American Medico-Chirurgical Review." Dr. Richardson was a remarkable dissector, as is evidenced by the numerous specimens he prepared at that time of his life and which now adorn the museum of the medical department of Tulane University, and he was the first one, I think, who used plain English names in his lectures and in his book on anatomy.

It was in 1858 that Dr. Richardson moved to this city to fill the chair of anatomy in the medical department of the University of Louisiana.

He had served as such but four years when the war broke out and, joining the Confederate Army, he became surgeon on the staff of General Bragg, during which term of service he was Medical Inspector of the Army of Tennessee, then Medical Director of the Department of North Carolina, and he was present and on duty at the famous battles of Murfreesboro, Chickamauga, Missionary Ridge and others.

After the war Dr. Richardson returned to New Orleans and was elected dean of the medical faculty. Then began, with the dark days of reconstruction, a most sickening and despairing struggle to prevent the college from falling into the hands of the carpetbaggers, and it required all the courage, determination and skill which he possessed to succeed, but he did ultimately succeed, and all agree that he was the only one who could have succeeded.

In 1872 Dr. Richardson became professor of general and clinical surgery in this college, succeeding the renowned and lamented Stone. It was in 1877 that Dr. Richardson was elected President of the American Medical Association, and presided at the annual session in Buffalo, N. Y., being the first president elected from Louisiana and still the only one.

His health began to fail him in 1886, and he was compelled to resign the chair of surgery in 1889. His illness lasted several years and, in spite of great sufferings, his thoughts were always with his beloved college, so much so that, together with his admirable and generous wife, he donated the sum of $100,000 for the building of a new medical college, the one now standing in our midst and bearing the glorious name of the Richardson Memorial.

Dr. Richardson died in 1892, before he could see the completion of the new college, having been dean for twenty years, a professor for thirty-one years, and having served the profession forty-four years.

Dr. Richardson was tall and stately, with a face of Olympian beauty, particularly as he grew older, with an appearance most impressive. It was reserved and somewhat cold, but it was only on the surface, because no warmer and generous heart ever beat in man's breast. This was most evidenced when he grasped your hand; then a magnetic current ran from him into you, and you felt at once that he truly was a good and earnest man; he was also calm, dignified, unostentatious; his sense of duty was intense, akin to worship, and the word responsibility was to him tremendous and overwhelming.

As a teacher he was surpassed by none, and as a surgeon he had the true mettle, as I could judge in many bloody and trying surgical operations.

He was at all times earnest, clear and forcible in his statements, and was most impressive in his teachings. His judgment was most clear and unerring, and he was modest beyond expression. In all my years of association with him I can not recall an instance when he lost the control of his temper, nor have I ever heard him utter a word of the mildest profanity.

His friendship was as true as steel. He never made any promise, but he had a good trait in that he would do things when you were in need that most unexpectedly showed that he was your friend indeed. Many have been the recipients of his bounty, and I am one of the living examples.

His love for brilliant plants and for exotic trees was most notable. He was unduly fond of children, who were instinctively drawn to him, and his devotion as a husband was the admiration of all who were admitted to his family life. He traveled all over the world, and specially delighted in exploring parts less known to most people.

He was most pure in thoughts, and hated hypocrisy, and last, but not least, his religious nature was most beautiful in its grandeur and sincerity, and many times it excited the envy of the less fortunate ones. When sickness and suffering struck him, he displayed a fortitude and submission to the will of God that was the admiration and wonder of those who saw him in the years of agony that tortured him before he died. A life-long friend of his, the Rev. Dr. Palmer, said that he was remarkable for the simplicity and directness of his character, due to the fact that he was pre-eminently self-contained.

Such was the man whose noble portrait will now truly adorn the Hall of Fame of the American Medical Association.

The General Meeting was then declared adjourned.

WEDNESDAY, MAY 6—THIRD GENERAL MEETING.

The Association met at the Carondelet Street Methodist Church, and was called to order at 7:45 p. m. by the First Vice-President, Dr. Witherspoon.

Oration on Medicine.

Dr. J. M. Anders, Philadelphia, delivered the Oration on Medicine. [This oration, on "Social Conditions in America in Their Relation to Medical Progress and Disease," appeared in full in THE JOURNAL, May 9, pages 1284 to 1292.]

Presentation of Portrait of Dr. Hunter McGuire.

Dr. W. L. Rodman, Philadelphia, delivered an eulogy on Dr. Hunter McGuire, in presenting his portrait to the Association:

In Winchester, Va., Oct. 11, 1835, there began a life which was destined to be famous ere its first quarter of a century was rounded. The son of an eminent physician and surgeon, the talents of Hunter McGuire were fortunately dedicated to medicine. At the age of 20 he received his diploma from the Winchester Medical College, of which his father, Dr. Hugh H. McGuire, was one of the founders and professor of surgery.

Feeling the need of greater clinical advantages than were offered in Winchester, he matriculated in the fall of 1856 in both the University of Pennsylvania and Jefferson Medical College of Philadelphia, that city being then the mecca of southern students. His studies were soon interrupted by an attack of acute rheumatism, and he was compelled to return to his home in Winchester. In 1857 he was elected professor of anatomy in his alma mater, which position he filled one year.

In 1858 he was called to Philadelphia to join Drs. Francis E. Luckett and William H. Pancoast, a son of the famous surgeon and professor of anatomy of Jefferson College, in the conduct of a private quiz class for the benefit of students of that college. Some surprise was expressed that so young and unknown a man should be called to such an important teaching position. Dr. Luckett, when asked why he had chosen so youthful an associate, said: "Wait and see why I wrote for him." In accepting this call, we assume that Dr. McGuire was actuated by a desire to complete the studies interrupted by sickness two years before and to sit at the feet of the two great masters in surgery then at Jefferson College, Gross and Pancoast; the one the greatest surgical philosopher and teacher of his own or any time, the other the most consummate anatomist and the deftest operative surgeon of his day. Young McGuire, tall, spare, handsome, with manners somewhat unconventional and less gracious than many southern men possessed, yet always delightful, pleasing and entertaining as a companion, soon became the leader of the many southern students in this institution—in fact, their beau ideal. His success as an extramural teacher was remarkable and added much to the drawing ability of Jefferson College. Prior to this time a majority of the sons of wealthy southern planters who studied medicine had been going to the older and more renowned institution, the mother of medical schools on this continent, the University of Pennsylvania. The influence of Luckett and McGuire, both Virginians, was potential with southern men and drew many of them to the younger institution.

In December, 1859, sectional feeling became most bitter on account of John Brown's raid at Harper's Ferry, and when his body was brought through Philadelphia en route to his former home in Kansas for burial, the excitement reached white heat. It was then that young McGuire showed the elements of manhood and leadership which characterized him ever afterward. He left Philadelphia, marching at the head of 300 southern students, all armed, for the feeling was bitter and threats had been made against them, bound for Richmond, Va., where the study of medicine could be continued under more congenial environments. He advanced $2,000 of his own money, which he had saved as a quiz teacher, to pay the railroad fare of those students who were unable to do so. They were met in Richmond at the capitol square, where they were addressed in a stirring speech by Gov. Henry A. Wise. The citizens generally received them most cordially; the city council refunded the money spent in railway fares, and the Medical College of Virginia matriculated them without charge, most of the students remaining there, only a few going farther south to Atlanta and New Orleans.

McGuire received his second medical degree from this institution in the spring of 1860. In the fall of this year he then removed to New Orleans and established a quiz class in connection with the medical department of the University of Louisiana, now Tulane University. His stay in New Orleans was destined to be brief, for the following year South Carolina seceded from the Union and his native state, Virginia, was contemplating the same action. Loyal to her, brave and impetuous, he laid aside, for the nonce, the scalpel and listened to the stern alarums of war. He at once returned to Virginia, enlisted as a private soldier, marched to Harper's Ferry, and there he was commissioned as a surgeon and assigned to the command of Gen. Thomas J. Jackson.

In May, 1861, he became medical director of the Army of the Shenandoah, and later, when General Jackson assumed command of the First Virginia Brigade, he asked that Dr. McGuire be made his brigade surgeon. From that time on until the death of his illustrious commander he was closely associated with him personally and professionally. McGuire fully realized that he had been advanced beyond those much older than himself and, feeling that others questioned the wisdom of his very rapid advancement, he went to General Jackson and said that, rather than seem to be the means of doing an injustice to older men, he preferred tearing from his shoulders the insignia of office. Jackson, in his quiet, stern way, simply answered, "I appointed you." This must have meant to the young surgeon that it was an appointment of merit and not a personal preference.

No man ever had a keener insight into men's characters and was able to judge them instantly to a greater extent than Stonewall Jackson. This was, perhaps, the chiefest reason for his brilliant and meteoric career, and has caused him to be recognized by many as the greatest military genius produced by this, the greatest of wars. He saw in the tall, somewhat awkward young man qualifications of mind and heart on which he could unfalteringly depend in the many hard-fought battles and campaigns which yet lay before them. Never were trust and confidence better warranted. The youthful brigade surgeon was first to organize reserve corps hospitals in the Confederacy; this being done in the spring of 1862, during the Valley Campaign. About the same time he perfected the ambulance corps.

Greater, by far, than either of these, important works though they were, was his action early in the war requesting of his commander that eight Federal surgeons who had been captured be at once released on their own promise to endeavor to secure the release of an equal number of Confederate surgeons. This request was at once granted by General Jackson. This action, so manly, so lofty, so humane, at once attracted attention everywhere, and the practice of recognizing medical officers as non-combatants became practically universal in both armies. When he himself was captured in 1865 an order was promptly issued for his release by General Sheridan.

This is neither the time nor the place to speak of the valuable services rendered the Confederacy, from Manassas to Appomattox, by this able military surgeon. Without disparagement to others, it will be generally granted that he was the most conspicuous, useful and, perhaps, the greatest medical director in either army during the Civil War. He was, of course, fortunate in serving under such commanders as Lee, Jackson, Ewell and Early and could not have enjoyed the confidence of all as a man, a surgeon and a soldier to the extent that he did unless possessed of unusual qualifications. As a result of his large and varied experience as a military surgeon, he was asked to write the chapter on gunshot wounds for Holmes' System of Surgery, and has ever since been recognized as an authority on the subject throughout the civilized world.

His two most distinguished patients during the war were General Jackson himself, on whom he did an unsuccessful amputation, and a young lad, 18 years of age, who was shot with a minie ball midway between the knee and hip, which shattered the bone badly and which caused McGuire and the other surgeons to advise hip-joint amputation. The young fellow protested; McGuire telegraphed to his father, who came from Lynchburg, and, as a result of the entreaties of father and son, an effort was made to save the limb. McGuire removed nearly all of the femur, little dreaming that his patient would recover. He did so, however, and, though a cripple in body ever since, he is a giant in intellect, and to-day represents Virginia in the United States Senate.

After the close of the war in 1865, utterly broken in fortune, but not in spirit, Dr. McGuire settled in Richmond, Va., to begin the practice of medicine. He was soon called to the chair of surgery in the Medical College of Virginia, made vacant by the death of Dr. Charles Bell Gibson. The same qualifications which had made him so successful in war brought him immediate recognition and success in civil practice. As a teacher he was clear, lucid and forceful. He soon became famous as a lithotomist, lithotripist and ovariotomist; patients coming to him from all parts of the south.

The year after he settled in Richmond he married Miss Mary Stuart of Staunton, Va., daughter of Secretary of the Interior Stuart under President Fillmore. She must have been a beautiful girl, judging from her appearance and gracious bearing as a mature woman when she officiated, in 1892, as the wife of the President of the American Medical Association. Her manners were most charming. They were a typical southern couple and unusually devoted to one another. As a result of this union there were nine children, two of them physicians, Dr. Stuart McGuire of Richmond and Dr. Hugh McGuire of Alexandria. The former, who was associated with his father in work, now fills his professorship and is a man of fine ability and one of the well-known surgeons in the south.

Dr. McGuire continued to fill the chair of surgery in the Medical College of Virginia until 1878, when faculty differences caused him to retire. Later on, however, he was made emeritus professor of surgery. He devoted himself, for several years, entirely to his private practice, which was so large as to compel him to have a private hospital, which he built in 1883 and called "St. Luke's Home for the Sick." In 1893 Dr. McGuire organized and caused to be incorporated the University College of Medicine, the doors of which were opened in October and which at once proved to be a success. From the beginning it was a three-year graded school and up to the time of his death he was its professor of clinical surgery.

Dr. McGuire was no ordinary man; he was an original thinker and can be truly considered a "pathfinder" in medicine and

surgery. His large experience as a military surgeon had taught him the futility and hopelessness of treating gunshot wounds of the abdomen by the expectant plan and many years before the first laparotomy was performed for such injury he advised it and predicted that the time would come when gunshot wounds of the abdomen would not be treated by opium and a "do-nothing" policy. To McGuire and Sims, who were the first in America to advise surgical intervention in gunshot wounds, and to Kinloch, the first to put into practice this teaching, we are indebted for the advancement which has brought at least 50 per cent. of recoveries where hitherto nearly all had been lost. I speak advisedly, I think, for then the large, round, leaden ball was used which, moving with slow velocity and usually carrying in with it foreign material of septic nature, was practically always fatal. Great as is the word of speech, the word of action is greater, and we must, therefore, accord to Kinloch the greater credit. Perhaps McGuire was best known for his work in the treatment of enlarged prostate, and his original operation of establishing an artificial urethra after a suprapubic cystotomy. At this time, when prostatectomy and Bottini operations are the fads of the day, it is well particularly to emphasize the good work done by McGuire in this direction. There is no doubt that many cases have been made to enjoy a comfortable existence by his operation which would have inevitably perished had either a prostatectomy or Bottini operation been performed on them.

Dr. McGuire had many civic and professional honors conferred on him; being in turn president of the Richmond Academy of Medicine; one of the organizers and president of the Virginia State Medical Society; president of the Southern Surgical and Gynecological Association; vice-president of the International Medical Congress; president of the American Surgical Association, and President of the American Medical Association in 1892. He had many honorary degrees conferred on him by different institutions, notably Jefferson College, where he wrought as an extramural teacher in anti-bellum days.

He was not a voluminous writer, and yet he wrote singularly well and has left several productions which will endure. As a companion he was most charming and entertaining. As a raconteur he had few equals, and could tell the southern darky stories in a way that no one else I have ever seen could do. He was easily the foremost citizen of Richmond and was so recognized.

His life closed with the nineteenth century, which had produced so many great men and had seen surgery advanced in such a remarkable way.

McGuire was fortunately young enough to accept and practice antiseptic surgery from its birth, and it was due to this fact that he, along with Yandell of Louisville, his intimate friend, could do better work than any of their great predecessors had done.

No part of America has contributed more to surgery than the south, and the impartial critic must accord Hunter McGuire a high place, even in such company as McDowell, Dudley, Brashear, Sims, Battey, Stone, Smythe, Eve and Yandell.

In the spring of 1900, while driving from his house to St. Luke's Hospital, he was seized with acute bulbar paralysis. Unable to speak, he motioned his driver to hurry on to the hospital, then, suddenly changing his mind, he directed him to drive to his home. Here he lived surrounded by his faithful wife and children for six months, unable to articulate, but at times able to drive and walk about. He had been in ill health for several years, being a great sufferer from gout, and this, we know, prevented him from attending the various associations of which he was a member. He was so missed at the Denver meeting that at the banquet of the Section on Surgery it was unanimously voted that he be sent a telegram conveying the love and best wishes of the Section.

On September 19 he fell asleep, hearing, let us believe, the voice of his great commander calling, "Comrade, I am waiting. Cross over the river and rest under the shade of the trees."

Now, Mr. President, in the name and by the request of his family, I take pleasure in presenting the Association with the portrait of the surgeon, the soldier, the gentleman, Hunter McGuire of Virginia.

A motion was made and carried thanking the donors of Dr. Richardson's and Dr. McGuire's portraits, after which the meeting was adjourned.

THURSDAY, MAY 7—FOURTH GENERAL MEETING.

The Association met at 7:30 p. m., and was called to order by the President

Dr. William H. Welch, Baltimore, delivered the Oration on State Medicine.

After this the Association adjourned.

FRIDAY, MAY 8—FIFTH GENERAL MEETING.

The General Meeting was called to order at 12:15 p. m., in the Carondelet Street Methodist Church.

The Secretary presented a brief report of the work accomplished by the House of Delegates, and announced the officers elected. [See proceedings of the House of Delegates, page 1383.]

President Billings invited the Vice-Presidents present to the platform, and among those who responded were Drs. G. C. Savage, C. Lester Hall and George F. Jenkins.

Turning to the Vice-Presidents, President Billings said: I congratulate the Association, and I congratulate you, on the election to the high office you occupy for the ensuing year.

President's Closing Address.

In closing this meeting, I desire to say a few words to the members of the Association who listened to my long address at the opening, and to the House of Delegates, who have borne with me patiently for four days. In addition to what I said last year when inducted into office, I wish to say that I appreciate the honor which this Association did me in electing me its President. I have endeavored with might and main, truthfully and faithfully, to do the work which the office entails. If mistakes have occurred, they have been mistakes of judgment, and my ability was not sufficient to prevent them. But I can assure you that my efforts have always been in earnest.

Again I thank you most heartily for the honor you have done me. (Applause.)

Dr. Charles A. L. Reed, Ohio, moved that when the Association adjourns, it does so to meet in adjourned meeting on Tuesday, May 12, 1903, at 2 p. m., at 103 Dearborn avenue, Chicago. Carried.

On motion of Dr. McMurtry, the General Meeting then adjourned.

HOUSE OF DELEGATES.

Proceedings at New Orleans, May 4, 5, 6, 7 and 8, 1903.

Official Minutes.

MONDAY, MAY 4, FIRST (INFORMAL) MEETING.

The House met informally at the Carondelet Street M. E. Church, and was called to order by the President, Dr. Frank Billings, Chicago, at 3 p. m.

The President stated that the object of the informal, but unofficial, meeting was to listen to reports of committees, which were published, and refer them to committees, thus shortening the work which would come before the House at future meetings. He said, further, that last year the Business Committee recommended that the House of Delegates hold its first meeting at 8 o'clock the evening preceding the regular meeting of the Association, and a resolution to that effect was accordingly adopted. Therefore, at 8 o'clock this evening the House could transact regular business, if there was no objection.

The report of the Board of Trustees was called for, and passed, as the board was not ready to present its report at this time.

Report on Prophylaxis of Venereal Diseases.

Dr. Henry D. Holton, Brattleboro, Vt., chairman of the Committee on Prophylaxis of Venereal Diseases, read the report of that committee. [This was printed in full in THE JOURNAL, May 9, pages 1317 to 1319.]

Dr. William T. Bishop, Pennsylvania, moved that the thanks of the House be extended to the committee; that the committee be continued, and granted the privilege of appointing additional members, if deemed necessary, to carry out the recommendations submitted in the report. Seconded.

Dr. H. Bert Ellis, California, moved to amend that the Board of Trustees be instructed to furnish funds necessary to carry on the work of the committee. Seconded by Dr. Hill, Wisconsin.

The amendment was accepted; whereon Dr. J. N. McCormack, Kentucky, moved as a substitute that this important matter be referred to the Business Committee, and subsequently be brought before the House with the recommendations of the Business Committee.

The substitute was seconded and carried.

Business Committee Reports.

The President called for the report of the Business Committee.

Dr. Harold N. Moyer, Illinois, chairman, said the committee had not been able to have a formal conference in reference to matters to come before the House; therefore, a definite or formal report could not be made at this time. However, he was prepared to say that the committee had agreed on this plan: That the House of Delegates shall meet at 9 a. m. in official executive meeting, and it is hoped that half an hour or an hour devoted to each meeting will dispose of the business, permitting an adjournment of the House as a whole, and passing then to a committee of the whole, for the discussion of such special topics as might be assigned from the House. An afternoon meeting of the House could be held, if necessary. This, in brief, was the substance of the committee's report, so far as it relates to advising the House as to the conduct of its business. Dr. Moyer said the Business Committee would make its formal report at a subsequent meeting.

On motion of Dr. A. E. Baldwin, Illinois, the matter of selecting a member to respond to the addresses of welcome was left to the President.

On motion, the House adjourned, to meet at 8 p. m.

MONDAY, MAY 4, SECOND MEETING.

The House reconvened at 8 p. m., and was called to order by the President.

Dr. H. N. Moyer, Illinois, chairman of Business Committee, said the committee had considered the status of this meeting, and that it was in conflict with the Constitution. Therefore, anything done would have no legal effect. The committee urged, however, that such business as could be gotten through be taken up, and, as a preliminary to that, unanimous consent to the consideration of business at this time should be obtained, otherwise the committee feared the House could not proceed.

On motion of Dr. William T. Bishop, Pennsylvania, unanimous consent was granted and the business proceeded.

Dr. Moyer, speaking for the Business Committee, said that, according to a resolution adopted last year, all new business is referred to the Business Committee without debate. He, therefore, suggested that the resolution of last year be carried into effect this year.

Dr. H. O. Walker, Michigan, moved the readoption of the resolution of last year. Carried.

Dr. Moyer said the Business Committee recommends that when this meeting adjourns, the House meet at 2 p. m. tomorrow.

Dr. H. A. West, Texas, moved that the recommendation of the committee be concurred in. Carried.

Dr. Moyer stated that the Business Committee recommends that the following business come before the meeting: 1. Report of Board of Trustees. 2. Report on Association Medal. 3. Report on Senn Medal. 4. Report of the Committee on Scientific Research. 5. Report of Committee on Public Health.

It was moved that the order of business be that outlined by the chairman of the Business Committee. Carried.

The Secretary called the roll of delegates, and a quorum responded.

Report of the Board of Trustees.

Dr. T. J. Happel, Tennessee, chairman of the Board of Trustees, then read the report of the board. [This appeared in full in THE JOURNAL, May 9, pages 1309 to 1317.]

On motion of Dr. H. O. Walker, Michigan, the report was accepted and the recommendations contained therein referred to the Business Committee.

The President called for the report of the Committee on Association Medal, which was passed.

The President called for the report of the Committee on Senn Medal, when Dr. M. L. Harris, Illinois, a member of the committee, said the committee was not yet ready to make its report. He asked for further time, which was granted.

Report of the Committee on Scientific Research.

In the absence of Dr. Alfred Stengel, chairman of the Committee on Scientific Research, the Secretary read the report of this committee, as follows:

Early in the fall, the committee advertised in the pages of THE JOURNAL and through other medical journals, that five grants of $100 each would be made to persons applying for the same who could show sufficient training and opportunity to warrant the making of a grant. Considerable correspondence resulted and applications were received from a number of physicians. From these the committee has selected, as most deserving, the following:

Dr. Newton Evans and Dr. F. J. Otis, Battle Creek, Mich., for work on "Systemic Infection with Blastomycetes."

Mr. G. F. Ruediger, Rush Medical College, Chicago, for work on "Virulent Streptococcus."

Dr. J. T. Moore, Galveston, Texas, for a study on the "Latency and Relapses of Malarial Fever."

Dr. H. E. Wetherill, Philadelphia, for an "Experimental and Clinical Study of Sweat Secretion."

ALFRED STENGEL, Chairman.

On motion of Dr. E. E. Montgomery, Pennsylvania, the report was referred to the Board of Trustees, inasmuch as it involves the appropriation of money.

The report of the Committee on Public Health was called for.

Dr. H. A. West, Texas, a member of the committee, said he had not heard from the chairman. He suggested that the report of this committee be postponed until the members of the committee had held a meeting.

The suggestion was accepted, after which the House, on motion, adjourned to meet in the Council Chamber of the City Hall at 2 p. m., Tuesday.

TUESDAY, MAY 5, 1903—THIRD MEETING.

The House of Delegates met at 2 p. m. and was called to order by the President.

The Secretary called the roll, and a quorum was present.

The Secretary read the minutes of the previous session.

On motion of Dr. McCormack, the minutes were adopted as read.

Dr. Joseph D. Bryant, New York, took the chair, and President Billings delivered the following:

Message of the President to the House of Delegates.

The year just completed has been a remarkable one in the history of the Association.

This, the second meeting since the plan of reorganization was adopted, finds something like eighteen states practically completely organized on the plan outlined by the Committee on Organization. This committee will make a detailed report, which I am sure will be most gratifying to you.

THE FUTURE REORGANIZATION PROGRAM.

The Board of Trustees has told you of the necessity of commanding the service of an organizer who may visit the different parts of the country and personally explain to the physicians of county societies and of state associations the plan of organization.

The Trustees found an ideal man in the person of Dr. J. N. McCormack, chairman of the Committee on Organization. He is especially fitted for the task. His strong personality, backed by the wisdom of a Solomon, a superlative tact and the thorough knowledge of the subject which three years or more of work and experience in reorganization has given him, enable him to do the work as could few, if any, others.

We must not rest content with reorganization where we are. The work has just begun. To carry it on and complete it the

Association must spend money. If properly expended it will return to us in some form of compensation and prove a good investment.

I believe the Association should, therefore, recommend to the Board of Trustees the continued employment, if he will consent to spare the time to do it, of Dr. McCormack as an official organizer of the Association.

THE RUSH MONUMENT.

Eighteen years ago the Association met in New Orleans. At that meeting a resolution was adopted to appoint a committee for the purpose of obtaining funds with which to erect a monument at Washington, D. C., to Benjamin Rush. It was believed by the maker of the resolution that the estimated necessary sum of $50,000 with which to erect the monument could be raised by subscription in two or three years. It is not necessary to recall to you the fact that you have had a Committee on Rush Monument since that time. This year the committee decided to use the funds already in hand and carry out the plans of the Association begun so long ago.

The committee will maks its report in detail. I only desire to say that the monument will be erected on a suitable site in Washington, on or before the end of 1903. I would, therefore, suggest to you that it would be eminently desirable that the next meeting of the Association be held at Washington, when the Rush monument could be dedicated with proper and imposing ceremonies.

BUREAU OF MEDICINES AND FOODS.

During the year it became necessary for your president to appoint a Provisional Committee on the Establishment of a National Bureau of Medicines and Foods.

The necessity of the standardization of foods and drugs is one which probably all will admit who have considered the subject.

Just what part this Association may safely and judiciously take in the management and control of a corporation which shall attempt to control food and drug adulteration of the country is one on which the Provisional Committee will report.

MEMBERSHIP FOR STOMATOLOGISTS AND PHARMACISTS.

One of the best conducted sections of the Association is that of Stomatology. Its efficient secretary has served continuously for sixteen years. This section is threatened with annihilation, since the plan of reorganization was adopted. This should be obviated by the adoption of the by-law proposed last year which would enable the reputable dentists who have a degree of D.D.S. to become associate members of the Association.

The same condition appertains to the graduates in pharmacy, and similar action should be taken with them.

The mention of graduates in pharmacy reminds me that the Section on Materia Medica, Pharmacy and Therapeutics has advanced far beyond its scope. Two years ago it was proposed that the therapeutics be dropped from that section and that all papers relating to the treatment of disease be transferred to the Section on Practice of Medicine. This should be done. The proper designation of the present Section on Materia Medica, Pharmacy and Therapeutics should then be the Section on Pharmacology. The papers then offered in the section should be limited to the very broad and interesting field designated under the above-named title.

DETERMINATION OF ANNUAL SESSION PLACES.

Each year the Association is forced to precipitately consider the subject of the next place of session. The result is that the place has not been always chosen wisely.

The Association would be materially aided in choosing the next place of meeting if it should make the Committee on Transportation and Place of Session a permanent one.

It would be well to have the chairman of this committee so situated that he would be in touch with the Secretary and with THE JOURNAL of the Association.

Those cities which desire to have the Association on any specified year should be obliged to place the invitation in the hands of the committee at least three months in advance of the meeting next preceding that to which the Association is invited. The committee should then collect data as to facilities of travel, with rates, hotel accommodation and rates, and the opportunities afforded in the way of halls and other suitable meeting places by the city sending the invitation. The committee would then be able to report definite and desirable data to the House of Delegates. This would enable us to choose the next session place without fear of overcrowding in hotels, of inadequate railroad facilities, poor or widely separated halls for section meetings and extortionate charges in hotels and elsewhere.

MEMORIAL TO MAJOR REED.

Last autumn the American medical profession and this Association lost one of its most useful and illustrious members. The death of Major Walter Reed was a national disaster. His work in the investigation of yellow fever stamped him as an original scientific experimenter. His methods were resourceful, bold, brilliant and decisive. Like all true scientists, he was modest, quiet, retiring and superbly humane. He was a captain of science, but only we of the profession can know what his work has done for humanity and commerce.

To those whom his work will be of the greatest benefit his death passed unnoticed; Congress voted his widow a paltry pension.

This Association can not afford to let Major Reed's death pass unnoticed. His memory should be perpetuated by some suitable memorial to be erected at Washington or at his grave in Arlington.

Just how the Association should proceed in the matter of aiding in the erection of this memorial is a question which I shall leave to the delegates of this house.

THE BUSINESS PROCEEDINGS.

Gentlemen, the membership of the House of Delegates is composed of the picked men of the membership of the affiliated state associations. You have been selected by your state societies because you possess attributes which make you better qualified, perhaps, than your fellow members to carry on the legislative business of the Association. The members of the Association, therefore, expect work of the highest order from you. Your acceptance of the office of delegate implies that you will give the proper attention to the duties of a delegate. This means a prompt report at the opening of each session and continuous attendance at the general meetings and on the committees to which you may be appointed. This means a sacrifice of time from attendance on the scientific work of the sections and the social pleasures here offered you. This sacrifice may be minimized for most of you by promptness and fidelity in attendance on meetings and especially if we shall consider all questions which come before us in a rational, liberal minded way. There should be no quarreling here. We may differ in opinion and still retain possession of our better natures and sounder judgment. Your president is not a parliamentarian. There may be men on this floor who are versed in all the methods of blocking action and confusing the presiding officer.

This I mention as an indication of my own limitations and not that I expect to meet opposition on this floor. I bespeak your indulgence and patience, and I assure you of my desire to conduct your business fairly and with dispatch.

On motion of Dr. Wall, Buffalo, the address was referred to the business committee.

The next order was the report of the Secretary, which was read.

Report of the Secretary.

CHICAGO, May 1, 1903.

To the Members of the House of Delegates, American Medical Association:

Gentlemen:—At the last meeting of this Association I was instructed to obtain, as far as possible, correct information in regard to the qualifications of every physician who now claimed membership in the American Medical Association, and to drop all who are not eligible according to our laws.

For various reasons it was impossible for me to systematically start at this work before December. On commencing it, I found that the task was much larger than might have been anticipated, for the reason that but few of the state societies had a knowledge of those who were members of affiliated societies in the state and, consequently, eligible to membership in the American Medical Association. Hence, in spite of a large amount of correspondence, we have not been able to more than half complete the work of verifying our list of members.

In those states that have reorganized, the problem is an easy one, but in the other states it is decidedly difficult, although I think in a very short time the work will be completed.

At the beginning of this work there was very little cooperation on the part of the officers of some of the state societies, and under these circumstances it was thought best to let the matter drop until more interest was shown. At the

present time I am glad to say that in nearly every instance a disposition is shown to co-operate with the American Medical Association, not only in this matter but in others also. The state societies are beginning to appreciate that the work of the Association in this regard especially will redound to their benefit and usefulness.

Up to the present time 146 members have been dropped on account of not being members of affiliated societies. Aside from these, between 125 and 150 were at first not qualified, but have now associated themselves with affiliated societies or have made application for membership. These have been retained on the list of members of the American Medical Association, believing that it is better to take more time and thus give those an opportunity who desire to remain members of the Association and to co-operate in the work of organization.

The experience thus far has convinced me that this enforcement of the by-laws of the Association will prove to be of benefit, not only to the county and state societies, but to the American Medical Association.

A very large number have an idea that the laws in regard to membership now being enforced are new conditions, and protests have been made for this reason. When it is shown that these rules and regulations governing membership are not new, and that the only change is that they are now being enforced, criticisms on the action of this Association are disarmed.

The membership of the Association during the year ending Dec. 31, 1902, increased about 1,450. Since January 1 there has been an increase of 920. In other words, during the last few months, since the enforcement of the by-laws, the membership has increased faster than ever.

MANILA MEDICAL SOCIETY.

I received a letter from Dr. Richard P. Strong, secretary of the Manila Medical Society, on Dec. 15, 1902, in which he said:

I have been directed to forward to you a certified copy of the constitution of the Manila Medical Society, and to request of the American Medical Association recognition and affiliation.

I submit herewith the constitution forwarded.

UNITED STATES INDIAN SERVICE.

Dr. Z. T. Daniel, of Rose Bud, S. D., a member of the Association and connected with the United States Indian Service, wrote, under date of March 30, 1903, asking that the rules regulating membership of the officers of the Army, of the Navy and of the Marine-Hospital Service should also apply to the United States Indian Service.

DELEGATE TO THE CANADIAN MEDICAL ASSOCIATION.

April 2, 1903, I received a letter from Dr. George Elliott, general secretary of the Canadian Medical Association, dated April 1, 1903, in which he said:

The president of the Canadian Medical Association, Dr. Walter H. Moorhouse, London, Ont., desires me to extend an invitation to the American Medical Association to appoint a delegate from your Association to the thirty-sixth annual meeting of the Canadian Medical Association, which is to be held this year in the city of London, Ontario, on the 25th, 26th, 27th and 28th days of August.

Respectfully submitted,

GEORGE H. SIMMONS, Secretary.

On motion of Dr. Bishop, Pennsylvania, the report was referred to the Business Committee.

Report of Business Committee.

The House then listened to the report of the Business Committee, presented by Dr. Moyer, Illinois, chairman, on the order of business of the day. The committee further reported that when the House adjourns, it adjourns to meet at 9 o'clock to-morrow morning.

On motion of Dr. Wall, Buffalo, the report of the Business Committee was adopted.

Dr. Moyer, Illinois, speaking further for the Business Committee, said that the committee had considered the report of the Board of Trustees and other sundry matters referred to it. He read the committee's recommendations that are detailed below.

Trustees and Journal Praised.—The committee desires to express its appreciation of the skilful management of the property of the Association by the Board of Trustees, and to commend the scientific position which THE JOURNAL has achieved under the direction of the Board of Trustees.

Dr. William T. Sarles, Wisconsin, moved that the report of the Business Committee be adopted as presented. Seconded.

Dr. William T. Bishop, Pennsylvania, moved to amend by taking the report up seriatim. Seconded.

The motion as amended was carried.

New Button Design Adopted.—Dr. Moyer then read the following: The committee recommends that the new design for the official button be adopted.

On motion, this section of the report was adopted.

Incorporation Postponed.—The next item was in regard to the matter of national incorporation. On this subject the committee reported: In common with the Board of Trustees, the committee regrets the difficulty attending national incorporation, and feels that this should be kept before the Association as an ultimate goal, but that no further action on this subject should be taken at this meeting.

It was moved and seconded that this recommendation be adopted.

Dr. Lester, New York, moved as an amendment that a committee be appointed to get the advice of the best legal talent in the United States as to whether the Association could be incorporated under an act of Congress or not, and report at the next annual session to the House of Delegates.

The amendment was seconded and accepted. After some discussion, Dr. Wall, Buffalo, moved as an amendment to the amendment that the House authorize an expenditure of $500 for the purpose of obtaining legal opinions which may be submitted one year from now. (Not seconded.)

The original motion as amended was then put and carried. In the discussion it was understood that no money shall be expended for this purpose.

As Dr. Lester did not specify the number of the committee in his amendment, Dr. A. E. Baldwin, Illinois, moved that a committee of three be appointed by the President to consider the matter of national incorporation. Seconded.

Dr. Stevens, Pennsylvania, moved to amend that a committee of five be appointed instead of three and that no two members of the committee shall be from the same state.

The amendment was accepted and carried.

Trustees' Report Adopted.—Dr. Moyer said the committee recommends the adoption of the report of the Board of Trustees as a whole, as amended. On motion, this recommendation of the Business Committee was concurred in.

Report of Committee on National Bureau of Medicines and Foods.

Dr. E. Eliot Harris, New York, presented the report of the Committee on the Establishment of a National Bureau of Medicines and Foods.

On motion of Dr. J. N. Jackson, Missouri, the report of the committee was referred to the Business Committee.

Report of Committee on Revision of Code of Ethics.

Dr. E. Eliot Harris, New York, chairman, presented the report of the Committee on Revision of Code of Ethics and offered the following resolutions:

Resolved, That the Special Committee on Revision of the Code of Medical Ethics unanimously recommends that its report be referred to an enlarged committee, consisting of this Special Committee and one delegate from each state not already represented on the Special Committee, to be appointed by the President.

Resolved, That the enlarged committee give a hearing to any member of the Association who may desire to appear before it at the St. Charles Hotel on this, Tuesday, evening at 9 o'clock.

Dr. Harris, Illinois, moved that the report of this committee and its resolutions and any amendments pertaining to this subject and now ready to be offered, be referred to the Business Committee for action.

Dr. Wall, Buffalo, moved that the report of the committee be received and that the recommendations be adopted. Seconded.

Dr. Charles A. L. Reed, Ohio, offered a substitute for the report of the committee, and moved its adoption.

It was moved that the substitute report for the report of the Special Committee on the Code of Ethics, together with

the resolutions offered and the report of the Special Committee, be referred to the Business Committee.

Dr. Reed's resolution was accepted by Dr. Harris, and the report was so referred.

[See report of enlarged committee on page 1379.]

The President called for the report of the Committee on Sections and Section Work.

Dr. L. S. McMurtry, Kentucky, chairman, said that as only two members of the committee were present he requested the privilege of making the report to-morrow, if compatible with the business before the House.

There being no objection the request was granted.

Report of the Committee on Medical Education.

The report of the Committee on Medical Education was read by Dr. Arthur D. Bevan, Illinois, chairman of the committee.

Mr. President and Members of the House of Delegates:

Your Committee on Education, consisting of Floyd W. McRae, Atlanta, Ga.; Rudolph Matas, New Orleans; R. A. Marmion, U. S. Navy, Washington, D. C.; C. A. Daugherty, South Bend, Ind., and Arthur Dean Bevan, chairman, respectfully submit the following report:

THE ORIGINAL PURPOSE IN FOUNDING THE AMERICAN MEDICAL ASSOCIATION.

We desire first to call attention to the fact that the American Medical Association was formed for the purpose of elevating the standard of medical education in this country. The original call of the Medical Society of the State of New York, which led to the formation of the American Medical Association, was as follows:

WHEREAS, It is believed that a national convention would be conducive to the elevation of the standard of medical education in the United States, and

WHEREAS, There is no mode of accomplishing so desirable an object without concert of action on the part of the medical societies, colleges and institutions of all the states:

Resolved, That the New York State Medical Society earnestly recommends a national convention of delegates from medical societies and colleges in the whole Union to convene in the City of New York on the first Monday in May, 1846, for the purpose of adopting some concerted action on the subject set forth in the foregoing preamble.

Resolved, That a committee of three be appointed to carry the foregoing resolution into effect.

These delegates met and adopted the following, which resulted in the formation of the American Medical Association:

First. That it is expedient for the medical profession of the United States to institute a national medical association.

Second. That it is desirable that a uniform and elevated standard of requirements for the degree of M.D. should be adopted by all the medical schools in the United States.

Third. That it is desirable that young men before being received as students of medicine should have acquired a suitable preliminary education.

Your committee find, therefore, that the American Medical Association was founded for the purpose of elevating the standard of medical education in the United States. Your committee believe that this is still one of the important functions of the American Medical Association. In the course of years this object has been largely lost sight of, probably because with a loosely organized body it was difficult to accomplish satisfactory results in this direction. With the new reorganization of the Association into a compact representative body, representing the medical profession of each county and state, your committee feel that the American Medical Association has become the best national instrument to supervise and elevate medical education.

THE IMPOSSIBILITY OF NATIONAL LEGISLATION.

Our form of government in this country, giving to each state the right to control its own affairs subject simply to the limitations imposed by the constitution of the United States, makes it impossible to obtain medical legislation from the national government. A national supervision of some sort is obviously a necessity. In the absence of national governmental control, we believe that national effort to elevate medical education can be made most effective through the agency of the American Medical Association. Your committee believe that it is the duty of the American Medical Association to undertake such national supervision of the matter of medical education, and that it has the influence sufficient to make its regulations effective.

THE NEED OF ELEVATING THE STANDARD.

Your committee find that the standard of medical education in the United States is very uneven, representing the highest and lowest types, as compared with such civilized powers as England, France and Germany. As a whole, it is distinctly lower than in those countries and lower than it should be to meet the requirements of medical science in the present stage of development. With the advances which are rapidly making medicine a science, the study and practice of medicine are becoming year by year important and weighty functions in every community.

Medicine demands a better order of intellect and better preparation than is possessed by the poorer part of the men who are to-day entering its ranks in America. The other great world powers, our competitors in commerce, arts and science, demand in their medical men as a minimum requirement a preliminary education equal to or more than our best high schools, and then five years of medical study. Such requirements are none too high, and we in this country can not much longer afford to remain satisfied with anything in medicine short of the best. We can not, however, obtain such a marked advancement in requirements at once or in one step. Such an advance must gradually be brought about. Many agencies are now actively at work elevating medical education in this country. The great universities with medical departments have some of them advanced their requirements to a higher point than that obtained anywhere else in the world; the examining boards of many states have done much to elevate medical education by their demands; the work of the Association of American Medical Colleges has also been a factor of importance.

The great work, however, of bringing the entire body of the American medical profession up to an acceptable standard will be accomplished not by university presidents or state legislatures, or associations of medical schools, but by the medical profession itself, through its county, state and national associations.

A PLAN SUGGESTED.

The first step in advancing medical education to be taken by the American Medical Association should be the adoption of an educational requirement for membership—i. e., the fixing of a minimum requirement both as to preliminary education and as to medical education. This, in the opinion of your committee, should be:

First. As a preliminary requirement a high school education—i. e., sufficient to enable the student to pass the examinations for entrance to our standard universities.

Second. A four-year medical course of at least seven months in each year. That requirement should become effective within five years and apply to graduates of 1908 and after that date, sufficient notice being thus given to all medical schools of the country to enable them to change their curricula to meet these requirements.

DETAILS OF CARRYING OUT THE PLAN.

As to the best plan of making this effective, your committee believe that this should be accomplished in the following way:

After voting to adopt such educational requirements, the House of Delegates should inform the officials of each state medical society that the American Medical Association has adopted such educational requirements for membership, and suggest that such officials notify each county medical society in their state, with the request that the educational requirement adopted by the American Medical Association be made a part of the constitution of each county medical society. Your committee believes that such action would be practically unanimously taken, and in this simple way the first and longest step in the way of supervising and elevating medical education by the American Medical Association could be accomplished. Because of the amount of work, especially correspondence, made necessary to see that such educational requirement is made a part of the constitution of each county medical society, your committee would suggest that a considerable degree of permanence be given to the committee on education, and that sufficient funds be appropriated to enable such committee to effectively carry on their work.

Your committee would suggest that the educational committee consist of five members serving five years, one to be appointed each year; the first committee to be appointed one for one, one for two, one for three, one for four and one for five years; thereafter, one new man appointed each year.

Your committee would suggest that a sum not exceeding $5,000 each year be appropriated to carry on the work of the committee on education, a part of this to be paid a salaried assistant secretary selected by the committee. We would recommend that the Secretary of the American Medical Association be made *ex officio* a member of this committee and that

headquarters of this committee be provided in the office of THE JOURNAL Building of the American Medical Association.

THE COMMITTEE'S PROGRAM OF ACTION.

Your committee further suggests that it be the duty of the committee on education to:

1. Secure the adoption of the educational requirements determined on by the American Medical Association by each state medical society, and assist the state medical societies in securing the adoption of these educational requirements by each county medical society.

2. To see to it that all medical schools are thoroughly informed of the educational requirements of the American Medical Association and to urge on such schools as do not demand such requirements the necessity of doing so.

3. To inform themselves as to the requirements and character of work done by each medical school.

4. To inform themselves as to the laws governing the practice of medicine in each state and as to the manner in which these laws are being enforced.

5. To inform the state examining boards and licensing bodies of the educational requirements of the American Medical Association and urge those whose requirements are below those of the American Medical Association to adopt the higher requirement.

6. To inform themselves on all matters pertaining to medical education.

7. To carry out the instructions of the House of Delegates in matters of medical education.

8. To make a full report of their work to the House of Delegates at each annual meeting.

Believing, as did the founders of this Association, that one of the most important functions of the American Medical Association is the elevation and supervision of medical education in this country, your committee ask for your careful consideration of this subject, and urge prompt and effective action along the lines suggested.

On motion of Dr. H. O. Walker, Michigan, the report was referred to the Business Committee.

Amendments to the By-laws.

The next order was the consideration of amendments offered at the last meeting.

Dr. Moyer, Illinois, read the original section of Article 4, Chapter 7 of the By-Laws, regarding the Committee on Nominations. He also read the proposed substitute for it, as follows:

Nominations for officers shall be by informal ballot in the House of Delegates, unless otherwise ordered, by a majority of the delegates present when such nominations are made. Twenty votes shall be necessary to nominate them, and after the nominations are made, the balloting shall continue until some nominee has received a majority of the votes present. After the second formal ballot the nominee receiving the lowest number of votes shall be dropped, and so on in each successive ballot until an election is had.

On motion of Dr. McCormack this amendment was adopted.

On motion of Dr. McCormack other pending amendments were referred to the Business Committee.

The President called for the report of the Committee on Organization.

Dr. McCormack, Kentucky, chairman, asked for further time, as the committee was not ready to report, which was granted.

Report of the Committee on Association Medal.

Dr. L. S. McMurtry, Kentucky, presented a verbal report of the Committee on Association Medal. He said the chairman of the committee who had preceded him had resigned the chairmanship at the last meeting of the Association. For some reason the committee has not been able to select a prize, and he did not know how successful the committee has been in having applications presented to them. Some time after the meeting at Saratoga he was notified by the Secretary that the President, Dr. Wyeth, had honored him with the chairmanship of the committee. He said there was nothing specific in the act creating the committee as to the conditions required of the essays that are presented or the line of investigation to which the essays shall be directed. There are no specific restrictions under which the award is made, and the committee has no authority under the law, by which it was created, to proceed in the matter. He had not been able to confer with his associates on the committee. He asked that the committee be empowered to go forward and to arrange specifications and details to have the work done, and to present the specifications in THE JOURNAL as soon as practicable after the meeting, so as to be able at the next meeting to present material that would be worthy of the award.

On motion of Dr. Vance, Kentucky, the committee was continued and given the power requested.

Report of the Committee on Senn Medal.

Dr. M. L. Harris, Illinois, a member of the Committee on Senn Medal, whose report was called for at this time, said he had been asked by Dr. Dunn, the chairman, who was unavoidably absent, to report the finding of the committee. The members of the committee had carefully considered all of the papers presented to them, and had unanimously found that no paper presented had met the requirements imposed on the awarding of the medal.

On motion the report was accepted.

Report of Committee on Rush Monument.

Dr. Henry D. Holton, Vermont, presented the report of the Committee on Rush Monument Fund as follows:

PHILADELPHIA, May 1, 1903.

To the President and Members of the American Medical Association.

Gentlemen: Your committee on the Rush Monument Fund reports as follows:

At the meeting at Columbus, Ohio, the resignation of the former chairman, Dr. Albert H. Gihon of the U. S. Navy, since deceased, was accepted, and Dr. J. C. Wilson of Philadelphia was appointed to the chairmanship of the committee. The committee at that time consisted of Dr. Henry D. Holton of Vermont and the chairman.

At the meeting at Atlantic City, on the request of the members of the committee as then organized, its membership was increased to five. Drs. Frank Billings of Chicago, Wm. L. Rodman of Philadelphia, and L. D. Bulkley of New York were added to the committee.

The funds in the hands of the treasurer of the committee at that time amounted to about $10,000. In addition to this there was $2,000 contributed by the profession of Pennsylvania, in the custody of Dr. Davis of Pittsburg, and a small sum amounting to about $60 in the custody of the treasurer of the Philadelphia County Medical Society.

Personal efforts were from time to time made by members of the committee to increase this fund, but without success, and various plans having the same end in view were discussed by the members of the committee. Among these were:

First, a further appeal to individual members of the Association and to the profession at large. It was felt that this plan would not prove acceptable and would probably not be attended by success.

Second, it was suggested that the committee should directly appeal to the Trustees of the American Medical Association for an appropriation to this fund, but conference with some members of the Board of Trustees made it evident that such an appeal could not be granted.

Third, and finally, your committee considered the question of appealing to the Congress of the United States for additional funds. This plan was abandoned because it seemed to the committee best that the memorial to Rush should be the direct gift of the profession to the people.

Several months ago it was determined by the committee to ascertain whether or not a suitable monument could be procured with the funds in hand, now amounting with interest approximately to $15,000. The result of negotiations on this subject were satisfactory and the committee has entered into a contract with the Henry Bonnard Bronze Co. of New York City, and through them with Louis R. Metcalfe, Esq., as architect, and R. Hinton Perry, Esq., as sculptor, to erect, on the site originally designated by the Secretary of the Navy on the elevation in the park opposite the U. S. N. Museum of Hygiene, 25th and E streets, Washington, D.C., a monument that shall be satisfactory to the committee and approved by the National Sculpture Society of New York City. This action on the part of your committee has been unanimous and has received the unofficial endorsement of a number of the members of the American Medical Association. It is hoped by the committee that it will receive the favorable consideration of the Association as a body and that the monument to be erected will be creditable as a work of art, an impressive ornament to the locality selected for it and an inspiring memorial of the

illustrious member of our profession whose career it commemorates.

Those who have undertaken the work have given reasonable assurance that the monument will be completed and ready for unveiling early in the autumn of the current year.

In conclusion your committee offers the following resolution: That a sum not exceeding $500 be placed to the credit of the committee to defray expenses incidental to the unveiling of the monument, any portion of this sum not being expended to be returned to the treasury of the Association.

All of which is respectfully submitted.

HENRY D. HOLTON, Treasurer.
J. C. WILSON, Chairman.

HENRY D. HOLTON, TREASURER.

In account with Rush Monument Fund.
June 1, 1902—

Cash on hand	$ 219.35
Funds invested in stocks and bonds	12,200.00
Dividends received	417.00
Dividends due June 1, 1903	200.00
Due from Pennsylvania Medical Society	2,00.00
Interest	
	$15,036.35

It was moved by Dr. John B. Roberts, Pennsylvania, that the report be accepted and referred to the Board of Trustees with the recommendation that funds be appropriated as asked for. Carried.

Appointment of Enlarged Committee on Revision of Principles of Ethics.

Dr. Moyer, speaking on behalf of the Business Committee, in reference to the report of the Committee on Revision of Code of Ethics, said that the committee recommends that the report, together with the substitute proposed and all matters pertaining thereto, be referred to the larger committees, consisting of a representative from each state that is not now represented, to be appointed by the President, said committee to meet immediately after the adjournment of the House of Delegates for organization.

Dr. McCormack, Kentucky, moved that the larger committee be composed exclusively of members of the House of Delegates. Seconded and carried.

The President thereon appointed the following committee:

Alabama—W. H. Sanders.	Missouri—J. N. Jackson.
Arizona—I. W. Craig.	Montana—T. J. Murray.
Arkansas—J. A. Dibrell.	Nebraska—A. B. Anderson.
California—C. G. Kenyon.	New Hampshire—I. J. Prouty.
Colorado—J. N. Hall.	New Jersey—Charles J. Kipp.
Connecticut—C. S. Rodman.	New Mexico—J. F. McConnell.
Delaware—G. W. Marshall.	North Carolina—E. C. Register.
Dist. of Columbia—G. M. Kober.	North Dakota—E. M. Darrow.
Florida—R. D. Murray.	Ohio—C. A. L. Reed.
Georgia—F. W. McRae.	Oregon—
Illinois—Frank Billings.	Pennsylvania—John B. Roberts.
Indiana—Edwin Walker.	Rhode Island—John Champlin.
Indian Territory—B. F. Fortner.	South Carolina—Geo. R. Drau.
Iowa—Samuel Bailey.	South Dakota—W. J. Matum.
Kansas—J. E. Minney.	Texas—H. A. West.
Kentucky—Ap Morgan Vance.	Utah—A. C. Ewing.
Louisiana—Rudolph Matas.	Vermont—D. C. Hawley.
Maine—S. C. Gordon.	Virginia—Stuart McGuire.
Massachusetts—H. E. Marion.	Washington—P. W. Willis.
Michigan—T. A. Felch.	West Virginia—L. D. Wilson.
Minnesota—William Davis.	Wisconsin—W. T. Sarles.
Mississippi—J. C. Hall.	Wyoming—Geo. W. Johnston.

Money for Committee on Scientific Research.

Dr. E. E. Montgomery, Pennsylvania, reported on behalf of the Board of Trustees in regard to the resolution submitted in connection with the report of the Committee on Scientific Research. He said the Board of Trustees moved that the money should be appropriated when the report has been made and accepted by the Association, said report to be the property of the Association.

On motion of Dr. H. Bert Ellis, the report was adopted.

Dr. McCormack moved, in accordance with an announcement made in THE JOURNAL, that to-morrow afternoon be set apart for receiving the reports of delegates in the matter of organization in their respective states, and that it be made the special order, after the reading of the minutes.

On motion the House of Delegates then adjourned until 9 a. m. Wednesday.

WEDNESDAY, MAY 6, FOURTH MEETING.

The House of Delegates met at 9:10 a. m. and was called to order by the President.

A quorum was present when the roll was called.

The Secretary read the minutes of the previous meeting, which were approved.

Dr. Moyer, Illinois, on behalf of the Business Committee, reported the order of business for the meeting, and on motion of Dr. Sarles, Wisconsin, the report of the committee was adopted.

Education Committee's Report Accepted and Ordered Printed.

Dr. Moyer, Illinois, reported that the Business Committee had considered the report of the Committee on Education, and begged leave to report as follows: The committee recommends the adoption of the report, and that it be referred to the Board of Trustees, with the endorsement of the House of Delegates.

Dr. Ellis, California, moved the adoption of the report of the Business Committee. Seconded.

Dr. Edwin Walker, Indiana, moved to amend that the report be received, referred to the Board of Trustees, and be printed for circulation. Seconded.

The motion as amended was carried.

Action Postponed on Bureau of Medicines and Foods.

Dr. Moyer stated that the committee had considered the report of the Provisional Committee on the Establishment of a National Bureau of Medicines and Foods, and felt that the report, as submitted, was so vague in its provision, so meager in detail, that it recommends it be not adopted. The committee recommends that the whole matter be referred to the legislative committee, to report at the next annual session.

It was moved that the recommendation of the Business Committee be concurred in. Seconded.

After some discussion, which was participated in by Dr. Jones, California, and Dr. Moyer, Illinois, Dr. Harris, Illinois, moved that the matter be recommitted to the original Provisional Committee on the Establishment of a National Bureau of Medicines and Foods.

This motion was seconded and carried.

Manila Medical Society Admitted.

Dr. Moyer said the Business Committee had considered the Secretary's report and begged leave to report on certain items, as follows: That the Manila Medical Society be accorded representation on the same basis as a state or territory, providing that their organization be extended to include the Island of Luzon, and such other portions of the Philippines as may organize local medical societies.

It was moved and seconded that the recommendation of the Business Committee be adopted. Carried.

Department of the Interior To Be Represented.

Dr. Moyer stated that the committee recommends that the Secretary be instructed to correspond with the Interior Department, and advise the House of Delegates at the next annual session, with a view of according this service specific recognition.

On motion, the recommendation was concurred in.

Delegate to Canadian Medical Association.

The Business Committee recommends that the President appoint a delegate to represent the American Medical Association at the thirty-sixth annual meeting of the Canadian Medical Association. On motion, the recommendation was adopted.

Secretary's Report Adopted.

The Business Committee recommends the adoption of the report of the Secretary.

It was moved that this recommendation of the Business Committee be adopted. Carried.

Dr. McCormack Praised.

The Business Committee recommends the expression of appreciation of the services of Dr. J. N. McCormack, in reorganizing the profession; it further recommends to the Board of Trustees, a continuation of those services, if Dr. McCormack can be persuaded to continue with the work.

On motion, these recommendations were adopted.

Permanent Committee on Place of Annual Session.

With reference to the item contained in the President's address, in regard to the place of holding the next meeting, the

Business Committee recommends that it be referred to the Committee on Transportation and Place of Session, and that this committee be made a permanent one with the duties suggested by the President.

It was moved that this be adopted. Carried.

Regarding that part of the President's address concerning papers offered in the Section on Materia Medica, Pharmacy and Therapeutics, the Business Committee recommends that it be referred to the Committee on Sections and Section Work.

On motion, the recommendation was concurred in.

Committee on Memorial to Major Walter Reed.

The Business Committee recommends the appointment of a committee of three of the House of Delegates to co-operate with other bodies looking toward placing a suitable memorial in Washington, D. C., commemorating the scientific achievements of Major Walter Reed.

On motion, this recommendation was adopted.

Consideration of Standing of Dental and Pharmaceutic Members.

In reference to the Section on Stomatology, Dr. Moyer, speaking for the Business Committee, said there were two amendments to the Constitution which were proposed last year, and which the Committee had elaborated, and which it recommended for adoption.

Dr. John B. Roberts, Pennsylvania, moved that the amendments be taken up. Carried.

Dr. Moyer then read the following:

Amend Section 6, Article 3, with a section, as follows:

DENTAL ASSOCIATE MEMBERS: Dentists who hold the degree of D.D.S. from a reputable dental college, and who are members of recognized local and state dental societies, may be admitted as associate members, on recommendation of the officers of the Section, subject to approval by a majority vote of the members of the Section.

The Business Committee moved, as an amendment to Section 7, Chapter 1, of the By-laws, the following:

PHARMACEUTIC ASSOCIATE MEMBERS: Pharmacists who are recognized graduates of pharmaceutic schools or colleges and are members of the American Pharmaceutical Association, may be admitted as associate members, on recommendation of the officers of the Section on Materia Medica, Pharmacy and Therapeutics, subject to approval by a majority vote of the members of the Section.

It was moved that the amendment recommended by the Business Committee in regard to associate dental members be adopted. Carried.

It was moved that the amendment in reference to associate members of pharmacy be adopted. Seconded.

Dr. Hill, Wisconsin, moved, as a substitute, that action on the amendment of the Business Committee, in reference to associate members of pharmacy be postponed until the committee had received a recommendation from that section. Seconded and carried.

[Both of the above amendments were revised later.]

Minor Amendments to Constitution.—Under the head of proposed amendments, Dr. Moyer said the first amendment is in regard to Section 1, Article 4, of the Constitution, as follows: After the word "service" at the end of paragraph, add

And (4) the officers of the Association.

He said the Business Committee recommended as a substitute for that this wording, to follow the word "service":

The Board of Trustees shall be members of the House of Delegates, but shall not vote.

On motion of Dr. McCormack, this recommendation was adopted.

The next amendment relates to Article 8, Section 4, as follows: Strike out all after the word "to" in the second line, and insert:

The office of President or Vice-President.

The Business Committee recommended the adoption of this amendment, and on motion the recommendation was concurred in.

A third amendment was with reference to Section 3, Chapter 9, of the By-laws. The committee reported, as a substitute, that the wording of this section read:

Each Section shall have the privilege of sending to the House of Delegates one delegate.

On motion of Dr. McCormack the amendment was adopted.

The next amendment related to Section 5, Chapter 3, of the By-laws.

The Business Committee recommended that this section be repealed.

It was moved that this recommendation be adopted. Carried.

Quorum of the House Defined.—The next amendment related to Section 10, Chapter 3, namely, to strike out the word "majority" and insert the word "twenty-five" in its place. The section would then read:

Twenty-five members composing the House of Delegates shall constitute a quorum for the transaction of business; provided, that at any adjourned session of any annual meeting, ten members shall constitute a quorum.

It was moved that the amendment be adopted. Seconded.

Dr. Bishop, Pennsylvania, suggested that the amendment read:

Twenty-five delegates representing states.

Dr. Wall, Buffalo, offered as an amendment the following addition:

Such adjourned meeting shall not initiate new business or change that which has been adopted.

Seconded.

Dr. Bert Ellis, California, moved that the amendment be referred back to the Business Committee. Carried.

The next amendment related to Section 3, Chapter 9, of the By-laws. At present it reads:

In each Section a nominating committee of three members shall be elected by open ballot on the first day to make nominations for Section officers.

The Business Committee recommended that this amendment to the By-laws be sent to the Committee on Sections and Section Work for consideration and report.

On motion, the recommendation was adopted.

House of Delegates Meetings Defined.—Amendment to Section 3, Chapter 8, of the By-laws. The present section reads:

The House of Delegates shall hold its first meeting of each annual session at 2 p. m. of the first day, and on subsequent days, at such time as may be necessary to complete its business, provided that it shall not meet at hours that will conflict with the general meetings of the Association.

The proposed amendment is:

The House of Delegates shall meet at 10 o'clock on the day before that fixed as the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business, provided, that it shall not meet at hours that conflict with the general meetings of the Association.

The Business Committee reported favorably on this amendment, and recommended its adoption.

On motion, the recommendation was adopted.

Limiting Number of Section Papers.—Amendment to Section 5, Chapter 9 of the By-laws:

The number of papers on the program of any Section shall not exceed forty. No member shall read papers before more than two Sections at any session, and these papers must be on different subjects.

The Business Committee recommended the adoption of this amendment, and on motion the recommendation was concurred in.

Report of Committee on Legislation.

Dr. H. L. E. Johnson, Washington, D. C., presented the report of the Committee on Legislation, as follows:

The Committee on Legislation has the honor to make the following report for the year ending May, 1903: During the last session of the National Congress an antivivisection bill was introduced in the Senate, and your committee, acting promptly, secured sufficient support to impede effectually its official consideration and prevent its passage by that body. We respectfully ask the Association to approve our action on this measure, and disapprove the introduction of this or similar bills or measures in the future.

Under the present Constitution and By-laws your committee is regulated by the following:

The committee on legislation shall report to the House of Delegates at each annual session its proceedings during the previous year, and recommend such action in respect to pending legislation as it shall deem proper. [See page 11, Constitution and By-laws.]

We regret very much the limitations placed on this committee by the above, and respectfully suggest legislation by the House of Delegates which will give the Committee on National Legislation more latitude and authority in dealing with medical legislation, both state and National.

Respectfully submitted, H. L. E. JOHNSON, Chairman.

On motion of Dr. McCormack, the report was referred to the Business Committee.

Report of Committee on Scientific Exhibit.

Dr. Frank B. Wynn, Indiana, presented the report of the Committee on Scientific Exhibit:

The chairman's address before the Section on Pathology and Physiology a year ago was devoted largely to a consideration of the future of the Pathologic Exhibit. It was recommended that the name be changed to Scientific Exhibit and that the work be placed in entire charge of a director, who should be selected by the Board of Trustees and paid reasonable compensation for his services. Your honorable body took favorable action on these recommendations, but suggested for good reason a postponement of the selection of a director for one year. The present Scientific Exhibit, therefore, was prepared under the old régime and has not been without embarrassments. With less than three months' time in which to accomplish the labor the committee has met the frequent excuse of lack of time; others have protested against taking material to so remote a point, insisting that territory contiguous to the place of meeting should provide the exhibit. Despite the remoteness of the meeting place from sources of pathologic supply, the loyal, saving remnant of the profession has come nobly to the rescue. It is a pleasure to place on this roster of honor the following names:

W. S. Thayer, Thomas S. Cullen, and Harry T. Marshall, Baltimore; E. R. LeCount, Winfield S. Hall, F. Robert Zeit, W. T. Eckley, James Nevins Hyde, F. H. Montgomery, L. E. Schmidt, and —— Harris, Chicago; Willard Bartlett, W. J. Calvert, St. Louis; O. L. Pothier, New Orleans; Frank B. Wynn and J. S. Wright, Indianapolis; H. J. Whitacre, John Miller and M. L. Heidingsfeld, Cincinnati; Calvin DeWitt, Washington; George Adami and M. E. Abbott, Montreal; E. B. Barnett, Havana; Jay F. Schamberg and Mihran K. Kassabian, Philadelphia; Robert Winthrop Gillman, Detroit; H. D. Valin, St. Peter, Minn.; and W. S. Carter, Galveston.

It is not the province of this report to deal with the details of the Exhibit. Particulars will appear at a later date. It is sufficient to say that in point of excellence and efficiency the collection equals any previously given. Thirty odd exhibitors are participants. Especially to be thanked are those from distant points. In the list are to be noted those of national distinction as well as younger men fired with the true zeal, and laying the foundation for achievement in scientific medicine.

It has been found from experience that $500 is ample to cover the expense of the Scientific Exhibit if economically administered. It is recommended that this sum be appropriated annually.

All true physicians contribute more or less to the public weal in matters of hygiene and sanitary science. The ethical spirit prompts us to share without money and without price whatever knowledge we may gain in the healing of the sick. A small band is always to be found within our ranks, earnest, unselfish and untiring; willing to sacrifice time, labor and money in the furtherance of the higher ideals in medicine. Such make possible the Scientific Exhibit. To them are due not alone the praise of "well done," but the moral and material support of this body.

Following the natural and desirable tendency, the effort has been to condense and specialize the Exhibit with reference to location of the meeting places and topics to be prominently considered in the section work. With that end in view tropical diseases have received particular attention. Fine groups of specimens are shown, illuminating amebic and bacillary dysentery and excellent series of tuberculous and typhoid lesions for purposes of differentiation from the former. Excellent series are also shown illustrating malaria, yellow fever and plague. Related to surgery are very complete groups illustrative of surgical diseases of the kidney, bladder and prostate gland. Gynecologic effort has been directed toward the illumination of fibroid tumors and ectopic gestation. The realm of otology is represented by a fine series related to mastoid disease. The dermatologic group is directed chiefly to the illumination of the exanthemata. Besides these groups there are shown a large number of rare and beautiful miscellaneous specimens. Noteworthy exhibits are presented showing apparatus and the work of medical students as conducted under the most approved modern methods. The latter include physiologic experimentation and studies in clinical diagnosis, particularly with reference to the excreta.

It is deeply to be regretted that it has not been possible to arrange for the demonstration of the specimen groups before the respective sections, at stated hours, indicated on the published program. Most certainly this should be done in the future. In the preparation of the annual program, a competent director, in conjunction with the section officers as an advisory committee, will be able to correlate the work of the Exhibit with that of the sections. He will vary the character of the Exhibit from year to year, according to the place of meeting, tendencies in the medical world and to suit the topics of importance to come before the various sections. By this means the Scientific Exhibit will be made practically effective and the Association membership will come to realize that it is not, as many are prone to suppose, a mere adjunct of the Section on Pathology and Physiology, but belongs to the whole Association; that it is a valuable practical feature of the organization in which all reap profit. Further than mentioned it will fall to the director of the Exhibit to see that carefully prepared data are submitted with specimens and demonstrations. He should edit the same for publication and preservation in the archives of the Association. A small volume might be published each year containing a catalogue of the exhibits, clinical and descriptive data, plates, etc., which would become valuable for purposes of reference. Funds might with propriety be placed in his hands for the encouragement of research exhibits.

As stated on a previous occasion the Scientific Exhibit is in harmony with the spirit of the age which demands brevity; calls for facts rather than theories, and deeds rather than words. Contact of the man of pure science with him who applies scientific knowledge to practice, will tend to prevent narrowness and antagonisms on the one hand, and on the other prove conducive to harmony and mutual upbuilding. The mission of the physician is to minister to the suffering and heal the sick. Of this cardinal fact scientists should not lose sight. And on the part of clinicians there is need of appreciating more fully the great assistance afforded them by a practical knowledge of pathology and physiology. Whether a specimen be presented in the exhibit of the American Medical Association, in the state medical society or in a county medical society, the practical lesson taught is the same. Summed up it is that a practical knowledge of pathology constitutes the most substantial basis for skill in diagnosis. The physician reading a paper, reporting a case or presenting a specimen is, to be sure, rendering a service to his colleagues. He confers on himself a much greater benefit. The knowledge begotten in the labor becomes a joy and a blessing like his own child. This, and the consciousness of high purpose and duty well done, are the rewards of the scientific worker, which, in a measure, compensate for the meager financial return which is too often his lot.

Dr. Bishop, Pennsylvania, moved that the report be referred to the Business Committee; that this committee make its recommendation, then refer the report to the Board of Trustees and obtain a report of the board, so that the two reports can be made at one time, and thus save much time. Carried.

Report of Judicial Council.

Dr. N. S. Davis, Jr., Illinois, read the report of the Judicial Council, as follows:

The Judicial Council reports that letters were read from J. Austin Willis of Oakland, Cal., and from W. T. Salmon of Oklahoma City, and from doctors of San Diego, Cal., signed by J. C. Hearne and others. These letters asked for decisions on hypothetical cases. The council can only consider genuine cases properly referred to it; therefore, on motion, the council voted that the above letters of inquiry be referred back to the writers, and recommends that such matters should come through the county and state societies.

PHILIP MARVEL, Chairman.

Report of Committee on Public Health.—The President called for the report of the Committee on Public Health.

Dr. H. A. West, Texas, a member of this committee, said that the duties of this committee were not well defined. In his correspondence with the chairman of the committee, his suggestion was, that matters concerning the public health should be referred to this committee, and that the committee was to serve merely in an advisory capacity as to the work to be referred to it.

Five Dentists Made Associate Members.—Dr. A. E. Baldwin, Illinois, in accordance with amendment to Section 5, Article 4, of the Constitution, in regard to associate members, recommended that the following be made associate members of the Section on Stomatology: C. V. Vignes, C. Edmund Kells, Paul de Verges, Jules J. Sarrazin, E. T. Belden.

On motion the Committee on Organization was authorized to codify the Constitution and By-laws and to correct any typographic errors contained therein.

Dr. M. L. Harris, Illinois, offered the following amendments:

Amendment to Chapter 12, Section 2, by eliminating the section in its entirety.

Article 11 and Chapter 14 should each read:

Three-fourths of the members present.

Article 9:

The House of Delegates may recommend the appropriation of funds in accordance with, etc.

Moved to amend the Constitution and By-laws, so as to place the Association on the assessment plan, in accordance with the plan already adopted by many of the state societies.

The Sanders Resolutions on Public Health System.

Dr. W. H. Sanders offered resolutions, which were referred to the Business Committee:

WHEREAS, The protection of the people from disease is the greatest aim of all true physicians; therefore, be it resolved by the American Medical Association,

1. That to formulate a complete, coherent, and constitutional public health system for this country be declared one of the most important achievements to which this body can devote itself.

2. That immediate steps be taken to construct such a system, and to submit it for adoption by the people of the states and of the nation.

To Have Standing Committee Reports Printed Before Session for Distribution.

Dr. Edwin Walker, Indiana, offered the following:

Resolved, That all reports of standing committees shall be transmitted to the Secretary ten days before the annual session of the House of Delegates, and that all such reports shall be presented for distribution to the members of the House of Delegates.

This was referred to the Business Committee.

Association Petitions President Roosevelt to Appoint Medical Officer on Isthmian Canal Board.

Dr. W. H. Welch, Baltimore, introduced the following:

Inasmuch as the construction of the Isthmian Canal is through a region in which, without energetic sanitary control there is sure to be enormous loss of human life from preventable diseases, particularly from pernicious malaria, and yellow fever, as well as great waste of energy and of money from disabilities caused by such diseases; and inasmuch as the measures for the restraint of these diseases, which have already achieved even their extermination in Cuba under American administration, require expert knowledge, based on practical familiarity with tropical diseases, experience in the application of these measures, and large authority in their administration, therefore,

Resolved, That the American Medical Association begs most respectfully and earnestly to call to the attention of the President of the United States the importance of appointing as a member of the Isthmian Canal Commission a medical man possessed of the qualifications indicated. The Association is convinced that the mere employment of such a sanitary expert by the Commission will not be likely to secure the desired results.

Resolved, That the Secretary of the Association transmit a copy of these resolutions to the President of the United States.

This was referred to the Business Committee.

On motion of Dr. Le Grande, Alabama, the Committee on Transportation and Place of Session was urged to have its report ready for presentation the first thing to-morrow morning.

Dr. Moyer, Illinois, said the Business Committee had neglected to recommend the adoption of the President's report. He moved that the report be adopted. Carried.

On motion of Dr. McCormack, Kentucky, secretaries of their respective state societies were invited to be present to discuss the subject of organization at the afternoon session and that, in the absence of the secretary, the president of the state society be invited to do so. Carried.

On motion the house then adjourned until 2 p. m.

WEDNESDAY, MAY 6—FIFTH MEETING.

The House of Delegates reconvened at 2:30 p. m., and was called to order by the President.

The Secretary called the roll, and there was a quorum present.

The Business Committee reported the order of business for the meeting, and on motion the report was accepted.

Pharmacists Again Considered.—Dr. Moyer, Illinois, speaking for the Business Committee, said that the committee had considered the amendment to Article 3, Section 7, of the By-laws, which was referred back to it, on pharmaceutic associate members, and begged leave to report as follows: The committee moves to amend, by striking out the words "graduates of recognized pharmaceutic schools and colleges" and inserting the word "reputable" before the word "pharmacists." The committee recommended this for adoption and, on motion of Dr. Hill, Wisconsin, the recommendation was concurred in. [See further modification below.]

Regarding the second amendment referred back to the Business Committee, which relates to Chapter 3, Section 10, of the By-laws, the committee recommended substituting the words "twenty-five of the voting members," so that the section, as amended, shall read:

Twenty-five of the voting members composing the House of Delegates shall constitute a quorum for the transaction of business, provided, that at adjourned session, of any annual meeting, ten members shall constitute a quorum.

The committee also recommended the addition of these words:

Such adjourned meeting shall not initiate new business or change that which has been adopted.

On motion of Dr. Wall, Buffalo, the recommendations of the committee were concurred in.

Dr. Moyer, speaking for the Business Commitee, said the report from the Section on Stomatology, in reference to associate members, required no action; that the adoption of the by-law, in reference to associate members, made them members in accordance with its provisions, if properly elected by the Section.

Isthmian Canal Resolutions Adopted.

The Business Committee reported favorably on the resolution offered by Dr. William H. Welch in reference to the sanitary construction of the Isthmian Canal, and recommended for adoption the resolution.

The recommendation was concurred in and, on motion of Dr McCormack, the resolution adopted.

In reference to the resolution offered by Dr. W. H. Sanders, Alabama, the committee recommended that it be referred to the Committee on Public Health, and on motion it was so ordered.

Printed Reports Adopted.

With reference to the resolution offered by Dr. Edwin Walker, Indiana, the Business Committee recommended that it be adopted; that the Secretary instruct the various committees to transmit their reports to him ten days before the annual session, that they may be printed.

On motion the recommendation was agreed to.

Legislation on Antivivisection Endorsed.

In reference to the first part of the report of the Committee on Legislation, which deals with the antivivisection bill, the Business Committee recommended it for adoption. The committee felt that this should be adopted, with the strongest possible endorsement by the House of Delegates.

On motion the recommendation of the Business Committee was adopted.

Dr. Moyer then offered the following resolution on behalf of the Business Committee:

Resolved, That the American Medical Association approves the action of its committee in defeating the antivivisection bill recently pending before Congress, and that Congress be strongly urged to give no further consideration to legislation of that character in the future.

Seconded and carried.

Regarding the remaining portion of the report of the Committee on Legislation, which relates to the somewhat anomalous position in which the committee finds itself, the Business Committee recommended that this part of the report be referred back to the Committee on Organization and Codification of the Constitution and By-laws.

On motion the recommendation was adopted.

Dr. Wall, New York, introduced the following resolution:

Resolved, It shall be a standing rule of the Association that no amendment or change in the Constitution and By-laws shall be acted on until it shall have been presented at a previous annual session.

This was referred to the Business Committee.

Report of Organization Committee—Forty-Four State Representatives Report.

Dr McCormack, Kentucky, chairman, read the report of the Committee on Organization.

At the conclusion of the report, representatives of forty-four states and territories made brief but very encouraging reports of the excellent work that is being done in reorganizing the medical profession throughout the country.

On motion the report of the Committee on Organization and the reports made by representatives of the respective states and territories were adopted, and a vote of thanks extended to the chairman, Dr. McCormack.

Money for Committee on Organization.

Dr. Charles A. L. Reed offered the following resolution, which was adopted:

Resolved, That with the concurrence of the Board of Trustees, $500, or so much thereof as may be necessary, shall be appropriated from the treasury, to pay the necessary expenses of the Committee on Organization.

On motion the House of Delegates then adjourned until 9 a. m., Thursday.

THURSDAY, MAY 7—SIXTH MEETING.

The House of Delegates met at 9:20 a. m. and was called to order by the President.

The Secretary called the roll, and there was a quorum present.

The Secretary read the minutes of the two previous meetings, which, after some corrections had been made, were approved.

Dr. Moyer, Illinois, representing the Business Committee, reported on the order of procedure for the day, and on motion the report was adopted.

The Business Committee requested that the amendments to the By-Laws which were adopted relative to dental and pharmaceutic associate members be sent back to the committee for further consideration.

Dr. Moyer, Illinois, moved that the vote by which these amendments were adopted at a previous meeting be reconsidered. Carried.

Dr. Moyer, Illinois, then moved that the amendments be referred back to the Business Committee for further consideration. Carried.

Appropriation for Scientific Exhibit.

The Business Committee, to which was referred the matter of Scientific Exhibit, with instructions that the committee confer with the Board of Trustees relative to an appropriation necessary to continue the work of that committee, reported that the committee had had a conference and the trustees had advised that an appropriation not to exceed $500 be made and that, further, the Board of Trustees recommend the adoption of the committee's report.

It was moved and seconded that the recommendation of the Business Committee and of the Board of Trustees be adopted. Carried.

Amendments Must Lie Over One Year.

In reference to the standing resolution offered by Dr. Wall, Buffalo, at the last meeting, the committee begs to report favorably and to offer the following resolution:

Resolved, It shall be a standing rule of the Association that no amendment or change in the Constitution or By-Laws shall be acted on unless it shall have been presented at a previous annual session.

The committee moved its adoption. Seconded and carried.

Congress on Venereal Diseases at St. Louis Fair in 1904.

The Business Committee had considered carefully the question of the report of the Committee on Prophylaxis of Venereal Diseases and the proposal to hold a congress during the Louisiana Purchase Exposition and reported favorably on the report of the committee. Furthermore, the committee offered the following resolution:

1. The present Committee on Prophylaxis of Venereal Diseases to be continued and act as the central committee.
2. A co-operative committee be created, composed of one member for each state, to be appointed by the president of each state medical organization.
3. This central committee, with the approval of the co-operative committee, be authorized to organize and provide for a Congress for the Prophylaxis of Venereal Diseases during the existence of the Louisiana Purchase Exposition, to be held at St. Louis, with representatives of the Army, Navy and Public Health Service.
4. The central committee, with the approval of the co-operative committee, be directed to select officers to be presented to the proposed congress for action.
5. Each member of the co-operative committee is directed and expected to create an interest in his own state in the proposed congress.
6. The central committee is authorized to select from the officers of the Louisiana Purchase Exposition a suitable place for the meetings of the congress.
7. The legislative committee of the American Medical Association, in Washington, is directed to seek to secure an appropriation from the Congress of the United States of $5,000 for the expenses of the proposed congress.
8. A sum not to exceed $500 is recommended to be appropriated by the Board of Trustees of the American Medical Association for the expenses of the preparation of this congress, as proposed at the meeting of the House of Delegates Monday afternoon, May 4.

The Business Committee moved the adoption of the report of the committee, and on motion the report and resolution were adopted.

Dental and Pharmaceutic Members Provided For.

Dr. Moyer said the Business Committee was prepared to report in regard to the amendment to the By-Laws concerning dental members. He said they were described as "dental associate members." This was a mistake. They should be known simply as "dental and pharmaceutic members." The Association had associate members who should be kept distinct, and the word "associate" following the words "dental and pharmaceutic" was unnecessary The amended section reads:

Article 3, Section 6. DENTAL MEMBERS.—Dentists who hold the degree of D.D.S. from a reputable dental college and who are members of a recognized local or state dental society, may be admitted as dental members on recommendation of the officers of the Section on Stomatology and approval by a majority vote of the Section, the names of such members to be sent to the Secretary by the Secretary of the Section.

The Business Committee moved the adoption of this amendment. Carried.

Regarding Article 3, Section 7 of the By-Laws, the Business Committee recommended the following amendment, which was adopted:

Reputable pharmacists may be admitted as pharmaceutic members on recommendation of the officers of the Section on Materia Medica, Pharmacy and Therapeutics, subject to approval by a majority vote of the members of the Section, the names of such members to be sent to the Secretary by the Secretary of the Section.

Supplementary Report of the Board of Trustees.

Dr. T. J. Happel, president of the Board of Trustees, said: I wish to make a supplementary report of some of the work done by the Board of Trustees since the meeting of the Association in regard to matters that should be reported to the House of Delegates.

MONEY FOR SCIENTIFIC RESEARCH.

1. We have had presented to us several accounts. Five hundred dollars was asked for by the House of Delegates, to be appropriated for the use of the Committee on Scientific Research. The action of the Board of Trustees in regard to that matter is that the money has not yet been earned by the parties to whom the work has been assigned, but it will be paid when certified to properly by the chairman of the Committee on Scientific Research and presented to the chairman of the Board of Trustees.

SECTION SECRETARIES' EXPENSES ALLOWED.

2. Bills have been presented to the Board of Trustees, through the House of Delegates, from the secretaries of sections, ranging in amount from the sum of $4 up to a maximum of $15. These have been allowed and will be paid.

NATIONAL ORGANIZER CONTINUED.

3. The Board of Trustees would report that Dr. J. N. McCormack has been continued as organizer for the next twelve months on terms satisfactory to himself and the Board of Trustees.

UNVEILING RUSH MONUMENT.

4. In regard to the Rush monument, the board has been asked for an allowance of $500, or not to exceed that amount, to be used in defraying the expenses of unveiling the Rush monument. The board has willingly and gladly appropriated that sum which has been asked for, but not to exceed $500.

INDEFINITE APPROPRIATIONS BARRED.

5. The Board of Trustees wishes to emphasize a matter that is mentioned in its report which has been presented in printed form, namely, that no indefinite appropriation will be made by the Board of Trustees. In case a committee is appointed to do work and there is not a specific sum of money stated as an approximate amount to be expended by such committee, the board will not be authorized to meet any expenses connected with it. The board does not wish to be considered arbitrary in such matters, but, as custodians of the funds, the board wishes a limitation fixed by the House on any appropriation, and then it will be acted on.

COMMITTEE ON FOOD AND DRUGS BILL.

6. A bill was presented to the Board of Trustees by Cooley, Lewis & Elgas, attorneys, for legal opinion on account of the Committee on Food and Drugs on the question of the legality to elect trustees of the proposed corporation until such persons have been selected by the American Medical and the American Pharmaceutical Associations. The board can find no record of having appropriated money for securing legal opinion for this purpose, hence this account is disallowed.

SUPPLY OF THE NEW BUTTONS.

7. In regard to the matter of buttons, we believe the House of Delegates has already adopted the suggestion made by the Board of Trustees in regard to the button, and the board has directed me to report that a supply of buttons will be made in accordance with the suggestions of the board. These buttons can be procured at an approximate cost by all who do not possess them, and on the terms the Editor has been sending them out.

8. The account in connection with the Committee on Reorganization has been allowed.

9. The Board of Trustees has continued the appropriation of $500 for the use of the Committee on Scientific Exhibit as heretofore.

On motion of Dr. Charles A. L. Reed, Ohio, the supplementary report of the Board of Trustees was adopted.

Report of the Committee on Medical Ethics.

The next order was the report of the Enlarged Committee on Revised Code of Ethics.

Dr. E. Eliot Harris, New York, read the following report:

To the President and Members of the House of Delegates of the American Medical Association:

Your enlarged Committee on Medical Ethics, consisting of the special committee and one delegate from each state, have unanimously adopted the following report, entitled the "Principles of Medical Ethics of the American Medical Association," which is herewith submitted.

The following report of the Special Committee shall be printed as an explanatory preface to the Principles of Medical Ethics of the American Medical Association.

Gentlemen: Your committee has given extended and careful thought to the proposed revision of the Code of Medical Ethics referred to it for consideration. As you will note on reference to the caption of the report the word "code" has been eliminated and the expression "Principles of Medical Ethics of the American Medical Association" adopted as adequately descriptive. In reference to this change, it is proper to say that such action on its part is based on the idea that the American Medical Association may be conceived to occupy some such relation to the constituent state associations as the United States, through its Constitution, holds to the several states. The committee, for this reason, regards it as wiser to formulate the principles of medical ethics, without definite reference to "code" or penalties, thus leaving the respective states, to form such code, and establish such rules as they may regard to be fitting and proper, for regulating the professional conduct of their members, provided, of course, that in doing so there shall be no infringement on the established ethical principles of this Association. The committee regard as wise and well intended to facilitate the business of the parent organization and promote its harmony this course which leaves to the state association large discretionary powers concerning membership and other admittedly state affairs. Your committee has retained, to a large extent, the phraseology of the existing code, while aiming at condensation of expression and a better understanding of some of its statements. The report of the committee has been reached unanimously, without dissension or distrust on the part of its members, each aiming to formulate a result based on principle alone, and without regard to any past or present disagreements or misunderstandings whatsoever; such being the case, the committee invites your candid and unprejudiced attention to the results of its labor, feeling that at least some good has been accomplished.

Respectfully submitted,

E. ELIOT HARRIS, Chairman.
WILLIAM H. WELCH.
T. J. HAPPEL.
JOSEPH D. BRYANT.

Principles of Medical Ethics.

The American Medical Association promulgates as a suggestive and advisory document the following:

CHAPTER I.—THE DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1.—Physicians should not only be ever ready to obey the calls of the sick and the injured, but should be mindful of the high character of their mission and of the responsibilities they must incur in the discharge of momentous duties. In their ministrations they should never forget that the comfort, the health and the lives of those entrusted to their care depend on skill, attention and fidelity. In deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for unkindness, carelessness or neglect is their own conscience.

SEC. 2.—Every patient committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SEC. 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SEC. 4.—Frequent visits to the sick are often requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. Unnecessary visits are to be avoided, as they give undue anxiety to the patient; but to secure the patient against irritating suspense and disappointment the regular and periodical visits of the physician should be made as nearly as possible at the hour when they may be reasonably expected by the patient.

SEC. 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give timely notice of dangerous manifestations to the friends of the patient; and even to the patient, if absolutely necessary. This notice, however, is at times so peculiarly alarming when given by the physician, that its deliverance may often be preferably assigned to another person of good judgment.

SEC. 6.—The physician should be a minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician, whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7.—The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SEC. 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of evil conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

CHAPTER II.—THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

ARTICLE I.—DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SECTION 1.—Everyone on entering the profession, and thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness. It is inconsistent with the principles of medical science and it is incompatible with honorable standing in the profession for physicians to designate their practice as based on an exclusive dogma or a sectarian system of medicine.

SEC. 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; should endeavor to promote the science and art of medicine and should entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

SEC. 3.—Every physician should identify himself with the organized body of his profession as represented in the community in which he resides. The organization of local or county medical societies, where they do not exist, should be effected, so far as practicable. Such county societies, constituting as they do the chief element of strength in the organization of the profession, should have the active support of their members and should be made instruments for the cultivation of fellowship, for the exchange of professional experience, for the advancement of medical knowledge, for the maintenance of ethical standards, and for the promotion in general of the interests of the profession and the welfare of the public.

SEC. 4.—All county medical societies thus organized ought to place themselves in affiliation with their respective state associations, and these, in turn, with the American Medical Association.

SEC. 5.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to the patients, as without it their respect and confidence can not be commanded, and to the profession because no scientific attainments can compensate for the want of correct moral principles.

SEC. 6.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare and even to the life of a human being.

SEC. 7.—It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans.

SEC. 8.—It is equally derogatory to professional character for physicians to hold patents for any surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances; to assist unqualified persons to evade the legal restrictions governing the practice of medicine; or to dispense, or promote the use of, secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality, and if mystery alone give them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or other substances used therapeutically.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SECTION 1.—Physicians should not, as a general rule, undertake the treatment of themselves, nor of members of their family. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. These visits ought not, however, to be obtrusively made, as they may give rise to embarrassment or interfere with that free choice on which such confidence depends.

SEC. 2.—All practicing physicians and their immediate family dependants are entitled to the gratuitous services of any one or more of the physicians residing near them.

SEC. 3.—When a physician is summoned from a distance to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

SEC. 4.—When more than one physician is attending another, one of the number should take charge of the case, otherwise the concert of thought and action so essential to wise treatment can not be assured.

SEC. 5.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time. The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician.

ARTICLE III.—THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SECTION 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet the emergencies of disease or accident.

SEC. 2.—Consultations should be promoted in difficult cases, as they contribute to confidence and more enlarged views of practice.

SEC. 3.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others.

SEC. 4.—As professional engagements may sometimes cause delay in attendance, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

SEC. 5.—In consultations no insincerity, rivalry, or envy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

SEC. 6.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 7.—No decision should restrain the attending physician from making such subsequent variations in the mode of treatment as any unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 8.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In the first instance the consultant should do what is needed, and in the second should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 9.—All discussions in consultation should be held as confidential. Neither by words nor by manner should any of the participants in a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SEC. 10.—It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in. None but the rarest and most exceptional circumstances would justify the consultant in taking charge of the case. He should not do so merely on the solicitation of the patient or friends.

SEC. 11.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified, as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE IV.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice especially on the character and the extent of their medical education.

SEC. 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician.

SEC. 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician, in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SEC. 5.—The physician acting in conformity with the preceding section should not make damaging insinuations regarding the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge or skill.

SEC. 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired the former should resign the care of the patient immediately on the arrival of the family physician.

SEC. 7.—It often happens, in cases of sudden illness, and of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should request that the family physician be called, and should withdraw unless requested to continue in attendance.

SEC. 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be relinquished on the return of the latter.

SEC. 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient because of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SEC. 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to the professional fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE V.—DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such unfortunate cases occur and can not be immediately adjusted, they should be referred to the arbitration of a sufficient number of impartial physicians.

SEC. 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VI.—COMPENSATION.

SECTION 1.—By the members of no profession are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limits should be placed to their performance. Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2, of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege.

SEC. 2.—It can not be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without due compensation. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SEC. 3.—Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SEC. 4.—It is derogatory to professional character for physicians to pay or offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to solicit or to receive such commissions.

CHAPTER III.—THE DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its laws, institutions and burdens; especially should they be ready to co-operate with the proper authorities in the administration and the observance of sanitary laws and regulations, and they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SEC. 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

SEC. 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on snbjects strictly medical, snch as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SEC. 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of artful impostors.

SEC. 5.—It is the duty of physicians to recognize and by legitimate patronage to promote the profession of pharmacy, on the skill and proficiency of which depends the reliability of remedies, but any pharmacist who, although educated in his own profession, is not a qualified physician, and who assumes to prescribe for the sick, ought not to receive such countenance and support. Any druggist or pharmacist who dispenses deteriorated or sophisticated drugs or who substitutes one remedy for another designated in a prescription, ought thereby to forfeit the recognition and influence of physicians.

Principles of Ethics Adopted.

Dr. E. Eliot Harris, New York—In view of the fact that the report I have just read was unanimously adopted by the enlarged committee, consisting of the special committee, and one delegate from each state, I move the adoption by this house of the report as read.

Dr. Charles A. L. Reed, Ohio, in rising to second the motion, said that he wished to testify to the absolute harmony which has prevailed in this conference, and to congratulate the Association on the fact that by the adoption of this report we put an end to a controversial question which has disturbed our councils for many years. (Applause.)

The President put the motion, and it was adopted unanimously, amid tumultuous and prolonged applause.

Dr. E. Eliot Harris, New York, then offered the following resolution, and moved its adoption:

Resolved, That the Special Committee engross a copy of the Principles of Medical Ethics of the American Medical Association, and that it be signed by the President and Secretary of this Association.

Seconded and unanimously carried.

Report of Committee on Transportation and Place of Annual Session.

Dr. Ellis, California, reported on behalf of the Committee on Transportation and Place of Session.

Invitations were received by the committee from Milwaukee, Cincinnati, St. Louis, and Atlantic City, and it was suggested to the committee by the President that the Association meet in Washington. In regard to Cincinnati and St. Louis, the invitations did not come from the medical profession. In regard to Washington, the committee telegraphed for rates in regard to hotels, and as the replies to telegrams were not satisfactory, Washington was eliminated as a place of session. The committee recommended unanimously Atlantic City, N. J., as the place of the next session.

It was moved and seconded that the recommendation be adopted.

Dr. Sarles, Wisconsin, moved to amend the report of the committee by substituting Milwaukee for Atlantic City. Seconded.

After some discussion, which was participated in by Drs. Moyer, Dorsett, Dean and Hill, the President put the substitute, and it was declared lost.

Atlantic City Session in 1904.—The house then voted on the original motion, and it was adopted.

The Secretary read a resolution from the Section on Hygiene and Sanitary Science, which, on motion, was referred to the Business Committee.

District Branches of the Association.

Dr. Edwin Walker, Indiana, president of the Mississippi Valley Medical Association, said that at the last meeting of this association a resolution was unanimously passed, declaring that it was desirable that it should become a distinct branch of the American Medical Association. He asked, therefore, that this matter be referred to the Committee on Organization.

Dr. McCormack, Kentucky, moved that the matter be referred to the Committee on Organization, and that authority be granted that committee to consider the question of the division of this country into branch associations, in accordance with the plan laid down in the By-laws, and that the committee be instructed to report on such a plan at the next annual session of the Association. Seconded and carried.

Report on National Bureau of Medicines and Foods.

Dr. Ellis, California, presented the report of the Provisional Committee on the Establishment of a National Bureau of Medicines and Foods.

Your committee has very carefully investigated the matter submitted to it both in general plan and as to the scientific, business and legal details, and while the matter will demand of the joint committees an enormous amount of work, there is nothing in the plan that can not be accomplished if the two associations co-operate with and support their committees. The matter has reached a point where a little more time devoted to energetically prosecuting the work will see a successful accomplishment of the objects desired, whereas a postponement of all further work for a year would result in the indefinite continuance of the conditions which have existed and which have been deplored since 1881.

The bureau plan has in contemplation the idea of establishing a board of qualified experts who should represent the interests and the support of the professions of medicine and pharmacy, and through the medium of such a board secure (1) more general conformity to the standards of the pharmacopeia; (2) drugs and chemicals and foodstuffs that will be actually as labeled and can be relied on; and (3) deal in a proper professional and ethical manner with the large and ever-increasing number of proprietary mixtures and preparations that are being presented to the medical profession. This was first suggested by Dr. F. E. Stewart at the session of the American Medical Association in 1881.

This idea has been elaborated and plans have been formulated which it is thought will secure the objects desired. (The detailed plans will be submitted if so desired, but they are necessarily extensive and complex, and several hours would be required to fully consider them.) These plans have been approved by a number of representative physicians and pharmacists, and it is evident that of the professional interests and the people of this country (and especially the members of the American Medical and the American Pharmaceutical Associations) really desire relief from the present unfortunate and distressing condition of materia medica and pharmacy, and of adulterated and dishonest foodstuffs, such relief is at hand.

Primarily, this plan contemplates the voluntary association of honest manufacturers and pharmacists who will agree with the board of experts representing medicine and pharmacy on standards of identity, purity, quality and strength to which their products shall comply, and will further agree to carry out these standards and to comply with the necessary rules governing manufacture, etc.

Organization for the purposes indicated would be begun by the formation of a corporation on the membership plan—no stock issued and not for profit—under the name of the "National Bureau of Medicines and Foods," and all members of the American Medical and the American Pharmaceutical Associations would be members of this bureau. It is proposed that the board of directors governing this bureau be elected by these two associations, each having five directors, one from each association retiring annually and a successor elected for five years.

In order to indicate to the physician, the pharmacist or the purchaser such articles as comply with the standards of identity, purity, quality and strength, and may in consequence be

relied on to conform truthfully with the label affixed, and also to reward the honest manufacturer and pharmacist for his honesty and aid him in competition with dishonest or impure products, those manufacturers and pharmacists who affiliate with the bureau in this work will be authorized to print on the labels of such of their products as are placed under the supervision of this bureau a certificate of identity, purity, quality and strength of a form to be indicated by the board of directors.

All possible precautions in the way of frequent inspection, analysis, or assay will be taken by the bureau in order to keep certified products up to standard and to protect the bureau certificate from fraud. In addition to the original analysis or inspection of each "batch," every article bearing the bureau certificate will be purchased in open market from time to time and submitted to analysis, assay and comparison with standard samples.

The bureau will also gather and diffuse reliable information relative to materia medica products, chemicals and foodstuffs, and to those who manufacture or deal in the same, and it is believed that in a comparatively short time such information will replace and do away with the one-sided and unreliable trade literature which is at present in many instances the only available source of information.

The work of the bureau will be purely commendatory, and not in any way condemnatory, so that it can in no event become an agent of blackmail.

As the bureau is not a commercial enterprise, is not organized for profit, nor for money-making, only the actual expense of doing the work required will have to be defrayed.

In addition to the two associations already mentioned any scientific society that may vote to affiliate with the bureau may do so, and its members then become members of the bureau; and further, any person who so desires or who is willing to signify his approval of the aims and objects of the bureau, may become a member on the payment of $1 per year.

The best legal opinion to be obtained assures your committee that it is possible for this work to be carried on successfully without involving the associations in any legal difficulties with those whose products are not certified by the proposed bureau.

This work would be undertaken only by the joint action of the committees of this Association and of the American Pharmaceutical Association, and in harmony with the legislative committees of these associations, giving and taking such aid from the U. S. government authorities as we are able to give or receive.

H. BERT ELLIS,
N. S. DAVIS, JR.
PHILIP MILLS JONES.

Abstract of Laws from P. No. 158, approved March 3, 1903, authorizing the Secretary of Agriculture to investigate the adulteration of foods and drugs, to supervise the importation of food products from foreign countries and to fix standards of purity for foods.

The provisions of the law are as follows:

To investigate the adulteration of foods, drugs, and liquors, when deemed by the Secretary of Agriculture advisable; and the Secretary of Agriculture, whenever he has reason to believe that articles are being imported from foreign countries which by reason of such adulteration are dangerous to the health of the people of the United States, or which are forbidden to be sold or restricted in sale in the countries in which they are made or from which they are exported, or which shall be falsely labeled in any respect in regard to the place of manufacture or the contents of the package, shall make a request on the Secretary of the Treasury for samples from original packages of such articles for inspection and analysis; and the Secretary of the Treasury is hereby authorized to open such original packages and deliver specimens to the Secretary of Agriculture for the purpose mentioned, giving notice to the owner or consignee of such articles, who may be present and have the right to introduce testimony; and the Secretary of the Treasury shall refuse delivery to the consignee of any such goods which the Secretary of Agriculture reports to him have been inspected and analyzed and found to be dangerous to health, or which are forbidden to be sold or restricted in sale in the countries in which they are made or from which they are exported, or which shall be falsely labeled in any respect in regard to the place of manufacture or the contents of the package.

To enable the Secretary of Agriculture to investigate the character of food preservatives, coloring matters, and other substances added to foods, to determine their relation to digestion and to health, and to establish the principles which should guide their use; to enable the Secretary of Agriculture to investigate the character of the chemical and physical tests which are applied to American food products in foreign countries, and to inspect before shipment, when desired by the shippers or owners of these food products, American food products intended for countries where chemical and physical tests are required before said food products are allowed to be sold in the countries mentioned, and for all necessary expenses connected with such inspection and studies of methods of analysis in foreign countries; to enable the Secretary of Agriculture, in collaboration with the Association of Official Agricultural Chemists, and such other experts as he may deem necessary, to establish standards of purity for food products and to determine what are regarded as adulterations therein, for the guidance of the officials of the various states and of the courts of justice.

Dr. Le Grande, Alabama, moved that the report be adopted and the present committee be continued. Seconded.

Dr. H. O. Walker, Michigan, moved to amend by referring the report to the Business Committee. Seconded.

The motion as amended was carried.

Dr. McCormack, Kentucky, offered a resolution creating an officer to be named by the President, who shall be known as the Commissioner of Medical Education of the American Medical Association.

On motion, the resolution was referred to the Board of Trustees, with the request that the board report to-morrow morning. Seconded and carried.

Proposed Amendment on Committee on Legislation.

Dr. Charles A. L. Reed, Ohio, introduced the following proposed amendment:

SECTION 3.—COMMITTEE ON NATIONAL LEGISLATION: The Committee on National Legislation shall consist of three members appointed by the President, one for a term of one year, one for a term of two years, and one for a term of three years, but whose successors shall each be appointed as vacancies occur, for a term of three years, and an auxiliary committee to be composed of one delegate or alternate from each state and territorial society represented in this Association, to be approved annually by the President of this Association, on the nomination of such state or territorial society, and one member from the Army, Navy and Marine-Hospital Service, to be nominated by the chief officer of these respective departments, and approved by the President of this Association. It shall be the duty of the committee to represent before Congress and elsewhere, the wishes of this Association regarding any proposed legislation, that in any respect bears on the promotion and preservation of the public health, or on the material or moral welfare of the medical profession. This committee shall invite to a conference at Washington, D. C., once in each year, or oftener if need be, the auxiliary committee herein created, at which shall be considered questions of national and state legislation, with the view of uniting all of the influences of the entire profession throughout the country in support of all proper legislation, and of securing uniformity in the same, so far as may be possible and expedient. The Committee on National Legislation shall have power to act *ad interim*, and its necessary expenses shall be paid by this Association.

Reapportionment.

Dr. Foshay, Ohio, called attention to a provision in Chapter 3, Section 3, of the By-laws, regarding the appointment of a committee of five on reapportionment. He moved, therefore, that the President be authorized between now and to-morrow to appoint the additional three members of this committee, to serve during the succeeding year, and to report on reapportionment at the Atlantic City meeting. Carried.

Dr. Allport, Illinois, offered a resolution, which was referred to the Business Committee.

Resolutions on Abuse of Patent Medicines.

Dr. Hill, Wisconsin, presented resolutions from the Section on Materia Medica, Pharmacy and Therapeutics.

To the House of Delegates:

The following resolutions have been adopted by the Section on Materia Medica, Pharmacy and Therapeutics, and the delegates from that Section to the House of Delegates instructed to present them to the House of Delegates:

In view of the growth of the use and abuse of proprietary remedies, the Section recommends:

1. That newspapers which do not print objectionable medical advertisements are entitled to and should receive the favor and preference of medical men.

2. That articles on the dangers arising from the use of quack nostrums should be written for such newspapers for publication.

3. That the Committee on National Legislation be asked to consider the feasibility of the introduction in the next House of Representatives of an interstate measure prohibiting or limiting the sale of poisonous and dangerous patent medicines.

4. That no medicinal preparation for internal use, as distinguished from antiseptics, disinfectants, cosmetics and dietetics, advertised as a remedy or cure to the laity, is entitled to the patronage of physicians, nor should such be admitted to the pages of medical journals, nor to the exhibitions of the American Medical Association.

5. That manufacturers be requested to print the scientific or chemical names under the trade name of all pharmaceutic or chemical preparations.

6. That the general plan and objects of the National Bureau of Medicines and Foods are entitled to a further careful investigation by a special committee of the American Medical Association.

Metric System Recommended.

To the House of Delegates:

The following resolutions have been adopted by the Section on Materia Medica and Therapeutics and a delegate from that Section instructed to present them to the House of Delegates, with the recommendation that they be adopted by the Association:

Resolved, That teachers of medicine and pharmacy, editors of medical and pharmaceutic journals and authors of text-books, are respectfully requested to give precedence to the metric method in the writing of all medical formulæ and that for the administration of doses of less than a teaspoonful, the quantity be stated in drops delivered from a standard medicine dropper or pipe of three millimeters of external diameter, which will deliver twenty drops of water at 15 degrees C., which will measure one cubic centimeter when dropped at the rate of 1 per second, and that the teaspoonful be considered as equivalent to 5 cubic centimeters, and that the tablespoonful be considered as equivalent to 15 centimeters; and,

Resolved, That the orthography, abbreviations, etc., of the International Bureau, or as revised by the National Bureau of Standards at Washington, shall also be recommended for adoption in medical and pharmaceutic publications; and,

Resolved, That a copy of these resolutions be transmitted to the Committee on Revision of the United States Pharmacopeia for 1903, with the request that they be incorporated, as far as possible, in the United States Pharmacopeia.

On motion, the resolutions were referred to the Business Committee.

Dr. J. B. Morgan, Georgia, offered the following amendments to Article 4, Section 1, of the Constitution. After the words "Marine Hospital Service," add:

And the ex-Presidents of this Association who shall continue as residents of the United States or its Territories.

The Secretary read a resolution from the Section on Hygiene and Sanitary Science, which, on motion, was referred to the Business Committee.

Dr. Moyer, Illinois, on behalf of the Business Committee recommended that when the house adjourns it meet at 9 o'clock Friday morning.

On motion, the recommendation of the committee was concurred in.

The Secretary said he had received a communication in the form of a manuscript from Dr. Liston H. Montgomery in regard to why the name of no American scientist appears in the Hall of Fame, and on motion of Dr. Walker, Indiana, it was referred to the Business Committee without being read.

Dr. H. A. West, Texas, moved that the Board of Trustees be instructed to make an appropriation so that the Business Committee may be authorized to employ the services of a stenographer at the next Annual Session, to facilitate the work of that Committee. Carried. On motion, the House of Delegates then adjourned until 9 a. m. Friday.

FRIDAY MAY 8—SEVENTH MEETING.

The House met at 9:15 a. m., and was called to order by the President.

The Secretary called the roll, and there was a quorum present.

On motion the reading of the minutes of the previous session was dispensed with.

Election of Association Officers.

The House then proceeded to the election of officers, with the following result:

PRESIDENT—Dr. John H. Musser, Philadelphia.

FIRST VICE-PRESIDENT—Dr. G. C. Savage, Nashville, Tenn.

SECOND VICE-PRESIDENT—Dr. Isadore Dyer, New Orleans.

THIRD VICE-PRESIDENT—Dr. C. Lester Hall, Kansas City, Mo.

FOURTH VICE-PRESIDENT—Dr. George F. Jenkins, Keokuk, Iowa.

TREASURER—Dr. Henry P. Newman, Chicago.

SECRETARY AND EDITOR—Dr. George H. Simmons, Chicago.

TRUSTEES—Drs. William H. Welch, Baltimore; Miles F. Porter, Fort Wayne, Ind., and Dr. M. L. Harris, Chicago.

JUDICIAL COUNCIL—Drs. F. H. Wiggin, New York; G. B. Gillespie, Tennessee, and D. C. Peyton, Indiana.

ORATOR ON SURGERY—Dr. W. J. Mayo, Rochester, Minn.

ORATOR ON MEDICINE—Dr. George Dock, Ann Arbor, Mich.

ORATOR ON STATE MEDICINE—Dr. H. M. Biggs, New York.

Standing Committees Announced.

The President announced the following committees:

COMMITTEE ON AWARD OF ASSOCIATION MEDAL—Dr. Lewis S. McMurtry, Louisville, Ky., chairman; Dr. Burnside Foster, St. Paul, Minn.; M. H. Fussell, Philadelphia.

COMMITTEE ON AWARD OF SENN MEDAL—Dr. James H. Dunn, Minneapolis, chairman; Dr. M. L. Harris, Chicago; Dr. Floyd W. McRae, Atlanta, Ga.

COMMITTEE ON SCIENTIFIC EXHIBIT—Dr. F. B. Wynn, Indianapolis, chairman, appointed as director, he to select the remaining members of the committee.

COMMITTEE ON SCIENTIFIC RESEARCH—Dr. Alfred Stengel, Philadelphia, chairman; Dr. William Osler, Baltimore, and Dr. L. Hektoen, Chicago.

COMMITTEE ON ORGANIZATION—Dr. J. N. McCormack, Bowling Green, Ky., chairman; Dr. P. Maxwell Foshay, Cleveland, Ohio; Dr. George H. Simmons, Chicago.

COMMITTEE ON RUSH MONUMENT—Dr. James C. Wilson, Philadelphia, chairman; Dr. Henry D. Holton, Brattleboro, Vt., treasurer; Dr. Frank Billings, Chicago; Dr. L. Duncan Bulkley, New York; Dr. Wm. L. Rodman, Philadelphia.

COMMITTEE ON NATIONAL LEGISLATION—Dr. Charles A. L. Reed, Ohio, chairman, one year; Dr. W. L. Rodman, Philadelphia, two years, and Dr. William H. Welch, Baltimore, three years.

COMMITTEE ON BUSINESS—Dr. Edwin Walker, Evansville, Ind.; Dr. A. R. Craig, Pennsylvania; Dr. George M. Kober, District of Columbia; Dr. T. J. Murray, Montana, and Dr. William Davis, Minnesota.

COMMITTEE ON TRANSPORTATION AND PLACE OF SESSION—Drs. M. L. Harris, Illinois; F. H. Wiggin, New York; H. Bert Ellis, California; B. H. Hartwell, Massachusetts; G. C. Savage, Tennessee; H. A. West, Texas, and A. F. Jonas, Nebraska.

COMMITTEE ON MAJOR WALTER REED MONUMENT—Drs. W. W. Keen, Pennsylvania, chairman; Joseph D. Bryant, New York; Maurice H. Richardson, Massachusetts; Victor C. Vaughan, Michigan; T. S. Cullen, Maryland.

COMMITTEE ON REAPPORTIONMENT—Drs. William S. Foster, Pennsylvania, chairman; P. Maxwell Foshay, Ohio; J. N. Hall, Colorado, President-elect and Secretary ex officio.

COMMITTEE ON NATIONAL INCORPORATION—Drs. Joseph D. Bryant, chairman, New York; H. L. E. Johnson, District of Columbia; Leartus Connor, Michigan; D. S. Fairchild, Iowa; C. G. Kenyon, California, and Frank Billings, ex officio.

Endorsement of Vote of Thanks for Portraits.

The Secretary stated that the portrait of Dr. T. G. Richardson was presented to the General Meeting on Tuesday night by Dr. Edmond Souchon, New Orleans, who delivered a eulogy on the life of Dr. Richardson. After the presentation of the portrait a motion was made and carried that the thanks of the Association be extended to the donor of this picture. A portrait of Dr. Hunter McGuire was also presented, and a eulogy delivered by Dr. W. L. Rodman, Philadelphia. The Secretary said that the Constitution provides that no resolution shall be adopted as expressing the wishes or thanks of the Association unless it be endorsed by the House of Delegates.

Accordingly a motion was made to endorse the action taken at the General Meeting, and it was carried.

Associate Members from Section on Hygiene.

The Secretary presented the following: At the meeting of the Section on Hygiene and Sanitary Science the following named persons were recommended by this section as associate members of the American Medical Association: Mr. W. A. King, chief of Division of Vital Statistics of the United States Census Service; Mr. George W. Fuller, C.E., expert in filtration of water and sewage wastes; Mr. G. G. Earl, expert of the New Orleans Sewerage and Water Board.

On motion these gentlemen were accepted as associate members.

Dr. P. Maxwell Foshay, Ohio, said the election of Dr. Musser to the presidency had raised a rather anomalous constitutional

problem. He quoted Article 8, Section 3 of the Constitution, which reads:

Each officer, with the exception of the Trustees, shall hold office for one year, or until his successor is elected and installed.

Dr. Musser having gone home, this provision of the Constitution which provides that the President shall hold office until his successor is installed could not be complied with. He, therefors, moved that the House of Delegates, by unanimous consent, order President Billings to retain office until the first General Meeting of the next annual session at Atlantic City, N. J., June, 1904. Seconded.

After considerable discussion, which was participated in by Drs. Bishop, Foshay, Miller, Jackson, Vaughan, Wall, McCormack, Moyer and Rodman, Dr. Foshay pointed out that this was the plan pursued by the British Medical Association.

The President put the motion, and it was carried.

Dr. Moyer, Illinois, speaking for the Business Committee, said that the committee reported favorably on the resolution presented by Dr. McCormack at the previous meeting.

On motion the report was adopted.

Association Thanks the New Orleans Committee of Arrangements and Others.

Dr. McCormack, Kentucky, offered the following resolutions of thanks:

Resolved, That the cordial thanks of this Association be hereby tendered to the fair women and brave men of this historic city, and more especially to the medical profession and the various active and efficient committees through which it has been made effective, for the profuse and charming hospitality which has done so much to make this one of the most pleasant sessions in the history of the Association.

Resolved, That thanks be extended also to the newspapers of the city for the full and impartial reports of the proceedings published, to the transportation companies for reduced rates, and to all others who have contributed to the success and pleasure of this session.

Resolved, That especial thanks be extended to the retiring President and to the Secretary, for the constant fidelity and distinguished ability manifested in their management of the affairs of the Association, not only during this session, but throughout the year.

On motion the resolutions were unanimously adopted.

The President called for a report of the Committee on Sections and Section Work, but there was no report made.

Announcement of Other Committees.

The Committee on Reciprocity, Committee on Public Health, Committee on Medical Education, Committee on Prophylaxis of Venereal Diseases, and the Committee on Credentials and Registration were continued, as follows:

COMMITTEE ON RECIPROCITY—Dr. W. L. Rodman, Philadelphia, chairman; Dr. William H. Welch, Baltimore; Dr. Joseph M. Mathews, Louisville, Ky.; Dr. Henry Beates, Jr., Philadelphia; Dr. T. J. Murray, Butte, Mont.

COMMITTEE ON PUBLIC HEALTH—Dr. Charles O. Probst, Columbus, Ohio, chairman; Dr. J. N. Hurty, Indianapolis; Dr. W. H. Sanders, Mobile, Ala.; Dr. H. A. West, Galveston, Tex.; Dr. W. C. Gorgas, U. S. A.

COMMITTEE ON PROPHYLAXIS OF VENEREAL DISEASES—Dr. Henry D. Holton, Brattleboro, Vt., chairman; Dr. George M. Kober, Washington, D. C.; Dr. W. H. Sanders, Mobile, Ala.; Dr. Ludwig Weiss, New York, secretary; Dr. L. D. Bulkley, New York; Dr. Louis E. Schmidt, Chicago.

COMMITTEE ON CREDENTIALS AND REGISTRATION—Dr. George H. Simmons, Chicago, chairman; Dr. P. Maxwell Foshay, Cleveland, Ohio; Dr. H. O. Walker, Detroit.

Supplementary Report of Board of Trustees.

Dr. Happel, chairman of the Board of Trustees, presented a supplementary report on behalf of the board. He said:

Your Board of Trustees would respectfully request the House of Delegates that whenever any matter involving the appropriation of money is sent to the Board of Trustees for action that it be properly endorsed with the names of the presiding officer of the House and the Secretary. We have had several matters brought before the board, and documents have been handed first to one member and then to another member of the board, without any endorsement. The House of Delegates is a business body, and why not be such *de facto*, as well as *de jure*; let us have everything that comes from the House of Delegates to the Board of Trustees conducted on a business basis.

In regard to the accounts that came before the board, your board would report that it has passed favorably on the account of the Committee on Scientific Research, granting an allowance to pay bills for $375. The board reported yesterday that it had appropriated a sum of money for this committee, not to exceed $500 for the ensuing year.

With reference to the Committee on Prophylaxis of Syphilis, the request was made to appropriate the sum of $500 to prepare for that meeting. The Board of Trustees reported that it would be unfair to appropriate a sum of money for one committee and not for another, under the present conditions of the finances of this organization, hence the request was respectfully declined.

The next matter coming before the board was the resolution of Dr. McCormack in regard to the creation of an office, entitled "Commissioner of Medical Education," indirectly carrying an appropriation, and the request was returned to the House of Delegates, without action, for the present, and to lie on the table for a year.

In regard to the report of the Committee on Medical Education, which carried with it indirectly a request for the appropriation of a sum not to exceed $5,000, your board would report that it heartily endorses the sentiments of the matter contained in the report of the Committee on Medical Education, but that there is not money enough on hand at present to grant the appropriation asked for.

On motion of Dr. Bishop, Pennsylvania, the report was adopted.

Resolution Passed on Care of Eyes of School Children.

The Business Committee reported in regard to a resolution from the Section on Ophthalmology, and offered by Dr. Allport, Illinois. The committee had been unable to see the officers of this Section, but it favored the adoption of the resolution as amended by the committee, which reads:

WHEREAS, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures; therefore, be it

Resolved, That it is the sense of the American Medical Association that measures be taken by boards of health, boards of education, and school authorities, and, where possible, legislation be secured, looking to the examination of the eyes and ears of all school children, that disease in its incipiency may be discovered and corrected.

On motion the report of the committee was adopted.

Committee on Bureau of Medicines and Foods Continued.

Dr. Moyer, Illinois, said: Your Business Committee was somewhat in doubt as to the Committee on National Bureau of Medicines and Foods. We inferred that that committee was continued. This being the case, it is in accord with a resolution which the committee is prepared to offer in reference to that committee:

Resolved, That the Committee on National Bureau of Medicines and Foods be continued, that they confer with the Committee of the American Pharmaceutical Association and with the United States authorities and report at the next annual session.

It was moved that the report be adopted. Carried.

Dr. Moyer, Illinois: The Business Committee has considered two communications, one regarding the Hall of Fame, and the other a report direct from the Section on Hygiene and Sanitary Science, without endorsement, both of which it is recommended be laid on the table.

On motion it was so ordered.

Resolution Favoring Popular Education in Hygiene.

The Business Committee recommends that the following resolution from the Section on Hygiene and Sanitary Science be referred to the Committee on Public Health:

Resolved, That the Section on Hygiene and Sanitary Science of the American Medical Association recommends the passage of a resolution by the House of Delegates, endorsing the principle of public education in the principles of hygiene, and the true nature, cause and prevention of contagious and infectious diseases, and the establishment of a National Institute of Hygiene, which would co-operate with the various states in popularizing such instruction, as set forth in the two papers read on the subject of popular education, and that a special committee of five be appointed to carry out the intention of the resolution and formulate a plan to report the same at the next annual session of the American Medical Association.

On motion it was so ordered.

Resolutions on Vital Statistics.

In regard to the following resolutions, offered by the Section on Hygiene and Sanitary Science, the Business Committee begs

to report favorably, and recommends their adoption, but does not agree with the suggestion that a special committee be appointed, but that the subject of this report be referred to the Committee on Public Health. Your committee fully recognizes the importance of vital statistics, but it is also impressed with the thought that too many special committees will certainly clog your proceedings, and that, therefore, it recommends that the resolutions be referred to the Committee on Public Health.

Dr. Vaughan, Michigan, moved to amend, by suggesting that the Committee on Public Health be instructed to confer with the Superintendent of Vital Statistics.

The Business Committee accepted the amendment, which was duly seconded and carried.

On motion of Dr. McCormack, Dr. Vaughan was added as a member of the committee. The resolutions above referred to are as follows:

WHEREAS, The Congress of the United States has recently passed the following joint resolution, which was approved by the President, Feb. 11, 1903:

Joint Resolution Requesting State Authorities to Co-operate with Census Office in Securing a Uniform System of Birth and Death Registration:

WHEREAS, The registration of deaths at the time of their occurrence furnishes official record information of much value to individuals; and

WHEREAS, The registration of births and deaths, with information on certain points, is essential to the progress of medical and sanitary science in preventing and restricting disease and in devising and applying remedial agencies; and

WHEREAS, All of the principal countries of the civilized world recognize the necessity for such registration and enforce the same by general laws; and

WHEREAS, Registration in the United States is now confined to a few states, as a whole, and the larger cities, under local laws and ordinances which differ widely in their requirements; and

WHEREAS, It is most important that registration should be conducted under laws that will insure a practical uniformity in the character and amount of information available from the records; and

WHEREAS, The American Public Health Association and the United States Census Office are now co-operating in an effort to extend the benefits of registration and to promote its efficiency by indicating the essential requirements of legislative enactments designed to secure the proper registration of all deaths and births and the collection of accurate vital statistics, to be presented to the attention of the legislative authorities in non-registration states, with the suggestion that such legislation be adopted; now, therefore,

Resolved, by the Senate and House of Representatives of the United States of America in Congress Assembled, That the Senate and House of Representatives of the United States hereby expresses approval of this movement and requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration.

WHEREAS, The adoption of this resolution and its effective execution mark the beginning of a vast improvement in the value and usefulness of the vital statistics of this country, for which purpose the recent publications of the Census Office on "Legislative Requirements for Registration of Vital Statistics," including draft of a model law and standard form of certificate of death, "Practical Registration Methods," "Relation of Physicians to Mortality Statistics," "Medical Education in Vital Statistics," and the "Manual of the International Classification of Causes of Death" are most admirably adapted; therefore,

Resolved, That the American Medical Association heartily welcomes the action of Congress in promoting the adoption of complete and uniform systems of registration of vital statistics in the United States, and congratulates the American Public Health Association and the U. S. Census Office on their useful and effective co-operation for this purpose;

Resolved, That the American Medical Association strongly urges on the state medical societies that special committees be appointed to advocate and secure the passage of satisfactory registration laws in states that do not at present possess them, that county societies support and aid in the execution of such laws as far as possible, and that physicians individually, throughout the United States, endeavor to promote the accuracy and value of the mortality statistics by giving clear and definite statements of causes of death on certificates of death.

Resolved, That a permanent Committee on Vital Statistics be constituted by the American Medical Association, to consist of five members selected by the President, whose duty it shall be to co-operate with the corresponding committees of the American Public Health Association, the Conference of State and Provincial Boards of Health of North America, and with other committees organized for this purpose, and with the U. S. Census Bureau, the U. S. Public Health and Marine-Hospital Service, and other branches of the Federal Government, in the work of promoting the adoption of suitable registration laws and the extension of the registration area, the proper compilation and presentation of vital statistics by states and cities in weekly and monthly bulletins and annual reports, the use of the standard certificate of death, and also in further work relating to the extension, improvement and practical use of the international classification of causes of death, the disposition of jointly returned causes and preliminary work relating to its next decennial revision.

To Avoid Conflicting Dates of State Associations.

The Business Committee offered the following:

Resolved, That the Committee on Organization be instructed to confer during the year with the governing authorities of the various state and territorial associations and, if possible, to report to this House next year some general plan for holding the annual meetings of these bodies in the fall, or at least at a time which will least conflict with the attendance of members at the sessions of this Association.

On motion, the resolution was adopted.

Business Committee Warns Against Excessive Legislation.

Your Business Committee, in this final report, wish to utter a word of warning on what they regard as excessive legislation; the very facility with which the work of the Association is now accomplished is a source of danger. In the past, when so little could be done, sufficient was accomplished from year to year to keep the Association abreast of the development of the profession. At present we are threatened with just the opposite danger, namely, legislation on a great variety of topics, in which the energy of the Association will be dissipated and very little accomplished. It seems to your committee that the reorganization of the profession, the strengthening of THE JOURNAL, and the welding of the profession into a unit are subjects that will profitably occupy the energies of this House for some years to come.

Some well-directed efforts at reform may be undertaken. But if committees are appointed and proceedings had with every thought that enters a member's mind as something which should be reformed, it is certain that little will be accomplished and, at the same time, the proceedings of your House will be clogged, and its work rendered much less efficient. One or two well-directed efforts, extending over several years, if they bear fruit, would be better than this multiplicity of effort.

Already your House has blocked out sufficient business to occupy the greater portion of its executive session next year, and we fear that an excessive amount of new business has been undertaken at this session.

Your committee has endeavored to act as a buffer in keeping new business out of the House, and many times must have seemed ungracious to many who had meritorious matters for consideration. Many do not seem to realize that mere merit alone is not the only thing that should entitle matter to be brought before the House. The members should not forget that in carrying over from year to year a vast amount of business they encroach on the time which should be given to new matters.

Your committee has favored resolutions. Their resounding periods seem somewhat empty; but, as an authoritative expression on a given matter by this body, we believe they are frequently quoted, and are used to further civil legislation and the executive action of municipal officers. While they seem less effective than the committee, they are often of more value.

Business Committee Receives Thanks.—On motion of Dr. Wall, Buffalo, the report of the Business Committee was accepted and the thanks of the House of Delegates tendered to the committee for their faithful labors.

Report of Committee on Reciprocity.—The President called for the report of the Committee on Reciprocity.

In the absence of the chairman, Dr. Rodman, Philadelphia, Dr. Murray, Montana, a member of the committee, said that the committee simply desired to report progress.

Code Revision Committee Thanked.—On motion of Dr. Wishard, Indiana, a vote of thanks was extended to the Committee on Revision of the Code of Ethics.

Amendments Offered.—A proposed amendment to Chapter 4, Section 3 of the By-laws was offered by Dr. Wall, Buffalo. This section to read as follows:

SECTION 3.—The Presidents and Vice-Presidents elected at each annual session of the Association shall be installed at the first General Meeting of the annual session next following that at which they were elected. All other officers shall assume office immediately after the last meeting of the annual session of the House of Delegates at which they are elected.

Dr. Wall, Buffalo, also offered the following amendment: To amend Chapter 4, Section 3 of the Constitution, by substituting "first" for "closing" and add "next annual session."

Dr. Moyer, Illinois: The Business Committee on short notice can not draw up an adequate amendment, but I am going to move that we amend Chapter 7, Section 4, by striking out the words "informal ballot."

Dr. Harris, New York: I have a communication which I will not read, but I would like to have it referred to the Committee on National Incorporation.

On motion the communication was so referred.

Dr. Moyer, Illinois: I move that all pending amendments to the By-laws and Constitution submitted at this meeting be referred to the Committee on Organization and Codification of the Constitution and By-laws, to report at the next annual meeting. Carried.

Dr. Harris, New York: I move that the Secretary be instructed to extend the thanks of the House of Delegates to the proper authorities for the use of this Council Chamber during our sessions. Carried.

On motion the House of Delegates then adjourned, *sine die*.

Membership of the House of Delegates.

The official roster of the House of Delegates was as follows:

DELEGATES FROM THE STATES.

Alabama—W. H. Sanders, W. N. Wilkerson, J. C. LeGrande.
Arkansas—H. C. Dunavant, J. A. Dibrell.
Arizona—R. W. Craig.
California—H. Bert Ellis, C. G. Kenyon, Philip Mills Jones.
Colorado—J. N. Hall.
Connecticut—C. S. Rodman, C. E. Brayton.
Delaware—G. W. Marshall.
District of Columbia—Geo. M. Kober.
Florida—R. D. Murray.
Georgia—J. B. Morgan, F. W. McRae.
Illinois—G. W. Webster, M. L. Harris, G. L. Eyster, A. C. Cotton, D. W. Graham, James Campbell, H. C. Mitchell, Chas. True.
Indian Territory—B. F. Fortner, Leroy Long.
Indiana—G. W. H. Kemper, Edwin Walker, W. N. Wishard, D. C. Peyton.
Iowa—J. R. Guthrie, Samuel Bailey.
Kansas—J. C. Minney.
Kentucky—J. N. McCormack, Ap Morgan Vance, I. A. Shirley.
Louisiana—Rudolph Matas, W. G. Owen.
Maryland—G. S. Cullen, W. H. Welch.
Maine—S. C. Gordon.
Massachusetts—B. H. Hartwell, H. E. Marion.
Michigan—H. O. Walker, V. C. Vaughan, T. A. Felch, J. B. Griswold.
Minnesota—A. W. Abbott, Wm. Davis.
Mississippi—J. C. Hall.
Missouri—J. N. Jackson, W. B. Dorsett, Frank J. Lutz.
Montana—T. J. Murray.
Nebraska—H. M. McClanahan, A. B. Anderson.
New Hampshire—I. J. Prouty.
New Jersey—Chas. J. Kipp, E. J. Marsh, L. M. Halsey.
New Mexico—J. Frank McConnell.
New York—E. Eliot Harris, Chas. A. Wall, Elias Lester, Jos. D. Bryant.
North Dakota—E. M. Darrow.
North Carolina—E. C. Register, J. A. Burroughs.
Ohio—C. A. L. Reed, P. Maxwell Foshay, Frank Warner.
Oklahoma—
Oregon—
Pennsylvania—William T. Bishop, J. B. Roberts, W. S. Foster, G. W. Guthrie, A. R. Craig, J. B. Donaldson, G. G. Harmon, C. L. Stevens.
Rhode Island—John Champlin.
South Dakota—W. J. Maytum.
South Carolina—Geo. R. Deane.
Tennessee—W. J. Miller, Duncan Eve, Louis LeRoy.
Texas—H. A. West.
Utah—A. C. Ewing.
Vermont—D. C. Hawley.
Virginia—J. R. Gildersleeve, Stuart McGuire, R. S. Martin.
Washington—
West Virginia—L. D. Wilson.
Wisconsin—W. T. Sarles, Herman Reineking.
Wyoming—Geo. P. Johnston.
Medical Department, U. S. A.—L. A. LaGarde.
U. S. Public Health and Marine Hospital—Walter Wyman.
U. S. Navy Medical Director—R. A. Marmion.

DELEGATES FROM THE SECTIONS.

Practice of Medicine—J. M. Anders.
Surgery and Anatomy—Chas. A. Powers, A. D. Bevan.
Obstetrics and Diseases of Women—Edwin Ricketts, E. E. Montgomery.
Hygiene and Sanitary Science—N. S. Davis.
Ophthalmology—Frank Allport.
Diseases of Children—
Stomatology—A. E. Baldwin.
Nervous and Mental Diseases—H. N. Moyer, Richard Dewey.
Cutaneous Medicine and Surgery—W. L. Baum.
Laryngology and Otology—N. H. Pierce.
Materia Medica—O. T. Osborne, W. B. Hill.
Pathology and Physiology—E. R. LeCount.

Section Minutes and Names of Those Registered at New Orleans To Be Printed Next Week.

THE JOURNAL of May 23 will contain the official minutes of the Sections and a list of members who registered at the New Orleans session.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

TO DETECT FORMALIN IN MILK.

DANVILLE, ILL., May 9, 1903.

To the Editor:—Will you kindly inform me of the method commonly used to detect formalin in milk? S. L. L.

ANS.—The test for the presence of formaldehyd in milk is to dilute the suspected milk with an equal volume of water and underlay the resulting solution with sulphuric acid containing a trace of ferric chlorid. The violet zone at the junction of the liquids indicates formaldehyd; in normal milk the zone will be brown.

A VETERINARY TRACHEOTOMIST.

OWOSSO, MICH., April 26, 1903.

To the Editor:—I have the honor to submit the following which occurred in my practice: Dr. A. M. Hume called me in consultation in a case of laryngeal obstruction. The patient was a butcher. Tracheotomy was advised and performed. On regaining his breath, the patient motioned for a pencil and paper on which he wrote the following: "I have operated on many, but they all died." He is still alive. D. H. LAMB.

PINK REACTION IN URINE—IS IT DUE TO A DRUG?

JAKIN, GA., May 4, 1903.

To the Editor:—This morning while applying the nitric acid test to the urine of a pregnant woman, I noticed that all the urine above the acid turned to a pink color. This is a reaction that I have never noticed before, and I would like to know the cause of it.

H. G. MINTER, M.D.

Medical News.

ALABAMA.

Personal.—Dr. William M. Gamble, state physician at the Wetumpka penitentiary, has resigned and has been succeeded by Dr. Martin, Clanton.——Mr. Martin Crook, formerly of Calhoun County, has been appointed surgeon of the Pacific Cable Company, and will be stationed at Midway Island.

Smallpox in Alabama.—The cause for the prevalence of smallpox in Alabama for the past six years, lies not with the health authorities, according to Dr. William H. Sanders, health officer of Alabama, but with the failure of the legislature to pass laws upholding the enforcement of the laws of the health board. From 18 counties, 335 cases of smallpox were reported.

New Hospitals.—The Tennessee Coal, Iron and Railway Company has finished two of the series of modern hospitals for its employes. They are located at Readers, near Bessemer, and at Fossil, two miles south of Powderly. The former is to be the main hospital of the series and is under the personal supervision of Dr. William W. Richardson, Bessemer, chief surgeon of the company.

Commencements.—Birmingham Medical College held its ninth annual commencement, April 2, graduating a class of 22. A. P. Montague, LL.D., delivered the annual address; Dr. R. M. Cunningham, the faculty address, and Dr. Benjamin L. Wyman conferred degrees and gave the charge to the class.——The thirty-seventh year of the Medical College of Alabama, Mobile, closed April 3. A class of 12 received diplomas.

CALIFORNIA.

Rupture Specialist Fined.—"Prof." Joseph Fandrey, Los Angeles, who claimed to be a rupture specialist but had no license to practice, was fined $100 by a police justice, May 2.

Sequoia Hospital Open.—The formal opening of Sequoia Hospital, Eureka, took place recently. Dr. Jay L. McLaren is president of the institution; Dr. William H. Wallace, vice-president, Dr. Charles C. Falk, secretary, and Dr. Rae Felt, treasurer.

Typhoid at Stanford.—The sixth death from typhoid at Stanford University, Palo Alto, occurred May 4. While the regular and emergency hospitals are still crowded the situation appears more favorable, and the physicians are encouraged to believe that the progress of the epidemic is checked.

San Francisco Deaths.—During April 622 deaths were registered in the city, an annual mortality rate of 18.20 per 1,000.

The rate for the corresponding month of 1902 was 20.25 per 1,000. Tuberculosis caused 123 deaths; pneumonia, 46; heart diseases, 74; nephritis, 37; cancer, 27; typhoid fever, 11; diphtheria, 13; violence, 52.

Personal.—Dr. Charlotte Blake Brown, San Francisco, is making a tour of the Orient.——Dr. Andrew J. Comstock, Jr., has succeeded Dr. J. H. Love as physician of Ventura County.——Dr. Auren A. Stafford, Alameda, was recently operated on for appendicitis and is reported as doing well.——Dr. Henry B. Stanley, Mount Bullion, has been appointed chief inspector by the Interior Department, to examine the waters of the Sacramento river as to their sanitary condition.——Dr. Frank Kingsley Ainsworth, Los Angeles, has been appointed superintendent and chief surgeon of the hospital department of the Southern Pacific Railway, with headquarters at San Francisco, vice Dr. Matthew Gardner, deceased.

COLORADO.

Personal.—Dr. Thomas D. Palmer, Canon City, has been appointed surgeon to the Colorado State Penitentiary, Canon City, to succeed the late Dr. John W. Collins.

Glockner Sanatorium Opened.—The new hospital addition to the Glockner Sanatorium, Colorado Springs, was formally opened with appropriate ceremonies, April 15.

Condemn the Governor.—The Fremont County Medical Society, at its meeting May 4, adopted, unanimously, resolutions condemnatory of the action of Governor Peabody in vetoing the medical bill.

Board Threatens to Resign.—The attitude of the Governor on financial questions has caused the State Board of Medical Examiners to threaten to resign. They do not care to have the honor and, incidentally, the hard work of serving on the board and, in addition, to be compelled to pay their own expenses.

ILLINOIS.

Chicago.

Tuberculosis Sanatorium Opened.—St. Ann's Sanatorium for consumptives, at West Forty-eighth avenue and Division street, was opened for the reception of patients May 1. The building will accommodate 300 patients.

Spitter Arrested.—Joseph P. Ransom was arrested on the complaint of a civilian, May 7, for violating a city ordinance by spitting on the sidewalk, and was released on payment of $25 as security for his appearance in court.

High Death-Rate.—With one exception the total of deaths for the week ended May 9 is the highest of any week this year, and the highest on record for any week in May. It is equivalent to an annual death-rate of 18.58 per 1,000.

Unjust Decision Against Dr. Webster Reversed.—In the suit for alleged malpractice against Dr. George W. Webster, president of the State Board of Health, mentioned in THE JOURNAL of February 14, in which a jury awarded damages of $13,000, Justice Hutchinson has set aside the verdict and granted a new trial.

Preventable Respiratory Diseases.—The number of deaths recorded last week from pneumonia—178—was the highest ever recorded. In the "Bulletin" of May 9 the following comments are made on the prevalence of preventable respiratory diseases:

> Since the first of the year 2,487 deaths have been attributed to this one cause (pneumonia), or nearly one-fourth (23.3 per cent.) of the total deaths from all diseases.
>
> Adding the deaths (548) from bronchitis, these two preventable respiratory diseases have caused 269 more deaths since January 1 than the aggregate of all the other important communicable and more or less preventable diseases, as shown by the following: Consumption, 1,139; acute intestinal, 423; typhoid fever, 239; diphtheria, 192; whooping cough, 165; measles, 158; scarlet fever, 148; influenza, 137; puerperal fever, 48; rheumatic fever, 40; smallpox, 39; erysipelas, 38. Total, 2,766; total bronchitis and pneumonia, 3,035.

Air Filtration.—The Municipal Laboratory, under the direction of the commissioner of health, has been making experiments looking toward the prevention of air-borne diseases by filtration, and has published the following statement regarding its work:

> The end in view is to devise some simple and inexpensive means by which all the air which enters a building or any of its rooms may be filtered of outside impurities, and all that passes out may be similarly cleansed of impurities—including possible disease germs—acquired by respiration of or contact with the occupants. It has already been determined by the experimenters that passage through a single thickness of cheesecloth will do this to a satisfactory extent, and steps are being taken to equip the laboratory windows with such screens or filters.
>
> The device consists of a screen of cheesecloth, the upper edge of which is attached to the lower rail of the bottom sash; when the sash is raised the cheesecloth is drawn up and completely fills the opening; when the sash is lowered the cloth is rolled up on an ordinary spring curtain roller fastened to the sill. Extemporized devices of this character have been occasionally employed by physicians, to the great relief of their patients suffering with respiratory diseases—especially asthma and hay fever.

MARYLAND.

Baltimore.

The Board of Medical Examiners of Maryland will hold the spring examinations in Baltimore, May 20, 21 and 22.

Valuable Relics.—The Crim relics have brought, so far, $72,300. The medical library, anatomic prints, old coins and autographs are to be catalogued and sold very soon.

The deaths last week amounted to 163; 15.41 per 1,000. For whites it was only 13.37, the negroes having a mortality twice as great. Consumption caused 23, pneumonia 13 deaths. Four new cases of smallpox were reported.

Personal.—Dr. Claribel Cone, professor of pathology in the Woman's Medical College, sailed for Genoa May 9, to be gone a year.——Dr. Theodore Cooke, Jr., has been reappointed physician to the penitentiary.——Dr. William Lee Howard sailed for Europe May 6, to spend six months in the psychopathic hospitals of Berlin, Heidelberg and Vienna.——Dr. R. A. Ravenscroft has resigned the position of senator of Garrett County.

Bahama Expedition.—A scientific expedition, under the auspices of the Geographical Society of Baltimore, will sail for the Bahama Islands June 6. The bacteriologic and medical research work will be under the direction of Dr. Clement A. Penrose and four medical assistants. All branches of science will be represented. The members have been drawn chiefly from the Johns Hopkins Hospital and University, the latter contributing $500 to the work. Private citizens have also given generously, and the researches will occupy two months.

Examination.—The faculty of the Baltimore Medical College announced that 93 candidates for the M.D. degree passed successful examinations, and the degrees were conferred on May 12. The college medal and the degree M.D. *magna cum laude* were awarded to A. C. Matthews of New York for best general examination. The Robert W. Johnson surgical prize was awarded to Edward Griswold Bray of Pennsylvania for the best examination in surgery. The William E. Moseley gynecologic prize was awarded to W. De Forrest Olmstead of Maryland for best examination in gynecology. F. J. Schnell of New York received the A. C. Pole anatomic prize for best work in practical anatomy.

MICHIGAN.

Banquet Local Nestors.—The Wayne County Medical Society gave a banquet, May 14, in honor of Drs. George B. Russell, Morse Stewart and Herman Keifer, in token of the esteem in which they are held by the profession in Wayne County.

Lupinski Resolutions.—At a meeting of the Academy of Medicine of Grand Rapids, April 22, resolutions were adopted testifying to the social and professional worth of the late Dr. Hugo Lupinski, and expressing its sense of loss and sorrow at his death.

Large Class Graduated.—On April 30 the thirty-fifth annual commencement exercises of the Detroit College of Medicine were held, and a class of 62 received diplomas from the president of the board of trustees. Dr. James W. Fuches, mayor of St. Clair, delivered the address of the evening, on medical aims and ethics.

Morbidity.—Rheumatism, neuralgia, bronchitis, influenza and tonsillitis, in the order named, caused the most sickness in the state during the past week. Meningitis was reported present at 3 places, whooping cough at 24, diphtheria at 30, typhoid fever at 34, scarlet fever at 67, measles at 71, smallpox at 80 and consumption at 177.

SOUTH DAKOTA.

New Member of Health Board.—Governor Herreid has appointed Dr. Horace A. Peabody, Webster, a member of the State Board of Health, vice Dr. H. E. McNutt, Aberdeen, resigned.

Physician Sued.—Dr. Patrick J. Waldron, Rapid City, has been sued for $20,000 by a patient who alleges that amputation of her leg was necessary on account of the mismanagement of the case by the physician.

Addition to Hospital.—A large addition is to be made to the large post hospital at Fort Meade. Plans have been received and it is expected that the contract for the erection of the new building will soon be awarded.

State Board of Medical Examiners.—Under the new law the Governor has made the following appointments to the State Board of Medical Examiners: Regulars—Drs. Stephen Olney, Sioux Falls; John W. Freeman, Lead; John L. Foxton, Huron, and H. E. McNutt, Aberdeen. Homeopaths—Drs. Alonzo A. Cotton, Vermillion, and Hans M. Finnerud, Watertown. Eclectic—Dr. Harry S. Graves, Hurley. The board organized by the election of Dr. Stephen Olney, president; Dr. Harry S. Graves, vice-president, and Dr. H. E. McNutt, secretary and treasurer. The first examination will be held in Sioux Falls, July 8.

GENERAL.

Cholera has reappeared at Manila and in the archipelago and is increasing with the return of the hot season.

The Association of American Medical Colleges met, under the presidency of Dr. William L. Rodman, at New Orleans, May 4 and 5. The principal business was the consideration of the report of the Committee on By-laws, which advocated and recommended the raising of entrance requirements. The report was adopted with a few amendments, to go into effect July 1, 1905. The officers for next year are: President, J. R. Guthrie, Dubuque, Iowa; first vice-president, George M. Kober, Washington, D. C.; second vice-president, J. Oliver, Cincinnati; secretary-treasurer, Fred C. Zapffe, Chicago; judicial council, W. J. Means, Columbus, Ohio; J. M. Dodson, Chicago; T. J. Hawkins, Denver; H. B. Ward, Lincoln, Neb.; Randolph Winslow, Baltimore; J. D. Griffith, Kansas City, Mo., and J. W. Holland, Philadelphia.

FOREIGN.

Homage to Huchard.—The friends and pupils of Prof. H. Huchard of Paris are collecting subscriptions to present him with a bronze plaque on the occasion of his promotion to be officer in the Legion d'Honneur.

Hygienic School Hours.—In Galicia the grammar schools have a single session, from 8 till 1, and the desirability of a change has been discussed. The medical association advised in favor of the present hours, as an afternoon session interferes with digestion and assimilation, while the best mental work is done in the morning. Owing to the prevailing local social, economic and climatic conditions the association believed that two sessions would entail many more disadvantages than the present plan.

Romiti's Silver Jubilee.—Prof. G. Romiti of Pisa celebrated, March 5, the twenty-fifth year of his incumbency of the chair of anatomy at Siena and Pisa. He was presented with a souvenir volume of the "Archivio Italiano di Anatomia ed Embriologia," a gold medal and several scientists gave him special volumes of their works. The chairs of anatomy at five other Italian universities are now occupied by his pupils and two others by pupils of those who have studied with him. His manual of anatomy is the text-book in use in Italy, and he has published more than a hundred monographs on anatomy and embryology.

Campaign Against Charlatans in Germany.—One of the deputies in the Wurtemberg legislature recently urged that the government should assist physicians in their campaign against charlatans more than heretofore. He also stated that the struggle in which the physicians are now engaged against the starvation fees given by the sick benefit societies is a laudable effort to counteract the degradation and proletarianizing of the medical profession. The minister of the interior replied that the matter was one for the general government to decide, not the states for themselves, but that the imperial Reichstag would find that the Wurtemberg assembly would be glad to co-operate with the general government in the matter.

The National Asylum for Insanity of Rio de Janeiro.—Dr. Julians Moreira, professor of psychiatry and neurology in the Medical School of Bahia and co-editor of the "Gaseta Medica" of Bahia, has been appointed director of this great asylum. The institution is to be enlarged shortly by the addition of new buildings, the ground for which, adjoining the present property, has already been purchased. The erection of these new buildings will increase the capacity of the hospital to 1,000 beds instead of the present 900 beds. Funds for the erection of the buildings are available, which will be sufficient to provide for a modern equipment of the new wards. Plans for the new epileptic ward are being prepared. It will be detached from the other buildings.

The Contract Practice Troubles in Germany.—The agitation in regard to the pending legislation to increase the length of medical attendance for members of sick benefit societies, the "Muenchener Med. Wochft." declares, is by no means confined to South Germany, as quoted in our last number. It is able to cite proceedings of various medical organizations, etc., which show that the movement is nearly general. The necessity of energetic measures to compel the societies to increase the remuneration for the double task to be imposed is rousing physicians to mold public opinion through the daily papers. A number of lay papers have recently contained articles, evidently written by physicians and having a marked effect in enlightening the public. Among the best is an article by Dr. F. Haker of Munich, published in No. 90 of the "Allg. Ztg.," entitled "The Position of German Physicians and Their Struggle Against the Decline of the Profession," and mentioned as a model of captivating and dignified style. The arbitration at Mülhausen was fruitless, and the physicians have resumed their former attitude, refusing to serve further as contract physicians and not only demanding the ordinary rates for medical attendance, but refusing credit. Consequently, the officers of the societies have to be accessible to the members at any hour, day or night.

Physicians' Insurance Association at Vienna.—The Vienna "Medical Doktoren-Collegium" now has a membership of 715 physicians, with a capital of about $1,700,000. One of the features is the "widows' and orphans' society," with 404 members. It paid pensions to 187 widows and 3 groups of orphans, about $50,000 in all, last year. The "support institute" had 238 members and its fund amounted to $85,000. It supplied permanent support to 6 members and temporary to 10, expending $2,000 in this way. The "pension institute" had 238 members and a fund of $280,000. It pays out $240 annually to 36 pensioners, and paid to the heirs of deceased physicians about $1,520 during the year. There is also a "health resort fund" to enable members of the collegium to have the benefit of a course of mineral waters or trip elsewhere. There are also endowments for needy physicians, 35 representing $40 to $176 a year; 12 for widows and orphans of physicians, and 16 for the sons of physicians, representing $8.50 to $236 a year and free places in the institutes. The collegium sent out 80,000 circulars last year to physicians throughout Austria, endeavoring to secure new adherents, but only 80 responded and, as 41 died or resigned, the gain was merely 39. A letter from Vienna to the "Munich Med. Wochft." comments that this apathy in regard to such an important organization, with dues 15 per cent. less than lay insurance societies, can be attributed only to indolence on the part of the majority of the profession, or else that the majority are in such financial straits that even the modest dues required are beyond their reach—probably both causes co-operate, the writer concludes. Switzerland has two similar medical insurance societies, the combined capital about $38,000. One is 3 and the other 20 years old.

Book Notices.

THE SURGERY OF THE HEAD. By Bayard Holmes, B.S., M.D., Professor of Surgery in the University of Illinois. Cloth. Pp. 569. Price, $2.50. New York: D. Appleton & Co. 1903.

The mass of surgical facts regarding bacteriology and histology accumulated within the present era is awe-inspiring. Only specialists can hope to master a tithe of them; and individuals can scarcely expect to write systematic and comprehensive text-books of surgery. Indeed, attempts to include facts and principles in treatises by a single author have almost been abandoned, while composite works of great bulk, in which each chapter is assigned to an individual writer, have long been the order of the day. Of late even an encyclopedia of surgery has been in course of preparation and issue under the editorship of the distinguished Kocher. Thus facts are given the maximum prominence, while the principles, the informing and unifying pathologic spirit of surgery are likely, at least in this instance, to suffer total eclipse.

Billroth's classical "Principles of Surgery" has run through nearly twenty German editions, has been printed in many languages, and is profitable classical reading to-day. This is true because Billroth recognized the permanent and immutable as well as the temporary verities of surgery.

Holmes' book is founded on an accurate knowledge of the modern principles of pedagogics. He realizes that the student who learns a general principle of surgical pathology or practice is, by the very acquisition, a changed man. If many principles are learned, the theory of surgery is in the grasp of the student. Holmes' book is written in a new old way and represents a return to the simpler style of a simpler surgery. Actual clinical cases are used as a starting point in treating principles, and in the choice of these cases the writer has not depended on his own experience alone but has freely quoted from current literature. The charm of Sir Astley Cooper, of Trousseau and of Billroth is in these simple pages. He who is in search of catalogued facts will consult an encyclopedia, a book of logarithms or interest tables, as need may indicate. But every seeker for the subtle relation between fact and theory which, when acquired, makes the real surgeon rather than the mere technician will read this new work. Practitioner and student may thus find equal profit in its pages. We predict that not only will this work find many readers but also many imitators, and that to the lasting profit of our genial art.

THE EVOLUTION OF MAN AND HIS MIND. A History and Discussion of the Evolution and Relation of the Mind and Body of Man and Animals. By S. V. Clevenger, M.D., Author of Medical Jurisprudence of Insanity. Cloth. Pp. 615. Price, $5.00. Chicago: Evolution Publishing Co. 1903.

This is a comprehensive work, covering the history, ethnology, biology and sociology of humanity in a compass of a little over 600 pages. The author is evidently a man of wide reading and a naturally suggestive and ingenious thinker. Notwithstanding his generally scientific accuracy, we notice several places wherein one might think that his information has been erroneous. At least, in some instances, he appears to have accepted as facts statements that draw on the credulity of the reader and seem to us somewhat irrational. Among these statements we can include such a one as that of the osteopathic school in Missouri selecting its anatomic subjects "on the hoof" in one of the asylums and some few other like instances, indicating a lack of faith in modern popular and political administration, which we think is undeserved. There is also a strong element of the author's personality evident in many of the pages in his comments on current matters, politics and the questions that come up from time to time in the newspapers. Perhaps the best chapters are those on heredity, hunger and love, the development of the mind, the senses and feelings and the instincts and emotions. The chapter on superstition will not suit the average believer in the Christian or in any other special religion, for the author is evidently, in his beliefs, what is sometimes called "broad" and his remarks on the subject are rather heterodox. His views on sociology also have several points for criticism, though, in the main, there is much of which everyone must approve. We regret that the author did not take time to get up an index, for a book of this character without an index is very unsatisfactory. It is not a book that one will pick up and read through as one would read a novel—at least the average individual will not do this—but there are subjects covered that one would be glad to look up in an index without having to wade through several chapters to find what is wanted.

THE MYCOLOGY OF THE MOUTH. A Text-Book of Oral Bacteria. By Kenneth Weldon Goadby, D.P.H. Camb., L.R.C.P., M.R.C.S., L.D.S. Eng., Bacteriologist and Lecturer on Bacteriology, National Dental Hospital. With Illustrations. Cloth. Pp. 241. Price, $3.00 net. London, New York, Bombay: Longmans, Green & Co. 1903.

The reason for use of the term "mycology," says the author, is that the micro-organisms of the mouth include species belonging to the higher orders than the bacteria or schzomycetes. The duplication of terms seems wholly unjustifiable since bacteria are bacteria wherever they may be found. While this work of some 240 pages is not strictly original, the author has brought together all that is known up to the present time on the bacteria of the mouth. The work is conveniently divided into thirteen chapters with an appendix. Much of the early work of Miller and Leon Williams is recognized, while the author has added considerable from his own research.

The micro-photographic illustrations are excellently done. While many believe in schematic illustrations for the student, experience has proven that micro-photographs give a better idea of what is found when the student is searching for a given object. There is no reference to many American authors, although considerable work has been done along this line in this country.

MUCO-MEMBRANOUS ENTERO-COLITIS. Symptoms, Complications, Etiology and Treatment. By Maurice De Langenhagen, M.D., Consulting Physician at Polombieres, Vosges, France. Cloth. Pp. 115. Price, $1.25. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This little work is written by a local specialist who has taken up a comparatively limited subject, but one which, because of its frequency and associations, is certainly worthy of a monograph. Muco-membranous colitis is one of the commonest accompaniments or, perhaps, causes of neurasthenic conditions, and a better knowledge of its symptoms and management is certainly desirable. The author points out its frequency in Europe, and we believe it is hardly likely to be found less frequent in this country, though, unfortunately, it has not received the attention that it deserves. While not a fatal disorder, it is sometimes an exceedingly obstinate and refractory one and anything that will enlighten us as to its treatment is of advantage. The volume is likely to be of service, therefore, to the general practitioner.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or the Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D. Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan. Third Edition, Revised and Enlarged. Illustrated with 52 Engravings. Cloth. Pp. 756. Price, $3.75. Philadelphia and New York: Lea Brothers & Co.

The appearance of the third edition of Cushny's pharmacology and therapeutics, only eighteen months after the preceding one, shows the favor with which the book has been received. The present edition contains certain additions, such as fuller remarks on spinal anesthesia, suprarenal extracts, etc. The author has also appended to this edition a classification of drugs according to their therapeutic uses, which he has found useful in his teaching of pharmacology.

State Boards of Registration.

Maine Report.—Dr. A. K. P. Meserve, Portland, secretary of the Maine Board of Registration of Medicine, reports the examination held at Augusta, March 24, 1903, as follows: Number of subjects examined in, 12; total questions, 80; percentage required to pass, 75 average and not less than 60 in any one branch; examination was partly oral and partly written; total number examined, 7; all of whom passed.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
497	R.	Coll. Phys. and Surg., Baltimore...	1895	88.5
501	R.	Coll. Phys. and Surgs., Baltimore...	1896	87 2-7
498	R.	Baltimore Univ. School of Med....	1902	87.3
499	R.	Dartmouth Medical College.....	1901	90 1-7
500	R.	Harvard University	1901	84.6
502	R.	Harvard University	1902	92 1-7
503	R.	Univ. of Pennsylvania Med. School.	1902	90 3-7

District of Columbia Report.—Dr. Wm. C. Woodward, secretary of the Board of Medical Supervisors of the District of Columbia, reports the examination held at Washington, April 9, 1903, as follows: Subjects, 17; 80 written questions; percentage required, 75; examination was partly oral and partly written; total examined, 14; passed, 9; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
362	R.	University of Virginia.....	1901	84.46
363	R.	University of Virginia.....	1897	81.87
364	R.	University of Pennsylvania.....	1888	88.81
365	R.	Georgetown University	1902	84.43
371	H.	Hahnemann Med. Coll., Phila.....	1902	87.98
374	H.	Hahnemann Med. Coll., Phila.....	1902	89.12
372	R.	Howard University	1902	78.75
373	R.	Coll. of Phys. and Surgs., N. Y. City	1899	84.78
354	R.	Columbian University	1900	87.87

FAILED.

366	R.	National University	1902	*74.50
369	R.	National University	1901	†71.46
367	R.	Baltimore Medical College.....	1898	55.43
368	R.	Howard University	1902	74.09
370	R.	Women's Med. Coll. of Pennsylvania	1867	56.21

* Second examination.
† Fourth examination.

Medical Organization.

Outagamie County (Wis.) Medical Society.

The physicians of Outagamie County have organized a medical society to be affiliated with the Wisconsin State Medical Society and the American Medical Association.

Seward County (Neb.) Medical Society.

The physicians of Seward County met at Seward, April 24, and organized a county society, with the following officers: Dr. Charles W. Doty, Beaver Crossing, president; Dr. Jefferson T. Potter, Seward, vice-president, and Dr. Charles O. Petty, Beaver Crossing, secretary.

McDowell Medical Society.

Physicians of Franklin, Gasconade, Osage and Maries counties, Mo., met at Owensville, April 4, and organized a district medical society, with the following officers: Dr. John D. Seba, Bland, president; Dr. James E. Jose, Koenig, vice-president; Dr. A. C. Wood, Owensville, secretary, and Dr. Julius W. Nieweg, Owensville, treasurer.

Tompkins County (N. Y.) Medical Association.

The members of the Third District Branch residing in Tompkins County met, April 14, and organized this association. The following officers were elected: President, Dr. John S. Kirkendall, Ithaca; vice-president, Dr. William C. Douglass, Ithaca; secretary and treasurer, Dr. Marcus A. Dumond, Ithaca. Dr. Chauncey P. Biggs was elected fellow and Dr. E. R. Osterhout, alternate.

Otero County (Colo.) Medical Society.

This society met in January and reorganized under the new constitution and by-laws as recommended by the American Medical Association. The following officers were elected for the ensuing year: Dr. B. F. Haskins, La Junta, president; Dr. E. W. Kearby, Rocky Ford, vice-president; Dr. Arthur R. Timerman, La Junta, secretary; Dr. James F. Kearns, La Junta, treasurer, and Dr. Frank Finney, La Junta, member of the house of delegates.

Societies.

COMING MEETINGS.

Association of Military Surgeons of the United States, Boston, May 19-21.
New Hampshire Medical Society, Concord, May 21-22.
North Dakota State Medical Society, Bismarck, May 21-22.
South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.
West Virginia State Medical Association, Charleston, May 26-28.
Indian Territory Medical Association, South McAlester, June 2-3.
Medical Society of the State of North Carolina, Hot Springs, June 2.
Ohio State Medical Society, Dayton, June 3-5.
Rhode Island Medical Society, Providence, June 4.
Wisconsin State Medical Society, Milwaukee, June 3-5.
Maine Medical Association, Portland, June 3-5.
Indiana State Medical Society, Richmond, June 4-5.
Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

Medical Society of Nova Scotia.—The thirty-fifth annual meeting will be held in Antigonish, July 1 and 2.

Maritime Medical Association.—The thirteenth annual meeting will be held in St. John, N. B., July 22 and 23.

American Electro-Therapeutic Association.—The thirteenth annual meeting will be held at Atlantic City, N. J., September 22, 23 and 24, under the presidency of Dr. Daniel R. Brower, Chicago.

Buffalo Academy of Medicine.—The nomination of officers resulted as follows: President, Dr. Joseph W. Grosvenor; secretary, Dr. Edwin A. Bowerman; treasurer, Dr. Charles S. Jewett, and trustee, Dr. Ludwig Schroeter.

Eastern Dakota Medical Association.—The annual meeting was held at Brookings, S. D., April 14, Dr. Albert J. Cox, Tyler, Minn., was elected president; Dr. Edwin Klaveness, Brookings, vice-president, and Dr. Joseph G. Parsons, Brookings, secretary and treasurer.

La Salle County (Ill.) Medical Society.—The fiftieth annual meeting was held in Ottawa, April 21. Dr. William S. Sterrett, Marseilles, was elected president; Dr. Fred A. Guthrie, La Salle, vice-president; and Dr. William A. Pike, Ottawa, secretary. Next year's meeting will be held in Streator.

Seneca County (N. Y.) Medical Association.—At the annual meeting held in Seneca Falls, April 16, the following officers were elected: President, Dr. William A. Macy, Willard; vice-president, Dr. George A. Bellows, Waterloo; secretary, Dr. J. Spencer Purdy, Seneca Falls, and treasurer, Dr. Carroll B. Bacon, Waterloo.

De Witt County (Ill.) Medical Society.—At the annual meeting Dr. Joseph C. Myers, Clinton, was elected president; Dr. Samuel L. Thorpe, Kenney, vice-president; Dr. John H. Tyler, Clinton, secretary and treasurer; Dr. Albert E. Campbell, Clinton, delegate to the Illinois State Medical Society, and Dr. Guy G. Dowdall, Clinton, alternate.

Hunterdon County (N. J.) Medical Society.—The annual meeting was held at Flemington, April 28. Dr. William H. Schenck, Flemington, was elected president; Dr. Leon T. Salmon, Lambertville, first vice-president; Dr. Peter C. Young, Ringoes, second vice-president; Dr. Obadiah H. Sprowl, Flemington, secretary; Dr. Isaac S. Cramer, Flemington, treasurer.

District Medical Society of Central Illinois.—At the twenty-ninth annual meeting held in Pana, April 21, the following officers were elected: President, Dr. John H. Miller, Pana; vice-presidents, Drs. Thomas E. Cherry, Cowden, and William J. Eddy, Shelbyville; treasurer, Dr. John N. Nelms, Taylorville, and secretary, Dr. Frederick J. Eberspacher, Pana. The next meeting will also be held in Pana.

American Laryngological, Rhinological and Otological Society.—The ninth annual meeting was held at Lexington, Ky., April 23, 24 and 25, under the presidency of Dr. Joseph A. Stucky. The following officers were elected: President, Dr. Norval H. Pierce, Chicago; vice-presidents, Drs. George L. Richards, Fall River, Mass., Chevalier Jackson, Pittsburg, Redmond W. Payne, San Francisco, and John F. Woodward, Norfolk, Va.; secretary, Dr. Wendell C. Phillips, New York, and treasurer, Dr. Ewing W. Day, Pittsburg.

Alumnae Association, Woman's Medical College.—The alumnæ met for the twenty-third annual meeting at Chicago, April 29, about 60 being in attendance. The following officers were elected: President, Dr. Sarah Hackett Stevenson, Chicago; vice-presidents, Drs. Mary E. Bates, Denver, and Anna Ross Lapham, Chicago; secretary, Dr. Eliza H. Root, Chicago; treasurer, Dr. Mary C. Hollister, Chicago, and executive committee, Drs. Anna E. Blount, Oak Park, Ill., Rose Millard, Chicago, and Minnie K. Bowles, Joliet, Ill.

Association of Railway Surgeons of the Pacific Slope.—At the annual meeting held recently in Santa Barbara, Cal., resolutions were passed expressing regret at the death of Dr. Matthew Gardner. The following officers were elected, after which the association adjourned out of respect to the memory of Dr. Gardner: Dr. Walter B. Coffey, San Francisco, president; Drs. Norman H. Morrison, Los Angeles, Charles N. Ellinwood, San Francisco, and Kenneth A. J. Mackenzie, Portland, Ore., vice-presidents; Dr. James P. Dunn, Oakland, secretary, and Dr. Frank K. Ainsworth, Los Angeles, treasurer.

Massachusetts Association of Boards of Health.—At the meeting in Boston, April 30, Mrs. Ellen M. Richards spoke on "Educational Sanitary Inspection," and Mrs. von Wagner told of the way in which the poor of Yonkers, N. Y., are taught to abate nuisances and live decently. Dr. Frank L. Morse of the State Board of Health spoke on "The Recent Smallpox Epidemic in Massachusetts, giving a powerful statistical and practical plea for universal and repeated vaccination. Last year the disease was more prevalent than at any time since the epidemic of 1872. During the year there were 2,300 cases, with 278 deaths in the state. Out of this number of deaths 200 were of persons who had not been vaccinated. The association took action favoring the state production of antitoxin and vaccine.

LOUISIANA STATE MEDICAL SOCIETY.

Twenty-fourth Annual Meeting, held in New Orleans, April 28 to 30, 1903.

The President, Dr. Isadore Dyer, in the Chair.

Opening Sessions.

The morning session was largely devoted to organization. The address of welcome was delivered by Hon. Arthur McGuirk. The report of the Committee on Arrangements was presented by Dr. Louis G. LeBeuf.

The president, Dr. Isadore Dyer, New Orleans, in his preliminary remarks, noted the fact of the paucity of local societies and that the profession in Louisiana is just awakening to the fact that it is only by a spirit of fraternity among the units that broader community interests can be created. He commended and advised the adoption of the constitution as suggested by the American Medical Association for state societies, and believed that it must ultimately obtain in every state where cohesion of medical men is desired.

Salt as a Stimulant.

DR. S. L. WILLIAMS, Oak Ridge, read a paper in which he considered the use of normal salt solutions in the treatment of septic and toxic conditions. His experience for the past three years has demonstrated the efficiency of salt solution and butter administered subcutaneously and percutaneously in enteric fever and scarlet fever. In case of habitual alcoholics the treatment was not efficient.

Malarial Hemoglobinuria.

DR. LADIS LAZARO, Washington, presented a paper on this subject, which brought out active discussion, bearing chiefly on the use or non-use of quinin in malarial diseases; the advocates and opponents of quinin fighting, without coming to any conclusion, the battle which has been fought for years and always without decisive results.

Anesthesia.

DR. T. EDGAR SCHUMPERT, Shreveport, read a report on chloroform anesthesia at the morning session of the second day, detailing methods to be followed in the administration of the anesthetic by which danger can be avoided and exhibiting an appliance to be employed in its administration. In the discussion the necessity of a preliminary examination of the patient was emphasized and the use of adrenalin to overcome the effect of chloroform in extreme cases was mentioned.

Secretary's Report.

DR. WILLIAM M. PERKINS, New Orleans, recording secretary, reported that the active membership of the society was 420.

New Constitution.

The discussion of the constitution was taken up, and Dr. Charles Chassaignac, chairman of the Committee on Revision, presented a draft of the constitution proposed by the American Medical Association. After considerable discussion, this was adopted with minor amendments.

President's Address.

At the evening session Dr. Isadore Dyer delivered the annual presidential address, his subject being "The Art of Medicine." After discussing medicine from the days when fetishes, charms, incantations, etc., were in vogue, he went on to say that medicine is still combating the weaknesses that hamper its progress, with the purpose, in the future, of conquering the great enemy, death. In conclusion he said:

> The profession of medicine has sat at the footstool of science, now and then gathering some of the leaves which have fallen from the hands of the alma mater of all knowledge. Again, some more emboldened spirit has snatched a full garland and has carried it off to render a proper return in advanced knowledge.
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> One great man after another has died with the regret of neglected achievement, not fearful of death, but sad at leaving so much undone. A host of men have blazed the way for the art medical; many have dropped into the pool of forgetfulness the emblems of their trade and have lifted heavy burdens for the art itself: some have hewn long with small reward, while others have marked grand highways through the wilderness of ignorance and bigotry.
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> It is not only the songs of the birds in the forest, nor the rustling leaves, nor the smell of freshness which makes the springtime, but without these things there could be no springtime. And so there must be in the art of medicine, of such kind as you will, but not barren, rather a fruitful one, carrying with it the sentiments of community of interests, of achievements, of earnestness, of fraternity, so that in the days to come we may think of the Temple of Hygeia and of the Great Healer as forever free of those sorts of death which are only evil shadows after all.

Yellow Fever.

DR. EDMOND SOUCHON, New Orleans, in his paper entitled "Facts Relating to the Transmission of Yellow Fever," detailed experiments with mosquitoes captured on fruit vessels coming from Central America, from which he drew the deduction that mosquitoes are not the only means of communicating the disease. This paper will appear in full in THE JOURNAL.

In the discussion Dr. J. M. Lindsley of Havana stated that he believed the mosquito was the primary means of transmitting yellow fever, and thought if the board of health at Havana had acted on this theory a few years ago many lives might have been saved.

Dr. Oliver L. Pothier supported Dr. Lindsley's views, and Dr. Souchon closed the discussion by declaring that, while he desired to be liberal, the ones who suffer must be considered when the question of exposure is brought up, and that leniency towards Cuba would be further extended when the health authorities were satisfied that the danger of transmission from yellow fever from that country had ceased to exist.

Quarantine.

DR. ARTHUR NOLTE, New Orleans, gave the history of the efforts to quarantine against yellow fever at New Orleans during many years and of the great results accomplished during the epidemics there. He detailed the present methods of disinfecting vessels.

Dr. Lindsley made a second appeal for impartiality in the enforcement of quarantine regulations between Cuba and other tropical countries.

Dr. Quitman Kohnke presented a very comprehensive history of Louisiana quarantine against yellow fever from the time of earliest legislation up to the present day.

Illegal Practitioners.

DR. CHARLES L. CHASSAIGNAC, New Orleans, called attention to the reference in the report of the State Board of Medical Examiners to the prosecution of illegal practitioners in the state during the last year and urged that more rigor be used in guarding the profession.

Dr. A. Feltus Barrow, St. Francisville, president of the State Board of Medical Examiners, declared that he was not satisfied with the enforcement of the law and hoped that some decided action would be taken. He said that many students from Tulane University, on receiving their diplomas, fall into the hands of fakers of the profession who use them and their names to further their illegal practice.

Dr. Chassaignac stated that the difficulties attendant on prosecutions had been due to the lack of evidence and the lack of organization, and urged organization in the profession in order to accomplish the ends in view.

Pasteur Institute.

DR. CHARLES L. CHASSAIGNAC introduced resolutions which were adopted without discussion, pledging the support of the members of the society to the establishment of a Pasteur Institute in New Orleans, and declaring in favor of the institute being made a part of the Tulane University, urging all physicians in the state to secure state and city and private donations; requesting the co-operation of the Orleans Parish Medical Society, and directing the president of the state society to appoint a member in each parish to supervise the movement therein.

Election of Officers.

The report of the Nominating Committee was adopted, whereby the following officers were elected: President, Dr. John M. Barrier, Delhi; vice-presidents, Drs. J. F. Buquoi, Pointe-a-la-Hache; John Callan, New Orleans; Frederick R. Tolson, Lafayette; Norwood K. Vance, Shreveport; S. L. Williams, Oak Ridge; Charles M. Sitman, Greensburg, and Arthur Gardner, Bristol; recording secretary, Dr. William Perkins, New Orleans; corresponding secretary, Dr. Andrew G. Freiderichs; treasurer, Dr. Henry S. Cocram, New Orleans;

delegate to the American Medical Association, Dr. Rudolph Matas, New Orleans; alternate, Dr. Louis G. LeBeuf, New Orleans, and additional delegate, Dr. Whyte Glendower Owen, White Castle.

1904 Meeting.

Lafayette was selected as the place of meeting for 1904, and the date May 3 to 5.

Banquet.

The local members tendered a banquet to the society at the West End Hotel, which was attended by over 200 guests. Dr. Quitman Kohnke was the toastmaster, and toasts were responded to by Drs. H. W. Foote, Ernest Lewis, Joseph Hart, Derold Wilders and Owen.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting of the Section on Pediatrics, April 9, 1903.

Henry Heiman, M.D., in the Chair.

Result of Operation for Intussusception.

DR. JOHN F. ERDMANN reported three successful cases of operation for intussusception. The first was an infant of about four and a half months, first seen twenty-three hours after the onset of symptoms. Bloody mucus was passed per rectum, but no tumor could be felt. The operation revealed a double intussusception—an intussusception of the ileum within itself and an intussusception of the ileum within the colon. The appendix was not involved, but was removed after reduction of the intussusception.

The second patient was an infant of six months, in whom no tumor could be felt, but one was visible on the left side of the abdomen. There were continuous abdominal pain and bloody discharges. In this case also there was a double intussusception, and here the appendix was included.

The third patient was 5½ years old. There was no history pointing to intussusception and no fever, but there was continuous pain in the abdomen, with resistance in the right side of the abdomen. An ileocolic intussusception was found and was reduced.

DISCUSSION.

DR. H. LILIENTHAL said that, while recovery occasionally followed the employment of hydrostatic pressure, this method was decidedly dangerous—indeed, no case of intussusception of sufficient severity to give rise to symptoms should be treated by other than surgical means.

Inversion in the Treatment of Acute Pulmonary Edema in Young Children.

DR. THOMAS S. SOUTHWORTH reported the case of an infant, suffering from very severe and acute edema of the lung, wherein inversion and stroking pressure on the back gave prompt and marked relief by causing the discharge of much frothy mucus. The child had no cardiac disease, and the attack was supposed to have been induced by acute indigestion.

Pin Worms in the Appendix.

DR. J. F. ERDMANN exhibited an appendix containing numerous pin worms. The child had suddenly become acutely ill, and this was what was encountered at the operation.

DISCUSSION.

DR. HENRY HEIMAN said that the case was interesting because it was generally believed that the pin worms were only found in the rectum or descending colon.

The Surgical Features of Perforation of the Intestine in Typhoid Fever in Children.

DR. CHARLES A. ELSBERG presented a paper on this subject, in which he gave the results in the 289 operative cases on record. There were altogether 75 recoveries, or 25.9 per cent., and of the 25 patients who were under 15 years of age 16, or 64 per cent., recovered. Dr. Elsberg reported a recent case on which he had operated, which was, by the way, the youngest operative case on record, the patient being 6½ years old. About two weeks after the operation a vaginal discharge made its appearance, and in this was found a pure culture of typhoid bacilli. The frequency of intestinal perforation in children suffering from typhoid varied greatly in different series. Thus, Dr. J. Lovett Morse saw 284 cases of typhoid in children without once meeting with this complication, whereas Dr. Fitz met with it seven times in 192 cases. Holt collected 1,028 cases in children, and found that intestinal perforation occurred in 12, or 1.1 per cent. In practice it was well-nigh impossible to differentiate this complication from peritonitis.

The author's cases of operation were 25 in number, of which 14 were between 9 and 12 years of age. Eighteen of the patients were males, a fact difficult of explanation. It was noted that the facial expression changed in 11 cases, but that it never occurred early, and ordinarily not until other signs and symptoms had made the diagnosis of intestinal perforation reasonably certain. The pulse, respiration and temperature afforded little or no assistance in diagnosis, and although leucocytosis occurred at the time of the perforation, it was exceedingly evanescent, probably because of the great outpouring of the leucocytosis into the peritoneum when this membrane became infected. The first symptom in 20 cases was pain in the lower part of the abdomen, usually paroxysmal, and associated with or speedily followed by abdominal tenderness. Rigidity of the abdominal muscles was noted in 14 cases. The perforation most often occurred in the third week of the disease or in relapses.

The effect of delay in operating on the result was shown by the following figures regarding the interval elapsing between the occurrence of the perforation and the operation: Two cases operated on in the first four hours gave 100 per. cent. of recoveries; 3 cases operated on within the second four hours yielded 66.7 per cent. of recoveries; 7 cases were operated on within the third four hours with 71.4 per cent. of recoveries; in 3 cases the operation was done within the fourth four hours with 100 per cent. of recoveries; 1 case was operated on within the fifth four hours, and 1 in the sixth four hours without a recovery. Seven cases were not operated on until after the end of the first twenty-four hours, and here there were 57 per cent. of recoveries. In one of the fatal cases the interval was not known. The operation appeared from the statistics to be twice as successful in children as in adults, the most important element in the prognosis being rapidity of operating.

DISCUSSION.

DR. LILIENTHAL said that he could vouch for the correctness of the diagnosis in the case reported in the paper in which a child had recovered from a typhoid perforation of the bowel without operation. The mortality rate given was probably too low, for it was more than probable that many of the unsuccessful cases had not been reported.

DR. ERDMANN suggested that the typhoid bacilli might have gained access to the vagina in the case reported as a result of the bursting of an abscess, or possibly by migration through the tubes and uterus.

DR. M. MANGES pointed out that in children the occurrence of shock was apt to be overlooked because of the occurrence of fever, but it would be denoted by the presence of perspiration.

DR HEIMAN said that a secondary anemia developing in the third week of typhoid might so depress the nervous system as to simulate intestinal perforation, and the same was true of the breaking down of a mesenteric gland. It was highly improbable that the typhoid bacilli could migrate through the tubes and uterus of a child of 6 years because of their rudimentary condition at that age.

DR. ELSBERG, in closing the discussion, remarked that, as all of the cases he had reported occurred in one year, it was quite possible that another year, with a different type of typhoid, might yield very different results.

Treatment of the Paroxysms of Whooping Cough by Pulling the Lower Jaw Downward and Forward.

DR. JACOB SOBEL said that this method had been first suggested years ago by a Swiss physician, O. Naegela, but had apparently been overlooked by most pediatrists. Dr. Sobel had tested the method in dispensary practice in 96 cases. In only 9 cases was there absolutely no effect on the paroxysm at the time of the child's visit to the dispensary. Very young children, not knowing the meaning of what was being done, were apt to

become frightened, and by their crying neutralize the good effect of the manipulation. The physician, standing behind the child, should place both thumbs against the angles of the jaw, the index fingers on the zygomatic arch and the remaining fingers on the chin, and should then push the lower jaw downward and forward. The method had been devised in the belief that the essential element to combat was the spasm of the glottis. The spasm was so promptly controlled that it was not unusual for the whoop to be suppressed. In this way the mother or nurse could be taught to prevent the occurrence of many paroxysms, thus sparing the little one much nerve-racking distress, and, because of the control of vomiting, materially improving the general nutrition. The only contraindication was the presence of food in the mouth or esophagus. Dr. Sobel had not found the manipulation so useful in controlling other spasmodic coughs.

DR. CHARLES HERRMAN said that he had tried this manipulation in a number of cases, and in most instances with a satisfactory result. Unfortunately, for the reason already mentioned, it was not very applicable to very young children. The method probably failed to relieve the spasm of the glottis occurring in tetany because, unlike pertussis, there was, in addition to the spasm of the glottis, a general spasm of the diaphragm and other respiratory muscles.

BOSTON MEDICAL LIBRARY ASSOCIATION.

Regular Meeting, held May 4, 1903.

Dr. W. T. Councilman in the Chair.

The Pathology and Etiology of Smallpox.

The meeting was devoted to a fuller statement of three of the phases of the subject, studied in connection with the purpose of finding the cause of variola.

THE BACTERIOLYTIC COMPLEMENT CONTENT OF THE BLOOD SERUM IN VARIOLA.

DR. RALPH L. THOMPSON explained the terms "complement content" and "amboceptor," and stated Ehrlich's hypothesis, which is an explanation of individual immunity or susceptibility to infection.

The two great difficulties in the study are the method and the lack of any accurate knowledge of the nature or composition of the "complement" itself. His chief contribution is the discovery that another serum, for instance that of a horse, may be used as the amboceptor. This does away with the necessity of abstracting a large amount of blood from the individual, a few drops from the ear being quite sufficient, just as in the Widal tests. He has, hence, been able to study a large number of people, some being very severe cases of variola.

In all cases there is early a low "complement." Abortive cases and cases of true smallpox with all the stages but without complications have an early and rapid return to normal, beginning with the first involution of the lesions. Cases complicated with a secondary infective humor have always a low "complement," which may persist after the lesions have healed and the patient is well.

Much study is yet needed, but it would seem that this opens up a vast field for research, and is possibly a most important contribution to our means of making a more accurate prognosis.

EXPERIMENTAL STUDIES IN VACCINIA.

DR. E. E. TYZZER'S experimental studies have been conducted on the lesions of vaccinia in the cornea of rabbits and calves. Vaccine virus introduced into the cornea of a rabbit produced a great proliferation of surrounding tissue, only a slight degeneration and a very evident formation of "vaccine bodies" which grew in size and number and invaded adjoining tissue. These disappeared in from six to eleven days. The same results were observed when variola virus from an early vesicle was inoculated into the cornea of the rabbit or from the cornea of an infected rabbit to another not yet infected.

He considered this strong evidence that there is the same cause for both variola and vaccinia. When the virus of either, however, is introduced into the cornea of a calf, much degeneration and no proliferation is produced, but the same "vaccine bodies" appear.

He then demonstrated the life cycle of these bodies by diagrams and lantern slides of photomicrographs. He believes this is the asexual cycle of a sporozoon. He stated the various other explanations offered for these vaccine bodies and that he had carefully considered each of them, with the result that he is confident that he has here a living growing body.

THE SKIN LESIONS IN VARIOLA.

DR. W. T. COUNCILMAN explained the very definite nature of the course of variola and the care with which he and his associates have searched for the "protopustule" by which Pfeiffer endeavors to explain this definite course. No trace of any such pustule could be found. Nothing at all is known of the changes during the first twelve days, the period of incubation. Then we begin to get degeneration of the epithelial cells and the forcing out of fluid exudate. He showed a long series of lantern slides of photomicrographs of the skin in and near the lesions of variola from the first appearance of the papule to the condition of the scab.

He then demonstrated, as he did before the Boston Society of Medical Sciences, the peculiar bodies present in the cells of the deeper layers. He laid emphasis on the fact that during the intracellular cycle the cells were little if at all altered and the nuclei were normal. During the intranuclear cycle, however, degeneration of both is rapid. The same organisms are found in the beginning of both vaccinia and variola. Variola given to a cow will yield only the vaccinia cycle. But in man we get the second cycle, which is more complex and seems to correspond to the sexual cycle such as takes place for the malaria germ, within the mosquito as host. In the monkey, too, both cycles are obtained.

There is yet much to be done to work out completely this sexual cycle. Many of these observations were only made clear by the study of the photomicrographs of stained specimens. It has a complicated history and a complicated structure.

The organism has not been cultivated outside of the body, nor has it been observed before the appearance of the papule. Once the spores have been found in a blood vessel, suggesting thus the method of the dissemination of the disease.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Acute Gout.

J. R. Clemens, in "Med. News," states that in the treatment of acute gout general consideration must be given to the medicinal, dietetic and local treatment. Elimination must be kept up by means of mercurials, salines and diuretics. Unless there are indications to the contrary, the treatment should be begun by the administration of pilula hydrargyri gr. iv (.25) followed several hours later by two ounces (60.) of mistura sennæ comp. in order to relieve hepatic congestion. The following mixture should then be prescribed and continued until the motions become very free:

℞.	Magnesii sulph. 3iss	6	
	Magnesii carb. .....gr. xxx	2	
	Pot. citratis .....gr. xxx	2	
	Tinct. colchici sem. .....m. x		65
	Aq. menth. pip. q. s. ad.....℥i	30	

M. Sig.: To be taken at one dose and repeated every four hours until the movements are free, then less often. The colchicum should be continued until all the pain in the joint has disappeared, care being observed not to produce nausea, vomiting, etc.

The patient should be told to drink freely of hot water. The local treatment of the joint, according to the author, is

most important. Warmth to the joint is very essential. As a local application the following is recommended:

℞. Sodii carb. 3iii 12
Tinct. opii .....℥ii 60
Linimenti belladon. .....℥ii 60
Aquæ q. s. ad.....℥viii 240

M. Ft. lotio. Sig.: Mix part of the lotion with an equal quantity of hot water and apply to the joint on linen well saturated as hot as can be borne by the patient.

Around the dressing a yard of thin rubber should be placed, and over this a thick dressing of cotton wool held in place by a roller bandage. The limb should then be elevated, resting on pillows. Cold should never be applied to the joint. The diet for the first day or two should consist of milk, as follows: Bread and milk; tea boiled with milk instead of water; milk puddings of tapioca, sago, rice; milk and arrowroot. After convalescence the diet may be made more liberal. The following articles should be avoided: Salt meats and salt fish; shell fish (except oysters); all rich pastries and sweets; soups of all kinds; pickled foods; the four vegetables, tomatoes, asparagus, rhubarb, green peas. Beers and wines should be avoided, as well as salt and sugar, except in small quantities. Massage should be given to the joint. The following mixture is of service as a tonic and prophylactic, and should be continued for two or three months:

℞. Potass. iodidi .....gr. x 65
Spts. ammon. arom. .....m. xv 1
Inf. gentianæ co. q. s. ad.....℥i 30

M. Sig.: At one dose after a meal and repeated thrice daily.

F. L. Satterlee recommends the following in the treatment of gout and rheumatism:

℞. Lithii benzoatis 3ss 2
Sodii brom.
Potassii carb., āā.....3ii 8
Potassii acetatis .....℥iss 45
Sodii phos. .....℥ss 15
Syr. zingiberis
Aq. menth. pip., āā.....℥vi 180

M. Sig.: One teaspoonful to a tablespoonful in half a glass of water every four or six hours after eating.

"Merck's Archives" recommends the following in the treatment of acute gout:

℞. Sodii salicylatis 3iv 15
Sodii nitratis 3iiss 10
Vini colchici rad. 3iiss 10
Aq. destil. .....℥ii 60
Syrupi simplicis .....℥iii 90

M. Sig.: One tablespoonful every four hours; or:

℞. Ichthyol 3i 4
Ext. belladonnæ .....gr. x 65
Collodii .....℥i 30

M. Sig.: To be applied externally with a brush, three times daily. And in chronic rheumatism the same periodical recommends the following:

℞. Sodii iodidi 3ii 8
Vini colchici rad. 3iv 15
Sodii salicylatis 3iii 12
Tinct. guaiaci .....℥ii 60
Syr. sarsap. co. q. s. ad.....℥vi 180

M. Sig.: One dessertspoonful three times a day; or:

℞. Acidi salicylici 3ii 8
Ichthyol 3iv 15
Ung. belladonnæ 3iv 15
Lanolini 3iv 15

M. Sig.: To be applied locally three times a day and thoroughly rubbed in; or:

℞. Aq. ammon. (concentrated) 3iv 15
Olei cajuputi.....3i 4
Tinct. belladonnæ .....℥i 30
Linimenti camphoræ q. s. ad.....℥viii 240

M. Sig.: To be rubbed in thrice daily.

Salicylic Acid in Milk.

P. Schmidt, according to an abstract in "Indian Med. Record," states that the addition of a small quantity of salicylic acid to milk causes the milk to be tolerated by patients who otherwise are nauseated by its taste. From three to seven grains (.20-.50) of the salicylic acid are placed in a small quantity of milk and well stirred, this in turn is put in the quantity to be used in the twenty-four hours. The entire amount is raised to the boiling point; treated in this way the milk does not coagulate as coagulation will take place only when the proportion of salicylic acid exceeds gr. 4 (.25) to the quart. This is used in feeding infants, reducing the amount of the acid to one and a half grains to the quart.

Pertussis.

The following, according to the "Amer. Jour. of Obs." is of service in the treatment of pertussis:

℞. Tinct. stramonii sem.
Am. bromidi, āā.....3ii 8
Elix. simplicis q. s. ad.....℥ii 60

M. Sig.: One teaspoonful to a child of five years in water every two or three hours as may be necessary to quiet the cough.

The after-treatment should consist in giving ammonium carbonate gr. 2½ (.15) every three or four hours as an expectorant, administered in a little whiskey and milk. The foregoing prescription should be given sufficiently often to control the cough.

Preventive Treatment of Pericarditis.

According to Carriere, in "Amer. Med.," the heart should be watched in all infectious diseases which are liable to cause pericarditis. If rheumatism is contracted, treatment should be carried out energetically. The following combination is recommended, to be continued for three or four days:

℞. Sodii salicylatis .....gr. xv-xlv 1-3
Syrupi aurantii .....℥i 30
Aquæ .....℥iii 90

M. Sig.: To be given during the twenty-four hours.

[The foregoing dose of sodium salicylate is frequently repeated as often as every two or three hours. The dose given would be too small for an adult.]

In other infections, in children, the following containing quinin is recommended:

℞. Quininæ hydrochlor. .....gr. i-ix .06-.60
Glycyrrhizin .....gr. xlv 3
Syrupi 3iiss 10
Aquæ .....℥ii 60

M. Sig.: To be taken in tablespoonful doses during the twenty-four hours.

The importance of rest is emphasized. Cold to the precordial region and blistering below the clavicle are good prophylactics against cardiac and pericardiac complications, and should be applied in such cases.

Quinin Subcutaneously.

Aufrecht, in "Ther. Monatsh.," recommends that quinin be combined with urethane in order to render it more soluble, when it is desired to introduce the quinin hypodermically. The following combination is used by him:

℞. Quininæ hydrochlor. .....gr. viiss 50
Urethane .....gr. iiiss 20
Aq. destil. 3iss 6

M. Sig.: To be used at one injection hypodermically.

He uses this method of medication in pneumonia and puerperal fever, injecting it into the sides of the abdomen. The ill effects of quinin are observed in a much milder degree than when administered by the mouth.

Exophthalmic Goiter.

G. R. Murray, in "The Lancet," states that any drug treatment should be persisted in for several months. He recommends convallaria in those cases where the pulse remains persistently high. Belladonna does not act well in every case, but is of great value in some of these cases. He states that the bromids should be employed when marked nervousness and tremor accompanies the trouble. He also recommends arsenic in the form of Fowler's solution, giving three or four

minims three or four times a day for a month or two. Thyroid extract should not be used.

Purulent Conjunctivitis.

G. C. Savage, in "Southern Pract.," states that conjunctivitis occurring within the first three days after birth should be considered as the result of infection and should be treated as such. Two drops of a two per cent. solution of silver nitrate or of a 10 per cent. solution of protargol should be put in each conjunctival sac. This should be done without waiting for pus formation and repeated on the following day. The silver solution should not be continued unless pus should appear, under which circumstances it should be used daily. The eyes should be thoroughly cleansed every half hour with a boric acid solution in order to prevent infection of the deeper layers of cornea.

Every two hours, after cleansing, the author recommends that eight or ten drops of the following solution be instilled into each eye:

℞.	Hydrastin sulph. .....gr. ii		12
	Tinct. opii .....m. xx-xxx	1.30-2	
	Acidi boracici .....gr. xv	1	
	Aq. destil. .....ʒi	30	

M. Sig.: Eight or ten drops to be instilled into each eye every two hours and continued until the eyes are well.

Cold should never be applied to the eyes.

Backache in Women.

Fenwick, according to an abstract in "New York Med. Jour.," states that there are four principal causes for backache in women:

1. Displacement of the uterus, the pain being due to the dragging on the uterine ligaments. The author recommends in many such cases the use of the Hodge or Zwancke pessary.

2. Pressure on the sacral nerves, due to constipation very frequently. In such cases he recommends the following:

℞.	Ferri phosphatis .....gr. ii	12
	Ext. belladonnæ .....gr. 1/4	015
	Ext. nucis vomicæ .....gr. 1/4	015
	Ext. cascaræ sagradæ .....gr. ii	12

M. Ft. pilula No. i. Sig.: One such to be taken three times a day after meals.

3. Muscular atony. The pain is located in lumbar and dorsal regions and found in anemic individuals with sedentary habits.

4. Affections of the cervix uteri, under which circumstances the treatment is surgical.

Medicolegal.

No Donation for Extra Services in Smallpox Epidemic.—Section 4424 of the Compiled Laws of Michigan directs that when there is any person in a township infected with the smallpox or other sickness dangerous to the public health the township board of health shall take needed action for the safety of the inhabitants, at the charge of the county when the person himself or the person liable for his support is not able to pay for same: "Provided, that the health board shall keep and render an itemized and separate account of expenses incurred in so caring for each person." It was suggested, in the case of the Village of Durand vs. Board of Supervisors of Shiawassee County, that this provision was directory to the board of health simply. But the Supreme Court of Michigan does not so regard it. It holds that the language of the clause is that of a proviso, and a proviso which affects the whole of the preceding section. And where, after a health officer had rendered a bill for specific services rendered in connection with an outbreak of smallpox and had received his pay therefor, the village paid him an additional sum for "extra services as health officer" during such epidemic and sought to recover the same from the county, the court declares that, however equitable the claim may have been as against the village, this statute certainly never contemplated that boards of health could bind the county by voluntary donations over and above the charges preferred by those having charge of these cases. The village had met the payment of this bill, and the court adds that it sees no reason why it should not bear the expense which was voluntarily incurred.

Death from Eating Unsound Oysters.—Unsound oysters produced the death of a man carrying an accident insurance policy by passing out of the large part of the stomach, lodging in the lower part of the stomach or upper intestine, inflaming the intestinal tract and mucous membrane, causing the same to enlarge, locking the bowels, obstructing and preventing passage, and thereby producing death. The company claimed that the policy exempted it from liability for "injuries, fatal or otherwise, resulting from poison or anything accidentally or otherwise taken, administered, absorbed or inhaled," and that the act of the insured in eating the oysters fell within the terms of said provision; that he ate them voluntarily, consciously and intentionally; therefore, they were not "accidentally" taken. But the Court of Civil Appeals of Texas holds against the company. It says, Maryland Casualty Company vs. Hudgins, that it was true the insured knowingly ate the oysters, but he did not know that he was eating unsound oysters. The effect was not the natural and probable consequence of eating sound oysters, and the effect produced by the eating of the unsound oysters could not have been reasonably anticipated or foreseen by him. It was unexpected, unforeseen and unusual, and, therefore, it could not be said that he voluntarily ate the unsound oysters. This being true, his death was caused by "accidental means," as that term was used in the policy. Furthermore, if it should be conceded that the court's position on this proposition was not sound, which it does not do, it says that it is still of the opinion that the word "anything," as used in the language "poison or anything accidentally or otherwise taken, administered, absorbed, or inhaled," did not refer to eating of food ordinarily harmless, not knowing it to be unsound and dangerous in that condition. It must be interpreted as having reference to those agencies which are not strictly denominated poison, but which have some elements of poison, and which may produce death if improperly taken.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

May 2.

1 *A Case of Perforated Ulcer in Typhoid Fever. James C. Wilson and George G. Ross.
2 *Report of a Case of Painless Amputation of the Leg After the Intraneural Injection of Cocain. John H. Gibbon.
3 *Practical Points on Pessaries, Many Old, Some New. A. Ernest Gallant.
4 *The Radical Cure of Inguinal Hernia in Infants and Young Children. Charles G. Cumston.
5 *The Paradoxical Reaction of the Pupil in Accommodation, with a Report of Three Cases. William G. Spiller.
6 *A Study of the Brain-Weights of Men Notable in the Professions, Arts and Sciences. Edward A. Spitzka.
7 A Case of Endothelioma Occurring Within the Nasal Fossæ. Wm. Hitschler and George B. Wood.

1. **Typhoid Perforation.**—In Wilson and Ross' case the patient was nervous and restless and perspired freely eighteen to twenty hours prior to the probable time of the accident, and they ask whether the ulcer as it approached the peritoneal coat could not cause a vasomotor disturbance sufficient to account for the symptoms. When the perforation occurred the initial pain was referred to the penis and persisted there for twelve hours without being referred to the abdomen. The question is asked whether this pain could be due to the proximity of the inflammatory area to the ureter or bladder. There was a lack of collapse, the temperature remained high, no syncope, no vomiting, sweating or pain in the abdomen. Besides the unavoidable delay in making the physical diagnosis there was difficulty in securing consent for the operation, and hence the loss of valuable time. The patient died three hours after the operation with purulent peritonitis.

2. **Intraneural Injections of Cocain.**—Gibbon reports a case of painless amputation with good results under anesthesia pro-

duced by giving 1/4 gr. of morphin and 1/150 gr. of atropin hypodermically 15 minutes before the operation, and then exposing the sciatic and anterior crural nerves under infiltration anesthesia with Schleich's fluid and injecting them with a 1 per cent. cocain solution. The patient felt no pain and did not know that his foot had been amputated until the operation was finished. There was no evidence of shock, excepting a slightly increased pulse rate. Gibbon gives it as his belief that this method of producing anesthesia should be limited at this time to cases in which general anesthesia is contraindicated, but it certainly seems to him to have a wide field in the future practice of surgery.

3. **Pessaries.**—Gallant describes the conditions helped by the use of pessaries and the methods of their employment. He suggests the following precautions:

When the pessary is in position (*a*) the vaginal wall should never be tense; (*b*) the lower bar must lie just behind the symphysis, invisible at the vulva; (*c*) it should be somewhat movable up and down and free from discomfort during coitus; (*d*) the wearer should not at any time feel conscious of its presence; (*e*) it must be removed at the end of the first week and the vagina examined for pressure points or any signs of irritation; it should then be replaced, and again removed at least once every four weeks, cleaned, polished with a dry towel, and reinserted; (*f*) the wearer must use daily a warm douche, to which may be added a tablespoonful of common salt, or two teaspoonfuls of sodium bicarbonate. These vaginal douches are of service only for cleansing purposes. Vaginal douches for the reduction of pelvic inflammation are injurious if not continued for at least 20 minutes, whereas rectal injections or continuous irrigations for an hour, once or twice daily, will exert an almost marvelous effect on recent pelvic inflammation, and in alleviating pain and tenderness, and for removing exudates in the old cases. For rectal injections he uses 2 quarts of water at 120 deg. F., to which have been added 2 ozs. hamameils; the patient lying on her right side, her hips raised as high as possible and the legs flexed on the abdomen; allow the mixture to run in slowly, a few ounces at a time; encourage her to retain it as long as possible and lie still for an hour. In many instances the whole two quarts will be retained and will do her good. For continuous irrigation Kemp's tube has afforded the most satisfactory results.

No absolute cure of uterine displacements should be promised, but only symptomatic relief, and pessaries ought never to be used when there is present purulent vaginitis or fixation of the uterus, ovaries or tubes, pus tubes or pelvic enlargements.

4. **Hernia in Young Children.**—Cumston reports operations in children under two years old presenting different clinical phases, in two of them strangulation had taken place; one had a double hernia. All the children, with one exception, were in good physical condition and stood the operation well. No hard and fixed rules, he says, can be laid down as to the indications for radical cure. The most important one is strangulation. He does not believe in taxis in such cases. The Bassini operation has always been satisfactorily performed within one-half hour or less in his experience. He formulates the following conclusions:

1. Experience has demonstrated the innocuity of radical operation for hernia in infants. 2. The operation is indicated in all cases of strangulation, in all cases in which the contents of the sac can not be retained by a truss, and in every case in which irritation of the skin is produced by the mechanical appliance, and in children of the poor who can not receive the necessary and proper attention at their homes.

5. **Paradoxical Pupillary Accommodation Reaction.**—Three cases of this peculiarity are noticed by Spiller, in one of which there was unquestionably organic disease, though Piltz has said that it occurs only in functional disorders. The condition as understood is not the same as the better-known paradoxical reaction to light where the pupil becomes dilated under light stimulation. The condition here considered occurs only after accommodation.

6. **Brain Weights.**—Spitzka has collected 114 cases of brain weights of prominent individuals, of which 96 were suitable for analysis. He leaves out any mythical or complicated cases, and those to which valid objections could be made, and remarks in regard to the conditions as indicating atrophy or change from the actual condition during life. He finds there is a relatively greater number of heavy brains among noted individuals, as shown by the diagram he gives, and the average brain weights were higher in the United States and Canada than in Europe, in the individuals analyzed. The cases are tabulated according to the occupations, which show that the exact sciences, such as mathematics and astronomy, furnished men of heaviest brains, and next come the men of action, statesmen, politicians and military men. The creative arts come next, including among others three opera composers. The average of 45 representatives of the natural sciences is lowest of all, but still above the average of ordinary brain weights. While every rule has its exceptions, the inference that the intellectual status is in some way reflected in the mass and weight of the brain seems generally correct, but men devoted to higher intellectual occupations involving the most complex mental mechanism, those of men who have devised original lines of research and those of forceful characters are generally the heaviest.

Medical News, New York.

May 2.

8 *Indications for Extirpation of the Gall Bladder. Maurice H. Richardson.
9 *Some Practical Points in the Anatomy of the Gall Bladder Region. George E. Brewer.
10 *The Diagnosis of Gallstones. J. B. Murphy.
11 *The Mortality in Appendicitis; Its Cause and Limitation. A. J. Ochsner.
12 *Prompt Operation in the Beginning of the Attack Will Save Nearly All Cases of Appendicitis. A. C. Bernays.

8. **Cholecystectomy.**—Richardson is not an advocate of routine cholecystectomy, but points out its advantages in immediate healing and consequent lesser liability to hernia, the absence of any possibility of gallstones forming in the bladder or of a subsequent cholecystitis or malignant growths, and the minimum possibility of adhesions. On the other hand, there is no possibility of draining the biliary passages except through one of the ducts and that only after a difficult and usually unsatisfactory operation. In this lies the chief objection to cholecystectomy, for enforced and persistent drainage is one of the chief factors in bringing about the brilliant and permanent results seen after cholecystotomy. In most biliary affections, drainage is not only an advantage but an absolute necessity, and in removal of the gall bladder we dispense with an essential feature of the majority of cases of biliary surgery. There is also a greater danger in the operation. He sums up his conclusions as follows:

1. Certain lesions in themselves demand removal of the gall bladder whenever possible. Such are new growths and gangrenes.
2. Certain other lesions of the gall bladder are better treated by cholecystectomy. These are the contracted and inflamed gall bladders, with thickened walls. All gall bladders which do not permit easy and efficient drainage should be extirpated, for in such gall bladders the risks of drainage are quite as great as the risks of extirpation; and the one great advantage of retention is impossible —retention of the biliary reservoir to fulfill the functions of that reservoir, and to permit, if necessary, renewed drainage in future years.
3. Drainage is preferable in the dilated and infected gall bladder, which, however, is neither gangrenous nor to any great extent changed—the slightly thickened gall bladder containing gallstones and infected bile. This gall bladder will, after drainage, become normal, and therefore capable of fulfilling the functions of a gall bladder. Through it the biliary passages will become effectually drained, after subsidence of the temporary swelling about the cystic duct.
4. As a rule drainage rather than extirpation is demanded in acute cholecystitis with severe constitutional symptoms, when the gall bladder is dilated, or at least not contracted, and when it is not gangrenous.
5. In chronic cholecystitis, with dilatation and thickening of the gall bladder, especially when a stone is impacted in the cystic duct, extirpation is the preferable operation, unless the stone can be dislodged backward into the gall bladder, in which case drainage is, if not preferable, quite as advantageous as extirpation.
6. In simple gallstones, without visible evidence of infection or chronic changes incompatible with complete restoration of function, simple drainage of the gall bladder is indicated.
7. In chronic pancreatitis, whether associated with gallstones or not, drainage through the gall bladder is indicated. Cholecystectomy is unjustifiable, for immediate drainage is essential. Furthermore, reopening of the biliary passages may in the future be required.

9. **The Gall-Bladder Region.**—Brewer describes the anatomy of the bladder, its anomalies such as its absence, duplex gall bladder, variations in the ducts, etc.

10. **The Diagnosis of Gallstones.**—Murphy analyzes the various symptoms of gallstones, the pain, colic and their causes, vomiting, hypersensitiveness in the region, temperature, etc. In the relation of jaundice to pain, he formulates the following: 1. That jaundice due to gallstones is always preceded by colic; 2, that jaundice due to malignant disease, or catarrh of the ducts accompanied by infection, is never preceded by colic. The different classes of cases of gall-bladder infection are noticed, such as that characterized by pain,

vomiting, the types with characteristic recurrent chills, temperature, etc. The symptoms of stone in the common ducts and in the other ducts are all noted in detail.

11. **Appendicitis.**—Ochsner reiterates his views in regard to the management of appendicitis and the cause of its mortality, illustrating them by cases from practice. He considers that the mortality depends on the extension of the infection to the peritoneum and by metastatic infection, which can be prevented by removal of the appendix, while the infection is still confined to it. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines and also by operation after infectious material has extended beyond the appendix and before it has become circumscribed. He would fight peristalsis of the small intestine by prohibiting the use of every form of nourishment and cathartics by the mouth, using gastric lavage in order to remove any food or mucus from the stomach, and nourishing the patient for the necessary period of time by nutrient enemata. In this way dangerous cases of acute appendicitis can be changed into relatively harmless cases of chronic appendicitis, and the mortality following operations for the latter is exceedingly low. He offers the following suggestions:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.
2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.
3. Aside from insuring a low mortality this will prevent a series of complications, mentioned elsewhere in his paper.
4. In all cases of acute appendicitis without regard to the treatment contemplated, the administration of food and cathartics by mouth should be absolutely prohibited.
5. In case of nausea or vomiting or gaseous distention of the abdomen, gastric lavage should be employed.
6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, conclusions 4 and 5 should always be employed until the patient's condition makes operative interference safe.
7. In case no operation is performed, neither nourishment nor cathartics should be given by mouth until the patient has been free from pain and otherwise normal for at least four days.
8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given and still later small sips of cold water. There is danger in giving water too freely.
9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth in cases suffering from acute appendicitis.
10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.
11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution, introduced slowly through a soft catheter, inserted into the rectum a distance of two to three inches.
12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

12. **Appendicitis.**—Bernays pleads for early operation. The absence of a tumor is a more pressing indication for immediate surgical interference than its presence. Whenever an operation for appendicitis is performed within twenty-four hours after the attack, it is successful in about 98 per cent. of all cases thus treated. He does not like these to be called early operations; they are only operations done at the proper time. The mortality of interval operations is also very low. He has had no deaths in over 400 cases, and as regards any special dangers in early operations, aside from the greater danger of the anesthetic in a few cases, he would say there are none. Operations done during the first day or two are easier and more complete than later operations. The whole answer to the question as to when to operate, is that we must operate early in the attack.

Boston Medical and Surgical Journal.

April 30.

13 Address to the Nurses Graduating from the Framingham Hospital in 1902. Arthur T. Cabot.
14 *Albumosuria. Chauncey R. Burr.
15 A Case of Juvenile Aortic Stenosis, with Subsequent Insufficiency, Sudden Death: Autopsy. Albert N. Blodgett.
16 Mountain Sanatoria for Tuberculosis. Walter Lindley.

14. **Albumosuria.**—Burr described albumosuria and the conditions in which it occurs and insists on the importance of the fact that, aside from lesions of the digestive tract, albumosuria is indicative of leucocytosis and peptonuria of pus absorption. He describes the tests, the only sure one being the saturation of urine at the boiling point with neutral ammonium sulphate; filter and wash the precipitate with saturated solution of ammonium sulphate. Dissolve the precipitate in water or dilute sodium chlorid solution and apply the biuret test. If albumoses are present a rose color results. The treatment is based on the indications mentioned above.

Medical Record, New York.

May 2.

17 *Cranial Form in Man, Together with Some Remarks on the Attitude of the Profession Toward Anthropology. Arthur Thomson.
18 *Reciprocity in Pathology. S. B. Laache.
19 *Antituberculous Campaign in Latin America. Emile R. Coni.
20 *The Expansion of a Specialty. Howard A. Kelly.

17. **Cranial Form in Man.**—The agencies operative in modifying the cranial form are stated by Thomson under two heads: 1. Those operative from within; 2, those operative from without. Considering all the facts, the increased size of the temporal muscle coincides with a greater development of the jaws and he finds a correlation between the coronoid index and the cephalic index, the higher coronoid index being usually associated with dolichocephaly while the lower coronoid indices are met with in skulls of the brachycephalic type. This, however, is from a comparatively small number of observations, and further study is required. Prolonged stress in the region of the pterion, by enlarged temporal muscles, has its effect on the contour of the cranium. Passing on to the consideration of the causes operating from within, he notices the work of Papillault, who has shown that the occurrence of the metopic suture is more common among races with large cranial capacity, and is due to a superiority in the bulk and relative weight of the cerebrum. He also refers to the observations of Boas, who has established that the height of the skull seems most closely associated with capacity, the length least so. To determine the effect of pressure from within, Thomson contrived an apparatus consisting of a rubber bladder fastened over the base of the skull with cords cemented to it representing the temporal muscles, to which could be attached weights. The varying degrees of the distension of the bladder illustrate the different types of the skull. His main point has been to prove that the shape of man's head in its highest development is the outcome of physical and intellectual environment which have led, on the one hand, to a reduction in the size of the jaws and on the other to increased volume of the brain.

18. **Pathologic Reciprocity.**—Laache's article is a consideration of the relations existing from a clinical point of view between the different organs and systems of organs.

19. **The Antituberculous Campaign in Latin America.**—Coni gives the history of the efforts made against tuberculosis in the Spanish and Portugese-speaking regions of the western continent.

20. **The Evolution of the Specialty.**—Kelly's article is an endeavor to show that while there exists a historical continuity in the use of the term gynecology, modern practice differs *toto coelo* from that of former times. The change is not a natural evolution, but an absolute transformation from a minor specialty to a general specialty of major surgery. The term gynecology, he thinks, is a misnomer to-day.

American Medicine, Philadelphia.

May 2.

21 *The Treatment of the Acute Diarrheas of Infancy. John L. Morse.
22 *Some Points Pertaining to the Therapeutic Management of the Uremic State. Heinrich Stern.
23 A Clinical and Statistical Review of 122 Cases of Albuminuria and 48 Cases of Eclampsia Occurring in the Maternity of the Hospital of the University of Pennsylvania. John C. Hirst.
24 *Syphilitic Toxemia Hemiplegia. Charles W. Burr.
25 An Interesting Complication in the Diagnosis of Gallstone. Guy L. Hunner.

26 *Peritonitis in Typhoid Fever without Perforation, with a Report of One Case Caused by the Bacillus Typhosus and Another Simulating Acute Appendicitis. J. L. Yates.
27 The Society for Experimental Biology and Medicine. William J. Gies.

21. **Infantile Diarrheas.**—Morse describes the different types of bowel trouble in infants, the simple diarrheal, which is usually relieved by early removal of the cause, the infective diarrheas due to micro-organisms, to which he gives the name fermental diarrhea, ileocolitis and cholera infantum. In the fermental form the best treatment after purgation to remove the cause is to cut off all food for twenty-four hours, giving only sterile water and later employing a proteid diet with almost complete exclusion of sugar in cases of sour stools. In others, following the general principles and using milk preparations as soon as the stomach will bear them, but previously employing various substitutes which, he thinks, however, are largely effective through their weakness in nutritive material and consequent lack of taxing of the digestive organs. When beginning to use milk preparations, whey is often most useful, made either from whole or skimmed milk. It is prepared by adding a teaspoonful of essence of pepsin or a junket tablet to a pint of milk and heating to from 100 to 110 F. until it coagulates. Then strain through a napkin. A little cream may be added if the patient is doing well, heating first the whey to 150 F. to avoid curdling the cream. If whey is not used the infant should be given a modified milk prepared from fresh milk low in all percentages, highly alkaline and pasteurized. Breast feeding should not be forgotten. In many cases it will result in cure. For drugs he uses bismuth, preferring the ammoniocitrate. The special symptoms due to toxic absorption may require treatment; vomiting may be relieved by stomach washing, hyperpyrexia by cold bathing and the bromids be used for restlessness, and morphin if necessary; stimulants in cases of prostration and collapse, for which brandy and strychnin are most useful. The toxic symptoms are sometimes much relieved by subcutaneous injections of normal salt solution, which can be also given as an enema, though it is not likely to be retained. Ileocolitis, which has more serious pathologic lesions, must be treated along the same lines, but it is possible in this case to reach the seat of the disease from below and irrigation comes into play. Normal salt solution or 1 to 2 per cent. strength of boric acid are most useful. In some chronic cases weak irrigations of silver nitrate in the proportion of 1 to 1,000, one in two or three days, seem to hasten recovery. A strong salt solution should always be at hand when this is used in case its proves too irritating. In cholera infantum the main indications are to empty the stomach and bowels of their toxic contents, supply food to the tissues which are being seriously drained, restore surface circulation and reduce the temperature and keep the patient alive until the disease has run its course. He depends mainly on stomach washing and intestinal irrigations used early and vigorously, and stimulants given subcutaneously.

22. **The Uremic State.**—Stern calls particular attention to the retention nitrogen, that remaining in the blood after complete removal of albuminous substances, as having an important causative relationship to uremia. He considers the promotion of perspiration a very important measure in almost every case, though it is of little value after a pronounced comatose condition has supervened or the attack has persisted for a long time. Enteroclysis should also be performed with weak chlorid solution, or hypodermoclysis with a hypotonic solution of NaCl should be performed at certain intervals. In many cases venesection is of use, though it is bad in advanced asthenic conditions. Much stress is laid on the use of hypodermoclysis and infusion. An isotonic chlorid solution containing 0.9 per cent. of sodium chlorid is not quite as efficient in uremia as one which is slightly weaker, 0.6 per cent. The minimum amount used should never be less than 125 c.c. injected intravenously and 250 c.c. when administered by hypodermoclysis. It should be used slightly above the normal blood heat. When, after the employment of chloroform, vasoconstriction and convulsive phenomena do not diminish, a small dose of morphin may be resorted to and help to bridge over a critical period. It is not indicated, however, in uremia of chronic interstitial nephritis, which rarely shows convulsive phenomena, but is comagenous itself, and here it might hasten the fatal issue.

24. **Syphilitic Toxemic Hemiplegia.**—Burr describes the case of a young woman who, in recovering from a spree, suffered from a headache, became queer and dazed, and the next day fell unconscious and convulsed, the convulsive movements lasting many hours, the unconsciousness several days. During this time a slowly oncoming hemiplegia preceded by dilatation of the left pupil developed, and later there were changes in the reflexes and left-sided ptosis. Consciousness slowly returned and later hemiplegia and other symptoms, barring a slight pupillary disturbance, passed away. A study of the case excluded other causes such as hemorrhage, blood poisoning, etc., and the diagnosis of a syphilitic origin was made by exclusion. The only positive evidence of syphilis was the patient's endurance of the specific treatment, and the character of the symptoms.

26. **Peritonitis Without Perforation in Typhoid.**—The following are the conclusions offered by Yates after a discussion of the condition and detailed reports of cases:

1. Non-perforative peritonitis usually results from an extension of inflammation through the bases of deep intestinal ulcers, but may also arise from the migration of bacteria through an intestinal wall which is relatively but slightly abnormal.
2. Meteorism thus predisposes to infection of the peritoneal cavity and by decreasing the normal peritoneal absorption furnishes a secondary cause for peritonitis.
3. An hematogenous origin of peritonitis is possible in typhoid fever.
4. Non-perforative peritonitis is commonly caused by the typhoid bacillus and the resulting inflammation is usually diffuse and often severe.
5. The inception of such a peritonitis is clinically indistinguishable from the so-called signs of perforation, and the symptoms in both are due to peritoneal inflammation. The prognosis is probably equally grave in the two forms.
6. There should be appropriate surgical intervention immediately the peritonitis can be recognized. Enterostomy is indicated when there is meteorism with the peritonitis or when it affects the prognosis and is intractable to ordinary therapeutics.
7. Thrombi, and among them those composed of agglutinated red blood-corpuscles, may lead to hemorrhages into the wall of the intestine and the resulting changes favor the transmigration of bacteria into the peritoneal cavity.
8. Infarction of the spleen may have a similar thrombotic causation, but simple splenic infarction is probably not a cause of peritonitis.
9. The specific action on human blood of an agglutinin generated by the typhoid bacillus can be demonstrated *in vitro*.

New York Medical Journal.

May 2.

28 *The Tendo Achillis Shortened for the Restoration of the Function of the Calf, Lost as a Result of a Previous Tenotomy. Russell A. Hibbs.
29 A Case of Nevus of the Scalp and Nose Treated by Hot Water Injections. Frederic Griffith.
30 *The Treatment of Gastric and Duodenal Hemorrhages. Max Einhorn.
31 *The Uses of Suprarenal Extract in Nose and Throat Diseases. Beaman Douglass.
32 *The Operative Treatment of Stenosis of the Larynx Following Intubation and Tracheotomy. Report and Exhibition of Cases. Arthur B. Duel.
33 An Anastomosis Ring. William L. Keller.
34 Suprascrotal Operation for Varicocele, with Ligature of the Spermatic Artery. E. Styles Potter.

28. **Shortening of the Tendo Achillis.**—Hibbs reports several cases in which shortening of the tendon was performed on account of an earlier tenotomy and the loss of power of the calf muscles. The operation for shortening revealed dissimilarity in every particular of the structure filling the gap between the ends of the old tendon to normal tendon structure, which he thinks points out that subcutaneous division of the tendo Achillis is not always so successful as it has been considered; that while in some cases the reproduced structure seems to be sufficiently strong to perform the function of tendon, in others this is not so, and one can not be sure in any case what will be the result. There must be some conditions necessary for complete success and these are, he thinks: 1, the preservation of the sheath, and 2, the preservation of the continuity of the tendon. These can not be secured except by open operation.

30. **Gastric and Duodenal Hemorrhages.**—Einhorn discusses the treatment by rest in bed, abstinence from food, use of ice,

etc., as rational methods. He has had good results from the subcutaneous use of gelatin and would recommend it. Adrenalin is also of value, and he has experimented on rabbits to show its effects, which indicate a distinct value of the local application of the drug on the bleeding area. He has used it, injecting a solution of adrenalin chlorid, 1 to 2,000 subcutaneously twice daily in 2 cases of gastric hemorrhages, with apparently good results, and has also tried spraying the stomach with a 1 to 5,000 solution. Further clinical tests will be required. Heart stimulants must be employed in most cases of gastric and duodenal hemorrhage besides the other measures of avoidance of exertion, rational feeding, and using iron, arsenic, and bone marrow with the tentative use of gelatin and adrenalin. The indications for surgical intervention, excision or cautery of bleeding area or gastroenterostomy, are very profuse hemorrhages at short intervals; profuse gastric and duodenal hemorrhages occurring once or twice yearly and greatly endangering the life of the patient. These require the interval or prophylactic operation. Frequent small hemorrhages of the stomach or duodenum, which greatly debilitate the patient and can not be stopped by rational therapeutics, often demand operative measures and here gastroenterostomy is usually advisable.

31. **Suprarenal Extract.**—The uses of this drug are reviewed by Douglass, who finds it specially valuable in diminishing bleeding and hemorrhages during nasal operations. It has its limitations and possible drawbacks, and he has not seen much good from it in operations on the adenoid tissues. In hemorrhage after tonsillotomy, hydrogen peroxid seems to him to work better. The suprarenal has also its value in diagnosis, in differentiating congested from hypertrophied tissues. In acute inflammatory conditions of the nose, pharynx and larynx, it is one of the best remedies.

32. **Stenosis of the Larynx.**—Three cases are reported by Duel to emphasize the points made by Rogers in his paper in the "Annals of Surgery" for May, 1900, on the retained intubation tube. The principal points to remember are that about 1 per cent. of all patients intubated for acute laryngeal stenosis will "retain" the tube. This is due in most cases to chronic inflammation of the intralaryngeal mucosa and subglottic tissues, and is not the result of granulation or cicatricial bands, etc. Auto-extubation in these cases is the rule and greatly adds to the danger, and as a result of this tracheotomy is often performed for safety. Where high tracheotomies are done, cicatricial bands are almost certain to form in the trachea or lower part of the larynx above the tracheotomy wounds. The points in the treatment to be emphasized are the use of the largest possible sized tube under anesthesia. In case of contraction, rapid dilatation should be done by beginning with the small sizes and working up to the large special tube, which is to be left in place. This tube should be left in for at least six weeks and then removed, and in failure of recovery it should be replaced for six weeks longer. He is in favor of splitting the larynx and holding the tube in place by means of the retaining clamp early in such cases, rather than resorting to tracheotomy, which adds cicatricial bands to the already existing complications.

Cincinnati Lancet-Clinic.

May 2.

35 The Urinary Secretion: Its Obstetrical and Gynecological Considerations. Chauncey D. Palmer.
36 The Psychological Factor in Medicine and Its Application to Nervous Disease. John Punton.
37 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

St. Louis Medical Review.

April 25.

38 Fatal Hemorrhage from Conjunctiva in the New-Born; with Report of Case. Meyer Wiener.
39 Prophylactic Treatment of the Eyes in the New-Born. Hugo Ehrenfest.
40 The Treatment of Ophthalmia Neonatorum. John Green, Jr.

Northwestern Lancet, Minneapolis.

May 1.

41 *The *X*-rays in Medical Diagnosis. Soren P. Rees.
42 So-called Chronic Catarrhal Endometritis. A. W. Abbott.

41. **X-Rays in Medical Diagnosis.**—Rees finds a decided value in the *x*-rays aside from their surgical use, not merely in the treatment of cancer, hypertrichosis, etc., but in medical diagnosis. The chest appearances are specially noted and the possibilities of determining tuberculous lesions, pneumonia, emphysema, pleurisy, where doubt exists, are pointed out. Any abnormality in size, shape, position or movement of the heart is readily discovered when the lung casts a normal or lighter shadow. A comparison between the outlines obtained by percussion and those by the fluoroscope shows what a material aid the latter is in determining the size of the heart. It has been shown that the apparent enlargement of the heart in cases of chlorosis is in many cases merely a change in the long axis of the heart from the vertical to the more oblique. Pericardial effusion, adhesions and displacements are apparent with a certainty that is otherwise impossible. In thorax aneurism and in the early stages of many aneurisms, when the prognosis would be most favorable if the condition could be ascertained, the *x*-rays come into special use, and deeply seated, enlarged glands, tumors, etc., are also detected. By means of a metallic sound or soft rubber tube filled with mercury or shot after its insertion, a diverticulum or stricture of the esophagus is demonstrated. The abdominal and pelvic organs do not show the same differences in density as in the thorax, and the ray is less satisfactory. Using certain precautions such as a brisk purge, freedom of the stomach from food, doing away with clothing, etc., much can be done, however, in determining conditions below the diaphragm. The importance of having a skilled physician to interpret the appearances is emphasized. Cases of calculus of the gall bladder, kidney and uterus, especially show the uses of the *x*-ray. Rees finishes with the following conclusions:

1. That the *x*-ray is a very valuable aid in the diagnosis of many medical diseases, and of primary importance in the diagnosis of several. 2. That for the internist, at least, who confines his work largely to chronic ailments, it becomes especially valuable, and that it is entirely feasible for him to make office examinations of suitable cases. 3. That the rapid improvement in apparatus and technic and the need of careful training on the part of the observer, will prevent for some time its successful employment by the ordinary practitioner. 4. That while we must admit an idiosyncrasy to the *x*-ray in some persons, the danger of burn to the operator and to the patient, if proper precautions are taken, is very small.

Journal of Tuberculosis, Asheville, N. C.

April.

43 *Pulmonary Tuberculosis. Aufrecht (Magdeburg).
44 *The Mode of Infection in Tuberculosis and Measures for Its Prevention. F. M. Pottenger.
45 Origin and Growth of Sanatoria for Tuberculosis in Massachusetts. Vincent Y. Bowditch.
46 *Auxiliaries in the Treatment of Consumptives. Otto Juettner.
47 Report of 309 Cases of Pulmonary Tuberculosis, with Remarks on Classification and Treatment Employed. Karl von Ruck.

43. **Pulmonary Tuberculosis.**—Aufrecht combats the ordinary idea of infection by inhalation and the dangers of the contagiousness of the disease. The method of its entrance into the system he holds is ordinarily through the tonsils and from these to the lymphatics and thence through the vessels to the lung tissue. There may be a formation of cheesy foci in the apex due to entrance of the bacilli into the smaller branches of the pulmonary artery as in ordinary chronic tuberculosis. In what he calls subacute pulmonary tuberculosis very numerous cheesy tubercles may occur throughout the whole lung tissue, caused by sudden invasion by hordes of bacilli through the pulmonary artery. Recovery in this form is still possible. Lastly, the pulmonary tuberculosis may be only a partial phenomenon of an acute general miliary tuberculosis traceable to overwhelming of the whole body by tubercle bacilli through the systemic circulation.

44. **Mode of Infection of Tuberculosis.**—Pottenger's views are much like those of Aufrecht as regards the mode of infection. He thinks that, in a very large proportion of the cases, the bacilli are taken into the body by the mucous membranes of the upper respiratory and digestive tracts. When once through the mucous membrane they find themselves in the lymph spaces, whence they are carried and deposited in the neighboring or some remote lymph gland, or find their way

through the thoracic duct into the pulmonary circulation, to be strained out by the small vessels of the lungs. He insists on the importance of precautionary measures against tuberculosis infection.

46. **The Treatment of Tuberculosis.**—Juettner discusses the methods of massage and chest gymnastics, oxygen and ozone inhalation, the use of high frequency currents, photo- and Roentgen-ray therapy and hydrotherapy.

Pediatrics, New York.

April.

48 *A Contribution to the Natural History of Diphtheria. H. Illoway.

48. **Diphtheria.**—Two cases are reported by Illoway. He offers certain conclusions, affirming that diphtheria is a self-limited disease and when placed under proper conditions tends to recover. Even grave dyspnea does not necessarily indicate a fatal issue; nature may work out its own salvation. Diphtheria following on measles is a grave affection, and all such cases in his experience as were tracheotomied or intubated, died. He concludes with the report of a case of tonsillar diphtheria which he finds has also the same natural tendency to recovery, though it may produce very marked constitutional disturbance with but trifling local manifestations. The case also points out the advantages of digitalis as a cardiac regulator and a controller of temperature.

Pennsylvania Medical Journal, Pittsburg.

March.

49 Address in Obstetrics, Medical Society of the State of Pennsylvania. J. M. Baldy.
50 *A Further Report on the Treatment of Tic Douloureux by Division of the Sensory Root of the Gasserian Ganglion. Charles H. Frazier.

April.

51 *Unilateral Renal Hematuria. Augustus A. Eshner.
52 The Rôle of the Cystoscope in the Diagnosis and Treatment of Some Diseases of the Urinary Tract. Charles P. Noble.
53 *Fistula between Gall Bladder and Stomach. A. Barr Snively.

50. **Tic Douloureux.**—Frazier offers a further report on the advantages of section of the sensory branch of the fifth nerve in place of extirpation of the gasserian ganglion in obstinate cases of neuralgia. He enumerates among the advantages claimed for division of the sensory root that it obviates a number of difficulties, especially hemorrhage, which is the greatest bugbear in gasserian extirpation. It usually occurs from three sources: 1. From the middle meningeal artery. 2. From the emissary veins. 3. From the cavernous sinus. As regards hemorrhage from the middle meningeal, the two operations are on a par, but as regards the other two sources of hemorrhage, section of the sensory root avoids hemorrhage, and the chances of injuring the adjacent structures are also very much lessened and there is a decided reduction in the rate of mortality.

51. **Unilateral Renal Hematuria.**—Eshner reports a case presenting symptoms of renal calculus with hematuria in which, after exposure of the kidney, nothing abnormal was found, but the symptoms disappeared permanently. He discusses the literature at length and gives a summary of the reported case, together with an analysis. He concludes that there occurs occasionally, in men and women alike, mostly at middle adult life, hemorrhage from a single kidney, from either with equal frequency, in many cases from demonstrable organic disorder and in others of obscure or unknown origin. This hematuria may cease after simple exposure of the kidney, or after nephropexy or nephrotomy or, in the failure of these, after nephrectomy.

53.—This article appeared in THE JOURNAL of April 11, p. 963.

Ophthalmic Record, Chicago.

April.

54 Confessions of a Traveler. (Continued.) Albert B. Hale.
55 Mucocele of the Left Inferior Lachrymal Canaliculus. George T. Brady.
56 *Glaucoma Malignum—Report of a Case with Recovery of Vision. H. E. Peterman.
57 *Amblyopia with Slow Recovery of Vision After Extraction of Very Old Cataracts. H. Moulton.
58 *A New Method of Preventing Infection from the Conjunctiva After Operations Involving Opening the Anterior Chamber. E. C. Ellett.
59 A Tumor of the Dura Mater Covered by the Cerebellum, Located in the Posterior Fossa of the Skull; Some of the Symptoms Resulting Therefrom. William L. Bullard.

56. **Glaucoma.**—Peterman reports a case of malignant glaucoma which recovered. It was associated with astigmatism "against the rule" in both eyes, and the second eye became infected with glaucoma two years and three months after the first. Iridectomy was performed and malignant glaucoma did not occur. In conclusion he remarks on the effects of the salicylates in these cases.

57. **Amblyopia with Slow Recovery After Cataract Operation.**—Moulton reports two cases of amblyopia from disuse. The patients were operated on for cataract, but sight return was very gradual in spite of perfectly clear media and healthy fundus. Several months were required for perfect restoration.

58. **Prevention of Conjunctival Infection.**—In order to prevent infection of the corneal wound from the lachrymal passages, Ellett operated by incising the conjunctiva all around the cornea as in case of enucleation, then dissecting it up from the ball by means of a probe, care being taken to free it well in the upward and downward directions to a distance of about half an inch from the limbus. The cataract was extracted by the combined operation and the cut edges of the conjunctiva then picked up and drawn upward and downward until they met over the cornea and were united by a horizontal row of stitches so as to completely cover it. No apparent gap was left and iodoform was thickly dusted over the line of union and the eye covered with a light gauze dressing. The eye was irrigated every hour with boric solution and iodoform reapplied. After the fourth day, when the ball seemed to have regained its natural contour, the stitches were removed and the conjunctival edges spontaneously separated and the corneal wound was seen to have closed. The whole cornea was exposed about three days after the removal of the stitches, the conjunctiva attaching itself again in its normal position.

Illinois Medical Journal, Springfield.

May.

60 *The Diagnosis of Chronic Interstitial Nephritis Based upon Physical Signs, Chiefly Cardio-Vascular. Charles L. Mix.
61 *Malarial Hematuria with Etiology, Symptoms, Diagnosis and Treatment. M. L. Winstead.
62 The Technic and Possibilities of Endovesical Operative Procedures. Louis E. Schmidt.
63 The Adolescent Girl. Rhoda G. Yolton.
64 Hydro- and Electro-Therapy in the Treatment of Diseases of the Alimentary Tract. E. M. Eckard.
65 *Concerning a New Series of Synthetic Salts; the Nucleids of Iron, Copper, Mercury and Silver. E. R. Larned.
66 *System in Medical Practice. Carl E. Black.
67 *Surgery of the Prostate. John B. Murphy.

60.—This article has appeared elsewhere. See THE JOURNAL of April 4, title 48, p. 937.

61. **Malarial Hematuria.**—Winstead holds that malarial hematuria is a toxemia due to retained poisons within the circulation which quinin has no power to eliminate. The malarial parasite is not its direct cause. Elimination of these toxins by the bowels and the kidneys is the first imperative duty in the treatment, afterwards fortifying the system against them by quinin and other tonics.

65. **The Nucleids.**—Larned reviews the literature of the nucleinic acid salts and offers the following deductions in conclusion:

1. These new salts of nucleinic acid are rational reconstructives; they are true tonics. They increase physiologic resistance: they increase the functional activity of the secretory organs. 2. They are powerful germicides, while not harmful but beneficial to the tissues. 3. If our present knowledge of nucleins and leucocytosis is correct, then the nucleid is the proper form for administration of metals. 4. We do not positively know the rationale of their action, but we have nothing which holds out such prospects for successful medication. 5. These new synthetic salts are valuable additions to the pharmacopeia.

66. **System in Medical Practice.**—Black's article is an elaborate description of a plan of keeping records and accounts according to the card system, following the Melville Dewey classification.

67. **Surgery of the Prostate.**—Murphy favors the perineal route in prostatectomy as less dangerous than the suprapubic

or Bottini operation; as less liable to cause hemorrhage, sepsis or injury to the neighboring structures, favoring drainage and rapid restoration, shortening period of wound repair, favoring retention of vesical control and relief of vesical irritation. The sexual power is destroyed. He reports a large number of cases, with numerous illustrations.

Medical Fortnightly, St. Louis.

April 25.

68 Some Reports of Cases of Fibroid Tumors of the Uterus. Josephine Milligan.
69 Surgery of the Pancreas (Historical and Experimental). Benjamin M. Ricketts.

Virginia Medical Semi-Monthly, Richmond.

April 24.

70 Cases in Practice, and Comments Thereon. R. S. Martin.
71 Two Cases of Clubfoot Associated with Maternal Impressions. Peyton B. Green.
72 Diphtheria. O. C. Kessler.
73 Case of Strangulated Femoral Hernia Operated on Under Morphin. W. H. Riddle.
74 Mouth Breathing. Clifton M. Miller.
75 Some Facts About a New Hypnotic—Hedonal. I. Julius Martinson.
76 Operation for Cataract, with Report of 65 Cases. E. Oliver Belt.

American Practitioner and News, Louisville, Ky.

February 1.

77 Management of Normal Cases of Labor. J. J. Adams.

Medical Age, Detroit, Mich.

April 25.

78 Conservative Treatment of Uterine Displacement. J. M. Inge.
79 The Lying-in Chamber. Minnie C. T. Love.
80 Suicide in Children. C. C. Mapes.

Richmond Journal of Practice.

March.

81 Mouth Breathing. Clifton M. Miller.
82 Chloroform as a Surgical Anesthetic and Its Administration. Manfred Call.

Canadian Journal of Medicine and Surgery, Toronto.

May.

83 Dr. James H. Richardson, One of Toronto's Grand Old Medical Men. W. A. Young.
84 Legislation Needed for the Preservation of the Teeth of the School Children of Canada. E. Herbert Adams.

International Journal of Surgery, New York.

May.

85 Report of 1,163 Surgical Cases Occurring During Two Months' Service at St. Vincent's Hospital, February and March, 1903. F. S. Dennis.
86 Some Observations on Acute Osteomyelitis. Howard Lilienthal.
87 Adenoids in the Rhinopharynx. Charles H. Knight.
88 Acute Inflammatory Atrophy of the Osseous Tissues. Carl Beck.
89 Operative Treatment of Retroversion of the Uterus. J. T. Field.
90 The Surgical Assistant. (Continued.) Walter M. Brickner.
91 The Value of Free Incisions in Abdominal Section. Leroy Broun.
92 Improvement of the Levis Carbolic Injections for Hydrocele. John A. Bodine.
93 Perineal Section for Removal of Calculus from Bladder; Abscess of the Kidney; Replantation of Teeth; Priapism. S. D. Van Meter.

American Medical Compend, Toledo, Ohio.

May.

94 On Corneal Opacities. George F. Suker.
95 Gastric Muscle Fatigue and Dilatation. Fenton B. Turck.
96 Uremia. E. W. Doherty.
97 Pyorrhea Alveolaris. J. N. Garfunkle.
98 Anesthetics and Anesthesia. W. W. Grube.

New Orleans Medical and Surgical Journal.

May.

99 The Art of Medicine—Some Ideals, Old and New. Isadore Dyer.
100 Notes on the Health Methods in New Orleans. Quitman Kohnke.
101 A Case of Xerosis-Icthyosis Type. Randell Hunt.

Medical Sentinel, Portland, Ore.

April.

102 The Practice of Medicine as a Career. C. J. Smith.
103 A Case of Intussusception without Obstruction. Ed. E. Maxey.
104 Aseptic Obstetrical Technic. George W. Libby.
105 Croupous or Lobar Pneumonia. J. F. Hall.
106 Pneumonia in Infancy. W. P. Gaines.
107 Treatment of Typhoid Fever. L. F. Griffith.

Medical Review of Reviews, New York.

April 25.

108 Preliminary Treatment in Minor Gynecological Surgery. William B. Small.

Texas Medical News, Austin.

April.

109 The Criminal Insane. G. H. Moody.
110 A New Instrument for the Radical Treatment of Chronic Hypertrophic Tousillitis, with Remarks as to "Causalis Indicatus." E. L. Burton.
111 A Plea for More Accuracy in the Diagnosis of Lues in Its Initial Stage. Wm. F. Bernart.
112 An Operation for Cholecystotomy. W. W. Lynch.

Detroit Medical Journal.

April.

113 Diagnosis and Surgical Treatment of Tuberculosis of the Kidney. Ramon Guiteras.
114 Pus from the Upper Urinary Tract. Frederick W. Robbins.
115 Spontaneous Rupture of Skin Covering Umbilical Hernia—Gangrene of Intestine—Resection of Hernia—Recovery. William Bishop.

Therapeutic Gazette, Detroit, Mich.

April 15.

116 Carcinoma and Myoma Uteri; Removal of One Ovary and Part of the Second for Inflammation. E. E. Montgomery.
117 A Case of Bromoform Poisoning. Henry K. Dillard, Jr.
118 Medicinal Chemicals. Virgil Coblentz.
119 Jaesche-Arlt Operation for Organic Entropion or Trichiasis. A. S. U. Anderson.
120 Treatment of Prostatic Hypertrophy. (Concluded.) Edward Martin.
121 Gastric Lavage. Thomas H. Stucky.

Northwest Medicine, Seattle, Wash.

April.

122 Malignant Disease of the Common Bile Duct. William J. Mayo.
123 Acute Articular Rheumatism. H. M. Read.
124 The Medical Expert. F. M. Conn.
125 Report on Bubonic Plague in California. J. R. Booth.
126 Etiology of Ectopic Pregnancy. J. J. Panton.
127 Diagnosis of Ectopic Pregnancy. W. W. Skene.
128 Two Cases of Chewing Gum in the Bladder. J. B. Eagleson.
129 A Kidney in the Umbilical Cord. Geo. M. Horton.

International Medical Magazine, New York.

April.

130 The Causation of Hypertrophy and Dilatation of the Heart. A. O. J. Kelly.
131 Dilatation and Hypertrophy of the Heart from Physiologic Standpoint. William S. Wadsworth.
132 Diagnosis of Hypertrophy and Dilatation of the Heart. Samuel Wolfe.
133 The Place of Drugs in Cardiac Dilatation. Henry Beates, Jr.
134 The Selection of Cardiac Cases for, and Their Management at, High Altitudes. S. Edwin Solly.
135 Diet and Hygiene in Hypertrophy and Dilatation of the Heart. Henry L. Elsner.
136 The Mimicry of Cardiac Affections by Neurasthenia. Charles W. Burr.
137 The Treatment of Cardiac Hypertrophy and Dilatation. Roland G. Curtin.
138 The Rôle of Impaired Digestion and Faulty Metabolism in Overtaxing the Heart. Boardman Reed.

Louisville Monthly Journal of Medicine and Surgery.

May.

139 The Present Status of X-Ray Therapeutics. Thomas L. Butler.
140 Early Diagnosis of Cancer of the Stomach. Oscar E. Bloch.
141 Anent Urinalysis. Hugh R. Manning.
142 Some Injuries of the Knee-Joint. R. C. Falconer.
143 The Causal Relation of Defective Eyesight to Some Morbid Nervous Phenomena. A. P. Banfield.
144 Crime and Its Causes. H. L. Appleton.
145 Radical Treatment of Mastoiditis, with Report of Cases. Robert E. Moss.

Mississippi Medical Record, Vicksburg.

May.

146 Injury of the Eyeball; Report of Five Cases. M. H. Bell.

Canadian Practitioner and Review, Toronto.

April.

147 An Anomalous Case of Typhoid Fever. Robert J. Dwyer.
148 Report of Gynecological Clinic at the New York School of Clinical Medicine. Augustin H. Goelet.
149 Symptoms and Treatment of Calculus Anuria. E. L. Keyer, Jr.

Columbus Medical Journal.

April.

150 Tuberculosis and the Sanatorium. John H. Lowman.
151 Remarks Concerning the Diagnosis of Recently Acquired Syphilis. Starling S. Wilcox.
152 Tricuspid Regurgitation. William E. Allaman.

St. Paul Medical Journal.

May.

153 Concerning an Ideal City Water Supply. George W. Fuller.
154 Stone in the Bladder and Hypertrophy of the Prostate. Archibald MacLaren.
155 Tuberculosis. Its Prevention and Its Treatment Otherwise Than by the Use of Drugs. G. S. Wattam.
156 Hay Fever. J. H. James.
157 A Case of Idiopathic Anemia with Pronounced Involvement of the Nervous System. Charles R. Ball.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

April 25.

1 *Importance of an Early Diagnosis of Cancer of the Stomach, with a View to Radical Treatment, with Remarks on Operative Results, Immediate and Remote. A. W. Mayo Robson.
2 *The Surgical Treatment of Gastric Ulcer. C. Mansell Moullin.
3 Case of Partial Gastrectomy, with Remarks on the Treatment of Malignant Disease of the Stomach. B. G. A. Moynihan.
4 Case of Chronic Pancreatitis, with an Account of the Post-mortem Examination. Gilbert Barling.
5 An Analysis of 110 Operations for Strangulated Hernia. William Thorburn.
6. Two Cases of Interstitial Nephritis in Congenital Syphilis. G. A. Sutherland and J. W. T. Walker.
7 *Knock-out Blows. James G. Duncanson.

1. **Gastric Cancer.**—The symptoms, diagnosis, physical examination and treatment of gastric cancer are reviewed by Robson, who gives illustrative cases. He says he trusts he has advanced sufficient evidence to prove:

1. How desirable it is to make an early diagnosis of cancer of the stomach in order that a radical operation may be performed at the earliest possible moment. 2. That it may be needful to perform an exploratory operation in order to complete or confirm the diagnosis. 3. That such an exploration may be done with little or no risk in the early stages of the disease. 4. That even where the disease is more advanced and a tumor perceptible, an exploratory operation is, as a rule, still advisable in order to carry out radical or palliative treatment. 5. That, where the disease is too extensive for any radical operation to be done, the palliative operation of gastroenterostomy, which can be done with very small risk, may considerably prolong life and make the remainder of it much more comfortable and happy. 6. That some cases, thought at the time to be cancer, too extensive for removal may, after gastroenterostomy, clear up completely and get quite well. 7. That in cases of disease of the cardiac end of the stomach too extensive for removal, the operation of gastrostomy may considerably prolong life and prove of great comfort to the patient by preventing death from starvation. 8. That even where the disease is too extensive either for removal or for gastroenterostomy being performed with a fair chance of success, the operation of jejunostomy may occasionally prove of service to the patient. 9. That where a radical operation can be performed the thorough removal of the disease may bring about as much relief to the patient as does the operation for removal of cancer in the breast, uterus and other organs of the body, and that in some cases a complete cure may follow.

2. **Gastric Ulcer.**—In 500 cases of gastric ulcer treated at the London Hospital in 1897 to 1902 there were nearly 10 per cent. of deaths from peritonitis, 13, or 2.5 per cent., from hematemesis, and 5.5 per cent. from other causes, or a total of about, approximately, 18 per cent. out of the 500 cases. No less than 211 had suffered previously, about two-fifths of the total. Counting the 18 per cent. of deaths and 42 per cent. of relapses, the ratio of cures in a surgical sense could hardly be considered a high one. Moullin points out that operation in these cases is not only feasible but sufficiently safe to justify its recommendation. He has operated on 15 cases, with 2 deaths, and in some of these, operated on for hematemesis, the loss of blood was so great that transfusion had to be performed on the table or immediately after. He considers a logical classification of gastric ulcer impossible. In the acute cases there are two indications for operation, threatened perforation and hemorrhage. The former can rarely be diagnosed beforehand. One special symptom that indicates the spread of ulceration is persistent cutaneous hyperesthesia in Head's epigastric triangle, especially when combined with a similar condition of the corresponding dorsal point. This means something going on in the wall of the stomach sufficient to render the corresponding spinal nerve segment unduly sensitive. He would recommend exploration when this symptom is present. A single hemorrhage is rarely fatal. Bleeding will stop if the stomach is given absolute rest, but if the pulse rate continues to grow quicker and quicker and the well-known restlessness and yawning has set in, he recommends exploration. He would also follow the same plan for a second severe hemorrhage occurring within a few days of the first and when the hemorrhage, though comparatively slight, returns repeatedly.

7. **Knock-Out Blows.**—The general impression that there is only one knock-out blow, that under the jaw, is an error, according to Duncanson. Even with boxing gloves now used, there are a number of such blows, and some may even be fatal. The temple is especially vulnerable, and a blow there may be followed by laceration of brain substance with hemorrhage. A swinging short-arm blow on the ear may cause rupture of the tympanum, dizziness and collapse, and a dangerous blow may be delivered on the neck so that when the head is pushed back, the side of the neck being exposed, the gloved hand is driven forcibly on a spot midway between the angle of the jaw and the sterno-clavicular articulation (the carotid hit). Another point is just on the larynx or hyoid bone. The danger in these blows is in the concussion through the large and important nerve trunks. A severe blow delivered on the chest wall about the region of the heart may cause syncope and death, especially if the muscles of the chest walls are relaxed and the lungs not expanded. Diaphragmatic blows are not, as a rule, dangerous to life. There is collapse, with difficulty in getting breath and sometimes unconsciousness. Brisk rubbing, external warmth and, if necessary, stimulants are the best treatment. Blows over the kidneys are somewhat perilous, and a blow over the pit of the stomach or what is called the "mark," a special area the size of the palm of the hand and corresponding with the center of the triangle formed by the xiphosternal articulation above and a line joining the bony ends of the seventh ribs below, just over the pyloric end of the stomach. The effects are due, according to Edgeworth Johnstone, to irritation of the pneumogastric setting up cardiac failure. The pugilist speaks of knock-out blows over the solar plexus, but it is the stomach that receives the shock and from it the nerve disturbance originates. When a man is knocked out and does not speedily rally, the best treatment is to get him away from his surroundings as soon as possible, wrap him well in warm blankets in bed and administer stimulants—strychnia hypodermically if necessary. Of course, if more serious lesions exist, such as fracture, the treatment must be conducted on recognized surgical lines.

The Lancet, London.

April 25.

8 The Symptoms and Diagnosis of Stone in the Kidney. R. Clement Lucas.
9 *Infective Endocarditis Mainly in Its Clinical Aspects. T. R. Glynn.
10 *Dietetics. Robert Hutchison.
11 *The Drainage of the Knee-joint in Acute Suppurative Arthritis. Harold L. Barnard.
12 Invagination of Meckel's Diverticulum. J. F. Dobson.
13 Notes of a Case of Extirpation of a Tumor of the Prostate for Retention of Urine. W. Prior Purvis.
14 A Case of Acute Ependymitis in an Infant. J. A. Coutts.
15 A Case of Dropsy, the Result of Inflammation of the Kidneys, Treated by Laparotomy. Henry P. Planer.

9. **Infective Endocarditis.**—Glynn's third lecture reviews some of the symptoms, such as excessive perspiration, epistaxis, diarrhea, vomiting, albuminuria, hematuria, and splenic enlargement. The physical signs are also noted. The difficulties of diagnosis are sometimes insuperable. In the absence of positive signs, the diagnosis depends on ability to exclude all affections other than acute endocarditis, likely to cause pyrexia, though this method may sometimes fail. There is a resemblance to pernicious anemia in some cases. Recovery is rare and no specific remedy has been found. The success with antistreptococcus serum is not what was expected.

10. **Dietetics.**—Two well-defined conditions of proper diet are given by Hutchison as: 1. That the food yields enough potential energy to supply the daily outgoings in the form of heat and work. 2. That it contains enough proteid to replace the daily and inevitable destruction of tissues. Somewhere between 2,500 and 3,500 calories will be required; probably 3,000 represent the requirements of the ordinary town dweller, and part of this must be supplied in the form of proteid. Whether this is obtained mainly from carbohydrates or fat depends largely on the digestive capacities of the individual and, to some extent, on his purse, as fats are more expensive than carbohydrates. As to the amount of proteid required to supply the waste, there is not full accord. The 120 grams recommended by Voit is larger than is considered necessary in many cases, but we do not know the minimum below which one can not go with safety. The tendency to overeat is responsible for much disease. A food, giving a maximum of volume with a minimum of nourishment would be a godsend

to many overfed persons. The excess of the proteid diet is principally responsible for much kidney and uric acid diathesis. One principle we must bear in mind is the interdependence of organs. We can not cut down the diet to treat a diseased stomach or kidney at the expense of the general nutrition. Ordinarily abrupt changes in the diet are to be avoided. He says there are only three great groups of diseases in which one can reasonably anticipate that dietetic means will be potent for cure. They are: 1. Diseases of the organs of digestion; 2, diseases of metabolism, fever, obesity, malnutrition, diabetes and gout where there is a perversion of the usual methods of dealing with nutrition, and 3, diseases of the excretory organs, especially the kidneys. As regards dyspepsia, Hutchison remarks that the mechanical form of food is always of more importance than its chemical composition. The meals of the dyspeptic should be small and contain no insoluble ingredients. The stomach should be humored to pass on the food. In most cases of functional disorder he thinks it well to give the stomach a little wholesome neglect. Overeating may be a serious evil. In bowel troubles we should consider the mechanical condition of the food. One should select a diet in diarrhea that has as little unabsorbed residue as possible. With constipation the opposite should be the aim. In fevers, it is a question, Hutchison thinks, whether we have not gone too far in the reaction from starvation. In all forms the carbohydrates should enter freely into the diet. Obesity is a disorder in which it is easy to overestimate the effects of diet. The proteids are less likely to cause harm than the carbohydrates and fats. Restriction of drinking at meals prevents overeating. Alcoholic liquors are likely to do harm. In diabetics there is a pretty general uniformity as regards diet. In renal disease Hutchison would follow the common opinion that in acute nephritis, especially when blood is present in the urine, an exclusive milk diet gives the best results, but in chronic nephritis affairs are more complicated. We should keep up a vigorous heart. Meats should not be excluded, but foods which contain only the extracts of meats without its albuminous elements should be rigorously avoided. Restriction of fluids in cases of dropsy is not contraindicated, and he would have no hesitation in recommending the dry diet to such patients.

11. **Suppurative Arthritis.**—Barnard would advise that in cases of suppuration of the knee joint with a temperature ranging from 103 to 104 the condition should be treated by anterior and posterior incision, especially if the suppuration results from punctured wounds. If suppuration arises from autoinfection and is subacute, with a temperature of not more than 102, he would be inclined, taught by the cases he here reports, first to make lateral incision on either side of the patella and to wash out the joint thoroughly and drain it. The joint should be treated as though it were an aseptic case, for in autoinfection we have usually to deal with one micro-organism only, and that often a mild one. We should be careful that in casting out one micro-organism we do not admit others worse than the first. Should this partial drainage fail to bring the temperature down in a day or two the posterior pouches should be laid open and thoroughly drained.

Annales de Dermatologie et de Syph., Paris.

Last indexed page 742.

16 (IV, 2.) *Die l'ichthyose fetale dans ses rapports avec l'ichthyose vulgaire. J. Méneau.
17 *Recurring Erythem. Gensollen.—De l'érythème polymorphe récidivant.
18 *Blastomyces et blastomycose. Gastou.
19 Syringe for Thick Oils. Chatin.—Seringue sterilisable pour injections d'huiles très denses (lipiodol, iodipin, etc.)
20 (No. 3.) *L'eczéma considéré comme une réaction cutanée. L'eczéma suivant les ages. L. Brocq.
21 Lésions histologiques de l'épididymite blenorrhagique. C. Audry and Dalous.
22 Legal Responsibility of Employer for Syphilis Contracted in Glassblowing. L. Perrin.—Responsibilité civile d'un patron verrier, etc.
23 Un cas de pemphigus foliacé primitif. P. Meynet and N. Ribollet.
24 Essais de traitement de la syphilis par l'argent colloidal. Audry and Dalous. Two cases. Results comparatively negative.

16. **Relations Between Fetal and Ordinary Ichthyosis.**—Méneau regards both as links in one chain, different degrees of a single pathologic process. He appends a full bibliography.

17. **Recurring Polymorphous Erythema.**—Gensollen describes 5 and reviews 3 cases already published. The conditions with which it is most liable to be confounded are antipyrin erythema and herpetiform dermatitis. In case of an eruption in round, infiltrated patches, appearing abruptly with identical recurrences and persisting pigmentation, the patient ascribes the eruption to some preceding painful affection instead of to the antipyrin he took to combat it, the true source of the trouble. The pruritus in the affection described in the title is not so intense as in herpetiform dermatitis (Duhring), the attacks are briefer and the lesions are more in the form of a roundish elevation with a central depression. Blebs are accessory and inconstant.

18. **Blastomycetes.**—Gastou exhibited to the Société de Dermatologie specimens of blastomycetes sent by Dr. F. H. Montgomery of Chicago, derived from the lung of a man who had died with generalized blastomycosis. These parasites, Gastou mentions, have been discovered and described only by American writers to date. He queries whether the blastomycetes will share the fate of the coccidia, and suggests that the possibility of a secondary contamination proper to certain lesions or certain countries is not absolutely excluded. There can be no doubt, he adds, that yeasts might easily develop on wounds or ulcerations exposed to the air or defectively dressed. Yeast fungi exist in such numbers everywhere that the only wonder is that the phenomenon is not more frequent. It remains to be demonstrated, he concludes, which among these yeasts are or are not pathogenic or what conditions favor their becoming so.

20. **Eczema a Cutaneous Reaction.**—Brocq maintains that there is no such thing as eczema, but merely eczematous individuals. In a person of this category any one of a number of causes may induce the cutaneous reaction which we call eczema, while in other persons the same causes will never produce it. These causes may be sunshine, wind, light, dust, contact with certain articles of clothing, dyes, etc., intoxications, autointoxication, defective functioning of certain organs, lesions of organs, nervous impressions, worry or other emotions. The physician, therefore, should seek for the underlying cause. A change of environment may cure the most rebellious case. He has known country people cured by a trip to the city, as well as city people cured by going to the country. The diet and mode of life must be regulated in the first place. The patient must be "washed out," that is, put on a strict milk diet, with Vichy water and diuretics, supplemented by a large rectal injection every day or two. If milk can not be taken, he orders a vegetable and water diet. Freedom from worry and plenty of pure air are important; if possible, he sends the patient to the country or, better still, to the mountains. Under this régime the physician is liable to witness the most intractable eruptions disappear with relative rapidity, provided he is content with clean local non-irritating dressings, the parts protected from noxious influences, to enable the skin to repair its lesions with the least possible hindrances. Treatment on these principles will render the secondary exfoliating dermatoses much less frequent and much less severe.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

25 (No. 15.) *Ueber die Indikationen zur chirurgischen Behandlung der Cholelithiasis und Cholecystitis. W. Körte.
26 Tödliche Anämie durch Botriocephalus latus. W. Zinn (Berlin).
27 *Sensitive, Simple and Rapid Test for Sugar with Oxalate of Phenyl Hydrazin. E. Riegler (Jassy).—Eine empfindliche, etc. Zuckerprobe mit oxalsaurem Phenylhydrazin.
28 Movable Double Diaphragm for Roentgen Photography. O. Pasche (Berne).—Ueber eine neue Blendenvorrichtung in der Roentgentechnik.
29 Ein kasuistischer Beitrag zur Aetiologie der diffusen Sklerodermie. Heynacher.
30 Successful Laparotomy for Swallowed Knife, 1684. A. Rosenberg.—Historia des preussischen Messerschluckers.
31 Prophylaxis of Tuberculosis Contagion at Health Resorts.—M. Karger.—Der Schutz vor Lungenschwindsucht in Kurorten, etc.
32 (No. 16.) *Ueber die systematische antifebrile Behandlung des Unterleibs-Typhus mit Pyramidon. Valentini (Dantsic).

33 Influence of Courses of Mineral Waters on Osmotic Tension of Blood. J. Grossman (Bucharest).—Ueber den Einfluss von Trinkkuren mit Mineralwässern auf den osmotischen Druck des menschlichen Blutes.
34 *The Reflex Route of "Catching Cold" and of Temperature Irritations in General. O. Kohnstamm.—Der Reflexweg der Erkältung und der Temperaturreize überhaupt.
35 *Action of Collargol in Septic Affections. H. Schmidt.—Ueber die Wirkung intravenöser Collargol-Injektionen bei septischen Erkrankungen. (Commenced in No. 15.)
36 *Toxic Myolysis of Heart in Diphtheria. H. Eppinger (Graz).—Die toxische Myolyse des Herzens bei Diphtheritis. (Commenced in No. 15.)
37 *Ueber Antistreptokokkenserum. F. Meyer.
38 Veterinary Diseases in the Cameroon District. Ziemann.—Vorläufiger Bericht über das Vorkommen des Texasfiebers, Tsetsekrankheit, Thier-Malaria in Kamerun, etc.

25. **Indications for Surgical Treatment of Gallstones.**—Körte grows more conservative in his indications for operation, with riper experience, but more radical when surgical intervention is once decided on. Rapidly transient icterus with passage of stone is no indication for operation. But when the lithiasis imperils life, even when the attack subsides, there can be no question of permanent healing of the gall bladder in such cases. Severe and complicated cholelithiasis is accompanied by general depression, which may be the first sign of the infection of the gall bladder before icterus attracts attention to this organ. Protracted fever, persisting after an attack, especially if of the remittent type or accompanied by chills, is suspicious of pus formation and indicates intervention, as does also tenderness of the gall-bladder region. Nodules in the liver, with ascites, contraindicate operation, as they are due to carcinoma in an advanced stage, but sometimes inflammatory adhesions in the omentum simulate these nodules. An exploratory laparotomy is justifiable in case of doubt. Chronic empyema of the gall bladder, acute infectious empyema and signs of occlusion of the common bile duct are urgent indications for intervention. The prognosis is good so long as the stone formation is limited to the gall bladder and cystic duct and there are no evidences of intense inflammation. He prefers to take out the gall bladder in most cases, as this does away with the focus of infection. The great majority of stone patients who suffer only occasionally and are well in the intervals, belong in the hands of the physician until the attacks recur so often or are so severe that the patient himself longs for radical treatment or the physician deems that the proper moment for intervention has arrived. The mere existence of stone does not demand intervention. The indications depend on the kind and degree of the resulting inflammation.

27. **Improved Test for Sugar.**—Riegler's test reveals sugar, even in a proportion of merely .05 per cent., and requires only three minutes. The presence of albumin does not interfere with the results. Twenty drops or 1 c.c. of the urine or other solution of sugar is placed in an ordinary rather large test glass, with as much phenyl hydrazin oxalate as can be taken up on the tip of a knife, with 10 c.c. of water. The mixture is then boiled and shaken until all is dissolved. Then 10 c.c. of a 10 per cent. solution of caustic potash is added, the glass stoppered and well shaken, when the fluid turns a handsome purple in less than a minute if it contains sugar. The oxalate can be made by heating 20 gm. of phenyl hydrazin hydrochlorate in 300 c.c. water until dissolved and then adding 10 gm. of ammonium oxalate dissolved in 100 c.c. of water. The crystals are collected on a filter as soon as they are cool and, after rinsing and drying, are ready for use and keep indefinitely.

32. **Success of Pyramidon in Typhoid.**—Valentini proclaims that better results can be accomplished with the continuous administration of pyramidon than with the Brandt baths. The temperature is reduced entirely or very nearly to normal in the course of twenty-four hours and does not rise again. The pulse slows down and the delirium completely subsides. The pyramidon is given in water, .2 gm. in mild and .3 to .4 gm. in the severer cases, the dose repeated every two hours during the entire course of the disease. No inconveniences of any kind were observed, even when the patients took this amount regularly every two hours night and day for four or five weeks. The effect of the pyramidon is so remarkable, he states, that it is not advisable to commence it until the diagnosis of typhoid is positive, as otherwise the symptoms are so masked that the physician is at a loss. The end of the first week is soon enough. The duration of the disease does not seem to be shortened but the patients are able to wait on themselves, and the danger of contagion of others is much reduced, as the patients can use the urinal and bed pans without soiling the linen. Out of 19 typhoid patients treated in this way, 12 were very severe cases, and 2 died, one with pyemia and pneumonia, another from heart failure in the third week. The pulse in the latter case had been continuously bad and the autopsy showed brown atrophy of the heart and enlarged spleen, while the ulcerations were healing.

34. **Reflex Route of Temperature Irritations.**—Kohnstamm is subject to catarrh of the upper air passages, invariably preceded by some exposure to cold, and then assuming the infectious character, contagious for those around him. He has found that careful protection from chilling, especially at night, pyramidon in several doses to a total of .3 gm. and diversion of the mind will prevent and cure the affection. Psychic diversion, he finds, not only diminishes the cutaneous irritation but also the mucous secretion in the most striking manner. He has been studying the reflex routes for these effects in the upper air passages after chilling some part of the body, and gives diagrams to explain his assumption that the temperature and pain fibers run in Gower's tract on the crossed side, and that the "cold" nerve track is in closer relations with the respiration center than the "heat" nerve track. This close connection is the cause of the "chilling reflex." When the microbian factor is added, catarrh is the result. From the respiration center the centers governing the muscles of expiration are irritated to coughing and sneezing, and those governing vasodilation in the vago-trigeminal domain are irritated to congestion. This "chilling reflex" is normally a stimulant for the vegetative processes, and is useful in this respect in "fresh air cures" and light baths.

35. **Action of Intravenous Collargol Injections in Septic Affections.**—Since Credé first suggested, in 1896, the use of soluble silver he has used it in intravenous injection in numerous cases of septic affections, which Schmidt reviews in this article, as also the experiences published by others. A number of cases personally observed are described in detail as typical instances of the benefit derived from the measure. Credé does not think it necessary to call on a catalytic or other action, as he thinks the bactericidal power of silver is sufficient alone to explain the results observed. Beyer has established that a proportion of 1/80,000 in serum nutrient media has an inhibiting effect on bacterial proliferation. All in all, Schmidt concludes, six years of experience have confirmed the fact that we have in collargol an extraordinarily powerful aid for fighting the most diverse infectious conditions, which has won for itself a prominent place in therapeutics, and is free from the limitations of specific curative serums as it is convenient, inexpensive and can be used at any time and in any place in any septic affection.

36. **Toxic Myolysis of the Heart in Diphtheria.**—Eppinger is engaged on a large work descriptive of the pathologic anatomy of fatal diphtheria. In this preliminary report he states that his attention was attracted to the frequency of death from paralysis of the heart after diphtheria, and that he has found that the diphtheria toxin causes a disintegration and dissolving of the heart muscle fibers. He describes the process as "myolysis cordis toxica." He found it pronounced in all the 18 cases he has examined, including one in which serum treatment had not been instituted. He has previously established that in certain disturbances of the hearing subsequent to diphtheria the trouble consists in focal edematous softening of the nerve fibers of the acoustic nerve, and the lesions noted in the heart correspond with this conception of the effects of the toxin.

37. **Antistreptococcus Serum.**—Meyer has been testing Aronson's new serum. It proved very effective in 5 out of 18 cases, but seemed to have little if any influence on the others. It displayed remarkable power in experiments on animals.

Its absolute harmlessness and its efficacy in a certain proportion of clinical cases justify its application on a wide scale.

Monatsschrift f. Geb. und Gyn., Berlin.

Last indexed XXXIX, page 1621.

39 (XVII, 1.) Question of Operating on Female Internal Organs. F. Frank (Cologne).—Beiträge zur Frage des Operirens an inneren Organen der Bauchhöhle beim Weibe.
40 *Pseudohermaphroditismus und sekundäre Geschlechtscharactere: ferner drei neue Beobachtungen von Pseudohermaphroditismus beim Menschen. A. Hengge (Greifswald).
41 *Ueber den Schatz'schen Metranoikter. B. Daniel (Hamburg).
42 *Ueber Chorea gravidarum. H. Hirschl (Prague).
43 *Obituary of Max Sänger.
44 (No. 2.) *Ueber einen Fall von Hydramnion. W. Zangemeister (Leipsic).
45 *Serial Sections of Caput Succedaneum. I. Lönnberg (Upsala).—Eine Serie Gefrierdurchschnitte durch eine Kopfgeschwulst.
46 *Changes in Uterus in Acute Infectious Diseases. C. Stravoskiadis (Vienna).—Ueber die Veränderungen des Uterus bei akuten Infektionskrankheiten. (Commenced in No. 1.)
47 Die Hysterektomie in der Behandlung der puerperalen Infektion und die Peritonitis im Puerperium. A. Sippel (Frankfort-a.-M.)
48 *Study of Origin of Uterine Cancer. A. Stein (Posen).—Beiträge zur Kenntnis der Entstehung des Gebärmutterkrebses.
49 Fall von hydronephrotischer Wanderniere. R. U. Boerma (Dresden).
50 *Zur Eklampsiestatistik. Hans Schroeder (Bonn).
51 (No. 3.) *Ein klinischer Beitrag zur Lehre vom Hydramnios. O. Fellner (Vienna).
52 Ueber Mola haematomatosa tubarica. Ersilio Ferroni (Pavia).
53 *Management of Contracted Pelvis. A. v. Magnus (Königsberg).—Zur Therapie des engen Beckens. (Commenced in No. 2.)
54 *Complication of Delivery by Extensive Varices. M. Dützmann (Greifswald).—Geburtskomplikationen bei ausgedehnter Varicenbildung.
55 Ueber die chirurgische Behandlung der Sactosalpinx purulenta. Lichtenauer (Stettin).
56 (No. 4.) Ueber eine seltene, vom Typus abweichende Form des Chorionepithelioms mit ungewöhnlichem Verlaufe. C. Fleischmann (Vienna).
57 *Beitrag zur operativen Behandlung der Myome in der Graviditat. Frank (Olmutz).
58 Neoplasms Originating in Round Ligament. O. Nebesky (Innsbruck).—Zur Casuistik der vom Ligamentum rotundum uteri ausgehenden Neubildungen.
59 Case of Coincidence of Various Genital Tumors. O. Frankl (Vienna).—Ein Fall von Cumulierung verschiedenartiger Genitaltumoren.
60 *Anatomy of Lymph Routes in Ovary. O. Polano.—Beiträge zur Anatomie der Lymphbahnen im menschlichen Eierstock. (Commenced in No. 3.)
61 *Zur Frage über die operative Behandlung der Uterusruptur. N. Kolomenkin (Moscow).
62 Zur Anatomie des Plexus fundamentalis uteri beim Weibe und bei gewissen Tieren. S. Pissemski (Kiev).

40. **Pseudohermaphroditism and Secondary Sexual Characteristics.**—Hengge describes two "sisters," both of whom possessed the bodily and psychic female characteristics except that testicles were present in the large labia. On account of local sensitiveness and general disturbances the testicles were removed from the unmarried "sister." A study of the literature concerning the etiology of the malformation and the development of sex characteristics, as well as a consideration of therapy, lead to these conclusions: 1. Numerous deviations from the usual rule of the dependence of sexual characteristics on the sexual glands are found. 2. The earlier any change occurs in the sexual glands the greater are the changes in the secondary sex characteristics. 3. Congenital disturbances in the sexual glands and secondary characteristics are generally due to mechanical causes. Sometimes trophic or nervous influences may be assumed. 4. In the development of dysmenorrhea and psychic female characteristics in the case of male hermaphrodites, education and example are of great influence. 5. Operative removal of sexual glands is indicated only when they cause much pain and their functionating is impossible.

41. **Schatz's Uterine Dilator.**—Since all of the usual methods of dilating the uterus, namely, the use of the metrotome, the branched and cylindrical dilators, the tamponade and the swelling tents, have frequently proved imperfect and unsatisfactory, Daniel is surprised that Schatz's metranoikter, first described in 1881, has received so little attention. It consists of two nickel-plated steel semi-cylinders united at one end by a spring of the diameter of an ordinary vaginal speculum. When the half cylinders are held in contact with their flat faces together they form a rod or sound 5.5 cm. long and about 5 mm. in diameter. The dilator is closed and introduced into the uterus by a holder or forceps. The application is easy and requires no anesthetic. Its action is prompt and attended with little pain. It has been used in Prochownick's clinic for the last three years for dilating the uterus previous to curettement and for diagnosis in cases of intrauterine growths. It may also be of value in the induction of labor and some other obstetrical operations.

42. **Chorea of Pregnancy.**—Hirschl considers the great rarity of this disease, its causes and treatment, and describes a case of severe chorea which terminated in complete recovery after spontaneous premature labor. In regard to treatment he defends the conclusion of Knapp that in milder cases one should try dietetic and medicinal measures, but that some cases furnish us strict indications for abortion and premature labor.

43. **Obituary of Max Saenger.**—Saenger was one of the founders of the "Monatsschrift." Very sympathetic accounts of his life and work are written by his coworkers, Martin and Rosthorn. Then follow the autobiographical and autobibliographical notes left by this great gynecologist.

44. **Hydramnion. Origin of Liquor Amnii.**—A careful study of the maternal blood and of the liquor amnii in a case of hydramnion in the Leipsic clinic was made for the purpose of studying the origin of the liquor amnii and its pathologic increase. A disturbance of the fetal circulation was no doubt present in this case, caused by knots in the cord. The slowing of the fetal circulation could not have increased the amount of liquor amnii by increasing the fetal kidney secretion. The urinary part of the liquor amnii was diminished, as shown by examination. The blood of the mother showed an increase in water and urinary products. Zangemeister concludes that maternal and fetal blood and liquor amnii are, so far as the crystalloid substances are concerned, a single fluid separated by permeable membranes. Hence the question of the maternal or fetal origin of the permeable part of the liquor amnii has no significance, as also the presence of urinary products in the liquor amnii has no bearing on its origin from the kidneys.

45. **Structure of Caput Succedaneum.**—In numerous sections on new-born children Lönnberg has found that the common description of the caput succedaneum as a subcutaneous transudate is incorrect. He describes and pictures seven serial sections through a large tumor of that kind which show that it is a serohemorrhagic transudation in all layers of the skull covering, including the skin, but that the chief part is between the galea and the periosteum.

46. **Uterine Disturbances Due to Infectious Diseases.**—A review of the literature shows that exact observations and examinations to determine the effect of acute infectious disease on both the pregnant and the non-pregnant uterus are rare. To fill this lack Stravoskiadis examined, in Weichselbaum's laboratory, 24 cases, including pneumonia, typhoid fever, pyemia, etc. Macroscopic, microscopic and bacteriologic examinations were made. The following conclusions were reached: 1. An acute endometritis which is often hemorrhagic is of frequent occurrence in acute infectious disease. 2. This inflammation is caused by the specific bacteria that cause the disease or a complication. 3. Particularly favorable conditions are present during pregnancy and the puerperium for the increase of the bacteria which reach the uterus through the blood current. 4. Abortion or premature labor is frequently due to endometritis of hematogenous origin.

48. **Origin of Uterine Cancer.**—Stein reports two rare or unique cases, one of a combination of uterine tuberculosis and cancer and the other of uterine cancer with displacement of mucous membrane within the musculature. He discusses the possible etiologic relation of these conditions to cancer.

50. **Eclampsia Statistics.**—Schroeder calls attention to the unsatisfactory condition and incompleteness of the eclampsia statistics which give a false picture of the relation between albuminuria and eclampsia. For the purpose of securing more complete data a new scheme of urine examination has been

introduced into the Bonn clinic. It aims to determine: 1. How often albuminuria is lacking during eclampsia? 2. How often albuminuria appears first after several convulsions? 3. How often eclampsia follows nephritis? 4. What is the relation of eclampsia to the different kinds of nephritis? 5. In what kind of nephritis is the eclamptic mortality least?

51. **Hydramnion and Large Children.**—Fellner calls attention to the fact hitherto unnoted that in cases of hydramnion the child is unusually large. He has discovered this fact by the study of 124 cases of hydramnion in 13,000 labors in Schauta's clinic, and gives the data covering the length and weight of the children. The unusual size of the child can not be the cause of the hydramnion. Fellner explains both the increase in the size of the fetus and the amount of liquor amnii by the increase in growth of trunks of the placental villi. These enlarged villous trunks are associated with enlarged placentæ and permit an increased flow of blood.

53. **Management of Labor in Contracted Pelves.**—Magnus bases his paper on a study of 874 cases treated in Königsberg from 1883 to 1900. Pelves are called contracted that have a conjugata vera of 9.75 cm. or less. They are divided into flat and generally contracted. The latter include only those whose transverse diameter is shortened 2.5 cm. or more, and comprise 5.8 per cent. of the whole. The results for mother and child in both kinds of pelves are studied in spontaneous labor, forceps, craniotomy and version and extraction. The conclusions reached for the therapy of contracted pelves are as follows: Management of primipara: In case of contracted pelvis of slight and of medium degree we should wait for spontaneous passage of the head. Should indication for termination of labor arise, with the head partly engaged in the inlet, careful attempts at extraction with high forceps may be made. Should this fail, perforation should be done, unless the mother is very anxious for a living child, when symphysiotomy may be done. With movable head, dilated cervix, unruptured bladder and indications from the side of the child, pressing the head into the pelvis should first be attempted and then, in case of failure, turning and extraction. With a maternal indication only perforation should be done. Management of multipara: In pelves from 9.75 to 8 cm. spontaneous labor occurs in three-fourths of all cases. Hence we should adopt the expectant policy. When, after dilatation of the cervix, the head does not enter the pelvis, we should turn and extract. How long one should wait depends on the character of the pains and the amount of the thinning out of the lower uterine segment. No attempt at turning should be made very long after the rupture of the membranes. Before perforation a careful attempt at forceps extraction should be tried. With pelves from 8 to 7 cm. induction of labor in the thirty-fifth to thirty-seventh week, with metreurysis is advised. At the end of gestation in case of spontaneous delivery, perforation is necessary unless the mother wishes a living child, when symphysiotomy or Cesarean section may be done.

54. **Genital Varices in Labor.**—Dützmann relates five cases, one fatal, which show the great danger from this condition. During pregnancy ergot may be of value, but its use may cause premature labor. Expectant management is necessary after labor begins. Slow labor is desirable, and bearing down on the part of the patient should be avoided. Should the varices be injured, careful suture is the only therapy, for tamponade is useless. Since the hemorrhage, in case of injury to the vessels, is apt to be very great, the physician should be prepared beforehand in every case of varix to operate immediately on the birth of the child or the beginning of hemorrhage.

57. **Operative Treatment of Uterine Myoma in Pregnancy.**—Operative interference during pregnancy is indicated: 1. When the tumor grows rapidly or when threatening disturbance of circulation or respiration appear. The condition of the tumor indicates the operation, myotomy or hysterectomy. 2. When the tumor causes peritonitic symptoms. 3. When it is located in the collum or vaginal part, because it is here apt to disturb labor or childbed, and also become gangrenous. 4. When in the form of polyps. The operations during labor are also considered and illustrative cases reported.

60. **Lymph Vessels of the Ovary.**—Polano studied, by histologic examinations, by injections and by experiments on animals, the question of the origin of ovarian lymph channels and their relation to blood vessels. The macroscopic picture of injected specimens shows the lymph channels arranged in a radiating manner, converging at the hilus into nine larger vessels, which pass out along the free border of the ligamentum ovarico-pelvicum. An anastomosis with the uterine or tubal lymph systems is exceptional. Within the ovary fewer vessels are found in the peripheral layer than in the central stroma. Around the follicles the lymph vessels have a circular arrangement. The conclusions reached from the study of stained and injected specimens is that lymph spaces always appear as a capillary system of varying form but similar structure. A connection with connective tissue spaces was not determined. No connection between lymph channels and blood vessels was found. Hence the conception of perithelium in the anatomy and pathology of the ovary can be dropped.

61. **Operative Treatment of Rupture of the Uterus.**—Kolmenkin reports five cases which recovered after operation. Without treatment the mortality is 70 per cent., two-thirds of which are due to hemorrhage and one-third to sepsis. After considering the nature and source of hemorrhage he concludes that it is chiefly secondary, not primary hemorrhage that threatens life. Tears in the lig. lata are most dangerous. Delivery per vias naturales is dangerous on account of secondary hemorrhage. Since nearly all wounds in uterine rupture become infected the rational therapy is that which enables us best to control infection. The conclusions reached from theoretical considerations from a study of statistics are as follows: 1. There is no real difference between complete and incomplete rupture. 2. Operation gives much better results than conservative management (tamponade and drainage) and should substitute it where possible. 3. Celiotomy with sutures of the tears gives much poorer results than hysterectomy and should be used only in special cases. 4. Total abdominal extirpation with vaginal drainage gives best results. Vaginal extirpation and also the Porro operation have sometimes a place.

Corr.-Blatt f. Schweizer Aerzte, Basle.

Last indexed page 277.

63 (XXXII, No. 24.) *Infantile Scorbutus in Switzerland. E. Hagenbach-Burckhardt.—Die Barlow'sche Krankheit in der Schweiz.
64 *Clinical Significance of Acquired Diverticula in Intestines. R. Stierlin.—Klin. Bedeutung erworbener Darmdivertikel.
65 *Apparatus for Local Application of Heat. N. Platter.—Ueber Leiter'sche Wärmeapparate.
66 (XXXIII, 1.) *Die präventive Chirurgie. O. Lanz.
67 (No. 2.) *Zur Behandlung des Puerperal-Fiebers. O. v. Herff.
68 *Rectal Feeding. P. Deucher.—Ueber Rektalernährung.
68½ Obituary of Rudolf Massini.
69 (No. 3.) *Report of 100 Cases of Cholelithiasis Treated by Chologen. R. Glaser (Muri, Aargau).—Die Heilung der Cholelithiasis durch Chologen und Bericht über meine ersten 100 Fälle.
70 Success of Kalagua in Treatment of Tuberculosis. H. Frey.—Zur Therapie der Tub.
71 Indications for Sitz Baths. N. Platter.—Nochmals über Sitzbäder.

63. **Infantile Scorbutus in Switzerland.**—Burckhardt describes the eighth case of Barlow's disease observed in his country. The case was marked by temperature to a maximum of 104 F., prolonged for a number of weeks, suggesting a severe infection or intoxication. The child was rachitic, 11 months old, and had been fed on sterilized cow's milk and oatmeal after three weeks at the breast.

64. **Clinical Importance of Acquired Diverticula of Intestines.**—Stierlin describes 3 cases, all with a fatal termination. In one the diverticulum became perforated, with subsequent diffuse peritonitis; stenosis was observed in the second patient, and in the third a communication between the bladder and flexure. Such diverticula possibly owe their origin to stagnation in the mesenteric veins. This view is sustained by the fact that they have never been found in young persons except in those suffering from inanition, heart insufficiency or marasmus. Eichhorn and Graser have described a case each

with coexisting cardiac defect. The diverticula do not cause symptoms so long as there is no inflammation in them. In his own case an old inguinal hernia in a robust man of 71 suddenly became uncontrollable and caused severe pains. All attempts to reduce it were fruitless and a perforation was found near the sigmoid flexure. It was in the middle of a patch of induration the size of a dollar in the intestinal wall and surrounded by evidences of suppurative peritonitis. The hard patch was assumed to be a carcinoma, and the portion of intestine involved was resected and the stumps united by lateral anastomosis. The results at first were good, but the patient succumbed fifteen days later, the heart found much degenerated. The indurated patch that had been resected proved to be merely an infiltration of the subserous adipose tissue; the perforation had occurred in a long narrow diverticulum passing through it. Stierlin thinks that these acquired diverticula would be found more frequently if sought for. Graser found incipient diverticula in 10 out of 38 cases in which the flexure was examined.

65. **Leiter's Apparatus for Local Heat or Cold.**—The apparatus is a sheet of zinc on which a tube is coiled back and forth and soldered, allowing a constant flow of water through it.

66. **Preventive Surgery.**—This address was delivered by Lanz on assuming the chair of surgery at Amsterdam. He asserts that internal medicine has not yet learned to profit by surgery to the fullest possible extent. Disturbances due to mechanical causes require mechanical removal of the cause, active intervention, which the surgeon can now proffer with confidence, as preventive surgery has ripened under the sun of anesthesia and asepsis. He believes in operating every hernia as a prophylactic measure. He noted abnormally large inguinal rings in 140 out of 750 recruits examined, all candidates for hernia later. In regard to appendicitis, he remarks that the first day the prognosis is certain, afterward it is as variable as the disease itself. He operates on the first day whenever possible, especially on children, and the results confirm him in advocating this as a routine measure in all cases of appendicitis, not waiting for further symptoms after diagnosis. He describes a typical case, the child of a physician, taken suddenly with abdominal pains and vomiting. He quieted down under opium and slept tranquilly, but the surgeon was able to palpate a swollen, tender appendix, and it was removed at once and found on the point of gangrene. Lanz believes that certain families have a tendency to appendicitis. He recently operated on three brothers or sisters on one day, all with appendicitis and another sister had passed through a similar experience. Internal medicine must not be jealous of her younger sister, but recognize her as an invaluable ally. The more powerful the ally, the better the results accomplished.

67. **Treatment of Puerperal Infection.**—From his personal observation v. Herff is convinced that the results of causal therapy are not always certain, and treatment is reduced to combating symptoms in most cases. He considers absolute immobilization of the patient very important to favor healing, if necessary using codein or morphin. Involution of the uterus should be promoted in every possible way, and the strength should be kept up by appetizing forced feeding, avoiding alcohol. The heart should be stimulated with small doses of strychnin, which he finds more effective than caffein. The fever requires no treatment unless very prolonged and interfering with sleep. He rejects local treatment. Intrauterine injections might be tried at the onset, but if they fail to benefit they should be suspended early. The curette should not be used at all.

68. **Rectal Feeding.**—Deucher advocates more general use of saline injections, which answer the purpose of transient rectal feeding in cases of inoperable carcinoma of the stomach or esophagus. The patients suffer from thirst rather than hunger, and absorption from the intestines is poor. Saline injections are also useful in cases of heart collapse or diarrhea and also in hyperchlorhydria and atony of the stomach, and occasionally in uncontrollable vomiting. They are useful after abdominal operations as they do not induce reflex phenomena. Actual feeding by the rectum, however, is of especial value in case of recent gastric ulcer or corrosion from caustics. When more substantial alimentation is required, eggs in a saline solution or a solution of cane or grape sugar will be found very useful. The sugar is almost completely absorbed and so rapidly that it does not have time to ferment.

69. **New Treatment of Gallstones—Chologen.**—Glaser explains cholelithiasis as essentially a nervous affection, not primarily an infection. The primary factor is a functional disturbance in the nerves of the liver governing secretion; secondarily, occur excretion of cholestearin and infection of the bile; thirdly, excretion of calcium bilirubinate, and fourthly, the formation and impaction of a stone in the neck of the gall bladder and development of local hyperesthesia. Treatment should combat all these factors. Glaser thinks that he has accomplished this by a combination of mercury with aromatic vegetable substances out of the laxative and bile-stimulating group (podophyllin) and the colic-soothing roots and oils (melissa, camphor and caraway). He uses three combinations, which he calls "chologen Nos. 1, 2 and 3." He has thus treated 73 women and 27 men; 78 per cent. have been completely cured; 16 per cent. improved, and 6 per cent. showed no appreciable benefit. Recurring cholecystitis was the trouble in 33 women and 6 men; 29 women and 4 men were cured, and the others improved, except one woman. Ten women and 3 men suffered from acute occlusion of the common bile duct, all were cured but one woman; from chronic occlusion of the common bile duct, 25 women and 17 men, of whom 19 women and 14 men were cured and the others improved except 2 men. The 78 per cent. whom he calls cured have remained well, with no symptoms of recurrence, are able to work and eat without restrictions. They include a number of very severe cases. There are no contraindications to this treatment, according to his experience. Old and young, cardiac patients and pregnant women took the chologen without inconveniences of any kind. Only in case of catarrh of the large intestine the chologen sometimes induced abdominal pains, but the catarrh was not aggravated and the curative effect of the treatment was not diminished. Even in dubious cases the chologen may prove useful, as he has established its efficacy also in cases of nervous stomach cramps. It will never fail if correctly administered, unless in case of existing empyema of the gall bladder, extensive inflammatory adhesions or malignant neoplasms. He considers the appearance of icterus a favorable sign, as it indicates that the stone has passed into the common bile duct, and this class of cases responds the best to chologen treatment. He relates typical examples, among them the case of a man of 49 who had suffered for ten years from gallstones. The attacks were frequent and extremely painful, with pruritus and icterus, constipation or diarrhea, the urine red and dark colored, the patient extremely feeble. Two tender points were found, one over the gall bladder and the other typical of chronic occlusion of the common bile duct, about 3 finger-breadths above and to the right of the umbilicus. Four weeks after the chologen treatment was instituted the patient returned strong and apparently well and has been healthy since then (July, 1901). The preparation of the chologen tablets has been entrusted to the laboratory of H. Rosenberg, Achenbachstrasse 2, Berlin W. They can be obtained only on a physician's prescription. Besides this mercurial chologen treatment Glaser insists on relief from nervous strain, out-of-door exercise, the diet regulated but abundant, and meat and vegetables allowed. Warm saline baths are valuable adjuvants. Some of the disturbances may be caused by adhesions, and these can be remedied by wearing a supporting bandage or reclining on a certain side. When an attack threatens he applies a flannel cloth moistened with equal parts poppy-seed oil and chloroform. The total amount of mercury taken in the three to four months' course of chologen treatment is only .5 to 1 gm. In a second communication in No. 6 he states that his second series of 100 cases has proved equally successful.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

KING'S COLLEGE HOSPITAL REPORTS, Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Norman Dalton, M.D., F.R.C.P.; Albert Carless, M.S., F.R.C.S.; John Phillips, M.A., M.D., F.R.C.P.; W. D. Halliburton, M.D., F.R.S. Volume VII. (Oct. 1, 1899-Dec. 31, 1900.) Cloth. Pp. 457. Price, 7s. 6d. London: Adlard & Son. 1901.

HYGIENIC LABORATORY—BULLETIN NO. 12.—THE BACTERIOLOGICAL IMPURITIES OF VACCINE VIRUS. An Experimental Study. By M. J. Rosenau, Director of Hygienic Laboratory. Paper. Washington: Government Printing Office. 1903.

TWENTY-SIXTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1902. Cloth. Pp. 365. Trenton, N. J.: J. L. Murphy Pub. Co. 1903.

TWENTY-FIRST ANNUAL REPORT (FOR THE YEAR 1902) OF THE BALTIMORE EYE, EAR AND THROAT CHARITY HOSPITAL. Paper. Pp. 24.

The Public Service.

Army Changes.

Movements of Medical Officers, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., from April 19 to 25, 1903:

Anderson, Robt. A., contract surgeon, is relieved from duty at Ft. Duchesne, to take effect on the arrival at that post of First Lieut. Geo. H. R. Gosman, asst.-surgeon, and will then proceed to his home, Clarkedale, Miss.

Devereux, Thomas, first lieut. and asst.-surgeon, is assigned to duty as transport surgeon, Army transport *Sumner*.

Cleary, Peter J. A., colonel and assistant surgeon-general, will proceed to Ft. McIntosh, Ft. Ringgold and Ft. Brown on business pertaining to the inspection of the medical and hospital departments at those posts.

Fuller, Leigh A., captain and asst.-surgeon, is relieved from duty in the Division of the Philippines and will report to the commanding general of that division for assignment to duty with troops en route to the United States via the Suez canal.

Fisher, Henry C., captain and asst.-surgeon, will proceed from Baltimore, Md., to Ft. Preble and report to the commanding officer, Artillery District of Portland, for temporary duty at Ft. McKinley, during the Army and Navy maneuvers of 1903.

Lynch, Charles, captain and asst.-surgeon, will proceed about May 1, from Fort Porter to Fort Preble and report to the commanding officer, Artillery District of Portland, for temporary duty at Ft. Levett during the Army and Navy maneuvers of 1903.

McCall, James H., contract surgeon, is relieved from duty at the U. S. General Hospital, Presidio, and will proceed to Columbia Arsenal, Tenn., for duty, to relieve Contract Surgeon Frederick D. Branch, who will proceed to Ft. Ethan Allen for duty.

The following named officers are detailed to represent the medical department of the Army at the twelfth annual meeting of the Association of Military Surgeons of the United States, to be held in Boston, May 19 to 21: Major Wm. C. Bordon, surgeon; Captain Geo. D. DeShon, asst.-surgeon.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 2, 1903:

Medical Director T. C. Walton, retired, ordered to duty as senior member of a board of officers at the Naval Academy.

Surgeon G. T. Smith, ordered to duty as a member of a board of officers at the Naval Academy.

Asst.-Surgeon M. V. Stone, granted sick leave for three months.

Asst.-Surgeon M. W. Baker, ordered to duty as member and recorder of a board of officers at the Naval Academy.

Asst.-Surgeon R. B. Williams, detached from the *Decatur* and ordered to the *Chauncey*.

Asst.-Surgeon J. H. Holloway, detached from the *Franklin* and ordered home to wait orders.

P. A. Surgeon E. J. Grow, when discharged from treatment at the Naval Hospital, Mare Island, Cal., ordered to duty at that hospital.

Asst.-Surgeon C. G. Smith, detached from the *Marietta* and ordered to the *Newport*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended April 30, 1903:

Assistant Surgeon-General W. J. Pettus, granted leave of absence for seven days from April 26.

Surgeon Preston H. Bailhache, five days' leave of absence from April 29, 1903, under provisions of Paragraph 189 of the regulations.

Surgeon Irwin Fairfax, granted leave of absence for seven days from April 28.

Surgeon C. T. Peckham, granted leave of absence for five days from April 1, 1903, on account of sickness, under provisions of Paragraph 191 of the regulations.

P. A. Surgeon H. B. Parker, relieved from duty in the Hygienic Laboratory and directed to proceed to Vera Cruz, Mexico, for special temporary duty as chairman of the working party of Yellow Fever Institute.

Asst.-Surgeon Edward Francis, relieved from duty at the Hygienic Laboratory, and directed to report to P. A. Surgeon H. B. Parker and proceed to Jalapa, Mexico, for special temporary duty, as member of working party of Yellow Fever Institute.

A. A. Surgeon P. N. Barnesby, granted leave of absence for two days from April 13, 1903, on account of sickness, under provisions of Paragraph 191 of the regulations.

A. A. Surgeon A. P. McConnell, leave of absence for three days from April 20, 1903, granted by Bureau letter of April 16, 1903, revoked.

A. A. Surgeon W. J. O'Reilly, granted leave of absence for twenty days from April 4.

A. A. Surgeon H. H. Stearns, granted leave of absence for seven days from April 15, 1903, on account of sickness, under provisions of Paragraph 191 of the regulations.

Pharmacist M. H. Watters, granted leave of absence for eight days from May 4.

BOARD CONVENED.

Board convened at Washington, D. C., April 30, 1903, for the physical examination of an applicant for appointment in the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 2, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 18-25, 6 cases.
California: Los Angeles, April 4-11, 7 cases; San Francisco, April 12-19, 6 cases.
District of Columbia: Washington, April 18-25, 1 case.
Georgia: Atlanta, April 15-29, 5 cases.
Illinois: April 18-25, Belleville, 1 case: Chicago, 17 cases; Galesburg, 3 cases.
Indiana: Indianapolis, April 18-25, 1 case.
Iowa: Dubuque, April 18-25, 1 case.
Maine: Eastport, April 22, 3 cases.
Maryland: Baltimore, April 18-25, 1 case.
Massachusetts: April 18-25, Cambridge, 1 case; Holyoke, 4 cases; Lowell, 2 cases.
Michigan: April 18-25, Flint, 1 case; Grand Rapids, 2 cases; Port Huron, 1 case.
Missouri: St. Louis, April 19-26, 5 cases.
Nebraska: Omaha, April 18-25, 4 cases.
New Hampshire: April 18-25, Manchester, 5 cases; Nashua, 3 cases.
New York: Buffalo, April 18-25, 4 cases.
Ohio: April 18-25, Cincinnati, 2 cases, 1 death; Dayton, 1 case; Hamilton, 1 case.
Oregon: April 22, 250 cases.
Pennsylvania: Altoona, April 18-25, 2 cases; Carbondale, April 14-21, 2 cases; McKeesport, March 28-April 4, 3 cases, April 18-25, 3 cases; Philadelphia, April 18-25, 22 cases, 1 death; Pittsburg, April 18-25, 18 cases, 2 deaths; Reading, April 13-20, 4 cases; Scranton, April 18-25, 6 cases.
South Carolina: Charleston, April 18-25, 2 cases, 2 deaths.
Tennessee: Memphis, April 18-25, 1 case.
Utah: Salt Lake City, April 13-25, 16 cases.
Washington: Tacoma, April 13-20, 2 cases.
Wisconsin: Milwaukee, April 18-25, 1 case.

SMALLPOX—FOREIGN.

Belgium: Brussels, April 4-11, 6 deaths.
Brazil: Rio de Janeiro, March 29-April 5, 3 deaths.
Canary Islands: Las Palmas, March 21-April 4, 44 cases.
China: Hongkong, March 7-14, 4 cases, 1 death.
Colombia: April 5-12, Barranquilla, 1 death; Cartagena, 1 death.
France: Rheims, April 5-12, 1 death.
Great Britain: Birmingham, April 4-11, 6 cases; Bristol, March 28-April 11, 6 cases, 3 deaths; Cardiff, Feb. 21-March 28, 22 cases, 1 death; Dundee, March 28-April 11, 1 case; Leeds, April 4-11, 7 cases, 1 death; Liverpool, April 4-11, 66 cases, 2 deaths; London, April 4-11, 5 cases; Manchester, April 4-11, 11 cases, 1 death; Newcastle-on-Tyne, March 21-April 11, 4 cases; South Shields, March 21-April 11, 8 cases.
India: Bombay, March 24-31, 100 deaths; Calcutta, March 21-28, 2 deaths.
Mexico: City of Mexico, April 5-12, 14 cases, 6 deaths.
Russia: March 27-April 4, Moscow, 1 case, 1 death; Odessa, 2 cases, 2 deaths; St. Petersburg, 33 cases, 4 deaths.
Straits Settlements: Singapore, March 7-14, 1 death.
Turkey: Alexandretta, March 27-April 4, 3 cases.

SMALLPOX—INSULAR.

Philippines: Manila, Ma. 7-21, 9 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 29-April 5, 33 deaths.
Colombia: Panama, April 15-22, 2 cases, 1 death.
Costa Rica: Limon, April 17, 1 death.
Mexico: Vera Cruz, April 11-25, 10 cases, 4 deaths.

CHOLERA—INSULAR.

Philippines: Provinces, Feb. 28-March 14, 326 cases, 225 deaths; not previously reported, 467 cases, 316 deaths.

CHOLERA—FOREIGN.

India: Bombay, March 24-31, 1 death; Calcutta, March 21-28, 52 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 15, 1 death.
Philippines: Manila, March 7-21, 24 cases, 17 deaths.

PLAGUE—FOREIGN.

China: Hongkong, March 7-14, 17 cases, 17 deaths.
India: Bombay, March 24-31, 1,755 deaths; Calcutta, March 21-28, 816 deaths.

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Original Articles.

SUPPRESSION OF URINE.

WITH REPORT OF A CASE ENDURING EIGHT DAYS; RELIEVED BY DECAPSULATION OF THE KIDNEYS.*

HORACE J. WHITACRE, M.D.

CINCINNATI.

The subject of suppression of urine has been forcibly called to the mind of the writer by a rather unusual case which it is believed may serve as a just basis for the discussion of this topic. This case will first be reported in detail, then certain general considerations will be presented.

THE CASE REPORTED.

Mrs. L., aged 40, slight in figure. The family history is negative as regards transmissible disease. The personal history is that of an individual who has enjoyed unusually good health, who was married at 19 and has born 5 children, 2 of whom are dead. The living children are 11 years, 9 years and 17 months of age, and are in good health. She has had two miscarriages, one four years ago, the other six months ago. She has always done her own housework, leads an active and practical life, and has impressed the writer with the fact that she possesses more than the usual amount of good common sense. She gives no history of previous disease of the kidneys.

About the middle of February, 1903, she found herself to be about six weeks pregnant and under stress of household worries was led to adopt measures which would relieve her of this added responsibility. She took a medicine, the principal ingredient of which was ergot, in uncertain quantities for several days without definite result, then inserted a catheter into the womb. A considerable amount of bleeding followed and continued for several days. On Wednesday, February 25, she became very feverish and sent for her family physician, Dr. Frank Perry of Norwood, Ohio. Dr. Perry found the patient in a decidedly anemic condition, with a pulse of 110 and temperature of 104 F. There was a bloody discharge from the vagina. She said that she had discharged a fleshy mass which she considered to be the fetus and afterbirth. Dr. Perry gave her a thorough vaginal, then an intra-uterine douche of hot lysol solution, one teaspoonful to two quarts of water and prescribed quinin in 5-grain doses every three hours per mouth.

On the following day, Thursday, February 26, her temperature was 100 F. and her general condition satisfactory. She complained of some pain in urination, however, and at about noon passed 8 ounces of urine, which was very thick and highly colored.

On Friday, February 27, the general condition continued to be satisfactory, but she had passed no urine since the preceding day at noon. She was catheterized, but no urine was found. The catheter was pinched and withdrawn and found to contain ten drops of brick-colored fluid, which was considered to be bloody urine. The bladder was irrigated and infusions of digitalis, large amounts of water and fluid diet were prescribed.

On February 28 no urine could be obtained by catheter, but she stated that a few drops had passed. Acetate of potash and saline purgatives were added to the medication. The writer was asked to see the patient in consultation on this date. The temperature, pulse and respiration were normal, the patient was very cheerful, and stated that she did not feel sick at all. The pupils were normal in size and reaction to light and there was no disturbance of vision. Feeling that she needed careful nursing and hot air baths her removal to Christ's Hospital was advised. This advice was followed and she was admitted to this hospital at 7:40 p. m., with a temperature of 98.8, pulse 88, respiration 20. She was catheterized again, but no urine was found. At 9 p. m. she received an intravenous injection of 60 ounces of normal salt solution. The condition was believed to be the result of circulatory disturbance in the kidney, and it was hoped that the intravenous injection of salt solution would equalize the blood distribution and stimulate vasomotor coordination. At 10 p. m. she had a moderately severe chill, with a temperature of 101.6 F. After which she was given hot drinks in abundance and perspired very freely.

THIRD DAY OF SUPPRESSION.

March 1.—At 1:30 a. m. she passed one-half ounce of urine. At 3 a. m., six hours after the first, she received a second intravenous injection of 60 ounces of normal salt solution. During this day her temperature, pulse and respiration remained practically normal. She was given infusion of digitalis as a diuretic and vasomotor tonic. She was purged freely with Epsom salts, 24 watery stools being recorded. She received two hot-air baths. The loins were cupped for 15 minutes. Sixty ounces of salt solution were injected into the veins at 10 a. m., and again at 8 p. m. The most trustworthy of our nurses were assigned to the patient and instructed to make absolutely certain that no urine was passed without our knowledge. The patient was, therefore, catheterized before each stool and pads placed under her for the detection of any urine that might be passed surreptitiously; 40 minims were obtained at one time, 15 at another, and two or three at still other times. The sum total of urine passed during her first 24 hours in the hospital was about five drams. This urine contained a heavy percentage of albumin, no casts, white blood and round epithelial cells and a few red blood cells. The urea percentage was 1.4, as estimated by the Doremus apparatus.

FOURTH DAY OF SUPPRESSION.

March 2.—Patient's temperature varied from 98.6 to 99.8 F., the pulse remained at 70, and respirations at 20. She continued to feel well except for the weakness consequent to such vigorous purging and such continued disturbance. It will appear from the record that the patient was very much disturbed during her first twenty-four hours in the hospital, but she was given, in so far as was possible, the extreme care from muscular exertion and irritation that is accorded the patient who suffers from severe surgical shock. On this date, March 2, she was perfectly composed and had no aches nor pains. Diuretin was now substituted for infusion of digitalis and calomel in one-fourth grain doses given first every hour, then

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

continued as a three-hourly medication. On this day she was taken to the operating room and her uterus emptied by curettage of a large amount of decomposing placental tissue. This was done without an anesthetic. The interior of the bladder was at the same time cursorily examined with a cystoscope and found to be both normal in appearance and empty. During this day the bowels moved seven times, and the stool contained blood. The patient vomited a great deal and did not retain much nourishment. The diuretin seemed to be the cause of the gastric irritation, and was discontinued after 12 hours' trial. The total amount of urine obtained by the many catheterizations did not exceed thirty drops. The hot-air baths were continued, but no more salt solution was injected into the veins. It was considered that in the absence of results from the injection of 8 quarts in 24 hours nothing could be expected from further repetitions of the dose. The patient slept fairly well.

FIFTH DAY OF SUPPRESSION.

March 3.—Temperature remained below 99.6 F., pulse 74 to 80, respiration 20. Calomel was continued in one-fourth grain doses every three hours. The bowels moved 7 times. Steam baths, for 25 minutes, were continued. Patient continues to vomit. A sum total of ten drops of urine was obtained by catheterization during the 24 hours. The stool of the patient was examined for urea and found to contain 0.6 per cent.

SIXTH DAY OF SUPPRESSION.

March 4.—Temperature 98.2 to 98.8 F., pulse 70 to 84, respiration 20. Patient slept a great deal. Bowels did not move so freely. An attempt was made to place patient in cabinet bath, but she was too weak to sit up and the steam baths were therefore continued. The patient felt well while in bed. She complained of no headache, no ocular symptoms; in fact, no pains in any region. The calomel was continued. Ten drops of urine are recorded for this period of 24 hours. The character of this urine remained the same. The stool of the patient was again examined for urea and found to contain 0.7 per cent. The uterus was irrigated because of a continuance of a discharge from the external os. On this date patient was taken to operating room, and a second examination of bladder made. The bladder was normal in color, not inflamed and empty. No water could be seen to issue from the ureters and certainly none collected in the bladder during the half hour that the examination was continued with the bladder distended by air. There was no evidence of a calculus in the orifice of either ureter and no bulging at this site. On the contrary, the right ureter was widely open. During each day of the disease the kidneys were both thoroughly and satisfactorily palpated with a view to detecting a developing hydronephrosis from simultaneous obstruction of the ureters by calculi. The kidneys could be felt to be somewhat enlarged from the start, but there seemed to be no progressive increase in their size.

SEVENTH DAY OF SUPPRESSION.

March 5.—Temperature remained 98.6 F., pulse 72 to 90, respiration 20. General condition shows marked failure in strength. The patient slept most of the time and was aroused with difficulty. Citrate of magnesia was given; strontium bromid was given in 10-grain doses every four hours as a diuretic. Calomel was continued. Bowels moved eleven times. Urine was obtained four times by catheter; on two occasions one dram was obtained, on another one-half dram, on another four drops. This urine was examined carefully. The reaction was acid, color amber and cloudy, albumin was present in considerable amount, sugar was absent. The urea percentage was 1.4. On microscopic examination no casts were found, but three varieties of cells were present—white blood cells, bladder epithelial cells and round kidney cells. The white blood and the bladder epithelial cells presented the usual appearance, but the kidney cells presented a most striking example of fatty degeneration. This condition of the kidney cells had been noted in the urine of the preceding days, but to so slight a degree that it was not given much thought. The four specimens obtained at different times on this seventh day of the suppression demonstrated a very rapidly-increasing number of these fatty cells until the evening specimens presented a most striking picture.

The rapidly increasing numbers of degenerated kidney cells were considered to indicate that the kidney parenchyma was undergoing rapid degenerative changes by reason of the prolonged stasis of blood in its vessels. It was taken as an index of the pathologic changes taking place in the kidney and as a finger-board pointing out the correct line of treatment.

The condition of this patient had been explained from the start, in the writer's mind, on a basis of vasomotor disturbance whereby a stasis of blood, probably under great tension, had occurred in both kidneys. Blood was not flowing through the glomeruli, therefore the secretion of urine was in abeyance. The medication employed was directed to a re-establishment of this circulation and to an elimination of as much urea as possible by way of the skin, bowels and lungs. A continuance of this medication and general line of treatment was believed to be justifiable so long as the condition of the patient remained fairly good. Nevertheless, the operating-room force was held in readiness during this entire time for such operative treatment as might be demanded.

The definite evidence of rapid degenerative changes in the parenchyma of the kidney seemed to the writer to present a positive indication for such operative intervention and the patient was accordingly prepared for this treatment.

On March 6, and at the completion of her eighth day of suppression, the patient was taken to the operating room. Chloroform was used as the anesthetic. The right kidney was exposed by an oblique incision in the loin through all structures (the possibility of extension of the incision for the exploration of the ureters made a muscle-splitting operation undesirable). This kidney was certainly one-half larger, if not double the size of a normal kidney. Its external surface presented a mottled, purplish-blue appearance which at once suggested the appearance of the face of a baby whose head had just been born with the cord compressed. The kidney was lifted from its bed and the body of the kidney, the pelvis and the ureter thoroughly palpated. Nothing abnormal could be found and the pelvis certainly was not dilated. A hollow needle was thrust into the pelvis through the cortex for the double purpose of probing for stone and drawing off urine from a dilated pelvis. This investigation gave negative results.

The opinion already expressed regarding blood stasis seemed confirmed and the capsule of the kidney was split from end to end and totally removed. When an incision was made in the capsule its edges retracted and the cortex bulged through the incision as if under great tension, this in a manner entirely analogous to that seen in brain operations when the dura is opened. Very free hemorrhage followed the separation of the capsule from the kidney, but this membrane was nowhere firmly attached to the cortex by fibrous wedges projected inward. The capsule was of about normal thickness and was stripped off easily. The kidney parenchyma was of a yellowish-gray appearance after the blood-letting of decapsulation and was so brittle that the slightest touch of an instrument seemed to lacerate it. At one time my assistant changed the position of a very blunt abdominal retractor, and in so doing struck the convexity of the kidney. A lacerated wound three-fourths of an inch long and one-half inch deep resulted. The naked eye appearance of the cortex was that of marked fatty degeneration. The capsule of the kidney was entirely excised, the kidney dropped back into its bed, gauze drainage was inserted and the external wound closed. A provisional stitch was inserted for the purpose of completing the primary closure of the wound after the removal of the drainage 24 hours later.

Exactly the same procedure was immediately applied to the left kidney. This organ presented precisely the same anatomic conditions; the pelvis was likewise found to be free and the capsule was removed. The time consumed in the double operation was 45 minutes. The patient stood the operation perfectly well, her pulse did not exceed 100, and she was put to bed in a most satisfactory condition. At the time of her return to bed the pulse was 70 and the respirations 20 per minute. There was no vomiting from the anesthetic.

One hour after operation the patient expressed a desire to urinate and two ounces of intensely bloody urine were obtained by catheter. This urine was neutral in reaction, albumin was abundant in a filtered and centrifuged specimen and the urea percentage was 1.4. Microscopically red blood cells were present in large numbers; the same round cells presenting in advanced stage of fatty degeneration were found in abundance, but no casts.

The temperature remained normal throughout the remainder of the day, the pulse varied from 72 to 80, the respirations from 24 to 28.

At 6 p. m. (six hours after operation) 2¼ ounces of urine possessing the same naked eye, chemical and microscopic characteristics were voided by the patient.

At 9 p. m. 1¾ ounces of urine of similar nature were voided.

The patient was given water per mouth in six hours after operation.

At 1:30 a. m. 2 ounces and at 5:30 a. m. 4¼ ounces were passed. Three ounces at 8:30 a. m., and 4 ounces at 11:40 a. m., gave a sum total of 21 ounces of urine passed in the first twenty-four hours after operation.

The urine continued to be intensely bloody, the reaction became acid at 1:30 a. m., the specific gravity was 1,009, and the urea percentage had diminished to 1 in the morning urine. The fatty cells persisted to the end of the twenty-four hours. An 8-ounce bottle containing the first urine passed showed a red deposit ¼ inch thick after settling for a few hours. The patient was rather drowsy during the day, had some abdominal pain, and vomited once.

The second twenty-four hours after operation, the temperature, respiration and pulse remained normal. The urine was passed in from 3 to 10-ounce quantities and aggregated 48 ounces. The blood rapidly disappeared and the urine became amber color by the end of this period. The reaction continued to be acid. The specific gravity did not vary from 1,008. The urea percentage varied from .85 to 1.5. Albumin was present. Red blood cells were always present microscopically. The fatty cells had disappeared by the end of the period. No casts were found in any specimen.

The patient rested well, took liquid food with much indifference, and vomited bile once or twice. She was delirious for two hours during the night, but slept well with this exception. The gauze drainage was removed and the provisional sutures tied.

The third twenty-four hours after operation, temperature, respiration and pulse remained normal. The amount of urine aggregated 89 ounces. The character was about the same as that during the second 24 hours except that it became bloody again for about six hours, then returned to amber. The patient rested well. The diet consisted of toast, egg, cocoa, oyster broth, ice cream, and orange albumin water. There was great prostration, but patient was cheerful. The bowels moved well.

The fourth twenty-four hours, temperature, respiration and pulse normal. Total amount of urine 56 ounces. Urine clear; very few red cells; no casts; trace of albumin; specific gravity 1,009; reaction acid; no sugar.

The fifth twenty-four hours, temperature, respiration and pulse normal. Total amount of urine 77 ounces. General condition good. Quality of urine the same as during the fourth day. Appetite vacillating. Some delirium at night, yet patient slept well. Patient received eggnog and strychnin sulphate grs. 1/60 as continuous tonic stimulation.

The sixth twenty-four hours, temperature and respiration normal. Pulse became elevated to 100. Total amount of urine 64 ounces. Urine amber color and cloudy; reaction acid; specific gravity 1,009; trace of albumin; no sugar. Microscopically amorphous urates, a very few red blood cells and no casts were found. Urea percentage 1.4.

The seventh twenty-four hours, temperature 98.4 to 99.2, pulse 90 to 120 and bounding, respiration 20 to 26. Total amount of urine passed 47 ounces. Quality of urine same as on sixth day. Patient felt very weak and looked very pale, but said that she had no pain and felt very well. Appetite failed somewhat.

The eighth twenty-four hours, temperature, respiration and pulse normal. Total urine 52 ounces. Quality same as on sixth day.

The ninth twenty-four hours, temperature 90 to 102, pulse 108 to 120 and bounding. Respiration 24. Total urine 45 ounces. Quality of urine same, except that it is now perfectly clear. No explanation could be found for the rise in temperature and pulse rate. One physician who saw the patient at this time stated that the pulse was that of a patient just previous to puerperal eclampsia and advised the use of a veratrum viride. This was not given, however.

The tenth day, temperature 99 to 101, pulse 80 to 100, respiration 24. Total amount of urine 44 ounces. General strength improved, patient feels better and asked to get up. Quality of urine the same as on sixth day.

During the eleventh day the total amount of urine was 47 ounces; during the twelfth day 52 ounces; during the thirteenth day 48 ounces; during the fourteenth day 78 ounces; during the fifteenth day 62 ounces; during the sixteenth day 65 ounces; during the seventeenth day 47 ounces; during the eighteenth day 64 ounces; during the nineteenth day 80 ounces. On this date the patient returned to her home, and the husband has reported that the total amount of urine has averaged from four to four and one-half pints per day for every day since March 25.

The temperature returned to normal after the tenth day and remained so. The strength of the patient improved steadily, and she sat up on the sixteenth day after operation. The appetite improved rapidly until it became normal. The urine became normal on the seventeenth day.

It is believed that this patient suffered from a vasomotor suppression of urine. There are two factors which may have acted in a causative relationship to the condition. Either the ergot which was contained in the emmenagogue caused a strong and persistent vaso-constriction, or a strong reflex was communicated to the kidney at the time of the destruction of the ovum or by the uterine irrigation. Neither of these could be called an overpowering reflex, and it is certainly true that such a result would be most unusual, yet at the same time we must take into consideration the fact that the susceptibility of the nervous system to irritation and to reflex, particularly in women, is a most variable quantity. The patient was not exposed to conditions which would cause an acute nephritis, nor did she present the slightest symptom of this disease at any time. She was perfectly well up to the time of the destruction of the ovum. The temperature which she presented at the time of Dr. Perry's first visit is not believed to have been the result of septic infection, since it disappeared after one flushing of the uterus, and the material found in the uterus at the time of curettage did not seem to be infected. It is, of course, possible that there was some absorption of decomposition products into the general circulation, yet in the absence of any disturbance of the temperature and pulse rate it is difficult to believe that these products were very poisonous.

GENERAL CONSIDERATIONS.

The writer has been impressed on more than one occasion by the fact that our ready reference text-books of surgery contain little or no mention of the subject of suppression of urine. The condition is given a brief

mention as a symptom, in connection with certain surgical diseases of the kidney and ureter, but is nowhere discussed in full, in so far as he knows, as a definite condition entitled to elaboration from the viewpoints of etiology, diagnosis and treatment. The literature on this subject, even though meager, is valuable and should be collected into such available form as will give a definite classification and a clear exposition of the subject. It has been the unfortunate experience of the writer to encounter this condition in a variety of forms; indeed, every surgeon has his quota of deaths after operation from suppression of urine and every surgeon knows the anxiety that is felt during the hours of its possibility and of its endurance.

It has been stated that suppression of urine is merely a symptom and not a disease. It is certainly true that suppression of urine may be but a single symptom in the picture of a given disease, e. g., cancer of the uterus with involvement of the ureters, but it is likewise true that in the majority of cases which are presented to the surgeon the suppression of urine is the one condition which imperatively demands treatment, and the one condition which is going to kill the patient unless relieved. Furthermore, each case of suppression of urine must be accurately and painstakingly studied from the viewpoints of etiology, pathology, symptoms, diagnosis and treatment, and it requires but slight reflection to see that the investigation and the management of these cases present unusual difficulties.

Such, it seems to the author, are the claims of this subject to a place among surgical conditions.

The present paper does not present for your consideration a solution to the problems of suspended kidney function, nor does it furnish a full presentation of the subject. The case, which is recorded above, is offered as a contribution to the meager literature on this subject, while the appended general discussion is presented in the purely suggestive light of personal impression gained from clinical experience and from some reading.

DEFINITION.

Suppression of urine is commonly defined as a condition in which the excretion of urine from the tubules of the kidney is entirely suspended or in which no urine is transmitted to the bladder. This definition is made to cover two distinct conditions and is believed by the author to be open to criticism. It would seem more accurate to omit the latter clause and say that suppression of urine is a condition in which the excretion of urine from the parenchyma of the kidney is suspended. When one or both ureters are mechanically obstructed the parenchyma of the kidney continues to perform its functions until a quantity of urine varying from a few ounces to one gallon has been secreted and until the pressure has become sufficiently great to arrest secretory pressure. When the urethra is mechanically obstructed the same accumulation of urine occurs behind the obstruction and the same result may follow in the kidney. Yet an accumulation of urine behind an urethral obstruction is called retention of urine, that behind an ureteral obstruction a suppression of urine, and the two are carefully differentiated. To my mind they are in reality one and the same lesion, except for the location in the tract of the obstruction, in the seriousness of the condition and in the accessibility of the lesion. The one may be diagnosticated and relieved by urethral, the other by ureteral examination and catheterization. Furthermore, the correct surgical treatment in each case is directed to the seat of mechanical obstruction with the one purpose of liberating the pent-up kidney secretions and of preventing or relieving serious secondary lesions in the kidneys.

In suppression of urine, as defined, the secreting mechanism itself is at fault; the lesion is primary in the kidney, and no urine is separated from the blood. The treatment of the condition must be based on entirely different grounds, and the lesion must be studied from the physiologic side.

We have, then, two distinct conditions, the one mechanical and always surgical, the other physiologic and sometimes surgical, and each worthy of careful study from the viewpoint of etiology and pathology. An appropriate division of that condition in which no urine is discharged from the body would seem to be: 1. Vesical and urethral retention or obstruction of urine. 2. Ureteral retention or obstruction of urine. 3. Suppression of urine.

It is believed by the writer that the above modifications in the definition of suppression of urine or anuria should be made. Yet the present discussion of the condition will be pursued according to the usual definition and a division of the subject will be made into an obstructive and non-obstructive form, each of which may be elaborated under the heading of etiology.

ETIOLOGY.

The condition presented to the physician is one of "no urine," and it becomes necessary for him to seek the cause of this condition. The following table is offered as a concise statement of the causes of suppression of urine.

I. OBSTRUCTIVE SUPPRESSION OF URINE may result from:

A. A calculus, a blood clot or a plug of pus in the ureter. This may cause complete obstruction.
   (a) In the ureter of the only existing kidney.
   (b) In a single fused ureter from the two kidneys or from a horseshoe kidney.
   (c) In the ureter of the only functionating kidney, the other kidney having been previously destroyed by calculous obstruction, tuberculosis, nephrolithiasis, suppuration, tumor, cyst, etc., etc. This is by far the most common form.
   (d) From the simultaneous obstruction of both ureters (rare).
B. Stricture of the ureter under the four above-named conditions.
C. Kink in the ureter of a floating kidney or angular attachment of the ureter to the pelvis under similar conditions.
D. Tumor of the kidney.
E. Tumor of the base of the bladder or of other organ involving both ureters.
F. External pressure.
   (a) Myomata of the uterus.
   (b) Cancer of the uterus or rectum.
   (c) Abdominal tumors.
   (d) Laceration of the cervix with subsequent involvement of the ureter in the cicatrix.
G. Venous congestion. An excessive degree of exudate when associated with congestion of the intertubular veins may cause a degree of lateral pressure which may result in suppression. The suppression of urine in the author's case may be explained in this way.

II. NON-OBSTRUCTIVE SUPPRESSION OF URINE may occur as a result of:

A. *Reflex circulatory* or *vasomotor disturbance* in the kidney. This may occur—
   (a) *After operations* which concern in any way the complex sympathetic nervous mechanism of the abdominal cavity, *c. g.*, nephrectomy, nephrotomy, operations on the bladder, operations on the male or female genital tract.
   (b) After the *passage of a catheter* or a sound into the bladder. This agent may act either as a reflex or as a septic infection.
   (c) As a result of the *lodgment of a calculus* in one ureter, the other remaining free. The reflex in this case may result either from the nerve irritation at the site of lodgment of the calculus or from the acute tension which occurs within the pelvis of the obstructed kidney.
   (d) *Trauma*, subcutaneous or direct. In a case related by Dr. Oliver, a bullet merely cut a groove in the convexity of one kidney yet the patient died from suppression of urine.
   (e) *Hysteria.*
   (f) *Drug vaso-constriction, e. g., ergot*, auto-nephrotoxins.
   (g) *Extensive burns*, may act either by a reflex or by sepsis.
   (h) *Meningitis.* (A case reported by Fussell, in *Pediatrics*, August, 1901.)
B. *Degenerative changes in the kidney.* These may result from:
   (a) Poisoning by drugs such as phosphorus, carbolic acid, cantharides, turpentine, etc., possibly by ether and chloroform when used for surgical anesthesia.

(*b*) Acute infectious diseases such as septicemia, cholera, scarlet fever, dysentery, etc.
(*c*) Acute nephritis.
(*d*) Auto-nephrotoxins. This is a toxic product, a cytotoxin, which is formed as a result of active disintegration in one kidney and which acts to produce marked degenerative changes in the opposite sound kidney. Castaigne and Rathery suggest that perchance certain renal disturbances now described as the result of reno-renal reflex nervous influences or as sympathetic nephritis are the outcome rather of auto-nephrotoxins.
(*e*) Tubercular or cystic disease of both kidneys may progress to the total destruction of all secreting tissue.

C. The direct effect of lessened heart force. When the aortic pressure sinks below 40 mm. Hg. the urinary secretion stops absolutely. So long as the blood pressure is above this height the secretion is more or less proportional to the pressure, and changes with the changes in this pressure.

D. Trauma.
(*a*) Direct paralyzing injury to both kidneys or to one kidney when the other is non-functionating.
(*b*) Rupture of the *kidney*, the *ureters*, or the *bladder* with extravasation into the tissues of all urine secreted. This must be included under the old definition of suppression of urine, but is not believed to belong to the subject at all.

E. Anesthesia. It would be very difficult to classify this etiologic factor more accurately, for the reason that we do not certainly know the exact manner in which these drugs act on the kidney. Kemp concludes that ether, while producing a rise in general arterial pressure, manifests a deleterious and specific influence in a lowered renal pressure and almost immediate diminished secretion, whereas chloroform, when producing a decrease in carotid pressure, exerts but an insignificant effect if any on the renal pressure or excretion. On the other hand, Galicazi and Gfilio maintain that the diminution of renal permeability is more marked when chloroform is used than when ether is administered, and they claim that this result renders any infectious disease with which the patient so anesthetized may be affected more severe.

PATHOLOGY.

A complete study of the pathologic lesions mentioned above as etiologic factors would be both impracticable and undesirable in the present paper. The pathology of those conditions enumerated under the heading of obstructive suppression is so well understood and so well described in all text-books of pathology that its recapitulation is considered unnecessary. The same may be said of some of the conditions included under the heading of non-obstructive suppression, yet it is this particular section of the subject which presents the perplexing questions, and hence it is this section which should receive most attention.

In view of the fact that we are dealing with alterations in the functional value of the specific parenchyma of the kidney, it is certainly true that we will find a physiologic basis to be the correct one on which to construct our pathologic and therapeutic superstructure.

PHYSIOLOGIC CONSIDERATIONS.

The kidney is a compound tubular gland in which the vascular apparatus is so arranged as to afford (*a*) the most favorable conditions for filtration of the liquid parts of the blood, and (*b*) the most favorable conditions for the elimination of the waste products of body metabolism by its specific excretory cells. The secretion of this gland is complex in its composition, contains most of the end products of the varied metabolism of the tissues and represents the most vital excretory product of the body. This secretion may be looked on as a solution of a great number of organic and inorganic substances in water.

The nerve supply of the kidney is vasomotor (vaso-constrictor and vaso-dilator) and secretory. The vessels of the kidney, like those of all parts of the body, are under the direct control of the central nervous system. The secretory nerves are not fully understood. The nerves are definite off-shoots from and an integral part of the vast abdominal sympathetic system, and are connected with the spinal cord through the anterior roots of the eleventh, twelfth and thirteenth dorsal nerves. These nerves enter the hilum of the kidney both as a plexus closely investing the renal artery and as fibers which run parallel to the vessels and can be traced as far as the cortex.

The secretion of urine consists of two distinct processes: (1) The secretion of water and salts, and (2) the elimination of urea and related bodies. The secretion of the waters and the inorganic salts undoubtedly takes place through the glomerulus. The excretion of urea and related bodies is believed to take place through the agency of the epithelial cells lining the convoluted tubules. These cells perform the function of secreting the specific nitrogenous elements of the urine, which are taken up into solution by the water which flows downward from the glomerulus and a completed urine is formed.

The secretion of water and inorganic salts seems to be largely, yet not entirely, a question of mechanical filtration or separation and to depend mainly on two factors.

(1) The difference of pressure between the blood in the glomerular capillaries and the urine in Bowman's capsule. The pressure in the tubule is practically *nil* under normal circumstances, so that the only changeable factor will be the blood pressure in the capillaries.

(2) The rapidity of the blood flow through the glomeruli. The more frequently the fluid is presented to the filter the more rapidly will the process go on.

The glomerular circulation may be affected in several ways. The pressure in the glomerular capillaries will be raised and the velocity of the blood increased:

(1) By a rise in the general blood pressure. This may be due to (*a*) increased force and frequency of the heart, (*b*) constriction of vascular areas in other parts of the body.

(2) By dilatation of the renal arterioles, the general blood pressure remaining constant.

(3) By obstructing the renal vein. In this case the velocity will be diminished.

The pressure and velocity in the glomerular capillaries will be diminished:

(1) By diminished general blood pressure, which may arise from a weakening or slowing of the heart beat, or from dilatation of vascular areas in other parts of the body.

(2) By constriction of the vessels in the kidney itself.

As has been stated above, a diminution of aortic pressure below 40 mm. Hg. results in an absolute cessation of secretion and variations in pressure above this point will be followed by corresponding variations in the amount of urine secreted.

It is to this vasomotor mechanism of the kidney that we must look for the regulation of the flow of blood through the kidney, hence for a rational explanation of variations in the secretion of urine.

Stimulation of the vaso-constrictor fibers causes contraction of the arteries of the kidney, a diminution in the size of the organ and a diminished secretion of urine. Stimulation of the vaso-dilators will have precisely the opposite effect. Both of these sets of fibers are probably brought into play under normal conditions by reflex stimulation, and thus serve to regulate the flow of blood through the kidney and thereby influence its functional activity.

It has been estimated that, in strong diuresis, 5.6 per cent. of the total quantity of blood sent out of the left heart in a minute may pass through the kidneys, although the combined weight of these organs makes only 0.56 per cent. of that of the body.

That the formation of the water of the urine is not entirely a question of filtration, however, would seem to be demonstrated by two experimental facts:

(1) Ligation of the renal vein raises the blood pressure in the glomerular capillaries almost to that of the

renal artery, yet the secretion of urine is promptly arrested.

(2) Ligation of the renal artery causes a complete arrest in the secretion of urine. Removal of this ligature after a few minutes restores at once a normal circulation and pressure of blood in the glomeruli, yet the secretion of urine is not re-established for one hour, and when it does return it contains albumin.

These facts have led Heidenhain to believe that the secretion of water depends on the active intervention of special secretory cells, and that any agent which interferes with the physiologic value of these epithelial cells covering the glomerulus will result in corresponding alterations in the amount and the quality of urine secreted. If such an explanation is correct we will find in this physiologic fact a most valuable aid to the explanation of degenerative suppression of urine. Furthermore, in those forms included under the head of venous congestion the direct causative factor may be a decreased secretory power or a decreased permeability of these cells, which has resulted from an insufficient blood supply.

It must be admitted, however, that physiologists are not yet agreed on all points concerned in the secretion of water, and it seems clear that at present we are not justified in asserting more than that the glomeruli control in some way the production of the water and salts of the secretion. The extent of the activity seems to be correlated with the quantity of blood flowing through the glomeruli.

It is a fact of some importance in the present study to note that the most important of the pathologic constituents of the urine, such as albumin, hemoglobin and sugar, seem to escape from the blood into the tubules through the glomerular epithelium.

The exact nature of the forces involved in the excretion of urea by the actively secreting cells of the convoluted tubules is not entirely understood. The normal stimulus to these cells seems to be the presence of urea and related substances in the blood and the rate of elimination will vary, under normal conditions, (*a*) with all variations in the percentage of urea in the blood, and (*b*) with the velocity of the blood flow through the capillaries. The elimination is not a simple act of diffusion, because the percentage of urea in the urine is greater than that in the blood. All that we can say is, that in some way the urea is selected from the blood and quickly transferred to the lumen of the tubule without alteration in chemic composition and without accumulation in the cell.

PATHOLOGIC CONSIDERATIONS.

Reflex Vasomotor Suppression of Urine.—The kidney parenchyma, it will be remembered, is enclosed within a firm unyielding capsule, analogous in every way to the capsule (sclera) of the eye and the bony casement of the brain. Under normal conditions a vaso-constriction diminishes the amount of blood entering this capsule, the kidney capillaries become anemic, and an amount of blood escapes through the veins exactly equal to that which enters. Under normal vaso-dilator action the amount of blood entering the closed sac is exceedingly increased, the entire organ increases in size, the capsule becomes tense, yet again the venous return is entirely efficient and carrys off an amount of blood exactly equal to that which enters. The blood circulation through the kidney is perfect in each instance, but the amount of blood flowing through the organ is widely different. The regulation of the exact amount of blood that shall flow through the kidney, it will be remembered, is the direct result of what may be called normal reflex stimulation.

Now, suppose we have an overpowering stimulation of any part of the abdominal nerve plexus, an overpowering reflex, such, for instance, as will result from a nephrectomy. One of three things may happen in the remaining kidney:

(1) There may be an intense stimulation of the vaso-constrictor nerves which will cause a temporary or persistent cessation of blood flow through the glomerulus.

(2) There may be a sudden paralysis of the vaso-constrictor nerve fibers and an increased flow of blood to the kidney; or there may be

(3) A marked stimulation of the vaso-dilator fibers and again an increase in the flow of blood into the kidney.

Intense Stimulation of the Vaso-constrictors.—This may be expected to cause a temporary or perhaps a somewhat continued arrest of blood flow into the kidney. The secretion of urine will immediately stop. The kidney will become anemic and the blood contained in the organ will flow off through the veins. Now, it has been demonstrated anatomically that the kidney receives a feeble anastomotic circulation through its capsule. Furthermore, it has been demonstrated that simple ligature of the renal artery will cause a condition of red infarct in the kidney, while the ligature of this artery, after the complete removal of the capsule, will result in a condition of white infarct. This means that after ligature of the renal artery blood flows through this anastomotic circulation into the kidney in sufficient quantity to engorge the vessels, yet under insufficient pressure to reestablish the circulation of the blood through the organ. A condition of red infarct results. When the capsule is removed, however, this anastomotic circulation is cut off and all blood left in the kidney drains off, leaving the capillaries empty and the tissues white.

Precisely the same conditions are presented when a sudden vaso-constriction closes the vessels of the kidney. The blood flow is arrested and this same anastomotic circulation engorges the capillaries and veins of the cortex. The endothelial cells in the walls of the capillaries and the small veins have suffered a degenerative change, however, because of the arrest of blood, and they permit the serum to leak out between the tubules. Now, since it is improbable that a complete obliteration of the arterioles by vaso-constriction could endure for a very extended period of time, let us see what would happen when these arterioles begin to open again. Blood is once more pumped into the kidney, but the venous return is seriously impeded by the lateral pressure of the exudate which has formed around and between the paralyzed veins and the tubules. The congestion of the vessels of the kidney becomes more intense with each heart beat, and a condition analogous to experimental ligature of the renal vein ultimately results. The blood flow through the kidney is stagnant, no urine is secreted, the capsule becomes over-distended and tense, the blood becomes highly venous and the kidney parenchyma suffers serious degeneration from insufficient oxygen and food supply. This is precisely the lesion found at the time of operation in the kidneys of the patient whose case has been reported in this paper.

Should the overpowering stimulation of the nervous mechanism of the kidney result in either a paralysis of the vaso-constrictors or a stimulation of the vaso-dilators, the effect on the circulation would be the same and the reasoning as to the ultimate effect on the kidney of both

would be precisely the same as that followed for the explanation of vaso-constriction suppression, except that the anastomotic circulation would probably play no part.

Degenerative Form.—It seems very easy to explain the degenerative form of suppression of urine on physiologic grounds if we give to the glomerular epithelium the pure secretory function that has been suggested. If the glomerular cells secrete the water then the correct performance of this function will be absolutely dependent on the anatomic and physiologic integrity of these cells, and any agent which causes serious degenerative changes in these cells will assuredly exert a corresponding influence on their secretory product. Such conclusions do not seem to be justified, however, by our present physiologic knowledge. At the same time there must be some connection between the normal secretion of the water of the urine and the integrity of the glomerular epithelium, be this a property of secretion or one of permeability, and it is believed that further experimental work in this direction will yield some definite results.

Lessened Heart Force.—The effect of a lessened heart force with a lowered aortic pressure finds its complete explanation in physiologic fact. The suppression of surgical shock will find its correct classification under this heading, and will be most correctly treated by directing the attention to the general circulation.

The pathologic findings in those kidneys examined by the author after death from suppression of urine have uniformly been slight. An intense congestion of all vessels in the cortex and a marked cloudy swelling of the parenchyma cells have always been present. The intertubular area has been uniformly widened and always filled either by capillaries and veins or by a fluid exudate. The most striking feature of the lesion has always been a complete injection of all vessels of the kidney by red blood cells. An exudate within the tubules has not been observed. It has so happened that all of the kidneys examined by the writer showed either no evidence of a chronic nephritis or so slight a change that this lesion could not be considered to be a predisposing cause. As has been stated, the kidneys, exposed in the case that has been reported, showed a most intense degree of venous congestion and a very high degree of tension within the capsule; when this tension was removed and a large amount of venous blood had drained off the cortex looked comparatively pale.

DIAGNOSIS.

The condition presented to the physician for diagnosis is an absence of the usual discharge of urine from the body. The first point that must be decided is the proper classification of the particular case under the heading of either the obstructive or the non-obstructive form of suppression of urine. The determination of this one point will call for the most thorough possible history, both as regards previous illness and the existing attack. This history must deal minutely with all symptoms referable to the functional value of the kidneys, and all preceding attacks of pain in the abdomen, the loin, the back or bladder must be investigated with a view to establishing a probability or a certain diagnosis of pre-existing parenchymatous or calculous disease of one or both kidneys. It is a well-known fact that most cases of total obstruction of urine from blocking of the ureter occur in individuals who have previously suffered a destructive lesion in one kidney. This previous disease in the destroyed kidney may be unknown to the patient, or he may have forgotten the slight symptoms that he suffered.

The physical examination of the patient must be equally thorough and equally complete. The passage of a catheter into the bladder will rule out urethral obstruction. A cystoscopic examination will determine the presence or absence of tumor of the bladder and may detect a calculus in the vesical opening of the ureter. Catheterization of the ureter or the introduction of the wax taper, as suggested by Kelly, will determine the patency of the ureters and may give positive evidence of the presence of stone.

If the ureters are patent we may consider that the diagnosis of a non-obstructive or true suppression of urine is established. It is not always possible to apply methods of precision to this degree, however, and a diagnosis must sometimes be made on the evidence furnished by abdominal palpation and the history of the patient.

The differential diagnosis of the various conditions referred to under the heading of obstructive suppression is not believed to belong to the present study and is well described elsewhere.

A differential diagnosis between those conditions included under the heading of true suppression of urine or non-obstructive suppression will usually be made from the history of the patient alone. It will usually be self-evident that the patient has ingested a poison, that he has suffered a strong reflex, that shock is present, that the heart's action is feeble or that an anesthetic has been given.

TREATMENT.

A discussion of treatment again divides itself naturally in accordance with the general division of the subject into the obstructive and the non-obstructive form.

The Obstructive Form.—The treatment of this form of suppression is always surgical, and is always directed to the re-establishment of efficient excretory channels or ducts. Such methods of treatment are well described in all text-books of operative surgery. Again, it must be stated that this section does not, in the opinion of the author, belong to the subject of suppression of urine.

The Non-obstructive Form.—The first thought that will come to the mind of the majority of practitioners of medicine in the presence of any form of suppression will be, what diuretic will act most promptly?

The mode of action of diuretics is not well understood. Without entering on a discussion of the subject it may be stated that the saline diuretics, such as urea, dextrose, sodium chlorid, potassium nitrate, potassium acetate, etc., produce an increased flow of blood through the kidney, hence an increased flow of urine, by reason of an hydremic plethora which they induce. The result of injecting these substances into the blood has been proven to be an active flow of water from the tissues into the blood. The blood, therefore, becomes diluted to an extent varying with the osmotic pressure of the substances injected. Caffein again seems to produce its diuretic effect by reason of its effect on the renal vessels. The effect of digitalis, in producing diuresis, is more complex, yet it seems probable that its action may be explained by its effect on the general circulation. It slows and strengthens the heart beat and at the same time constricts the smaller arteries of the body, so that the arterial pressure is raised. Therefore, its legitimate use in suppression of urine will be restricted to those cases of heart disease in which a feeble heart action, a lowered arterial and an increased venous pressure are the cause of an imperfect flow of blood through the kidney. Under such conditions digitalis will act as a powerful diuretic.

The Treatment of Vasomotor Suppression of Urine.—It has been demonstrated that the pathologic lesion in this condition is an intense venous congestion of kidney. The blood is stagnant, the venous return is progressively more and more impaired by lateral pressure, the kidney capsule is tensely overfilled, and blood is being continuously pumped into an already overfull organ. This kidney certainly needs depletion and those measures should be applied which will withdraw blood from it.

Diuretics may act favorably on such a kidney or they may be the very worst possible thing for it. The lesion is uniformly a greatly impeded venous return from the organ or a venous stasis. Now, if by increasing the arterial pressure behind this stagnant blood it can be forced on into the renal vein, then a diuretic will relieve the existing stasis and render conditions favorable to an absorption of any exudate that may be present. Such reasoning is followed in the treatment of pneumonia, and the heart receives more attention from the therapeutic standpoint than the lung itself. If, however, the obstructive lesion in the veins has become so marked that this piling up of pressure from behind can not overcome it, then these same drugs only intensify the lesion by sending more and more blood to the organ.

It seems to the writer, therefore, that the course pursued in the treatment of the reported case was correct. Fresh infusion of digitalis was first given with a view to strengthening the heart, equalizing the circulation and restoring vasomotor tone. This failing it was deemed wise to establish a high degree of hydremic plethora by the most prompt possible means. Sixty ounces of normal salt solution were therefore injected into the veins every six hours for four doses. This measure also failed in this particular case, and in the light of subsequent history both measures probably did her kidneys more harm than good. Nevertheless, it is believed that these measures are correct and that they will serve to re-establish the flow of blood through the kidney, hence the flow of urine, in quite a percentage of very early cases.

Depleting agencies will occupy a position of high importance in the treatment. These measures are applied for two reasons: (1) For the purpose of withdrawing blood from the kidney; (2) for the purpose of removing urea from the blood. To this end cupping of the loins, free purgation and sweating with pilocarpin and hot air are to be strongly recommended. Large hot irrigations of the colon with salt solution may be tried.

OPERATIVE TREATMENT.

Should the above-named measures fail to bring about the desired result with promptness, we must conclude that the venous stasis in the kidney has attained a high degree. The operative treatment of decapsulation should then be applied. This treatment seems to the writer to meet the conditions exactly. The high degree of tension is relieved, the veins are emptied by blood letting and conditions are rendered favorable for both the re-establishment of the circulation and for the absorption of exudate. It is possible, in addition, that the massage of the kidney may in some way exert a favorable influence on its nervous mechanism. Suffice it to say that the prompt and perfect result in the case reported must be taken as definite evidence that decapsulation is a therapeutic agent of great value.

The suppression of urine that occurs in conditions of shock should be considered in the light of a symptom. Absolute quiet, external heat, elevation of the feet, intravenous injection of salt solution and strychnin will be found to be the main elements in the treatment.

Degenerative suppression of urine will require a somewhat different reasoning. The element of prime importance in the treatment will be the withdrawal of the poisonous agent. A degenerated cell or a degenerated organ is one in which the nutritional supply, the metabolic process or the process of excretion are at fault. Therefore, every measure should be adopted that will restore to the kidney a large amount of good blood and which will keep this blood in active circulation. Drugs will be of some value and salt solution will serve the double purpose of filling the vessels and of diluting a contained poison.

In conclusion, the statement will be repeated that the above discussion of the condition of suppression of urine is presented in a purely suggestive light, and it is hoped that it may lead to the more thorough investigation of some of the obscure points in etiology, pathology and treatment.

The discussion on the papers of Drs. Whitacre, Guthrie and Ferguson will follow the paper of Dr. Ferguson in a subsequent issue.

CONTRIBUTION TO THE SURGERY OF GASTRIC ULCER.*

VAN BUREN KNOTT, M.D.
SIOUX CITY, IOWA.

The literature on the surgical treatment of ulcer of the stomach has, during the last few years, grown to vast proportions and the subject has been most ably and thoroughly presented. It is not my intention to attempt a résumé of this literature, nor to take up the subject of gastric ulcer in detail.

There is, however, one of the frequent complications or sequelæ of chronic ulcer of the stomach which my experience indicates will bear still further discussion than it has been generally accorded. I refer to adhesions of the stomach to a neighboring viscus or the abdominal wall, and this paper will be confined to a brief consideration of the symtomology, diagnosis and treatment of this condition.

Enough has been said and written concerning the surgical treatment of alarming hemorrhage, perforation and dilatation of the stomach resulting from ulceration of the organ, to establish quite firmly good and sufficient rules for guidance as to our management of these dangerous and distressing complications and we find these rules very generally accepted and applied.

The adhesion of the stomach to a neighboring organ or to the abdominal wall may occasion symptoms quite as distressing as those due to pyloric stenosis and in many instances really jeopardize the life of the patient.

It is the purpose of this article to consider only those cases of adhesion the result of gastric ulcer. That the condition may be set up by extension of the inflammatory process from an adjacent viscus as the pancreas or the gall bladder is true and the symptoms and indications for treatment are very similar.

Perigastric adhesions as sequelæ of gastric ulcer are due to the gradual involvement of the serous coat, by the extension of the ulcerative process, with a localized peritonitis as the result which secures the adhesion of the infected area to that organ or organs with which it comes in contact. In 226 cases of chronic ulcer of the stomach, collected by Fenwick, postmortem examina-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

tion revealed the presence of adhesions in 96, or 42.5 per cent.

In 123 cases of ulcer with adhesions, collected by the same authority, the pancreas was involved in 49, the liver in 23, the liver and pancreas in 10, the colon in 7, the liver and colon in 4, the spleen in 2, the mesentery in 3, and three or more organs, including, in addition to the above, the omentum, diaphragm, abdominal wall and kidney, in 15. I shall not attempt to discuss the cases where perforation has occurred with a resulting localized abscess, as the symptoms of this condition are usually acute, the septic predominating over those of disturbed function.

It is thus readily seen that the formation of adhesions between the stomach and the other abdominal organs is of such frequent occurrence in cases of chronic ulcer as to vest the subject with considerable importance.

The distribution of these adhesions is readily understood from the fact that about 80 per cent. of all gastric ulcers are situated on the posterior surface of the stomach or at the pylorus.

This, of course, brings the larger number more or less intimately in contact with the liver and pancreas and it is to one or more of these organs that we find the adhesion has most frequently occurred. As would be expected, the next most common point for their formation is the transverse colon. Adhesions to the abdominal wall, mesentery, spleen and kidney are relatively uncommon.

The area of the stomach wall involved in the inflammatory process and the density of the resulting adhesion or adhesions are subject to wide variation. We may find a small surface only which has become so fixed, with a resulting conical prolongation of the stomach in that direction or the amount adherent may be as large as the hand. Indeed, in those rare cases of plastic perigastritis the entire surface of the organ may be involved in the inflammatory process and by general widespread adhesions which so compress its walls and diminish its size as to practically put it out of commission. The adhesions may be, and usually are, very dense or, in a few instances, easily separable. In cases where they have been present for a long time and the area of the serosa involved is small, they may have lengthened out into long peritoneal bands, much resembling those found after ventro-suspension of the uterus. In such cases the normal mobility of the stomach may have been restored and the annoying symptoms spontaneously disappear.

SYMPTOMS.

The symptoms due to perigastric adhesions are often very distressing and too frequently misinterpreted. In the milder cases, where the area of the stomach wall involved is small and the adhesions are not put much on the stretch, there may be present, but vague and indefinite, digestive symptoms marked by eructations of gas and even fluid, possibly pain, and a general feeling of gastric unrest.

The symptoms, however, vary in importance and intensity with the portion of the stomach wall involved in the adhesions. If they are at or near the pylorus and seriously interfere with stomach drainage, very extreme disturbances may result. These patients will present symptoms analogous to those accompanying pyloric stenosis, i. e., dilatation of the stomach, eructation of gas and fluid and vomiting, which, in milder cases, may occur irregularly, but in the more severe class soon follows the ingestion of food and may be so frequent and excessive as to seriously endanger life through malnutrition.

Pain is usually present in these cases and in those subject to frequent vomiting is often most intense and distressing. These patients present signs of digestive disturbances that are more or less constant and can not be relieved by ordinary methods of treatment, diet, regulation of mode of living, etc., and in those in whom the functional activity of the stomach is seriously impaired by the adhesions we find a progressive loss of weight, even extreme emaciation, and gradually increasing weakness, terminating in death from starvation and exhaustion.

DIAGNOSIS.

The diagnosis of perigastric adhesions, while presenting many difficulties, should be more frequently made, and in some cases is comparatively easy. Probably those cases will be more easily recognized where the adhesion has formed with the anterior abdominal wall. If the portion of the stomach wall involved is at a point remote from the pylorus the functional disturbance will be slight and marked chiefly by pain while the stomach digestion is at its height. Pressure over this region will elicit tenderness more or less sharply localized, which subsequent examinations will show to be constant at this point. In some patients with thin abdominal walls an area of thickening or induration may be made out.

When the pyloric end of the stomach participates in the adhesion the symptoms are usually very pronounced and may closely resemble those of pyloric stenosis. In other words, they are those resulting from dilatation of the stomach. In these patients the distress is most marked at a time corresponding to the last stage of gastric digestion. Pain appears at this time, which may soon disappear or may last for hours, and is found to exist in the right hypochondriac region. During the paroxysm the patient can bear no pressure at this point, and I have known instances where the clothing about the upper abdomen, corset, waist bands, etc., was habitually removed or loosened soon after eating to secure relief from pressure. Vomiting in these cases is an almost constant symptom and may become so constant as to actually threaten the sufferer's life, as is illustrated in Case 1. As time elapses and the dilatation of the stomach increases, owing to impaired drainage, the classical symptoms of that condition, which need not be described to you, become more and more pronounced until the condition of the sufferer is really pitiable. Palpation may in these also reveal, at the point of greatest tenderness, an area of induration. This induration may be marked and easily felt, as in Case 1, or it may be very indistinct or not demonstrable at all.

In those cases where the adhesion exists between the lesser curvature and the under surface of the left lobe of the liver the symptoms are described by Fenwick as follows:

> The chief result of the adhesion is to prevent the downward displacement and forward rotation of the stomach which normally follow the ingestion of food and to impede the contractions of its longitudinal and circular muscular fibers. This interference with the motorial functions of the organ is probably responsible for the sense of fulness and discomfort after meals, of which complaint is so often made, and for the flatulence and acidity which ensue from the use of those articles of diet that are difficult of solution or are prone to undergo fermentation.
>
> It is also to be observed that in many cases of this description the patient experiences a constant dragging pain in the epigastrium or right side of the chest, whenever he indulges in physical exertion after meals or suffers from anxiety or excite-

ment. The fact that rest in the recumbent posture or the application of an elastic belt to support the stomach affords relief appears to indicate that the pain is due to a mechanical strain on the adhesions caused by the weight of the organ or by violent contractions of its walls.

In Case 3 of the series here reported the patient, who was a carpet layer, noticed that the pain and discomfort was much augmented whenever he got down on his hands and knees to drive tacks in a carpet, and he had to give up this kind of work. The operation revealed the lesser curvature of the stomach adherent to the under surface of the left lobe of the liver, and it may readily be seen that the position above described would increase the dragging on the fixed point. I have since employed this posture as a routine measure in the examination of patients suspected of having perigastric adhesions and it has proven of considerable value as a diagnostic aid. If the adhesion is to the anterior abdominal wall, on the patient's assuming the hands and knees position the pain and sense of dragging will be relieved. If the adhesion exists between the stomach and the liver or pancreas these symptoms are much augmented.

An adhesion existing between the pylorus and the liver presents symptoms closely resembling those described when discussing the adhesion of the pyloric end of the stomach to the abdominal wall. Dilatation, with its distressing symptom complex, appears early and the functional disturbance steadily increases. In these cases the pain is a most variable symptom as to location. In Case 2 the patient complained of almost constant pain immediately under the right nipple. The pain may be most prominent immediately under the ribs on the right side of the chest, radiating from this locality to the right infrascapular region. Deep pressure over the right hypochondrium will usually reveal an area of much tenderness.

If, as frequently occurs, the pyloric end of the stomach is adherent to the gall bladder, interfering by traction on that viscus or its ducts with drainage, we may have added to the symptoms above mentioned those common to disturbance of gall-bladder function. Indeed, the signs may point more emphatically towards gall-bladder disease than to gastric disturbance, as in Case 4, when a diagnosis of cholecystitis having been made, the operation revealed an adhesion between the pylorus and the gall bladder due to a chronic gastric ulcer, the separation of which without opening the gall bladder was followed by complete subsidence of the troublesome symptoms.

In very thin patients it may be possible by palpation to feel a hardened area over the right lobe of the liver if it projects, as it frequently does in such cases, below the ribs.

Adhesions occurring between the stomach and colon owing to the mobility of the structures involved, may occasion few troublesome symptoms. If the pylorus should be concerned in the adhesion to the extent of interference with stomach drainage the usual signs of that condition would be manifest.

I have seen but one case of adhesion of the stomach to the colon, and in that instance the patient complained more of symptoms referable to the bowel than to the stomach. Operation in this instance, Case 6, revealed an adhesion between the greater curvature and the transverse colon which, when the stomach was empty, exercised sufficient traction on the colon to produce marked kinking.

The diagnosis of adhesions between the stomach and the pancreas presents many difficulties and may usually be only surmised by the existence of the general symptoms of such adhesions and the acceleration of pain and functional disturbance when the patient assumes the hands and knees or knee chest posture, which will increase the dragging as the stomach pulls on the fixed point.

In patients suspected of having perigastric adhesions the following considerations are of value:

1. The persistence of troublesome symptoms despite careful dietetic and hygienic regulations.
2. Previous history pointing to chronic ulcer of the stomach.
3. Evidence pointing to the occurrence of a localized peritonitis during the ulcerative period.
4. The fact that change of posture may greatly modify the pain. The hands and knees position increasing the distress in adhesions to the liver and pancreas and relieving that due to adhesion to the abdominal wall. The recumbent posture relieving that due to adhesion to the liver and pancreas and increasing it in adhesion to the abdominal wall.
5. Tight bandaging may ease the distressing symptoms, by relieving tension of the adherent surfaces.
6. The presence of a more or less fixed point of tenderness.
7. The detection of an area of increased resistance or induration.
8. The employment of artificial distension of the stomach for purposes of examination. This will in some cases reveal more or less distortion of the organ and may, in cases of adhesion of the liver, render the adherent area more accessible to palpation. For this purpose the method advocated by Mayo, who uses the stomach tube and the bulb of a Davidson syringe, inflating the stomach with air, will be found most satisfactory.
9. The symptoms and physical signs of gastric dilatation which, when due to perigastric adhesions, come on more suddenly and are accompanied by more pain than when occasioned by cicatrization.

The treatment of perigastric adhesions must be surgical if permanent relief is hoped for.

It is true that in many cases where the adherent area is large and the adhesions very dense, as is frequently the case when the liver and pancreas are involved, even surgery is unable to offer relief, but when the adhesion between the stomach and the liver is not too extensive it may be separated and the patient cured. Adhesions to the pancreas, though presenting many difficulties to operative interference, may, in some instances, be successfully separated. In those cases where the pylorus is adherent to the liver, gall bladder or abdominal wall, or where the adhesion exists between the stomach and the colon, brilliant results may be secured by surgical treatment.

As the condition of many of these patients is deplorable, an exploratory laparotomy should be made unless the symptoms point unmistakably to the existence of adhesions so extensive that their separation is out of the question. Operation in any of these cases will, of necessity, be often of an exploratory nature, as an exact diagnosis of the condition is usually impossible. If, when the abdomen is opened, the case is found to be inoperable, so far as the separation of the adhesions is concerned, some relief may be afforded by making a gastroenterostomy at the most dependent portion of the stomach. If it is decided that the adherent surfaces may be separated safely, this is done in the usual manner. If, during the separation of the adhesions, the wall of

the stomach or the adherent hollow viscus has been weakened it must be infolded with Lembert sutures. If the separation leaves large raw surfaces the danger of adhesions again forming may be lessened by covering these areas with omentum or Cargile membrane. If dilatation of the stomach is present a gastroenterostomy should be made whether the adhesions are divided or not. Frequently the operation may present many difficulties and again it may be extremely simple. It has, in my experience, proven, on the whole, a very satisfactory procedure to patient and surgeon alike, in evidence of which statement I submit brief histories of seven cases.

These are all cases of perigastric adhesions due to chronic ulcer.

I have not included in this report those cases so frequently encountered of adhesion between the stomach and an inflamed gall bladder, where the gall-bladder symptoms predominate, except in one instance where the diagnosis of gallstones was made and an adhesion between the stomach and an otherwise healthy gall bladder was found.

CASE 1.—E. J., a female, aged 32 years. She complained of very acute abdominal pain coming on soon after eating, which was frequently attended with vomiting. Coughing, sneezing, etc., were attended by the most excruciating pain. She had been constantly under treatment for one year, her ailment being diagnosed as dyspepsia, and was almost discouraged concerning her condition. Owing to the difficulty with which food was retained in the stomach, she was extremely emaciated. An examination of the abdomen revealed, on palpation, a tender indurated spot about one-half inch above and the same distance to the left of the umbilicus. This, together with the symptoms above enumerated, led to the diagnosis of an adhesion between the stomach and the abdominal wall, with, possibly, the formation of an abscess. The abdomen was opened and the adhesion existing between the anterior surface of the stomach and the abdominal wall was readily found.

This was separated without difficulty. No pus was present and the stomach wall at this point was found to be intact, the ulcer having apparently healed.

The ulcerated area, however, was folded in and retained by close suturing. The troublesome symptoms immediately disappeared and, fifteen months after operation, had not recurred. The patient rapidly regained her lost weight, and has since been in perfect health.

CASE 2.—Male, aged 24. Had been treated three years for gradually increasing symptoms of digestive disturbance. These at first consisted of an uncomfortable sense of fulness after eating, which persisted for some time. Soon he was troubled with eructation of gas and fluid and then with frequent vomiting, which would appear an hour after eating. No history pointing unmistakably to ulcer of the stomach, but at one time had been quite sick for two weeks with symptoms of peritonitis. At the present time all symptoms are much aggravated. Soon after taking food he has severe pain in left side which seems more intense under right nipple. Vomiting soon follows and after emptying the stomach the distress gradually subsides. Has lost much weight and is very much concerned as to his condition. Is ravenously hungry, yet fears to eat. Examination reveals a very tender spot just to the right of the median line under free edge of ribs. At this point an obscure sense of increased resistance is made out by deep palpation. Distension of the stomach with air (Mayo's method) brings on at once all the symptoms of pain and gastric distress and reveals the fact that the organ is much dilated, the lower border being two inches below the umbilicus.

The tender spot above referred to is now so sore that he can scarcely bear the slightest pressure on it. The history, together with the physical signs, led to the provisional diagnosis of adhesions existing between the pyloric end of the stomach and the liver and laparotomy was advised.

At the operation the pylorus was found firmly adherent to the right lobe of the liver, about one square inch of tissue being involved in the adhesion. Separation of the tissue was effected without difficulty and an anterior gastroenterostomy made at the most dependent part of the stomach.

The raw surface of the pylorus was covered with omentum. Relief from all troublesome symptoms was immediate and complete, the young man rapidly regaining his former weight and strength.

CASE 3.—Male, aged 37. History pointing to existence of gastric ulcer six years before. For the last few months he had pain after eating, eructations of gas and finally vomiting, which now occurs several times daily. Has lost weight and strength and had to abandon his vocation, that of carpet laying, as the hands and knees posture assumed by him at his work greatly increased the pain. Examination revealed a very tender area exactly in the median line and just at the end of the sternum. Says that he vomits a few minutes after taking food, frequently ejecting all that he has eaten. Is very despondent and threatens suicide unless relieved. On taking the hands and knees position he gives every evidence of suffering intense pain, which is immediately relieved, but not abolished, when he lies on his back. Says that at times if he will lie down immediately after eating that the distressing symptoms may be very much lessened in severity and that he may not vomit at all. He refers the pain to the entire upper abdomen, and says that at its height it extends across from side to side just under the free edge of the ribs.

An exploratory laparotomy revealed extensive adhesions between the lesser curvature of the stomach and the under surface of the left lobe of the liver, involving a surface about two inches in diameter. These adhesions were separated with great difficulty and several vessels required ligation.

The large raw surfaces remaining, both on the stomach and the liver, were covered with Cargile membrane. Shock was pronounced and only overcome by most vigorous measures. To my great gratification readhesion of the denuded surfaces did not take place and recovery was rapid and absolute.

CASE 4.—Young woman, aged 23. History of recurrent attacks of pain and soreness in upper abdomen for the last four years. Usually came on an hour or two after eating, and lasted from two or three hours to several days. Intervals between the attacks constantly growing shorter. Pain and sense of burning extending from right hypochondrium across to the left side and up to right shoulder blade. Vomiting occurred frequently, but not always present. Pressure of clothing could not be endured during the paroxysm. No history of hematemesis. Examination revealed exquisite tenderness over the gall bladder. The recurrent nature of the trouble, the character of the pain and the location of the tender area led to a diagnosis of gallstones.

Operation revealed an adhesion between the gall bladder and the pylorus, which, when separated, was seen to be due to a chronic gastric ulcer.

The gall bladder was apparently perfectly healthy, no stones could be felt in it or the ducts and the operation was concluded with the separation of the adhesion, and in folding the ulcerated area of the pylorus with Lembert sutures, as the stomach wall at this point appeared very thin.

Complete recovery rapidly ensued, thus adding unmistakable proof that the diagnosis of gall-bladder disease was a mistaken one.

CASE 5.—Married woman, aged 21. History of chronic ulcer of the stomach four years previously. Lately has been suffering extreme pain after eating, which was located in the right hypochondrium and extending to the right chest. Vomiting was of frequent occurrence, coming on soon after eating and she was rapidly losing weight. The entire upper abdomen seemed tender to pressure and she had worn no corset or tight skirts for months.

As long as she remained in the recumbent position the pain and vomiting was less severe and some days she would suffer very little. Exercise greatly aggravated all symptoms.

Operation revealed adhesions between the lesser curvature, just above the pylorus and the liver. These adhesions were very firm and extended over an area half as large as the hand. Their division was quite difficult, and several times I thought I had better give up the attempt. It was finally accomplished and the large raw surfaces covered with omentum and Cargile membrane. The patient stood the operation well and made a good operative recovery, but the troublesome symptoms rapidly recurred, evidently because of the reformation of the adhesions. Refusing further operative interference, the case passed from observation.

A blunder was committed in this case by persisting in separating these wide and dense adhesions and by omitting to make a gastroenterostomy. Confronted again by such conditions, I should perform a gastroenterostomy and let the adhesions alone.

CASE 6.—Married woman, aged 44. History pointing to ulcer of the stomach several years before. For the past three or four years has been troubled with vague and indefinite abdominal symptoms. These were apt to appear three or four hours after taking food and, to use her own description, "the right side would feel as if it were going to burst, while the left side felt flat." Pain extended at this time from the ribs to the groin on the right side and across the upper limits of the abdomen and was colicky in character. During the paroxysm distension of the abdomen was quite marked.

Vomiting might occur, but was usually absent. After a time varying from one to three hours, the symptoms would gradually subside, only to reappear following the next meal. Strict adherence to a liquid diet would often grant comparative freedom from the attacks for days at a time, but the taking of solids was certain to be followed by distress. Growing tired of the restricted diet, the patient asked if an operation would not give her relief.

An exploratory laparotomy disclosed an adhesion between the greater curvature of the stomach and the transverse colon which, when the stomach was empty, so drew on the latter as to produce a decided "kinking" of the gut which was sufficiently acute to interfere with the ready passage of its contents.

This adhesion was easily separated and the surfaces participating in it were covered with omentum. Recovery was uneventful and has remained complete.

CASE 7.—Male, aged 35. No definite history of ulcer. For several months had been suffering with symptoms of digestive disturbance manifested at first by eructations of gas and fluid and some abdominal tenderness. Soon began to vomit at irregular intervals and at the present time vomiting occurs several times daily and is accompanied by severe dragging pain over the upper abdomen. Is steadily losing weight and has had to entirely abandon business. Examination reveals much tenderness in right hypochondrium and an area of increased resistance above and to the right of the umbilicus. Distension of the stomach with air shows it to be much dilated and its movements may be seen through the thin abdominal wall.

All the symptoms are aggravated on his assuming the "hands and knees" position. Operation revealed adhesions between the pylorus and the liver, the pyloric end of the stomach being held firmly against the under surface of the liver while the stomach, enormously dilated, extended far below the umbilicus. The adhesion was separated with no especial difficulty and a gastroenterostomy was made. Much improvement followed the operation and, although restoration of function was not perfect, the patient having occasional attacks of pain, he had been able to resume active business.

A study of these cases would seem to warrant the following conclusions:

1. Perigastric adhesions as sequelæ of chronic ulcer of the stomach are not uncommon.

2. Their existence should be suspected and even positively diagnosed more frequently than has been the case.

3. In many such cases the relief afforded by the operation is absolute and may be secured in no other manner.

4. The operation is often an extremely simple one.

5. If the adhesion involves surfaces so extensive that its recurrence must be inevitable, relief may be best secured by a gastroenterostomy allowing the adhesions to remain.

6. The use of omental grafts or Cargile membrane is of value in preventing the readhesion of the separated surfaces.

THE SURGICAL CONCEPTION OF PYLORIC OBSTRUCTION.*

H. D. NILES, M.D.
SALT LAKE CITY.

Until within the past few years pyloric obstruction was regarded as due either to cancer so situated and so advanced as to render its removal impossible or excessively hazardous, or to a non-malignant pathology usually so obscure and so difficult to diagnose as to make any attempt at surgical interference uncertain and unjustifiable. Hence, surgeons were rarely encouraged to seriously consider operative procedures in stenosis of the pyloric orifice, and the victims of this condition were, with a few exceptions, permitted to die or to drift into chronic invalidism without a single rational effort being made to remove or correct the causative pathology.

It has been only within the past decade that the advances made in the surgery of the upper half of the abdomen and of the stomach in particular have inspired us with a new confidence, and given us a much clearer and more practical idea of this causative pathology, suggested a means of diagnosing it earlier, and indicated plainly the only measures we can reasonably rely on to prolong the lives of these patients or restore them to health.

Those who have kept in touch with these advances and thoughtfully compared their own clinical experience with that of the comparatively few workers in this field will, I believe, agree that the palliative, expectant treatment of the past must eventually give way to the more promising, prompt, rational measures suggested by the surgical conception of pyloric obstruction.

These experiences, as I interpret them, teach us that in at least 95 per cent. of all cases this obstruction is due either to cancer, ulcer or inflammatory adhesions, viz., to a pathology that at no time and under no conditions can be removed or corrected by any combination of medicinal or dietetic measures, but which in every instance at some stage of its progress affords an opportune time for removal or favorable modification by appropriate operative procedures.

We have learned, too, that the fears and apprehensions of excessive danger that so long retained our surgical endeavors in the upper half of the abdomen were greatly exaggerated and that the surgery of this part of the peritoneal cavity is not attended by unusual risks if we choose an opportune time for operating, while the morbid process is yet circumscribed and before the recuperative and reparative powers of the patient are exhausted. Indeed, it has been shown that the stomach will bear almost any kind of surgery with comparative safety to the patient if the operator is clean, the patient is in good condition, and the small intestines are not unnecessarily exposed or subjected to trauma.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

Instructed by recent operating-room observations, we have modified many of our old ideas of pathology that were formed in the dead house. Not a few of these changes have an important surgical bearing. For example, it has been found that cancer of the pylorus, although situated in a part of the lymphatic system, is singularly slow to extend to nearby glands and, consequently, often offers really a better opportunity for complete removal than cancer of the uterus or breast. (I think it must be very rare, however, to find malignant disease so far advanced as to demand a complete gastrectomy, except the glandular involvement be such as to contraindicate any extensive operation.)

We know that gastric ulcer is rarely single and, while one may be able to diagnose and, in the course of the operation, to locate the particular ulcer that produces the symptoms and, perhaps, be tempted to excise it, it is safer to conclude that there may be one, two or three smaller ulcers so obscure as to escape detection or prevent excision. For this reason gastroenterostomy should usually be the preferred surgical treatment for gastric ulcers.

The fact that nearly three-fourths of the present mortality and sufferings from pyloric cancer and ulcer are due to the occlusion of the pyloric orifice must be regarded as a strong plea for the surgeon to relieve the obstructive symptoms, even when it is apparent that the perfect removal of the pathology is impossible or impracticable.

It seems highly probable that neither cancer, ulcer nor inflammatory adhesions are, as a rule, separate and distinct entities in this pathology, but are not infrequently associated as successive factors in the morbid process that results in organic stricture of the pylorus. It is certainly fair to presume that cancer in this region, as in the lip, cervix, nipple and elsewhere, finds its preferred, if not its essential, starting point in cicatricial tissue; and here this cicatricial tissue is most likely to be found about bands of adhesions and the healing of ulcers.

It has been customary in the past to regard blood dyscrasia as the chief cause of gastric ulcer; but I am inclined to believe that this view has been accepted more on account of its being the only available one than because of its sound pathologic basis. To me it seems more consistent to assume that the etiologic factors of gastric ulcer are not different from those of ulcer in other parts of the body, except as modified by local conditions, the anatomic relations and the physiologic functions of the stomach, and that in most instances the necrotic process is preceded by a local circulatory disturbance or lowered vitality of the part, and that in the stomach such degenerative changes are hastened and intensified by the well-known digestive effects of the gastric juice on devitalized tissue. The local circulatory disturbance, the locus minoris resistentiæ, is provided here whenever omental attachments or peritoneal adhesions drag, bind or compress any part of the stomach in such a manner as to impair or abolish its physiologic mobility or interfere with its normal blood supply.

That such omental attachments and peritoneal adhesions often occur with any nearby or remote intraperitoneal inflammation will not be questioned by any operator familiar with gall-bladder, appendiceal and tubal inflammations, and is able to recall how almost invariably the omentum is involved and peritoneal adhesions formed.

Just what proportion of cancers are preceded by gastric ulcers and just what proportion of ulcers are caused by peritoneal bands of adhesions or omental attachments, no one as yet may presume to decide; but the fact that there is a very intimate relationship between these causative factors, with an inflammatory lesion at the one extreme and malignant disease at the other, should be kept in mind in taking the history, in making the differential diagnoses and in deciding on the treatment of each case.

I am quite sure that in a number of instances I have been able from the history to trace the successive steps of the pathologic process from an old inflammatory lesion (appendiceal, gall bladder or tubal) to a cancer of the pylorus or to a gastric ulcer; and within the past two months I have operated on two cases where such conclusions were suggested by the history and afterwards verified on the operating table. In one case, the obstruction was due to cicatricial contraction following an ulcer. Some years before, the patient had suffered from a well-marked attack of appendicitis lasting nine weeks. After a recurrent attack symptoms of pyloric obstruction appeared which in time became so aggravated as to lead him to seek surgical aid. The appendiceal mass, the omental attachment, the ulcer, etc., were demonstrated in the course of the operation. The history of the second case was typical of chronic ulcer with partial occlusion for a period of three years. Since November, 1902, the symptoms had rapidly become more serious and indicative of malignancy. The operation demonstrated the existence of a cancer of the pylorus freely movable and with but little glandular involvement. In this connection is it not logical to believe that the hemorrhage that so often occurs a number of days after gall-bladder operations may be due to ulceration from the above causes rather than from some obscure blood dyscrasia?

This explanation of the etiology of gastric ulcer, which I have submitted for your consideration, not only appears to harmonize with the general teachings of pathology, our operating-room findings and clinical experience, but is apparently supported by the results of a series of experiments on animals which I have recently undertaken, the details of which I hope to make the subject of a future paper.

This, in brief, is an outline of the pathology we may be facing whenever in our consulting room or at the bedside we are confronted by a patient suffering from any serious chronic disease of the stomach. And since the life and health of the possessors of this pathology depend as much on our promptness in recognizing it as on our judgment and skill in correcting it, the first and most important step toward the discharge of our duty to these patients is to hold ourselves prepared and on the alert to detect any early warning symptoms, and to spare no pains in our efforts to look beyond the symptoms to the morbid conditions that produce them.

Undoubtedly in the past we all have been inclined to permit the early stages of organic stricture of the pylorus to escape our observation. So long as an early and positive diagnosis served only to give an early and positive assurance of impending death or a life of invalidism, neither physicians nor patients were enthusiastic in securing convincing clinical evidence. The gathering of testimony that can only serve to deprive the patient of the last ray of hope seldom engages the best efforts of the medical profession.

But now as surgeons are beginning to demonstrate to physicians that we have good substantial grounds for our faith in the efficiency of surgery if employed early, we may reasonably hope to win that which at the present

time we most need—the confidence of the patient and the co-operation of his first counselor, the internist.

GENERAL RULES FOR DIAGNOSIS.

Time will not permit our dwelling on the symptomatology of pyloric obstruction, and I shall only venture to call your attention to a few general rules that I have found helpful to me in systematizing my examinations and in aiding me to reach an early decision.

First.—Suspect all cases of serious chronic disease of the stomach to be suffering from pyloric obstruction and subject each to a rigid investigation unless the symptoms are plainly due to other causes.

Second.—Since the history is always our earliest and often our most significant and sometimes our only clue, it should be reviewed and studied in every case with scrupulous care, due attention being given to the age and habits of the patient, date of commencement of present illness, location and character of pain, loss of weight, vomiting of blood or undigested food, the length of time after eating the vomiting and pain occur, attaching especial weight to any history of previous attacks of abdominal pain or distress that might indicate a local or general peritonitis.

Third.—Note the appearance of the patient, whether cachectic, jaundiced, anemic or well nourished.

Fourth.—Locate the point of greatest tenderness, determine presence or absence of tumor, note contour of abdomen, and, most important of all, mark out the boundaries of the stomach when distended, for marked dilatation is almost pathognomonic of obstruction.

Fifth.—Examination of the stomach contents after a test meal, including the test for hydrochloric acid, may furnish very significant but never positive evidence as to the malignancy or non-malignancy.

Sixth.—The presence of a tumor with or without glandular enlargements is strongly suggestive but not absolute proof of malignancy.

Seventh.—Remember that in spite of the most painstaking investigation a certain proportion of cases will remain obscure if we employ only the ordinary means of diagnosis. In such cases, when malignant disease is suspected, or without such suspicion, if the obstructive symptoms be marked, or the patient is greatly distressed, or his general health and strength are being surely undermined, we have no right to postpone an exploratory incision. For, at the hands of an experienced operator, this is a safe procedure and always gives positive information that is obtainable in no other way. (I am convinced that each year many lives are sacrificed because of our hesitancy or delay in employing this important diagnostic measure.) The fact that pyloric obstruction is always a surgical disease does not mean that all cases are to be invariably subjected to operation. The same conditions that demand an exploratory incision usually require the surgical treatment, for with such symptoms, if there be no organic stricture, there is likely to be angulation of the pylorus due to adhesions, or spasmodic stricture due to ulcer, and neither are susceptible to any non-surgical treatment.

OBJECTS OF SURGICAL TREATMENT.

The modern surgical treatment of pyloric obstruction includes two objects:

First.—The establishing of a communication between the stomach and the duodenum or the jejunum.

Second.—The removal of the causative pathology.

The first is imperative in every instance, and under favorable conditions is attended by a moderate risk. The second is always desirable, but not always advisable; for the character and extent of the pathology together with the condition of the patient may not justify us in attempting the second object.

Many ingenious operations have been proposed and practiced for the accomplishment of these two objects. I am impressed, however, that it is a mistake to enter the operating room with the mind over-burdened and perhaps confused with the details of many complicated procedures, and I am sure that better results would be obtained if we, especially those of us who operate infrequently, would strive to perfect our skill and dexterity in the use of a few of the simplest measures that promise to accomplish the objects desired.

SOURCES OF ERROR.

Four other sources of error deserve mention:

First.—Attempting to do too much. The welfare of the patient as well as the best interests of surgery sometimes contraindicate an ideal operation. After doing a gastroenterostomy, it may be even advisable under certain conditions to postpone for a time the removal or correction of the pathology.

Second.—Selecting an operation that requires too long a time for its performance. Very few of these patients reach the operating table in condition to bear a two or three hour operation.

Third.—Forgetting that the first part of the duodenum is but two or three inches long, and one-third of this is only partially covered with peritoneum and a portion of the remainder is usually excised with the disease. Hence, to attach the esophagus or greatly dilated stomach to such a short immovable duodenum might in many instances produce undue tension, which here would be a dangerous violation of a well-known surgical principle. Unquestionably when in doubt the safer course would be to do a gastrojejunostomy.

Fourth.—While in the latter operation it is immaterial whether the anterior or posterior wall of the stomach be entered, it is most essential that the lowest point of the stomach be selected, and that we especially guard against the possibility of any kinking of the jejunum by appropriate measures, even to the doing of a supplementary enteroanastomotic if necessary.

A gastroenterostomy with the Murphy button and a pylorectomy or partial excision of the stomach after the method described by Dr. W. J. Mayo, are procedures that appeal to me on account of their simplicity, ease of execution, short time required and general effectiveness, and in my limited experience they have proven satisfactory. Those more dextrous in intestinal suturing and general operative skill might do well to select other methods or perhaps do away with any mechanical device like the Murphy button.

What, at the present time, needs to engage our thoughtful attention more than the multiplying of operative procedures, is a study of these morbid processes in life as they are revealed to us on the operating table, that we may acquire a quicker perception of the symptoms they produce, and become better prepared to judge when and when not to attempt the removal or correction of the pathology. We need, too, perhaps most of all, to secure the intelligent co-operation of the internists, for until they appreciate that pyloric obstruction is a surgical condition and one that can not be always even diagnosed except by an exploratory incision, and that can never be hopefully treated except by operation—until the internists not only accept these views in theory, but adopt them in practice, the *dernier resort* operation will continue to be the rule and the timely operation the

exception, and the greatest benefits to be derived from pyloric surgery will not be realized.

REASONS FOR SURGICAL TREATMENT.

Our reasons for believing that the rational treatment of pyloric obstruction should be based exclusively on the surgical conception of the conditions, may be briefly summarized as follows:

First.—In 95 per cent. of all cases the pathology is an organic stricture of malignant or benign origin. It is certainly unreasonable to hope that stricture of this or any other part of the alimentary canal can be overcome except by mechanical means; and it is equally inconsistent to assume that pyloric cancer will yield to palliative treatment or to any other measures that are known to be of no value in the treatment of cancer in other parts of the body.

Second.—Pathology in this region can be reached, exposed and treated quite as conveniently as in other parts of the peritoneal cavity.

Third.—With an early diagnosis and the elimination of the "too late operation," pyloric surgery ought not to be attended by unusual risks, and should promise as good results as surgery done for equally grave conditions in other parts of the peritoneal cavity.

Fourth.—If the ordinary diagnostic measures are not sufficient to enable us to always reach a prompt decision, we know that here a small exploratory incision is a simple, safe procedure, which gives the patient but little discomfort and always affords the surgeon positive information as to the exact conditions.

Fifth.—When life and health are threatened by any intraperitoneal disease, benign or malignant, the timely removal or correction of the causative pathology by mechanical means is a rational procedure of proven value which we should always thoughtfully consider before we permit ourselves to regard the condition hopeless, or subject our patients to the chances of any empiric treatment.

The discussion on the papers of Drs. Knott, Niles and Ochsner will follow the paper of Dr. Ochsner in a subsequent issue.

THE SERUM DIAGNOSIS OF TUBERCULOSIS.

L. M. LOEB, M.D.
FELLOW IN PATHOLOGY.
CHICAGO.
(From the Pathological Laboratory of Rush Medical College.)

In numerous journals at short intervals beginning in April, 1898, the Lyonese observers, Arloing and Courmont, have announced the discovery of a means for the diagnosis of early tuberculosis more certain and less harmful than any hitherto known. This naturally attracted great attention at once, although on account of the many difficulties in experimentation and control of results relatively few repeated the original measures. Many means and ways for the diagnosis of incipient tuberculosis have been suggested of late years, but all of them are either harmful or insufficient. By "incipient" tuberculosis is meant that period of the disease in which Koch's bacillus can not be clinically detected in the lesion it produces or in the products thereof.

A few of the methods devised, with the objections to them, are the following:

1. The tuberculin test and its modifications by Koch and others. In this test, filtered or centrifugalized cultures of tubercle bacilli in glycerin bouillon are injected into the patient, and on the following day a febrile reaction occurs in case tuberculosis exists. Sometimes dead tubercle bacilli are used; at other times attempts are made to remove the bacilli from the living cultures by the centrifuge or filter. The chief objections to this method are:

a. It can not be used (according to Koch and his school) in cases in which the temperature rises above 100 F., because the febrile reaction is not sufficiently evident and because harmful results are frequent in these cases.

b. The reaction occurs in latent and practically healed cases, and is said by many, both in these as well as in other mild cases, frequently to cause exacerbations of the disease when not acutely active. It is said very often to change chronic benign forms to acute and virulent ones.

c. Instances have been reported of the production of localized and later of general tuberculosis following the inoculation with tuberculin. Even in the cases of Koch's latest product, "Neutuberculin,"[1] virulent living tubercle bacilli were found in the fluid by Thellung,[2] and rabbits and guinea-pigs were infected.

d. Not all cases react, in which, according to Koch, the use of tuberculin is indicated. It is important to note, too, that the reaction may occur in healed cases and thus may create the impression that the patient is suffering from tuberculosis when the disease in reality has been overcome.[3]

2. Still more unsatisfactory than the use of tuberculin are substitutes for it; of these there have been many. Originally human and animal blood sera were advocated; later artificial blood sera (in which only the inorganic elements of the blood were used), and finally a simple physiologic solution of sodium chlorid.[4]

All of these later methods have been proven less reliable than the use of tuberculin and are subject to all of the same criticisms except the actual introduction of tubercle bacilli. Although apparently harmless, they have also been accused of stimulating latent foci to activity and of causing chronic cases to pursue a more acute course. Their use has, therefore, been generally abandoned.

3. Absolutely harmless, but extremely limited in its field of application, is the injection of animals with supposedly tuberculous products. The method is, however, slow in results; it is not certain and can not always be employed, because necessary materials can not be obtained. In cases where mixed infections have occurred this means can not be used at all, as the animals may die before any evidence of tuberculosis manifests itself.

4. Sometimes tubercle bacilli undoubtedly occur in the sputum and other products, but can not be discovered on account of their rarity. In such cases, e. g., in suspected pulmonary, intestinal or genitourinary tuberculosis, the growth of tubercle bacilli from the products of the processes they induce would be an ideal method of diagnosis, if practicable. Many have devised means of hastening the development of the bacilli under such conditions. The technic, however, is extremely difficult, and the results, up to the present time, have been unsatisfactory. No attempt will be made here to enumerate the endless varieties of culture media suggested for this purpose. It will be sufficient to mention the most promising, that of Hesse,[5] endorsed by some,[6-7] condemned by others.[8]

The great difficulties associated with cultural methods can be appreciated only by one who has attempted to isolate tubercle bacilli from or even to find them in a mixed culture. I have carried out in twenty cases the measures recommended by Hesse and Jochmann. In

five the increase in numbers of tubercle bacilli was considerable, but the number in the original smear preparations was also great. The organisms never seem to multiply greatly unless a large number is used for the first implantation. Up to the present time but few if any cases have been reported in which the diagnosis has been made by the use of cultural methods; and my experience does not create confidence in its practicability.

5. Little can be said at present regarding the merits and demerits of "cytodiagnosis," i. e., the diagnosis of the nature of effusions by the determination of the cells therein contained. Though considerable emphasis has been laid on it by certain French clinicians, it has not been extensively used; many unsatisfactory results have been published and its field of usefulness must necessarily be limited to the study of exudates.*

THE AGGLUTINATION REACTION.

The method of Arloing and Courmont has been claimed to be fully as satisfactory as any of the above and free from any dangers. Nor has its application any limitations—effusions of blood can be used with equal readiness and practically the same results. The only things required for its execution are proper homogeneous cultures of tubercle bacilli and their mixture with blood or other serum, as by the Gruber-Widal method for the diagnosis of typhoid fever.

TECHNIC.[9]

a. Preparation of Cultures.—In the first place, cultures of human tubercle bacilli are grown on potatoes. These potatoes should be of such a character that they do not turn brown on boiling and should readily give up starch granules from the cut surface. They are boiled, put into potato tubes, in the bulb of which is placed enough of a 6 per cent. solution of glycerin in water to touch the lower edge of the potato. They are then put in the autoclave at 111 to 115 C. for the shortest possible time required to render them sterile (about 45 minutes). "Inoculate one of the surfaces of the potato and put the tube in an incubator at 38 to 39 and inclining it at such an angle that the inoculated surface points up and the glycerized water bathes the lower extremity of the slice." Every other day the tube should be tipped so that the colonies are gently immersed in the fluid. As a result of this procedure a luxuriant growth is obtained, which differs from the ordinary growth in being soft and easily completely broken up by stirring in a small mortar or touching with a glass rod. From these growths subcultures are made into the bouillon which is used for diagnosis. To give the best results, this bouillon should be made from beef or veal with 1 per cent. of peptone and 6 per cent. of glycerin. In these proportions the bouillon, while not producing the most luxuriant cultures, furnishes those with the greatest agglutinability.

The object of Arloing and Courmont in devising this elaborate and difficult technic, was to obtain cultures in which the tubercle bacilli were distinct, unclumped and motile. The potatoes are used in the designated way to accustom the organism to liquid surroundings, as well as to obtain soft and easily separable growths. The bacilli when transplanted are preserved distinct, while multiplying in the bouillon, by daily agitation. In this manner we obtain "homogeneous" cultures. An "homogeneous" culture is one which is more or less cloudy or turbid, contains very little or no sediment and in which the bacilli are found isolated, or at any rate not in large clumps. Usually the presence of some small clumps can not be avoided. It is advised to use for the bouillon subcultures cylindrical, i. e., flat-bottomed test tubes, because in these the cultures can be more efficiently agitated.

As a result of this technic Arloing[9] describes the organism as motile, isolated, straight or slightly curved, often granular, and as a little larger than the bacilli in tissues and as acid proof. Some observers have stated that the degree of motility is equal to that of the *Bacillus typhosus,* but usually the motion is said to be slow, but distinctly progressive. However strange the motility of the tubercle bacillus may seem, some who have worked independently of the Lyon school and with other culture media have made similar observations.[10] Branching forms have been described a few times as a consequence of this method of growth. In my experience they have been especially frequent.

Buard and others[11] state that it is preferable to transfer growths from bouillon to bouillon. After a year of such transplantation Buard believes to have found that (*a*) the cultures grow more rapidly; (*b*) the bacilli are more motile, i. e., the motility is proportionate to the rapidity of growth; (*c*) clumps are less numerous, and (*d*) the bacilli are longer and more slender. The same author prefers the use of carrots to that of potatoes for the initial growth. The method of transference from bouillon to bouillon has proven unsatisfactory in my hands, inasmuch as it has never been possible to grow many bacilli beyond the fourth generation. Nor has it at any time been possible to find more than an active Brownian motion in the hanging-drop preparation. Koch[2] at one time expressed doubts as to the identity of the bacillus described by Arloing and Courmont with his.

b. Use and Preservation of the Cultures.—The bouillon culture should be used for the reaction between the ninth and the fifteenth day of its growth, preferably not later than the 12th. Previous to this it should be shaken thoroughly at least once, better twice, daily. Before the eighth day not enough bacilli are present. After the fifteenth day agglutination with serum is lessened, while on the other hand there is some danger of autoagglutination, i. e., clumping occurs in the culture without the addition of any substance and in spite of most careful agitation.* To preserve the agglutinative power intact, several methods have been devised and are necessary, because the amount of labor required for a single reaction would be enormous if the fluid could not be preserved "homogeneous" for some time. After a culture has proven efficient by testing with a known serum, it may be kept in a good condition for two weeks by any of the following methods: 1. One part formalin to 400 to 600 culture. 2. Carbolic acid in the same proportion. 3. Culture placed in a cold, dark place, as in an icebox. Preferably method 1 or 2 should be combined with 3.[12] More or less precipitation always occurs on standing, and only the supernatant fluid should be used for the tests.

* Cytodiagnosis has been extensively studied in France by Widal, Sicard, Ravaut and many others. A predominance of lymphocytes in the exudate and an absence of endothelial cells "is the formula for an idiopathic, i. e., tuberculous pleurisy." The new membrane is said to prevent the desquamation of endothelial cells. In other forms of inflammation of serous membranes, endothelial cells and polymorphonocular leucocytes predominate; lymphocytes are relatively few (Widal and Ravaut: Gaz. des Hôpitaux, vol. xxii, No. 30). Arloing and Courmont and their school have used this method as one of their controls in the determination of results and find it valuable.

* This corresponds in some respects to the occurrence of autoagglutination in older typhoid cultures as described by Savage, Jour. of Path. and Bact., 1901, vol. vii, pp. 388-399.

c. The Reaction.—To obtain the reaction a perfectly clear serum—blood serum, or inflammatory or simple effusion—is mixed with the culture fluid in varying proportions from 1:3 to 1:50. Preferably a 2 c.cm. test tube is used in which 1, 2, 3, or 4 drops of serum are mixed with bouillon in amounts sufficient to produce the proper ratios. The tubes are inclined at an angle of 45 degrees and allowed to stand in an incubator for from 2 to 6 hours.[13] They are examined at intervals, both with the unaided eye and under the microscope. To the unaided eye the fluid, providing the reaction be positive, should appear less turbid than the control, while a flocculent precipitate appears on the bottom or sides of the tube. The tubes should be examined in a bright light against a dark background.[14] Examined in the hanging-drop preparation the bacilli should appear clumped; not so in the control. Many and varying opinions have been expressed as to the relative merits of the microscopic and macroscopic tests, some holding the one,[14] some the other[15] of prime importance. Both should be used; in the large majority of cases the results are the same; in a few differences are found.

Several difficulties and sources of error present themselves with especial frequency in judging whether or not a positive reaction has taken place. The culture may not have been sufficiently turbid on account of the deficient growth of the bacteria to enable one to decide very readily whether it has cleared to a marked degree in the given time. The reaction can not compare in its sharpness, as a rule, to that seen in the Gruber-Widal reaction. In the examination of the sediment larger clumps must be distinguished from the light flocculent precipitate produced by the reaction, for often, in spite of the most painstaking technic, larger masses of tubercle bacilli may appear in the fluid. Moreover, foreign bodies, such as cotton and dust, may occur. When perfectly fresh serous fluids are used, especially inflammatory exudates of high specific gravity, the precipitation of some fibrin is of very frequent occurrence and must not be confused with clumps of tubercle bacilli. In the microscopic examination, similar precautions must be taken. Sometimes it is impossible to say whether one sees bacilli or extraneous matter. In such cases it is advisable to fix and stain the hanging-drop. By this procedure one is often surprised at finding very few bacilli in a drop, which, in the unstained specimen, appeared to be loaded with them.

MODIFICATIONS IN THE TECHNIC.

The most important modifications in the technic as originally suggested are those of E. Romberg[16] and Robert Koch. Romberg's medium is prepared by the action of 1.5 per cent. NaOH on dried and macerated tubercle bacilli, which are then neutralized by acetic acid. Finally an emulsion is made, which is used for the reaction. This becomes clear when mixed with a serum in the course of 40 to 44 hours. The changes occurring in the second half of the second day are of no diagnostic significance. The microscopic test is of less value than the macroscopic. In the hanging drop small bodies appear in active motion for hours unless an agglutinating serum is added.

Koch's method is essentially the same. Any culture derived from a liquid medium is dried on filter paper, rubbed up in a mortar and diluted 100 times with n/50 NaOH. It is then centrifugalized and the precipitate removed, rendered less alkaline by weak hydrochloric acid and finally diluted with 0.5 per cent. aqueous carbolic acid and 0.85 per cent. NaCl until the original culture has been diluted 3,000 times. The fluid so prepared, it is claimed, is more delicate in its reactions, more easily made and keeps better than the Arloing and Courmont. It is an opalescent liquid and becomes perfectly clear with a positive reaction. Koch recommends cupping as a means of obtaining serum; Arloing and Courmont prefer removal of blood by venipuncture and separation of the corpuscles by centrifugation or clotting.

Romberg's method has been little used; that of Koch seems to have no special advantages[17] and offers greater opportunities for infection of the worker.

RESULTS.

In the newborn there is no reaction in any dilution, nor is there in the very young who have been free from disease.[11,18] The serum of guinea-pigs, rabbits and calves in good health never reacts in as high proportion as one part of serum to five of culture. That of dogs, goats and oxen normally reacts, in this dilution, often higher.[19] From these observations it has been concluded that animals, which are resistant to tuberculosis, acquire sera exhibiting the highest agglutinative powers. The serum of healthy adults may or may not cause agglutination; also that of clinically non-tuberculous patients. In most of these on whom autopsies have been performed latent or healed tuberculous foci have been detected, often, however, only after most painstaking search. The best reactions occur in those cases which are most resistant. The acute cases and those in whom marked cachexia has developed frequently fail to react. Rothamel,[20] whose especial study was the sero-reaction in twenty advanced cases of tuberculosis, obtained no reaction whatever in 30 per cent. of the cases, and in 25 per cent. only at 1:5, which is not better than that frequently obtained in the non-tuberculous subject. This agrees quite closely with the results of Arloing and Courmont and others.[21] On the other hand, those cases in which the symptoms are mild or nil and which progress to rapid recovery, agglutinate the homogeneous cultures in high ratios, i. e., at 1:15-50. The agglutinative power increases with the tendency to recover. The cases which succumb without a struggle do not produce an antitoxin (?) and their serum has no agglutinative properties. Courmont compares this phenomenon to that observed by Tchistowitch and Epiphanoff[22] and himself[23] in cases of typhoid fever. Courmont found that in this disease the Gruber-Widal reaction in mild or moderate cases occurred on the average in dilutions of 1:90. The maximum agglutinative power was never simultaneous with the maximum of symptoms, but almost always appeared at the time of defervescence or even in the post-febrile period. On the other hand, in the more severe cases, the dilution could not, as a rule, be so high; the maximum fluctuated from time to time and became decidedly less just before death. This author even believed that he was justified in drawing some conclusions from these observations regarding the prognosis and the probability of relapse. He believes that the agglutinating reaction in typhoid fever is inversely proportionate to the severity of the case.

On the whole, the reactions of sera derived from effusions into the serous cavities prove nearly as satisfactory for tests as blood serum.[24] Non-tuberculous effusions in tuberculous patients are said not to develop agglutinins, while those originating from tuberculous processes possess as great or even greater powers than the blood serum of the same patient. The results of Romber,[16,18] Donath,[25] Kazarinoff,[26] Mongour and

Buard[11,15,27] Dubard,[28] Rothamel,[20] Clement,[29] Rumpf and Guinard,[17] Ivanov,[30] Hawthorn[14] and Bendix[31] agree in all essentials with those of Arloing and Courmont, although not all draw the same conclusions as to the value of the test for diagnostic purposes. It will, therefore, be sufficient to illustrate the nature of the results by a single series of cases reported by Arloing and Courmont. Results under 1:5 or occurring after the allotted time are considered negative.

362 CASES IN WHICH BLOOD SERUM WAS EMPLOYED.

	Pos.	Neg.
a. Clinically tuberculous (191)	168 (87.9%)	23 (12.1%)
b. Clinically non-tuberculous (130)	45 (34.6%)	85 (65.4%)
c. Healthy individuals (41)	11 (26.8%)	30 (73.2%)

CASES IN WHICH SEROUS EFFUSIONS WERE USED.

	Pos.	Neg.
a. Tuberc. pleuritic effusions (31)	23	8
b. Pleur. of doubtful origin (16)	13	3
c. Hydrothorax (non-tuberc.) (11)	0	11
d. Tuberculous ascites (13)	11	2
e. Non-tuberc. ascites (20)	0	20
f. Tubercul. meningitis	..	..

In children all negative. In adults two positive.

Many hundreds of cases have been reported by various observers, and most of them have tables of a nature similar to the above. It may be of interest to compare with these the results of the use of tuberculin as reported by Max Beck. His extensive work with patients of all varieties should give us some notion of the prevalence of undiagnosed tuberculosis. Altogether 2,508 persons were given tuberculin. Of these 1,525, or 60.9 per cent. reacted positively. Of these, however, only 371 gave any clinical evidence of tuberculosis, while the rest, 1,154, or 46 per cent. of all tested, clinically were free. Judging from the results of extensive comparisons between the reactions to tuberculin and postmortem examinations by E. France (quoted by Koch) and numerous veterinarians, little doubt exists that most or all of this 46 per cent. had latent or healed tuberculosis. This figure is not far from that obtained by most of those who have used the serum reaction for the clinically unaffected. (Romberg's reactions for the "non-tuberculous" were 62.7 per cent.) These facts give us a reason why so many apparently normal adults respond to the serum test.

Romberg calls attention to the work of Nägeli,[32] whose study of 500 bodies with a view to discovering tuberculous lesions gives us material for comparison. A single series of cases is here cited:

Age.	Active Latent. Per Cent.	Doubtful. Per Cent.	Inactive Latent. Per Cent.	Total. Per Cent.
18-30	62.0	5.0	33.0	67.0
30-40	42.0	16.0	42.0	58.0
40-50	29.0	18.0	53.0	47.0
50-60	25.0	17.5	57.5	42.5
60-70	27.0	17.0	56.0	44.0
70-80	24.0	21.0	55.0	45.0

The total is made up of those cases which are latent but not healed and those which are doubtful, i. e., those in which it is not possible to judge from the anatomical findings whether or not the process had terminated. Romberg believes that all of these cases react to the serum test. (The above table does not include any but latent cases.) Evidently not all tuberculous individuals react, inasmuch as Nägeli finds some evidence of tuberculosis in practically every adult body (98 per cent.). In children, on the contrary, Nägeli found in 88 necropsies only 15 with tuberculous lesions; most of these were over 14 years of age. In 11 cases this disease caused death. The rarity of a positive serum reaction in a child, therefore, may be interpreted as being due to the scarcity of benign forms of tuberculosis in these years.

A very interesting and important observation in regard to the agglutination of tubercle bacilli was made by Arloing.[23] He found that injection of certain chemicals (other than tuberculin) produced in animals agglutinating sera. Such chemicals are eucalyptol, guaiacol, creosote and mercuric chlorid. The serum reaction produced by these is not so powerful as that produced by the injection of tuberculin, but agglutination occurs in the average dilution of 1:10. Dubard[34] obtained similar results. Not only did the latter find that sera produce precipitation of bacilli, but that even aqueous extracts of tuberculous tissue, of healthy livers and solutions of various chemicals cause sedimentation.[35]

EFFECTS OF AGGLUTINATION ON THE BACILLI.

These have been studied at length by F. Arloing.[36] He sums up the changes in the bacilli produced by the agglutination as follows:

1. There is no change in the morphology or staining characteristics.

2. Contact with agglutinating sera for 5, 10 or 24 hours does not produce bacteriolysis or bacterial death.

3. On the contrary, after 5 to 10 hours of contact the growth in liquid media is considerably improved.

In addition, the motility is found to be decreased or absent and the bacilli lie in clumps of various dimensions.

These statements are not in accord with those of Courmont,[21c,g] who states specifically that tuberculous effusions are decidedly bactericidal. For my part, I have been unable to obtain growths from such bacilli, but experimental inoculation into animals invariably produced tuberculosis. It is of considerable significance that human tubercle bacilli are agglutinated by the serum of all varieties of animal tuberculosis. The converse is no less true. Not only that, but the same effects have been noted by Koch[2] in similar preparations of many other acid-proof bacilli, which are non-pathogenic for man and other mammalia, such as the butter-bacillus (Rabinowitch), the grass bacilli of Korn, the timothy bacillus, the bacillus of fish tuberculosis, etc.

PERSONAL OBSERVATIONS.

My own experiments are limited to 52 cases, in some of which the tests were repeated from time to time, and in which bouillon suspensions of various ages were used.* As a rule, if the suspension was not more than 18 days old no difference in the results was noted. The reactions did not vary after some time had elapsed except in a few instances, which shall be noted below. In 16 cases the blood serum was employed, in 36 pathologic effusions into serous cavities. The tests were as carefully controlled as possible by clinical data, in some cases by tuberculin and in many by injections of effusions into guinea-pigs. In every case a control tube was used, which was compared with those in which sera were being tested. Dilutions varying from 1:15 to 1:20 were used in almost every experiment. In the following tables the positive reactions are given in their greatest, the negative in the least dilution tested.

In brief, the following results were obtained:

BLOOD SERA (16).

Obtained from children suffering from scarlet fever, but otherwise healthy. Cases 4, 5, 6, 8 (14), 12, 16. All negative at 4:15.

Adults suffering from scarlet fever, otherwise apparently healthy. Case 11.—Young man; neg. at 4:15. Case 10.—Positive at 1:15. Case 15.—Positive at 1:20.

In none of these cases was there any clinical tuberculosis.

* The original culture of tubercle bacilli used in these experiments was kindly sent to the laboratory of Rush Medical College by Dr. Trudeau of Saranac Lake, N. Y. The culture was isolated directly from the sputum of a case of acute phthisis by Hesse's method. It had been grown on artificial media for about six months and had never been passed through animals.

Blood from case of puerperal hemorrhage. Case 29.—Neg. at 1:5.
Man. Case 22.—Healthy; neg. at 1:5.
Man. Case 47.—Healthy; neg. at 4:15.
Dog. Case 20.—Healthy; pos. at 1:5.
Case of organic heart disease. Case 26.—Neg. at 4:15. Clinically and at autopsy no active tuberculosis.
Typhoid fever and miliary tuberculosis in young negress; positive Gruber-Widal reaction. Fever two months. Progressive lung changes. Death three months from onset. Pos. at 1:15.
Miliary tuberculosis (autopsy). Case 21.—Positive feebly at 1:10 two to three weeks before death.

PLEURAL EFFUSIONS.

1. Probably or positively tuberculous.
Case 1.—Pos. at 1:10 in 2 hours.
Case 2.—Pos. at 1:10 in 4 hours.
Pos. at 1:20 in 16 hours.
Case 27.—Pos. at 2:15 in 12 hours.
Inoculated g.-pig tuberculous.
Case 32.—Pos. at 1:5 in 12 hours. Greater dilutions negative. Well nourished; one previous attack.
Case 51.—Pos. at 2:15.
Case 38.—Pos. at 2:15 up to two days before death; tuberculosis at autopsy.
Case 31.—Neg. at 1:5. Repeated attacks; emaciation, etc. No bacilli in sputum.
Case 53.—Neg. at 4:15.
Case 55.—Neg. at 3:15.
2. Non-tuberculous.
Case 3.—Nephritis. Neg. in 10 hours.
Case 18.—Post-pneumonic empyema. Neg. at 1:5. Pus was allowed to settle for three days; then formalinized at 1:20 and allowed to stand one day.
Case 24.—Organic heart disease. Neg.
Case 28.—Organic heart disease. Neg.
Case 46.—Acute pleurisy following exposure; first attack. Neg. at 1:5.
Case 33.—Empyema pus, post-pneumonic. Pos. at 2:15 in 12 hours; subjected to same conditions as Case 18.
Case 48.—Pyemia. Pos. at 1:15. General inflammatory conditions: pericordium, pleura, etc. *Staphyl. pyog. aureus* isolated from blood.

ABDOMINAL EFFUSIONS.

1. Tuberculous.
Case 36 (42).—Good response to tuberculin. Pos. at 1:7½.
Case 37 (44).—Pos. at 2:15, 2 months before death. Pos. at 1:5, 2 weeks before death. No good response to tuberculin. Pig died in 45 days of miliary tuberculosis.
Case 40.—Neg. at 1:5. Hyperplastic tuberculosis of lymph glands, tuberculous peritonitis, etc. Necropsy. Fluid obtained on day before death.
2. Non-tuberculous.
Case 9 (13).—Cirrhosis. Neg. at 1:5; second test feebly pos. at 1:5.
Case 23.—Cirrhosis. Neg. at 3:15. (? at 4:15.)
Case 54.—Nephritis. Neg. at 1:5.
Case 39.—Splenic anemia. Neg. at 1:5.
Case 56. Probable cirrhosis. Neg. at 1:5.
Case 34.—Typical cirrhosis. Pos. at 1:15.
Case 50.—Cirrhosis. Pos. at 1:7½ macroscop. Neg. microscopically.
Case 49.—Cirrhosis. Pos. at 1:5; neg. at 1:7½.

KNEE-JOINT EFFUSIONS.

1. Tuberculous.
Case 7.—Pos. at 1:20 in 4 hours.
Case 30.—Pos. at 1:5; Neg. at 1:7½.
2. Non-tuberculous.
Case 19.—Gonorrheal arthritis. Neg. at 1:5.
Case 43 (46b).—Multiple arthritis, probably rheumatic. Neg. at 1:5.

MENINGEAL FLUIDS (ALL FROM ADULTS).

1. Tuberculous.
Case 17.—Pos. at 1:5. Confirmed by necropsy.
Case 41.—Pos. at 1:15 on day before death. Diagnosis confirmed by autopsy.
2. Non-tuberculous.
Case 45.—Typhoid. Pos. at 1:5. No active or latent tuberculosis found at necropsy.

HYDROCELE FLUIDS.

1. Non-tuberculous.
Case 25.—Neg. at 1:5. No reaction in guinea-pig after injection of 15 cmm.
Case 36.—Neg. Careful search made for tubercles in excised sac.

Summing up these experiments we ascertain the following:

BLOOD SERA.

	Pos.	Neg.	Pos.	Neg.
Non-tuberculous	2	12	15%	85%
Tuberculous	2	..	100	..

PATHOLOGIC EFFUSIONS.

	Pos.	Neg.	Pos.	Neg.
Non-tuberculous	6	14	30%	70%
Tuberculous	12	4	73%	27%

It must be born in mind that except in cases on which autopsies are performed it is impossible to say that latent tuberculosis is not present. The number of tests here employed is much too small to be in itself of any value, but the results agree quite closely with those of the majority of workers.

Very different are the statistics of some others, notably Beck and Rabinowitch,[37] C. Fränkel,[38] Koch,[2] de Grazia[39] and others.[34] The work of Beck and Rabinowitch[40] is of especial value on account of comparative tests with tuberculin and the extensive postmortem examination of tested cattle. Although it has been claimed by Arloing and Courmont that there must have been faults in the technic, it is not easy to understand how such gross errors were made. The cultures which they used for their experiments are stated to be identical with those sent to them by Arloing and Courmont for comparative tests. They were unable to discover motility in either their own cultures or in those of the French observers. The following are, in brief, their results:

1. In 19 healthy cattle, 12 were pos. at 1:5.
2. In 4 sick non-tuberculous, 3 were pos.
3. In 17 cattle with incipient tbs., 6 were neg. at 1:5.
4. In 22 moderately advanced tbs., 2 were neg.; 6 were pos. only at 1:5.
5. In 16 advanced cases, 1 was neg.; 4 reacted only at 1:5.
6. In cows inoculated with tuberculosis: 3 were neg.; 5 were pos. at 1:5 only.

In considering these figures it must be remembered that the normal bovine serum has been found to react at 1:5 and that for this reason a reaction at 1:5 should not be considered positive.

In 73 humans the same variations appeared:

1. Tuberculous (phthisis).
Incipient (17), 6 pos.
Advanced (16), 4 pos.
Doubtful (clinically), but reacting to tuberculin, of 5, 1 pos. at 1:5.
Lupus (2), 1 pos.
Nephritis and healed tbs. (1), 1 pos.
Meningitis (1), 0 pos.
2. Non-tuberculous (31).
10 pos.; of these some were tested with tuberculin with neg. results.

The same observers find that the sera of some animals, e. g., dog, ass and goat, agglutinate the test fluid with great regularity.* Koch, in whose laboratory the above results were obtained, and Fränkel confirm this work.

CAUSES OF REACTION.

It is repeatedly asserted by Arloing and Courmont that the cause of the agglutination of tubercle bacilli lies in the formation of an antitoxin which circulates in the blood and appears in the body fluids elsewhere. Comparison is made frequently to the antitoxin produced in the course of typhoid fever. In mild cases of tuberculosis, which go on to a rapid recovery, this antitoxin is said to be produced in large amounts, while in those which are rapidly fatal it is assumed that the time is insufficient for its production. No rational explanation is offered for its disappearance before death in cases, which extend over a long period and finally produce death chiefly from cachexia. It has always been the contention of Koch and his school that the limitation of tuberculous processes is solely a result of the local reactions of the tissue and entirely independent of any systemic changes. There is no evidence in the large majority of cases that the bacilli ever enter the blood stream. The very exhaustive work of Trudeau and Baldwin[41] in attempting to obtain an antitoxin from animals injected with both virulent and non-virulent cultures of tubercle bacilli gave entirely negative results. Numerous other investigators have arrived at the same conclusion, viz., that in tuberculosis no antitoxin is formed. Recent

* Ficker[40] explains the wide discrepancies between the results of Arloing and Courmont and those of Beck and Rabinowitch by the age of the cultures used. A. and C. usually employed growths from 9 to 12 days old, B. and R. cultures 14 days old. Ficker points out that inasmuch as the agglutinating material is used up in the reaction, testing fluids very rich in bacilli are not necessarily completely cleared. Therefore sera of slight agglutinating power may not produce reactions in cases in which very turbid homogeneous cultures are employed. He also finds that the number of bacilli in a culture after 14 days is much greater than after a development of only 10 days.

investigations show, however, that agglutinins and antitoxins may be formed independently of one another.

There is good foundation for believing that the blood serum is so altered at times that precipitation of the tubercle bacillus occurs when it is added to liquid cultures of this organism. Whether or not this property is a specific result of the action of the tubercle bacillus is doubtful. According to Arloing agglutination may be produced by the blood of animals which have been injected with certain chemicals. It also may occur to a considerable extent with serums of many normal animals. On the other hand, similarly prepared cultures of practically all of the known acid-proof bacilli react in the same way to agglutinating sera. But it is extremely doubtful whether these organisms have anything in common beyond their reaction to acids and possibly the presence in them of certain fats.[42] The foregoing considerations warrant the conclusion that the agglutination of tubercle bacilli and the presence of tuberculosis are not necessarily related. Changes which are too slight to be detected by our present methods of chemical analysis may occur in the blood after removal from the body, which render it more easily capable of causing the precipitation of bacilli.* A fluid mixture which spoils even in the dark and in the cold in two weeks after preparation, must be so delicate that even very slight changes in the blood sera might affect it. Many organisms are clumped by ordinary blood in the lowest dilution (1:5) used in this test. In brief, we obtain the reaction in cases when tuberculosis plays no rôle; whether or not tuberculosis produces the agglutinating sera in many cases, remains an open question.

A casual glance is sufficient to show the many stumbling blocks in the way of arriving at a decision of the significance of the reactions. The presence of agglutinating serum in 30 per cent. (Arloing and Courmont) to 62.7 per cent. (Romberg) of those who never have any clinical evidence of tuberculosis must always be confusing to one who attempts by this method to determine the nature of the disease in question. A negative result may mean: entire absence of tuberculous lesions, healed tuberculosis, acute tuberculosis or tuberculous cachexia; and (in the judgment of those who have had the most favorable results) even some of the relatively mild cases do not respond. A positive agglutinative reaction may represent a normal adult individual (according to Nägeli a normal adult individual has some tuberculosis); it may stand for a highly resistant organism struggling against the disease, or it may represent the 70 per cent. of advanced or acute cases of tuberculosis in which the reaction occurs. It is especially in the acute virulent forms that we stand in need of a rapid and efficient means of diagnosis, and it is in these forms that the sero-reaction is, even in the eyes of its most ardent advocates, least trustworthy.

Practically only the newborn never have elements in their sera under normal conditions which cause the precipitation of tubercle bacilli. Romberg concludes from this that this measure should be especially valuable in the young. But, in the young, tuberculosis usually assumes an acute form; hence also under these conditions the serum reaction may leave us in the lurch.

CONCLUSIONS.

1. Under various conditions animal sera agglutinate homogeneous cultures of human tubercle bacilli in liquid media.

2. Such sera may be obtained from the human or animal body without the presence in it of the bacillus tuberculosis.

3. It is doubtful whether the agglutinative powers are ever due to the specific action of the bacillus tuberculosis.

4. The presence or absence in the adult human blood serum of agglutinative properties for tubercle bacilli is no decisive evidence of the presence or absence of tuberculous lesions in the body.

It gives me great pleasure to thank Professor Hektoen for his assistance and encouragement in this work.

* Cfr. A. Fischer: Z. f. Hyg., 1900, vol. xxxv, pp. 1-58. Die Empfindlichkeit der Bakterienzelle und das bakterielde Serum.

BIBLIOGRAPHY.

1. Deutsche med. Wochenschrift, 1901, vol. xxvii, No. 48.
2. Experimenteller Beitrag zur Frage der Agglutination der Tuberkel bacillen und zur behandlung mit Neutuberkulin Koch. Centralbl. f. Bakt., 1902, vol. xxxii, No. 1.
3. For careful statistics of his own on the use of tuberculin and a short résumé of the work of others, see M. Beck, Deutsche med. Wochenschrift, 1899, vol. xxv, No. 9, p. 137.
4. Several such methods may be found advocated in papers read before the Congress for Tuberculosis at Paris in 1898.
5. Zeitsch. f. Hyg. u. Infekt., 1901, vol. xxxi, p. 502-6. Centralbl. f. Bakt., vol. xxviii, 8-9.
6. Fraenkel, C.: Hygienische Rundschau, 1900, vol. x, No. 13, p. 617-630.
7. Jochmann: Muench. med. Wochenschr., 1900, vol. xlvii, No. 22, p. 782.
8. Hilarius Menzi: Zeitschr. f. Hyg., 1902, vol. xxxix, No. 3, p. 407. Martin Ficker: C. f. Bakt., 1900, vol. xxvii, 14-15. Roemer: Ibid., 1900, vol. xxvii, 10-21.
9. Arloing: 1898, Comptes rend. de l'Acad. des Sciences, v, 126, p. 1319. Arloing and Courmont: Dec. 1, 1900, Gaz. des Hôp., p. 1467. C. r. de l'Acad. des Sciences, Aug. 8, 1898, vol. cxxvii, No. 6, p. 312.
10. Ferran: Acad. des Sc., October, 1897. Semaine Medicale, 1897, No. 48, p. 381. Wiener klin. Wochenschrift, 1898, p. 679. Schumowski: C. f. Bakt., 1898, vol. xxiii, p. 838.
11. Buard: These de Bordeaux, De la sero-reaction tuberculeúse -etude speciale chez l'enfant, 1900.
12. Arloing and Courmont: Soc. de Biol., 1901, vol. liii, p. 1095. (These methods are analogous to those suggested by Ehrlich and others for the preservation of typhoid cultures for agglutinative reactions.)
13. Mongour and Buard: Soc. de Biol., ii, 1899, p. 5614. Arloing and Courmont (Acad. des Sc., vol. cxxvii, No. 12, p. 425 et seq.) advised examination for 24 hours, but M. and B. found that any serum might react after such a period and A. and C. later accepted their modification.
14. Hawthorn: Soc. de Biol., 1902, vol. liv, p. 632, finds that it is easier to see the precipitate by transmitted light. This has also been the author's experience.
15. Mongour and Buard: Soc. de Biol., 1899, No. 25, p. 656.
16. Deutsche med. Wochenschrift, 1901, vol. xxvii, Nos. 18 and 19.
17. Rumpf and Guinard: Deutsche med. Wochenschrift, 1902, vol. xxviii, p. 131.
18. E. Romberg: Muenchner med. Woch., Jan. 21, 1902, vol. xlix, No. 3.
19. Arloing and Courmont: Journal de phys. et de path. gen., 1900, vol. ii, pp. 82-94.
20. These de Bordeaux, 1900.
21. Results of experiments in the various series of cases studied by Arloing and Courmont are to be found in the following: *a*, C. r. de l'Acad. des Sc., 1808, vol. cxxvi, pp. 1398-1401. *b*, Ibid., 1898, vol. cxxvi, pp. 1550-1553. *c*, C. r. h. de la Soc. de Biol., 1898, pp. 605-608. *d*, Arch. de med. exp. et d'anat. path., vol. xii, p. 697. *e*, Deutsche med. Woch., 1900, vol. xxvi, No. 48, p. 766. *f*. Bericht ii. d. Kongress z. Bekämpfung d. T., 1899, p. 229. *g*, Congre de Paris, 1898, p. 578, Ibid., 583. *h*, Presse medicale, June 1, 1898. *i*, Gaz. des Hôp., Dec. 1, 1900, vol. lxxiii, No. 137, p. 1467. *j*, Gaz. des Hôp., 1901, vol. lxxiv, No. 94. *k*, C. r. de la soc. med. des hop. de Lyon, 1902, No. 3; Ref. C. f. Bakt., vol. xxxi, p. 699. *l*, Gaz. des Hôp., 1899, p. 58. *m*, London Congress, 1902. *n*, Zeitschrift f. Tuberkulose u. Heilstättenwesen, vol. i, No. 1. *o*, Ibid., vol. ii, No. 6. *p*, See reference 9.
22. Soc. des medicins russes de St. Petersbourgh, November, 1897.
23. Revue de medicine, 1900, pp. 317 sqq., 433 sqq.
24. Widal and Ravaut: Gaz. des Hôp., 1901, No. 94; also Hawthorn, Courmont and others, loc. cit.
25. Wiener klin. Rundschau, 1901, No. 41. Ref. C. f. Bakt., vol. xxxi, No. 1.
26. Roussky Vratch, 1902, vol. i, No. 1.
27. Jour. de phys. et de path. gén., 1900, p. 797. Soc. de biol., 1898, p. 1143.
28. Ibid., April 30, 1898. Also Congrès de Paris, 1898, p. 595.
29. Thèse de Lyon, 1900.
30. Nevrulogultchesski Vestnik, 1901, p. 849.
31. Deutsche med. Wochenschrift, 1900, vol xxvi, No. 14.
32. Virchow's Archiv, 1900, vol. clx, p. 426.
33. C. r. de l'Acad. des Sciences, 1898, vol. cxxvi.
34. Congres de Tuberculose, Paris, 1898, p. 595.
35. C. r. h. de la Soc. de Biol., April 30, 1898.
36. Province medicale, 1899, vol. iii, p. 399.
37. Zeitschcr. f. Hyg. u. Infektsionskrankh., 1901, vol. xxxvii, p. 2. Deutsche med. Woch., 1900, vol. xxvi, No. 25.
38. Hygienische Rundschau, 1900, vol. x, No. 13.
39. Berl. klin. Woch., March 17 and 24, 1902. Also Gaz. degli Ospedali, Sept. 8, 1901.
40. Dieudonne: D. med. Militarärztl. Zeitschr., 1900. Ref. Zf. Tub. u. Heilst., 1901, vol. ii, p. 86. M. Ficker: Zf. Tub., 1901, vol. ii, No. 4, p. 321. Knopf: Zf. Tub., 1900, vol. i, No. 3, p. 187.
41. Amer. Jour. Med. Sc., December, 1898, and January, 1899.
42. Centralblatt f. allgem. Path., 1900, vol. ii, p. 97.

THE TRANSMISSION OF YELLOW FEVER.*

JAMES CARROLL, M.D.
ASSISTANT SURGEON U. S. ARMY.

Several American observers have noted that during the yellow fever outbreaks mosquitoes were very numerous, among them Rush,[1] at Philadelphia in 1797; Dr. Weightman,[2] of the U. S. Army, at St. Augustine, Fla., in 1839; Dr. Wood,[3] at Centerville, Miss., in 1853. Dr. E. H. Barton[3] states "that at Clinton, La., in 1853, mosquitoes were uncommonly numerous night and day." At Trinity, La., in the same year, when sawdust was used to fill up low places in the streets, the disease was not propagated, though many cases were brought there and no precautions were used.[3] It is hardly necessary to note what the effect of this obliteration of puddles would be on the development of mosquitoes. Dr. Beyrenheidt[3] of Biloxi, Miss., in reporting a severe epidemic at that place in 1853, during which 533 cases and 111 deaths occurred in a population of 5,520, makes the interesting statement that "mosquitoes and fleas were very abundant." Dr. Bennett Dowler strongly urged drainage of the city of New Orleans, and spoke of the city and its environs as "mosquito lands."[4] La Roche[5] states that in 1793, during the epidemic in Philadelphia, "the narrow streets and alleys near the wharves, as, indeed, in many other parts, were in a foul state, and the gutters almost everywhere sadly neglected." In 1794 Rush and others ascribed the fever to exhalations from wharves, neglected gutters and stagnant ponds.[5] In 1797, during another outbreak in Philadelphia, the condition was practically the same; the Academy of Medicine called the attention of the governor to the putrid exhalations from the gutters, streets, ponds and marshy grounds of the neighborhood of the city.[5] While high temperature, low altitude and the presence of standing water are the conditions most favorable to the development of a yellow fever epidemic, there are numerous instances on record where the disease after introduction spread from house to house throughout the town in places where the general conditions of sanitation and drainage were good. This is now explained by the habits of the mosquito (*Stegomyia fasciata*), which breeds in standing water, in houses as well as out of doors. As a general rule, in ports where yellow fever epidemics first appear, the conditions are known to be favorable for the development of enormous numbers of mosquitoes.

A very interesting observation was made in 1839 in South Africa by Wm. Ferguson, then a surgeon in the South African corps, in regard to the extension of yellow fever from Sierra Leone (where it had been brought on vessels from the West Indies) to Gambia, Goree and Ascension, the subsequent ports of arrival of some of these infected vessels. After mentioning an unusually heavy accumulation of mud and filth in a pit at Ascension, which was said to have been the cause of the fever occurring after an unusually heavy fall of rain, he makes the following statement:[6] "It will be observed that at Ascension, at Goree and at Gambia, a period of three or four weeks always elapsed betwixt the landing of the sick and the epidemic outbreaking of the disease among the population, a degree of uniformity worthy of remark, whether the conclusions at which I have arrived (that the disease was carried to these places on infected vessels) be mistaken or not." These outbreaks were accompanied by black vomit and were undoubtedly yellow fever of imported origin.

Just sixty years later Carter[7] made a similar observation in the United States, shortening the period slightly and giving cases and data. In a later paper[8] he designates the interval between primary and secondary cases the period of "extrinsic incubation."

The known facts regarding the apparent non-contagiousness of the disease, the peculiar manner in which it has been seen to pass from one house to another without intercommunication of the inhabitants, and the numerous points of resemblance between yellow fever and malaria, led us to expect results from mosquito inoculations in yellow fever. After satisfying ourselves that *B. icteroides* (Sanarelli) was not to be considered, Drs. Reed, Lazear and myself, in consultation, decided that the mosquito theory had many facts to support it and could be promptly decided one way or the other. This leads us to a consideration of the mosquito theory of Finlay.

At the session of the Royal Academy of Sciences, Havana, Aug. 14, 1881, Finlay first gave to the world his memorable theory of the transmission of yellow fever by the mosquito, and reported five experiments, which are included in the accompanying table, comprising all of Finlay's and Delgado's positive cases published in 1891.[9]

Finlay believed[10] that the transfer of the specific agent of the disease from patient to non-immune was effected mechanically by the insect's proboscis,[14] and that the infection would be conveyed immediately if the insect chanced to bite a susceptible person a few moments after feeding on a patient in the proper stage of the disease.[11] He also thought that the graver forms of yellow fever might be produced by the bite of *Culex pungens*, because the insect ingested a larger amount of blood than stegomyia, and consequently a greater quantity of the virus would be retained on its proboscis (stylet).[11] He ventured the opinion that yellow fever was a sort of eruptive fever, and that the seat of the eruption was the endothelial lining of the blood vessels, and that the mosquito picked up the inoculable material from the interior of the blood vessels on its biting apparatus and transferred the same to the interior of the vessels of the person subsequently bitten.

In a later paper he assumes that the picking up of these germs by the proboscis of the mosquito is selective, because there is nothing to prove that other inoculable diseases have ever been so transmitted. From four culture experiments, in each of which the head and proboscis of a mosquito was dropped into a bouillon tube, he infers that the head and proboscis of the day mosquito possesses bactericidal properties for ordinary bacteria and fungi with the exception of a coccus, which was subsequently[12] claimed to be the specific agent of the disease.[13] The sting of the mosquito is suggested as the "intermediate host" necessary for some phase of development of disease germs.[14]

As late as 1899 Finlay mentions the isolation of the tetracoccus from culture media into which the heads and proboscides of contaminated mosquitoes had been dropped, as one of the three results of his experiments on yellow fever mosquitoes.

In a paper[13] published in 1895 he announced some very interesting results obtained with the "tetracoccus." A number of rabbits were inoculated intraperitoneally with cultures in bouillon; one of these cultures had been obtained from the head and proboscis of a mosquito by placing them in a tube of bouillon five days after the insect had been a yellow fever patient; the others came from the finger blood and milk of yellow fever patients.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. W. S. Thayer, J. M. Anders and Frank A. Jones.

All of the rabbits died; some of them showed infarcts of the kidneys, lungs and liver. A rabbit obtained from the country was placed in the stable where some of the other rabbits had been kept, and at the end of eight days it was found dead. The tetracoccus was obtained from its heart's blood.

Eleven days after the rabbits had been removed from the house (the stable is usually a part of the house in Havana) a Spanish wet nurse came to spend some time there, and on the third day following her arrival she was attacked with yellow fever. Mosquitoes had been unusually abundant in the house during the whole time the inoculated rabbits had been kept in it, and we are asked to keep this in mind, in view of the possible transmission of the disease from animals to man. We are told that the blood from the finger of this woman on the third day of her illness gave the "pale yellow tetracoccus," and the milk from her breast gave a "white tetracoccus," which proved fatal to a rabbit in fifteen days.[13]

While reading the accounts of these experiments one is constantly reminded of the pathogenic staphylococci. It is strongly suggested[13] that the rabbits died of yellow fever, and it is asserted that the experiments justified the assumption that the tetracoccus was the "specific germ of yellow fever."

The statement is also made in this paper that of one hundred presumably susceptible persons who had received the mosquito inoculation during the fourteen years previous, only three had subsequently died of yellow fever.[13]

I have been unable to find records of these one hundred cases in the library of the Surgeon-General's office, and submit those of which the data are accessible to me. As these include the cases on which Dr. Finlay's claim is based they will suffice for the purpose. The fifty-four negative cases are omitted.

Case 3 was bitten by a mosquito that had been fed on bloody excrement from another mosquito that had been found inside the mosquito net of a fatal case. The material was allowed to dry for twenty-seven days in the test tube and was then moistened with a little sugar and water to prepare it for feeding.[15] There is a marked difference between the method of procedure herein described and that given in 1901,[16] when Dr. Finlay said, "I applied a nocturnal mosquito and allowed it to fill itself from a case of yellow fever. After pricking the side of the insect's abdomen I mixed the blood which escaped with a drop of sterilized syrup and fed with it a fresh culex mosquito, and finally applied the latter to a third soldier (July 29). Two days later July 31, the soldier went to the hospital with a fever which was also recorded as "abortive yellow fever." This case (L. G. P.) was omitted from the paper published in 1881, as stated, but was included in 1891 in the report from which the cases here recorded are taken.

Case 4 is further discussed in English in a foot note on p. 368 of the Revista de la Asociacion Medico-Farmaceutica, Havana, February, 1902. (History of illness vague. Did not go to bed or report himself sick.) The first five cases were newly-arrived soldiers, stationed at Cabanas and who were brought to the city of Havana for examination once in every five days.

Case 9 is cited by Finlay[17] in refutation of our conclusion[13] that the mosquito is not capable of infecting until about twelve days or more have elapsed after it has bitten the patient.

Case 55 was a Spaniard, newly arrived, who lived at a country residence. At both attempts to inoculate him the mosquitoes failed to bite; nevertheless he was taken sick August 26. Another non-immune who occupied an adjoining room was taken sick with similar symptoms, a few days later. No further comment is necessary, except that the cases of the Army Commission and of Dr. Guiteras were kept under close observation and strict control. Nearly all of Dr. Finlay's cases were exposed to infection in the city of Havana. Only four of them come within the recognized periods of incubation, viz., Nos. 2, 3, 4 and 66. The first three of these were inoculated in Havana in July, 1881, during which month, there were ninety deaths from yellow fever in that city alone. The last was inoculated in August, 1890. In that month sixty deaths from yellow fever are recorded for the city of Havana.

TABLE 1.—MOSQUITO INOCULATIONS REPORTED BY FINLAY AND DELGADO IN THE ARCHIVES DE MEDICINE NAVALE, TOME 55, PARIS, 1891.

No. of Case.	No. of Patient.	Date of Contamination of Mosquito.	Date when the Patient was Bitten.	Period in Mosquito.	Date of Attack of Fever.	Period of Incubation.	Character of Attack.	Albuminuria?	REMARKS.
1	F. B. M. .	June 28, 1881 .	June 30, 1881 .	2 days	July 14, 1881. .	14 days	Mild . . .	Yes .	Excessive period of incubation.
2	Aly. C. . .	July 16, 1881.	July 22, 1881 . .	6 "	July 27, 1881 . .	5 "	Abortive .	No . .	Insect bit Dr. Finlay July 20.
3	L. G. P. .	July 26, 1881. .	July 29, 1881 . .	3 "	July 31, 1881 . .	2 "	Mild. . . .	No . .	Infection by mosquito excrement.
4	D. L. F. .	July 29, 1881 . .	July 31, 1881 . .	2 "	Aug. 5, 1881 . .	5 "	Abortive .	?. . . .	Did not report himself sick. History of illness vague.
5	D. G. B. .	July 31, 1881.	Aug. 2, 1881 . .	2 "	About Aug. 20, '81	18 "	Mild . . .	? . . .	Excessive incubation period.[15]
8	J. B. . . .	June 20, 1883 .	June 22, 1883. .	2 "	July 9, 1883 . .	17 "	. . . . .	No . .	Two mosquitoes used. Excessive incubation period.
9	P. U. . . .	Aug. 13 & 15. '83	Aug. 17, 1883 . .	. . .	Aug. 26, 1883 . .	9 "	. . . . .	No . .	Resided in Havana. Excessive period of incubation. Jesuit priest, lived at Marianao near Havana.
13	J. S	. . . . .	Aug. 18, 1883 . .	. . .	Sept. 9, 1883 . .	22 "	. . . . .	No . .	Excessive period of incubation. Lived at Marianao. Moved to Havana six days before his attack.
28	H. Oz. . . .	. . . . .	Sept 7, 1886 . .	. . .	Sept. 23, 1886 .	16 "	Mild . . .		Excessive period of incubation.
32	J. P	. . . . .	June 16, 1887 .		July 11, 1887 .	25 "	. . . . .	Trace..	Excessive period of incubation.
42	P. Rem . .	. . . . .	June 8. 1888. .	. . .	July 1, 1888 . .	23 "	. . . . .	No . .	Excessive period of incubation.
55	P. Go . . .	Not stated	Aug. 17, 1889. .	. .	Aug. 26, 1889. .	9 "	. . . . .	No .	Excessive period of incubation.
66	H. Ola. . .	Not stated .	Aug. 14, 1890 . .	. .	Aug. 21, 1890. .	7 "	. . . . .	No . .	Lived at a country residence near Havana.

Finlay has published a great many conjectures and speculations in regard to yellow fever transmission. Some of these, such as the belief that the disease was transmitted by the mosquito, have been proven by our work, but not in accordance with his ideas. I can find no evidence that he has produced a single case of yellow fever by his inoculations. In the first place the mosquito is incapable of transmitting the disease in so short a period as two to five days after biting the patient. In the second place seven days must be placed as the extreme limit of incubation in the human being. Our longest period was between five and six days. Finlay conveniently puts the ordinary limit of yellow fever incubation between five and twenty-two days.[14] The efficiency of the five-day quarantine regulation proves that incubation in man certainly does not extend over six days, or seven at the extreme, and in the thirty experimental cases recorded by ourselves and Guiteras the former period has never been exceeded.

In a letter of Aug. 20, 1901, Dr. Finlay[19] states he was convinced that extension of the interval between the application of the mosquito to the patient, and subsequently to the non-immune, would develop a severe attack, such as he was anxious to avoid. One can sympathize with the humane feeling that prompted him to forego positive proof of his theory rather than run the risk of producing a severe attack, but it is a fact that

on Aug. 22, 1901, two days later than the date of that letter, I saw Dr. Finlay apply to a non-immune two mosquitoes that had been kept thirty-four days after contamination.[20]

TABLE 2.—NEGATIVE MOSQUITO INOCULATIONS OF THE ARMY COMMISSION.

Number.	Character of Attack and Number of Patients Bitten.	Day of Disease.	Interval in Mosquito. (Room temp.)	Date of Application of Mosquito.	Number of Mosquitoes Applied.	Remarks.
1	Mild, 1	7th	5 days	Aug. 11, 1900	1	Negative.
2	Very mild, 1	5th	5 "	" 11, 1900	1	"
3	Very mild, 1	5th	6 "	" 12, 1901	1	"
4	Very mild, 1	5th	6 "	" 12, 1901	1	"
5	Very mild, 1	5th	8 "	" 14, 1901	1	"
6	Very mild, 1	5th	10 "	" 16, 1901	1	"
7	Severe, 1	2d	3 "	" 18, 1901	1	"
8	Very mild, 1	5th	13 "	" 19, 1901	2	"
	Severe, 1	1st	3 "			
9	Fatal, 1	2d	6 "	" 25, 1901	1	"
	Mild, 1	1st	4 "			
10	Severe, 1	2d	2 "	Nov. 20, 1901	1	" Repetition of No. 10.
	Severe, 1	3d	3 "			
	Severe, 1	5th	6 "			
11	Severe, 1	3d	11 "	" 23, 1901	1	"
	Severe, 1	3d	9 "			
	Severe, 1	5th	14 "			
12	Moderate, 1	3d	12 "	" 26, 1901	1	" Repetition of No. 14.
	Well marked, 1	2d	10 "			
13	Moderate 1	3d	15 "	" 29, 1901	1	"
	Well marked, 1	2d	13 "			
14	Severe, 1	2d	10 "	" 26, 1901	1	" Repetition
15	Severe, 1	2d	13 "	" 29, 1901	1	"
16	Severe, 1	2d	16 "	Dec. 2, 1901	2	"
	Fatal, 1	3d	12 "			
17	Well marked, 1	3d	12 "	Nov. 26, 1901	1	"
18	Well marked, 1	3d	15 "	" 29, 1901	1	" Repetition
19	Well marked, 1	3d	18 "	Dec. 2, 1901	2	"
20	Mild, 1	1st	4 "	" 17, 1901	14	"
21	Mild, 1	1st	11 "	" 24, 1901	7	" Repetition
22	Very mild	8th hr.	82 F., 22 days.	Jan. 25, 1901	12	"

NOTE.—The subjects of Experiments Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 were proved to be susceptible by subsequent experimental infection. No. 22 declined a second test. In Experiments 20 and 21 the same set of insects and the same subject were used. Four of these insects infected this man six days later, on Dec. 30, 1900.

I have been impelled to look up the literature of this subject because I have seen several times of late the statement of Dr. Finlay that the Army Yellow Fever Commission has tacitly ignored his right of priority.[21] It is too late, after facts have been proved and recorded by others, to claim priority unless one can point to unmistakable evidence, in print, as proof that the facts have been demonstrated and duly reported. In our preliminary report[22] Dr. Finlay has been given due credit for priority in advancing and advocating the mosquito theory. Nothing more is due to him. He states[21] that he had "many years ago discovered that yellow fever was transmitted by mosquitoes," when in reality he simply assumes that to be the case, and the facts recorded by him do not sustain his claim.[23] He further states[21] that his own work had been singularly misrepresented before the American public, and that "among the facts and conjectures which are attributed to the recent investigators there is scarcely one which had not been asserted, demonstrated or suggested by me, as the result of my personal experiments and observations." One can only express admiration for this eminent scientist's persistent adherence to his theory, but the unbiased observer, after a perusal of his numerous writings, must agree with us that while he asserted and suggested everything that intelligent reasoning and profound knowledge could suggest, he failed to produce a single case of the disease. Our results have been confirmed by Guiteras with eight cases and three deaths;[24] Dr. Finlay's assumed results have never been confirmed by a single investigator. In our "Additional Note,"[25] we report among other instances one in which the bites of fourteen insects, applied four days after contamination, failed to infect, and the seven remaining alive failed also to infect eleven days after contamination, but on the seventeenth day following contamination the bites of four of the same insects produced an attack of yellow fever in "the same individual." During the whole of this time these insects had been kept in a heated room at an average temperature of 82 F. If, as is claimed by Finlay,[26] protection is conferred by one or two bites of "recently contaminated" (two to five days[19]) mosquitoes, this individual, who had received twenty-one bites from recently contaminated insects, should have been able to resist the bites of four of the same insects six and thirteen days later. Should one accept Finlay's extension of the incubation period to twenty-two days infection might then be erroneously attributed to the bites inflicted thirteen days before the onset of fever.

The Army Board worked on an entirely different hypothesis from Finlay, who believed that the infecting agent was retained on the biting parts of the mosquito, that infection was direct and no interval was necessary. The board worked on the hypothesis that the specific

TABLE 3.—POSITIVE MOSQUITO INOCULATIONS OF THE ARMY COMMISSION.

No.	Character and Number of Patients Bitten.	Days of Disease.	Period in Mosquito.	Number of Mosquitoes Used.	Date of Application of Mosquitoes.	Incubation.	Character of Attack.
1	Severe, 1	2d	12 days	Room temp. 1	Aug. 27, 1900	3 days, 7 hours	Severe.
	Mild, 1	1st	6 days				
	Severe, 1	2d	4 days				
	Mild, 1	2d	2 days				
2	Fatal, 2	2d	2 to 16 days	Room temp. 4	Aug. 31, 1900	6 days	Moderate.
	Mild, 8	1st and 2d					
	Severe, 7	1st, 2d and 3d					
3	Fatal, 2	2d	2-15 days	Room temp. 5	Dec. 5, 1900	3 days, 10 hours	Pronounced.
	Severe, 1	2d	1-19 days				
	Mild, 1	3d	2-21 days				
4	Fatal, 1	3d	17 days	Room temp. 4	Dec. 8, 1900	5 days, 17 hours	Mild.
	Severe, 2	2d and 3d	18 and 22 days				
	Moderate, 1	3d	24 days				
5	Fatal, 1	2d	19 days	1 (Room temp.)	Dec. 9, 1900	3 days, 12 hours	Mild.
6	Fatal, 1	3d	20 days	Room temp 4	Dec. 11, 1900	3 days, 20 hours	Moderate; relapse on 3d day.
	Severe, 2	2d and 3d	21 and 25 days.				
	Moderate, 1	3d	27 days				
7	Severe, 1	2d	1-24 days	82 deg. F. 15	Dec. 21, 1900	3 days, 23 hours	Pronounced.
	Well marked, 2	1st	10-5 and 12 days				
	Mild, 1	1st	4-8 days				
8	Mild, 1	1st	17 days	4 (82 deg. F.)	Dec. 30, 1900	3 days, 23 hours	Mild.
9	Well marked, 1	3d	39 days	3 (82 deg. F.)	Jan. 19, 1901	4 days	Moderate.
10	Well marked, 1	3d	51 days	2 (82 deg. F.)	Jan. 31, 1901	3 days, 3 hours	Mild.
11	Well marked, 1	3d	57 days	2 (82 deg. F.)	Feb. 6, 1901	3 days, 6 hours	Mild.
12	Fatal, 1	2d	16 days	3 (82 deg. F.)	Feb. 7, 1901	2 days, 22 hours	Moderate.
13	Fatal, 1	3d	1-53 days	4 (Room temp.)	Sept. 16, 1901	3 days	Severe.
	Fatal, 1	2d	3-34 days				
14	Severe, 1	2d	18 days	8 (Room temp.)	Oct. 9, 1901	3 days, 8 hours	Mild.

agent of yellow fever was probably one of that group of strict parasites that in nature necessarily pass through two distinct and alternating cycles of development, one within the body of a vertebrate, the other within a blood-sucking invertebrate host. Finlay believed that the bite of a single insect would confer a mild infection and multiple bites a severe one. In my own case, produced by the bite of a single insect, a fatal result was looked for during several days. Dr. Lazear was bitten by a single insect and died.[27] I became so firmly convinced that the severity of an attack depended on the susceptibility of an individual rather than on the number of bites sustained, that on Oct. 9, 1901, at Havana, I purposely applied to a non-immune eight mosquitoes (all I had) that had been contaminated eighteen days before. The attack that followed was a mild one, the temperature never reached 103 F., and dropped to normal on the evening of the fourth day.[27]

The original theory of Finlay has been variously modified by him from time to time to meet possible contingencies. He now evidently inclines to the belief that

Table 4.—Positive Mosquito Inoculations of Dr. Guiteras.

Number.	Character of Attack and Number of Patients Bitten.	Day of Disease.	Period in Mosquito.	No. of Mosquitoes Used	Date of Application of Mosquitoes.	Incubation.	Character of Attack.
1	Severe, 1	1st	26 days	1	Feb. 23, 1901	3 days, 10 hours	Pronounced
2	Severe, 1	3d	19 "	4	Aug. 8, 1901	4 " 5 "	Fatal
3	Severe, 1	3d	19 "	4	Aug. 8, 1901	3 " 3 "	Mild
*4	Severe, 1	3d	20 "	3	Aug. 9, 1901	5 " 3 "	Fatal
5	Severe, 1	3d	24 "	1	Aug. 13, 1901	3 " 19 "	Mild
6	Severe, 1	3d	24 "	2	Aug. 14, 1901	3 " 21 "	Fatal
7	Severe, 1	3d	24 "	3	Aug. 14 1901	5 " 21 "	Moder'ly severe
8	Severe, 1	3d	34 "	2	Aug. 22, 1901	3 " 0 "	Severe

*Case 4 had been bitten with negative result ten days previously by four mosquitoes five days after they had bitten a fatal case in the third day. of the disease. See Case 33 of Guiteras' table, Amer. Med., Nov. 23, 1901, p. 811.

development of the germ takes place in the salivary glands of the infected mosquito.[21]

A complete proof or disproof of his claim of positive results for his recorded inoculations could easily be obtained by means of a series of innocent experiments. It is interesting to note that at the very time when this distinguished authority is in position to confirm the results of his first inoculations, if they are susceptible of confirmation, he takes the ground that inoculation experiments on human beings in Cuba must be strictly forbidden.[21]

It is unfortunate that Dr. Finlay in his numerous contributions to this subject very seldom gives exact references that would enable one to compare his more recent assertions with his former statements. In regard to his expressed opinion that the great merit of our work consists in our having accurately defined the danger line, beyond which there is a risk of producing severe or fatal experimental cases when non-immunes are inoculated with mosquitoes whose contamination is more than ten days old,[21] I desire to record my belief, based on experimental observation and on the results obtained by Guiteras, that it is impossible to confer protection or to produce infection of any grade, with an insect that has been contaminated less than a week, and that inoculations with a mosquito contaminated for a shorter period will be absolutely devoid of result. The accompanying tables, compiled from our and Guiteras' cases, afford a substantial basis for the assertion. I deem it a duty to the service to which I belong, to my dead colleagues (Reed and Lazear) and to the profession, to state the facts plainly and clearly. I do not expect that this paper will remained unanswered; nevertheless, I shall decline to engage in controversy and leave the final determination to those who are competent to judge, after they have carefully perused the publications herein referred to.

The mosquito theory has been practically demonstrated by the army commission and Dr. Guiteras in two series comprising twenty-two cases in all. The non-communicability of the disease by means of fomites has been a matter of common observation in certain localities, and has also been demonstrated practically by our own experiments and those of Havard and his associates. Yellow fever, therefore, is not a filth disease, in the strict sense of the term, and filthy accumulations are dangerous in this connection only, when accompanied by sufficient moisture to breed mosquitoes under favorable conditions of temperature. Under such conditions standing water is a source of danger, within dwellings or without, and whether dirty or clean, unless it be kept covered or is changed every few days. Yellow fever is a preventable disease; quarantine, if effective, will exclude it, but if the quarantine be evaded and cases gain entrance to a city the disease can be absolutely controlled and finally exterminated by measures directed against the mosquito alone.

Carter[7] has well shown[8] that first cases are not dangerous until after the lapse of a number of days, for, in his experience, persons in direct contact with them for a few days only never developed the disease after being placed in quarantine. This applies only to the first cases occurring in a town or neighborhood. He found that secondary cases did not appear until the expiration of a number of days varying from 11½ to 29, the average being eighteen. This interval represents the time necessary for the mosquito, after biting a patient, to become capable of infecting, plus the period of incubation in the person bitten.

The greatest obstacle to the control of this disease is the failure to recognize the first cases when they are not accompanied by black vomit. Some of these cases are so mild in character that no physician would dare to pronounce them yellow fever unless he knew the disease to be prevailing at the time. Susceptible persons visiting the house or living in adjoining houses would be bitten and develop the disease in near or distant localities several weeks later, forming secondary foci of infection. From these secondary foci tertiary foci would in time develop. The diagnosis of bilious remittent fever, dengue, etc., would serve to cover the earlier cases until the appearance of black vomit, by which time the infection would have become more or less widely disseminated. Such is the history of many outbreaks.

The number of mosquitoes in infested districts can always be appreciably diminished by giving attention to surface drainage and the removal of standing water, no matter how small the quantity or how pure the quality may be. Rain-gutters and conduits on buildings should be kept clear and free; cisterns, wells, flush-tanks and other permanent receptacles for water should be kept tightly covered or securely screened; privies and cesspools should be cared for; air vents to cisterns and wells protected by screens; and water should never be permitted to stand in any vessel or receptacle within a building longer than three or four days. Ditches and open drains containing water should be frequently

flushed; old cans, crockery, etc., should be removed from the vicinity of dwellings; pools or ponds should be stocked with fish and deepened at the margins or treated with petroleum. As the stegomyia is largely a house-dwelling and a house-breeding insect, these and other similar measures will surely diminish their number and add to the general comfort and protection. In places exposed to yellow fever infection all fever patients should be protected, night and day, from the bites of mosquitoes by the use of netting and wire screens. Strict quarantine measures, local and general, with the isolation of patients and extensive and thorough fumigation of the localities where they are found will insure suppression of the disease wherever it may appear.

In the suppression or control of yellow fever disinfection, apart from fumigation, is a waste of time and money. Natural yellow fever is transmitted by the mosquito, and always and only by the mosquito. The harmlessness of fomites has been fully demonstrated by our experiments in 1900 and 1901, in which three young Americans slept for twenty consecutive nights in a room garnished with articles soiled with black vomit, bloody fecal discharges and urine from fatal and other cases of yellow fever. Three and four large boxes were packed and unpacked with these articles night and morning by these non-immunes, who suffered no disturbance of health from these exposures. The room was twenty feet by fourteen feet, double walled, tightly ceiled, heated to above 90 F. and dark. Water was always present to keep the atmosphere moist. Two other non-immunes then occupied the room for twenty nights while additional articles of bedding and clothing were added. They slept in the garments and between the sheets that had covered cases of yellow fever, some of which were fatal. The result of this second exposure was *nil*. A third attempt was then made with two additional non-immunes equally without success. Not the slightest indisposition followed close and intimate contact with this repulsive material in any case. Temperatures and pulse rates were recorded at regular and frequent intervals. Four of these seven non-immunes were subsequently infected by blood injections and by means of infected mosquitoes. A fifth resisted the mosquito once[28] and declined further attempts at inoculation.

Yellow fever has been eradicated from Havana, one of its endemic homes, by the institution of measures directed against the mosquito, after extreme cleanliness and energetic disinfection had proved a dismal failure. Several cases subsequently imported into that city have been handled with impunity by guarding the patients against the bites of those insects. A small outbreak in Santiago de las Vegas in 1901 was promptly suppressed by Colonel Gorgas by the use of means directed only against the mosquito. On those who decline to accept such evidence must rest the burden of proving that the disease is transmitted in some other way before their position can be sustained.

REFERENCES.

1. Medical Inquiries and Observations, Benjamin Rush, M.D., Philadelphia, 1805, vol. iv., pp. 10, 77, 175.
2. An Essay on Yellow Fever, by B. B. Strobel, M.D., Charleston, S. C., 1840, p. 162.
3. Report of Sanitary Commission of New Orleans on the Epidemic of Yellow Fever of 1853, New Orleans, 1854, vol. i., pp. 266. 278, 540.
4. The Epidemics of New Orleans, by Bennett Dowler, New Orleans, 1854, p. 44.
5. La Roche on Yellow Fever, Philadelphia, 1855, vol. i., pp. 67, 77, 79.
6. See footnote 2, p. 87, citing from the London Medical Gazette for August 1839.
7. New Orleans Med. and Surg. Jour., May, 1900.
8. Medical Record, N. Y., June 15, 1901.
9. Anales de la Academia de Ciencias Medicas de la Habana, Havana, xxvii, 1890-91, p. 501. (Finlay.)
10. Original Article—republished in English in the Revista de la Asociacion Medico-Farmaceutica, Havana, Cuba, Jan. and Feb., 1902. (Finlay.)
11. Finlay: Ibid., pp. 362 and 369; also Edinburgh Med. Jour., Oct., 1894, p. 334.
12. Proceedings of the International Congress of Hygiene and Demography, Budapest, 1894, p. 702.
13. Edinburgh Med. Jour., vol. xli, 1, pp. 523 to 526.
14. Finlay: Amer. Jour. Med. Sci., n. s., vol. xcii, 1886, pp. 402, 403.
15. Footnote to p. 369. Revista de la Asociacion Medico-Farmaceutica, Havana, Feb., 1902.
16. Medical Record, N. Y., Feb. 9, 1901, p. 203.
17. THE JOURNAL A. M. A., April 13, 1901, p. 1041.
18. Ibid., Feb. 16, 1901, p. 439; 3d conclusion.
19. Medical Record, Aug. 31, 1901, p. 344.
20. Case 8 of Dr. Guiteras' series, Amer. Med., Nov. 23, 1901.
21. See reprint, p. 8, on "Method of Stamping Out Yellow Fever, Etc.," by Dr. Charles Finlay, M.D., Conference of State and Provincial Boards of Health, New Haven, Conn., Oct. 20, 1902, and Medicine, Detroit, March, 1903, pp. 175, 179.
22. Phila. Med. Jour., Oct. 27, 1900.
23. Sternberg, Amer. Jour. Med. Sci., new series, vol. cii, 1891, p. 627, and Nuttall, Johns Hopkins Hosp. Reports, vol. viii, 1899-1900, p. 27.
24. Amer. Med., Nov. 23, 1901.
25. THE JOURNAL A. M. A., Feb. 16, 1901.
26. Finlay: Edinburgh Med. Jour., Oct. 1894, p. 335.
27. The Etiology of Yellow Fever, Amer. Med., Feb. 22, 1902, Case 2.
28. Case 22, Table 2.

THE STEGOMYIA AND FOMITES.*

STANFORD E. CHAILLE, M.D.
NEW ORLEANS.

As a student since 1851 of yellow fever, especially of its causation and prevention; and as a citizen of New Orleans, who has shared its blighted prosperity and its grief, greater, because of this disease, than has afflicted any other place in our country, I deem it my first duty to express most profound and grateful appreciation of those who have, since 1900, contributed facts of incalculable value for prevention and for commerce.

The notable experiments of Dr. Walter Reed and his assistants, Drs. James Carroll and A. Agramonte—added to and strengthened by the researches and labors of Drs. Carlos J. Finlay and John Guiteras, of Drs. W. C. Gorgas, John W. Ross, H. R. Carter and probably others—and rendered possible by the official encouragement and aid of Surgeon-General Sternberg, U. S. A., and of Governor-General Wood, M.D., have contributed to our knowledge of yellow fever facts that I hope and believe will prove of greater value than all the facts gained by all preceding students of the disease. The names cited deserve the earliest place on the roll of honor of the twentieth century, the century probably destined to become unprecedentedly illustrious for additions to the best of all knowledge, that which contributes to the health and welfare of mankind.

These investigators have contributed four sets of precious facts:

First—Fresh blood or its serum, taken from a case of yellow fever during the first days of the attack, will give the disease, if hypodermically injected into a non-immune. Hence the blood contains the poison, probably an ultra-microscopic germ, as I maintained in 1880, and this poison, when fresh, is infective without undergoing any change outside of the body.

Second—The female stegomyia, serving as an intermediate host, can convey the poison to non-immunes. In 20 experimental cases (Reed's 12 and Guiteras' 8) the stegomyia became infected by sucking the blood during the first four days of the attack, but not later; and an interval of at least twelve days was required to infect a non-immune. However, it deserves note that no one has stated or proved that more numerous experiments might not have yielded some cases wherein the four days' time

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. W. S. Thayer, J. M. Anders and Frank A. Jones.

would have been prolonged and the twelve days' interval shortened. The facts thus far stated have not, I think, been denied by any one.

Third—Excluding all mosquitoes, fomites prepared and kept under all the known conditions, universally supposed to be the very best, for supplying the most virulent fomites, failed in December and January, though an artificial summer heat was maintained, to infect seven non-immunes extraordinarily exposed to said fomites. In a second trial the following September and October, 1901, under like favorable conditions, eight non-immunes also escaped infection. These negative results in two trials, involving fifteen non-immunes, have been confidently claimed to be conclusive of the impotency of fomites ever to infect; and this claim has been as confidently denied, because, as is said, of many facts explicable by fomites but inexplicable by the stegomyia.

Fourth—Disregarding filth and fomites, because two years of warfare against them had proved ineffectual, and limiting sanitary measures solely to excluding imported cases, to isolating every home case that did occur and to preventing in every possible way the access of mosquitoes—these measures were followed in Havana by the total disappearance of all home cases from Sept. 28, 1901, to May, 1903.[1] Note in this connection that not less than eight cases have been imported during this time, but these cases have been isolated and carefully protected from mosquitoes, and that there have been in Havana an abundance of non-immunes. Now these four facts, introduction of imported cases, presence of many non-immunes, protection from mosquitoes and freedom from yellow fever in Havana, annually infected for at least 140 years, and monthly certainly for forty-five years and probably longer, were either cause and effect or the most extraordinary coincidences in the history of yellow fever. The more numerous such coincidences may become the stronger the proof of cause and effect. Several such coincidences have already been reported, viz., at Las Animas Hospital, Havana, 1899 and 1900, at Las Vegas, 12 miles from Havana, 1901, and at Havana, 1901, 1902 and to May, 1903.

Further, freedom from yellow fever, though stegomyiæ were present, would not be conclusive evidence against them; though present they might not be infected; and, if infected, very many would die prior to the twelve days requisite to become infective, and those that lived long enough to become infective might fail to gain access to non-immunes, and such failures would be the more probable the more numerous the immunes. Still further, the following reports are suggestive. It is now generally conceded that without anopheles there is no malaria. However, localities are reported from Italy, France and other countries where, although malaria once prevailed, it no longer occurs, and yet this failure to occur coexists with the annual importation of malarial cases and the continued presence of many anopheles. And a locality is reported in England where anopheles refused to suck man's blood.

The case of fomites versus the stegomyia is of the utmost importance for prevention and commerce and now deserves consideration. The only advocates of fomites known to me who have published their views are two distinguished sanitary officers, having much knowledge of and experience in yellow fever, Dr. John H. Purnell of Mississippi and Dr. Edmond Souchon, president of the Louisiana State Board of Health. The arguments of one or the other, to prove that the stegomyia is not the sole cause, but that fomites are also a cause, will be summarized also under four heads.

First—It is claimed that the freedom of Havana from yellow fever in 1901 and 1902 was not due to the warfare on mosquitoes, but to the rigid exclusion of imported cases and to the dying out of the disease. In support of this claim there is some evidence that other Cuban cities escaped yellow fever without effective warfare against mosquitoes. But, even if this evidence were indisputable, there are good reasons for believing that imported cases were excluded, that any cases that did occur were isolated and access of mosquitoes to them was prevented, and that these cities had very few non-immune inhabitants. For such reasons these cities may have escaped yellow fever consistently with the stegomyia theory, although these cities may have failed to wage effective warfare against mosquitoes.

The tendency of yellow fever, as of other infectious diseases, to die out, in spite of the coexistence of some cases and of many non-immunes, has been manifested many times even in the distant past, when imported cases were not excluded and when there was no warfare against filth, fomites or mosquitoes. A cause of this tendency of yellow fever may be a scanty reproduction in some years of the stegomyiæ, as occurs with other insects. In spite of this tendency, it is certain that this has failed for 140 years to manifest itself in Havana to an extent at all comparable with the remarkable cessation of the disease since warfare against mosquitoes was begun. Hence, the extraordinary escape of Havana, the worst and the longest infected city in the world, inclines the probabilities strongly in favor of the claim that its rescue from yellow fever is due to warfare against the stegomyia.

Second—The frequent return or recrudescence of yellow fever six, twelve or more months after a cold winter and without the reintroduction of the infection, is incompatible with our present knowledge of the duration of life of the stegomyia. The greatest duration yet reported was found by Dr. John Guiteras in 1902. Of eleven infected stegomyiæ two died by the tenth day, five were dead by the sixty-fifth day, and of the remaining six the last one lived to its one hundred and fifty-fourth day. It deserves special notice that 18 per cent. died before the twelfth day, i. e., too soon to have become infective, and that this mortality occurred in captives well protected from the many enemies mosquitoes are exposed to in the open. Dr. H. A. Veazie has reported that of one hundred New Orleans mosquitoes one-half died in the first week and only two were alive on the thirtieth day. Manifestly a mosquito's life will vary with its protection from enemies, with its food, temperature, light and other variable conditions. How long an infected stegomyia may possibly live under the influence of hibernation and other exceptional conditions is yet to be determined. However, Dr. John Guiteras[2] has reported that of thirty-three female stegomyiæ kept in an icebox at 40 to 50 F., and without food or water, three lived to the eighty-seventh day and were then destroyed by ants.

My consideration of recrudescence will be limited to criticisms on one example cited oftenest, cited recently by Dr. Purnell and by Dr. Souchon, cited also by Dr. Sternberg and by myself in 1880, when, however, every one believed in fomites and no one in stegomyia. Hence,

1. The warfare against mosquitoes in Havana was begun Feb. 27, 1901; preventive measures against filth and fomites were abandoned July 1. There were twelve deaths in January and February, but only six deaths March 1 to Sept. 28, 1901, and none since; with the sole exception that of seven *imported* cases of yellow fever in 1902, two died.

2. Revista de Medicina Tropica of Havana, April, 1903.

my reinvestigation of the supposed recrudescence in Memphis in 1879, after its epidemic of 1878, the most fatal one, proportionately to population, ever in the United States.

The best authority for this recrudescence was Dr. G. B. Thornton, the thoroughly trustworthy president of the Memphis Board of Health. He reported[3] that the first case was attacked about the 5th, was reported on the 8th and died the 9th of July; that, although in all preceding epidemics the first case was known to have been imported from New Orleans, yet in 1879 no such case was discovered; and further, that yellow fever was not then "prevailing" in any part of the United States. From these premises Dr. Thornton and most of the medical profession concluded that the disease was due to "local origin," which, in this case, meant to houses and their contents infected in 1878, i. e., to the recrudescence of the dormant vitality of infected fomites. A conclusion in full accord with the professional opinion of 1879.

To these facts and to this conclusion I now add, for the first time, I believe, in this connection, the three following facts: Dr. W. L. Coleman,[4] an inspector of the National Board of Health, maintained that the disease was certainly due to a fresh importation of fomites, viz., to two box-cars of bananas from the West Indies, via Havana and New Orleans, that arrived in Memphis prior to July 4, 1879. Further, Dr. Thornton's final conclusion was that "the disease may have been imported. If such was the case, the epidemic was, in my opinion, due to two causes, importation and local origin." Still further and more important, while it was correctly stated that yellow fever was not "prevailing" anywhere in the United States, none the less it did exist in New Orleans, as proved by the annual report of the Louisiana State Board of Health for 1879, wherein is recorded one imported case, March 26, one home case on the 16th and another on the 17th of June. Evidently, then, there was time sufficient for stegomyiæ to be transported, by the open communications then existing, from New Orleans to Memphis to infect the first case reported in Memphis. These facts prove that this alleged recrudescence might have been due to stegomyiæ and not to fomites. Conjoin the indisputable fact that the first cases reported in New Orleans have often not been the first that occurred and the case of the stegomyia becomes still stronger. It is doubtful whether, if all the facts could be known, other instances of recrudescence by fomites would not become as questionable as the most often cited of all instances, Memphis in 1879.

Third—In behalf of fomites it has been urged that non-immunes in camps of refuge, infested by mosquitoes and near infected cities, have been kept free from infection by the destruction or disinfection of fomites. This conclusion is very far from proven. Such cases of the disease as were imported were usually promptly isolated; quite possibly there may have been swarms of mosquitoes, but no stegomyiæ, for these seem to prefer houses and to "shun rural districts and open fields"; and there may have been stegomyiæ but none infected. Further, New Orleans could furnish many instances of adjacent places in the country, and of hospitals, asylums, jails and convents within the city, into which places cases of yellow fever were introduced but failed to originate any cases though fomites were neglected. Such exemptions occurred frequently in the distant past, when no efforts were made either to isolate the disease or to disinfect fomites. It seems to me that all such exemptions are more explicable by the absence of infected stegomyiæ than by the fomites theory.

Three instances, often cited, of exemption from yellow fever will illustrate the claims of advocates of fomites. In 1878 many hundreds of refugees fled from Memphis to Camp Joe Williams, four and a half miles distant. Fomites were destroyed or disinfected, and although there were imported into this camp 186 cases of yellow fever, of whom 58 died, yet no cases originated in this camp. However, Colonel Cameron,[5] commander of the camp, reported the following facts: "Four grave diggers and one carpenter, on constant duty at the hospital carrying the sick, washing the bodies, sleeping on infected bedding, in tents, wearing clothing stripped from the bodies of deceased, remained on said duties seven weeks with perfect impunity from attack." "None had previously had fever." Now if many refugees owed their escape from yellow fever to destruction of fomites, what protected these five non-immunes from fomites not disinfected?

The epidemic of 1878 in Memphis, with not one-sixth the population of New Orleans, caused over 5,000 deaths, while there were less than 5,000 in New Orleans. However, in 1879 Memphis had "1,532 cases and 485 deaths" by yellow fever, while New Orleans had only 48 cases and 19 deaths, and 34 of these cases and 12 deaths were restricted to a limited section of the city. Now this comparative exemption of New Orleans was claimed to be due to the vigorous co-operation of the state and national boards of health and the Sanitary Association in the repeated cleansing and renovation of infected places, in thorough disinfection and in the sulphur fumigation of houses.

Further, in 1882 there were only four reported deaths in New Orleans, and this comparative exemption was claimed to be due to thorough cleansing and disinfection of the section surrounding the focus of infection "for at least four blocks each way around the focus." Now, it is notable that in the last two instances sulphur fumigations were vigorously applied—the very remedy specially recommended to destroy stegomyiæ.

Fourth—Reported cases of two kinds have been urged as explicable by fomites, but inexplicable by stegomyiæ. Some cases of yellow fever have been reported where the possible infection of stegomyiæ and the transfer of the infection to the person attacked gave intervals of only 8, 9 and 10 days instead of the least interval of 12 days found in the twenty experimental cases. More experimental cases might have proved the possibility of a less interval than 12 days, but a more serious criticism is that the briefer intervals were based on supposed knowledge of what was the very first case, very often too doubtful to justify a final conclusion.

Numerous other cases are reported to have followed, within the usual period of incubation, exposure to fomites under conditions such that the presence of any infected mosquitoes was highly improbable if not impossible. In some of these cases the disease was limited to the few non-immunes exposed to the fomites, while other non-immunes in the very same house were not attacked. In such cases it is a notable and suspicious fact that even the fomites from those attacked failed to infect the other non-immunes in the same house.

All of these reported cases, as well as some other issues, are amenable to the two following criticisms: Every

3. In Vols. v and vi, Transactions of the American Public Health Association and in recent letters to me.

4. See "Yellow Fever and Dengue," by W. L. Coleman, M.D., pp. 100-2.

5. Transactions of American Public Health Association, p. 155, vol. v.

reporter seeking a cause is not only apt to find it in whatever may be universally admitted to be a cause, though not one, but is also apt to overlook a universally unsuspected cause, though this be the true one. There have been many reported cases of disease explained satisfactorily to reporters and their readers by witches, the moon, comets, bile, urea and other erroneous causes. Without anopheles malaria does not occur, yet the very word falsely assigns bad air as the cause, and this disease has also been often attributed not only to bad water, but also to watermelons, and these causes have been maintained by evidence satisfactory to reporters and their readers.

Many cases of yellow fever in adults, many more in children and negroes, can not be diagnosed by the best experts, and much more numerous must be the cases undiagnosable by the great majority of physicians who are not experts. Over fifty years' study of yellow fever, eight of these years living day and night in the hospitals of New Orleans, when the disease annually prevailed, and six more of these years employed as a United States sanitary officer specially for yellow fever, and given unusual opportunities for investigation, would justify me in swearing in court that the first cases officially reported in a civil population are very often and, as I believe, usually not the first cases that occurred. This is due not merely to diagnostic deficiencies, but also to two other causes, viz., lack of opportunity among the numerous poor unvisited by a physician, and the very frequent neglect of physicians to report their first cases, even when diagnosed. This neglect is due to their unwillingness to become, in public estimation, odious alarmists and also to subject their patients and the families of their patients to disagreeable notoriety and often to legal restraint by sanitary officers. Practical sanitarians are forced to recognize that the more the financial welfare of the public is threatened by the invasion of a communicable disease and the greater the legal restraint imposed on the public and on the sick and their families, the fewer will be the cases reported. For reasons now stated conclusions based on supposed knowledge of first cases are often untrustworthy.

Three more sets of facts pertinent to my subject deserve brief attention. Dr. H. R. Carter,[6] the author of the best summary known to me of arguments in favor of the stegomyia, urges this very weighty generalization. He claims that every disease having an intermediate host is propagated solely by its special host and never by fomites. Though convinced that present knowledge favors this generalization, I doubt whether we yet know enough to justify a final conclusion. In any case, claims for the infectivity of fomites would be more explicable should knowledge enlighten our ignorance in the following particulars.

Of these diseases malaria and the Texas cattle fever spread by a special tick, are best known in our country and most resemble yellow fever. It deserves note that the tick fever, besides other resemblances to yellow fever, has these two striking ones, the young have usually very mild attacks and an attack confers immunity. Now, the infecting germ persists in malaria often for months and years and in cattle fever probably for life; and this long persistence of the germ in healthy immune cattle caused until recently the erroneous belief[7] that infected ticks infected their own eggs. However, my present point is that while the blood in malaria and in cattle fever remains infective long after the first attack has ended, yet the twenty experimental cases indicate that the blood of a yellow fever patient is infective during only the first four days of the attack. The lack of resemblance thus indicated justifies the suspicion that a closer resemblance may yet be proved. A ray of light may yet be found in Finlay's belief that in malaria man is the permanent and anopheles the temporary host, while in yellow fever man is the temporary and the stegomyia the permanent host.

Further, Dr. Patrick Manson, one of the best authorities on malaria, gives good reason for his beliefs, that the malarial germ may have other host than man, and that this germ may be deposited in the soil, inhaled in dust and thus cause the disease. And many good observers still maintain that drinking water may become infectious by the dying therein of infected mosquitoes, as is still taught by some to be the case in filariasis. Still further, Dr. Carlos J. Finlay believes that the fresh blood of yellow fever on the proboscis of a stegomyia can infect a non-immune within the usual period of incubation, while the germs within the stegomyia would require twelve or more days to become infective. I have now indicated five particulars, as to which future knowledge may throw light on the causes that have led to belief in fomites.

The history of the remarkable change of view in New Orleans as to belief in fomites is instructive. A great majority of its physicians, myself included, firmly believed, until at least 1867, that yellow fever originated in this city as was then universally claimed as to other habitually infected cities, and all of this great majority unhesitatingly testified that they had never observed a single case either of direct contagion or of infection by fomites. As steamboats and railroads multiplied and many adjacent places on the routes of travel became infected after outbreaks of the disease in New Orleans, the conviction gradually gained ground that yellow fever did follow the routes of travel and was an infectious disease. Then followed numerous reports that some places on these routes had not had any case of yellow fever introduced therein, certainly the usual precursor of an outbreak, but that fomites had been introduced. Our imaginations failed to invent any explanation for these credited reports except infection by fomites. However, this concession to fomites was made very grudgingly, because New Orleans physicians could not ignore their innumerable experiences of the failure of fomites to infect. Hence the hypothesis invented to explain these credited reports was that, while fomites were usually innocous yet that under the rare influence of some unknown mysterious conditions fomites did become infectious.

For such reasons I, as soon as convinced that mosquitoes did follow the routes of travel and that the stegomyia was a conveyer of yellow fever, embraced the stegomyia as a welcome substitute for those unknown mysterious conditions about which I have wasted, as I now believe, many weary hours of study; and I earnestly hope that the future may permit my brain to rest in peace with the comprehensible stegomyia—unvexed by the incomprehensible, mysterious hoodoo, fomites. I, like others, have advocated fomites, always, however, citing my authority. For my part, I have never secured satisfactory proof of a single case either of direct contagion or of infection by fomites. I have investigated reported cases of infection by fomites, and I have known several cases, supported by very strong evidence, which, after laborious investigation, were conclusively traced to

6. Bulletin No. 10, Yellow Fever Institute of U. S. Bureau of Public Health and Marine-Hospital Service.

7. According to Dr. D. E. Salmon, Chief of U. S. Bureau of Animal Industry.

a usual cause, viz., to infected houses wherein were women of easy virtue. These had received night visits, carefully concealed and denied by men who, living in uninfected country places, had contracted the disease in said infected houses, and not by fomites in their uninfected country places.

Finally, it deserves consideration in behalf of sanitary officers who hesitate to abandon the disinfection of fomites, that more places than New Orleans have suffered by numerous advocates of innumerable "sure cures" and sure preventives for yellow fever. Notable among these advocates was Gen. Benjamin Butler, U. S. A., in 1862. He, whose memory is still odious in New Orleans, issued in 1863 a pompous farewell address in which he proclaimed: "I have demonstrated that the pestilence can be kept from your borders." His sure preventive was cleanliness, enforced by sanitary regulations, executed by an efficient sanitary police. However, conjoined with this sure preventive the U. S. Navy effectually blockaded New Orleans. General Butler's sure preventive was heartily indorsed by many medical officers of the Army, by northern physicians generally, by public and medical press and by many eminent sanitarians. Among these was Dr. Elisha Harris of New York, who had held several of the highest positions as a sanitary officer and became a president of the American Public Health Association. His advocacy was so conspicuous and enthusiastic that I replied to General Butler's claim[8] and closed with this question, which has never yet been answered: If New Orleans was saved from yellow fever by General Butler in 1862, when there were two reported deaths, who saved New Orleans in 1861, when there was not one reported case or death, and when blockaded New Orleans was occupied by General Lovell and his very many non-immune Confederate soldiers, who enforced no preventives of any kind?

CONCLUSIONS.

My reasons have now been indicated for the five following conclusions: The probabilities now are that the stegomyia, the only cause yet proven, is the sole cause for the dissemination of yellow fever; but that time is required to convert these probabilities into certainty. Boards of health, should they neglect any practicable measure of warfare against the stegomyia, would deserve the severest punishment of the worst criminals. Southern boards of health are excusable for over-precaution against yellow fever. States adjacent to Louisiana have power, by sanitary restrictions, to strangle the commerce of New Orleans and Louisiana should not abandon the disinfection of fomites until approved by said states. Boards of health are representatives of the people and are justified in continuing to disinfect fomites as long as public opinion may favor this measure and until the probability of its inutility is converted into certainty.

To my many friends who urge that Mrs. Stegomyia has inherited all the claims of her father, Mr. Fomites, who is dead and ought to be buried, I tender the advice given at a numerously attended funeral by the undertaker: "Gentlemen, gentlemen, please don't crowd the mourners"—mourners over the remains of Mr. Fomites!

DISCUSSION

ON PAPERS OF DRS. CARROLL AND CHAILLE.

DR. EDMOND SOUCHON, New Orleans—It is impossible not to be deeply impressed by the reading of the experiments made by Reed and his associates in Havana. The simple, direct, positive, American-like manner in which these experiments were conducted can not but fill our minds with noble pride, as scientists, as men and as Americans. As such I would most probably have joined also the army of followers that have been conquered by the immortal Reed, but as the responsible officer of the Louisiana State Board of Health, the duty of which Board is to guard the valley of the Mississippi against the introduction of contagious diseases, I am compelled to carefully examine into every point, and to submit all the statements, past, present and future, to the crucial test of the Pasteur law, in accordance to which no facts should be accepted as thoroughly proven until all possible means to disprove them have failed. It is because Pasteur applied this law to his own work that not one of Pasteur's statements has ever been refuted.

At the outset, kindly note the words "responsible officer." The sense of responsibility for the awful consequences of possible errors changes the whole aspect of questions. The irresponsible ones are always quick to urge on. When they meet with reverses they naively say that they never would have thought that possible, and that is the end of it.

But when responsible officers have to face the introduction of contagious diseases, the press, the people, the authorities, all unanimously shout that they should have known better, should have been more prudent and more slow in applying new theories; and general condemnation is forever attached to their fair names. But a few years ago all these tragic events were enacted in this very city.

Then, there comes in also the overpowering consciousness of the dire calamities, the sufferings, the anxieties and the sorrows of sickness and the deprivations and ruins or quarantines. All this is properly calculated to cause responsible officers to be doubly careful before making any changes in quarantine regulations which may be followed by pestilence and quarantines.

The factor of responsibility is well illustrated by the following anecdote: A very high health official once had presented to him for signature a telegram relating to a very important quarantine matter. The chief scanned the prepared telegram most carefully, then said to his assistant that since he had charge of that department to sign the telegram himself. The assistant retired and it took him two hours to find the wording of a telegram which he would sign and be responsible for the consequences. On going over the records of all the quarantine stations, state and federal, to which he could have access to and also over the scanty literature on the subject, the writer of the present was confronted with a number of cases of yellow fever where it was impossible for him and his responsible colleagues to see the intermediation of the mosquitoes, bearing in mind the fact that the mosquito does not live more than five days without water in the summer months.

We have collected 27 such cases in the meager literature of the day. Some are land cases and some are shore cases. However much I would like to read some of them to you, the time allotted me will not permit.

If such cases have been observed there have surely been many which have not been recorded. If such cases have presented themselves in the past, similar cases may again present themselves, and how can we safely ignore them in our quarantine regulations until they have been explained satisfactorily to the responsible officers.

To say that these cases are errors of diagnosis is begging the question. Reasonable men will admit that some of the cases may have been diagnosed wrongly, but reasonable men will also admit that it is unreasonable to say that all the cases were mistaken cases.

The first and foremost perplexity of the responsible officers was the question of the treatment of fomites. From the known experiments made by Reed and Carroll, Guiteras and Ross, it is contended that the disinfection of such is unnecessary. To these experiments the responsible officers oppose the fact that they were made at a time of the year when yellow fever is not at its worst, except perhaps the early experiments of Ross.

Then we must consider that 30 per cent. of the non-immunes bitten by infected mosquitoes did not develop yellow fever. It

8. In the New York Sanitarian, August, 1882.

is, therefore, unreasonable to expect that all experiments made with fomites should develop yellow fever. Beside, these experiments with fomites were made by men; men of recognized ability it is true, but human all the same, and they may have overlooked some factor.

We hold that the cases reported of transmission of yellow fever without the intermediation of the mosquito are truly experiments made by Nature herself, and she surely has overlooked no factor.

A noted sanitarian mentions the fact that a large amount of fomites went from Cuba to New York and to Spain after the Cuban War and that no yellow fever developed in either country. But these countries are places where yellow fever develops with difficulty. If that baggage had come to New Orleans, Galveston or Mobile and no harm followed, that would mean something, but as it is it is of little value.

The responsible officers do not contend that it is fomites that transmit yellow fever. They modestly say that they do not know; that it may be some means of which no one thinks now until some day someone comes up against it as they did for the mosquito.

The evolution of the mosquito theory and demonstration has required nearly a quarter of a century and it may take also a long time before it is demonstrated that there is another means of transmission, as the facts related above strongly point.

To those who say that the mosquito was present outside of the baggage or fomites but was not observed because no one at the time thought of them or looked for them, the responsible officer replies that at present the mosquito partisans see mosquitoes everywhere, even where they are not.

We are told that the mosquito is the host of the yellow fever germ and that it is transmitted through the saliva of the mosquito; but this has never been proven since that germ has never been seen by anybody.

To the explanation that the mosquito being the host of the yellow fever germ it can only be transmitted from man to mosquitoes and from mosquitoes to man, the responsible officers reply that that would be true if it were demonstrated that the germ of yellow fever is an animal parasite, but this is yet to be done. No one knows if it is an animal or a vegetable germ. If a vegetable germ it can be transmitted in several ways. This is the law of Nature.

A noted sanitarian of the United States Public Health Service states that of such diseases as have been fully investigated, all that are conveyed from living hosts are carried by animal parasites. How about the plague whose germ is a vegetable organism and which is transmitted by animals it is true, but also by the air and by the food?

A good deal of stress is laid on destroying mosquitoes on board of all vessels, non-infected vessels as well as the infected ones. The truth is that the mosquitoes on non-infected fruit vessels are a very small factor in the transmission of yellow fever because the proportion of the stegomyia is only 2.5 per cent. That this small number is unimportant is borne out by the fact that the absence of yellow fever in the Las Animas Hospital before the mosquito era was explained later by Havard and Guiteras by the small number of the stegomyia found when the mosquitoes of the hospital were destroyed. Beside, the mosquitoes on board of non-infected fruit vessels are not infected. If they were there would have been more than one case of yellow fever not traceable to the shore in fifteen years on more than 1,000 fruit vessels. And there would have been yellow fever in New Orleans from 1886 to 1896, during which time 50,000 laborers were exposed to mosquitoes while unloading fruit vessels before the fumigation of the holds.

The fact that a number of vessels without yellow fever at the port of departure or en route or on arrival at the home port have developed yellow fever after having been disinfected, points out also that there must be another means of transmission of yellow fever than the mosquito. Some of these vessels were many days out before arriving at the home port. If there were any infected mosquitoes on board they must have been well concealed that they did not bite anyone. Then how could they have lived without water, since they do not breed in bilge water or in sea water. There are many other contradictions, inconsistencies to cause perplexities, but we have no time here to dwell on them. In conclusion we will say that for the present and until further progress the responsible officers are unwilling to make any change in the quarantine regulations against yellow fever. They consider the question still under study and requiring more time and demonstration. Many believe, and the writer among them, that the demonstration of the unity of cause of transmission will most likely come, but it has not as yet arrived. Too many new ideas have been adopted, to be later exploded, not to cause responsible officers to move slowly in such momentous matters. Public opinion will require convincing proofs to stand by its quarantine officials when important changes will be proposed and specially put into practice.

The International Sanitary Conference held in Washington last December recognized that there were still some doubtful points regarding the transmission of yellow fever and that quarantine regulations should not be changed until further demonstrations.

Even if it should be demonstrated to the satisfaction of the responsible officers that the mosquito is the sole transmitter of yellow fever and that fomites truly do not convey it, the only difference it will make in the quarantine regulations is that the baggage, bedding, etc., shall not be subjected to disinfection and that the forecastle of vessels shall not be washed with bichlorid. The vessel shall have to be disinfected to destroy what mosquitoes are on board, and the crew and passengers shall have to be detained to make sure that no one is in the period of incubation. It is but little trouble to disinfect the baggage and bedding of a vessel compared to the possible results of the dispensation of it before more positive evidence shows that it is safe to do so.

Responsible officers are unwilling to run the risk of an epidemic with its consequent quarantine to prove that there is no other means of transmission of yellow fever except the mosquito. The needed further demonstrations will have to come some other way.

DR. QUITMAN KOHNKE, New Orleans—New Orleans is the most important city of the South, and the most important in this country in relation to yellow fever infection. Whenever yellow fever occurs in the South, New Orleans is accused of being the first city infected and the city from which it spreads.

We of New Orleans believe that yellow fever is always imported, and that, if recrudescence is at all possible, it occurs but seldom; we are, therefore, intensely interested in quarantine against yellow fever, though deprived by law of the power of quarantine, this authority residing in the State Board of Health of Louisiana.

I want to say here, to remove an erroneous impression, that no antagonism exists between the health authorities of the city and those of the state, save only that antagonism which may properly exist between two persons, differing in their views, but both tending in the same direction and both seeking the essential truth and the maximum protection which its application to preventive measures will insure to our people.

I may say, for instance, that I agree with Dr. Souchon in his determination to disinfect, for a while longer, for fomites for the sake of public opinion, the perfection of safety and the avoidance of injurious criticism (as Dr. Chaillé suggests); and I hope Dr. Souchon will agree with me in believing that the disinfection for mosquitoes should also be above criticism, and should be as thorough as it can possibly be made.

The recorded incidents of our quarantine history give us strong evidence corroborative of the mosquito transmission of the disease. Quarantine against yellow fever became practically effective only after the adoption in 1874 of Dr. Perry's method of sulphur fumigation of the holds of vessels, arriving from yellow fever ports. Mosquitoes were destroyed by this process, and the efficiency of the method was strikingly emphasized by the omission (by Dr. Perry's successor) to sulphur

fumigate a vessel, on which, in consequence of this omission, yellow fever developed while the vessel was at wharf in this city; the vessels treated by Dr. Perry's method having escaped this experience.

I may express my views on this subject as the health officer of New Orleans in language previously employed for a similar purpose and say that, omitting from consideration the proper detention of inoculated persons, I believe firmly that all quarantines against yellow fever in the past, in so far as they have been successful in preventing the introduction of the disease, have been so because they prevented the entrance of infected mosquitoes. Whether this has been accomplished by a detention for a period longer than the life of the mosquito, or by the destruction of the insect in some other way, the achieving result has always been the excluding of infected mosquitoes.

The vagaries of the quarantine service, fluctuating from one extreme to another, actuated now by an exaggerated fear of infection, and again by powerful influences directed, perhaps unwittingly, to the interests of commercial circles, may well account for some of the phenomena of yellow fever visitations improperly attributed to other causes.

The recorded observations of men who knew nothing about the mosquito transmission of yellow fever form a chain of circumstantial evidence leading to conviction.

We have in New Orleans two abominations, of which we hope soon to be rid—the cistern and the water closet, both situated in the rear portion of our resident premises.

It has been observed that yellow fever travels from house to house more frequently over the back fence than to the side neighbors, and the close relationship between rear premises has for years been a matter of puzzling speculation. It is easily explained now by the mosquito theory. Cisterns are breeders of mosquitoes (stegomyia), and to the cisterns mosquitoes naturally go to obtain water. Some of these mosquitoes being infected it is easily supposable that they will fly from the cisterns or closets to the nearest neighbor, whose house may front on a street considerably distant from the previously infected house. It has also been observed in the past that the period of time intervening between house-to-house infection was in many instances about two weeks; this corresponds, also, to the mosquito transmissibility of yellow fever; and many of the recorded facts, other than these, and puzzling at the time of their observation, are made clear by the application of the mosquito theory to the otherwise unexplainable incidents.

The accumulated records of the past, viewed in the light of present knowledge, seem like a deliberate gathering of evidence against the mosquito; even before the thought of an indictment was entertained by those who laboriously and conscientiously (though not understandingly) piled up the mass of corroborating evidence, supporting the charge against the female stegomyia of transmitting yellow fever from one victim to another.

DR. FELIX FORMENTO, New Orleans—Two years ago, at a meeting of the Public Health Association, which met at Buffalo, N. Y., a discussion on this subject took place in which Dr. Reed partook, a man who no one admired more than I did. The real subject for discussion was the communicability of the disease and the views that I then took are those that I take at the present time. It was then stated that communication occurred only through the bite of the mosquito. I think that the admirable work and the results of the work of the American physicians in Havana have demonstrated that this disease is communicated by the bite of the mosquito. It has not been absolutely and positively demonstrated that yellow fever can not be communicated to man except through the mosquito; there have been cases in which the prevalence of the disease can not be explained by the mosquito theory.

A few years ago a trunk belonging to an officer from Havana was sent to Madrid. Several months later the trunk was opened, being several months after the death of that officer from yellow fever. It was soon after noted that members of that household, in which the trunk was opened, were taken down with yellow fever. There are other cases reported which seem to prove that there are other means of communication of this disease.

I think we should be more careful about laying aside such evidence. I have studied this disease since 1861, and there are many points regarding this disease that still are very obscure. During the past 12 years there have been no cases of yellow fever in New Orleans, where everything has been done against the mosquito. Cases have occurred at Vera Cruz and at Havana, but none have occurred here.

Formerly there was great opposition to quarantine being established and once it was asked that it be abolished; believing that the mosquito was the ordinary means of communication of this disease it was decided not to take such a decided measure as abolishing quarantine. I believe that we should be a little conservative in this direction.

DR. C. W. STILES, Washington, D. C.—I do not think there is anything strange about the conservatism that is found in New Orleans, as expressed by Dr. Formento; I should be surprised if it was not so. It is evident that the spirit of fairness that has been exhibited by members of the Association in New Orleans shows that the slight differences which they may have had is really ephemeral in nature.

There are certain biologic facts that should be considered in yellow fever. We all know that the cause must belong to one of three different groups, as follows: 1, bacterium; 2, flagella; 3, sporozoa. The entire nature of the disease, together with the short period of incubation, shows that the organism is reproduced by a non-sexual method and there are only three groups of organisms which reproduce in this way. The bacterium seems to be excluded because of the short period of incubation in the mosquito. Regarding the flagella nothing is known regarding its sexual development, but if there is any form of flagella that is reproduced by the sexual method, and if it is a cause of yellow fever, we must then admit that it is necessarily a wound disease. But we do not know any flagella in existence which can transmit the disease in this way. The only organism which corresponds to what we expect the parasite should be, then, is the sporozoa. This organism is non-sexual. In every case the organism must pass through a definite and regular rotation.

Either yellow fever is caused by the sporozoa, or else it is caused by one of the other two mentioned; if the latter exist it must then be a coincidence. Then this period of incubation of 13 days means nothing at all. I prophesy that the disease will be shown to be a sporozoa disease and all differences of opinion will die out entirely so soon as this is shown to be the case.

DR. JAMES CARROLL, U. S. A.—I did not expect for a moment that my ideas would meet as much sympathy as is shown. We certainly appreciate the full responsibility that rests on the gentlemen who conduct the hygienic and sanitary affairs necessary to protect New Orleans from yellow fever. I wish to again make the statement that there is no other source of infection possible that has been proven. We have proven that this disease is transmitted by the mosquito. We have also proven that the disease is *not* transmitted by fomites.

When you consider the conditions under which the experiments were conducted at Havana one must be much impressed with the accuracy of them. Three non-immunes entered a building in which there were several articles of bedding, etc., which had been infected with the discharges of blood and fecal matter, urine, etc. They remained there during the night. In the morning they removed the articles from the ward, shook them and then repacked them in boxes. This routine was carried out every day for 20 days, when they came out in perfect health. Following them two other non-immunes entered. They slept there for 20 days and nights. They slept between sheets which had been used by fatal cases of yellow fever. In fact, everything imaginable was done to infect those men, and they would have become infected if such thing had been possible by such means. They, too, came out in perfect health. Other sets of non-immunes were tried. Even blood was drawn from infected patients and towels were

soiled and these men slept with their heads between these bloody towels. They, too, came out in perfect health. Gentlemen, I believe positively that fomites are perfectly harmless. The material was kept there for several months and then removed without any precautions, sent to the laundry, and no one who handled them contracted yellow fever. Of 7 individuals experimented on, four subsequently contracted the disease from the bite of the mosquito and the subcutaneous injection of infected blood. There was no question as to the susceptibility of those infected. All were Americans. These experiments were reported in 1900, in August, by Drs. Guiteras and Ross, and another physician of Havana, and all with the same results.

After such experiments I contend that the burden of proof rests with the other side. On those who decline to accept this practical demonstration rests the burden of proof, and they must prove that the disease is transmitted in some other way. If it can be proven that the disease is spread by fomites we are willing to yield. I do not believe there is any doubt that our results will be confirmed, as they have already been so far by certain investigators. It has been found that those who suffer from the disease can be handled with impunity by nurses without any extension of the disease. Personally I believe that if there was no quarantine and no disinfection the disease could be excluded or prevented from spreading by proper precautions. Of course, that would result in placing everyone beneath a mosquito bar and protecting them by wire screens. Then there would be no possibility of spreading the disease. There are no cases of yellow fever now in Havana except imported ones. In regard to Dr. Souchon's statement with reference to the vessels arriving at the port of New Orleans after trips from South America and with the fever developing among the passengers five or six days after arriving at quarantine, they probably were infected after their arrival at the quarantine stations. There is an immense amount of literature on this subject.

COMBINED INTRA-UTERINE AND EXTRA-UTERINE PREGNANCY; OPERATION AND RECOVERY.

G. J. HAGENS, M.D., AND J. J. MOORHEAD, M.D.
CHICAGO.

A perusal of the literature and the failure to find the coincidence of intra-uterine and extra-uterine pregnancy mentioned in a number of the latest text-books would indicate that this form of gestation is certainly infrequent.

B. B. Browne[1] gives a report of the published cases, 23 in number, dating from 1708 to 1880, and adds a case operated on by H. P. C. Wilson of Baltimore.

Straus[2] states that no fewer than 32 instances of tubal pregnancy coexisting with intra-uterine gestation appear in literature. In Straus' table the maternal mortality amounts to 14 in the 32, but 10 of the 14 were in cases dating from 1820 to as far off as 1879. In 13 cases both extra- and intra-uterine pregnancies continued to term; in 4 both fetuses were living, and out of these 4 only 2 were cases in which both fetuses were delivered alive, the one normally, the other by abdominal section. But one mother was lost out of these 2 cases. In 3 cases one pregnancy alone continued till term, in 2 it was the normal gestation, in one uterine abortion occurred at the sixth week and tubal pregnancy continued to term. In 5 cases the simultaneous pregnancies were diagnosed before uterine labor or operation. In 9 cases the diagnosis was made after spontaneous termination of the uterine pregnancy. In 6 cases it was not made at all, being discovered at necropsy; in 6 cases it was detected during abdominal section, in 2 after abortion of the uterine pregnancy, in 2 at an abdominal section after abortion, in one after detachment of the placenta from the uterine cavity, while in one intra-uterine pregnancy was not detected until two months after the tubal sac had been removed. This is the only case in which, after that operation, uterine pregnancy continued to term. The child was living and was reared.

1. Trans. Am. Gynec. Soc., 1881.
2. Zeit. f. Geburtsh. u. Gynak., 1900.

Our contribution is as follows:

Mrs. J., aged 33; housewife; married 12 years; mother of five living children; youngest child born three years ago.

Since she first menstruated, at 12 years of age, this function has been regular and painless. Had typhoid fever eight years ago. No definite history of pelvic disease.

Last menstrual period began Oct. 20, 1901; usual duration of five days. One month later she noticed a bloody discharge from vagina. Two weeks later she complained of pain in right lower abdomen, also frequent and painful urination. Treated at this time for supposed bladder trouble. On December 18, while seated in a chair, she was suddenly seized with intense cramp-like pain in right groin, accompanied by cold sweat and faintness. Rest in bed for thirty-six hours afforded relief, although she was unable to perform her usual household duties. Bleeding continued at intervals until latter part of December.

We first saw the patient at 3 p. m., Jan. 31, 1902. About 9 o'clock that morning there occurred an attack similar to that previously described.

Her expression was anxious; she complained of severe pain, paroxysmal in character, located in right inguinal and sacral region. Pulse, 100; temperature, 99.4; respiration, 26. Chest negative. Abdomen distended. On palpation no tenderness except over an area extending transversely from right iliac spine to three inches to left of median line, and upward to a point midway between symphysis pubis and umbilicus. In this locality was felt a mass, slightly movable, regular in outline, giving a flat note on percussion. External genitalia showed usual signs of pregnancy. No hemorrhage. Bimanual examination revealed a soft cervix, not patulous, displaced forward and upward; cul-de-sac and right pelvis completely filled by a swelling, somewhat irregular on lower surface and very tender to touch. No distinct sulcus between the uterus and mass could be determined. The patient at this time was quite restless. Auscultation not attempted.

The clinical history and physical findings led to a diagnosis of extra-uterine with probably intra-uterine pregnancy.

She was taken to hospital; prepared for both abdominal and vaginal section. Under ether anesthesia, examination proved more satisfactory. The swelling seemed to be continuous with the right horn of an enlarged uterus. Incision posterior to cervix, opening of cul-de-sac and base of right broad ligament was followed by a gush of partly clotted blood; placental tissue was punctured, and a perfectly formed fetus extracted by the feet; placenta removed piecemeal. One hand in cavity now felt the womb softened and enlarged in size to that of pregnancy between the third and fourth month. While on the table patient became almost pulseless, requiring vigorous stimulation. Sterile gauze packing controlled hemorrhage. Twenty hours later, following intermittent pains and slight bleeding, a second fetus and placenta were expelled from the uterus. Packing removed on fourth day. The intra-uterine fetus measured 12 cm. from vertex to rump, the extra-uterine fetus 10 cm.

Convalescence was interrupted by a slight elevation of temperature and pulse, beginning on third day and continuing two weeks, evidently due to mild sapremia. Drainage from cavity profuse for several days. Patient sat up in bed on seventeenth day, returning home one week later, the wound having closed. Recent examination finds the uterus in good position, well involuted, freely movable; some thickening of right broad ligament.

In this instance there was a rupture of tube on lower surface; the fetus and placenta developing within the right broad ligament—a true intra-ligamentary pregnancy.

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SATURDAY, MAY 23, 1903.

THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITER.

The realm of the physician is gradually becoming more and more circumscribed. His domain, or, what he seemed reasonably justified in considering his undisputed domain, is steadily being invaded by the intrepid surgeon. Who, ten years ago, would have thought that nephritis would ever be treated by means other than medical? Chronic endocarditis would seem to be an affection that the clinician would ever claim undisputed right to treat without the aid of the surgeon. Yet Lauder Brunton, a physician and not a surgeon, as a result of experiments on dogs, advances the view that there is sufficient evidence to warrant the surgeon in incising the constricted mitral orifice in cases of advanced mitral stenosis. Who will be the venturesome surgeon to first act on this suggestion and what will be the result? We had thought that angio-neurotic edema was exclusively within the sphere of the physician. Resection of the nerve supplying the affected area has been advocated and even carried into effect with beneficial results in this or a closely allied affection.

Physicians are quite ready to concede that, up to the present time, the therapeutic treatment of exophthalmic goiter has been, on the whole, eminently unsatisfactory. Grünbaum, during the last year or two, has used the serum of thyroidectomized goats in the treatment of this disease. We shall have to await the results of more extended experience with the serum-treatment before passing judgment on it. Considering our demonstrated helplessness in securing any permanent improvement by the medical treatment of Basedow's disease in any large percentage of cases, the physician will welcome the inroad of the surgeon and the results he has obtained in this distressing disease. We are indebted to Professor Kocher of Bern for having conclusively demonstrated that surgical procedures give by far the best results ever obtained in the treatment of this affection.

Albert Kocher[1] has recently reported the cases of Basedow's disease which have come under the observation of his father, Professor Kocher, in his hospital and private practice between the years 1883 and 1899. The series comprises 93 cases, of which 74 were cases of true exophthalmic goiter. What is of especial interest in this monograph is the record of Professor Kocher's results in the operative treatment of this disease. Kocher insists that the operation should not be done when the patient is in the stage of marked cardiac and psychical irritability. Means must be used to reduce these as much as possible first. All the operations were performed under the local use of a 1 per cent. solution of cocain. Altogether, 59 of the 74 cases of true Basedow's disease were operated on.

Four of the 59 cases died with symptoms of tetany within ten days of the operation. Of the remaining 55 cases, 39, or about three-fourths, had unpleasant postoperative symptoms. These consisted of transitory psychical disturbances, irritability, oppression, palpitation, sensation of heat, congestion of the face, general tremor, sweating, vomiting, fever and irregular, frequent pulse; in fact, temporary increase in the symptoms present before the operation. The fever and tachycardia persisted in all the 39 cases. The other symptoms mentioned occurred in the majority of the patients. The possibility that these symptoms were due to an acute toxemia resulting from absorption of certain substances pressed from the gland during the operation is discussed, but a satisfactory explanation for the aggravation of the symptoms is not arrived at. The other 16 patients operated on had no disagreeable after-effects. The results of the operative treatment are satisfactory. Of the 59 cases operated on, 45, or 76 per cent., were cured; 8, or 14 per cent., were decidedly improved; 2, or 3.5 per cent., were only slightly improved; 4, or 6.7 per cent., died with symptoms of tetany after the operation.

In 15 of the 74 true Basedow cases medicinal treatment of various kinds was used. The results, notwithstanding the fact that several of them were mild cases, are in striking contrast to those obtained from operative procedures. In only one case could a cure be said to have occurred, and this was really brought about by the patient developing an intercurrent disease.

Postmortems were obtained in three of the four fatal operative cases. Several factors may have played a part in causing the fatal termination in the first case. There was a persistent thymus; the heart was dilated and there was a fluid exudate in the serous cavities, and the superior cervical ganglion was very much enlarged. In the second case death was found to be due to double-sided pneumonia and pleurisy. The fatal result in the third case was believed to be due to the extreme severity of the intoxication. At autopsy the dilated heart, spleen tumor, jaundice and fatty degeneration of the liver and spleen confirmed this view.

The profession should be familiar with Kocher's brilliant results. Clinicians will welcome the invasion of their territory when results such as these are obtained. A vigorous warning against this operation being undertaken by only the most experienced surgeons must be made, however. Only those who have had wide experience in thyroid surgery and in the local use of cocain should undertake the operation.

1. Mittellungen aus den Grenzgebieten der Medizin und Chirurgie, 1902, ix, Bd., 1 u. 2 Heft.

THE SEASONAL PREVALENCE OF TYPHOID FEVER AND ITS RELATION TO SEASONAL TEMPERATURE.

The prevalence of typhoid fever at certain seasons has given rise to several explanatory hypotheses. Perhaps the most important of these, and certainly the best known, is that of Pettenkoffer, who tried to establish a relation between the level of the ground water and variations in the prevalence of typhoid. It is true, that at Munich there existed a definite relation between the level of the ground water and typhoid, but, as pointed out in the recent statistical study on temperature and typhoid fever by Sedgwick and Winslow,[1] in most cases it does seem as if the possibility of the influences of temperature had not been satisfactorily excluded. Indeed, there has been no very satisfactory explanation offered of the fact that, in some cases at least, the number of cases of typhoid fever is most abundant when the ground water is lowest, as claimed by Pettenkoffer and his school.

Sedgwick and Winslow have gathered a large mass of statistics from various parts of the world and representing a wide range of climate in order to study what relations, if any, exist between the periodical prevalence of typhoid and temperature. It seems that only few have looked for an explanation of the seasonal distribution of typhoid fever in temperature, and to most of us the fall maximum of typhoid fever has remained a more or less mysterious phenomenon. The curves of Sedgwick and Winslow show a striking parallelism between monthly variations in temperature and the prevalence of typhoid. In northern localities the maximum number of cases of typhoid occurs in September and October. In southern cities, in which there is a milder winter, most cases occur in August and July. In tropical and subtropical regions the typhoid curve rises with the temperature in the spring, falling with it in the autumn, but shows a decrease at the time of greatest heat, due, perhaps, to great dryness or the action of sunlight. In certain cities in which the curves were more or less irregular, special factors may have entered into play that would tend to upset the parallelism between the temperature curve and the typhoid curve, as, for instance, sudden epidemic outbreaks, due to infection of a number of persons at once through some common medium, like milk or water. In such instances curves based on a small number of cases are likely to show irregularities that on superficial view do not harmonize with the typical seasonal curves. In some of the cities furnishing large statistics, such as Chicago, Cincinnati and Philadelphia, the typical curves show secondary elevations, one in December or January, and one between March and May. These rises in the typhoid morbidity are traced by Sedgwick and Winslow to the facts that these cities derive their water from sources liable to surface pollution, and that autumn rains and spring floods may carry into the water supply a larger amount of pollution at these times than at others. Sedgwick and Winslow would explain the reasons for the seasonal variations in the prevalence of typhoid fever and their relations to the temperature in the following way: The bacilli of typhoid fever do not thrive outside the body during colder seasons of the year. Some germs may survive the winter within the bodies of patients, e. g., the urinary bladder, or perhaps in vaults and other depositories where they may be protected from the cold. As the season grows milder the germs that enter the outer world will stand a better and better show to live and multiply and again enter human beings. Naturally this will be a cumulative process. "Each case will cause more secondary cases, and each of the latter will have a still more extensive opportunity for widespread damage. In our opinion, the most reasonable explanation of the seasonal variations of typhoid fever is from the effect of temperature on the persistence in nature of germs which proceed from previous victims of disease."

The data brought together by Sedgwick and Winslow certainly seem to warrant the conclusion that seasonal prevalence of typhoid fever is dependent largely on the influences of temperature on the growth and persistence of the typhoid bacillus. Their study constitutes a valuable addition to our knowledge of typhoid fever. The conclusions emphasize the urgent necessity in cities to "clean up" and to abolish all unsanitary conditions in crowded tenement districts so as to limit as much as possible the chances for typhoid bacilli surviving in our environment. These measures are, of course, only of secondary importance compared with the *sine qua non* for freedom from typhoidal diseases, namely, uninfected water.

1. Memoirs of the American Academy of Arts and Sciences, August, 1902, vol. xii, No. 5.

A NEW CLINICAL ENTITY.

At the meeting of the Association of American Physicians in Washington last week, Dr. Osler presented the salient features of a series of cases which seem to fall under an as yet unrecognized independent symptom complex. Not that cases of the disease have not been previously described by others, but their full significance as belonging to a new clinical entity has not been properly appreciated. The distinctive features of the cases are chronic cyanosis in connection with marked polycythemia—an increase of the red blood cells so far above the normal that the blood count averages 10,000,000, and may go as high as 12,000,000 per cubic millimeter. Notwithstanding the intense cyanosis observed in these patients, which in certain instances makes them absolutely livid in appearance, they suffer but very little, and in some cases, indeed, not at all from dyspnea. The hemoglobin value of the blood is almost proportionate to the number of red cells and runs very high, commonly above 150.

As Osler said, ordinarily when a patient walks without difficulty into a physician's office, yet is suffering from a marked degree of cyanosis, the physician thinks

at once of emphysema. If the condition is evidently one of labored breathing, heart or kidney disease may be the first thought. In some rare cases advanced tuberculosis may be found as the cause of the condition. In the cases constituting the new clinical entity, however, there is no emphysema, no heart disease and only slight albuminuria. The mild renal disturbance of which this is a sign is evidently not the cause of the cyanosis, but a result of the general condition and rather functional than organic, since, as a rule, it is not accompanied by casts, or only hyaline casts, and those not in large numbers. The only other pathologic conditions that are constant in the disease are constipation and an enlarged spleen.

The cause of the affection is not clear. Usually the history of the cases extends back over many years. Dr. Osler's first patient was a physician, whose cyanosis had been a cause of wonder for several years before he came for professional consultation, the thought being that it was probably due to emphysema. It is well known that congenital heart disease producing the cyanotic condition called by some morbus cæruleus, or "blue disease," is most commonly accompanied by a very large increase in the number of red blood cells with a corresponding increase of hemoglobin. Eichhorst[1] refers to some cases of this kind in which the blood count was 9,000,000 and the hemoglobin value above 160 per cent. Some of these cases do not show symptoms in early life, but develop the circulatory insufficiency of their congenital heart disease only with advancing years. Of course, these cases, as suggested by Osler, are at most but analogous examples of cyanosis with polycythemia, and were referred to only as throwing a certain light on the special pathologic condition described by him. None of his patients exhibited any of the cardiac symptoms of congenital malformation, and all had lived well beyond middle life without any discomfort traceable to such a cause.

Curiously enough, after the report of Dr. Osler's cases, in which he referred to previous descriptions of like sets of symptoms in medical literature, and especially to two cases seen by Dr. Richard Cabot of Boston, a number of prominent clinicians reported similar cases that had been under their observation in recent years, though they had not realized the possibility of the independent nature of the clinical symptom complex present. These observers were from various and distant parts of the country, from Toronto, Buffalo and Boston to Los Angeles. It seems evident, then, that as soon as it is realized how definite the new affection is that many other cases will be reported. We shall expect to find in the medical literature of the near future ample confirmation of these preliminary reports. It is evident that there are many such cases in existence, and we may look for examples of this new clinical entity in abundance in the literature of the near future. The suggestion of its independent nature is likely to stimulate clinical observation to the distinct credit of American medicine.

1. Eichhorst, Pathologie und Therapie, vol. I, p. 110 et seq., 1899.

THE REVIVAL OF THE "ST. LUKE'S HOSPITAL" FRAUD.

It is only about a couple of years ago that the notorious "St. Luke's Hospital" diploma mill and general fraud found it expedient to go out of business under special stress of Michigan laws. Now it has appeared again, under another name, it is true, but evidently under the same auspices and general control and with the same policy and fraudulent practices. Since the 15th of May the mail of THE JOURNAL has been flooded with the circulars of the "Christian Hospital," 617 La Salle Avenue, Chicago, sent to it by righteously indignant correspondents. These circulars have all the characteristics of the old St. Luke's Hospital output, the same offers of staff positions, fac similes (reduced) of diplomas, promises of advertisement and offers of commissions on cases sent. The circulars outdo the St. Luke's samples in their unauthorized use of names of prominent physicians, in some cases thinly disguised; among others they brazenly use the name of a noted Chicago surgeon as chief of staff.

In Michigan St. Luke's Hospital flourished under the lack of state laws properly covering the offense of fraudulent diploma selling, and not until the legislature passed an act especially meant to reach it, did the concern succumb. One "Dr." A. C. Probert, who was the real manipulator of the fraud, is also prominent in the "Christian Hospital" literature, if, indeed, he is not the real "it" of the concern. While most of his associates are new, we still see the name on the roster of Dr. Charles W. H. B. Granville, who was the figurehead of the Michigan concern, and who also figured in some legal proceedings elsewhere. The boldness of these impostors in thus coming out under their real names and following the identical methods in which they had been so clearly exposed is rather striking. They probably have reckoned on a similar deficiency in Illinois statutes as that they first profited from in Michigan, and have, it would seem, cleverly timed this initiation of their work to coincide with the end of the legislative session, expecting, therefore, to have a free hand for at least the next two years. If it should indeed so happen that no existing state statute reaches the case, it would seem that the United States postal laws ought to cover such fraudulent use of the mails by such a disreputable diploma-selling concern as well as in the Armstrong case. While we have no sympathy whatever with the medical practitioner whose idiotic egotism is gratified by sticking up such a diploma in his office on the promise of unethical advertisement and exploitation of his patients, we would be glad to see honest physicians relieved from exposure to the insult that such offers necessarily imply. We have abundant evidence that a large proportion of our readers are feeling just that way. Moreover, we want to see justice done and a stigma on the fair name of any city and state where such practices are permitted removed. The sooner the end of the "Christian Hospital" comes the better.

If any of our readers have sent the concern money and have been defrauded thereby we shall be glad to hear from them.

SUPER-SUPERLATIVE FLATTERY.

We like to see the articles of THE JOURNAL quoted and fully credited, but we do not like to see our abstracts abstracted without credit; neither do we enjoy seeing the original matter taken bodily without so much as a thank you. Imitation is said to be the sincerest kind of flattery; actual appropriation must therefore be even super-superlative. Hence, we feel flattered in seeing an editorial which appeared in a recent issue of THE JOURNAL incorporated bodily, with only a dozen or so verbal changes, into an editorial in one of our Eastern contemporaries. We had credited the editor of the *Medical Times* with the ability to write his own editorials.

VACCINATION AND THE ANTIVACCINATIONISTS.

The antivaccinationists and anti-vivisectionists are still using the Cleveland example as a noted instance of the failure of vaccination and the advantages of disinfection against smallpox. It might be well to restate the facts, which seem to have been lost sight of by the general public. The disinfection did not abate the smallpox, but was followed by an epidemic of over 1,200 cases and over 200 deaths, and then Cleveland made up for its laxity by a most vigorous vaccination crusade, with a final result of stamping out the disease. While the anti-vaccinationists will still probably continue to ignore this, it is just as well once more to restate the facts. If there is anything positive in medicine it is that vaccination will stamp out smallpox.

THE IDENTITY OF SYSTEMIC BLASTOMYCOSIS AND THE SO-CALLED PROTOZOIC DISEASE.

American investigations concerning blastomycosis in man, and closely related or identical processes, have reached considerable proportions. This work begins with Gilchrist's description of his first case of blastomycetic dermatitis. Almost two score of similar cases have since been reported and the mycology often clearly set forth. The next important step consisted of the work of Rixford and Gilchrist on the so-called protozoic disease, their results showing the identity of the minute anatomy of the skin lesions in this disease and in blastomycetic dermatitis. However, it seems that Rixford and Gilchrist were in error in concluding that the micro-organism in the protozoic disease is a protozoon, for Ophüls and Moffit[1] demonstrated in a thorough manner that the organism is a mold-fungus. Another important feature is that the fungus of Ophüls and Moffitt, as nearly as one can tell from a published description, is identical with the Oidium hyphomycoide isolated by Ricketts[2] from several cases of blastomycetic dermatitis; Montgomery[3] also appears to have obtained the same organism from a similar case. The apparent identity of the organisms is strongly suggestive of the identity of the two diseases. Of interest in this connection is the report of a case of "Systemic Blastomycosis," by Ormsby and Miller,[4] the infection atrium being apparently in the lungs. Without entering into details it may be stated that the course of the disease and the autopsy findings are identical with those of certain cases of the protozoic disease. The clinical history was very similar to that of generalized tuberculosis, the autopsy disclosing small abscesses and tumor- and tubercle-like formations in visceral organs. In addition, the organism cultivated by Ormsby and Miller from their case seems identical with that of Ophüls and Moffitt. So one could say that either the Ophüls and Moffitt case was one of blastomycosis, or that of Ormsby and Miller was a case of the protozoic infection. The latter authors failed to draw attention to this probable identity in their report. Our obdurate colleagues in Germany probably will continue to consider this disease (blastomycetic dermatitis) the creation of an imaginative (American) mind, until they have succeeded in determining a case in the "Vaterland." A German critic (Kromayer) is able to recognize only one case of true blastomycetic infection in man, and that was a systemic infection described by Busse and Buschke. This position is in part due to the well-known German ignorance of scientific work in America.

1. Philadelphia Med. Jour., 1900, v, 1471.
2. Jour. of the Boston Soc. of Med. Sciences, 1901, v, 153.
3. JOURNAL A. M. A., 1902, xxviii, 1486.
4. The Journ. of Cutaneous Diseases, March, 1903.

Medical News.

ILLINOIS.

St. Francis' Jubilee.—The twenty-fifth anniversary of the formal opening of St. Francis' Hospital, Peoria, was formally celebrated last week.

Smallpox.—There are said to be 20 cases of smallpox at Dalton, and in default of an isolation hospital, guards have been posted at the homes where the disease exists.

Personal.—Dr. Edith Fyffe, Chicago, has returned from Europe.——Dr. Nicholas Senn, Chicago, reached New York, May 15, on his return from Madrid.——Dr. W. G. Willard, Chicago, major and surgeon Illinois National Guard, assigned First Infantry, has resigned.——Dr. Ben D. Baird has been made health officer of Galesburg.——Dr. Alfred C. Phillips, Apple River, was taken ill in New Orleans, May 6, and was removed to the Louisiana Retreat.

Chicago.

Pneumonia Deaths.—This disease caused 172 of the total 586 deaths recorded during the week ended May 16, from all diseases—excluding the 46 from suicide and violence. This was nearly one-third (29.3) per cent. Since the first of the year there have been 2,659 deaths from pneumonia and 1,190 from consumption, or nearly 125 per cent. more from pneumonia.

Increased Requirements.—Rush Medical College, beginning with this summer, will demand 12 majors, in addition to a four years' high school course; one-half of these must be in special preparatory studies for medicine and must include chemistry and elementary biology. In June, 1904, the requirements will be further increased and a year later the completion of the junior college course or its equivalent will be required.

Old Milk and Infant Mortality.—The health department reports 184 deaths of children under 5 years of age during last week, as against 138 during the previous week—an increase of exactly one-third, 33.3 per cent.; and as against 128 in the corresponding week last year—an increase of 43.7 per cent. The length of time between the drawing of milk and its delivery and use is considered a cause. Thousands can not afford ice and preservatives will add to the injuriousness of the milk. The Bulletin of the health department refers to the great improvement in milk quality in the past six years and the lessened death-rate among infants and urges continued enforcement of regulations looking toward pure milk.

IOWA.

New Graduates.—Keokuk Medical College, at its sixty-sixth annual commencement, April 28, conferred degrees on a class of 56.

Personal.—Dr. David S. Fairchild, formerly of Clinton, has removed to Des Moines and has been appointed dean of the medical department of Drake University.

Itinerant Abandons Fight.—"Dr." B. P. Rea, an itinerant medicine man who was indicted a year ago for practicing without license and was fined $300 and costs, gave notice of appeal and threatened to demonstrate the unconstitutionality of the law under which he was convicted, by carrying the case to the Supreme Court. Wiser counsels have prevailed, however, and he has now paid the fine and costs, amounting to about $318.

MARYLAND.

Baltimore.

Want Good Milk.—The new Baltimore Pediatric Club held a meeting, May 21, to launch a crusade for better milk. Addresses were made by Dr. Henry L. Coit of Newark, N. J., and by Drs. Osler, C. W. Mitchell, C. Hampson Jones and Bassett of Baltimore.

The mortality for the week was low, 165, being 15.90 per 1,000, and for the whites only 13.72. Pneumonia caused a large proportion of deaths, 19, being exceeded by consumption by but one. Seven new cases of smallpox were reported and 33 of scarlet fever.

MASSACHUSETTS.

Appointments.—At the Boston City Hospital, Dr. John N. Coolidge has been appointed medical registrar, and Dr. George A. Leland, visiting aural surgeon.

Bequests.—John L. Day, Quincy, left $5,000 to the Quincy Hospital, and the same amount to the Carney Hospital, Boston, and to St. Mary's Infant Asylum.

Death and Infection.—For the week ending May 9 210 deaths occurred, equivalent to an annual death-rate of 18.68 per 1,000. Pneumonia caused 30; whooping cough, 5; heart disease, 22; bronchitis, 6; tuberculosis, 29; diphtheria, 4, and violence, 12 deaths. Of infectious diseases there were reported: diphtheria, 40 cases; scarlet fever, 33; typhoid fever, 16; measles, 31, and tuberculosis, 25.

Tuberculosis Increasing Among Hebrews.—The United Hebrew Benevolent Society, Boston, has discovered that tuberculosis is rapidly increasing among the Hebrews of Boston. The society is taking active measures for bettering the crowded conditions in the midst of which many Hebrews live, and to which the spread of this disease is attributed. Six of the 17 cases reported to them this last year were sent to the Hebrew Hospital in Denver.

Boston.

Boston's mortality for the week ending May 15 was 20.37. The largest elements were pneumonia, 39; heart disease, 26; tuberculosis, 26; diphtheria, 6; bronchitis, 5. The prevalence of contagious diseases is indicated by the report of 38 new cases of diphtheria, 45 of scarlet fever, 18 of typhoid fever and 53 of measles.

Report on Insane.—The trustees of the Boston Insane Hospital report that they have under their care 1,771 patients, of whom only 543 are in the institution directly under their supervision. Several new buildings are being constructed to relieve the crowding here, but the provision is far from sufficient. They urge the great injustice of compelling relatives and friends to travel the long distances necessary to get to the state institutions which are themselves far too much crowded. The net cost per week per patient was $4.05.

MISSOURI.

Baker Retains License.—On April 27 the State Board of Health decided that the charges against Dr. Charles M. Baker of Santa Fe were not well enough founded to justify taking away his license. He was, therefore, exonerated.

Examining Board.—At the session of the State Board of Medical Examiners in Kansas City, April 28, one candidate appeared, was rejected, and the board adjourned. At the previous session, April 1, the board examined 21 applicants.

Medical Student Commits Suicide.—Gaston M. Jordan, Caruthersville, a junior student at Memphis (Tenn.) Hospital Medical College, despondent over his failure to pass the senior grade examinations, committed suicide, April 30, by taking two ounces of chloral.

Leper Found in Laundry.—Dong Gong, the Chinese leper of St. Louis, of great notoriety, who escaped from quarantine two days before, was captured, May 7, in a Chinese laundry. Patrons of the laundry were in great alarm and in many cases are said to have made bonfires of the clothing washed there. The proprietor has been compelled to leave the neighborhood.

NEW YORK.

Graduation Exercises.—The seventy-second annual commencement exercises at Albany Medical College were held May 5, when 34 young physicians received diplomas from Chancellor Van Vranken of Union University.

The Ithaca Epidemic.—Dr. George Soper of the State Board of Health reports on the Ithaca epidemic that "so far as can be said at present, there have been 955 cases and 64 deaths. This ranks the epidemic among the most important in modern times in this part of the world." Twenty-nine of the deaths were of Cornell students.

Grip, Pneumonia and Nephritis.—The bulletin of the State Board of Health for March says that the state is at present in the course of an annually recurring epidemic of grip. A few deaths were reported as early as October, but the estimated mortality was not above 500 until January, when it was placed at 1,200 for the month, and for February it was increased to 1,500. The mortality of March was increased 2,000 by this disease. Separate record has not been kept of pneumonia save for the past two years. It was the cause of 8,800 deaths in 1902, or a little over 50 per cent. of the reported acute respiratory mortality. In January there were 1,223 deaths, in February 1,133, in March 1,290. Nephritis caused 726 deaths in March, a decrease from last month.

Buffalo.

Bond Issue Authorized.—The state legislature has passed a law granting Buffalo the privilege of issuing bonds for $500,000 for the improvement and extension of the water system.

Personal.—Dr. Charles G. Stockton went to New York to attend the dinner given by Dr. Max Einhorn in honor of Professor Ewald of Berlin.——Dr. Irving P. Lyon is in the Adirondacks.——Dr. Harvey R. Gaylord of the Gratwick Cancer Laboratory has typhoid fever.

Hospital Appointments.—Drs. Edward Drozeski, Hyatt Regester, Thew Wright and Fred Parmenter have been appointed resident physicians at the Buffalo General Hospital.——Drs. Elliott Bush, C. J. Roberts and Albert Bixby have been appointed resident physicians at the Erie County Hospital.

PENNSYLVANIA.

To Lessen Child Labor.—A bill passed by the legislature raising the age limit of children employed in the coal mines from 14 to 16 has been approved by the governor.

Food Laws Violated.—Dairy and Food Commissioner Warren has ordered 24 prosecutions in various parts of the state for violations of the laws relating to dairy and food products. Of this number 14 are in Allegheny.

Philadelphia.

John Herr Musser.—In the account of the new President of the American Medical Association in THE JOURNAL, May 16, his name was given as John Henry Musser. It should have been John Herr Musser.

Anthrax has appeared among a herd of 50 cows on the dairy farm of Albert Zimmerman in the outskirts of the city. The Bureau of Milk Inspection has placed the farm under quarantine and has ordered an inspection of all the dairy farms near the city.

Playgrounds.—The grounds of 35 public schools, in different parts of the city will be opened by the board of education on July 1, for a period of two months, as playgrounds for children. Kindergarten teachers are appointed to direct the children at play, at a salary of $40 per month each.

Death and Disease Report.—There were 474 deaths in Philadelphia for the week ended May 16, as against 396 for the corresponding week of last year. Of diphtheria there were 64 new cases and 7 deaths; scarlet fever 93 new cases, 3 deaths; typhoid 247 cases, 27 deaths; smallpox 30 cases, 1 death.

Sweatshop Crusade.—Local factory inspectors have begun an active crusade against manufacturers of clothing whose employes are compelled to work in unsanitary shops. Investigation has shown that young women and girls are compelled to work in crowded quarters without regard to sanitary precautions, and also that many of these sweatshop employes are under the age limit of 13. Warrants have been issued for the arrest of several employers.

Medical Club Reception.—On the evening of May 15 the Medical Club, several hundred in number, gave a reception at the Hotel Bellevue in honor of Prof. J. von Mikulicz-Radecki of Breslau, Prof. C. A. Ewald of Berlin, Prof. Hans Kehr of

Holberstadt, Prof. Hermann Tillmans of Leipsic, Mr. Moynihan of Leeds, England, Professor Adami of Montreal, and Dr. George H. Simmons of Chicago. The guests of honor all spoke earnestly of the courtesies shown them on the occasion, the foreign visitors especially of the hospitality lavished on them throughout their stay in America. The reception was preceded by a dinner at the University Club, at which Dr. E. E. Montgomery, president of the Medical Club, was the host.

The New Director of Health.—The mayor has appointed, as the director of the new Department of Public Health and Charities, Dr. Edward Martin. Dr. Martin was born in Philadelphia in 1859. He received A.B. and A.M. degrees from Swarthmore College, and was graduated from the medical department of the University of Pennsylvania in 1883. He is professor of clinical surgery at the University of Pennsylvania and surgeon at the Howard, St. Agnes', Philadelphia and University hospitals. He was surgeon of the Third Regiment in the Spanish-American War, was appointed brigade surgeon by President McKinley, and was afterward made sanitary inspector of the Fourth Army Corps. Dr. Martin has written several medical text-books and has made other contributions to medical literature. Dr. Martin has appointed as chief of the bureau of health, Dr. A. C. Abbott, professor of hygiene at the University of Pennsylvania; as chief resident physician of the Philadelphia Hospital, to succeed the late Dr. Daniel E. Hughes, Dr. Montgomery H. Biggs, formerly chief resident physician of the University of Pennsylvania Hospital. The following eminent physicians are invited to act as a consulting board to the department: Dr. S. Weir Mitchell, J. William White and John H. Musser of the University of Pennsylvania; Dr. Charles B. Penrose of the Gynecean Hospital; Dr. Hobart A. Hare of the Jefferson Medical College, and Dr. J. M. Anders of the Medico-Chirurgical College. Dr. Martin's ability and the high character of his appointments inspire the belief that his administration marks a new era in the sanitary regulations of Philadelphia, in the conduct of the Philadelphia Hospital, and in all that pertains to the health of the city.

GENERAL.

Navy Stops Recruiting.—Because of overcrowded conditions and some contagious diseases on receiving ships, the naval department has ordered all recruiting stopped till further notice. The present enlisted force is within about 2,000 of the maximum allowed by law, 31,000.

Marine-Hospital Appointments.—Examination for the positions of assistant surgeon of the U. S. P. H. and M.-H. S. will be held June 15 at Washington. Candidates must be between 22 and 30 years of age, and graduates of reputable medical colleges. The test is partially in writing on the usual medical subjects and partially clinical, at a hospital. Further information may be had of Dr. Walter Wyman, surgeon-general, Washington, D. C.

FOREIGN.

Measles in Fiji.—A severe epidemic of measles is reported in the Fiji Islands.

The Peru plague outbreak seems at present to be at an end. Some have expressed doubts as to its having been plague at all.

Mazatlan Uses Oil Against Plague.—To prevent another outbreak, Mazatlan authorities are using petroleum on streets and houses to ensure the death of all plague germs that may remain.

Further Research on Malaria in the Congo.—The king of Belgium has sent $2,500 to the Liverpool School of Tropical Medicine to be devoted to the study of malaria in the Congo region.

Recrudescence of the Plague.—An exchange quotes the following figures to show the spread of the plague in India. During the month of February, 1899, the total deaths from plague throughout India were 12,000. During the same month in 1900 the figure was 11,000; in 1901, 34,000; in 1902, 86,000, and in 1903, 112,000.

Correspondence.

Fraudulent Use of Dr. Murphy's Name.

CHICAGO, May 19, 1903.

To the Editor:—I received your letter to-day with the literature from the "Christian Hospital" inclosed. I would say that your letter was one of hundreds which I have received, containing the same kind of literature. As far as I am able to determine, all of the states west of the Mississippi have been flooded with the publications of the "Christian Hospital." I would say, further, that my name was used without either my knowledge or consent, and that this literature was sent out during my absence from the city. I do not know, and have never seen, to my knowledge, a single man whose name is mentioned in the list of the "staff"; I see in there a number of the names which were used in a scheme similar to this one in connection with the "St. Luke's Hospital, Niles, Michigan," scheme, where Dr. Senn's name was used, and also one in which the name of Dr. E. O. Kinsman of Cambridge, Mass., was used in a similar way. J. B. MURPHY.

Deaths.

John P. Bryson, M.D. Humboldt Medical College, St. Louis, 1868, professor of genito-urinary surgery in the medical department of Washington University, died at his home in St. Louis, May 5, from heart disease, after an illness of five days, aged 57.

Israel Pattison, M.D. University of Buffalo, 1867, for many years surgeon of the Great Western Railway, at Oelwein, Iowa, died at his home in that place, April 26, from brain disease, after an illness of two weeks, aged 62.

William J. Burgess, M.D. University of St. Louis, Mo., 1847, died at Quincy, Ill., April 7.

Deaths Abroad.

J. B. V. Laborde, M.D., Paris, 1864, director of the physiologic department and of the laboratory of anthropology, inspector of the private sanatoria of the Seine, editor of the "Tribune Médicale" for thirty years and president of the French Association of the Medical Press, died at Paris, April 5, aged 73. Among his numerous contributions to science are various works on physiology, on chloroform, intoxication with different poisons and extensive research on the application of the experimental method to the study of biology. He has lately been a leader in the campaign against the use of white lead and the abuse of alcohol. His world-wide fame, however, rests on his method of resuscitation of the apparently dead from drowning, poisoning with gas, etc., by rhythmic tractions of the tongue. As the "Gazette Medicale de Paris" remarks, "this was a true discovery, by a true scientist, and popularized by a true journalist."

Medical Organization.

Reorganization in Texas.

The Texas State Medical Association met in San Antonio, April 28-30. At the meeting in 1902 the committee appointed at the previous annual meeting to consider and report on a new plan of organization had failed to agree, presenting a majority and minority report, both more or less at variance with the Association plan. A little feeling was engendered in discussing these reports, but this had disappeared during the year, and even before the session was called to order it was evident that a spirit of harmony and unity was in the air. Much of this good feeling was due to the peace-making work of the San Antonio District Medical Society, and similar efforts on the part of the medical journals of the state, and of individual members.

At the first meeting the subject of reorganization was referred to a large committee composed of one delegate from each county represented. After patiently going over the constitutions and by-laws proposed by the American Medical Association for both state and county societies, section by section, this committee reported unanimously in favor of the uniform plan without change, and it was adopted without a dissenting voice, with genuine enthusiasm.

Texas has 270 counties and about 6,000 physicians. The state was divided into fifteen districts, with councilors in each as follows:

First District, S. T. Turner, El Paso; Second, P. C. Coleman, Colorado; Third, D. P. Fly, Amarillo; Fourth, C. M. Alexander,

Coleman; Fifth, W. B. Russ, San Antonio; Sixth, A. E. Spohn, Corpus Christi; Seventh, T. B. Bennett, Austin; Eighth, Walter Shropshire, Yoakum; Ninth, J. T. Moore, Galveston; Tenth, B. F. Calhoun, Beaumont; Eleventh, R. S. Burroughs, Buffalo; Twelfth, W. R. Blallock, McGregor; Thirteenth, J. H. McCracken, Mineral Wells; Fourteenth, C. E. Cantrell, Greenville; and Fifteenth, Holman Taylor, Marshall.

Under a special resolution the council was appointed by the president to serve for one year, when the new house of delegates will elect regularly. The council organized promptly, electing J. T. Moore of Galveston chairman and W. B. Russ of San Antonio secretary, and after full discussion mapped out an active campaign for the year. On the recommendation of the council the secretary of the association was instructed to have 5,000 copies each of the constitution and by-laws for state and county societies printed for free distribution to the profession of the state, and he was authorized to issue charters to county societies until the next annual meeting, on recommendation of the council. It was also provided that new members of county societies joining between now and the next annual meeting who pay their state dues in advance, shall have credit for such dues for 1904, practically obtaining membership for two years by paying for one year. Texas has an unusually strong and progressive medical profession. Its new practice act is just being put into operation, and with the new organization, which has the promise of united support from every section, it can and ought to lead in every helpful reform in which it takes an interest.

The following officers were elected: President, Dr. Frank Paschal, San Antonio; vice-presidents, Drs. Ferdinand E. Daniel, Austin, Alfred L. Hathcock, Palestine, and Joseph D. Becton, Greenville, and orator, Dr. Henry A. Barr, Beaumont.

J. N. McCORMACK.

Societies.

COMING MEETINGS.

South Dakota State Medical Society, Mitchell, May 27-28.
Connecticut Medical Society, Hartford, May 27-28.
West Virginia State Medical Association, Charleston, May 26-28.
Indian Territory Medical Association, South McAlester, June 2-3.
Medical Society of the State of North Carolina, Hot Springs, June 2.
Ohio State Medical Society, Dayton, June 3-5.
Rhode Island Medical Society, Providence, June 4.
Wisconsin State Medical Society, Milwaukee, June 3-5.
Maine Medical Association, Portland, June 3-5.
Indiana State Medical Society, Richmond, June 4-5.
Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

Kansas Medical Society.—At the thirty-seventh annual meeting held in Concordia, May 6, 7 and 8, the following officers were elected: Dr. William E. McVey, Topeka, president; Drs. George W. Coffey, Concordia, and John T. Axtell, Newton, vice-presidents; Dr. Clarence C. Goddard, Leavenworth, corresponding secretary; Dr. Lewis H. Munn, Topeka, treasurer; and Dr. Samuel G. Stewart, Topeka, librarian. Topeka was selected as meeting-place for 1904.

Medical Association of the State of Alabama.—The annual meeting was held in Talladega April 21 and 22. The report of the secretary showed that 1,225 physicians of the state were members of the county societies, and that the remaining 773 were non-members. Dr. Matthew B. Cameron, Sumterville, was elected president; Dr. John R. G. Howell, Dothan, vice-president southern district; Dr. Lewis C. Morris, Birmingham, secretary; Dr. Henry G. Perry, Greensboro, treasurer, and Dr. George S. Brown, Birmingham, orator. The association will meet in Mobile in 1904.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-Eighth Annual Meeting, held in Washington, D. C., May 12 to 14, 1903.

The President, Dr. Joseph E. Janvrin, New York, in the Chair.

An address of welcome was delivered by Dr. I. S. Stone of Washington, D. C., which was responded to by the president.

There was a symposium on the following subject:

What Shall Be the Treatment in Cases of Pregnancy Complicated by Fibroid Tumor?

The first paper, with this title, was read by Dr. Henry C. Coe, New York, who stated that fibroid tumors complicate pregnancy because they interfere with the normal development of the pregnant uterus. They cause distressing symptoms, or they jeopardize the life of the fetus or of the mother. Each case must be studied separately, and the decision as to the treatment will vary with the patient, the tumor, the experience, and bias of the surgeon. He spoke of the influence of the tumor on pregnancy, and of pregnancy on the tumor—increased growth, degenerative changes, environment, etc. He mentioned three "semesters" of pregnancy:

1. Up to the fourth month. (a) Empty the uterus in the case of large interstitial or broad ligament tumors, or where they are situated in the lower uterine segment. Also in cases of impacted intrapelvic growths. Cases were cited in point. (b) Small tumors should be enucleated per vaginam, if possible, though pregnancy will usually be interrupted. Intrauterine polypi should be removed, if accessible. (c) Enucleation should be done by the abdominal route. Subperitoneal pedunculated growths should be removed. (d) Impacted growths should be liberated under anesthesia, when no adhesions are present, and they should be kept out of the pelvic cavity until they are kept out of the way by the growing fetus. The wishes of the patient should be followed, so far as this can be done with safety.

2. Fourth to seventh month. The location of the tumor is important, as well as its size and variety. Pain and pressure symptoms furnish indications for treatment. (a) Large interstitial growths. The uterus may be emptied, although the danger of hemorrhage from such a course is greater. (b) He advises enucleation by the abdominal route, and spoke of the propriety of removing multiple small tumors which do not encroach on the uterine cavity. (c) the patient should be kept under observation. The patient may go to full term and be delivered normally. (d) Impacted tumors, pressing on the bladder, bowel, ureter, may call for radical operation. (e) Twisted pedicle, degeneration of tumor, disease of the adnexa, peritonitis, etc., may require interference without reference to pregnancy.

3. After sixth month. Viability of the fetus should be obtained, if the life of the mother is not actually jeopardized. Can the woman be delivered at term? Yes (a) with subperitoneal growths, if they are not too large, and favorably situated. (b) Small interstitial fibroids, if they are not in the lower uterine segment. (c) Polypi presenting at the os can be easily removed at any time. After the eighth month the Porro-cesarean operation, suprapubic amputation or hysterectomy should be performed, preferably by election, i. e., before full term.

Conservatism should be practiced here, as in other gynecological operations, but not carried to extremes.

The author discussed the question of marriage and subsequent risks of pregnancy in women with fibroids. He said the time for conservative surgery is often before there is a chance of conception. In general, if a fibroid is to be regarded as a menace to life before pregnancy, the condition must be still more grave after conception occurs. Is it not the duty of the gynecologist to ward off this danger?

Officers for the Ensuing Year.

The following officers were elected: President, Dr. Edward Reynolds, Boston, Mass.; vice-presidents, Drs. J. Whitridge Williams, Baltimore, and Edward P. Davis, Philadelphia; secretary, Dr. J. Riddle Goffe, New York (re-elected); treasurer, Dr. J. Montgomery Baldy, Philadelphia (re-elected). The next session will be in Boston, May 24 to 26, 1904.

Only a small portion of the report of this society is given this week, because of the space given to the minutes of the American Medical Association session.

(To be continued.)

AMERICAN MEDICAL ASSOCIATION.

Proceedings of the Fifty-fourth Annual Session, held at New Orleans, May 5, 6, 7 and 8, 1903.

Correction to Minutes of House of Delegates.

The following correction in the minutes, as published in THE JOURNAL last week, must be made. On p. 1378, under the heading, "Dental and Pharmaceutic Members Provided For," it should have been stated that a by-law was adopted, which was worded as follows, and which will be incorporated in the Constitution and By-laws in the future:

Dental and pharmaceutic members shall enjoy the same privileges as regular members and be subject to the same conditions.

OFFICIAL MINUTES OF THE SECTIONS.

As Rendered by the Respective Secretaries or Stenographers.

Section on Practice of Medicine.

TUESDAY, MAY 5.

Address of the Chairman, W. S. Thayer, Baltimore.

"Restorative Influence of Ozone on the Blood." G. Lenox Curtis. Discussed by F. A. Weber, Milwaukee.

"The Boy's Venereal Peril." Ferd. C. Valentine, New York. Discussion by J. J. Walsh, New York; F. W. Robbin, Michigan; DeLancey Rochester, Buffalo, N. Y.; Theodore Potter, Indianapolis; M. M. Smith, Texas; Frank A. Jones, Memphis; E. L. Stevens, Iowa; W. Shropshire, Texas, and Ferd. C. Valentine.

"Continued Fever, Neither Malarial nor Typhoid; a Clinical Study." T. J. Happel, Trenton, Tenn.

"Southern Fevers." William Krauss, Memphis, Tenn.

"Clinical Observation of Ninety Cases of Typhoid Fever, with Four Deaths, with Special Reference to Therapeutic Fasting." R. M. Harbin, Rome, Ga.

"Typhoid Fever at High Altitudes, with a Résumé of 600 Cases." J. N. Hall, Denver.

Discussion on the above four papers by T. B. Futcher, Baltimore; James Tyson, Philadelphia; J. A. Witherspoon, Nashville, Tenn.; C. F. Mason, U. S. A.; R. W. Lindson, Little Rock, Ark. Discussion of last four papers to be continued with the Symposium on Typhoid Fever on Thursday morning.

The Committee on Nominations was announced as J. H. Musser, Philadelphia; William Krauss, Memphis, and Thomas McCrae, Baltimore.

WEDNESDAY, MAY 6.

"Weakness and Dilatation of the Heart Due to Chronic Nutritional Diseases." G. W. McCaskey, Fort Wayne, Ind. No discussion.

"Limitations of Non-Surgical Treatment in Intestinal Obstruction." J. R. Eastman, Indianapolis. No discussion.

"The Occurrence of Strongyloides Intestinalis in the United States." M. L. Price, Baltimore. Discussion by C. W. Stiles, Washington, D. C.; A. J. Smith, Galveston, Texas; Ohlmacher, Ohio, and J. T. Moore, Galveston, Texas.

"Clinical Diagnosis of Intestinal Parasites." C. W. Stiles, Washington, D. C.

"Uncinariasis in the United States, with Especial Reference to Its Occurrence in Texas." Allen J. Smith, Galveston, Texas.

"Treatment of Uncinariasis." T. A. Claytor, Washington, D. C.

Discussion on the last three papers by W. G. Harrison, Alabama; E. D. Bondurant, Mobile, Ala.; C. A. Moore, Alabama; G. W. McCaskey, Fort Wayne, Ind.; T. A. Williams, Edinburgh, Scotland; Claud A. Smith, Atlanta, Ga.; James B. Herrick, Chicago; William Britt Burns, Memphis, Tenn.; C. W. Stiles, Washington, D. C.; A. J. Smith, Galveston, Texas, and T. A. Claytor, Washington, D. C.

"Bacillary Dysentery." C. F. Mason, Fort Sam Houston, Texas.

"Contribution to the Study of the Summer Diarrheas of Infancy." J. Mason Knox, Baltimore.

"Malarial Dysentery." William Britt Burns, Memphis, Tenn.

"The Clinical History and Pathology of Amebic Dysentery." H. F. Harris, Atlanta, Ga.

"A Study of the Cases of Amebic Dysentery Occurring at the Johns Hopkins Hospital." T. B. Futcher, Baltimore.

"The Treatment of Acute Dysentery." J. M. Anders, Philadelphia.

Discussion on the above six papers by Alexander Lambert, New York; T. B. Dabney, New Orleans; J. T. Moore, Galveston, Texas; W. Shropshire, Yoakum, Texas; C. F. Mason, Fort Sam Houston, Texas; J. H. Mason Knox, Baltimore; William Britt Burns, Memphis, Tenn.; H. F. Harris, Atlanta, Ga.; T. B. Futcher, Baltimore; J. M. Anders, Philadelphia.

"Abdominal Pain in Pleurisy and Pneumonia." James B. Herrick, Chicago. Discussion by J. N. Hall, Denver; T. McCrae, Baltimore; J. M. Anders, Philadelphia; B. W. Sibley, Chicago, and J. B. Herrick, Chicago.

"Traumatic Pneumonia." W. T. English, Pittsburg, Pa.

THURSDAY, MAY 7:

COMBINED MEETINGS WITH SECTION ON HYGIENE AND SANITARY SCIENCE.

"The Sources and Manner of Infection of Typhoid Fever." William H. Welch, Baltimore.

"Prophylaxis of Typhoid Fever." John S. Fulton, Baltimore.

Discussion on the above two papers by John H. Musser, Philadelphia; DeLancey Rochester, Buffalo, N. Y.; William Krauss, Memphis; Frank Warner, Ohio; J. N. Hurty, Indianapolis; Sewell, Denver; E. J. Roberts, Nashville, Tenn.; C. F. Adams, New Jersey; James Tyson, Philadelphia; J. J. Walsh, New York; Walter Shropshire, Texas; T. J. Happell, Trenton, Tenn., and John S. Fulton, Baltimore.

"The Mode of Transmission of Yellow Fever." James Carroll, U. S. A. Discussion by Stanford E. Chaillé, Edmond Souchon, Q. Kohnke and Felix Formento, New Orleans; C. W. Stiles, Washington, D. C., and James Carroll, U. S. A.

The following officers were elected: Chairman, Alexander Lambert, New York; secretary, J. S. Miller, Chicago.

"Sources and Manner of Infection of Plague." W. J. Calvert, St. Louis.

"Prophylaxis of Plague." J. J. Kinyoun, Philadelphia.

Discussion on the two above papers by F. G. Novy, Ann Arbor, Mich.; E. Richford, San Francisco, and W. J. Calvert, St. Louis.

"Arthritis Deformans." Thomas McCrae, Baltimore. Discussion by J. J. Walsh, New York; J. T. Moore, Galveston, Texas; E. E. Skinner, New Haven, and Thomas McCrae, Baltimore.

"Albuminuria in Diabetes; Its Etiology and Importance as a Factor in the Production of Diabetic Coma." Arthur R. Elliott, Chicago. Discussed by William Krauss, Memphis, Tenn.; F. R. Weber, Milwaukee, and Elliott, Chicago.

FRIDAY, MAY 8.

A committee to appoint a member to the House of Delegates was named as follows: H. L. Sullivan, Mississippi; William Krauss, Tennessee, and T. B. Futcher, Maryland. They reported in favor of Frank A. Jones, Tennessee.

"The Passing of Chronic Rheumatism." J. J. Walsh, New York. Discussion by James Tyson, Philadelphia; Thomas McCrae, Baltimore; Alexander Lambert and J. J. Walsh, New York.

"Hemoglobinuric Fever; Its Cause and Treatment." Walter Shropshire, Yoakum, Texas. Discussion by William Krauss, Memphis, Tenn.; Barnes, Louisiana; Frank A. Jones, Memphis, Tenn.; Southerland, Mississippi; L. A. Jabra, Tennessee; James B. McElroy, Mississippi; W. S. Thayer, Baltimore; Williams, Edinburgh, Scotland, and Walter Shropshire, Texas.

"Some Clinical Aspects of Tubercular Peritonitis." Joseph Eichberg, Cincinnati. No discussion.

"Tuberculosis in the Negro." Seale Harris, Union Springs, Ala. No discussion.

"Should the Tuberculosis Patient Know the Truth Regarding His Condition?" C. P. Ambler, Ashville, N. C. No discussion.

Adjourned.

Section on Obstetrics and Diseases of Women.

TUESDAY, MAY 5—AFTERNOON.

Meeting called to order at 2 p. m. by the Chairman, A. Palmer Dudley.

L. H. Dunning took the Chair while the Chairman read his address entitled "The Trend of Gynecological Work To-day."

On motion a vote of thanks was extended to the chairman for his very able paper.

On motion of F. Lawrence a committee of three was appointed to draft a suitable memorial on the death of W. E. B. Davis. The Chair appointed Drs. Lawrence, Cordier, Rogers, Carstens.

H. P. Newman followed with a paper on "Appendicitis from the Standpoint of the Gynecologist." Discussed by Reynolds, E. Ricketts, Wathen, Michinard, Manton, Bacon, Carstens, Thienhaus, Bovée, Massey, Lewis, McCollum, Lawrence, Craig.

"Gastric Ulcer, Some Clinical, Pathologic and Surgical Phases of," was the title of a paper read by A. H. Cordier. Discussed by J. H. Carstens, Clark, Thienhaus, Lawrence, Cordier.

On motion of Dr. Bonifield the papers of Drs. Haggard and Ricketts are to be called for the first thing in the morning session and in the event of absence of essayists, the papers are to be placed at the end of the list.

The Chair appointed the following Nominating Committee: H. P. Newman, J. H. Carstens, Lewis, H. O. Pantzer, J. G. Clark.

WEDNESDAY MAY 6—MORNING.

The Section met at 9 a. m. and was called to order by the Chairman, A. Palmer Dudley.

The first paper, entitled "Infected Gall Bladder Contents, with or without Gallstones," was read by Edwin Ricketts. Discussed by L. H. Dunning, C. V. Thienhaus, Thompson, Halderman, H. O. Marcy, A. Palmer Dudley, Ricketts.

H. O. Marcy read a paper on "The Better Methods for the Repair of the Perineal Structures." Discussed by Drs. Goelet, Dunsmore, Hayden, Graham, Gibbons, Dorsett, Carstens, Dudley, Marcy.

"The Repair of Cystocele by Utilization of the Anatomic Attachments of the Anterior Vaginal Wall" was the title of a paper read by E. Reynolds. Discussed by H. O. Marcy, Thienhaus, Bovée, and Reynolds in closing.

"Lacerations of Cervix" was the title of a paper read by Daniel H. Craig. Discussed by G. B. Massey, R. W. Holmes, Hayden, Bacon, Dunsmore, Craig.

J. H. Carstens read a paper entitled "The Hygiene of Young Girls."

F. Lawrence followed with a paper on "Pelvic Diseases in Young Girls."

Both the above papers were discussed by L. S. McMurtry, Graham, Massey, Bonifield, Carstens and Lawrence.

WEDNESDAY, MAY 6—AFTERNOON.

Meeting was called to order at 2 p. m. by the Chairman.

C. S. Bacon presented the following resolution:

"Resolved, That the officers of this Section be instructed to arrange future programs so far as possible for an equality both in

number and arrangement of obstetric and of gynecologic papers." On motion discussion of this resolution was deferred until the afternoon session, Thursday.

A. H. Goelet followed with a paper on "Fixation of the Prolapsed Kidney." Discussed by Drs. Wagner, Dunning, Ricketts, Clark, Bonifield, Craig, Goelet.

J. G. Clark read a paper entitled "A Combined Clinical and Laboratory Study of the Effects of Peritoneal Saline Infusions in Abdominal Operations." Discussed by Drs. Bovée, Stacey, Lawrence, Bonifield, Ricketts, Thienhaus, Showalter (?), Wagner, Clark.

L. H. Dunning read a paper on "Retroversion of the Uterus; A Clinical Study of the Symptoms, Complications and Treatment."

J. Wesley Bovée contributed a paper entitled "A Further Report on Operations on the Utero-Sacral and Round Ligaments for Retroversion of the Uterus."

Discussion on these papers was participated in by Drs. Massey, Lewis, Dorsett, Milliken, Thienhaus, Carstens, Showalter, Marcy, Ricketts, Lawrence, Hall, Dudley, Dunning and Bovée.

THURSDAY, MAY 7—MORNING.

Section called to order at 9:30 a. m. by the Chairman.

The first paper read was that of T. S. Cullen, entitled "Sarcomatous Degeneration of Myomata." Discussed by J. G. Clark, L. H. Dunning, C. O. Thienhaus, C. L. Bonifield, Cullen.

O. G. Pfaff followed with a paper on "Ectopic Gestation; Imhibited Tubal Peristalsis a Cause. Report of a Case with Remarks." Discussed by L. H. Dunning, H. Ehrenfest, G. B. Massey, J. H. Carstens, F. Lawrence, C. O. Thienhaus, A. P. Dudley, T. J. Beattie and Pfaff.

R. W. Holmes read a paper entitled "Non-Absorbent Gauze; The Proper Material for Tamponades for Hemorrhage, with Special Reference to Obstetrics." Discussed by C. S. Bacon, C. O. Thienhaus, Showalter, H. Ehrenfest, W. P. Manton, S. C. Gordon, H. J. Stacey, Pierce, R. Wier, E. V. Davis, G. N. Ryan, Showalter, Holmes.

Wm. P. Manton read a paper entitled "Acute General Staphylococcus Infection Through the Puerperal Breast." Discussed by Drs. Jamiston, C. S. Bacon, E. V. Davis, R. W. Holmes, Wm. P. Manton.

THURSDAY, MAY 7—AFTERNOON.

Section called to order at 2:30 p. m. by the Chairman.

H. P. Newman, Chairman of Nominating Committee, reported as follows: Chairman, L. H. Dunning, Indianapolis; secretary, C. L. Bonifield, Cincinnati; delegate, Wm. P. Manton, Detroit. Report was adopted on motion.

Dr. Bacon's resolution was taken up for consideration. Discussed by Drs. Ricketts, Carstens and Bacon. On motion the resolution was laid on the table indefinitely.

G. B. Massey read the first paper, entitled "Destructive Sterilization by Cataphoresis in Cancer of the Uterine Cervix." Discussed by Drs. Hayden, Moody, Pierce, Massey.

C. O. Thienhaus read a paper on "Advisability of Vaginal Exploratory Puncture and Celiotomy in Doubtful Diagnosis in Diseases of Female Genital Organs, with Cases." Discussed by Drs. Stacey, Craig, Carstens, Thienhaus.

H. O. Pantzer read a paper on "Conservative Surgery of the Sclerotic Ovary." Discussed by Drs. Dunning, Dudley, Pantzer.

F. Lawrence, Chairman of the Committee on Resolutions, in the matter of the death of W. E. B. Davis, presented the following resolutions:

WHEREAS, The late Dr. W. E. B. Davis was for many years an earnest, honest and fearless worker in the Section on Obstetrics and Diseases of Women of the American Medical Association, and

WHEREAS, His kindly manner, his forceful character and his masterful intellect have contributed much to the success of the Section both scientifically and fraternally, and

WHEREAS, He was one of the most efficient of our many chairmen; therefore, be it

Resolved, That in his death the Section loses one of its most valued and honored members: the profession loses one of its most worthy workers; the nation loses a man worthy a hero's laurels. Though dead his beneficent efforts and his scientific spirit will live in the hearts of his co-workers so long as human suffering demands patience, energy, sympathy and skill.

Resolved, That a copy of these resolutions be spread on the minutes of this Section and an engrossed copy be sent to his widow and children.

F. F. Lawrence, Chairman; J. H. Carstens, A. H. Cordier.

W. D. Haggard read a paper entitled "A Study of Intestinal Perforations in Typhoid Fever, with Report of Three Successful Operations and Collective Investigation of 295 Cases of Operation." Discussed by Ricketts and Thienhaus.

On motion a vote of thanks was extended to the Chairman and Secretary for efficient services.

Adjourned *sine die*.

Section on Surgery and Anatomy.

TUESDAY, MAY 5—AFTERNOON.

The meeting was called to order at 2 p. m. by the Chairman, James E. Moore, Minneapolis.

The Chairman's address, entitled "A Plea for Exploratory Operations," was read.

H. J. Whitacre, Cincinnati, read a paper entitled "Suppression of Urine; Report of a Case Enduring Eight Days, Relieved by Decapsulation of the Kidneys."

J. R. Guthrie, Dubuque, Iowa, read a paper entitled "Fat Necrosis of the Kidney."

Alex. Hugh Ferguson, Chicago, read a paper entitled "The Surgical Treatment of Nephritis."

The Chairman then introduced Dr. Adolph Lorenz of Vienna, who spoke as follows: "I do not intend to impose on your kindness. As far as I know, some ten or fifteen minutes are accorded to every speaker. I will only take one or two minutes, just to thank you for your welcome and to wish a courteous success to the members of the Section."

The papers previously read were then discussed by the following: Arthur Dean Bevan, Chicago; Jepson, Iowa; McLaren, Minnesota; R. H. Gibbons, Scranton, Pa.; Ramon Guiteras, New York; McArthur, Chicago; F. A. Dunsmoor, Minneapolis; Winslow, Baltimore, and Whitacre and Ferguson.

B. B. Davis, Omaha, read a paper entitled "Indications for Cholecystectomy."

F. A. Dunsmoor, Minneapolis, read a paper entitled "The Call for Exploratory Operation in the Gall Bladder Region."

These papers were discussed by W. J. Mayo, Rochester, Minn.; J. B. Murphy, Chicago; A. J. Ochsner, Chicago; Hamilton, Columbus, Ohio; Richard H. Gibbons, Scranton, Pa., and Davis and Dunsmoor.

James B. Bullitt, Louisville, Ky., moved that the Executive Committee be appointed the Nominating Committee, which motion was duly seconded and carried, and the Secretary instructed to cast the ballot therefor.

Adjournment until 9:30 a. m., Wednesday.

WEDNESDAY, MAY 6—MORNING.

The meeting was called to order at 9:30 a. m. by the Chairman.

Van Buren Knott, Sioux City, Iowa, read a paper entitled "A Contribution to the Surgery of Gastric Ulcer."

H. D. Niles, Salt Lake City, read a paper entitled "Surgical Conception of Pyloric Obstruction."

A. J. Oschner, Chicago, read a paper entitled "Clinical Observations in Stomach Surgery."

These papers were discussed by A. H. Andrews, Chicago; W. J. Mayo, Rochester, Minn.; Carl Wagner, Chicago; William L. Rodman, Philadelphia; A. H. Cordier, Kansas City; Arthur Dean Bevan, Chicago; and Knott, Niles and Ochsner.

O. Beverly Campbell, St. Joseph, Mo., read a paper entitled "The Single Cuff Method of Circular Enterorrhaphy; A New Method."

James H. Dunn, Minneapolis, read a paper entitled "Intestinal Resection, with Report of Fifteen Cases, Nine with the Button and Six with the Suture."

These papers were discussed by Jonas, Omaha; Horsely, Texas; Walker, Detroit; J. B. Murphy, Chicago; Alex. Hugh Ferguson, Chicago, and Campbell.

Arthur Dean Bevan of Chicago made the following motion: "That the Delegates of the Section on Surgery call the attention of the House of Delegates to the fact that much surgical work, such as appendicitis, gastric ulcer, typhoid perforation and gallbladder surgery, is being at the present time duplicated in two Sections of this Association, and that the very important work of obstetrics is not being sufficiently emphasized. I move that it is the sense of the Section on Surgery that its interests would be best conserved if the surgical diseases of women were transferred to the Section on Surgery, leaving to the gynecologic Section obstetrics and the diseases of the genital organs of women. I move that the Delegates of the Section on Surgery bring this matter before the House of Delegates." This motion was duly seconded and carried.

Adjourned to 2:30 p. m.

WEDNESDAY, MAY 6—AFTERNOON.

John T. Bottomley, Boston, read a paper entitled "Multiple Osteomyelitis."

Edward H. Nichols, Boston, read a paper entitled "Osteomyelitis."

These papers were discussed by DeForest Willard, Philadelphia; J. C. Stewart, Minneapolis; J. B. Murphy, Chicago; Richard Gibbons, Scranton, Pa., and Nichols.

John A. Wyeth, New York, read a paper entitled "The Treatment of Vascular Tumors by the Injection of Water at a High Temperature, with Suggestions as to Its Employment in Tubercular Adenitis, Abscess, Fistulous Tracts, etc." This paper was discussed by W. J. Mayo, Rochester, Minn.; John P. Lord, Omaha; Richard H. Gibbons, Scranton, Pa., and Wyeth.

William J. Mayo, Rochester, Minn., read a paper entitled "Further Experience with the Vertical Overlapping Method for the Radical Cure of Umbilical Hernia." This paper was discussed by A. J. Ochsner, Chicago; J. B. Murphy, Chicago; Wather, Louisville; Magee, Minnesota; Alex. Hugh Ferguson, Chicago, and W. J. Mayo.

W. T. Eckley, Chicago, read a paper entitled "Evolution of the Mammalian Straight Gut, with Special Reference to Peritoneal Changes Incident to Rotation." This paper was discussed by Willis, California, and Richard H. Gibbons, Scranton, Pa.

Fred. B. Lund, Boston, read a paper entitled "The Value of Enterostomy in Selected Cases of Peritonitis." This paper was discussed by Tinker, Baltimore; Miles F. Porter, Fort Wayne, Ind.; Thomas, Washington; James B. Bullitt, Louisville, Ky.; F. A. Dunsmoor, Minneapolis, and F. B. Lund.

F. D. Smythe, Memphis, Tenn., read a paper entitled "Cholecystectomy versus Cholecystorraphy and Cholecystostomy." No discussion.

Richard H. Gibbons, Scranton, Pa., read a paper entitled "Dangers Attendant on Attempt at Gaining the Period of Interval in Operation for Appendicitis." This paper was discussed by H. D. Niles, Salt Lake City; James B. Bullitt, Louisville, Ky.; A. J. Ochsner, Chicago; W. J. Mayo, Rochester, Minn.; J. B. Murphy, Chicago, and R. H. Gibbons.

THURSDAY, MAY 7—MORNING.

The meeting was called to order at 9:30 a. m. by the Chairman.

DeForest Willard, Philadelphia, read a paper entitled "Sunshine and Fresh Air versus Roentgen and Finsen Rays in the Treatment of Tuberculosis of Bones and Joints."

J. Clark Stewart, Minneapolis, read a paper entitled "Epithelioma Under the X-Ray; a Preliminary Report of the Histologic Changes."

These papers were discussed by Henry A. Christian, Boston; Edward H. Nichols, Boston; Ridlon, Chicago; Fred. B. Lund, Boston; Browden, Clarksville; James E. Thompson, Galveston, Texas, and Willard and Stewart.

John E. Summers, Jr., Omaha, read a paper entitled "Varix of the Inferior Mesenteric Vein Complicated by Chronic Ulcerative Colitis; Operation." This paper was discussed by F. D. Smythe, Memphis; Milliken, Texas, and Summers.

Charles A. Powers, Denver, read a paper entitled "Congenital Dislocation of the Radius." This paper was discussed by John T.

Bottomley; Fred. B. Lund, Boston; DeForest Willard, Philadelphia, and Powers.

John P. Lord, Omaha, read a paper entitled "Acute Epiphysitis of the Head of the Femur, Causing a Condition Subsequently Simulating Congenital Misplacement." This paper was discussed by Ridlon, Chicago; Townsend, New York, and Lord.

Adjourned until 2 p. m.

THURSDAY, MAY 7—AFTERNOON.

The meeting was called to order at 2 p. m. by the Chairman.

The Nominating Committee reported the following nominations: Chairman, Charles A. Powers, Denver; secretary, E. Wyllys Andrews, Chicago; delegate, William J. Mayo, Rochester, Minn.

On motion, duly made, seconded and carried, the Secretary was instructed to cast the ballot for these candidates, and they were unanimously elected.

W. H. Earles, Milwaukee, read a paper entitled "Necessity for More Care in the Treatment of Skull Fractures." This paper was discussed by Sherrill, Louisville, Ky.; Carl Wagner and Sullivan, Chicago; B. B. Davis, Omaha; Brown, Alabama; Lemmon, Milwaukee; Witherspoon, Illinois, and Earles.

James B. Bullitt, Louisville, Ky., read a paper entitled "Epispadias; Report of a Case Treated by a Modification of Cantwell's Method." This paper was discussed by Poorham, Martin and Fenner, New Orleans, and Bullitt.

Charles A. Powers, the chairman-elect, was then introduced by the Chairman and made the following remarks:

Mr. Chairman and Gentlemen: To be elected the presiding officer over this large body of American surgeons is to me a great honor. To be the successor, as Chairman of this Section, of Murphy, Rodman, Ochsner, Walker, Mayo, Moore and DeForest Willard is to me very much of a compliment. However unworthy I am, however undeserving of this tribute I may be, I promise to serve you faithfully and to the very best of my ability.

Rudolph Matas, New Orleans, read a paper entitled "Cicatricial Ankylosis of the Jaws; a Contribution to Its Operative Treatment." This paper was discussed by J. B. Murphy, Chicago; Eastman, Indiana; Martin, New Orleans; A. J. Ochsner, Chicago, and R. Matas.

Arthur Dean Bevan, Chicago, read a paper entitled "Further Contribution to the Surgery of Undescended Testicle." This paper was discussed by W. T. Eckley and Carl Wagner, Chicago; Bartlett, St. Louis; A. J. Ochsner, Chicago; Rodman, Philadelphia, and Bevan.

J. B. Murphy, Chicago, read a paper entitled "Surgery of the Urinary Tract in the Female, Experimental and Clinical." This paper was discussed by McLaren, St. Paul; Goodhue, Ohio; Hart, Chicago; Taggert, Chicago; F. D. Smythe, Memphis; M. B. Tinker, Baltimore, and Murphy.

A. H. Levings, Milwaukee, read a paper entitled "Consideration of Mammary Cysts in the Early Diagnosis of Breast Tumors." This paper was discussed by B. B. Davis, Omaha; Sullivan, Chicago; Knight, Hartford, Conn.; Morton, California, and Levings.

Adjourned until Friday at 9 a. m.

FRIDAY, MAY 8—MORNING.

The meeting was called to order at 9 a. m.

Dr. Sexton read a paper entitled "Treatment of Fractures of the Femur in Plaster-of-Paris Casts." This paper was discussed by John P. Lord, Omaha; Grant, Denver; Brandon, Tennessee; Andrews, Mankato; Maurey, New York; Crouse and Sexton.

Miles F. Porter, Fort Wayne, Ind., read a paper entitled "The Closure of Wounds." This paper was discussed by John E. Summers, Jr., Omaha; Pearce, Kansas City; Morton, California; Perkins, New Orleans, and Porter.

T. C. Witherspoon, St. Louis, read a paper entitled "Operative Treatment of Exophthalmic Goiter." This paper was discussed by Grant, Denver; Rixford, California; Horsely, Texas, and Witherspoon.

F. G. Connell, Leadville, Colo., read a paper entitled "Subcutaneous Injections of Paraffin for Deformities of the Nose." This paper was discussed by Morton, California, and John P. Lord, Omaha.

Walter M. Spear, Rockland, Me., read a paper entitled "Abscess of the Spleen." No discussion.

E. J. Mellish, El Paso, Texas, read a paper entitled "Anesthesia." This paper was discussed by James E. Moore, Minneapolis; A. J. Ochsner, Chicago; M. B. Tinker, Baltimore; William J. Mayo, Rochester, Minn.; John E. Summers, Jr., Omaha, and Mellish.

On motion of John P. Lord, Omaha, duly seconded and carried, the following papers were read by title: "Indications and Technic of Nephrectomy," Ramon Guiteras, New York; "Contributions to the Therapy of Surgical and Other Diseases with X-Rays," Rudolph Matas, New Orleans; "The Surgical Treatment of Ascites Due to Cirrhosis of the Liver," M. L. Harris, Chicago.

A. J. Ochsner, Chicago, moved that this Section extend its most hearty thanks to Dr. Moore, our President, and Dr. Monroe, our Secretary, for having arranged one of the finest programs that has ever been before any surgical section and for having carried out the conduct of this meeting in a most masterly and successful way. This motion was unanimously carried.

Adjournment.

Section on Hygiene and Sanitary Science.

TUESDAY, MAY 5—AFTERNOON.

The Chairman, H. M. Bracken, Minneapolis, called the meeting to order at 2 p. m.

Cressy L. Wilbur, Lansing, Mich., read a paper on "Co-operation Methods of Improving the Usefulness of Statistical Classification of Causes of Death." The paper was discussed by Wilbur; J. S. Fulton, Baltimore; G. T. Swarts, Providence, R. I.

In connection with this subject-matter, Dr. Wilbur introduced resolutions, which he requested to be recommended to the House of Delegates for adoption, calling on the various state medical societies to take steps looking to the adoption of registration laws in states where none presently exist; calling on physicians throughout the United States generally to promote the securing of accurate mortality statistics by giving correct and definite statements of all causes of deaths occurring in their practice. Further, that the American Medical Association appoint a Committee on Vital Statistics, to deal with the question of proper compilation of mortality statistics, and the extension of the registration area, etc. On motion, the resolutions in question were referred to the House of Delegates for action, with the recommendation that they be adopted.

The Secretary then read the paper of W. A. King, Washington, D. C., on "Relation of Physicians to Correct Registration of Vital Statistics." The paper was discussed by Seneca Egbert, Philadelphia; T. A. Williams, Edinburgh, Scotland; Cressy L. Wilbur, Lansing, Mich.; J. N. Hurty, Indianapolis; J. S. Fulton, Baltimore.

The Secretary then stated to the members that a smoker would be held to-night, to which they were invited, at the Old Absinthe House, Bienville and Bourbon streets.

The Chair named a Nominating Committee as follows: J. N. Hurty, Chairman; W. C. Chapman and Cressy L. Wilbur.

WEDNESDAY, MAY 6—MORNING.

The meeting was called to order at 9 o'clock.

The Chairman of the Committee on Nominations requested further time in which to report, as he desired to have another conference with his fellow members.

The paper, "Drainage, Sewerage and Water Supply of New Orleans," was read by George G. Earl, New Orleans, and discussed by G. T. Swarts, Providence, R. I.; J. S. Fulton, Baltimore, Md.; Seneca Egbert, Philadelphia, and Mr. Earl.

"Present Status of the Filtration of Water" was read by George W. Fuller of New York, and discussed by Swarts; W. C. Chapman, Toledo; E. B. Borland, Pittsburg; Seneca Egbert, Philadelphia; F. J. Mayer, Lafayette, La.; W. G. Owens, Whitecastle, La., and Mr. Fuller.

On motion, duly seconded, the thanks of the Association were extended to Messrs. Earl and Fuller for the preparation and submission of their papers.

Secretary Swarts stated that Isadore Dyer, New Orleans, had extended an invitation to the members of the Section to participate in a boat ride on Saturday, May 9, to the Lepers' Settlement in Iberville parish.

The next business in order being the appointment of an Executive Committee, to act with the Chairman, Dr. Bracken named J. S. Fulton and Seneca Egbert as such members.

F. J. Mayer offered a resolution requesting the House of Delegates to have represented on their next annual program the subject "Medical Jurisprudence." Carried. Thereon, after a lantern slide exhibition by Mr. Earl, the meeting adjourned.

WEDNESDAY, MAY 6—AFTERNOON.

The meeting was called to order at 2:30 p. m.

The Chairman of the Nominating Committee, on behalf of his Committee, offered the following nominations: For Chairman, G. T. Swarts, Providence, R. I.: Secretary, J. S. Fulton, Baltimore, Md.; member Executive Committee, Seneca Egbert, Philadelphia; delegate to House of Delegates, H. M. Bracken, Minneapolis. On motion of Dr. Hurty, the vote of the Section was cast as a unit for the election of the officers named.

"Tent Life in the Treatment of Pulmonary Tuberculosis" was read by Dr. R. W. Craig, Phœnix, Ariz. The discussion was by J. F. McConnell, Las Cruces, N. M.; J. N. Hurty, Indianapolis; Jos. L. Watt, New York City, and G. T. Swarts.

The next paper, "Where, Under Our Form of Government, Do Public Health Powers Reside, and How Should They be Exercised?" by W. H. Saunders, Montgomery, Ala., was discussed by H. A. Moody, Mobile, Ala.; R. B. Murray, of the Marine-Hospital Service; H. D. Holton, Brattleboro, Vt.: W. H. Saunders, and, by special courtesy of the Section, J. M. Lindsay, Havana.

H. A. Moody, Mobile, Ala., then read a paper on "The Future of Preventive Medicine."

F. J. Mayer asked permission to read, in connection with Dr. Moody's paper, a paper written by himself on the same subject. It was decided, however, that the paper of Dr. Dyer should be first taken up, and that subsequently that of Dr. Mayer could be read, to be discussed in conjunction with the offering of Dr. Moody.

Isadore Dyer, New Orleans, then read a paper on "Leprosy from a Sanitary Standpoint"; and which was thereafter discussed by Swarts, Bracken, T. G. French of Hawaii, and Dyer.

By unanimous consent, the volunteer paper of Dr. Mayer was then read by the author. In connection therewith, Dr. Mayer moved the adoption of a resolution endorsing the principle of public education in the matter of hygiene, and the cause, nature and effect of contagious diseases, advocating the establishment of a school to that end, and the appointment of a committee of five to carry out the idea.

Dr. Holton moved that the resolution in question be referred to the House of Delegates, together with the papers read by Drs. Moody and Mayer on the subject.

Geo. M. Kober, Washington, D. C., suggested, as a substitute, that the two papers named be referred to the Committee on Public Health of the Association, and the House of Delegates requested to endorse the idea conveyed in the resolution, which last motion prevailed by a unanimous vote.

Messrs. George W. Fuller, New York, and George G. Earl, New Orleans, were then elected associate members of the Section.

Thereon, the Section adjourned, to meet in joint session with the Section on Practice of Medicine, in the Washington Artillery Hall, Thursday, May 7.

Section on Ophthalmology.

TUESDAY, MAY 5—AFTERNOON.

The meeting was called to order by the Chairman, John E. Weeks, New York, at 2:15.

Two members of the Executive Committee being absent, the Chair appointed two gentlemen to serve in their stead during the session. Frank Allport being the member present and George E. de Schweinitz and Harold Gifford the appointed members.

On motion of Edward Jackson, the Section voted that the Executive Committee act as Nominating Committee, as had been done in former years.

Address of the Chairman, John E. Weeks, New York.

The Chair called attention to some of the rules governing the reading of papers and discussions, as follows: All papers must be read in whole or part, unless, the author being present and prepared to read the paper, the Section shall unanimously vote to have it read by title, or unless the author, being present, is prevented from reading his paper because of some disability, when the paper may be read for him. The reading of a paper shall not occupy more than twenty minutes. The member opening the discussion of a paper not to have more than ten minutes and subsequent speakers five. No member shall speak twice on the same subject.

The Chair announced an invitation by Drs. Bruns and de Roaldes to visit the Eye, Ear, Nose and Throat Hospital; hours 9 to 10 a. m.; operating day, Thursday.

The Chair also announced that the Section was invited to attend a reception by Dr. and Mrs. Bruns on Wednesday, 5 to 7 p. m., the invitation including ladies accompanying members.

The question was asked if, under the ruling, the author of a paper would be allowed to close the discussion of his subject, to which the Chair replied that he would.

The Chair requested that members, on rising to discuss a paper, announce their names and places of residence, in order that it might be known at all times who was addressing the Section.

William Campbell Posey, Philadelphia, read a paper on "Vernal Conjunctivitis," which was discussed by John E. Weeks, New York; Henry Dickson Bruns, New Orleans; Henry Gradle, Chicago; Zentmayer, Philadelphia; A. R. Baker, Cleveland; Hiram Woods, Baltimore; Stevenson, Akron, Ohio; Strickler, Cincinnati; Gifford, Omaha; Claiborne, New York; Randolph, Baltimore; Morrow, Canton, Ohio.

Rufin A. Wright, Mobile, Ala., read a paper on "Subtropical Trachoma, with Special Reference to a New Therapeutic Agent," which was discussed by James W. Dunn, Cairo, Ill.; Pfingst, Louisville; Gifford, Omaha; Bulson, Fort Wayne; Harlan, Baltimore, and Ledbetter, Birmingham, Ala.

E. C. Ellett, Memphis, Tenn., read a paper on "Experimental Study on Some Methods of Combating Post-Operative Infection of the Anterior Segment of the Globe." Discussed by E. A. Shumway, Philadelphia; Frank Allport, Chicago; de Schweinitz, Philadelphia; Claiborne, New York, and Hale, Chicago.

Louis Stricker, Cincinnati, read a paper on "Ocular Complications of Bright's Disease."

George F. Suker, Chicago, read a paper on "Albuminuric Retinitis and the Decapsulation of the Kidney."

These were discussed jointly by H. D. Bruns, New Orleans; Greenwood, Boston; Connor, Detroit; Jackson, Denver; de Schweinitz, Philadelphia; Griffin, Ann Arbor.

WEDNESDAY, MAY 6—MORNING.

The meeting was called to order at 9:15 a. m. by the Chairman.

George E. de Schweinitz, Philadelphia, read a paper on "The Physiology of the Sympathetic in Relation to the Eye."

William H. Wilder, Chicago, read a paper on "The Influence of Resection of the Superior Ganglion of the Cervical Sympathetic in Glaucoma."

James Moore Ball, St. Louis, read a paper on "Influence of Resection of the Cervical Sympathetic in Optic Nerve Atrophy, Hydrophthalmos and Exophthalmic Goiter."

John E. Weeks, New York, read a paper on "Pathology of the Cervical Sympathetic."

Discussion on Symposium by G. Melville Black, Denver; G. C. Savage, Nashville, Tenn; George F. Suker, Chicago; Edward Jackson, Denver; George E. de Schweinitz, Philadelphia.

Henry Gradle, Chicago, read a paper on "Retinal Disease Limited to the Region of the Macula Lutea." Discussed by W. L. Dayton, Lincoln, Neb.; Leartus Connor, Detroit; C. W. Hawley, Chicago.

Casey A. Wood, Chicago, chairman of the Committee on the Pathologic Exhibit, delivered an address on "Methods of Preparing and Preserving Ophthalmic Specimens for the Museum."

Edward Jackson, Denver, read a paper on "Skiascopy as a Method of Precision." Discussed by O. A. Griffin, Ann Arbor; Harold Gifford, Omaha; William H. Wilder, Chicago; C. W. Hawley, Chicago.

WEDNESDAY, MAY 6—AFTERNOON.

The meeting was called to order at 2:10 p. m. by the Chairman.

"Some Points in the Pathology of Neoplasms of the Conjunctiva, Illustrated by the Present Exhibit of Morbid Growths." Edward A. Shumway, Philadelphia.

Casey A. Wood, Chicago, gave a stereopticon exhibit of the fundi of various lower animals. Subject, "A Stereopticon Demonstration of Dr. Lindsay Johnson's Method of Classifying the Mammalia by the Appearances of the Fundus Oculi."

Robert L. Randolph, Baltimore, chairman of the Committee on Bacteriologic Exhibit, delivered an address on "The Bacteria Concerned in the Production of Eye Inflammations," and exhibited a number of illustrative lantern pictures.

"Bacteria in the Conjunctiva, Cornea, Iris, Ciliary Body and Chorioid, and Changes Caused Thereby," was illustrated with stereopticon slides by Brown Pusey, Chicago.

"The Essentials and Unessentials of Ophthalmic Asepsis." Harold Gifford, Omaha. Discussed by Casey A. Wood, Chicago; I. J. Dunn, Erie; W. H. Dudley, Easton, Pa.; A. O. Pfingst, Louisville; A. R. Baker, Cleveland; E. C. Ellett, Memphis; W. R. Parker, Detroit; J. H. Claiborne, New York, and Harold Gifford, Omaha.

"Development of the Fusion Center in the Treatment of Strabismus." Nelson M. Black, Milwaukee, Wis.

"A Set of Charts for Stereoscope to Be Used for an Ambylopic Eye or for Treatment of Squint." Albert B. Hale, Chicago.

Discussion on these two papers by G. C. Savage, Nashville, Tenn.; Casey A. Wood, Chicago; Edw. Jackson, Denver; M. D. Stevenson, Akron, Ohio.

The Secretary read a communication pertaining to a united meeting of various ophthalmologic and otologic societies, from the Secretary of the Academy of Ophthalmology and Oto-Laryngology, which was referred to the Executive Committee.

"Cramp of the Ciliary Muscle Due to Eyestrain." J. W. Wright, Columbus, Ohio. Discussed by Edw. Jackson, Denver; John A. Donovan, Butte, Mont.; Lawrence R. Ryan, Galesburg, Ill.

THURSDAY, MAY 7—MORNING.

The meeting was called to order at 9:15 a. m. by the Chairman.

"Some Observations on the Eye Complications of Smallpox During the Recent Epidemic in Cleveland." A. R. Baker, Cleveland, Ohio. Discussed by J. F. Fulton, St. Paul; Leartus Connor, Detroit; Mann, Texarkana; Jno. A. Donovan, Butte, Mont.; R. W. Miller, Los Angeles; Oscar Dodd, Chicago; E. P. Morrow, Canton, Ohio; D. A. Thompson, Indianapolis; Greenwood, Boston; F. W. Hilscher, Spokane; Jno. E. Weeks, New York.

"Skin Grafting on the Eyelids." Oscar Dodd, Chicago.

"Entropion and the Operations Employed for Its Relief." Jno. O. McReynolds, Dallas, Tex. Dr. McReynolds requested from the Chair the privilege of making a few remarks as an addendum to his paper of last year on the pterygium operation, which was granted.

The above two papers were discussed by Albert B. Hale, Chicago; Wm. H. Wilder, Chicago; C. W. Hawley, Chicago; Frank C. Todd, Minneapolis; R. W. Miller, Los Angeles; Oscar Dodd, Chicago.

"Traumatic Lesions of the Ocular Adnexa, with Report of a Case of Contused Wound of the Eyebrow Resulting in Complete Monocular Blindness Unaccompanied by Ophthalmoscopic Changes." Ellet O. Sisson, Keokuk, Iowa. Discussed by Casey A. Wood, Chicago; Wm. Campbell Posey, Philadelphia; Harold Gifford, Chicago; Jno. O. McReynolds, Dallas; Oscar Dodd, Chicago; Greenwood, Los Angeles; Edw. Jackson, Denver; A. E. Bulson, Ft. Wayne, Ind.; Leartus Connor, Detroit; Zentmayer, Philadelphia; S. L. Ledbetter, Birmingham, Ala.; John E. Weeks, New York.

"Report of a Case of Complete Absence of Both Eyeballs at Birth." Lawrence R. Ryan, Galesburg, Ill. Discussed by Casey A. Wood, Chicago; James Moores Ball, St. Louis; J. H. Claiborne, Jr., New York; S. C. Ayers, Cincinnati.

EXHIBITION OF INSTRUMENTS.

Wm. C. Posey, Philadelphia, exhibited an apparatus for convenience in carrying bottles of collyria.

W. F. Suker, Chicago, exhibited an instrument to be used in connection with the Geneva ophthalmoscope, to facilitate the demonstration of the eye fundus to students.

Frank C. Todd, Minneapolis, exhibited a tendon tucker, which was an improvement on the one presented by himself last year.

Frank Allport, Chicago, introduced a resolution that

WHEREAS, The eyesight and hearing of school children is of inestimable value to them for the acquiring of an education; therefore, be it

Resolved, That it is advised by the American Medical Association that measures be taken by the various school authorities and boards of education, boards of health, and if possible state legislators, to secure examinations of the eyes and ears of all school children in this country with a view to the suitable treatment for the relief of the ophthalmologic and otologic imperfections.

On motions of G. C. Savage, Nashville, Tenn., and amended by Edw. Jackson, Denver, these resolutions were endorsed by the Section and recommended to the House of Delegates of the American Medical Association.

THURSDAY, MAY 7—AFTERNOON.

The meeting was called to order by the Chairman at 2:15 p. m.

The report of the Nominating Committee was: Chairman, R. L. Randolph, Baltimore; secretary, A. E. Bulson, Ft. Wayne, Ind.; delegate, Casey A. Wood, Chicago. A motion by Dr. Savage to adopt the report in full was carried. The Section voted that the Secretary cast the ballot for the nominees and they were declared elected.

Dr. de Schweinitz, for the Executive Committee, recommended to the Section the adoption of the following rule: Any member of the Section on Ophthalmology of the Association who has twice permitted his name to be listed on the program of the Section as intending to read a paper and has failed to attend the sessions at which these papers were due, and to give satisfactory explanation of his absence, shall be no longer eligible to read a paper before this Section until he has attended at least two consecutive sessions. On motion of Dr. Baker the recommendation was adopted as a rule of the Section.

On motion of Dr. Moulton a vote of thanks was extended the gentlemen who had so kindly allowed the use of the stereopticon. On motion of the Secretary the Section gave a vote of thanks to Dr. Bruns for his assistance and to Dr. and Mrs. Bruns for their courtesy and hospitality to the Section.

"Extraction of the Crystalline Lens in High Myopia." H. V. Würdemann and Nelson M. Black, Milwaukee.

"The Management of High Myopia." J. H. Claiborne, New York.

These two papers were discussed by Edw. Jackson, Denver; Albert B. Hale, Chicago; H. D. Bruns, New Orleans; G. M. Black, Denver; J. F. Fulton, St. Paul; Moulton, Ft. Smith, Ark.; Oscar Dodd, Chicago; de Schweinitz, Philadelphia; Leartus Connor, Detroit; Greenwood, New Orleans; Jno. E. Weeks, New York.

"Calcareous Degeneration of Corneal Cicatrices." H. Moulton, Ft. Smith, Ark.

"The Voluntary and Involuntary Brain Centers Controlling the Ocular Muscles." G. C. Savage, Nashville, Tenn. Discussed by Edw. Jackson, Denver.

Under the head of miscellaneous business the Chairman explained the reasons why Prof. Uhthoff failed to be present as a guest of the Section.

On motion of the Secretary a vote of thanks was extended to the Pathologic Committee who prepared the exhibit.

On motion of the Secretary a vote of thanks was extended to the Committe who prepared the Bacteriologic Exhibit.

Leartus Connor, Detroit, offered a resolution, that a committee of five, consisting of the last five ex-chairmen of this Section, be requested to make a study of the situation of the relation of this Section to the ophthalmologists of the United States, to the end that they may determine in what way a larger number can be brought into co-operation with this Section. An amendment was offered by Dr. Savage, that Dr. Connor be included in the committee. The amended motion was adopted.

At the suggestion of Dr. Edw. Jackson, Denver, the Section gave a vote of thanks to the officers of this Section.

Section on Diseases of Children.

TUESDAY, MAY 5—AFTERNOON.

Called to order at 2:35 p. m. Attendance 100.

The Chairman, John C. Cook, Chicago, delivered his address on "Development and Care of Children," and presented to the members the bibliography of the same in printed form.

In the absence of two members of the Executive Committee the Chairman appointed to act *pro tem.*: Drs. A. C. Cotton, Chicago, and H. E. Tuley, Louisville, Ky.

It was moved and carried that a suggestion of the Chairman in his address that each state should have a committee of five persons to have control of matters of education and child labor and that these should be appointed by judges of the Supreme Court, so as to remove these matters forever from the domain of petty politics, be referred to the House of Delegates for action.

The Secretary read Sections 6 and 7 of the By-laws.

Paper 2. "Anatomic and Physiologic Correspondences of Child and Adult." Wm. T. Eckley, Chicago.

Paper 3. "Is the Study of Pediatrics Worth the Attention It Gets, and Does It Get the Attention It Deserves?" C. F. Wahrer, Fort Madison, Iowa. Discussed by W. F. Boggess, Louisville, Ky.

Paper 5. "Acute Suppurative Cervical Adenitis of Infancy. Thomas S. Southworth, New York. Discussed by A. C. Cotton, Chicago; C. G. Kerley, New York; R. B. Gilbert, Louisville; Brown, Decatur, Ill.; E. T. Shelly, Atchison, Kan.; Wm. T. Eckley, Chicago; Wm. C. Williams, Chicago; J. C. Mastin, Chicago; H. A. Leavell, Louisville, Ky., and T. S. Southworth.

H. M. McClanahan moved that, in view of the death of Dr. Margaret Taylor Shutt of Springfield, Ill., since the last annual session, a committee be appointed by the Chairman to draw up suitable resolutions and transmit them to her family. Carried.

The Section then adjourned.

WEDNESDAY, MAY 6—MORNING.

Called to order at 9:09 a. m. Attendance 175.

Paper 6. "The Pathology of Summer Diarrheas of Children," by G. W. Boot, Evanston, Ill., was, in Dr. Boot's absence, read by the Secretary.

On motion of Dr. C. G. Kerley of New York the discussion on the symposium was postponed until the other papers had been read.

Paper 7. "Every-Day Problems in Infant Feeding." Henry Enos Tuley, Louisville, Ky.

Paper 8. "Infant Feeding." Alexander McAlister, Camden, N. J.

Paper 9. "The Infant Digestive Disturbances." Alfred C. Cotton, Chicago.

Paper 10. "Suggestions for Reducing the Prevalency of Summer Diarrhea." J. Ross Snyder, Birmingham, Ala.

Paper 11. "Observations on Breast Feeding from an Obstetrician's Point of View, with Report of Cases." Effa V. Davis, Chicago.

Paper 12. "Aphthæ and Herpes Contracted by Children Drinking Milk from Cows Suffering from Foot and Mouth Diseases." E. F. Brush, Mt. Vernon, N. Y.

Paper 15. "Observations on Prolonged Withdrawal of all Foods in the Management of Certain Cases of Intestinal Disorders." Thomas D. Parke, Birmingham, Ala.

Discussion on symposium (Papers 6 to 15) by H. M. McClanahan, Omaha; C. G. Kerley, New York; R. B. Gilbert, Louisville, Ky.; Dixon, Kentucky; Auld, Chicago; Parkhurst, Indiana; T. S. Southworth, New York.

The discussion was then voted to be continued at the afternoon meeting.

The Section adjourned.

WEDNESDAY, MAY 6—AFTERNOON.

Called to order at 2:40 p. m. Attendance 100.

Paper 14. "Infant Feeding: Its Relation to Diarrheal Diseases of Infancy." James G. Mastin, Chicago.

Discussion continued on symposium by George N. Acker, Washington, D. C.; Southworth, New York (for Dr. G. W. Boot); Henry E. Tuley, Louisville, Ky.; A. C. Cotton, Chicago; J. Ross Snyder, Birmingham, Ala.; Effa V. Davis, Chicago; James G. Mastin, Chicago; Thomas D. Parke, Birmingham, Ala.

H. E. Tuley, Louisville, then moved that a committee be appointed by the Chairman to draw up a classification of the intestinal diseases of children, to be submitted to the Section in 1904. Carried.

Paper 18. "Case of Probable Gummata of the Liver in a Child of Six." Maurice Ostheimer, Philadelphia. Discussion by R. B. Gilbert, Louisville, Ky., and C. F. Wahrer, Fort Madison, Iowa.

Paper 34. "Influenza in Children." Wm. Carver Williams, Chicago. Discussion by R. B. Gilbert, Louisville, Ky.; C. G. Kerley, New York; Parkhurst, Indiana; H. M. McClanahan, Omaha; Theo. J. Carlin, Minnesota; John C. Cook, Chicago; C. F. Wahrer, Fort Madison, Iowa; J. H. Hanna, Covington, Tenn., and Wm. Carver Williams, Chicago.

The Section adjourned.

THURSDAY, MAY 7—MORNING.

Called to order at 9:15 a. m. Attendance 125.

Chairman announced as committee to submit a classification of the intestinal diseases of childhood to Section in 1904: Henry Enos Tuley, Louisville, Ky.; Alfred C. Cotton, Chicago; Thomas S. Southworth, New York.

Paper 19. "Capillary Bronchitis." Philip F. Barbour, Louisville, Ky.

On motion of Dr. Kerley, discussion on the pulmonary papers was postponed until the others had been read.

Paper 21. "Management of Catarrhal Pneumonia in Infants and Young Children." Charles Gilmore Kerley, New York.

Discussion on Papers 19 and 21 by C. F. Wahrer, Fort Madison, Iowa; Wm. C. Williams, Chicago; R. B. Gilbert and H. E. Tuley, Louisville, Ky.; Thos. D. Parke, Birmingham, Ala.; H. A. Leavell and P. F. Barbour, Louisville, Ky.; C. G. Kerley, New York.

Paper 31. "The Safranin Reaction in the Urine of Children," by Dr. W. S. Christopher of Chicago, was read by Dr. A. C. Croftan, Chicago. Discussion by A. C. Croftan, Chicago and W. F. Boggess, Louisville.

P. F. Barbour, Louisville, moved that the unanimous thanks of the Section be tendered to the Chairman for the complete bibliography of his paper which he had presented in printed form to the members. Carried.

The Section then adjourned.

THURSDAY, MAY 7—AFTERNOON.

Called to order at 2:40 p. m. Attendance 100.

The Nominating Committee put in nomination for 1904: Chairman, Charles G. Kerley, New York; Secretary, C. F. Wahrer, Fort Madison, Iowa. These were unanimously elected.

J. R. Snyder nominated Henry E. Tuley, Louisville, as the Delegate of the Section, in the House of Delegates for two years, and the Secretary was empowered to cast one ballot for Dr. Tuley.

The Chairman then presented to Dr. Kerley a gavel to be used in Section work, to which Dr. Kerley fittingly replied.

Paper 26. "The Treatment of Scarlet Fever: Its Complications and Sequelæ." H. M. McClanahan, Omaha. Discussion by R. B. Gilbert, Louisville, Ky.; G. A. Hermann, Hamilton, Ohio; J. H. Hanna, Covington, Tenn.; B. R. Shurly, Detroit; E. T. Shelly, Atchison, Kan.; Dodson, Chicago; Pearson, Kansas; Kennedy, Kentucky, and H. M. McClanahan.

Paper 30. "Prolonged or Retained Intubation Tubes with a Method of Treatment Leading to Their Extraction." B. R. Shurly, Detroit. Discussion by C. G. Kerley, New York, and Brown, Illinois.

Paper 28. "Hydronephrosis in a Boy of Three and One-half Years, with Operation and Recovery," by Samuel W. Kelley, Cleveland, Ohio, was then read by the Secretary.

The Section, having completed its work, then adjourned to the next annual session.

Section on Stomatology.

TUESDAY, MAY 5—AFTERNOON.

The Section was called to order by the Chairman, M. L. Rhein of New York.

It was moved that the papers presented by those unavoidably absent should be read. Carried.

W. E. Walker, New Orleans, and M. H. Fletcher, Cincinnati, were appointed on the Executive Committee

The address of the Chairman, M. L. Rhein, was read and was discussed by Frederichs, Eames, Boston; Gilmer, Chicago; T. E. Constant, Scarborough, Eng.; W. E. Walker, C. V. Vignes, New Orleans; Talbot, Chicago, and Rhein.

Drs. Eames, Walker and Talbot were appointed a committee to consider the subject of the Chairman's address and to form resolutions thereon.

It was resolved that the following gentlemen of other countries be elected members of this Section of the American Medical Association by invitation: A. C. Spaulding, Paris; T. E. Constant, Scarborough, Eng.; D. E. Causch, Brighton, Eng.; Michael Morganstein, Strassburg, Germany; Oskär Römer, Strassburg, Germany.

It was resolved that the following local residents be made associate members of the Section on Stomatology of the American Medical Association: C. Edmund Kelk, Jr., Paul de Verges, Jules J. Sarrazin, H. E. Belden.

A paper entitled "The Vasomotor System" was read by Eugene S. Talbot and illustrated by slides. Discussed by Fletcher, Constant, Gilmer, Eames, Belden, Sarrazin and Talbot.

Exhibition of Slides in demonstration of a paper entitled "The Development of Hard Tissue in the Pulp," by D. E. Causch of Brighton, Eng.

A paper by Martha Anderson, Moline, Ill., entitled "Notes on Pulp Technic," was read by E. S. Talbot.

Exhibition of Slides in demonstration of a paper entitled "Tolerance of Tissues for Foreign Bodies, with Special Reference to the Pulp and Peridental Membrane," by M. H. Fletcher, Cincinnati.

Exhibition of Slides in demonstration of a paper entitled "Some Histologic Facts Contradictory to the Theory of Odontoblasts," by Michael Morganstein, Strassburg, Germany.

The following were appointed a Nominating Committee: A. E. Baldwin, Chicago; M. H. Fletcher, Cincinnati; W. E. Walker, New Orleans.

WEDNESDAY, MAY 6—AFTERNOON.

The Section was called to order at 2:25 by A. E. Baldwin, Chicago, in the Chair.

M. H. Fletcher of Cincinnati read a paper entitled "Tolerance of Tissues for Foreign Bodies, with Special Reference to the Pulp and Peridental Membrane." The paper was discussed by Talbot, Baldwin, Curtis, Rhein, H. Pilcher of Vienna, Eames, Walker and Fletcher.

It was resolved that all papers on the pulp be read and discussed jointly.

A paper entitled "The Dental Pulp Viewed without the Microscope" was read by T. E. Constant, Scarborough, Eng.

A paper entitled "Some Histologic Facts Contradictory to the Theory of Odontoblasts," by Dr. Michael Morganstein, Strassburg, Germany, was read by A. E. Baldwin.

"The Development of Hard Tissue in the Pulp of Human Teeth," by D. E. Causch, Brighton, Eng., was read by G. F. Eames.

A paper on "Pulp Hypertrophy of the Teeth," by Oskär Römer, Strassburg, Germany, was read by M. L. Rhein.

These papers were discussed by Talbot and Fletcher. At this point the discussion was postponed until the next meeting.

A. E. Baldwin made the report from the House of Delegates.

THURSDAY, MAY 7—MORNING.

The meeting was called to order at 10:15 by the Chairman, M. L. Rhein.

The adjourned discussion of the paper of T. E. Constant was continued by Fletcher, Pilcher, Baldwin, Walker, Eames, Rhein and Constant.

Dr. Baldwin made a supplemental report from the House of Delegates to the effect that any dentist holding the degree of D.D.S. from any reputable dental college, and being a member of his local dental and state society shall, on recommendation of the officers of the Section and vote of the Section, become a dental

member of the American Medical Association; and shall enjoy all the privileges of regular members.

The Nominating Committee made the following report, and the Secretary was authorized to cast the ballot for its adoption: G. F. Eames, chairman; Eugene S. Talbot, secretary; executive committee: A. H. Peck, R. R. Andrews and M. L. Rhein. Member to the House of Delegates, Dr. A. E. Baldwin.

A. E. Baldwin read a paper on "Professional Responsibilities." Discussed by T. E. Constant of England, Gilmer, Talbot, Curtis, Rhein, Pilcher, Walker, Eames and Baldwin.

A paper by O. N. Heise, Cincinnati, entitled "Empyema of the Maxillary Sinus," was read by G. F. Eames, and discussed by Gilmer, Fletcher, Constant, Rhein, Baldwin and Curtis.

THURSDAY, MAY 7—AFTERNOON.

The meeting was called to order at 2:10 p. m. by M. H. Fletcher in the Chair.

G. F. Eames read a paper on "The Influence of Local and General Disturbances on the Oral Secretions." Discussed by Talbot, Fletcher, Walker, Pilcher and Eames.

A paper by Charles Chittenden, Madison, on "Is the Accomplishment of Reasonable Ideals in Dental Education Near at Hand?" was read by W. E. Walker, New Orleans, and discussed by Talbot, Fletcher, Rhein, Constant, and Walker.

W. E. Walker read a paper entitled "Orthodontic Facial Orthopedia." Discussed by Talbot, Constant, Fletcher, Belden, Rhein and Walker.

H. E. Belden, New Orleans, read a paper entitled "Methods of Controlling Hemorrhage of the Oral Cavity." Discussed by Rhein, Eames and Belden.

On motion the paper of Richard Gray, Baltimore, on "The Dentist in the U. S. Army, and of Alice M. Steves, Boston, entitled "Medical and Dental Libraries," were read by title.

G. F. Eames, Chairman of the Committee to consider the suggestions of the Chairman's Address, reported and the report was adopted, as follows:

Your committee have carefully considered the propositions contained in the Chairman's Address, relating to the training of women as dental nurses, that they may, under the prescription and personal direction of the stomatologist, cleanse and sterilize the mouth, polish the teeth, make medical applications to the gums, and otherwise assist the practitioner in his treatment of patients.

Your committee heartily approves the above named suggestions and earnestly commends the matter for the approval of this Section of the American Medical Association, hoping that it will lead to such action being taken by different state dental societies looking to the amendment of our dental laws, so that the appointment and employment of "dental nurses" shall be legalized.

Section on Nervous and Mental Diseases.

TUESDAY, MAY 5—AFTERNOON.

The meeting was called to order at 2 p. m. by F. W. Langdon, Cincinnati, Chairman.

The Chairman said: It affords me great pleasure to say to you that, owing to the industry and efficiency of our worthy Secretary, we have to present to you at this meeting a most attractive and somewhat extensive program, which, providing we digest and assimilate it properly, can not fail to be of benefit to us and to mankind through us. I am also admonished that the length of the program and the limited time at our disposal requires that we waste no time in preliminaries, and I therefore pronounce the session of the Section on Nervous and Mental Diseases open. As Chairman, one of my privileges is to have the right of way, and, in order that I may not take up too much of your valuable time, I shall present a mere abstract of my address.

Sir William Gowers and Sir Victor Horsley, both of London, have been requested by me to become members of our Section by invitation. Both have accepted, but are unable to be present.

I wish to announce that the annual banquet of the Section will be held to-night at Victor's Restaurant, on Bourbon street, at 8 o'clock.

Address of Chairman. F. W. Langdon, Cincinnati.

H. T. Patrick, Chicago: I move that the thanks of the Section be extended to the Chairman for his address, and that it be referred to the Executive Committee. Carried.

"Trend of Modern Psychiatry and Its Relation to General Medicine." John Punton, Kansas City, Mo. Discussed by F. Savary Pearce, Philadelphia; Daniel Brower, Chicago; R. H. Cook, Oxford, Ohio; McBride, Pasadena, Cal.; Dewey, Wauwatosa, Wis.; A. E. Sterne, Indianapolis; W. J. Herdman, Ann Arbor, Mich.; G. W. McCaskey, Fort Wayne, Ind., and Punton.

The Chairman named the following to serve as a Nominating Committee: H. T. Patrick, John Punton and W. Sinkler.

Dr. Patrick: As there is nothing to do to-morrow morning, and we have a very extensive program, I move that we have a morning session at 10 o'clock. Carried.

"A Contribution to the Study of Visual Disturbances in Brain Injury." William E. Gamble, Chicago. Discussed by H. T. Pershing, Denver; H. T. Patrick, Chicago; McBride, Los Angeles, Cal.; W. T. Eckley, Chicago, and Gamble.

"Epilepsy; a Clinical Study." J. G. Biller, Cherokee, Iowa.

"Pathology of Inebriety." T. D. Crothers, Hartford, Conn. Discussed by Petty, Memphis, Tenn.; A. E. Sterne, Indianapolis, and Crothers.

WEDNESDAY, MAY 6—MORNING.

The meeting was called to order at 10 a. m.

The minutes of the last meeting were read and approved.

The Secretary read a letter from the Chairman of the Section on Ophthalmology, stating that 2 o'clock, at the College of Pharmacy, Casey Wood would give a stereopticon demonstration of Dr. Lindsay Johnson's method of classifying the mammalia by the appearance of the fundus oculi. All members of the Association were cordially invited.

"Ambulatory Automatism." Hugh T. Patrick, Chicago. Discussed by Brainard, Los Angeles; Albert E. Sterne, Indianapolis; John Punton, Kansas City; Wharton Sinkler, Philadelphia; P. E. Archinard, New Orleans; W. J. Herdman, Ann Arbor, Mich.; F. W. Langdon, Cincinnati; C. C. Hersman, Pittsburg; F. Savary Pearce, Philadelphia; D. I. Wolfstein, Cincinnati, and Patrick.

WEDNESDAY, MAY 6—AFTERNOON.

"Penetrating Wound of Both Cerebral Hemispheres, with Recovery." W. S. Lindsay, Topeka, Kan. Discussed by H. T. Pershing, Denver; F. Savary, Pearce, Philadelphia; Brainard, Los Angeles; Albert E. Sterne, Indianapolis, and Lindsay.

The Nominating Committee recommended the following names for election: Chairman, F. Savary Pearce, Philadelphia; secretary, David I. Wolfstein, Cincinnati; member of the House of Delegates, F. W. Langdon, Cincinnati. It was moved and seconded that the report of the Nominating Committee be adopted. Carried.

"Relation of Epilepsy to Chronic Gastro-Intestinal Diseases." G. W. McCaskey, Fort Wayne, Ind.

"Neurasthenia and Its Treatment by Actinic Rays." Albert E. Sterne, Indianapolis. Discussed by F. Savary Pearce, Philadelphia; David I. Wolfstein, Cincinnati; John Punton, Kansas City; W. J. Herdman, Ann Arbor, Mich.; C. C. Hersman, Pittsburg; F. W. Langdon, Cincinnati, and A. E. Sterne.

SYMPOSIUM ON RELATION OF PUBLIC SCHOOL METHODS TO PSYCHOSES.

"Relation of the Public School to the Seminary and College as to Psychoses." F. Savary Pearce, Philadelphia.

"Best Methods of Counteracting Psychoses Due to Strain and Stress." William J. Herdman, Ann Arbor, Mich.

The two papers were discussed by Harold N. Moyer, Chicago; John Punton, Kansas City; J. H. McBride, Los Angeles; R. C. Moore, Omaha; T. A. Williams, East Bernard, Texas; A. E. Sterne, Indianapolis, and Daniel W. Brower, Chicago.

THURSDAY, MAY 7—MORNING.

Called to order at 10 o'clock.

Continuation of the discussion on the relation of public school methods to psychoses, by D. O. Wilkinson, Montibello, Ala.; Wharton Sinkler, Philadelphia; D. I. Wolfstein, Cincinnati; A. J. Pressey, Cleveland; C. C. Hersman, Pittsburg; Shelley, Atchinson, Kan.; T. A. Williams, East Bernard, Texas; C. C. Hersman, Pittsburg; J. H. McBride, Pasadena, Cal.; H. T. Patrick, Chicago; W. S. Lindsay, Topeka, Kan.; F. W. Langdon, Cincinnati; Albert E. Sterne, Indianapolis; F. Savary Pearce, Philadelphia, and William J. Herdman, Ann Arbor, Mich.

William J. Herdman, Ann Arbor, Mich., presented the following resolution:

Resolved, That we, the members of the Section on Nervous and Mental Diseases of the American Medican Association, are deeply conscious of the vital importance of the methods of education and school environment on the development of youth and are of the opinion that the time has arrived for the harmonious and helpful co-operation of educators and physicians in the work of education. In view of this belief on our part, be it further

Resolved, That we appoint a committee from our membership at this meeting, whose duty it shall be:

First. To collect, during the coming year, such exact information as may be accumulated, both in this country and in Europe, on the school methods in their relation to the physical and mental welfare of youth.

Second. To confer with leading educators everywhere with the view of eliciting information and opinions on the subject and of securing co-operation in efforts for improvement of methods.

Third. To report to the Section at its next annual session the results of their investigations, and formulate a plan for future and vigorous prosecution of such reforms as we may decide from their report are clearly needed.

In accordance with the above resolution, which was adopted, the Chairman named the following committee: William J. Herdman, Ann Arbor, Mich., chairman; T. A. Williams, East Bernard, Texas; J. H. McBride, Los Angeles, Cal.; F. Savary Pearce, Philadelphia, and H. T. Patrick, Chicago.

John Punton inquired whether it would be possible to get the papers which were read before the Section on Nervous and Mental Diseases and the discussion thereon in book form, without waiting for the appearance of the transactions in THE JOURNAL of the American Medical Association.

The Chairman appointed Dr. Punton a committee of one to inquire into the matter and report at the afternoon meeting. (Report was in the negative.)

"Atrophy of Hand Muscles, with Localized Sensory Disturbances; Possible Early Syringomyelia." D. I. Wolfstein, Cincinnati. Discussed by H. T. Patrick, Chicago; Wharton Sinkler, Philadelphia; A. E. Sterne, Indianapolis; F. W. Langdon, Cincinnati, and D. I. Wolfstein, Cincinnati.

THURSDAY, MAY 7—AFTERNOON.

F. Savary Pearce reported that the committee which had been appointed in the morning to consider the relation of public school methods to psychoses had already held one meeting, and they hoped to make considerable progress before the next annual session of the Section.

"Ten Cases of Chronic Morphinism and Results of Treatment." A. J. Pressey, Cleveland, Ohio. Discussed by George E. Petty, Memphis, Tenn., and A. J. Pressey.

"The Nervous Phenomena Associated with Movable Kidney." Wharton Sinkler, Philadelphia. Discussed by A. P. Ohlmacher, Gallipolis, Ohio; R. C. Moore, Omaha; J. L. Miller, Chicago; A. R. Elliot, Chicago; A. C. Croftan, Chicago, and F. Savary Pearce, Philadelphia.

"A Consideration of the Neuroses of the Status Lympaticus." A. P. Ohlmacher, Gallipolis, Ohio. Discussed by D. I. Wolfstein, Cincinnati; A. P. Ohlmacher; H. T. Pershing, Denver; H. T. Patrick, Chicago; D. I. Wolfstein, and A. P. Ohlmacher.

"Carcinoma of Spine and Meninges Secondary to Cancer of the Breast." F. Savary Pearce, Philadelphia. Discussed by H. T. Pershing, Denver, and F. Savary Pearce.

"Some Toxemias in Relation to the Production of Nervous and Mental Diseases." Samuel Bell, Detroit.

"Treatment of Emotional Disturbances." Howell T. Pershing, Denver. Discussed by H. T. Patrick, Chicago; John Punton,

Kansas City; B. F. Turner, Memphis, Tenn.; F. Savary Pearce, Philadelphia, and H. T. Pershing.

The Chairman: I am pleased to announce that this completes the work of the Section on Nervous and Mental Diseases. We have listened to an excellent program, and have been able to complete it in three days by holding two daily sessions instead of one.

R. C. Moore, Omaha: I move that the thanks of the members of the Section be extended to the Chairman and Secretary for the admirable way in which they have conducted the proceedings. Unanimously carried.

Section on Cutaneous Medicine and Surgery.

TUESDAY, MAY 5—AFTERNOON.

The Section was called to order at 2 p. m. by the Chairman, John A. Fordyce, who gave an address on "The Modern Conception of Eczema." It was discussed by Zeisler, Illinois; Bulkley, New York; Ohmann Dumesnil, Missouri.

H. R. Varney, Detroit, read a paper on "Results in Radiotherapeutics and Clinical Conclusions." Discussed by Skinner, Connecticut; Zeisler, Illinois; Bulkley, New York; Hubbard, Tennessee; Campbell, Illinois; Edwards, Tennessee; Ohmann Dumesnil, Missouri; Duncan, Missouri; Guthrie, New York; Roussel, Louisiana; Varney, Michigan.

The paper of Louis E. Schmidt, Chicago, entitled "Clinical Results Obtained in the Use of Finsen's and Other Lights," was read by title.

M. L. Heidingsfeld, Cincinnati, read a paper entitled "Treatment of Syphilis by Injection." Discussed by Ohmann Dumesnil, Missouri; Kessler, Iowa; Anthony, Illinois; Schamberg, Pennsylvania; Zeisler, Illinois; Weiss, New York; Heidingsfeld, Ohio.

H. G. Anthony, Chicago, read a paper entitled "Fibroma Molluscum." Discussed by Heidingsfeld, Ohio; Bulkley and Fordyce, New York; Anthony, Illinois.

The next order of business being the appointment of a Nominating Committee, it was moved and carried that the Chair appoint a committee of three, to report to-morrow. The Chair appointed Baum, Illinois; Vanderhook, Minnesota; Schamberg, Pennsylvania.

The Section adjourned to 2 p. m., Wednesday.

WEDNESDAY, MAY 6—AFTERNOON.

The Nominating Committee reported for chairman, Henry G. Anthony, Chicago; secretary, R. R. Campbell, Chicago; member of House of Delegates, Jay F. Schamberg, Philadelphia; alternate, G. W. Wende, Buffalo.

Paper, "Treatment of Leprosy," by A. H. Ohmann Dumesnil, St. Louis. Discussed by J. F. Schamberg, Pennsylvania; Duncan; Vanderhook; Roussell, Louisiana; J. A. Fordyce, New York, and Ohmann Dumesnil.

Papers of William S. Gottheil, entitled "Tuberculosis Cutis Frambesioides Disseminata," and Eugene Carson Hay, Hot Springs, Ark., on "Syphilitic Fever," and Henry Steiwagon, Philadelphia, on "Larva Migrans," were read by title.

Paper, Joseph Zeisler, Chicago, "Notes on the Treatment of Lichen Planus." Discussed by Baum, Illinois; Schamberg, Pennsylvania; Dumesnil, Missouri; Heidingsfeld, Ohio; Duncan; Shelmire, Texas, and Zeisler.

It was voted not to accept the paper of Justin de Lisle.

Paper, "Papilloma of the Sole," by Douglas W. Montgomery, was read by title.

Paper, "Some Clinical Observations on Chicken-pox," by Jay F. Schamberg, Philadelphia. Discussion by Kessler; Baum, Illinois; Dumesnil, Missouri, and Shelmire, Texas.

Paper, "Diagnosis of Cutaneous Syphilis," by Isadore Dyer, New Orleans. Discussion by Anthony, Illinois; Heidingsfeld, Ohio, and Dyer, Louisiana.

Paper, "Report of a Case of Pemphigus Chronicus," by William Frick, Kansas City. No discussion.

Paper, "Notes on an Interesting Case of Lupus Vulgaris," by R. R. Campbell, Chicago. Discussion by Zeisler, Chicago; Anthony, Chicago; Duncan and Campbell.

THURSDAY, MAY 7—MORNING.

The clinic by Isadore Dyer at Charity Hospital was well attended. A number of most interesting cases were presented, the discussions on which were most valuable as well as highly instructive.

THURSDAY, MAY 7—AFTERNOON.

Paper, "Atrophia Cutis Idiopathica," by William S. Gottheil, New York, was read by title.

Paper, "Diagnosis of Smallpox," by A. W. Brayton, Indianapolis, was read in abstract. No discussion.

Paper, "Pathology and Treatment of Smallpox," by N. D. Brayton, Indianapolis, was read by title.

Paper, "Pityriasis Rosea," by Ludwig Weiss, New York. Discussion by Anthony, Illinois; Bulkley, New York; Brayton, Indiana; Heidingsfeld, Ohio; Fordyce and Weiss, New York.

Paper, "Scarlet Fever," by William L. Baum, Chicago. Discussion by Schamberg, Pennsylvania; Brayton, Indiana; Anthony, Illinois; Weiss, New York, and Baum, Illinois.

Paper, "Influence of the Menstrual Function on Certain Skin Diseases," by L. Duncan Bulkley, New York. No discussion.

On the suggestion of the Chairman a motion was made by Dr. Anthony, Illinois, seconded by Dr. Schamberg, Pennsylvania, and carried that the action taken yesterday in regard to the paper of Dr. de Lisle be reconsidered and the paper referred to the Executive Committee.

Dr. Weiss, New York, exhibited lantern slides illustrating his paper.

Dr. Heidingsfeld, Ohio, exhibited lantern slides in preliminary investigations of cutis atrophica.

"Paper, "A Case of Blastomycetic Dermatitis from Accidental Inoculation," by Newton Evans, Battle Creek, Mich. Discussion by Brayton, Indiana; Dyer, Louisiana; Heidingsfeld, Ohio; Anthony, Illinois; Fordyce, New York, and Evans, Michigan.

A vote of thanks was given Dr. Dyer and his assistants, Drs. Menage and Hopkins, for courtesies shown.

The Section then adjourned.

Section on Laryngology and Otology.

TUESDAY, MAY 5—AFTERNOON.

This Section was called to order at 2:18 p. m. The Chairman, George L. Richards, of Fall River, Mass., presided; J. F. Barnhill, Indianapolis, Secretary.

The Secretary announced the Section banquet for the evening, a clinic at the Throat Hospital between 9 and 10 a. m. Wednesday, and a buffet luncheon 12 to 2 p. m. Wednesday.

The Chairman announced that all the members of the Executive Committee were absent, and inasmuch as there impending some important matters for the consideration of this committee, the following were appointed members: O. Joachim, New Orleans; A. G. Woolen, Indianapolis, and C. M. Cobb, Boston.

The address of the Chairman was delivered by Geo. L. Richards.

"Report of Cases, Showing Instrument and Technic in the Cure of Deafmutism." Maury M. Stapler, Macon, Ga. Discussed by O. Joachim, New Orleans; B. M. Behrens, Memphis; C. M. Cobb, Boston; Cox, Rome, Ga.; R. C. Myles, New York; H. W. Loeb, St. Louis, A. W. de Roaldes, New Orleans; Snow, Syracuse, N. Y.; and Stapler.

On motion, discussions were limited to three minutes.

"Membranous Pharyngitis." John McReynolds, Dallas, Texas. Discussed by R. C. Myles, New York; B. M. Behrens, Memphis; F. W. Hilscher, Spokane; B. R. Shurly, Detroit, and McReynolds.

"Nasal Polypus; Origin and Treatment." Charles H. Baker, Bay City. Discussed by R. C. Myles, New York; H. W. Loeb, St. Louis; Miner, Detroit; C. M. Cobb, Boston; W. Scheppegrell, New Orleans; F. W. Hilscher, Spokane, and Baker.

"Diphtheria of the Nose." W. Scheppegrell, New Orleans, read by title.

On motion by Dr. Myles, seconded and unanimously passed, Dr. Scheppegrell was asked to give the Section a talk on the use of the *x*-ray.

The following Nominating Committee was appointed: Myles, New York; Loeb, St. Louis, and Pearce, Chicago.

WEDNESDAY, MAY 6—MORNING.

The Section met in the Eye, Ear, Nose and Throat Hospital at 9 a. m.

"Some Observations on the Removal of Diseased Tonsils" was read by Charles M. Robertson, Chicago, who also demonstrated his method of operating. [This was discussed later.]

The Section then repaired to the College of Pharmacy, reconvening at 10 a. m.

W. Scheppegrell, New Orleans, moved that the retiring Chairman be one of the representatives of the Section to the House of Delegates, and that he choose from the floor the other member. The motion was seconded and unanimously passed.

"The Necessity for an Early Diagnosis and Treatment in Acute Suppurative Affections of the Middle Ear." Frank D. Boyd, Fort Worth, Texas. Discussed by H. Dupuy, New Orleans; Philip Hammond, Boston; E. C. Ellett, Memphis; D. A. Kuyk, Richmond; Harmon Smith, New York; Baker, Bay City, Mich.; Woodson, Birmingham; De Vilbiss, Toledo; J. F. Barnhill, Indianapolis; George L. Richards, Fall River, Mass.; Kate Baldwin, Philadelphia; Parker, Detroit; C. M. Cobb, Boston; J. F. Hill, Memphis; W. Scheppegrell, New Orleans, and Boyd.

A patient, from whom a necrosed arytenoid cartilage had been removed, was presented by W. Scheppegrell, New Orleans.

"Report of a Case of Empyema of the Frontal Sinus." C. A. Thigpen, Montgomery, Ala. Discussed by Myles, New York; Gordon King, New Orleans; O. T. Freer, Chicago; Pfingst, Louisville; George L. Richards, Fall River, Mass.; Homer Dupuy, New Orleans; E. E. Ingals, Chicago, and Thigpen.

The discussion of Charles M. Robertson's paper was then taken up, and was participated in by Hilscher, Spokane, Wash.; Miner, Detroit; J. F. Barnhill, Indianapolis; E. Fletcher Ingals, Chicago; Myles, New York; Loeb, St. Louis; George L. Richards, Fall River, Mass., and Robertson.

WEDNESDAY, MAY 6—AFTERNOON.

Convened at 2:35 p. m.

"Paraffin Injected Subcutaneously for the Correction of Nasal and Other Deformities." Harmon Smith, New York. Discussed by O. Joachim, New Orleans; J. F. Barnhill, Indianapolis; Robert C. Myles, New York; C. M. Cobb, Boston; E. Fletcher Ingals, Chicago, and Smith.

"The Special Influence of High Altitude on the Nose and Throat." S. E. Solly, Colorado Springs. Discussed by Melville Black, Denver; Sargent F. Snow, Syracuse, and Myles.

"A General Consideration of the Diseases of the Ethnoid Bones and Cells." Robert C. Myles, New York. Discussed by E. Fletcher Ingals, Chicago; Sargent F. Snow, Syracuse, and Solly.

"Non-Tubercular Hemorrhages of the Air Passages." L. F. Page, Indianapolis. No discussion.

"The Resection Operation for the Correction of Deflections of the Nasal Septum." Otto T. Freer, Chicago. Discussed by O. Joachim, New Orleans; J. F. Barnhill, Indianapolis; Schambaugh, Chicago; B. R. Shurly, Detroit; Gradle, Chicago; Hill, Memphis, and Freer.

R. C. Myles, New York, on behalf of the Nominating Committee, reported the following nominations: Chairman, J. F. Barnhill, Indianapolis; secretary, Otto T. Freer, Chicago; member of House of Delegates, George L. Richards, Fall River, Mass. These were elected.

THURSDAY, MAY 7—MORNING.

The Section convened at 9:30 a. m.

The following communication was read by the Secretary:

CINCINNATI, OHIO, April 27, 1903.

To the Secretary of the Section on Laryngology and Otology, American Medical Association:

Enclosed please find a resolution which was acted on by the Academy of Ophthalmology and Oto-Laryngology (formerly the Western Ophthalmologic and Oto-Laryngologic Association) at its regular annual meeting, which was held in Indianapolis, April 9 to 11.

Will you kindly read this resolution before your society at its next meeting, and if the sentiment expressed meets with the approbation of your members, will you see that a resolution endorsing the ideas inculcated is voted on by your organization?

Will you kindly notify me after the regular meeting of your society what action was taken in reference to the matter?

I enclose the names of six societies which have been invited to join this federation. Any suggestions which your organization might make in reference to enlarging the idea expressed, etc., will be gratefully received. DERRICK T. VAIL, Secretary.

THE ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

At the annual meeting of the Academy of Ophthalmology and Oto-Laryngology (formerly known as the Western Ophthalmologic and Oto-Laryngologic Association), held in Indianapolis, April 9, 10 and 11, 1903, the following resolution was proposed by the president, Dr. William L. Ballenger, and seconded by the secretary, Dr. Derrick T. Vail, and adopted by the academy:

Resolved, That the Academy of Ophthalmology and Oto-Laryngology deem it wise to correspond with all other American associations devoted to the consideration of diseases of the eye, ear, nose and throat, with a view of establishing a federation of the said societies. The said federation to meet in joint session once every five years for the consideration of scientific and other subjects pertaining to the eye, ear, nose and throat.

It is suggested that the first meeting of the proposed federation be held at a time and place to be agreed on in the year 1906, or at such other time as may be selected.

WILLIAM L. BALLENGER, President.
DERRICK T. VAIL, Secretary.

Societies invited to joint the federation: American Laryngological Association; American Laryngological, Rhinological and Otological Society; American Otological Society; Section on Laryngology and Otology, American Medical Association; Section on Ophthalmology, American Medical Association; American Ophthalmological Society; Academy of Ophthalmology and Oto-Laryngology.

W. Scheppegrell, New Orleans, Chairman *pro tem.*, said: I have had the honor at one time to be the president of the Academy of Ophthalmology and Oto-Laryngology, and I would therefore invite your especial consideration to this subject. I think very highly of this proposition. It would do a great deal to bring the different elements and societies together, and it might do us a great deal of good. We would derive a still greater benefit if we had a wider field to draw from. Therefore, I would suggest that someone make a motion that a special committee be appointed by the Chair to take this matter up and make such arrangements with the Academy of Ophthalmology and Oto-Laryngology as may further this purpose.

D. A. Kuyk, Richmond, said: It gives me great pleasure to move that the Chairman appoint a committee of three, looking to the furtherance and completion of the suggestions just made.

The motion was seconded and passed unanimously.

"How Far Should the Specialist in Rhinology and Otology Presume to Treat the Systemic Condition?" C. M. Cobb, Boston. Discussed by G. V. Woolen, Indianapolis; Sargent F. Snow, Syracuse; Schambaugh, Chicago; D. A. Kuyk, Richmond; W. Scheppegrell, New Orleans; Charles H. Baker, Bay City, Mich.; Joachim, New Orleans; Loeb, St. Louis; Crum, Utica; George L. Richards, Fall River, and Cobb.

"Report of Three Cases: 1. Case of Prolonged Intubation. 2. Esophageal Obstruction Due to Swallowing an Upper Alveolar Plate. 3. A Partial Extirpation of the Larynx for Carcinoma." George F. Cott, Buffalo. Discussed by B. R. Shurly, Detroit; D. A. Kuyk, Richmond; Otto T. Freer, Chicago, and Cott.

"The Early Manifestations of Laryngeal Tuberculosis; Their Recognition and Treatment." H. H. Briggs, Asheville. Discussed by Schuster, El Paso, Texas, and Briggs.

"The Immediate Relief of Hysterical Manifestations in the Larynx by Suggestion." H. W. Loeb, St. Louis. Discussed by D. A. Kuyk, Richmond; Hirschel, Spokane; J. F. Barnhill, Indianapolis; H. Dupuy, New Orleans; C. M. Cobb, Boston, and Loeb.

"Some Recent Experiences with Chronic Suppurations of the Ear." Philip Hammond, Boston. Discussed by H. Dupuy, New Orleans; Hirschel, Detroit; J. F. Barnhill, Indianapolis; C. M. Cobb, Boston; George L. Richards, Fall River, and Hammond.

The following committee was appointed by the Chair to consult with the Academy of Ophthalmology and Oto-Laryngology, as comprehended in the motion made by D. A. Kuyk: H. W. Loeb, St. Louis, representing the Academy; Sargent F. Snow, Syracuse, representing the American Laryngological, Rhinological and Otological Society, and C. H. Baker, Bay City, representing this Section.

THURSDAY, MAY 7—AFTERNOON.

The Section convened at 2:15 p. m.

The election of officers resulted thus: President, J. F. Barnhill, Indianapolis; secretary, Otto T. Freer, Chicago; member of House of Delegates, George L. Richards, Fall River, Mass.

"(*a*) The Distribution of Blood Vessels in the Labyrinth of the Ear, with Exhibition of Preparation and Drawing. (*b*) Wood's Metal Casts of the Middle Ear, with the Exhibition of Preparation and Lantern Demonstration." George E. Schambaugh, Chicago.

S. E. Solly, Colorado Springs, moved that the Section pass a vote of thanks for the beautiful exhibition of original work by Dr. Schambaugh. The motion was seconded by J. F. Barnhill, Indianapolis, and passed unanimously.

"Perisinusal Abscess of Lateral Sinus, with Metastases in Liver and Sterno-Clavicular Arthritis." Gordon King, New Orleans.

"Efficacy of Treatment of Acute Suppurative Otitis by Aseptic Drainage." H. Gradle, Chicago.

"The Great Value of Drainage and Ice in the Early Stages of Mastoiditis." Sargent F. Snow, Syracuse.

The above two papers were discussed by J. F. Barnhill, Indianapolis; Ledbetter, Birmingham, Ala.; Brown, Minneapolis; Hammond, Boston; George L. Richards, Fall River; C. M. Cobb, Boston; Hilscher, Spokane; D. A. Kuyk, Richmond; Donovan, Dubuque, Mont.; Stapler, Macon, Ga.; Gradle and Snow.

"Deformity of the Nasal Septum in Atrophic Rhinitis. Shall We Operate?" Kate W. Baldwin, Philadelphia.

On motions, duly seconded, the papers by Drs. Behrens and Joachim were read by title and referred to the Executive Committee.

Adjourned.

Section on Materia Medica, Pharmacy and Therapeutics.

TUESDAY, MAY 5—AFTERNOON.

The meeting was called to order by the Chairman, Solomon Solis-Cohen, at 2:35 p. m.

The Committee on Dosage of Liquid Medicines, Frank Woodbury, H. C. Wood, Jr., and A. Eshner, Philadelphia, made its report.

On motion the report was received and the committee discharged.

The Committee on Nerve Nostrums and Drug Addictions, A. W. Baer, Chicago; W. J. Robinson, New York, and H. C. Wood, Jr., Philadelphia, made its report.

On motion the report was received and the committee discharged.

The Secretary read a communication from the American Pharmaceutical Association, inviting this body to appoint delegates to the American Pharmaceutical Association.

The Chairman read his address.

The paper of Arthur R. Cushney, Ann Arbor, entitled "Is Pharmacologic Action Determined by Chemical Structure or by Physical Characters?" was read by Dr. Burdick.

M. Vejux Tyrode, Boston, read a paper entitled "The Relations Between the Pharmacologic Actions of Drugs and Their Therapeutic Indications."

The paper of Torald Sollmann, Cleveland, Ohio, entitled "Research Problems of Pharmacology," was read by the Chairman.

The paper, "The Physiologic Effect of the Ions," by Ralph N. Webster, Chicago, was read by title.

Discussion on all these papers was participated in by H. C. Beates, Philadelphia; W. J. Robinson, New York; W. W. Tompkins, West Virginia, and M. V. Tyrode.

A paper entitled "Mechano-Therapy, Massage, Bone Setting and Osteopathy," by John Madison Taylor, Philadelphia, was read by title.

On motion the recommendations of the Committee on Dosage of Liquid Medicines were adopted, as follows:

To the House of Delegates The following resolutions have been adopted by the Section on Materia Medica, Pharmacy and Therapeutics, and the delegate from that Section instructed to present them to the House of Delegates, with the recommendation that they be adopted by the Association:

Resolved, That teachers of medicine and pharmacy, editors of medical and pharmaceutic journals and authors of text-books are respectfully requested to give precedence to the metric method in the writing of all medical formulas and that, for the administration of doses of less than a teaspoonful, the quantity be stated in drops delivered from a standard medicine dropper or pipette of three millimeters external diameter, which will deliver twenty drops of water at 15 C., which will measure one cubic centimeter when dropped at the rate of one per second, and that the teaspoonful be considered as equivalent to five cubic centimeters and that the tablespoonful be considered as equivalent to fifteen centimeters; and

Resolved, That the orthography, abbreviations, etc., of the International Bureau, or as revised by the National Bureau of Standards at Washington, shall also be recommended for adoption in medical and pharmaceutic publications; and

Resolved, That a copy of these resolutions be transmitted to the Committee of Revision of the United States Pharmacopeia for 1900, with the request that they be incorporated, as far as possible, in the United States Pharmacopeia.

On motion the recommendations of the Committee on Nerve Nostrums and Drug Addictions were adopted, as follows:

To the House of Delegates: The following resolutions have been adopted by the Section on Materia Medica, Pharmacy and Therapeutics and the delegate from that Section to the House of Delegates instructed to present them to the House of Delegates.

In view of the spread in the growth of the use and abuse of proprietary remedies, the Section recommends:

1. That newspapers which do not print objectionable medical advertisements are entitled to and should receive the favor and preference of medical men.

2. That articles on the dangers arising from the use of quack nostrums should be written for such newspapers for publication.

3. That the Committee on National Legislation be asked to consider the feasibility of the introduction in the next House of Representatives of an interstate measure prohibiting or limiting the sale of poisonous and dangerous patent medicines.

4. That no medicinal preparation for internal use, as distinguished from antiseptics, disinfectants, cosmetics and dietetics, advertised as a remedy or cure to the laity, is entitled to the patronage of physicians, nor should such be admitted to the pages of the medical journals, nor to the exhibitions of the American Medical Association.

5. That manufacturers be requested to print the scientific or chemical names under the trade name of all pharmaceutic or chemical preparations.

6. That the general plan and object of the National Bureau of Medicines and Foods are entitled to a further careful investigation by a special committee of the American Medical Association.

On motion, Delegate Hill was instructed to present to the House of Delegates the recommendations of these committees.

On motion of Dr. Hill it was resolved that a committee of three be appointed, the Chairman to be one member, to draft a memorial to the Business Committee of the House of Delegates to oppose the contemplated change in the title of this Section by omitting the word "therapeutics."

The committee was Drs. Cohen, Beates and Hill.

The Chair appointed the Nominating Committee, as follows: Drs. Robinson, chairman, Tompkins and Slack.

C. A. Mayo, New York, delegate from the American Pharmaceutical Association to the Section, on invitation by the Chairman, briefly responded for this association.

Dr. Robinson moved that three delegates be appointed to attend the meeting of the American Pharmaceutical Association. Seconded and carried.

On motion a resolution was adopted looking to the admission as associate members reputable pharmacists who are members of the American Pharmaceutical Association.

On motion, Dr. Hill was instructed to present this resolution to the Business Committee of the House of Delegates.

On motion adjourned to 9:30 a. m.

WEDNESDAY, MAY 6—MORNING.

The meeting was called to order by the Chairman at 9:50 a. m.

The minutes of the previous session were read, corrected and approved.

On motion the paper entitled "The Chemistry of Ergot," by A. B. Lyons, Detroit, was read by title.

Laura House Bronson, Iowa City, Iowa, read a paper entitled "Mercury." Discussion by Oliver T. Osborne, New Haven; W. J. Robinson, New York; W. W. Tompkins, West Virginia; S. Solis-Cohen, Philadelphia, and Bronson.

On motion W. S. Hall's paper was postponed to the afternoon session.

Arthur R. Elliott, Chicago, read a paper entitled "The Limitations of the Antidiabetic Diet." Discussion by H. C. Beates, Philadelphia; A. C. Croftan, Chicago; O. T. Osborne, Connecticut; W. J. Robinson, New York; W. B. Hill, Milwaukee; E. T. Shelley, Kansas; H. H. Moody, Alabama; G. W. Webster, Chicago; W. W. Tompkins, West Virginia; the Chairman, and A. R. Elliott.

It was moved that an effort be made to read and discuss all papers on the program by Thursday afternoon. Seconded and carried.

On motion adjourned to 2 p. m.

WEDNESDAY, MAY 7—AFTERNOON.

Meeting called to order by Chairman at 2:15 p. m.

T. D. Crothers, Connecticut, read a paper entitled "Demonstrated Pathologic Effects of Alcohol."

O. T. Osborne, Connecticut, read a paper entitled "The Legitimate Therapeutic Uses of Alcohol."

Both papers were discussed by J. H. Musser, Philadelphia; J. A. Storck, New Orleans; W. J. Robinson, New York; A. C. Croftan, Chicago; C. S. N. Hallberg, Chicago, and the Chairman.

Paper by A. A. Eshner, Philadelphia, on "The Management of Fever in General," was read by title.

J. H. Musser, Philadelphia, read a paper entitled "The Therapeutic Value of Spinal Puncture for the Cerebral Symptoms of Typhoid Fever." Discussed by W. J. Robinson, New York; W. W. Tompkins, West Virginia; O. T. Osborne, Connecticut, and Musser.

J. A. Storck, New Orleans, read a paper entitled "Intestinal Antiseptics; Their Uses and Limitations." Discussed by O. T. Osborne, Connecticut; George F. Butler, Michigan; W. J. Robinson, New York; B. C. Keister, Virginia, and Storck.

W. S. Hall, Chicago, read a paper entitled "The Absorption of Iron from the Alimentary Canal." Discussed by G. F. Butler, Michigan; W. W. Tompkins, West Virginia, and C. S. Chamberlain, Ohio.

W. J. Robinson, New York, read a paper entitled "The Composition of Some of the So-called New Synthetics." Discussed by George F. Butler, Michigan; C. A. Mayo, New York; W. W. Tompkins, West Virginia; J. A. Storck, New Orleans; Rawlins, Tennessee; B. C. Keister, Virginia; C. E. Skinner, Connecticut; H. N. Leavell, Kentucky; C. S. N. Hallberg, Chicago; C. S. Chamberlain, Ohio; B. Pirosh, Chicago, and Robinson.

Dr. Storck moved that a committee of three be appointed by the Chair to consider the suggestion contained in Dr. Robinson's paper, with instructions to report to-morrow, with such recommendations as they may deem appropriate.

The Chair appointed Drs. Butler, Tompkins and Hallberg.

On motion adjourned to 9:30 a. m.

THURSDAY, MAY 7—MORNING.

Meeting was called to order by the Chairman at 9:40 a. m.

Minutes of previous day read and approved.

N. S. Davis, Jr., Chicago, read a paper entitled "Exercise as a Mode of Treatment in Heart Diseases." Discussion by H. H. Moody, Alabama; W. W. Tompkins, West Virginia; the Chairman and Davis.

On motion, the paper entitled "Recent Advances in Actino-Therapy," by W. S. Gottheil, New York, was read by title.

Clarence E. Skinner, New Haven, read a paper entitled "Superheated Air in Therapeutics." Discussion by W. J. Robinson, New York; W. W. Tompkins, West Virginia, and Skinner.

C. S. N. Hallberg, Chicago, read a paper entitled "The United States Pharmacopeia." Discussion by W. J. Robinson, New York; J. V. Kelly, Philadelphia; Pirosh, Chicago; W. B. Hill, Wisconsin; O. T. Osborne, Connecticut; H. A. Moody, Alabama; F. Weber, Milwaukee; Chamberlain, Ohio, and Hallberg.

W. B. Hill, Milwaukee, read a paper entitled "The Limitations in the Use of Aconite and Veratrum Viride." Discussion by F. Weber, Milwaukee; H. A. Moody, Alabama; W. J. Robinson, New York; W. W. Tompkins, West Virginia; C. S. Chamberlain, Ohio; Kahle, Indianapolis; Leavell, Louisville; the Chairman and Hill.

Caswell A. Mayo, New York, read a paper entitled "Spurious Creosotes." Discussion by B. C. Keister, Virginia; W. W. Tompkins, West Virginia, and Mayo.

The following resolution was unanimously adopted:

Resolved, That, in the opinion of the Section on Materia Medica, Pharmacy and Therapeutics, the term "creosote" should be restricted solely to true wood-tar creosote, owing to the great danger arising from the present indiscriminate use of the term; and prescribers are requested to specify beech-tar creosote in order to properly distinguish the article from coal-tar creosote.

On motion adjourned to 2:30 p. m.

THURSDAY, MAY 7—AFTERNOON.

Meeting called to order by the Chairman at 2:35 p. m.

The Nominating Committee made the following report: For chairman, Oliver T. Osborne, New Haven, Conn.; secretary, Carl S. N. Hallberg, Chicago; delegate, W. J. Robinson, New York.

On motion the report of the committee was accepted and the officers nominated were declared elected.

George F. Butler, Alma, Michigan, read a paper entitled "Drugs Used in Nervous Diseases." Discussion by the Chairman.

Bittle C. Keister, Roanoke, Va., read a paper entitled "The Mind as a Causative and Therapeutic Factor in Medicine." Discussion by Ballard, Memphis; Slack, La Grange, Ga.; George F. Butler, Michigan; the Chairman; C. S. Chamberlain, Ohio; W. J. Robinson, New York; Betty, Memphis; W. W. Tompkins, West Virginia; H. A. Moody, Alabama, and Keister.

The committee appointed to report on the suggestions contained in Dr. Robinson's paper made the following report:

This committee, to which the paper of W. J. Robinson, New York, was referred, while fully agreeing with the sentiment expressed by the author, would suggest, in view of the present status of this question of proprietary medicine, that the paper may be so modified by the Editor of THE JOURNAL as to avoid any undesirable complications.

The committee, in view of the importance of the subject, respectfully makes these recommendations:

1. That, inasmuch as the primary cause of the proprietary medicine evils is the lack of knowledge on the part of medical graduates, the course in materia medica should be supplemented during the last year in connection with therapeutics by a course in pharmacy especially designed to qualify the student to formulate his own prescriptions in the most eligible manner.

2. A closer adherence to the United States Pharmacopeia and the National Formulary as a basis for text-books and instruction will lead to a greater appreciation of the official drugs and chemicals and formulas of the recognized medical authorities.

3. That some well-considered plan should be inaugurated for the differentiation of the thousands of medicinal articles and specialties to remove the present existing confusion among physicians and pharmacists alike, and to afford some kind of criteria to their ethical status, and to separate the true from the false.

4. That the revision of the patent laws, as applied to medicines, trade-marks and copyrights should be demanded.

5. That the primary object of a medical journal published by medical men or societies should be to chronicle the work of the profession it represents, and the general diffusion of medical knowledge, and not for the purpose of making money, commercial domination through the advertising privileges being derogatory to the profession.

6. It is recommended that a committee of competent persons be appointed to act as an advisory board in determining the limitations and privileges of advertisements appearing in THE JOURNAL and in the exhibits of the American Medical Association.

On motion the report and recommendations were adopted and the committee discharged.

The Chair announced the following delegates to the American Pharmaceutical Association: Hallberg, Robinson, Slack, Tompkins and Leavell.

The Secretary read a communication from the U. S. census office.

On motion the following committee was appointed to further consider the subject of suggestions contained in Dr. Robinson's paper and the report of the previous committee and report at the next session of this body, viz.: Moody, Robinson and Hallberg.

On motion a vote of thanks was tendered the trustees of the Carondelet Street M. E. Church for the use of their building; to the Committee of Arrangements and the medical profession of New Orleans and Louisiana for courtesies extended.

On motion a vote of thanks was tendered the Chairman and Secretary.

On motion adjourned, to meet in Atlantic City in 1904.

Section on Pathology and Physiology.

TUESDAY, MAY 5—AFTERNOON.

Called to order at 2:30 p. m.

Address by the Chairman, Victor C. Vaughan of Ann Arbor, Mich.

Abstract of Papers 1 to 8, being contributions from the Hygienic Laboratory of the University of Michigan, reported by Victor C. Vaughan, director.

(1) "The Chemistry of the Bacillus Coli Communis," by Mary F. Leach, Ann Arbor.

(2) "The Chemistry of the Bacillus Typhosus," by May Wheeler, Ann Arbor.

(3) "The Toxicity of the Intracellular Substance of Bacillus Typhosus," by Louis M. Gelston, Ann Arbor.

(4) "The Anthrax Toxin," J. Walter Vaughan, Ann Arbor.

(5) "The Intracellular Toxin of Bacillus Pyocyaneus," by Daniel McIntyre, Ann Arbor.

(6) "A Preliminary Chemical Study of the Hepatic Cells of the Ox," Frank Spencer and Frederick Munson, Ann Arbor.

(7) "The Toxicogenic Bacteria Found in Drinking Water," William G. Carhart, Ann Arbor.

(8) "The Chemical Tests for Morphin in the Presence of the Products of Bacterial Decomposition," by Myron W. Clift, Ann Arbor.

Discussion on the above by Henry A. Christian, Boston; A. C. Croftan, Chicago; W. S. Carter, Galveston; Joseph McFarland, Philadelphia.

The Secretary made announcement of the banquet.

Paper by Walter L. Bierring, Iowa City, Iowa: "Multiple Periosteal Sarcomata of the Cranium, with Involvement of Retroperitoneal Lymph Nodes and Attending Severe Anemia.

Appointment of Nominating Committee: E. R. LeCount, Chicago; W. L. Bierring, Iowa City; Frank B. Wynn, Indianapolis.

Discussion of Dr. Bierring's paper by E. R. LeCount, Chicago, and Henry A. Christian, Boston.

WEDNESDAY, MAY 6—MORNING.

Paper by E. A. de Schweinitz, Washington, D. C., read by Joseph McFarland, Philadelphia. Discussed by Dorset, Washington, D. C.; L. Hektoen, Chicago; Victor C. Vaughan, Ann Arbor; Joseph McFarland, Philadelphia.

Paper by Joseph McFarland, Philadelphia: "Studies of Antirrenene." Discussed by L. Hektoen, Chicago; J. W. Foss, Phœnix, Ariz.

Paper by W. S. Carter, Galveston, Tex.: "The Protoplasmic Activity of the Renal Epithelium as Determined by the Elimination of Pigments Injected into the Circulation." Discussed by E. R. LeCount, Chicago.

Paper by L. W. Dean, Iowa City, Iowa: "The Influence of Consanguinity on the Organs of Special Sense, Especially on the Organs of Vision." Discussed by J. W. Foss, Phœnix, Ariz.

Paper by J. W. Foss, Phœnix, Ariz.: "Streptococcic Infection of the Lungs, Successfully Treated by Antistreptococcic Serum." Discussed by Guido Bell, Indianapolis; H. N. Graves, Georgetown, Tex.; W. S. Carter, Galveston; Louis Leroy, Nashville, Tenn.

Nominating Committee reported as follows: Chairman, Joseph McFarland, Philadelphia; secretary, Henry T. Christian, Boston; delegate, A. P. Ohlmacher, Gallipolis, Ohio, all of whom were elected.

WEDNESDAY, MAY 6—AFTERNOON.

Paper by J. M. Frazier, Belton, Tex. Discussed by H. B. Ward, Lincoln, Neb.

Paper by Henry B. Ward, Lincoln, Neb.: "Precision in the Determination of Human Parasites." Discussed by Frank B. Wynn, Indianapolis; W. L. Bierring, Iowa City; Allen J. Smith, Galveston, Tex.

Paper by Thomas S. Cullen, Baltimore, Md.: "Condition of the Endometrium in Case of Uterine Myomata." No discussion.

Paper by Louis Leroy, Nashville, Tenn.: "A Case of Aerogenes Capsulatus Infection of the Neck." Discussed by L. Hektoen, Chicago.

Paper by Henry A. Christian, Boston: "The Neuroglia and the Ependymal Epithelium of Teratoid Tumors." Discussed by L. Hektoen.

Paper by L. Hektoen, Chicago: "A Case of Short-Limbed Dwarfism," illustrated with lantern slides.

Paper by E. R. LeCount, Chicago, in the name of Peter Bassoe, Chicago: "A Case of Gigantism and Leontiasis Ossea," with lantern demonstration.

Paper by F. G. Novy and W. J. McNeal, Ann Arbor: "The Cultivation of Trypanosoma Lewisii." Discussed by H. B. Ward, Lincoln, Neb.

Adjourned, after vote of thanks to the retiring officers.

THURSDAY, MAY 7—AFTERNOON.

Paper by Newton Evans and F. J. Otis, Battle Creek, Mich.: "The Morphology and Biology of the Parasites of Blastomycetic Dermatitis," with lantern demonstration. No discussion.

Paper by Claude A. Smith, Atlanta, Ga.: "Further Observations of Ankylostomiasis in the South. Discussed by H. B. Ward, Lincoln, Neb.

Paper by J. G. Holmes, Chicago, read by W. S. Hall, Chicago: "The Working Capacity of a Muscle. Discussed by Henry Sewall, Denver.

Demonstration of new physiologic apparatus. Winfield S. Hall, Chicago.

On motion the following papers were read by title:

W. S. Newcomet, Philadelphia: "Tissue Changes under X-Ray Influence."

F. Robert Zeit, Chicago: "Endothelioma of the Uterus."

Final adjournment.

NAMES OF THOSE REGISTERED AT THE NEW ORLEANS SESSION.

We give below the names and residences of those who registered at New Orleans, at the fifty-fourth annual session of the American Medical Association. About 160 failed to indicate any preference as to sections. Through an error, discovered too late to allow a correct list to be prepared, these names were incorporated in the list of those registering in the Section on Practice of Medicine, but not in the summary below.

SUMMARY BY SECTIONS.

Section on Practice of Medicine	662
Section on Obstetrics and Diseases of Women	140
Section on Surgery and Anatomy	628
Section on Hygiene and Sanitary Science	25
Section on Ophthalmology	151
Section on Diseases of Children	44
Section on Stomatology	11
Section on Nervous and Mental Diseases	40
Section on Cutaneous Medicine and Surgery	28
Section on Laryngology and Otology	52
Section on Materia Medica, Pharmacy and Therapeutics	20
Section on Pathology and Physiology	32
Registered without expressing preference as to Section	160
*Miscellaneous	13
Total	2,006

* This includes those whose names or addresses it was impossible to verify and which have been omitted from the list of names below.

SUMMARY BY STATES.

Alabama	66	Massachusetts	26
Arizona	3	Michigan	73
Arkansas	46	Minnesota	37
California	24	Mississippi	101
Colorado	22	Missouri	68
Connecticut	11	Montana	5
Delaware	2	Nebraska	22
District of Columbia	11	New Hampshire	4
Florida	8	New Jersey	18
Georgia	27	New Mexico	3
Illinois	189	New York	71
Indian Territory	7	North Carolina	12
Indiana	103	North Dakota	2
Iowa	73	Ohio	139
Kansas	17	Oklahoma	3
Kentucky	82	Oregon	2
Louisiana	311	Pennsylvania	114
Maine	3	Rhode Island	5
Maryland	22	South Carolina	5
South Dakota	5	Virginia	17
Tennessee	73	Washington	7
Texas	84	West Virginia	12
Utah	5	Wisconsin	62
Vermont	6	Wyoming	1

The total registration in 1900 at the Atlantic City session was 2,019; in 1901 at St. Paul, 1,806; in 1902 at Saratoga Springs, 1,425; in 1903, at New Orleans, 2,006.

Section on Practice of Medicine.

Alcorn, Edw., Houstonville, Ky.
Ambler, C. P., Ashville, N. C.
Archinard, John J., New Orleans.
Ashbaugh, A., Denver.
Acker, T. J., Croton-on-Hudson, N. Y.
Arnold, L. W., Florence, Ala.
Amster, L., Atlanta, Ga.
Anders, J. M., Philadelphia.
Arnold, J. H., Versailles, Ky.
Amendson, A. C., Cambridge, Wis.
Andrus, S. C., Rockford, Ill.
Allee, W. S., Olean, Mo.
Alison, Hartwell L., Bayou La Chute, La.
Alison, J. S., Monroe, La.
Allain, A. A., Bayou Goula, La.
Alcorn, A. J., Chicago.
Ayo, S. A., Thibodeaux, La.
Anderson, Wm. E., Farmville, Va.
Allen, J. C., Baton Rouge, La.
Alford, J. M., Ellisville, Miss.
Abbott, Louis Lee, New Orleans.
Allexander, M. J., Tunica, Miss.
Ambler, C. P., Asheville, N. C.
Blair, A. McN., Buffalo, N. Y.
Bayon, H., New Orleans.
Bell, Geo. S., New Orleans.
Brookes, J. S., Robinsonville, Miss.
Burns, Wm. B., Memphis, Tenn.
Bass, C. C., Columbus, Miss.
Browne, M. S., Winchester, Ky.
Butler, J. T., Brookhaven, Miss.
Berry, R. D., Springfield, Ill.
Brown, G. A., Bear Poplar, Ill.
Brown, J. S., Salsbury, N. C.
Branch, B. L., Collierville, Tenn.
Biener, Geo., Port Allen, La.
Bohanon, J. G., Greensville, Ky.
Braun, W. T., Memphis, Tenn.
Brooks, Harriet B., Saginaw, Mich.
Benbrook, J. T., Rockwall, Tex.
Brady, C. Milo, New Orleans.
Burns, W. W., Polo, Ill.
Bruner, Benj. L., Hardyville, Ky.
Buquoi, J. F., Pt-a la-Hache, La.
Brister, S. L., Greenwood, Miss.
Bonnett, A. O., Columbus, Ohio.
Ballowe, H. L., Diamond, La.
Bass, W. H., Agr. College, Miss.
Bennett, W. C., Mt. Gilead, Ohio.
Black, Wm. T., Memphis, Tenn.
Barlew, E. E., Dermott, Ark.
Burrows, H. H., New Boston, Tex.
Boggess, W. F., Louisville, Ky.
Brunning, Francis, Cincinnati.
Brayton, A. W., Indianapolis.
Boggs, W. R., Macon, Ill.
Burlingame, D. E., Elgin, Ill.
Bermus, Wm. M., Jamestown, N. Y.
Bower, W. C., Lebanon, Kan.
Broadstreet, S. C., Mt. Pleasant, Tex.
Beard, Frank M., Shelbyville, Ky.
Bush, A. R., Sligo, La.
Barcus, Paul J., Crawfordsville, Ind.
Broidrick, Jas. P., Boston.
Brown, J. A., Germantown, Ohio.
Brandau, John W., Clarksville, Tenn.
Burroughs, H. S., Pittsburg, Pa.
Barry, Wm. R., Emory, Tex.
Bartlett, Rufus, Chicago.
Ball, Otho F., St. Paul, Minn.
Barron, A. F., St. Francisville, La.
Bernus, W. M., Jamestown, N. Y.
Brown, Everett J., Decatur, Ill.
Barnette, J. Z., Bon Ami, La.
Berry, W. T., Oakton, Ky.
Butterworth, W. W., N. Orleans.
Bronson, Laura Howe, Iowa City, Iowa.
Bird, Maurice D., Marinette, Wis.
Bucklin, G. W., Muncie, Ind.
Burroughs, J. A., Ashville, N. C.
Bowles, Marion K., Joliet, Ill.
Brundage, N. E., Delphor, Ohio.
Brayton, C. E., Stonington, Conn.
Burbeck, Chas. H., Troy, N. Y.
Boyd, James P., Akron, Ohio.
Bodine, J. M., Louisville, Ky.
Barrier, J. M., Delhi, La.
Batten, J. M., Downington, Tenn.
Barger, J. M., Darlington, Mo.
Buehler, W. S., Wernersville, Pa.
Bailey, Samuel, Mt. Ayr, Iowa.
Billings, Frank, Chicago.
Bourland, I. N., Equality, Ill.
Callison, E. C., Brashear, Mo.
Carruth, F. H., Lobdell, La.
Cottle, C. C., Marshalltown, Iowa.
Cunningham, T. E., Cambridge, Mass.
Collins, E. E., Williamsport, Tenn.
Callan, John, New Orleans.
Claytor, T. A., Washington, D. C.
Chaille, S. E., New Orleans.
Chenault, J. C., England, Ark.
Chambers, Chas., Kasson, Minn.
Clarke, Robt. C., Pittsburg.
Cobleigh, E. A., Chattanooga, Tenn.
Collings, H. P., Hot Springs, Ark.
Champlin, John, Westerly, R. I.
Cooke, H. C., Hattiesburg, Miss.
Curtis, G. Lenox, New York.
Causon, J. C., Valparaiso, Ind.
Castellanos, J. H., New Orleans.
Campbell, R. D., Grand Forks, N. D.
Croftan, A. C., Chicago.
Clay, E. M., Renville, Minn.
Conn, Jos., New Orleans.
Campbell, James, Elgin, Ill.
Carson, L. O., New Argent, Ind.
Crouch, H. T., Bardwell, Ky.
Cole, Geo. L., Los Angeles, Cal.
Calhoun, C. D., Elburn, Ill.
Crow, A. M., Kansas City, Mo.
Cline, Isaac M., New Orleans.
Cusachs, P. L., New Orleans.
Cummings, D. J., Brownstown, Ind.
Colvin, S. J., Minden, La.
Chapman, W. C., Toledo, Ohio.
Crockett, L. A., Indianapolis, Ind.
Cissel, Joseph K., Loretto, Ky.
Conklin, S. A., Canton, Ohio.
Crisler, Julius, Jackson, Miss.
Cole, G. E., Girard, Kan.
Carter, Calvin, Brookeville, Ind.
Carleton, J. C., Bonham, Texas.
Campbell, R. C., Shreveport, La.
Connerly, T. W., San Angelo, Tex.
Campbell, A. D., Cleveland, Ohio.
Caywood, Robert J., Piqua, Ohio.
Chamberlain, L. C., New Orleans.
Christopher, W. H., London, Ohio.
Calvert, W. J., St. Louis.
Charbonnet, T. S., New Orleans.
Crabill, R. J., S. McAlester, I. T.
Campbell, C. L., Sheradenville, Pa.
Cannon, G. E., Jonesboro, La.
Crummer, B. F., Omaha.
Camp, E. T., Gadsden, Ala.
Crockett, S. S., Nashville, Tenn.
Cooper, J. F., Elmwood, Ill.
Carruth, R. McG., New Roads, La.
Culbertson, J. C., Cincinnati.
Carroll, J. R., Henderson, Tenn.
Cameron, D. A., Alpena, Mich.
Catalano, N., New Orleans.
Catchings, C. E., Woodville, Miss.
Cravens, M. H., Arlington, Texas.
Crocker, M. M., Lordsburg, N. M.
Caverly, O. M., Atlanta, Texas.
Cushman, M. R., Abbeville, La.
Crampton, O. L., Mobile, Ala.
Cawdrick, E. E., Enid, Okla.
Clough, E. L., Beaumont, Texas.
Cunningham, R. C., Booneville, Miss.
Dickerson, L. D., McComb City, Miss.
Dempster, R. T., Glendeame, Ky.
Driskell, A. J., Maroin, Miss.
Dupree, J. W., Baton Rouge, La.
De Lamor, W. C., Mountain Hill, Ga.
Duvall, H. C., Milwood, Ky.
Dibrell, J. A., Little Rock, Ark.
Davenport, Edw., Hampton, Ky.
Duchein, C. F., Lecompte, La.
Davis, Oscar, Cistern, Texas.
Donald, J. D., Hattiesbury, Miss.
Dupagnier, E. M., New Orleans.
DeWitt, J. P., Canton, Ohio.
Dennis, C. D., Columbus, Ohio.
Dickes, Ph., Greenville, Ohio.
Dunaway, E. T., Murray, Ky.
Drake, J. W., Louisville, Ky.
Duff, G. C., Chicago.
Dannavant, H. C., Osceola, Ark.
Ducrocq, H. L., Lafourche Crossing, La.

Deynof, W., Council Bluffs, Iowa.
De Vilbiss, F., Spring Garden, Mo.
Dillon, J., Eureka, Kan.
Davis, N. S., Jr., Chicago.
Drayer, L. P., Fort Wayne, Ind.
Davis, Thos. D., Pittsburg, Pa.
Davis, C. E., Peoria, Ill.
Davis, Wm., St. Paul, Minn.
Dorris, T. B., Grapevine, Texas.
Davis, J. I., Shannon, Ohio.
Dempsey, J. G., New Orleans.
Denison, J. M., Blatchford, Ohio.
Dewey, Henry W., Tacoma, Wash.
Dabney, Thos. S., New Orleans.
Davis, Thos. W., Mayodan, N. C.
Dodin, Henry A., New York.
Doty, E. A., Oxford, Iowa.
Dillman, S. F., Ingraham, Ill.
Davis, Clark W., Cincinnati.
Dickson, H. N., Jamestown, Ark.
Drennan, C. T., Hot Springs, Ark.
Dice, S. D., Xenia, Ohio.
Ellenberger, J. W., Harrisburg, Pa.
Eggleston, E. L., Battle Creek, Mich.
Ervin, N. B., Gibsonburg, Ohio.
Eastman, H. A., Jamestown, N. Y.
Edwards, L., Edsmondsdate, Pa.
Elliott, John B., New Orleans.
Eichberg, Joseph, Cincinnati.
Elmer, H. W., Bridgeton, N. J.
Evans, J. G., New Hartford, Iowa.
Elkinton, C. H., Eleva, Wis.
Evans, Mark M., Le Grand, Iowa.
Ewing, A. C., Salt Lake City.
Elliott, Arthur R., Chicago.
Elliott, J. M., Hickory Corners, Mich.
Ellis, J. H., Kentwood, La.
Ernst, O. F., New Orleans.
English, W. T., Pittsburg, Pa.
Everett, J. D., Lecompte, La.
Flowers, E. W., McComb City, Miss.
Friedman, Jacob, St. Louis, Mo.
Furman, F. S., Shreveport, La.
Ferguson, Parker, New York.
Foreman, T. C., Foreman, La.
Ford, J. H., Vinton, La.
Foshay, P. M., Cleveland, Ohio.
Fleming, J. C., Burlington, Iowa.
Frederick, W., Elliott, Pa.
Frick, Wm., Kansas City, Mo.
Frey, Robert W., Trenton, Ky.
Fossier, A. E., New Orleans.
Farrell, John T., Providence, R. I.
Fyke, Edgar E., Centralia, Ill.
Foster, W. S., Pittsburg, Pa.
Foster, T. W., Tchula, Miss.
Fitzgerald, J. J., Eagle, Wis.
Fortier, St. Mark, New Orleans.
Foreman, J. M., Jonesburg, Mo.
Foshay, P. Max, Cleveland.
Futcher, T. B., Baltimore.
Felch, T. A., Ishpeming, Mich.
Fontaine, Bryce W., Barnes, La.
Foster, T. W., Tchula, Miss.
Griswold, J. B., Grand Rapids, Mich.
Garcelon, A., Lewiston, Me.
Gray, A. W., Milwaukee, Wis.
Graner, Edwin J., New Orleans.
Gaster, L. D., New Orleans.
Goodwin, E. J., St. Louis.
Green, Jas. H., N. Vernon, Ind.
Gardner, H. D., Scranton, Pa.
Good, Clarence A., Columbia, Mo.
Gorden, P. A., Junction City, O.
Gottschalk, F. B., Chicago.
Gildersleeve, J. R., Tazewell, Va.
George, J. F., Ft. Jennings, Ohio.
Gifford, Henry B., Juda, Wis.
Gray, J. R., Elizabethtown, Ky.
Gulledge, R. H., Bellsher, La.
Gray, C. A., Hillsboro, Texas.
Gilbert, A. J., Hoopston, Ill.
Gavin, S. E., Fond du Lac, Wis.
Gahringer, J. M., Olds, Iowa.
Graber, C. L., Mt. Eaton, Ohio.
Grady, N. H., Monette, Ark.
Gates, S. D., Franklin, La.
Gaudin, Louis A., Covent, La.
Greenly, T. B., Meadow Lawn, Ky.
Gresham, W. A., Russellville, Ala.
Gayden, A., Norwood, La.
Greene, Jas. H., Guntown, Miss.
Gaines, V. P., Mobile, Ala.
Gaston, J. L., Montgomery, Ala.
Graves, H. N., Georgetown, Texas.
Gelbe, C. F., Grena, La.
Goldwaite, R., Montgomery, Ala.
Gillespie, W. A., New Orleans.
Gates, S. D., New Orleans.
Gazzo, John, Graceland, La.
Gottschalk, F. B., Chicago.
Grace, W. L., Plaquemine, La.
Griffen, O. A., Ann Arbor, Mich.
Hollister, R. O., Hammond, La.
Hayden, E. F., Shaw, Miss.
Hattery, Seth, Massillon, Ohio.
Howard, W. L., Kosciusko, Miss.
Harris, W. T., Rich, Miss.
Hale, S. E., New Orleans.
Herrick, James B., Chicago.
Hanna, W. M., Henderson, Ky.
Hardin, J. A., Sweetwater, Tenn.
Hardesty, T. O., Kampeville, Ill.
Held, H. W., Vincennes, Ind.
Hart, J. B., New Orleans.
Hoover, P. N., Booneville, Ind.
Hofma, Edward, Grand Haven, Mich.
Hopson, Jos., St. Matthews, Ky.
Hanna, J. H., Covington, Tenn.
Hackler, G. M., Ennis, Texas.
Hough, C. P., Jefferson City, Mo.
Hand, S. P., Demopolis, Ala.
Hartman, W. F., Swoope, Va.
Howell, Geo., Tecumseh, Mich.
Hasencamp, O., Toledo, Ohio.
Hill, J. W., South Bend, Ind.
Hersberg, K. C., Carmel, Ind.
Holmes, W. W., Keokuk, Iowa.
Hawkins, R. G., Palmetto, La.
Harrell, T. M., Round Rock, Texas.
Hargrove, J. B., Natchitoches, La.
Horton, C. L., New Orleans.
Hunter, G. S., Bolton, Miss.
Hall, Henry P., Renwick, Iowa.
Hendrixson, O. S., Columbus, O.
Hendrixson, Hugh, Columbus, O.
Hendrixson, O. P., Yellow Springs, Ohio.
Hubert, J. M., New Orleans.
Harris, S., Union Springs, Ala.
Heidingsfeld, M. L., Cincinnati.
Hermann, G. A., Hamilton, Ohio.
Hamrick, R. H., Pratt City, Ala.
Hill, Geo. A., Wynnette, Ala.
Hallberg, C. S. N., Chicago.
Holder, R. E., Columbus, Ind.
Howard, E. F., Vicksburg, Miss.
Hahn, E., Leetonia, Ohio.
Hocker, R. T., Arlington, Ky.
Hall, Jos., Westfield, Ill.
Harman, G. G., Huntington, Pa.
Henry, E. L., Lecompte, La.
Hawkins, M. P., Terre Haute, Ind.
Huckabay, G. N., Vivian, La.
Haynes, John U., Cohoes, N. Y.,
Howard, R. E., Durant, Miss.
Harris, Frederick G., Chicago.
Hobson, T. A., Parkersburg, Iowa.
Hart, M. J., LeRoy, Minn.
Heritage, C. S., Glassboro, N. J.
Halsey, L. M., Williamstown, N. J.
Harris, E. E., New York.
Hartwell, B. H., Ayer, Mass.
Horn, J. A., Maunch Chunk, Ga.
Happel, T. J., Trenton, Tenn.
Halberstath, A. H., Pottsville, Pa.
Hoffman, J. L., Ashland, Pa.
Hope, C. L., Oak Ridge, La.
Hilzrot, H. W., W. Keesport, Pa.
Hamner, O. O., Bienville, La.
Heath, T. A., Shiloh, Miss.
Hamilton, J. H., Union, S. C.
Hunter, J. W., Waco, Texas.
Hubbard, G. W., Nashville, Tenn.
Hobley, Thos., Amhustburg, Ont.
Hill, W. B., Milwaukee, Wis.
Harris, R. W., New Albany, Ind.
Hall, J. N., Denver.
Harrison, W. G., Talladega, Ala.
Hanks, James, Brashear, Mo.
Helm, J. A., Metropolis, Ill.
Harris, H. F., Atlanta, Ga.
Ingals, E. Fletcher, Chicago.
Irion, C. H., Benton, La.
Irvin, E. J., Clinton, La.
Johnson, J. E., Lebanon Junction, Ky.
Jones, Hamilton P., New Orleans.
James, S. C., Kansas City, Mo.
Jenkins, Geo. F., Keokuk, Iowa.
Jenkins, J. F., Tecumseh, Mich.
Jenkins, J. F., Coleonor, Ala.
Jackson, W. Z., Berkley, Ky.
Joseph, H. S., Melville, La.
Jennings, M. Dwight, St. Louis.
Johnston, M. F., Richmond, Ind.
Jones, John T., New Orleans.
Jacobsohn, H. B., Memphis, Tenn.
Jones, P. H., Lutcher, La.
Jones, George H., Lutcher, La.
Jones, F. R., Victoria, La.
Jones, Frank A., Memphis, Tenn.
Johnson, J. H., Brookhaven, Miss.
Jones, D. W., Hermanville, Miss.
Kahler, J. Frank, Canton, Ohio.
Kelly, Hugh, New Orleans.
Knowlton, J. W., Point Roch, Ala.
Kinyoun, J. J., Glenolden, Pa.
Keithley, J. W., Orfordville, Wis.
Knolle, W. H., New Orleans.
Kirker, G. A., Detroit.
Kahlo, G. D., Indianapolis, Ind.
King, Alfred C., New Orleans.
Kremers, Henry, Holland, Mich.
Kennedy, O. A., Louisville, Ky.
Krauss, Wm., Memphis, Tenn.
King, Chas. L., Pasadena, Cal.
Kimbell, John L., Casplano, La.
Kirkpatrick, D. F., Louisville, Texas.
Kimsey, F. M., Ducktown, Tenn.
Keyser, P. H., Boulder, Colo.
Kerr, M. M., Laurium, Mich.
Kleinhause, F. A., Milwaukee, Wis.
Keltz, Gustave, New Orleans.
Karcher, W. L., Freeport, Ill.
Kerr, M. M., Laurium, Mich.
Kimball, H. N., Minneapolis, Minn.
Kilmartin, Thos. J., Waterbury, Conn.
Kelly Joseph V., Philadelphia.
Kembel, C. L., Bloomfield, Iowa.
Kemper, G. W. H., Muncie, Ind.
Knapp, A. A., Brimfield, Ill.
Kornemann, H. A., Newark, N. J.
Lawrence, W. C., Yellow Pine, Ala.
Lillie, C. W., East St. Louis, Ill.
Lankford, J. S., San Antonio, Texas.
Lindsay, R. W., Little Rock, Ark.
Longino, Luther, Minden, La.
Louria, Leon, Brooklyn.
Long, W. P., Weatherly, Pa.
Lebeuf, L. S., New Orleans.
Lester, E., Seneca Falls, N. Y.
Lewis, Geo. W., New Orleans.
LaGarde, L. A., U. S. A., Washington, D. C.
Lehan, J. W., Dunlap, Iowa.
Lambert, Alexander, New York.
Landry, A. H., Paincourtville, La.
Lowry, A. Clark, Ironton, Ohio.
Latham, H. W., Latham, Mo.
Lacey, E. P., Bessemer, Ala.
Lowry, J. W., Ironton, Ohio.
Littell, B. A., Opelousas, La.
Long, J. M., St. Louis.
Laurens, J., New Orleans.
Luehrs, Edwin, E. Chicago, Ill.
Lawson, W. T., Danville, Ind.
Lucas, J. W., Morehead, Miss.
Lichty, M. J., Cleveland, Ohio.
Lichty, J. A., Pittsburg, Pa.
Lehmann, V., Hahnville, La.
Lewis, U. S., E. Dubuque, Ill.
Langfitt, W. J., Allegheny, Pa.
Lange, J. C., Pittsburg, Pa.
Leake, R. N., Collierville, Tenn.
Lutterloh, C. M., Jonesboro, Ark.
LaRue, F. G., Smithland, Ky.
Lee, Jas. R., Columbus, Ky.
Lattimore, R., Savannah, Ga.
LaForce, W. B., Ottumwa, Iowa.
LeBaron, Chas., Jackson, Miss.
Lumsden, L. L., Angel Island, Cal.
Lynch, W. M., New Orleans.
Lowe, Ed P., New Orleans.
Ledoux, Alexander, New Orleans.
Meek, Ed, Little Rock, Ark.
Meyer, A. J., Thibodeaux, La.
Moyer, Harold M., Chicago.
Mouton, Geo. C., Rayne, La.
Mioton, S. F., New Orleans.
Moore, J. T., Galveston, Texas.
Murray, C. M., Ripley, Wis.
Meyer, L. E., Thibadeau, La.
Morton, W. H., Swaneah, Tenn.
Montz, Anthony J., New Orleans.
Miller, J. H., Princeton, Ky.
Mershaw, C. L., Fairhope, Ala.
Morgan, G. L., Turtle Bayou, Texas.
Milnamow, J. T., Chicago.
Mims, David D., Crowley, La.
Moon, W. E., Traverse City, Mich.
Milnor, M. T., Warrensville, Pa.
Meisenbach, A. H., St. Louis.
Marquis, Thos. B., Lisbon, Ohio.
Mobiln, W. E., Yazoo City, Miss.
Murphy, T. C., Enterprise, Miss.
Musser, C. S., Aronsburg, Pa.
Mundhenk, W. S., Brookville, O.
Morbin, Robt. M., Rome, Ga.
Maxwell, A., Indianapolis, Ind.
Moore, R. C., Omaha.
Magruder, M. J., New Orleans.
May, A., Crowtherville, Ind.
Milliken, Mark, Hamilton, Ohio.
Moore, John S., New Hope, Conn.
Miller, B. E., Daisy, Ga.
Miller, J. M., Montrose, Mo.
Miller, J. S., York, Pa.
Morrow, E. O., Canton, Ohio.
Moore, J. W., St. Louis.
Miller, J. S., Mt. Pleasant, Ohio.
Mills, D. C., New Lebanon, Ohio.
Milliken, T. N., Waynesburg, Pa.
Mellen, W. M. E., Chicopee, Mass.
Marlette, C. E., Haynesville, Ala.
Mainegra, R. J., St. Louis.
Morgan, Gordon, Woodside, La.
Marchamm, O. M., Grand Sabine, Texas.
Mack, Milton, Chicago.
Marechal, E. L., Mobile, Ala.
Moyer, S. R., Monroe, Wis.
Meade, R. A., Chicago.
Miller, Joseph S., Chicago.
Mohr, Chas. A., Mobile, Ala.
Morrow, W. F., Kansas City, Mo.
Mayturn, W. J., Alexandria, S. D.
Mills, O. P. S., Grant City, Mo.
Morlarty, J. L., Waterbury, Conn.
Marmion, R. A., Washington, D. C.
Mayile, A. G., New Orleans.
Mason, J. H., Jr., Baltimore.
Marshall, G. W., Milford, Del.
Morrison, A. M., Goshen, Ky.
Musser, John H. Philadelphia.
Mason, C. F., Fort Sam Houston, Texas.
Mitchell, J. H., Mt. Vernon, Ill.
Mayer, L. H., Johnstown, Pa.
Malone, Joseph W., Brooklyn.
Marell, J. P., Atlantic City, N. J.
Martin, R. W., Lynchburg, Va.
Martin, R. S., Stuart, Va.
Morse, F. D., Lawrence, Kan.
McKinney, O. B., George, Iowa.
McOscar, E. J., Fort Wayne, Ind.
McElroy, J. B., Stovall, Miss.
McCrae, Thomas, Baltimore.
McCaskey, G. W., Fort Wayne, Ind.
McCracken, R. C., E. St. Louis, Ill.
McCutcheon, J. B., New Orleans.
McClanahan, V. A., Viola, Ill.
McNamara, J. G., St. Paul, Minn.
McConnell, J. F., Las Crucus, N. M.
McDonnell, W. B., New Augusta, Ind.
McGlenn, J. A., Mt. Pleasant, O.
McDuffie, J. H., Columbus, Ga.
MacCoy, G. T., Columbus, Ind.
McCall, G. D., Fulton, Mo.
McClennan, R. C., Syracuse, N. Y.
McAllister, E. B., Franklin, Ind.
McBride, R. E., Houma, La.
McCristion, L. P., Paris, Texas.
McGavram, S. B., Cadiz, Ohio.
McCown, O. S., Memphis, Tenn.
McGehee, E. L., New Orleans.
McCurry, S. J., Anniston, Ala.
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Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Pruritus.

Robin and Dalche, according to "Amer. Med.," recommend the following outline of treatment of pruritus occurring in women at the time of menopause or as the result of nervous disorders arising from rheumatism, gout, diabetes, Bright's disease or gastric disturbances: Locally prolonged applications of a 1 to 1,000 bichlorid solution, or 10 per cent. solution of chloral hydrate or a 5 to 10 per cent. cocain solution. The following powder may be used locally:

℞. Pulv. orthoform
Pulv. diiodoform
Pulv. talci, āā.....3ii 8

M. Ft. pulvis. Sig.: Apply locally.

The statement is made that the anesthesia from orthoform lasts longer than that from cocain. They mention an application of ichthyol in 10 per cent. aqueous solution or in the form of an ointment of 15 per cent. strength; a 5 per cent ointment of methyl salicylate is also of service. The following ointment may be used:

℞. Menthol .....gr. 3/4 |05
Guaiacol .....gr. v-xv |30-1.
Zinci oxidi 3iiss 10
Vaselini 3i 30

M. Ft. unguentum. Sig.: Apply locally. The following is recommended for internal administration.

℞. Erythrol .....gr. ss-iss |03-.09
Calcii fluorid .....gr. ss-iss |03-.09
Calcined magnes.....gr. ii |12

M. Ft. chartula No. i. Sig.: One such after each meal. The foregoing is recommended particularly in fermentation from butyric acid. If lactic acid fermentation is present the following should be substituted:

℞. Ammon. fluoridi .....gr. iss-xv |09-1.
Aquæ .....℥x 300

M. Sig.: One dessertspoonful after breakfast and supper.

H. Leo, in an abstract in "Indian Med. Record," is inclined to the belief that pruritus generalized over the body may be due to an over-alkaline condition of the blood and recommends the following treatment: Hydrochloric acid (50 per cent.) in ten-drop doses every two hours. At the end of a few days the acid may be changed to a 1.5 per cent. solution of sulphuric acid, giving a teaspoonful every two hours. The urine in most of the cases in which this was tried was strongly alkaline in reaction previous to commencing the treatment.

Tuttle recommends the following combinations in the treatment of pruritus ani:

℞. Benzoini 3ss 2
Hydrarg. ammon. .....gr. xii |75
Lanolini q. s. ad.....℥ss 15

M. Sig.: Apply night and morning after thoroughly cleansing the parts; or:

℞. Ext. hamamelidis flu. .....℥i 30
Ext. ergotæ flu. .....℥iss 45
Ext. hydrastis flu. 3i 4
Tinct. benzoini co. 3iss 6
Olei lini cum acid. carbol (5 per cent.) ..℥i 30

M. Sig.: Shake and apply locally night and morning.

Lactic Acid.

Lactic acid is of great service as an intestinal disinfectant, according to Hayem in the "Indian Med. Rec." Especially is it of service in the green diarrhea of children, combined as follows:

℞.	Acidi lactici	℥ss	2
	Syr. ideai (raspberry)	℥v	20
	Aquæ	℥iii	90

M. Sig.: One teaspoonful every two hours.

It may be given in the form of a lemonade as follows:

℞.	Acidi lactici	℥iiss	10
	Syrupi	℥vi	180
	Aquæ	℥xxiv	720

M. Sig.: One-half a wineglassful several times daily.

It is also recommended in the treatment of infantile prurigo, in eczema, and urticaria, given in two to ten drop doses twice a day before meals. It is of service in typhoid fever and cholera and in chronic dysentery, in which latter case it may be given in fifteen-drop doses every two hours, gradually diminishing the number of doses until three are given daily. It must be well diluted in a mucilaginous mixture.

Phosphorus in Phthisis.

F. S. Plicque, in "N. Y. Med. Jour.," states, in cases of fever in tuberculous subjects accompanied by gastric disturbances, that the following is of service as a beverage:

℞.	Acidi phosphorici dil.	m. xxx	2
	Aquæ	℥xxx	900
	Syrupi	℥iii	90

M. Sig.: One or two quarts of this combination may be taken daily.

The following combination is recommended by Dujardin-Beaumetz as an agreeable preparation and taken by children readily:

℞.	Sodii phos.	℥iss	6
	Potass. phos.	gr. xlv	3
	Syr. aurantii cort.	℥ii	60
	Vini Banyuls	℥vii	210

M. Sig.: A wineglassful after each meal.

Creosote may be given temporarily, but patients grow thin under its use as a rule. Brissonet recommends the following emulsion:

℞.	Creosoti phos. or tannophos.	℥vi	24
	Syr. aurantii flor.	℥ii	60
	Mucil. acaciæ	℥iiss	10
	Aq. aurantii q. s. ad	℥iv	120

M. Sig.: One teaspoonful three times a day after meals; or:

℞.	Creosoti tannophos.	℥iiss	10
	Olei morrhuæ	℥viii	240

M. Sig.: One tablespoonful three times a day. These preparations, according to the author, are contraindicated in hemoptysis.

The phosphite of soda should never be given by the mouth because of its irritant action. It has a good effect on the fever and infection, according to the writer, and can be given in the form of an enema as follows:

℞.	Tinct. opii (Sydenham)	m. x	65
	Creosoti phosphiti	m. xv-xxx	1-2
	Yolk egg	No. i	
	Olei olivæ	℥i	30
	Lactis	℥v	150

M. Sig.: At one dose introduced by the bowel.

Diarrhea.

R. Le Clerg, in "Rev. Med. de Normandie," recommends the following in the treatment of persistent diarrhea of endemic origin:

℞.	Naphthalin	gr. iiss	15
	Pulv. sacchari		
	Quin. sulph., āā	gr. iss	09
	Morph. hydrochlor.	gr. 1/15	004
	Essentiæ bergamot., q. s.		

M. Ft. capsula No. i. Sig.: One such capsule three times a day.

The treatment must be accompanied by a proper regulation of the diet.

Incompetent Heart.

R. C. Curtin, in "Internat. Med. Mag.," recommends the following combination in the treatment of anasarca and general dropsy due to a right heart incompetency:

℞.	Sodii benzoatis	gr. ii	12
	Tinct. digitalis	m. iii	20
	Spts. etheris nitrosi	m. xx	1 30
	Diuretin	gr. iii	20
	Spts. chloroformi	m. xv	1

M. Sig.: To be taken at one dose and repeated every two hours.

To improve the hepatic circulation in such conditions, calomel serves the purpose best; however, blue mass, podophyllin, sodium phosphate or other cholagogues may be substituted for it.

Hysteria and Neurasthenia.

The following combination, containing the glycerophosphates, is recommended by Thompson, in "Med Rev. of Reviews," in the treatment of hysteria and neurasthenia:

℞.	Sodii glycerophosphatis	℥ss	15
	Calcii glycerophosphatis	℥ii	8
	Acidi phosphorici dil.	℥vi	24
	Aquæ cinnamomi q. s. ad	℥iv	120

M. Sig.: One teaspoonful three times a day after meals.

Substitutes for Quinin.

According to Solis-Cohen, in "Amer. Medicine," euquinin may be used as a substitute for quinin. The advantages claimed for it are that it is practically tasteless, it causes no tinnitus aurium, less prone to disturb the digestion and is not so irritating to the kidneys. The following formula is recommended:

℞.	Euquinin	℥i	4
	Ferri lactatis	℥ii	8
	Sol. acidi arsenosi	℥iss	6
	Tinct. lavendulæ co.	℥iv	15
	Elix. curacoa q. s. ad	℥iv	120

M. Sig.: One teaspoonful four times a day.

Administering Quinin to Infants.

According to an abstract in "Gaz. des Hopitaux," Borde states that quinin can be made so palatable that children will take it, by preparing a mixture as follows: Mix gr. 15 (1.00) of quinin sulphate with drams 2 (8.00) of olive oil. According to the writer twenty-seven minims, as measured in a graduate, will contain one grain (.06) of quinin. This oily mixture is then floated on a tablespoonful of cold milk; this can be easily swallowed by a child without detecting the taste of the quinin. The oily mixture can be given alone, as it rolls down the tongue and the taste is scarcely detected by the infant.

Removal of Corns.

The following combinations are of service in the removal of corns, according to the "Pract. Drug.":

℞.	Acidi salicylici	℥i	4
	Acidi lactici	℥i	4
	Ceroti simplicis	℥i	30

M. Sig.: Apply locally night and morning; or:

℞.	Acidi salicylici	℥i	4
	Resinæ	℥ii	8
	Adipis	℥ss	15
	Olei amyg. dulcis	℥ii	8

M. Ft. unguentum. Sig.: Apply locally night and morning.

Heat Stroke.

Andrew Duncan, in "Tropical Medicine," states, in the preventive treatment of heat stroke, that the head and spinal cord must be properly protected, the dress must be loose around the neck, chest and abdomen. As curative measures, the patient should be moved into the shade, if possible, his clothes loosened and cold water poured on the head and neck, and frequently repeated. Ammonia should also be applied to the nostrils, a turpentine enema administered and a large mustard poultice applied to the chest. The author states that ice should not be applied to the head when the pulse is feeble and the skin cold. Chloroform is indicated if convulsions occur, administering only a few whiffs. If pains subsequently persist in the head, blisters should be applied to the nape of the neck and quinin given internally.

He states that a solution of trinitrin (1 to 1,000) is of service, giving 20 drops of this solution every quarter of an hour until the symptoms have disappeared. Venesection is not advocated on account of the great mortality following its employment. Anyone who has suffered from heat stroke should not visit the tropics.

Medicolegal.

Duty as to Providing Medical Attendance for Child.—While granting the existence of a legal obligation on the part of a parent, or one standing in the place of a parent, to provide medical attendance for a minor child, it seems to the second appellate division of the Supreme Court of New York that the obligation does not necessarily import in every case the calling in of a physician. In the case before it, of People vs. Pierson, the intention, it thinks, was to charge that the crime consisted not merely of a failure to furnish medical attendance generally, but a failure to furnish medical attendance by a qualified doctor. If this view of the indictment was correct, the court holds that it failed to charge a criminal offense, in the absence of an allegation or statement of facts showing that the case [alleged to be one of catarrhal pneumonia] was one in which a regularly licensed and practicing physician and surgeon ought to have been called. The question as to whether such a state of facts existed must be determined by the standard of conduct of an ordinarily prudent person. In other words, it is thought, the medical attendance which the law requires the parent to provide for his child depends on the circumstances of the case; that in some instances ordinary household nursing by the members of the family may be sufficient; that, if the illness is of a graver character, it may be enough to call in the services of a trained nurse, and, when danger is apparent, then the obligation, under the law, goes so far as to require that a physician be summoned. But the guide to proper conduct must be ascertained by asking, "What would an ordinarily prudent person, solicitous for the welfare of his child, and anxious to promote the recovery of the patient, do under the given circumstances of the particular case?" The accused, the court says, was not tried on any such view of the law as this. The trial judge told the jury that before they could convict him they must find "that he knew that the child was ill, and deliberately and intentionally failed or refused to call in a physician, or to give to it such medicines as the science of the age would say would be proper that a child in its condition should have." It was true that this portion of the charge presented alternatives, and imported that the accused might comply with his obligations under the law by giving proper medicines, even if he did not call in a doctor; but the court thinks it was going too far to imply, as did the language quoted, that he would necessarily fail to discharge his duty if the medicines he gave were not such as the science of the age would say were proper. As already intimated, it thinks the standard which should be applied was the conduct of an ordinarily prudent person. Nothing is said in the prevailing opinion about faith healing or anything of that kind, and no intimation is given that it was known to the court that the accused believed in it or for that reason did not summon a physician. Presiding Justice Goodrich, however, in a lengthy dissenting opinion discusses what he terms the underlying question of whether or not a profession of religious belief in Divine or faith healing justified the accused in his refusal to obey the statutory law of the state. He maintains that the cases which he cites establish the principle that a person who wilfully and knowingly refuses to furnish necessary medical attendance to his minor child, when he knows it to be dangerously ill, disobeys Section 288 of the New York Penal Code (which provides that a person who wilfully omits to perform a duty by law imposed on him to furnish medical attendance to a minor is guilty of a misdemeanor), without regard to the question whether or not he acted in obedience to his religious convictions, and that the statute is not offensive to the article of the constitution as to liberty of conscience.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

May 9.

1 *Presidential Address, American Medical Association: Medical Education in the United States. Frank Billings.
2 *Oration in Medicine, American Medical Association: Social Conditions in America in Their Relation to Medical Progress and Disease. J. M. Anders.
3 *Oration in Surgery, American Medical Association: Cancer and Immunity. (To be continued.) A. F. Jonas.
4 *Report of a Case of Pulsating Empyema Necessitatis, with Three Strongly Pulsating Tumors. Frederick P. Henry.
5 A Case of Epidural Abscess of Otitic Origin—Operation—Recovery. J. Guttman.
6 *Astigmatism Cured by Corneal Trauma. Percy Fridenberg.

1, 2, 3.—These articles appeared in THE JOURNAL, May 9.

4. **Pulsating Empyema.**—Besides the case here reported, Henry gives a general discussion of the subject and brief abstracts of a number of those reported in the literature. From a careful study of many of the reported cases he concludes that the most important factors in the production of pulsating empyema are: Left-sided and large effusion; 2, relaxation of the thoracic wall from paresis of the intercostal muscles, and 3, a somewhat forcible heart beat. The presence of air in the pleural sac under great tension and the adhesion of the compressed lung to the pericardium are co-operating, but not essential causes.

6. **Astigmatism.**—Fridenberg first refers to Bull's case reported in the "New York Medical Journal" and abstracted in THE JOURNAL of February 29, ¶39, p. 541, and remarks that the tendency for the unexpected to happen is illustrated in his meeting, shortly after reading that account, with a case in which corneal astigmatism of low degree was neutralized by direct injury. He here reports the case. The mechanism was simple flattening of the corneal curve from the scar contraction. There was no actual section, but only a superficial, though extensive, incision of the cornea. Astigmatism was slight, and by peculiar chance just enough to neutralize the pre-existing inequality of curvature. He remarks that "the prophetic eye may see in the dim future the operation of graduated superficial keratotomy for astigmatism."

Philadelphia Medical Journal.

May 9.

7 *Presidential Address, American Medical Association. Frank Billings.
8 Report of a Case of Suturing the Omentum to the Abdominal Wall (Talma) for the Relief of Ascites Due to Cirrhosis of the Liver, Twenty-one Months After Operation. Thomas R. Neilson.
9 A Case of Cirrhosis of the Liver with Ascites; Operation Eight Weeks After First Occurrence of Ascites. Subsidence of Ascites Six Months After the Operation, and Non-Recurrence in Two Years. W. W. Keen and H. M. Fisher.
10 *Novelties in the Physical Treatment of Skin Diseases. L. Freund.
11 *Importance of Repair of Small Cervical Lacerations. James H. Burtenshaw.
12 *Toxic Amblyopia, from Wood Alcohol. J. W. Sherer.
13 *A Note on Traumatic Syringomyelia, with Report of a Case Presenting Sensory Disturbances Affecting One Limb, and Trophic Changes of the Subcutaneous Tissue of the Entire Limb. Alfred Gordon.

7.—This article appeared in THE JOURNAL, May 9.

10. **The X-Ray.**—Freund describes two new instruments for testing the penetrability and length of spark of the *x*-ray, the first consisting of a transparent scale of layers of aluminum and the second a scale "spintometer" arranged parallel to the tube and measuring the spark length. Still another apparatus is the Holzknecht chromoradiometer, based on the principle of the absorption of the *x*-rays by fluorescent salts, which produces reflections of a certain tint, which are compared with a standard color scale. (Illustrated in THE JOURNAL of Oct. 25, 1902, p. 1079.) Freund considers that the correct estimation of dosage and intensity and quality of the rays is not such an advantage in the treatment as might appear. We should study the individual reaction as well as action in these cases. There is a possible difference in individuals and the way they react to the rays. He has experimented with the

action of the ultra-violet rays and their bactericidal action and finds very little effect, but his investigations have shown that the heat rays exert a favorable influence in some skin affections.

11. **Cervical Lacerations.**—Burtenshaw calls attention to possible reflex effects of minute cervical lacerations which may be overlooked, and reports cases where they were hardly observable and yet operation caused almost immediate relief of symptoms. It does not follow that every tear of the cervix requires a surgical operation, but he thinks due significance is not given to the smaller ones, which in many cases are the unrecognized causes of not only local morbid conditions but of systemic ones as well.

12. **Wood Alcohol Blindness.**—Sherer reports a case and discusses the condition, pointing out the dangers of wood alcohol, and concludes that there is no remedy for this condition. He adds, in conclusion, a notice of Marlowe's researches on the pathology of the disturbance, which appears to be a primary destruction of the nerve elements.

13. **Traumatic Syringomyelia.**—In the case here reported by Gordon the symptoms were localized and unilateral, though in other respects most typical of syringomyelia.

Boston Medical and Surgical Journal.

May 7.

14 *President's Address, American Medical Association. Frank Billings.
15 *Oration in Surgery, American Medical Association: Cancer and Immunity. A. F. Jonas.
16 *Brachial Paralysis, Post-Narcotic. F. J. Cotton and S. W. Allen.
17 Pyronin-methyl Green: A Brilliant Double Stain for Cells and Bacteria. William F. Whitney.
18 X-Light in Anthropometrical Signalment. William Rollins.

14, 15.—These articles appeared in THE JOURNAL, May 9.

16. **Post-Narcotic Brachial Paralysis.**—After reporting four cases and analyzing the symptoms, Cotton and Allen emphasize particularly the following points:

Paralysis of part or all the muscles supplied by the brachial plexus with some sensory involvement is not very uncommon after narcosis, though rarely mentioned. Its cause is not toxic but mechanical. It occurs only when the arms are long held above the head or lie in abduction—never if they lie flexed on the chest. The mechanism is a pressure on the nerve roots, probably between the clavicle and the muscles over the transverse processes of the cervical vertebræ, or from stretching over the head of the humerus in abduction.

The trouble is essentially functional without known lesions. The lost function returns in part very early. Total recovery is often long delayed, but apparently is to be counted on. The possibility of the accident should be impressed on students, on house officers and on all of us. In view of this risk the arms of a patient under ether should always, where possible, be flexed with the hands on the chest. If other positions are unavoidable they should not be continued long without change.

Medical News, New York.

May 9.

19 *Oration in Surgery, American Medical Association: Cancer and Immunity. A. F. Jonas.
20 *The Resemblances of Malignant Endocarditis to Typhoid and Paratyphoid Infections. Henry L. Elsner.
21 *Nephrorrhaphy in Intermittent Hydronephrosis. J. Wesley Bovée.
22 Extraperitoneal Ligation of External Iliac for Femoral Aneurism. Wm. B. Crawford.
23 Intussusception: Report of a Case Reduced by Operation. George T. Vaughan.

19.—This article appeared in THE JOURNAL, May 9.

20. **Malignant Endocarditis.**—Elsner remarks that two facts especially impressed him in regard to the relations of malignant endocarditis to typhoid and paratyphoid infections: 1. The typhoid type of malignant endocarditis has rarely been diagnosed during life, and the detection of the focus from which the infection springs has presented the greatest difficulty. 2. In some cases the primary infection may be unnoticed or be so slight as to appear insignificant. He reports cases illustrating this point. Endocarditis of pneumonia is rather rare and it has special anatomical peculiarities. The right side of the heart is attacked more frequently and the aortic valve more often than the mitral. Endocarditis complicating pneumonia is sudden in onset and rapid in its course. He insists on the importance of the occurrence of chills as indicating secondary infection if the case is a primary typhoid, and also the importance of frequent examinations of the blood, not depending on the blood count alone. Repeated negative results of blood cultures do not exclude the presence of ulcerative endocarditis.

21. **Intermittent Hydronephrosis.**—The connection of intermittent hydronephrosis with mobile kidney is emphasized by Bovée, who reports two cases relieved by nephrorrhaphy, fixing the kidney in its normal position, thus straightening out the urethra and preventing temporary angulation which caused intermittent obstruction.

Medical Record, New York.

May 9.

24 *Presidential Address, American Medical Association: Medical Education in the United States. Frank Billings.
25 *Oration in Medicine, American Medical Association: Social Conditions in America in Their Relation to Medical Progress and Disease. J. M. Anders.
26 *Oration in Surgery, American Medical Association: Cancer and Immunity. A. F. Jonas.

American Medicine, Philadelphia.

May 9.

27 *Presidential Address, American Medical Association: Medical Education in the United States. Frank Billings.
28 *Oration in Medicine, American Medical Association: Social Conditions in America in Their Relation to Medical Progress and Disease. J. M. Anders.
29 *Oration in Surgery, American Medical Association: Cancer and Immunity. A. F. Jonas.

24 to 29.—All these articles appeared in THE JOURNAL, May 9.

Cincinnati Lancet-Clinic.

May 9.

30 *Heredity, with Especial Reference to Certain Eye Affections. Francis Dowling.
31 The Country Doctor—My First Case of Labor in the Country. John G. Albers.
32 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

30. **Heredity.**—Dowling discusses heredity in general, especially in its relation to eye disorders. He finds pathologic hereditary transmission particularly marked in cases of certain eye affections. In many instances the morbid processes are latent and require some external injury to serve as an exciting cause for their development. To this class belong myopia, cataract, glaucoma, etc., though some of these may be present at birth. As a rule the hereditary affections are probably the result of fetal disease. Another class of inherited eye diseases belong to those maladies which the parents transmit to their offspring in the shape of a dyscrasia, such as the tuberculous, the scrofulous, the syphilitic, etc., which lay the foundation for various eye affections. In this connection, also, he mentions consanguinity and the frequency of retinitis pigmentosa in these cases, besides myopia, color blindness and ordinary blindness. He especially calls attention to the part the color of the eye seems to play. Dark eyes are seemingly the most subject to these hereditary disorders.

St. Louis Medical Review.

May 2.

33 Address at the Commencement Exercises of the Marion Sims-Beaumont College of Medicine. Thomas H. Carter.
34 *A Certain and Permanent Cure of Painful Tic—Tic Douloureux. J. K. Bauduy.

34. **Tic Douloureux.**—The Dana method of administering progressively increasing and massive doses of strychnia is endorsed in neuralgia by Bauduy. He has tried this, using an auxiliary nerve food with great success. While he admits that strychnia needs to be used with caution and the effects watched, he has employed it by the mouth, gradually increasing the dose until 1/10 of a grain three times a day was used for some time in connection with the anode galvanic treatment to the nerve, and with arsenic and iodid of potassium. He is convinced that it will accomplish radical cures.

Brooklyn Medical Journal.

May.

35 *Congenital Hypertrophic Stenosis of the Pylorus. Frank Whitfield Shaw.
36 *Illuminating Gas Poisoning. Paul M. Pilcher.
37 *Causes and Relief of the Summer Mortality Among Brooklyn Children. C. LeGrand Kerr.
38 The Etiology of Insanity. R. C. F. Combes.

35. **Congenital Hypertrophic Stenosis of the Pylorus.**—Shaw gives the history of the recognition of this condition and describes its symptoms. It is usually fatal in the ordinary type in about ten to fourteen weeks. He recognizes, however, two other varieties of the same pathologic condition, one of

which is the so-called congenital spasm of the pylorus, first suggested by Thompson of Edinburgh and assigned by him as the primary cause or etiologic factor of pyloric hypertrophy. In these cases recovery usually occurs in a few days without operation. In the second type the stenosis appears at four or five years and upwards and he reports cases which he thinks may be classed under this head—an incomplete stenosis with only occasional spasm, but complete closure coming on gradually. He also reports two cases of partial pyloric hypertrophy in which spasm appeared to predominate. Excepting in such cases as the last two reported, the only successful treatment is operative. In nearly all any other measure is not lasting. In conclusion he says that cases of sudden and persistent vomiting occurring soon after birth without any ascribable cause, resisting all treatment, should be looked on with suspicion and receive at least a provisional diagnosis of congenital pyloric stenosis. Similarly, disease of the pylorus ought to be suspected in case of cyclic vomiting extending over several years.

36. **Illuminating Gas Poisoning.**—Pilcher has had a number of cases of this condition under his care and reports several in detail. He holds that the toxic effects of illuminating gas are primarily due to chemical changes produced in the constituent elements of the blood, this being a substitution of carbon monoxid hemoglobin for the oxyhemoglobin, so diminishing the supply of oxygen to the tissues. The direct cause of most of the symptoms is diminished percentage of oxygen in the arterial blood supplying the central nervous system. This would indicate a treatment by the administration of pure oxygen in order to force it into simple solution in the blood and so reinforce the remaining oxyhemoglobin. For the further purpose of supporting the circulation, diluting the poison, assisting its elimination and its possible influences in breaking up the chemical combination of the CO with the hemoglobin, a copious infusion of normal salt solution should be administered. In severe cases direct blood transfusion should be practiced. To control the tendency to acute cardiac dilatation, a free use of cardiac stimulants should be early resorted to. Edema of the lungs is the chief of the secondary sources of danger and must be constantly watched for and every possible measure taken to guard against it.

37. **Infant Mortality.**—Kerr reviews the statistics of infant mortality in Brooklyn and calls attention to the defects which increase it. He thinks the chief needs are a rigid supervision of all cases of pertussis, a recognition by the public of the dangers of neglected cases of measles, cleaner streets, more care in the preparation of the infant's food and, most of all, a good, wholesome, clean milk supply on which the physician can absolutely depend for his modifications.

American Journal of the Medical Sciences, Philadelphia.

May.

39 Anatomical Study of a Short-Limbed Dwarf, with Special Reference to Osteogenesis Imperfecta and Chondrodystrophia Fetalis. Ludvig Hektoen.
40 A New Method of Correcting Flexion Deformity at the Knee-Joint. Royal Whitman.
41 *Pronation of the Foot. E. J. Huhner.
42 A Case of Aneurism of the Transverse Portion of the Aortic Arch in a Girl of Nine Years, with Table of Reported Cases Under Twenty Years of Age. Theodore LeBoutillier.
43 *Some Notes on the Opium Habit and Its Treatment. Smith E. Jelliffe.
44 Volvulus of the Small Intestine—Its Relations to Hernia, Torsion of the Entire Mesentery; Report and Résumé of Cases. George T. Vaughan.
45 *Intestinal Perforation During the Course of Typhoid Fever, and Its Surgical Aspects. C. E. Briggs.
46 Some Phases of Gallstone Disease, with Special Reference to Diagnosis and Treatment. D. D. Stewart.
47 Peritonitis of the Duodenal Region. James P. Warbasse.
48 *A Contribution to the Study of the Human Blood Pressure in Some Pathological Conditions. George W. Norris.

41. **Pronation of the Foot.**—Huhner describes this condition, which is not flat foot, but has been called weakened foot or weak ankle. The head of the astragalus rotates inward and backward, its body forward and outward, and the internal malleolus moves backward and the external forward. The front part of the foot is abducted as a whole, and the calcaneum rotates toward a valgus position. In this condition care should be taken as regards footwear. Sometimes raising the inner side of the shoe will be all that is needed. Tip-toe exercises should be given to strengthen the adductors and external rotators of the foot. For mechanical support he advises an apparatus devised by Lovett and Cotton. He finds this condition very frequent, about 64 per cent. of males and nearly 80 per cent. of females are thus affected.

43. **The Opium Habit.**—The opium habit is considered by Jelliffe as probably very frequent and in its psychology having a parallelism with the alcohol habit. The idea that it is incurable should never be accepted by the medical man. There are great variations in the cases. Some patients can voluntarily give up the habit while others do not care to. The cardinal principles on which a rational therapy are to be founded are, he thinks, the substitution of different ideas by suggestion and of different sensations by other drugs. His experience is that hyperbromidization according to Macleod's method is best. His experience with the hyoscin treatment of Dr. Lott is rather contradictory. In one or two cases it has given him an unpleasant shock from dangerous collapse during its administration. Heroin, he thinks, may be a useful drug in these conditions in many cases, though he does not consider it reliably efficient. Several cases are reported.

45. **Typhoid Perforations.**—The frequency of this condition is estimated by Briggs as very great. With a death rate of 10 per cent. there would be 50,000 mortality per annum from typhoid in the United States, and perforation causes about one-third of these deaths, giving, therefore, a death rate of something over 16,000 or 17,000 cases of typhoid perforation per annum. The usefulness of operation has become established of late years and operative technic is probably nearly perfected; improvement will be along the line of early and accurate diagnosis. The mortality following operation is not, he thinks, altogether due to general peritonitis. It is important to distinguish between the symptoms and signs of the condition. Of the symptoms, abdominal pain is the most important when present. Spreading sensitiveness is a little more to be relied on than spreading pain. The sensations associated with shock are of considerable importance, but their absence may be disregarded in making the diagnosis. Of the physical signs, muscular resistance is probably the most important. Distension and tympany are not of any consequence as regards perforation *per se*. The presence of abdominal gas outside the intestine, if it can be determined with absolute certainty, is practically a proof of the perforation. Nausea and vomiting are so rare that they are of little aid. Altered respiration is a sign of some consequence and is probably to be interpreted as is muscular resistance, namely, a means of protecting the abdomen. Alteration in temperature may be of some value, but its absence is not conclusive of anything. The pulse is of great importance; it is, of course, an evidence of systemic shock accompanying perforation, but otherwise deserves special attention. There is almost invariably a rise of perhaps twenty beats or more and the occurrence is rather sudden, the quality altered, the tension reduced and the pulse rendered readily compressible. Any sudden marked alteration in the rate and quality is an indication of importance. We know too little as yet of the altered blood conditions. If the diagnosis of hemorrhage is incorrectly made, and, instead of this, perforation has occurred, the desirable opportunity for operation is lost while waiting for demonstration of hemorrhage through the bowel passages. The red count and hemoglobin percentage may, therefore, be of some use. Systemic shock is a matter of very great importance. He sums up the signs and symptoms on which we must mainly rely as pain, sensitiveness, muscular resistance, altered respiration, alteration in rate and quality of the pulse and evidences of systemic shock. The differential diagnosis is discussed at some length. As for treatment, operation is necessary, the sooner the better. Attention must be paid to anesthesia, especially as to the reduction of systemic shock. In some apathetic and stolid patients local anesthesia may be best. Briggs doubts, however, whether the extensive and careful abdominal irrigation usually required can be as well accom-

plished without general anesthesia. Careful, not too hurried, operation is advised and drainage. The question of exploratory incision is, he considers, of the greatest importance. Where perforation is suspected with a not absolutely certain diagnosis, exploration affords the only hope of avoiding a possible catastrophe. The improvement in recovery rate after operation, though as yet not high, is certainly encouraging. In conclusion, he insists on the great value of complete postmortem examinations in all these cases as being more instructive than reports of recovered cases. A complete examination, however, does not mean a complete autopsy.

48. **Blood Pressure.**—Norris discusses the blood pressure in various conditions of disease, such as nephritis, saturnism, heart disorders, cardiac lesions, etc., quoting extensively from the literature. He says:

> In the present state of our knowledge the height of the blood pressure can not be said to be a useful index in regard to the potency of the systemic circulation, nor is it a criterion of sufficient constancy to be used as a basis for prognosis. The pressure index may, in some instances, be regarded as a relative indication for treatment. What, as a rule, we require to know is not so much the actual height of the tension as the amount and character of its fluctuation. We have seen that a fair state of nutrition may be carried on in the convalescence from typhoid fever with a tension of 85 mm. and in arteriosclerosis at 180 mm.

Journal of the Michigan State Medical Society, Detroit.

May.

49 The Technic of Symphysiotomy, with Report of a Case. Frank A. Grawn.
50 Syphilis, Its Management and Control. Albert E. Carrier.
51 *A Preliminary Report of Some Observations on the Blood of Pregnancy and the Puerperium. George R. Pray.
52 Non-Ethical Ethics. D. L. Walmsley.
53 *The Advantages and Limitations of the Rest Cure. George F. Butler.
54 The Non-Surgical Treatment of Epithelial Disease. J. J. Moore.

51. **The Blood in Pregnancy and the Puerperium.**—From a study of the literature and personal examinations, Pray concludes that while blood generation fails to keep pace with the increased vascular area, a serous dilution of the blood takes place. Ordinarily this is not serious and can be overcome by proper hygiene, fresh air, attention to exercise and food and avoidance of constipation. If the vitality is overtaxed, the increased demand of nutrition may call for iron or other tonic treatment. The regeneration of the blood is partly effected by the lessening of the vascular area after labor and subsequent transudation of fluids into the tissues. The leucocytosis is due to increased action of the enlarged lymph-glands of the pelvis, and in part to the increased metabolism which causes a somewhat toxic action. The lochia aid in its decrease. The persistence is accounted for by the fact that the involution of the hypertrophied pelvic organs and breast is accomplished in a great measure by the leucocytes. The blood after cesarean section shows the same general conditions as after normal labors.

53. **The Rest Cure.**—Butler's paper is largely a criticism of the methods of the Weir-Mitchell rest cure, which he thinks has to some extent gotten into the hands of those who use it in an unethical way. He also thinks that Mitchell has overestimated the value of overfeeding and underestimated the importance of suggestion. The Playfair school as a badly modified offshoot of the Mitchell school has the same bias; mere alteration of environment is not change. There is danger from the nurses, especially if trained in general hospitals. They are likely to examine for symptoms and suggest them to the patient, thus increasing the introspective tendency. They are also fond of impressing the patient with their importance by narrations of medical and surgical cases which suggest uncomfortable imaginations and increase the nosophobia. The patient needs reassurance rather than conviction as to his case. Intellectual cultivation through reading by the nurse, and cheerful yet logical conversation by the physician on the source and character of the patient's fears are excellent means of combating the distressing mental conditions of rest cure patients. Another error prominent in ordinary rest cures is that in dietetics. The patient, not the disease label, must be considered. While milk is valuable, it will cause gastrointestinal catarrh in many cases and buttermilk might often take its place, but is forbidden by many physicians. The necessity for hot and cold baths is mentioned, but the patient's disinclination for them is generally humored. Massage, which simply supplies the place of exercise, is too often given under the pretense of some occult, magnetic, osteopathic or hypnotic influence. Under these guises it is positively harmful and a mental and physical poison. The masseur needs to be kept in his own place and is too apt, like the nurse, to prescribe, diagnose and give clinical lectures. Some masseurs, Butler says, are perverts, hence proper selection and strict supervision of masseurs and massage is imperatively necessary. Electricity has the same ill effects unless it is explained to the patient. It is simply a delicate localized form of exercise. The medicinal treatment in the rest cure should be minimal and directed only to symptomatic indications which can not be overcome by the proper bowel, bladder and uterine hygiene, diet, massage and electricity. There is too much use of the bromids, for which Mitchell is partially responsible. The bromid, chloral and other drug habits are sometimes created through rest cures, and this possibility receives too little attention. Another necessity in the rest cure is that of bringing about periodic functions in the gastro-intestinal canal. It should be looked on as a method of education of the system, not merely as a therapeutic measure.

The Laryngoscope, St. Louis.

April.

55 *Local Anesthesia in Surgery of the Upper Air Passages. J. A. Bodine.
56 *Remarks on General Anesthesia in Operations Involving the Upper Air Passages. Thomas L. Bennett.
57 Membranous and Ulcerative Pharyngitis of Streptococcic Origin. S. L. Ledbetter.
58 *Acute Laryngitis of Singers; Its Abortive Treatment. H. Holbrook Curtis.
59 Report of a Case of Paralysis of Both Internal Thyro-arytenoid Muscles. W. G. B. Harland.
60 *The Treatment of Acute Mastoiditis and Its Influence upon Audition. James Francis McCaw.
61 *The Question of Nasal Treatment for the Cure of Diseases of the Ear. Alex. W. Stirling.
62 Septal Fallacies. Beaman Douglass.

55. **Local Anesthesia in Surgery of the Upper Air Passages.**—Bodine insists on the importance of regarding the psychic element in local anesthesia of the upper air passages. He describes the methods of using cocain and claims that many symptoms thought to be due to cocain idiosyncrasy are only manifestations of nervous fright. In some cases, of course, application to the mucous membrane is alone possible, but it is not an entirely satisfactory method. He notices in conclusion the Crile method of "blocking" the nerve, thus cutting off the reflexes from and anesthetizing its territory.

56. **General Anesthesia in Operations on the Upper-Air Passages.**—The difficulties of operating in the upper-air passages on account of the necessity of having free respiration at the same time, etc., are noticed by Bennett, who then discusses the different anesthetics employed. He thinks that while nitrous oxid has the best record for safety, that if it were used for long operations this would not be the case. The greatest contraindication to its use is the mechanical obstruction to respiration. For prolonged operations ether is the safest and should be preceded by nitrous oxid when possible. Chloroform is the most dangerous. Its increased mortality, he thinks, is due almost entirely to the following factors: 1. Unusual position, of which sitting is the most dangerous; 2, interference with respiration; 3, sudden hemorrhage, usual in many nose and throat operations. By the avoidance as far as possible of these dangerous factors he thinks that chloroform can be employed with reasonable safety. It should be preceded, if possible, by ether or gas or gas and ether. The ether or gas and ether is probably the best for prolonged operations in the removal of tonsils or adenoids. Some children are not capable of being sufficiently long anesthetized by the nitrous oxid alone. The use of ether stimulates the patient and a slow recovery of consciousness is of advantage in sparing the patient the sights and sensations which must accompany the first moments after the removal of tonsils or adenoids. Ether increases the tendency to immediate hemorrhage. If chloroform is used it should be administered sparingly, the head kept

low and respiration interfered with as little as possible. Bennett prefers full anesthesia in these cases. Protection of the lower-air passages from entrance of foreign matter is one of the most important matters in operating on the upper-air passages. In ordinary cases without tracheotomy danger from this source is prevented by frequent swabbing of the throat during the operation, by the placing of pads to receive matter passing toward the lungs, by the position of the patient and by a degree of narcosis in which the patient protects himself by coughing and swallowing. In conclusion, he remarks in regard to a method of giving anesthesia devised by Crile, completely protecting the lower-air passages by introducing heavy walled rubber tubes through the nostrils to a point in the pharynx opposite the top of the larynx, respiration taking place through the tubes and the anesthetic applied in this manner, while the mouth is kept opened, the tongue pulled well forward and the space thus formed at the back of the pharynx is packed tightly with gauze. In the cases where he has used this method of protection of the lower-air passages it has been absolute, the respiration has been normal and the narcosis perfect.

58. **Acute Laryngitis of Singers.**—After first noticing traumatic laryngitis, Curtis remarks that the most common cases are of nervous origin due to mal-coördination of the intrinsic muscles from perverted inhibitory function, or paresis of the motor nerves, and nearly always accompanied with congestion. We must observe the shape of the glottic chink. A unilateral adductor paralysis should at once lead us to a guarded prognosis. We should watch in deep respiration to see if paralysis is complete. Bilateral adductor paralysis is generally functional in origin, due to hysteria or reflex causes, but in almost all the laryngeal inflammations we notice some paresis of the lateral arytenoid muscles. In abductor paresis we have an affection of the crico-arytenoid postici muscles frequently due to pressure on the recurrent nerves from enlarged bronchial glands, or disturbance of the vagus. This is often produced by a simple cold. But the most common of all the pareses accompanying a laryngitis is paresis of the thyro-arytenoid internus and externus muscles. The elliptical chink of the glottis caused by a paresis of the internal thyro-arytenoid is familiar. Less frequent are those where the cords are deflected posteriorly to the right or left side or there is a double ellipse caused by combined paresis of the arytenoid and the external thyro-arytenoid muscles. The patient almost always presents himself trying to talk in a loud tone with a very husky voice. The first thing in treatment is to insist on absolute silence, or a tone whispered on the lips with no laryngeal quality in the voice. This must be enjoined, until the sound written "humph" may be made without effort through the nose, the mouth being closed. Then he commences vowel exercises, using words like ming, mong, ding, dong, maw. mow, etc., as an adjunct to treatment. The instant innervation is re-established, muscle exercises to overcome the slight infiltration may be employed. From the first he gives strychnia internally and applies static or faradic electricity along the course of the recurrent laryngeal nerves. Adrenalin chlorid solution sprayed into the larynx before tone exercise is commenced is very useful. He also alternates the exercises with massage each side of the trachea and thyroid as well as under the ramus and angle of the jaw. A cold pack is then applied to the throat and the pyriform sinuses are swabbed with tincture of iodin and glycerin in equal parts, to stimulate the nerves and produce a counter-irritation without the vocal larynx. Nutrition and elimination must be looked after. The respired air must be cold and pure. Later, after the laryngitis has been relieved, he would use a spray of 1-1,000 solution of adrenalin in four volumes of water during a performance, alternated with an inhalation of menthol in albolene (5 to 10 grs. to the ounce) or an inhalation of iodoform in ether. He has saved many performances by using this method and considers it the simplest and best.

60. **Acute Mastoiditis.**—McCaw has found no reference in the literature to the influence of acute mastoiditis on audition, and gives his views on the subject. His conclusions are offered as follows:

1. Great reliance can be placed on abortive measures in the hemorrhagic variety of acute tympano-mastoiditis following influenza, with a reasonably certain prognosis of normal hearing. In no other form of the disease can this be done. 2. The period of the disease at which appropriate treatment is applied influences the ultimate functional result. 3. In all cases requiring operation the earlier we attack them surgically, the greater will be the amount of hearing preserved. 4. The dry method of post-operative treatment seems to influence the function of audition, but to a less extent than early surgical interference.

61. **Ear Diseases.**—Stirling finds that nasal treatment is unprofitable to the patient in case of pure sclerosis, and that in aural catarrh it should be limited to removal of the conditions which may be interfering with recovery of the mucous membrane lying between the nose and tympanum. A nasal operation for the sake of the ear should be one that is advisable for the sake of the nose. In a few cases of slight adenoids situated around the orifice of the eustachian tubes it may be advisable to remove them, even when there may be few or no symptoms referable to the nasopharynx.

New York State Journal of Medicine, New York.

May.

SYMPOSIUM ON PNEUMONIA.

63 Etiology, Its Infectiousness, and Methods of Elucidating the Pneumonia Diplococcus. C. D. Kline.
64 Diagnosis in Pneumonia—General and Differential. J. H. Crosby.
65 Complications of Pneumonia. S. W. S. Toms.
66 Pneumonia Complications with Surgical Operations. G. A. Leitner.
67 Treatment of Pneumonia. G. F. Blauvelt.
68 *Ergot in Pneumonia. Alfred T. Livingston.
69 *The Kidney of Pregnancy. John O. Polak.
70 Albuminuric Retinitis of Pregnancy. James W. Ingalls.
71 *The Pathogenesis and Etiology of Puerperal Eclampsia—A Plea for the More Systematic Observation of Patients During Pregnancy. Frederick P. Hammond.
72 *Treatment in Gynecology from a Medical Standpoint. Mary Gage-Day.
73 *The Roentgen Ray in Obstetrics. Joseph B. Cook.

68. **Pneumonia.**—Livingston recommends the use of ergot in pneumonia on the ground that the principal underlying condition in the disease is dilated blood vessels and that ergot is the only general equalizer of the circulation. He claims that if called sufficiently early, while the disease is still a matter of congestion, all that is needed is a hypodermic syringe and a solution of ergot, and that the free use of the drug in the first stage will abort, cut short or markedly limit the extent of the second stage and also guard against complications of the disease. He discussed the subject and the mode of administration in THE JOURNAL, March 21, 1903, p. 774.

69.—This article has appeared elsewhere. See THE JOURNAL of May 9, ¶32, p. 1323.

71.—See abstract in THE JOURNAL, xxxix, p. 1204.

72.—Ibid.

73. **X-Rays in Obstetrics.**—Cooke reviews the possible use of the Roentgen ray in obstetric cases and deduces the following conclusions:

The value of the *x*-ray for studying the dimensions of the pelvis is, for practical purposes, lost, because of the difficulties attendant on its use, and at best it is probably not so reliable as mensuration and palpation performed by the skilled observer. In the study of the gravid uterus the results are wholly unsatisfactory when compared with those obtained by the ordinary recognized methods of examination. As a means of diagnosing certain forms of ectopic gestation fairly reliable presumptive evidence may possibly be secured, but it would need the corroboration of more positive methods before it could be definitely accepted. Advanced pseudocyesis could doubtless be detected by the use of the *x*-rays, but the administration of a little chloroform would accomplish the same result in a far simpler manner. In suspected twin pregnancies, where diagnosis can not be made with certainty, the *x*-ray may have a distinct diagnostic value, and would doubtless be of assistance in these rare conditions.

Indiana Medical Journal, Indianapolis.

May.

74 Address, American Laryngological, Rhinological and Otological Society. L. C. Cline.
75 Vaccination Record of 138 Students of the Indiana Medical College. A. W. Brayton and Charles E. Ferguson.
76 Education by Occupations. William L. Bryan.
77 *The Intravenous Injection of Formaldehyd as a Cure for Septicemia and Its Use in Smallpox. Nelson D. Brayton.

77. **Formaldehyd in Septicemia.**—Brayton has investigated the use of formaldehyd in smallpox and notices its advantages in variolous septicemia. He has collected the history of the use of formalin infusions in five different cases, all fatal, and does not believe that any germicide can be introduced into

the vascular system in quantities sufficient to destroy the germs without being destructive to the delicate tissues with which it comes in contact, and, inasmuch as effective dilution would necessarily be fatal to the patient, its use is contraindicated. For the present we should confine ourselves in the severer forms of sepsis to the use of normal salt solutions or those more nearly conforming to the constituents of the blood plasma. The response to the infusions in the cases described was quick and remarkable, illustrating the necessity for the addition of fluids to the blood in pustular smallpox.

Annals of Gynecology and Pediatry, Boston.

May.

78 *The Scope of the Vaginal Incision. Andrew F. Currier.
79 *Cancer of the Cervix; Treatment by X-Ray. Thomas P. Scully.
80 *Hyperplasia and Hypertrophy of the Uterus. Charles G. Geiger.

78. **Vaginal Incision.**—The usefulness of anterior or posterior vaginal incision is discussed by Currier and the posterior incision with its modifications has, he thinks, the greatest sphere of usefulness. Why section of the peritoneum by way of the vagina should make less impression on the vitality of the individual than that made through the abdominal wall has never been explained, but it is recognized as a fact. Hemorrhage after vaginal operation is more easily controlled; there is less danger and the elimination of a possible hernia later is of some importance. The anterior vaginal incision may be made for certain diseases and dislocations of the uterus, for certain diseases of the tubes and ovaries and occasionally for the treatment of inflammatory pelvic exudates. The most frequent indication is retroflexion and it will often be found useful in cases where tuberculosis or serious heart disease or disease of the liver or kidneys renders pregnancy undesirable, and in which the fallopian tubes may be ligated to prevent it. Myomata of the anterior wall of the uterus can be removed in this way. It also will occasionally be a valuable aid in the diagnosis of disease conditions in the anterior segment of the pelvis. The posterior incision is indicated under the following heads: 1. Diagnosis; 2, pelvic exudates; 3, tumors of the appendages; 4, pediculated myomata; 5, intraligamentous cysts; 6, displacements of the uterus and appendages; 7, accumulations of blood in the pelvic or abdominal cavity, not encapsulated or isolated; 8, some of the exigencies of parturition and the puerperal state. This enumeration shows it has a very broad field of usefulness. Details of its application are given.

79. **Cancer of the Cervix Treated by the X-Rays.**—Three cases are reported by Scully, all of which were greatly relieved and apparently well on towards recovery. He has two other cases still under treatment.

80.—See abstract in THE JOURNAL of January 17, p. 189.

Buffalo Medical Journal.

May.

81 Popular Medical Education; Its Aid in Limiting the Spread of Disease. J. D. Macpherson.
82 The Diagnosis of General Paralysis of the Insane. William L. Russell.
83 Infantile Eclampsia. A. J. Colton.
84 *On the Evidence of Nuclear Division of Certain Cell Inclusions (Thoma, Sjöbring, Plimmer's Bodies) in Cancerous Epithelium. Harvey R. Gaylord.

84. **Cancer.**—Gaylord gives his findings at length with numerous illustrations. He discovers in cancer bodies which seem to him identical in appearance with certain ameboid forms, and remarks in conclusion that the spores of *Plasmodiophora brassicæ* in the phagocytic cells of both warm and cold-blooded animals, when fixed and stained with the methods employed in the investigation of bird's-eye inclusions in cancer, under certain conditions, present an appearance indistinguishable from these inclusions. He also finds that a series of changes can be found in the bird's-eye inclusions in cancer closely resembling the process of nuclear division, as described by Nawaschin in the ameboid form of *Plasmodiophora brassicæ*.

Journal of Cutaneous Diseases, New York.

May.

85 *A Case of Paget's Disease of the Nipple. George Thomas Jackson.
86 Some Therapeutic Properties of Bone Marrow. Chalmers Watson.
87 *Secondary Eruptions in Smallpox. Jay F. Schamberg.

85. **Paget's Disease of the Nipple.**—Jackson reports a case with pathologic findings as given by Dr. Otto H. Schultze, who accepts Thin's designation of malignant papillary dermatitis for this condition. It is not an epithelioma, as commonly stated, but it is incurable and in the majority of cases associated with carcinoma. In all cases, extirpation of the breast with the diseased area without waiting for the clinical diagnosis seems advisable.

87. **Smallpox.**—In this well-illustrated paper, Schamberg describes several forms of secondary eruptions occurring in smallpox, including impetigo variolosa and other skin eruptions of secondary toxic or septic origin, such as exfoliative dermatitis, etc.

Toledo Medical and Surgical Reporter.

May.

88 *The Dietetic Treatment of Diabetes. Victor C. Vaughan.
89 A Study of Heart Lesions from Postmortem Work. S. W. Beckwith.
90 Uremia. E. W. Doherty.
91 Perineal Lacerations. Wm. J. Gillette.
92 Some Conveniences in the Practice of Gynecology and How to Use Them. J. D. Ely.

88. **Diabetes.**—The dietetic treatment of diabetes is discussed by Vaughan, who mentions his tests for sugar. He prefers Trommer's with Fehling's solution, and if there is no reduction sugar is probably absent, but to confirm this Nylander's test may be used. Where both or either of the preceding reactions have been positive, but not prompt and convincing testimony, he also employs the fermentation test, using a control test with normal urine at the same time, and finally, he often seeks confirmatory evidence with the phenylhydrazin test. Having ascertained that the patient is diabetic the question is how far he has lost his capacity of using carbohydrates, and for this purpose he has a graduated diet table for one week in which the carbohydrates are decreased from 330 grams per day to nothing on the seventh day, with a corresponding increase of fats and proteids. The table differs somewhat from those generally prepared in containing relatively more fat and less proteids. When the patient has reached the bill of fare prescribed for the seventh day he usually continues this for five days, during the last two of which the urine should be collected and tested for sugar. If it has disappeared from the urine under this diet, the case comes under the head of what is generally known as mild diabetes. Occasional tests are made to see the amount of carbohydrates that can be consumed without the reappearance of sugar, and then a steady diet is fixed according to the findings. There are certain difficulties, but this plan seems to him the best. He includes in his diet list a certain amount of wine, and says that in this disorder a certain amount of alcohol is often useful. As regards the difference between the mild and severe forms of diabetes, he thinks it is merely one of degree. The patient with mild glycosuria who allows himself to indulge in an excess of carbohydrates is likely to find himself sooner or later the victim of the grave form of the disease. For details of the diet table the reader is referred to the original article.

Medical Standard, Chicago.

May.

93 A Protest Against the So-called Antiseptic Treatment of Typhoid Fever. James G. Mastin.
94 The Operation for Pyosalpinx; with Report of 21 Cases and 5 Secondary Hysterectomies, with One Death. Raymond C. Turck.
95 Materia Medica vs. Christian Science. C. S. N. Hallberg.
96 A Rhinological Clinic. Jacob F. Burkholder.
97 Useful Therapeutic Measures in Phthisis. M. Shellenberger.
98 Pain and Its Indications. E. C. Hill.

Journal of Advanced Therapeutics, New York.

May.

99 *The Treatment of Carcinoma of the Rectum by Mercuric Cataphoresis. G. Betton Massey.
100 The Principles of Treatment in Diseases of the Gastrointestinal Tract. Sigismund Cohn.
101 The Relationship of Psychic Suggestion to Electro-therapeutics. Maurice F. Pilgrim.
102 The Prostatic Electrolyzer, in Its Time- and Trouble-Saving and Curative Aspects. John V. Shoemaker.

99.—This article has appeared elsewhere. See THE JOURNAL of March 28, title 70, p. 874.

Maryland Medical Journal, Baltimore.

May.

103 Retained Intubation Tubes. William T. Watson.
104 A Case of Multiple Sclerosis. Leonard K. Hirshberg.

Fort Wayne Medical Journal-Magazine.

April.

105 A Case of Lateral Sclerosis. B. Van Sweringen.

Oklahoma Medical News-Journal.

May.

106 The Treatment of Intestinal Catarrhs. H. Schandibauer.
107 An Unusual Gall Bladder Case. Emory Lanphear.
108 Urethral Caruncle. W. E. Dicken.
109 History of Case of Puerperal Fever. J. L. Hoshall.
110 The Psychological Factor in Medicine, and Its Application to Nervous Diseases. John Punton.

Canada Lancet, Toronto.

May.

111 Duty of the State in Regard to Tuberculosis. C. D. Murray.
112 Ontario Medical Association. John Hunter.
113 Some Indications for the Use of Arsenic and Sodium Benzoate. E. Kennedy.
114 Notes of a Case of Sarcoma of the Nose. J. Price Brown.

Journal of the Eye, Ear and Throat Diseases, Baltimore.

March-April.

115 Chronic Trachoma, Amenable to the X-Ray. Henry F. Cassiday and Francis C. Bayne.

Kansas City Medical Index-Lancet.

May.

116 Double Consciousness of Amnesia; Etiologic Factors, with Report of a Case. F. Savary Pearce.
117 Report of a Few Cases of Post-Cecal Appendicitis. H. C. Crowell.
118 The Psychological Factor in Medicine and Its Application to Nervous Diseases. John Punton.
119 Epithelioma of the Rectum—Report of a Case. J. M. Frankenburger.
120 Syphilis of the Nervous System. F. E. Coulter.

Carolina Medical Journal, Charlotte, N. C.

April.

121 X-Rays in the Treatment of Superficial Cancers. Alfred L. Gray.
122 The Diagnosis of Cutaneous Cancers. F. H. Beadles.
123 Some Theories as to the Causation of Cancer. Greer Baughman.
124 Symptoms and Treatment of Calculus Anuria. E. L. Keyes, Jr.

Medical Times and Register, Philadelphia.

April.

125 The Second Sight. W. R. D. Blackwood.
126 A Brief History of the Therapy of Various Forms of Light and Radiotherapy. James M. Winfield.
127 Nasal Catarrh, Fibroid and Mucous Polypus. J. D. Ely.

Atlanta Journal-Record of Medicine.

April.

128 Some Theories as to the Causation of Cancer. Greer Baughman.
129 X-Rays in the Treatment of Superficial Cancers. Alfred L. Gray.
130 Case of Pregnancy Complicated with Albuminuria and Mitral Regurgitation. O. L. Holmes.
131 Ankylostomiasis Duodenale. A. B. McMillan.
132 The Diagnosis of Cutaneous Cancers. F. H. Beadles.
133 The Treatment of Chronic Bronchitis. Robert C. Kenner.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Revue de Chirurgie, Paris.

1 (XXIII, 4.) *Functions of Arm After Resection of Scapula. E. Quénu and G. Renon.—L'état fonctionnel du membre supérieur après la résection totale de l'omoplate pour néoplasmes.
2 *Indications et contre-indications de la solution salée-sodique. E. Tavel.
3 *L'appendicite et l'opium. C. Krafft (Lausanne).
4 *De la ligature des veines et en particulier de la veine cave inférieure. G. Houzel. (Commenced in No. 3.)
5 Fractures ou anomalies de développement de la clavicle. C. Féré and E. Papin.
6 Experimental Study of Fractures of Petrous Bone. M. Patel. Remarques sur certaines variétés de fractures isolées du rocher. Etude exp.
7 Obituary of T. Gaillard Thomas (New York).
8 Ibid., of G. Boulily (Paris).

1. **Arm After Resection of Scapula.**—Quenu removed the entire scapula from a youth of 16, on account of an osteosarcoma, in October, 1902. He gives 8 cuts showing the fine functioning of the arm at present and the radiographic findings. He has found 38 similar cases in the literature in which the scapula had been removed on account of a malignant tumor with retention of the arm. In 25 cases the results have been highly satisfactory and in all of this number fixation of the humerus had been included in the intervention. This was realized by cicatricial adhesions from the long suppuration in the earlier cases, and in the others by preservation of the acromion or suture of the remnants of the capsule, either to the clavicle or to its ligaments, thus re-establishing the muscular attachments. It is not always easy to re-establish the continuity of the muscles, but it must be done as far as practicable. By operating on these principles the arm will be firm and freely movable. Eight at least of the cases he cites are American.

2. **Tavel's Salt-Soda Solution.**—In 1892 Tavel recommended a saline-alkaline solution as superior to the physiologic salt solution for flushing and sterilizing purposes, on account of certain of its properties. It induces a slight irritation which elicits leucocytosis and phagocytosis, and thus favors the healing of wounds. He never recommended it for subcutaneous or intravenous injection and deprecates such a use for it.

3. **Appendicitis and Opium.**—Krafft points out that when a physician refers to appendicitis he has in mind an inflammation of the mucous lining, while the surgeon always means inflammation of the serous membrane. Much confusion would be avoided if the latter would say "periappendicitis" instead of "appendicitis." Inflammation involving the surrounding parts is more than mere appendicitis. Krafft further argues to prove that purgatives and rectal injections are dangerous in periappendicitis, as the peritoneum, which is always inflamed in this condition, is hindered in its task of encapsulating the lesion if it is shaken and disturbed. Surgeons do not give opium to cure the periappendicitis, but merely to soothe the pain and reduce peristalsis while waiting for the operation. The latter is the only rational treatment, and opium is an adjuvant for it. It relieves the patient and, by resting the intestine, favors the formation of adhesions. Injections and purgatives are useless and may be dangerous. They should always be proscribed the moment the physician notes a sensitive area at McBurney's point. Until the tenderness develops, the case belongs to the physician, as it is still in the mucous membrane stage, and purgatives, injections and other measures to disinfect the large intestine and its adnexa may ward off eventual periappendicitis, but so soon as tenderness at McBurney's point is discovered, the surgeon should be called in to superintend the further developments.

4. **Ligature of Vena Cava.**—Houzel reviews the history of ligatures of veins, especially of the inferior vena cava, and describes a personal case in which it was successfully done. He also quotes in full Bottini's similar operation and a third one by Schede, in which the patient succumbed eighteen days later. In his own case the inferior vena cava was torn during a nephrectomy for an old, large pyonephrosis. The patient was a woman of 36, a street vender, otherwise healthy. The vein was the size of a thumb, clinging close to the spine, and was torn for about 1 cm., the blood spurting as if from an artery. A catgut ligature was applied above and below the tear, just beyond the forceps on each side. The renal vessels were each ligated separately and the kidney removed entire, without escape of pus. Except for a slight, transient edema of the legs, no disturbances were noted from the complete arrest of the venous circulation in the cava, either in this case or in Bottini's. In Schede's case a lateral suture was applied, not a ligature. Theoretically, this is the preferable intervention, but his patient died, while the two others recovered. The autopsy showed fatty degeneration of the heart, with slight constriction at the point of the suture. Lateral suture exposes to the danger of thrombosis or embolism. Purpura experimented on dogs, and found that abrupt ligation of the vena cava was always fatal, but that if the vein were first constricted for a time and then ligated, the animals bore the intervention without apparent injury. In the cases above described the circumstances were probably of the same character. The pressure of the tumor had compressed the vein and thus

prepared it for successful ligation. In Bottini's operation a portion of the vein was resected adherent to the tumor, a lymphosarcoma. Recovery was interrupted by an abscess, after which it proceeded normally. Marconi, who reported the operation in the Italian "Clinica Chirurgica" of Dec. 31, 1893, qualified it as "the greatest operation ever done at any epoch or in any country." Illustrations of the tumor and adherent ring of vein accompany this article.

Klinisch-Therapeutische Wochenschrift, Vienna.

Last indexed page 1267.

9 (No. 51.) *Treatment of Arteriosclerosis with an Organic Serum. C. Trunecek (Prague).—Die Behandlung der Arteriosklerose mit subkutanen Injektionen von anorganischem Serum. (Commenced in No. 50.)
10 Results for Child of Artificial Premature Delivery. A. Mueller.—Ueber die Erfolge der künstlichen Frühgeburt für das kindliche Leben.
11 (No. 52.) Plastic Reproduction of Infants' Stools. H. Roeder.—Ein Beitrag zur Anwendung der Moulagentechnik.
12 *Formol-Phenol Treatment of Lupus and Cancer. A. Raneletti.—Ueber eine neue Behandlungsmethode der einem operativen Eingriffe unzulänglichen krebsigen und anderweitigen bösartigen Neubildungen und des Lupus.
13 (X, 1.) Epilepsy and Hysteria, Especially Morbid Disturbances in Consciousness from Forensic Standpoint. M. Köppen.—Ueber Epilepsie und Hysterie in forensischer Beziehung insbesondere über die krankenhaften Bewusstseinsstörungen.
14 Feeding Instinct and Hunger. A. Meisl.—Ernährungstrieb und Hunger.
15 *Prophylaxis of Otitis in Measles. M. Sugar.—Ueber Masernotitis und deren prophylaktische Behandlungen.
16 Die toxischen und autotoxischen Dermatosen. S. Ehrmann.
17 (Nos. 2 to 5.) Extirpation of Spleen on Account of Torsion of Pedicle of Movable Spleen. E. Ullmann.—Milzextirpation wegen Stieltorsion der Wandermilz.
18 Spondylitis typhosa. W. Berent. Collective Review.
19 Migräne und habituelle Obstipation. F. Schilling.
20 Tests of "Nutrient Sugar." E. Moro.—Ernährungsversuche mit Soxhlet's Nährzucker.
21 Ueber Diagnose und Therapie der Migräne. J. P. Karplus.
22 (No. 6.) *Zur Anwendung subkutaner Injektionen von Gehirn-Emulsion bei Tetanus traumaticus. A. Krokiewicz.
23 Disputed Questions in Syphilidology. M. v. Niessen.—Syphilidologische Streitfragen. (Commenced in No. 5.)
24 (No. 7.) *Zur lokalen Behandlung interner Affektionen. M. Schüller.
25 Infantile Cirrhosis. L. Bartenstein.—Die Leber Cirrhose im Kindesalter. (Commenced in No. 6.)
26 Nervous Affections in Arteriosclerosis and Uric Acid Diathesis. M. Sternberg.—Ueber nervöse Erkrankungen bei Arteriosklerose und harnsäurer Diathese.
27 (No. 8.) Ueber die Wirkung des Ichthargans bei den gonorrhoischen Erkrankungen des Weibes. G. Woyer.
28 *Zur Etiologie des Koterbrechens. J. Plesch.
29 (No. 9.) Ueber blennorrhoische Gelenkserkrankungen, (joint affections). G. Nobl.
30 (No. 10.) Ueber extrauterine Gravidität. L. v. Dittel.
31 (No. 11.) Boric Acid in Scorbutus. V. Vohryzek.—Ueber den therap. Werth der Borsäure bei Skorbutus. (Commenced in No. 10.)
32 Reflex and Radiating Processes from Ear. V. Urbantschitsch.—Ueber die vom Ohre ausgehenden Irradiations- und Reflex-Vorgänge.
33 (No. 12.) Beitrag zur Behandlung des Pes calcaneus paralyticus. E. Scheffler (Schanz's Orthopedic Institute, Dresden).
34 Zur Therapie der Neurasthenie. A. Holländer.

9. Treatment of Arteriosclerosis with Anorganic Serum.—THE JOURNAL has published accounts of the experience of various writers with Trunecek's "serum" from time to time. He states now that the direct indications for it are permanent high pulse tension (without nephritis), dyspnea, cyanosis, angina pectoris, symptoms of arteriosclerosis of the brain and chronic alcohol intoxication. Besides these conditions, a favorable effect may be anticipated when, in addition to subjective symptoms of arteriosclerosis, the urine is very acid or contains a large amount of urates or calcium oxalate. Drinks and exercise should be avoided that tax the heart. The food should be selected with a view to facilitate oxidations and increase alkalinity, and taken in small amounts at a time. The serum reduces the arterial tension, and with this subside the subjective symptoms, the sounds in the ears, vertigo or polyuria. It has proved a sovereign remedy for the dyspnea of arteriosclerosis, even in cases in which the symptoms had not been relieved by sedatives. In severe cases the injections may have to be repeated every third day. The benefit is not always constant in angina pectoris, some cases proving rebellious, while others are quite cured by 15 to 20 injections, at intervals of four or five days. In a case of aneurism of the right subclavian with compression of the brachial plexus, the dyspnea which occurred constantly on the slightest exertion was completely cured and the paresis of the right arm much improved. The patient felt quite well for fifteen months, when the arm involved became the seat of severe pains, which vanished after injection of 150 c.c. of the serum. In a case of aneurism of the aorta the paresis of the recurrens was also partially relieved by the treatment, but the patient succumbed later. In various paretic conditions, especially those consecutive to apoplexy, even after they have lasted for months and years, striking and durable improvement may be attained by 8 to 10 injections of 3 to 5 c.c. each, repeated at three to five day intervals. By the time 100 to 150 c.c. have been injected the patient is usually completely cured. It is also effective in cases of chronic alcoholism free from gross lesions in kidneys or liver. Appetite and sleep return in arteriosclerotic cachexia, and the cyanosis is usually entirely banished by injection of 10 c.c. of the serum. The composition of the serum was described in THE JOURNAL, xxxviii, p. 484. Trunecek thinks that its action is probably due in part to its binding a certain amount of the carbon dioxid in the blood. As much as 2 c.c. are bound by the usual injection of 5 c.c. of the serum. He finds it more difficult to explain why the function of the heart and paretic conditions are so much improved by even a small amount of the serum.

12. Formol-Phenol Treatment of Cancer and Lupus.—Raneletti reports further experiences with his "mirmol," a combination of 10 per cent. formol with .3 per cent. phenol, for local application to malignant neoplasms and to lupus. The lesion is first cleansed with warm water to which 20 to 40 drops of formalin have been added per liter. After drying, it is swabbed with a solution of the mirmol, one part in nine parts warm water at first, gradually increasing to a 25 per cent. solution or using full strength, and an impermeable dressing applied. He describes 35 cases of malignant neoplasms treated on these principles and a few typical cases of lupus to portray the great benefit derived. The results of mirmol treatment are durable, he adds, and he recommends it for general adoption for cases in which surgical intervention is impracticable and in which the lesion can be conveniently bandaged. One of his lupus cases had resisted years of treatment of various kinds, including a course of tuberculin, the ulceration constantly discharging and the lesions spreading. Under mirmol the ulceration dried up and was substituted by cicatricial tissue, the large nodules became atrophied and the smaller disappeared entirely. The patient moved away from the city before treatment had been quite concluded, but the lupus had been reduced to a very few minute ulcers.

15. Prevention of Otitis in Measles.—Sugar has every child with measles treated when first seen by instillation of a few drops of a .5 per cent. solution of silver nitrate, dropped into the nose as the child lies on his back. Where this has been done as a routine prophylactic measure, otitis developed in only 4 out of the 60 children. On the other hand, in an experience of 111 children not thus treated otitis was observed in 18.

22. Subcutaneous Injection of Brain Emulsion in Traumatic Tetanus.—Krokiewicz brings up to 16 the number of cases, by reporting 3 personal and 1 from Gluzinski's practice. Three of the 16 terminated fatally and in 8 of the 13 recoveries the clinical course had been exceptionally severe. On account of the simplicity and harmlessness of the subcutaneous injection of brain emulsion he reiterates his former appeals to practitioners in general to resort at once to it in cases of tetanus. An emulsion of rabbit brains was used in the 4 cases that he reports. In one 6 injections were made in seven days, the emulsion containing the entire brain of a rabbit each time; in the others, 4 and 5 injections. Previous medicinal treatment had been entirely ineffectual. He thinks that the mortality would be materially reduced if the injections were undertaken earlier.

24. Local Treatment of Internal Affections.—Schüller had occasion to treat, in 1894, a woman with an abscess in the lung consecutive to grippal pneumonia. After evacuation of the abscess a chronic infiltration of the lobe of the lung persisted, inducing a kind of chronic hepatization, rendering the entrance of air impossible. After the failure of internal medi-

cation he injected into various portions of the infiltrated lung about 120 gm. of sterile saline solution. The benefit was evident in a few days. The cough diminished, the sputa became more fluid, the dulness retrogressed and the respiration improved. The saline solution had loosened up the masses accumulated in the alveoles and favored their expulsion in sputa or their absorption, allowing access to the air. The general health rapidly improved as the circulation in the lungs returned to normal. A year later there was no trace of dulness and respiration was full and deep.

28. **Etiology of Fecal Vomiting.**—The patient observed by Plesch had an incipient tuberculous affection in lung and in the intestines, with a history of well-treated syphilis a few years before. The symptom of fecal vomiting was observed for a year, but no sensitive point in the abdomen could be palpated, and no aggravation followed the commencement of the fecal vomiting. The autopsy showed a fistula between the stomach and transverse colon.

Muenchener Med. Wochenschrift, Munich.

35 (L, 14.) *Individuality of Species in Respect to Albuminoids in Milk. A. Schlossmann and E. Moro.—Zur Kenntnis der Artcigenheit der verschiedenen Eiweisskörper der Milch.
36 Serum Reaction with Liver Abscess. Megele.—Widal'sche Serumreaktion bei Leberabszess.
37 *Births After Symphysiotomy. O. Ihl.—Ueber Geburten nach Symph.
38 Bericht über eine durch Schussverletzung bedingte Splenektomie. L. Brennfleck.
39 *Treatment of Anthrax. Federschmidt.—Zur Kasuistik und Therapie des äusseren Milzbrandes des Menschen.
40 Fall rhinogener Pyämie mit Ausgang in Heilung. Grunert.
41 *Zur Diagnostik der Darm-Okklusion. Schneiderlin.
42 *Spontaneous Disintegration of Urinary Calculus. L. Görl.—Spontanzertrümmerung eines Blasensteines.
43 *Semi-Symphysiotomie. Diehl.—Die halbe Symphysiotomie.
44 *Prophylaxis of Seasickness. O. Dornblüth.—Kurze Bemerkung über die See-Krankheit.
45 (No. 15, April 14.) *Anesthetic Action of Yohimbin. L. Loewy and F. Müller (Berlin).—Zur Kenntnis der anästhesierenden Wirkung des Yohimbins (Spiegel).
46 *Ueber juvenile Tabes und ihre Beziehungen zur hereditären Syphilis. P. Linser.
47 Zur Symptomatologie und Therapie des spastischen Schiefhalses (Torticollis spastica), nebst Bemerkungen über die Wirkungsweise elastischer Zügel in der Orthopädie. K. Hasebroek (Hamburg).
48 Gummata at Point of Mercurial Injections. F. Juliusberg (Neisser's Clinic, Breslau).—Gummata an Injektionsstellen von Quecksilberpräparaten.
49 *Serum Treatment of Bubonic Plague. G. Polverini (Bombay and Florence).—Serumtherapie gegen Beulenpest.
50 *Fall von hysterischem Fieber. Tillmann (Tsingtau).
51 *Abnormal Movability of Calculous Gall Bladder. V. Lieblein (Wolfler's Clinic, Prague).—Ueber abnorme Beweglichkeit der Steine führenden Gallenblase.
52 Rare Case of Measles. B. Macholdt.—Ein seltener Masernfall.
53 Forensic Study of Paranoia. K. Heilbronner.—Ueber die Entmündigung von Paranoikern. (Commenced in No. 14.)
54 *Medical Press in Germany. E. Roth.—Das med. Zeitschriften-Wesen in Deutschland von 1853, 1875 und 1901.
55 (No. 16.) Comparative Study of Blood of Mother and Infant, Amniotic Fluid and Fetal Urine Secretion. W. Zangemeister and Th. Meissl.—Vergleichende Untersuchungen über mütterliches und kindliches Blut und Fruchtwasser, nebst Bemerkungen über die fötale Harnsekretion.
56 *Zur Therapie der Hematocele bei Extrauteringravidität. F. Schenk (Prague).
57 Apparatus for Sterilization of Small Dressings. K. Holzapfel (Kiel).—Zur Sterilisation kleiner Verbandsstoffmengen.
58 *Heart and Apex Beat with Aortic Insufficiency. G. Galli (Baccelli's Clinic, Rome). Herz- und Herzspitzenstoss bei Aortenklappeninsuffizienz.
59 Changes in Blood After Extirpation of Spleen. E. Rautenberg (Königsberg).—Beobachtung von Blutveränderungen nach Milzexstirpation.
60 *Ueber 2 Fälle von pernizlöser Anämie. K. v. Hössiin.
61 Ueber Ventilation. K. Wolf.
62 Algebraic Formulæ for Mixtures of Various Degrees of Concentration. Gossner (Brandenburg a. H.)—Formeln zur Herstellung von Mischungen verschiedener Konzentration.
63 Case of Fatal Poisoning with Potassium Bichromate. F. Berka.—Vergiftung mit Kalibichromat.
64 Thermophore Syringe for Paraffin. E. Kantorowicz (Berlin). —Eine neue Paraffinspritze.
65 Die Gefahr der Infektion mit Ankylostoma duod. im Grubenbetrieb. H. Bruns.
66 *Treatment of Laryngeal Tuberculosis. E. Kronenberg (Solingen).—Die Behandlung der Kehlkopftuberkulose. (Commenced in No. 15.)

35. **Specific Albuminoids in Milk.**—The research described confirms the specific character of the constituents of the milk of various species and the importance of mother's milk for infants. A large proportion of the albumin in human milk is dissolved in the milk in the form of "laktalbumin," all ready to pass from the blood of the mother into the blood of the child through the milk, without requiring any chemical transformation. Cow's milk contains very little of this "laktalbumin," and it is altered by heat and requires some chemical transformation before it can be taken up by the infant's blood, in the meanwhile exerting a toxic action. The albumin of one species has an unmistakable toxic action on another species, until the system becomes accustomed to it, like alcohol and nicotin.

37. **Births After Symphysiotomy.**—Three women were delivered at Gessner's Maternity at Erlangen who had previously undergone symphysiotomy. One had borne five children since. In all the conditions were so improved by the symphysiotomy that subsequent births proceeded normally in every respect. Ihl has found only 84 births on record after symphysiotomy. In 50 the delivery was normal; in 24 a second symphysiotomy was required; in 4 version and extraction; in 5 artificial delivery, and in 1 perforation. There is no doubt that, with a child of ordinary size, the pelvis remains permanently enlarged after symphysiotomy.

39. **Treatment of Malignant Pustule.**—Federschmidt advocates immediate excision and reports 3 threatening cases in which excision was followed by complete recovery in one to three days. In 7 other cases in which treatment was medicinal or expectant, 2 deaths occurred.

41. **Diagnosis of Intestinal Occlusion.**—A young woman of 26, with hysteric antecedents, presented symptoms suggesting appendicitis with high fever, and the red, swollen appendix was resected. Some hard masses were palpated in the cecum at the time. The pains recurred and the temperature rose again and again to 40.5 C. At a second laparotomy the hard masses in the large intestine were then recognized as foreign bodies adherent to the walls. They were cautiously manipulated and massaged until detached from the walls and worked along towards the rectum. The abdomen was then sutured. Several hours later copious irrigation of the intestines resulted in the evacuation of ten linen rags, each 4 or 5 sq. cm. in size, and two more were voided a few days later after another brief elevation of temperature, which fell as soon as the rags were passed.

42. **Spontaneous Disintegration of Urinary Calculus.**—Görl was able to watch with the cystoscope the gradual crumbling of two stones in the bladder as the patient, an obese man, was put on an Ebstein diet and two quarts a day of a lithia water.

43. **Half Symphysiotomy.**—Diehl reports the successful delivery of a very small woman with a generally contracted pelvis, by slitting the upper half of the symphysis alone. This semi-symphysiotomy proved sufficient to allow delivery of the child, and the mother was able to be up in three weeks and was soon at work as before, with no apparent trace of the intervention.

44. **Prevention of Seasickness.**—Dornblüth points out that the disagreeable sensations of seasickness, riding in elevators, etc., are connected with the descending motion. He has found that if he takes a deep breath as the descending motion commences, the abdomen is distended and held firm by the diaphragm and no disagreeable sensation is experienced. The measures that have been recommended against seasickness accomplish the purpose as they comply with these conditions, immobilization of the abdomen during the descending motion. He believes that the resistance to seasickness can be enhanced by taking 2 or 3 gm. sodium bromid every evening for a week beforehand and during the trip, if a long one. He adds that it is very important to take regular meals at the accustomed hours, and that an abdominal bandage may well substitute the corset.

45. **Discovery of Anesthetic Action of Yohimbin.**—Loewy refers to Lewitt's article in the "Deutsche Med. Wochft.," 1902, Nos. 47-48, which presents all the facts and literature to date in regard to the efficacy of yohimbin in curing impotency. Magnani has recently discovered that the conjunctiva and cornea lose all sensitiveness for half an hour after instillation of a few drops of a .3 to 1 per cent. solution. The conjunctiva becomes hyperemic, but the pupil is not affected, in which

the action differs from that of cocain. Loewy has been testing this phenomenon and describes his research in detail. The results establish that yohimbin and cocain differ possibly quantitatively, but that qualitatively they are equivalent. Yohimbin in direct application is able to reduce or completely abolish the excitability and power of conduction of both motor and sensory nerves. It also induces anesthesia when applied to the terminals of the sensory nerves in the mucous membranes. This action is transient, as with cocain, and normal conditions are restored afterward. The tests included instillation of .5 to 1 per cent. solution in distilled water or in a .9 per cent. salt solution, in the eyes of animals and man, allowing the removal of foreign bodies in the cornea in three to five minutes without pain. The conjunctiva becomes hyperemic, there is increased lacrymal secretion, but no change in the pupil or accommodation. Tests on the nasal and buccal mucosa were equally conclusive, and also on the sciatic, vagus and sympathetic nerves exposed for a maximum of 4 cm. in rabbits and dogs and on the cervical ganglion in cats, also experimental infusion of the solution in the dural sac and application to the vasomotors of certain vascular areas.

46. **Juvenile Tabes.**—In the case described an unmistakable tabes gradually developed, commencing at 15 and presenting the entire classic syndrome at 25 but no ataxia. Only 21 authentic cases of juvenile tabes are on record, and ataxia was absent in two-thirds. In 17 cases the parents were certainly, and in 2 probably, syphilitic. In the case described the patient's father had acquired syphilis one year before her birth. Juvenile tabes seems to be distinguished by its unusually protracted course. Periods of apparent arrest and even improvement of the symptoms may occur with and without specific treatment. It is a familiar fact that mercurial treatment is less effective the slower the course of the affection.

49. **Serum Treatment of Plague.**—Polverini was four years director of the serum laboratory in Bombay and points out that the conflicting results of tests of antiplague serum are due to the diversity in the technic employed. The same serum may act differently on animals of various species and the results are no criterion of its action on man. He used and recommends the "alternate method" and serum made according to Lustig's method, which, he states, is the only one that has been scientifically tested by protracted experimentation in the hospitals with more than 1,000 cases of plague.

50. **Hysteric Fever.**—The patient was a marine on a German cruiser, and his temperature rose abruptly nearly every day from normal to 104 F. or thereabouts during eighteen days, the mercury on three days running up to 110 and to the very top of the tube in three thermometers on one occasion, thus above 112. He complained of headache and, after the febrile stage, exhibited the psychic stigmata of hysteria, but recovered completely in a month under psycho- and hydro-therapy.

51. **Movability of Gall Bladder.**—Lieblein was puzzled to differentiate a small tumor that could be palpated in the abdomen of a healthy woman of 47. No connection between the tumor and the liver could be discovered, and the tumor could be easily pushed from side to side, under the right ribs or under the left costal arch or into the epigastrium. The laparotomy revealed that it was the gall bladder, with a stone in its fundus, swinging freely on the pedicle formed by the elongated cystic duct.

54. **Growth of the Medical Press in Germany.**—Roth has compiled the statistics of German medical periodicals for the three years, 1853, 1875 and 1901. In 1853 there were 32 general medical journals and 18 devoted to specialties. In 1875 there were 38 general and 55 special, and in 1901, 77 general and 180 special. The list does not include journals devoted to pharmaceutics, anthropology, botany or chemistry nor other than ethical publications.

56. **Treatment of Hematocele in Extrauterine Pregnancy.**—Schenk reviews the experience of others in regard to expectant and operative treatment and gives a summary of the experiences at Prague. The latter demonstrate that the results, both immediate and remote, of expectant and operative treatment are so exactly alike that there is no reason to abandon the former for the latter in all cases. He thinks we should refrain from operating in cases of uncomplicated hematocele, even if very large, if the patient can be supervised. In case of uninterrupted pregnancy we must invariably operate, and only in case of abortion with hematocele when the hemorrhage recurs or when there is hemorrhage from the uterus or signs indicating putrefaction. The only advantage of early intervention is that the operation can be more conservative, as conditions are more favorable than when intervention is postponed. The conditions of the implantation of the ovum in the tube, determined by recent anatomic research, which led to a reaction in favor of early operation, have not proved as important for the clinical course as anticipated.

58. **Heart and Apex Beat in Aortic Insufficiency.**—Galli has been able to find only one case on record—that of Martius, 1889—in which insufficiency of the aortic valve was not accompanied by exaggeration of the heart and apex beat. He has had occasion himself to observe a case in which no apex beat was perceptible and another in which both heart and apex beat were absent. The symptoms exhibited by the first patient were those of mitral insufficiency without a suggestion that the aortic valves were involved. There was diffuse pulsation of the epigastrium and the autopsy disclosed hypertrophy of the right ventricle with adhesions, both probably due to a transient febrile lung affection several years before. The left ventricle was very much hypertrophied, and both aortic and mitral valves were markedly insufficient. In Martius' case the right ventricle was not hypertrophied. Galli's second patient exhibited signs of aortic insufficiency, but neither the heart nor the apex beat was perceptible and there was no hypertrophy of the organ. The patient suffered from ataxia and was more or less bedridden. The ataxia counteracted the valvular defect. As he had no occasion to tax his heart, it had no cause for becoming hypertrophied. The case confirms the value of repose as an essential factor in treatment of valvular affections. When the patient got up the apex beat could be indistinctly perceived and the pulse became stronger and faster. Galli concludes that the apex beat is not so important in the diagnosis of aortic insufficiency as hitherto assumed.

60. **Gastric Origin of Pernicious Anemia.**—Hösslin's two cases corroborate the theory that chronic atrophic processes in the stomach have some connection with the development of pernicious anemia. They also suggest the value of systematic investigation of the functions of the stomach and intestines to elucidate the cause of obscure severe anemias.

66. **Laryngeal Tuberculosis.**—Kronenberg deplores the fact that physicians do not examine the larynx for tuberculous lesions as a routine measure in all persons suspected of tuberculosis. Consequently the laryngeal lesions are frequently beyond control when first seen, as their presence is ignored until they cause symptoms which may not be until in an advanced phase. He advocates surgical treatment of laryngeal tuberculosis whenever, with good general condition, there is a certainty or probability of removing the entire focus. Laryngotomy is indicated only in exceptional cases. The standard procedure is by way of the mouth. If complete ablation is impossible, he would operate only as indicated by threatening complications or to eliminate what interferes with other therapeutic measures. None of the remedies recommended for the purpose has a specific action; galvanocauterization is the most effectual yet known. The physician's important task is to strive for spontaneous healing. This is best accomplished by careful general treatment along the approved lines to enhance the natural resisting powers of the organism, supplemented by local treatment. Unfortunately, he remarks, the majority of patients with laryngeal tuberculosis are poor, and the physical and dietetic measures required are seldom to be procured. Curable cases should be sent to a sanatorium or its equivalent, but the German sanatoria object to receiving tuberculous patients with laryngeal complications. Kronenberg has witnessed a few cases in which a moderately severe tuberculosis of the lungs and larynx healed completely in time. One of his cured patients had been re-

jected by the sanatoria as incurable; he was a particularly intelligent man, who co-operated with the physician in every way.

Riforma Medica, Palermo.

Last indexed page 1334.

67 (No. 6.) Autolysis of Kidney in Experimental Nephritis. U. Minerbi.—Sul decorso dell' autolisi del rene in alcune forme di nefrite.
68 *Therapeutic Injection of Oxygen per Rectum. C. Bernabei (Siena).—Dell' emfisiterapia ossigenata.
69 Recovery After Multiple Stab Wounds in Abdomen. C. Tonarelli.—Ferite penetranti dell' addome con fuoriscita di un ansa del tenue. Ferite nel fegato, nel tenue, nel colon e nel mesenterio. Laparotomia. Guarigione.
70 Diversion of Portal Circulation. E. Arcoleo.—Contributo alla deviazione chirurgica del sangue della vena porta nella cirrosi epatica.
71 Venous Souffle in Cirrhosis. V. Gambarati.—Sopra un caso di soffio venoso udibile sull'ala epatica in individuo affetto da cirrosi epatica volgare.
72 *Emoglobinuria familiare in malarici. M. Luzzatto.
73 (No. 7.) Carcinomi delle tonsille, faringe e parti attigue. G. Bendandi. Five cases.
74 Sulla siero-diagnostica del tifo. G. Caccialanza.
75 *Three Cases of Hereditary Ataxia. C. Mannini.—Alcuni casi di atassia ereditaria o malattia di Friedreich.

68. **Therapeutic Injection of Oxygen into the Intestines.**—In 1901 Bernabei reported excellent results from the introduction of oxygen into the intestines as a therapeutic measure. He proclaimed that it stimulates the digestive functions, reduces the toxicity of the contents of the intestines and, after it is absorbed, has a manifest influence on the elimination of carbon dioxid and absorption of oxygen by the lungs. It also favorably modifies the composition of the blood and urine and nutrition in general. He reported later experiences with it in "Morgagni" for April, 1902, and in this article describes another series of cases treated with this "emphysema-therapy," as he calls it. In 5 cases of osteomalacia the results were so remarkable that he does not hesitate to affirm that this treatment removes this affection from the incurable class. All the patients had been bedridden on an average for seven years, with severe neuralgic, thoracic and sacro-lumbar pains, but were soon restored to comparative health and resumed their normal mode of life. He introduced about 39,000 c.c. of oxygen in these cases in the course of an average of 52 days, using about 1208 c.c. for one insufflation, or 26 c.c. per kilogram of body weight. The effects were equally fine in arthritis deformans, for which he used about 67,000 c.c. in the course of 63 days, introducing 41 c.c. per kilogram at a time. He found that tuberculous peritonitis responded to this treatment as favorably as to a laparotomy. In this class the amount introduced averaged 48,190 c.c. in 57 days, or 36 c.c. per kilogram at a time. He gives tables showing the influence of the injected oxygen on the respiration and composition of blood and urine. He urges a trial of this measure, at least, in all cases of chronic tuberculous peritonitis before proceeding to surgical intervention. Even if the latter is finally decided on the conditions are rendered more propitious for it. In this and his previous communications he emphasizes the hematogenic, metabolic and dynamogenic indications for this treatment, as encountered in anemia, neuroses, diabetes, osteomalacia, rachitis, ascites, malaria, pellagra, cancer and tuberculosis.

72. **Family Tendency to Hemoglobinuria.**—Luzzatto observed 7 cases of hemoglobinuria in the course of a three months' stay on the Maremma, that hotbed of malaria. One of the patients, an extremely severe case, was cured by repeated and copious subcutaneous injections of physiologic solution. Two other patients were sisters and one exhibited severe hemoglobinuria after ingestion of quinin. Their father had died three years before with hemoglobinuria after taking quinin. The second sister exhibited symptoms of the form of malaria known as "perniciosa comatosa with hemoglobinuria," and had taken no quinin. Both were cured by continued use of quinin. He thinks these facts suggest that there may be a congenital and family tendency to hemoglobinuria in malarial countries and that parasitic invasion or the ingestion of quinin may fan it into a flame.

75. **Hereditary Ataxia.**—Mannini describes 3 cases of Friedreich's disease in two brothers and a sister, from 15 to 25 years old. He calls attention to the gait which was the typical staggering of the drunken man, while the attitude was characteristic, the feet turned in, the head and trunk bent forward. He thinks that a number of the symptoms are due to atony, asthenia, neuro-muscular ataxia. Nystagmus is not an inevitable accompaniment and the trophic disturbances, paraplegia and deformations of the bones may be secondary phenomena and not appear until late. An infectious disease may be the starting point for the disease as in one of the cases described, or it may commence after the age of 15 and without inducing disturbances in the sexual sphere.

British Medical Journal, London.

May 2.

76 *Operative Treatment of Chronic Facial Palsy of Peripheral Origin. Charles A. Ballance, Hamilton A. Ballance and Purves Stewart.
77 Case of Brain Tumor. A. C. Dutt.
78 *Graves' Disease in Association with Rheumatoid Arthritis. R. Llewelyn Jones.
79 Neurasthenia: The Wear and Tear of Life. Guthrie Rankin.
80 Case of Migraine, with Ophthalmoplegia. James W. Russell.
81 Case of Cerebellar Abscess Following Middle-Ear Disease. J. Grant Andrew.

76. **Operative Treatment of Facial Palsy.**—Starting with the results of their former investigations as regards nerve degeneration, the authors of this article have attempted to relieve facial palsy of peripheral origin by anastomosis between a natural healthy nerve and the distal segment of the paralyzed facial nerve. The method of procedure was as follows: 1. Assuring themselves by galvanic stimulation that the muscle fibers still survived on the paralyzed side, the facial nerve is exposed at its point of exit from the bone and cut across as high as possible and attached by lateral anastomosis to the spinal accessory. The results were only partially successful. The conclusions of the article are:

1. Peripheral facial palsy is remediable by facio-accessory anastomosis, but the extent of recovery appears to be limited to associated movements in conjunction with the shoulder. In most cases the previous deformity disappears when the face is at rest. 2. For reasons above stated we would in future recommend facio-hypoglossal anastomosis rather than facio-accessory. 3. The cases suitable for operation are those in which the paralysis has lasted so long that no recovery is to be expected, say, facial palsy lasting six months without any sign of recovery. In our opinion the sooner the operation is done after this date the better. 4. A suppurative causal condition producing an infective neuritis renders the prognosis after operative treatment less favorable than in cases due to trauma.

78. **Graves' Disease and Rheumatoid Arthritis.**—Jones points out certain relationships between the two conditions and finds that his study would not so much suggest affinity between the two diseases as to indicate that they frequently co-exist. He says clinical research distinctly suggests some obscure relationship. He, therefore, offers the hypothesis of a fundamental element in the form of neuropathic diathesis and an accidental element in the presence of a possible source of toxemia such as aural sepsis, chronic indigestion, etc., in the etiology of the two disorders. Passing on from the etiologic factors to the clinical symptoms he remarks on the existence of involuntary spasm or cramps, they being present in both disorders and also remarks on the possible relationship of tetany, scleroderma, etc., and the part possibly played by the thyroid gland.

The Lancet, London.

May 2.

82 *Man's Cranial Form. Arthur Thomson.
83 An Analysis of a Further Series of 250 Consecutive Operations for Primary Cataract Performed in the Government Ophthalmic Hospital, Madras. R. H. Elliot.
84 *The Relation of Meconium to the Fetal Appendix. Alexander Low.
85 A Case of Acute Yellow Atrophy of the Liver. W. Ferris and W. H. Clayton-Greene.
86 The Dietetic Factor in Health Resort Treatment. Arthur P. Luff.
87 Congenital Displacement of the Hip. Noble Smith.
88 On a Case of Toxemia of Obscure Origin. Leonard Williams.
89 A Case of Tuberculous Peritonitis; Spontaneous Recovery. Henry F. Bellamy.
90 The Relation between Acetonuria and Acidemia in Cases of Gastric Ulcer. F. Golla.

82.—This article appeared elsewhere. See THE JOURNAL of May 16, ¶17, p. 1397.

84. **Meconium.**—In a recent Hunterian lecture Eccles stated that the lumen of the appendix is never a receptacle for

meconium. Low has systematically examined the fetal abdominal viscera and has frequently noticed the presence of meconium in the appendix. He tabulates a number of cases, and remarks as follows:

1. Small intestine: Meconium begins to distend the lower half about the middle of the fourth month and continues to do so to a variable extent till the end of fetal life.

2. Large intestine: Meconium begins to distend the rectum about the beginning of the fifth month, thereafter tending to accumulate in the cecum and then gradually distending the whole of the large intestine, so that after the seventh month dark-green meconium distends the large intestine in its whole length.

3. Appendix vermiformis: Meconium was noted to be present in the appendix as early as the middle of the fourth month and thereafter in nearly every case it was present in the appendix till the end of fetal life. The amount of meconium in the appendix varies; it seems to depend somewhat on the condition of the cecum—if the cecum is distended then the appendix is always distended, but there may be meconium in the appendix while the cecum is practically empty.

Journal of Tropical Medicine, London.

April 15.

91 *Tropical Hygiene. (Continued.) W. J. Simpson.
92 *Penetrating Wound of the Abdomen by a Sword-Fish. W. Renner.
93 *Tropical Life as It Affects Life Assurance. James Cantlie.

91. **Tropical Hygiene.**—The new environment affects the white man in the tropics, as Simpson points out, inducing susceptibility to disease. There is a change in the customary physiologic effects of certain organs due to the attempt on the part of the system to adapt itself to the new conditions. Until this process of acclimatization is complete, the patient is usually specially susceptible. The most important of the changes is the greater supply of blood to the surface of the body and the greater activity of the functions of the skin. The system does not get its equilibrium as regards heat for some time; the body temperature is higher than that in temperate climates. It is important to remember that exercise raises the temperature and may produce a fever simulating malaria. The capacity of the lungs is increased to some extent, owing to the new distribution of blood, but nevertheless they do less work because the number of respirations is decreased. The general tendency, in spite of the greater functional activity of the skin, liver, bowels and spleen, is to depress the vital activities. The pulse is slowed, the circulation retarded, digestion enfeebled, appetite lessened and nutrition depressed. The nervous system, which is at first stimulated, is later put in a state of tension which allows it to be easily affected by external impressions. All these changes may consort with general health and only an indiscretion or something of that kind bring about disease. The illnesses of the tropics, with the exception of those due to infection and parasites, are generally nervous and congestive, which may be attributed to climatic exposure. The nervous system may lose its tone and its governing power over the heat-regulating centers, or sustain a shock from which it can not recover. In the congestive class, the action of chills on a sensitive perspiring skin suddenly drives the blood from the surface of the body, inducing congestive disorders affecting the liver and bowels. Injudicious diet, clothing, bathing, etc., may here bring on these. The European in the tropics should avoid the tropical sun. New arrivals are more likely to suffer than old residents. The head and spine should be well protected and a pith helmet and spinal pad are useful. Outside of the five or six hottest hours of the day in the summer time, however, as much time should be spent in the open air as possible. Regular exercise short of fatigue is essential. If overdone, however, harm will result, and great care should be taken to prevent chilling after perspiration. A warm bath prevents chilling and is refreshing. Few people take cold baths in the tropics. A bath can be taken at any time except during the process of digestion. The dress is an important matter and should be of absorbent material, especially the underclothing, to prevent chilling from rapid evaporation. Woolen is better than cotton or linen, and next to wool, silk. The importance of having garments next the skin that will keep up a uniform temperature is dwelt on. Coarse flannel will irritate the skin; nothing but the finest material should be used. The kind of upper garments is of little moment so long as they are loose and light in weight. They should be light in color, as these absorb the sun's rays least. It is advisable for the newcomer to abstain from alcoholics, especially so if he is to undergo much exposure. If they are used they should be taken only at meals, preferably at dinner in the evening.

92. **Impaled by Swordfish.**—This case is of interest from its rarity. The sufferer was sitting on the gunwale of the boat and was impaled by a swordfish from the back, the blade projecting anteriorly about three inches, producing a wound of the liver, pancreas, duodenum and intestines, and causing death.

93. **Life Insurance in the Tropics.**—Cantlie remarks that the country situated between 33 N. and 30 S. of the equator is considered dangerous by insurance companies, while within these limits there are some of the healthiest countries to be found. When the Englishman goes to the tropics he first feels better, but the stimulation wears off in from six to eight months and the opposite condition obtains. The want of proper rest and sleep at night are especially detrimental. The younger the age at which the man proceeds to the tropics the greater the risk of contracting disease. The chances of the youth of 18 to the man of 25 of contracting disease are about 2 to 1; to the man between 30 and 40, 10 to 1. He never hesitates to recommend a man between 30 and 50 to proceed to the tropics to take up work there, but hesitates to advise any one under 21. Many diseases which are prevalent in temperate regions are almost unknown in the tropics. With a healthy heart and lungs the balance is best kept. It is the organs below the diaphragm that give trouble, chilling inducing congestive disorders, dysentery, etc.. while malaria, which is present in almost all countries, is robbed of its dangers at the present time. Good food can not be had, and in many cases the lack of it is the cause of a run-down condition, and alcohol is even a greater curse in the tropics than at home. Cantlie warns insurance company officials that one of the dangerous periods in the life of an old tropical resident is the first year or two after he returns to take up permanent residence at home, and he would advise the extra premium to continue 12 to 18 months after the return. Their rules are, as it is, too rigid and not suited to the varying conditions that exist.

Intercolonial Medical Journal of Australasia, Melbourne.

March 20.

94 *Our Metropolitan Asylums. J. W. Springthorpe.
95 A Neglected Form of Shoulder Injury. Fred D. Bird.
96 A Note on Asepsis in Ophthalmic Surgery. James W. Barrett and W. F. Orr.

94. **Australian Asylums.**—Springthorpe compares the Victoria asylums with those of New York state and Great Britain, to the decided disadvantage of the former. He uses the parallel-column system of showing the differences, and criticises the general management and the public support of the insane in his colony.

New Patents.

Patents of interest to physicians, granted April 14, 21 and 28:

725612. Crutch. George C. Calentine, Tacoma, Wash.
725542. Apparatus for administering gas. Graham Clarke, Cleveland, Ohio.
725331. X-ray tube. Theodor Friedlander, Chicago.
725086. Deodorizing or disinfecting apparatus. Moses Jacobs, New York.
725270. Vaginal syringe. Orville P. Moon, Lorain, Ohio.
725123. Sterilizing apparatus. Edwin Nichols, Newark, Ohio.
725483. Ophthalmoscope. Seth A. Rhodes, Chicago.
725593. Table device for sick beds, etc. Wilhelm Schleuning, Freihung-Oberpfalz, Germany.
725688. Bandage. Elizabeth L. Ewing, Chicago.
725831. Suppository. Forest F. Feidler, Erie, Pa.
726044. X-ray tube. Theodor Friedlander, Chicago.
726054 and 726055. Human-treating apparatus. Isaac L. Hartford, Bloomington, Ill.
725726. Catamenial bandage. Wilhelm F. Laux, Reading, Pa.
725731. Cataphoric electrode. Samuel H. Linn, Rochester, N. Y.
726095. Exercising apparatus. John E. Nightingale, New York.
725987. Massage instrument. Charles Owens, Chattanooga, Tenn.
725876. Exercising apparatus. Charles H. Roche, Tonbridge, England.
726791. Depurator. Charles E. H. Armbruster, Denver.
726619. Clinical thermometer. Oscar G. Bell, Norwich, N. Y.
726635. Dispensing cabinet. Lute E. Campbell and W. B. Weaver, El Reno, O. T.
726532. Pessary. Leonard Hering, Isle St. George, Ohio.
726704. Rectal or vaginal speculum. Otto H. Kohlhaas, Calumet, Mich.
726472. Hospital bed. John R. Smith, Des Moines, Iowa.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY, Including the X-Ray, Finsen Light, Vibratory Therapeutics, and High-Frequency Currents. By A. D. Rockwell, A.M., M.D., Formerly Professor of Electro-therapeutics in the New York Post-Graduate Medical School and Hospital. With 252 Illustrations. New Edition. Cloth. Pp. 656. Price, $3.75. New York: E. B. Treat & Co. 1903.

THIRTY-FOURTH ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES IN MICHIGAN FOR THE YEAR 1900. Fred M. Warner, Secretary of State. Edited by Cressy L. Wilbur, M.D., Chief of the Division of Vital Statistics. By Authority. Cloth. Pp. 125. Lansing, Mich.: Wynkoop Hallenbeck. 1903.

THE DIAGNOSIS OF DISEASES OF WOMEN. A Treatise for Students and Practitioners. By Palmer Findley, B.S., M.D., Instructor in Obstetrics and Gynecology, Rush Medical College. Illustrated with 210 Engravings in the Text and 45 Plates in Colors and Monochrome. Cloth. Pp. 494. Price, $4.50. Philadelphia and New York: Lea Brothers & Co. 1903.

MANUAL OF DISEASES OF THE EYE, for Students and General Practitioners. By Clarence A. Veasey, A.M., M.D., Demonstrator of Ophthalmology in the Jefferson Medical College. Illustrated with 194 Engravings and 10 Colored Plates. Cloth. Pp. 412. Price, $2.00. Philadelphia and New York: Lea Brothers & Co.

TWENTY-NINTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF HEALTH OF THE STATE OF MICHIGAN, for the Fiscal Year Ending June 30, 1901. Cloth. Pp. 268. Lansing, Mich.: Wynkoop Hallenbeck. 1902.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., from April 26 to May 10, inclusive:

Ashburn, Percy M., first lieut. and asst.-surgeon, is relieved from further duty at Ft. Assiniboine and will proceed to Ft. Missoula for duty.

Adair, George F., contract surgeon, is relieved from temporary duty at Ft. Morgan, and will proceed to Ft. Wadsworth for duty.

Bartlett, Cosam J., first lieut. and asst.-surgeon, having reported en route to join his station from leave, will proceed to Seattle, Wash., and await the arrival of Company I, 13th, and accompany that organization en route to its station, Ft. Liscum, Alaska.

Smith, Charles F., contract surgeon, is relieved from further duty at Ft. Sheridan, and will proceed to Ft. Leavenworth for duty.

Crampton, Louis W., major and surgeon, is relieved from duty at Ft. Adams and will proceed to St. Louis and assume charge of the medical supply depot in that city, relieving Major Harry O. Perley, surgeon, to enable him to take advantage of leave.

Clayton, Jere B., captain and asst.-surgeon, is relieved from duty at Vancouver Barracks, and will, on the opening of navigation on the Yukon River, proceed to Ft. Egbert, Alaska, to relieve Contract Surgeon C. A. Trenholtz, who will proceed to Vancouver Barracks, Wash., for temporary duty.

Edwards, James F., first lieut. and asst.-surgeon, now on duty at Ft. Leavenworth, is detailed as assistant to the instructor in the department of hygiene at the General Service and Staff College.

Stone, John H., captain and asst.-surgeon, now on duty at Ft. Leavenworth, is detailed as assistant to the instructor in the department of hygiene at the General Service and Staff College.

A board of officers, to consist of Major Chas. F. Mason, surgeon, Capt. Francis A. Winter, asst.-surgeon, Capt. Frederick P. Reynolds, asst.-surgeon, is appointed to meet at the office of the Surgeon-General of the Army, May 18, for the following purposes: To revise the drill regulations and outline for first aid for the hospital corps; to recommend a course of instruction for the companies of instruction hospital corps; to prepare a scheme of instruction for the hospital the hospital corps detachments; to consider the desirability of a side arm for members of the hospital corps, and to recommend one if found desirable.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ended May 9:

Surgeon D. O. Lewis, detached from the *Pensacola* and granted sick leave for three months.

Asst.-Surgeon H. Shaw, ordered to the *Yankee*.

A. A. Surgeon P. L. Cooke, detached from the Naval Academy and ordered to the *Chesapeake*.

Asst.-Surgeon R. H. Michels, ordered to the *Wisconsin*.

Asst.-Surgeon H. F. Strine, P. J. Traynor, J. L. Neilson, F. M. Munson, R. A. Bachman, ordered to the Asiatic Station, via *Solace*, May 15.

Surgeon T. A. Berryhill, detached from the Navy Yard, Pensacola, Fla., and ordered to the *Baltimore*.

Surgeon W. F. Arnold, detached from Port Isabela, P. I., and ordered to Naval Hospital, Yokohama, Japan.

Asst.-Surgeon R. K. McClanahan, detached from the Naval Station, Polloe, P. I., and ordered to the *Oregon*.

Asst.-Surgeon J. W. Backus, detached from the *Princeton* and ordered to the *Helena*.

Asst.-Surgeon H. A. Dunn, detached from the Naval Station, Cavite, P. I., and ordered to the Naval Station, Olongapo.

Asst.-Surgeon R. E. Hoyt, ordered to the *Texas*.

Asst.-Surgeon B. T. Jenness, ordered to the *Indiana*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 7, 1903:

P. A. Surgeon J. A. Nydegger, Bureau order of April 21, 1903, directing him to proceed to Gulf Quarantine and assume command of service at that port revoked.

P. A. Surgeon M. H. Foster, granted leave of absence for two days.

Asst.-Surgeon J. W. Kerr, granted leave of absence for two days from May 7.

A. A. Surgeon J. C. Ballard, granted leave of absence for twenty days from April 23.

A. A. Surgeon T. C. Frary, granted leave of absence for one day.

A. A. Surgeon J. G. Grace, granted leave of absence for nine weeks.

A. A. Surgeon H. Marr, granted leave of absence for thirty days from May 10.

Pharmacist C. H. Woods, granted leave of absence for twenty days amended so as to be for nineteen days.

Pharmacist E. M. Holt, granted leave of absence for thirty days from May 5.

PROMOTION.

C. W. Stephenson, pharmacist of the third class, promoted to be pharmacist of the second class, effective April 1, 1903.

BOARD CONVENED.

Board convened at the Marine-Hospital, San Francisco, May 2, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Asst.-Surgeon Carl Ramus, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 9, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, April 25-May 2, 4 cases.
California: San Francisco, April 19-26, 8 cases.
District of Columbia: Washington, April 25-May 2, 1 case.
Illinois: Belleville, April 24-May 1, 15 cases; Chicago, April 25-May 2, 15 cases, 2 deaths; Galesburg, April 25-May 2, 4 cases; Joliet, Dec. 29-March 2, 30 cases, 2 deaths.
Indiana: Elwood, April 26-May 3, 7 cases; Indianapolis, April 27-May 2, 5 cases, 2 deaths; Kokomo, April 27-May 2, 1 case.
Iowa: Des Moines, April 27-May 4, 2 cases; Dubuque, April 26-May 2, 1 case.
Kentucky: Lexington, April 26-May 2, 1 case; Louisville, April 1-30, 55 cases, 4 deaths.
Louisiana: New Orleans, April 18-May 2, 14 cases (2 imported).
Maine: Biddeford, April 26-May 2, 1 case; Franklin County, May 7, 20 cases; Rumford Falls, May 3, 1 case.
Maryland: Baltimore, April 26-May 2, 2 cases.
Massachusetts: Fall River, April 26-May 2, 2 cases.
Michigan: April 26-May 2, Detroit, 12 cases; Flint, 1 case; Grand Rapids, 2 cases; Port Huron, 2 cases.
Minnesota: Winona, April 26-May 2, 1 death.
Nebraska: Omaha, April 26-May 2, 1 case; South Omaha, April 1-30, 7 cases.
New Hampshire: April 25-May 2, Manchester, 11 cases; Nashua, 3 cases.
New York: April 25-May 2, Buffalo, 1 case; Elmira, 1 case (imported).
Ohio: Cincinnati, April 24-May 1, 5 cases; Cleveland, April 25-May 2, 1 case; Dayton, April 25-May 2, 3 cases, 2 deaths.
Pennsylvania: Carbondale, April 23-30, 1 case; Dunmore, April 1-30, 5 cases; McKeesport, April 25-May 2, 6 cases; Philadelphia, April 25-May 2, 16 cases, 4 deaths; Pittsburg, April 11-18, 24 cases, 7 deaths; April 25-May 2, 5 deaths; Pottsville, April 1-30, 2 cases.
South Carolina: Charleston, April 25-May 2, 4 cases.
Tennessee: Memphis, April 25-May 2, 2 cases.
Utah: Salt Lake City, April 25-May 2, 11 cases.
Wisconsin: Green Bay, April 26-May 3, 1 case; Milwaukee, April 25-May 2, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, April 4-18, 8 cases.
Belgium: Brussels, April 11-18, 5 deaths.
Canada: Halifax, April 25-May 2, 1 case; Owen Sound, April 29, present; Quebec, April 25-May 2, 1 case.
China: Hongkong, March 14-21, 1 case, 1 death.
Colombia: Barranquilla, April 19-26, 1 death.
France: Marseilles, March 1-31, 32 deaths.
Great Britain: Birmingham, April 11-18, 50 cases; Bristol, April 11-18, 2 cases; Dublin, April 4-18, 34 cases, 2 deaths; Dundee, April 11-18, 2 cases; Leeds, April 18-25, 19 cases; Leith, April 4-11, 1 case; Liverpool, April 11-18, 94 cases, 7 deaths; London, April 4-11, 5 cases; Manchester, April 11-18, 5 cases, 1 death; Newcastle-on-Tyne, April 11-18, 4 cases; Nottingham, April 11-18, 2 cases; Sheffield, April 4-18, 6 cases; South Shields, April 11-18, 2 cases.
India: Bombay, March 31-April 7, 89 deaths.
Netherlands: April 18-25, Amsterdam, 1 death; Rotterdam, 1 case.
Russia: St. Petersburg, March 28-April 11, 43 cases, 7 deaths; Warsaw, March 28-April 4, 3 deaths.

YELLOW FEVER.

Colombia: Panama, April 23-30, 2 cases, 1 death.
Ecuador: Guayaquil, April 4-11, 2 deaths.
Mexico: Tampico, May 4, 1 death; Vera Cruz, April 25-May 2, 9 cases, 3 deaths.

CHOLERA—INSULAR.

Philippines: Manila, March 14-21, 4 cases, 3 deaths; Provinces, March 14-21, 203 cases, 130 deaths; not previously reported, 421 cases, 231 deaths.

PLAGUE.

China: Hongkong, March 14-21, 28 cases, 28 deaths.
India: Bombay, March 31-April 7, 1,827 deaths; Karachi, March 22-29, 192 cases, 152 deaths.

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Original Articles.

MEDICAL DISCOVERIES BY THE NON-MEDICAL.

GEORGE M. GOULD, M.D.
PHILADELPHIA.

I have been struck by the fact that the majority of great medical discoveries, truths and instruments, have not been made completely and suddenly, but have been led up to by preliminary and progressive steps, and that the layman has so often made these discoveries prior to the medical practitioner. This great medical truth is, indeed, but an illustration of the general law that all professional progress, in whatever branch of study, is somehow or other a result of stimulus from without. There is so much interest, and there are so many lessons to be drawn from such observations in medical history, that I have in late years kept minutes of this class of truths, from which I make the following selections:

When we commence observation of the origins of medical discovery and treatment, we are struck by the fact that "our brothers the animals" were first in learning not a little of medical art. It has been noticed[1] that birds often show a true surgical instinct. M. Tatio on several occasions has killed woodcock that were, when shot, convalescing from wounds previously received; and in every instance found the old injury neatly dressed with down, plucked from the stems of feathers, and skilfully arranged over the wound, evidently by the beak of the bird. In some instances a solid plaster was thus formed, and in others ligatures had been applied to wounded or broken limbs. Ten times in his experience he has found birds whose limbs had been broken by shot with the fractured ends neatly approximated and ligated together—a statement that is vouched for by no less a naturalist than Fulbert Dumonteil. Dr. James Weir[2] says that when bees are attacked with diarrhea they at once begin to suck astringent pieces of the dogwood, poplar, wild cherry, or hickory, and readily cure themselves. Their instinct carries them so far that "in winter if they should happen to be afflicted with diarrhea, they will readily drink a decoction of wild cherry if it is placed in the hive. Moreover, they seem to know that filth is a source of disease, for in winter all the sick members of the hive deposit their dejecta as far from the combs as possible. As soon as warm weather arrives, the accumulated filth is removed and the spot carefully cleansed." Dr. Weir further believes that many of the higher animals have discovered and use a materia medica that should be recognized by human physicians. For instance: Dogs will seek out and devour the long blades of couch-grass (*triticum repens*) when they are constipated; horses and mules will eat clay when they have "scours"; cattle with eczema have been seen to plaster hoof and joint with mud. He speaks of seeing a cow break thin ice on a pond and treat her itching joint to a mud poultice. Cats will go miles when they are "under the weather" for a dose of catnip. The saliva of animals seems to have a distinct curative action. Dogs, cats, cattle, rodents, monkeys—all lick their wounds when they can get at them, and soon effect cures. Weir also tells of a large dog-faced monkey who scratched his shoulder badly on a projecting nail in his cage. He immediately went to a corner and, seizing a handful of clean sawdust, pressed it on the bleeding scratch. In a few moments the bleeding ceased and the blood dried, leaving a coating under which the healing was prompt. Rev. Egerton R. Young,[3] a missionary in northwestern Canada, shows us that the surgical instincts of the dog may become so far developed as to produce a real surgeon-doctor. One of his dogs spontaneously took up this work, and became so expert that the Indians called him *Muskeke Atim,* the surgeon. Galls, wounds, frozen feet, etc., in the other dogs were successfully and systematically treated by Doctor "Rover." The wounds or sores that could not be reached by the dog's own tongue did not heal. The fact shows that, in a state of health and with pure food, the dog's saliva has a perfect bactericidal and healing power. Perhaps it would make an ideal antiseptic. No bacteriologist has caught the hint.

The logical or evolutional order of the subjects of my list would be to pass from the medicine of animals to that of savages, and so, finally, reach the more compact body of truth now held by the profession. I am compelled, however, to take the matter up topically, in order better to place it before you; the contributions of primitive men must, therefore, be noticed as we proceed from subject to subject.

In the history of medicine *ophthalmology* was one of the earliest subjects to command professional opinion. The eye is the most important of all the organs of sense, and blindness the greatest of afflictions. The early gatherings of medical lore, in large part, relate to the eye. The operation of *couching cataract* goes so far back in primitive times that Ælianus says that men learned it from goats, who, by pushing their heads against the thorns of a thorn-bush were accustomed to operate on their own cataractous eyes. It is noteworthy that in the operation by the Greeks a mydriatic was used and local anesthesia, as well as general narcosis, was induced.[4] The greatest discovery in this specialty is held to be the ophthalmoscope, but two others, in my estimation, far outrank it. Before Helmholtz, a non-medical man, Babbage, doubtless devised an in-

strument "for the purpose of looking into the interior of the eye," and even Helmholtz said of himself that it was not inclination but external circumstances that forced him to become, temporarily, a physician.

According to Dr. John Green,[5] *spectacles,* both convex and concave, were in common use by the Chinese before the opening of commerce with Europe. They were made of a transparent stone, of a color like that of a strong infusion of tea, called scha-chi (tea-stone), and were tied on the head by silken cords. The common use of some form of magnifying glass by the ancients is well proved by their perfect workmanship, as displayed in the engraving of gems; and a crystal wrought in the form of a convex lens has been actually discovered in the ruins of Nineveh by Sir Francis Layard. Pliny's description of the visual defect of the Emperor Nero strongly suggests compound astigmatism. The statement that Nero was accustomed to view the conflicts in the arena by means of a smaragdus would seem to be best explained by assuming that the emperor possessed a large, highly-polished emerald, very likely of uneven curvature in its two principal diameters. The theory implies that the use of the gem for this purpose was the result of an observation made by Nero himself, who may, therefore, be credited with the accidental discovery of an eyeglass suited to myopia or compound myopic astigmatism; the invention apparently died with the inventor. Certain it is that spectacles were in common use for at least 150 years before the theory of their action was explained. Bifocal lenses were devised by a layman, Benjamin Franklin.

Although a physician discovered *astigmatism,* it was the mind of the natural philosopher or physicist in him that made the discovery, not that of the medical man. The discovery of the clinical significance of astigmatism was made by a physician, S. Weir Mitchell, 75 years later.

The laryngoscope is one of the best illustrations of a great medical discovery made by a non-medical man. The inventor of this instrument was a singing master of London, Señor Mañuel de Garcia, who was still living[6] in London in 1901, in his 98th year. In 1855 he presented a paper to the Royal Society of London, entitled "Physiologic Observations on the Human Voice." His investigations were carried out on himself by means of mirrors, a small one at the end of a long stem, for introducing into the pharynx, and a large one, which served both for directing the light on to the small mirror and to enable the operator to see the image formed on it. Garcia's invention was treated by the English with apathy and even incredulity. His paper, however, fell into the hands of Türck of Vienna, who failed with the device, but later, Czermak converted it from a "physiologic toy" into an instrument of scientific research and popularized its use by his demonstrations on his own throat in Vienna, London, and elsewhere.

In the seventeenth century Sir Kenelm Digby published his book on the cure of wounds by the "Powder of Sympathy." The knowledge of this wonderful powder, he says, came from a priest just returned from the Orient. By the aid of this "vitriol" he claimed to heal wounds without either touching or seeing the patient, by dissolving some of it in a vessel containing water, and putting in this water any article having on it blood from the wound to be treated. In the meantime the patient was advised "to cast away all plasters, only keep the wound clean and in moderate temper 'twixt heat and cold." However absurd this may seem, Draper tells us it was the beginning of the doctrine of *adhesion,* or the cure of wounds by immediate union, a practice little appreciated until the days of John Hunter; while Dr. W. A. Hammond claims that it embodied all there is of real value in our modern antiseptic treatment of wounds, and occasioned a greater revolution in the treatment of wounds than has been accomplished in later times by Lister and his followers.

I make the following excerpt from Baas[7]:

The first cesarean section on the living and parturient woman was practiced by the sow-gelder, Jacob Nufer, of Siegershausen in Thurgau, on his own wife, about the year 1500. After 13 midwives and several lithotomists had endeavored in vain to relieve her, her husband, having invoked the assistance of God and obtained the special permission of the governor of Freuenfeld, operated "just as on a sow" with such good fortune that the mother survived to the age of 77, and was able subsequently to bear several children—and even twins—in the usual way. Undoubtedly, therefore, the operation was unnecessary, and the same was true of many of the operations which soon followed; for cesarean section became the fashion for a short time. A sow-gelder is said to have removed the ovaries of his own daughter in consequence of her lasciviousness, during the 16th century (Weyer tells the story), so that such fellows and operative gynecologists are to be considered the predecessors of Hegar, and to be praised accordingly.

As a result of this enrichment of the technic of operative midwifery by a simple sow-gelder, the cesarean section seems in the course of the 16th century to have been practiced repeatedly, e. g., in Italy in 1540 by Christof. Bain; 1531, in Neusse; 1549, by Paul Dirlewang, on Marie Volcser, in Vienna, etc. Now, however, it was performed in a somewhat more becoming fashion, and chiefly by barbers, though some will admit as the first actual cesarean section only the one performed by Surgeon Trautmann in Wittenberg in 1610.

Celiotomy, according to Dr. Benjamin Howard,[8] was known by Japanese physicians of "centuries ago," one of whom wrote, "When medicines are ineffectual, as well as acupuncture, and the cautery, the abdomen and back may be opened, and the stomach and intestines washed."

According to Dr. W. J. Hoffman,[9] the Coyosteras Apaches employed a *splint in fractures* and gunshot injuries of the extremities that is well worth interest. An illustration is shown of an appliance used by a warrior for a comminuted fracture of the middle third of the left humerus. Strips of cedar wood, ¼ inch thick, ¾ inch wide, and 8 inches long, were bound together with sinew and applied to the arm by tying the loose ends of the sinews. Through the spaces between the strips water could be applied and a free discharge likewise secured.

Dr. McClanahan[10] says of the Indian *treatment of compound fractures:*

First, reduction by extension and counterextension. Some of the medicine men acquire considerable skill in manipulation and their results are creditable. Next all the openings are filled with bone-marrow extracts. Then over all is smeared a coating of the scrapings of rawhide boiled in water. This forms a gelatinous layer having considerable strength. Over this and around the entire limb is placed a covering of fine inner bark, when the limb is ready for the splints. These go entirely around the limb, being held in place by circular strips of cloth. If it is an arm, this is carried across the chest and retained by a circular bandage about the neck.

Franklin Staples[11] states that the Talmud describes, among other operations, one for *stone in the bladder* and others for the reduction of various fractures and dislocations.

F. Poncet[12] pictures a terra cotta image found in Phœnicia, in which there is represented a perfect hernial bandage, with two metallic plates, to be fitted over the inguinal openings. It leaves practically no doubt that the Phœnicians recognized *hernia* and knew of its *successful mechanical treatment.*

According to the Talmud, *carbuncles* were manipulated with the fingers and then cut crosswise (crucial incision of to-day). In *atresia of the anus,* splitting of the skin down to the rectum is mentioned. (Sabb. 134, 1.)

The collections of surgical instruments made from the ruins of Herculaneum and Pompeii bear witness to a high degree of specialization and art on the part of the Roman surgeons of that time.

Wunderbar enumerates from the Mishna and the Talmud no less than 56 forms of surgical instruments and appliances, exclusive of the obstetric stool referred to in Exodus, 1:16.

Surgeon-Major William Curran[13] says:

Narrating in a kind of autobiography the adventures of Captain Creighton (who fought under Montrose or Dundee in Scotland) and describing how Creighton had sustained wounds in a fight at Airs-Moss, Swift represents Creighton as speaking of his wounds as follows:[14] "My surgeon, having unfortunately neglected to tie a string to the tent of green cloth which he used for the wound, the tent slipped into my body, where it lay under my navel seven months and five days, and pained me exceedingly. The tent lying thus in my body made it impossible that the wound could heal. Wherefore I ordered some pipes to be made in a mould through which the thin corruption continually issuing out of the wound, might be conveyed as through a faucet. These pipes I cut shorter by degrees as I imagined the wound was healing from the bottom, till at last they became too short. Wherefore I made a coarse pipe myself which was long enough. This pipe, after the wound was dressed with brandy, was removed daily; and it happened one morning when the pipe was drawn out as usual, that the tent followed. Then I knew I should soon be well."

This Captain Creighton, in 1730-1735, was, therefore, the inventor of *drainage tubes.*

According to Dr. V. Deuffe, of the University of Ghent,[15] the rectal and vaginal speculum dates at least from 1000 B. C., a Sanscrit treatise by Sussutas (translated in 1844 by Hessler), describing such an instrument. It is also mentioned by Hippocrates and by other writers of the Alexandrian school, and has been found in the ruins of Pompeii.

In casting about for some means of combating mammary cancer, Beatson became interested in the custom prevalent among Australian farmers of *spaying cows* during lactation, in order to prolong indefinitely the period of lactation. It is during this period that there is enormous reproductive cell-activity with rapid destructive cell-metamorphosis. The cells involved in this process are of the identical epithelium, which undergoes hypertrophy in cancer of the breast, the difference being that in cancer continued growth of the epithelium takes place without any breaking down of tissue. The spaying results in cows, therefore, led him to try the same operation on women with *mammary cancer* in the hope that it would set up retrograde metamorphosis of the cancer cells. In several cases of inoperable cancer of the breast, he witnessed the disappearance of the tumor after *ovariotomy.* Abbe,[16] too, reports two remarkable cases in which ovariotomy was followed by rapid disappearance of recurrent cancer of the breast.

Anders[17], writing of the Winnebago and Dakota Indians, says that, as regards surgery, they never amputate. In large incised wounds, the parts are carefully brought together and secured with sutures of animal sinew, which they remove in 6 or 8 days.

As to *anesthesia,* Dioscorides[13] tells of a draught that may be given to human beings, before they undergo the pain of the surgeon's knife or cautery. Later, Pliny gives the formula of this draught, which was not only reputed to annul pain but was credited with producing a death-like sleep. Dioscorides further says, "a wine is prepared from the bark of the mandragora root, and three cyathi (a little more than four ounces) of this is given to those who require to be cut or cauterized, when, being thrown into deep sleep, they do not feel any pain." Pliny[18] remarks that the juice of the leaves of the mandragora is more powerful than the root. Of such a preparation he says the dose is six drams, to be taken before cuttings and puncturings. Speaking on the same subject, Apuleius[18] says that if any one is to have a limb mutilated, burnt, or sawn, he may drink a half ounce of the preparation, with wine, and while he sleeps the member may be cut off without pain or sense.

An editorial in *American Medicine,* April 19, 1902, says:

From the fact that ancient anatomists referred to the carotid artery as *arteria soporifera* and that the Russians still call it *sonnaia* (the artery of sleep) it appears that it has long been known that, by compression of the carotids, a state of anesthesia may be produced. It is not surprising therefore to find that among the natives of Java, Madura, and Banku, a procedure for obtaining narcosis is in extensive use under the name of *tarik urat-tidor,* or compression of the soporific vessels. The anesthetizer sits in front of the patient and grasps the patient's neck with the fingers, the thumbs placed back of and a little below the angle of the lower jaw, compresses the internal carotid artery against the spinal column. Complete loss of sensibility and of consciousness is produced. L. Steiner,[19] of Saerabaya, Java, points out the absolute harmlessness of the method, the rapidity with which sleep may be obtained, and urges that it be given a place in surgery.

Benjamin Howard[20] says that "centuries ago" the Japanese used in celiotomies a narcotic mixture which contained *Datura alba,* aconite, etc.

In *gynecology and obstetrics* hardly a ray of scientific or rational light penetrated until modern times and civilization came to lighten the burdens borne by women of pain and superstition.[21] M. Weiss[22] says that the relation between *menstruation and ovulation* was known to the writers of the Talmud (vide Nida, 8, 1). Contrary to the Mosaic teaching, an intact or an injured hymen was not held as proof of either the chastity or the fall of a virgin; for it appears they recognized that conception was possible without the least injury to the hymen (Nida, 64, 2), while, on the other hand, mention is made of the fact that disease may give rise to destruction or atrophy of the hymen.

In *menorrhagia* astringent injections, such as the juice of strawberries and their leaves, or of plantain, was resorted to, reinforced by the use of pessaries of the leaves of plantain or knot-grass, bruised and rolled in a piece of fine linen, put "up in the womb."

Uterine prolapse was treated by reduction, followed by injections of the decoctions of galls; or, in bad cases, by the use of pessaries made of cork smeared over with wax, or sometimes made of wax alone. Fissured nipples were dressed with an ointment made of powdered elder bark, grease, and wax, i. e., an astringent.

In passing from surgery to medicine, we should note that the most ancient and persistent philosophy of

disease, lasting down to our own times, was that it was due to some evil principle or spirit coming into the body from the outside, and to be fought against and driven out by any means possible and powerful. The germ theory, infection and parasitism, on which our science is now builded, shows how essentially true was the old perception.

For forty years I have been repeatedly struck by the fact that all *animals hate flies* with an intensity not entirely explained by their "suctorial," stinging, or biting powers. Our domestic animals, even our draught animals, expend as much energy in keeping off the pests as they do in our service, or in getting food. Even the most pachydermatous are not exceptions. If we observe an elephant, we are astonished at his constant watchfulness and exertions in keeping off the common flies whose suctorial powers are so feeble as to be entirely out of proportion to the energy spent by the elephant. Might not bacteriology have received a hint here of service in discovering the etiology of disease? Did not Nature long ago thus find out that flies might be the carriers of disease germs? Science is now rapidly advancing toward the same discovery. The entomologist of the United States Agricultural Department, Dr. Howard, after long studies, believes that flies are often the active agents in spreading typhoid fever. The bacillus of Eberth has been found in flies, and if Dr. Howard is right, then the profession must educate the public and nurses, and so order hospital construction and service that flies shall have no access to food.

In the Talmud (Ketuba 77:2) is mentioned a disease, "Rotz," characterized by weeping eyes and a discharge from the nose and mouth (influenza?) said to be communicated from man to man, sometimes by flies! The malady is plainly and unmistakably ascribed to an animal parasite.

In the light of the importance now being attached to flies as the carriers of contagion, much interest attaches to the fact that precautions against breeding grounds for flies about camps are to be found in the Scriptures. That grand old sanitarian, Moses, found it necessary to be most explicit in the management of camps. In Deuteronomy, 23: 12-14, the old version reads: "Thou shalt have a place also, without the camp, whither thou shalt go forth abroad. And thou shalt have a paddle upon the weapon; and it shall be when thou wilt ease thyself abroad, thou shalt dig therewith and cover that which cometh from thee." The new version reads: "Thou shalt have a paddle among thy weapons," and, as a variant for paddle, gives "shovel" in the margin. The passage, therefore, means that a shovel for burying excreta immediately is a necessary implement for the members of every camp.

In a great empire[23] no question can be of more importance than the study of *malaria*. When we speak of one of our possessions as "unhealthy" it is in terms of "malaria" that we judge it. "Of all the diseases in our tropical possessions," says Dr. Willoughby Gardner in his interesting address to the British Medical Association, "by far the most important is malaria. It undermines the health of millions, and makes vast regions which would be otherwise our richest possessions, almost uninhabitable." In India alone, it kills every year some five million people—twice as many as cholera, smallpox, plague, and other infectious diseases put together. Indeed, one is almost tempted to agree with a writer in the Quarterly who says of the malarial germ "that it has played a greater part in human affairs than the greatest politician or general that ever lived." The first step in dealing with it was the discovery by the Romans, in the dawn of sanitation, that marshes and deficient drainage had much to do with its origin.

Herodotus writes (chapters 95-6) that the contrivances which the Egyptians use against the *gnats* wherewith the country (Egyptian marshlands) swarmed are the following: In the parts of Egypt above the marshes the inhabitants pass the night on lofty towers, which are of great service, as the gnats are unable to fly to any great height on account of the winds. In the marsh country, where there are no towers, each man possesses a net instead. By day, it serves him to catch fish, while at night he spreads it over the bed in which he is to rest and, creeping in, goes to sleep underneath.

A correspondent of the *British Medical Journal* (Aug. 30, 1902) writes that in 1864 one of her majesty's sloops anchored off Ajiabambo, in the Gulf of California, "dollar hunting," and sent boats ashore, the crews of which were to proceed a short distance inland to obtain the dollars which, in those days, the Mexican government did not allow to be exported. The medical officer seeing that the country was sandy and covered with brushwood, feared that malarial fever might result with the men so employed, but was assured by a resident that there were no *mosquitoes* and that "where they do not exist there was no chance of malarial fever." The officer reported this to the medical department of the navy, but it attracted no attention.

In the fifth century, B. C., Empedocles of Agrigento is said to have freed Selinante from fever by drainage of the stagnant waters about the city. A number of Roman writers are quoted by Marchiafava and Bignami,[24] showing that marsh lands were injurious to the health of man, because of the miasms, invisible animal and insect life, emanating from them. It was suggested that the mosquito was the origin of malaria as early as 1618. The Abyssinians[25] knew where and in what months malarial diseases are most prevalent and, by acting on this knowledge, they generally succeed in avoiding malaria. When absolutely obliged to cross such places as the valley of the Mareb in the fever season, they continually explode blank cartridges and light damp fires to keep away "the fever." The Chillooks and Bongos of the Upper Nile make great fires of dried cow-dung when their herds come in at night. Thus a cloud of smoke hovers over the village and protects men and beasts from the mosquitoes. The Andaman Islanders plaster their skins with a mixture of lard and clay to protect themselves from the bite of these insects. The scientific demonstrations of the relation between the mosquito and malaria is recent, but the natives of malarial districts suspected it long ago and protected themselves accordingly.

Alexander von Humboldt[26] says some of the Orinoco tribes of natives smear themselves with red paint, "to keep off the mosquitoes, probably."

A traveler through British Honduras relates[27] the following incident:

One trifling incident will cause me to remember the negro colony at Tambol. In the Peten I saw a few cases of the disease called "pinta" which seems to be a dystrophy of the body pigment. It leaves the skin colorless or apparently white in blotches. Face, limbs, and body are liable to attack. Not only is it probably congenital, but it may be acquired by contact. On this particular evening the air was full of mosquitoes, and as we sat in the hut a man covered with the pinta blotches came to the door and would have entered, but the Carib woman drove him away, explaining her conduct by saying: "Signor, it is very bad that the mosquitoes that bite him should bite us. We catch pinta, tombière!" The mosquito is here re-

garded as the disseminator of all manner of diseases, especially the pernicious fever of the tropical coast. So, the science of the natives is not so very far behind the times.

Indeed, the historic foreshadowings of the theory of the microbic origin of disease are too numerous to gather here. But more than to any other we owe to Pasteur the discovery of the microbic origin of contagious diseases—and Pasteur was not a medical man, not even a physiologist; he was simply a chemist. By his researches as to the origin of silk-worm disease, of charbon, or splenic fever, of chicken cholera, etc., he laid the foundations of preventive medicine, a branch of science which is, beyond question, the greatest benefactor of civilization.[28] His work on rabies must also not be forgotten.

The *Quarterly Review* of July, 1899, says that the prohibition of pork among the Israelites and Mohammedans probably arose from the danger of *Tænia solium* and *Trichina spiralis;* and the general use of hot drinks, like tea in China, was probably based on acquaintance with the ill effects that may result from the use of polluted water. . . .

And, as to *immunity,* natural and acquired, there have long been suggestions of the truth in the habits of animals, and in human life everywhere. Old citizens of rattlesnake countries know of dogs which are not only fearless but which find their chief pleasure in hunting these snakes. Having been bitten and escaped death after their first experience, they become thereby immune, and thereafter progressively so with each fight. It is strange no physician ever realized the significance of the fact.

S. Weir Mitchell[29] says that it was an astronomer (Galileo) who gave us the first rude *thermometer,* and it seems to have been another, Herman Kepler, who first, and certainly before 1600, *counted the human pulse,* or, at least, left a record of having done this memorable thing. Does it not, Mitchell asks, seem incredible that of the numberless physicians who sat by bedsides, thoughtful, with fingers laid on that bounding artery, none should have had the idea of counting it?

It is strange that physicians should have waited until 1858 before seeing the use of the thermometer in medicine. In that year Wunderlich first described and urged its use, although the writings of Newton and Franklin show that it had been used long before for ascertaining the temperature of the human body. It was such a curiosity that one, about a foot long, is said to have been exhibited, less than 45 years ago, at a meeting of the British Medical Association by Sir Samuel Wilks, exciting curiosity and levity.

K. N. Macdonald[30] says: "*Inoculation with smallpox virus* has been practised by the Burmese from time immemorial. Among them, smallpox was called the inevitable disease, because of their idea that it is rooted in the human body from the time of birth. The usual procedure in inoculation is to mix the virus with milk and insert it under skin of the arm."

Immerman[31] claims that accounts of the inoculation of human smallpox may be found in the records of the most ancient times. Long before the beginning of our chronology, variola was purposely inoculated as a prophylactic measure in Hindoostan and China. In the latter country, the method never progressed beyond clothing the individual to be inoculated in a shirt impregnated with variolous pus or stuffing dried smallpox crusts into their noses. These measures frequently failed and they still more frequently led to violent variola. It is probably true, however, that in China the method never progressed further than this. In Hindoostan, on the other hand, the priests traversed the country in the spring of every year, and the virus was introduced by means of scarifications made on the outer surface of the arm or forearm, 15 or 16 in number, one-half inch long, and parallel. This area was then covered with a compress of cotton wool impregnated with the virus and moistened with the water of the Ganges. In addition to Hindoostan and China, with their primitive methods, it has been established that prophylactic inoculation was practiced by the inhabitants of Barbary and Senegal in Africa, and by the Circassians and Georgians in Asia before it crossed the Bosphorus.

Immerman[32] says that the fact that the so-called *vaccinia* (cowpox) was capable of transmission to the human individual has been known for an indeterminate period of time. Long before the days of Jenner it had been observed that individuals who had never had smallpox, but who had accidentally been infected with cowpox, remained immune when subsequently exposed to variola. Alexander von Humboldt, for example, says that since the earliest recollection of man, certain tribes of Indian shepherds in the Mexican Corderillas had been thoroughly convinced of the protective effect of vaccinia against variola. Brun makes a similar statement in reference to the clan of Elihats in Beluchistan. The belief in the immunizing effect of cowpox was also prevalent among the country and dairy folk of Europe and thoroughly rooted in certain parts. The tradition brought, by a dairy maid, under Jenner's notice, was widely spread in all the dairy districts of England and Ireland; it was prevalent in as many as 18 English countries.[33] Benjamin Jesty, a farmer of Dorsetshire, England, was probably the first person in Europe to *vaccinate with bovine virus for prophylactic purposes.*

The material relating to Jesty has been set forth by Crookshank in his work on the "History and Pathology of Vaccination," and it has been summarized by Dr. McCrae in the *Johns Hopkins Bulletin* for February, 1900, his article being illustrated by Say's engraving of Sharp's painting.

Benjamin Jesty[34] was born at Yetminster in Dorset, and was a farmer who moved to the farm of Downshay in the Isle of Purbeck, near Swanage, in Dorsetshire. He appears to have been an eccentric man, full of quaint actions and speech, but with good power of observation and of sensible reflection on what he had observed. In 1774 smallpox was prevalent in his locality. He was thought to be in no danger of it himself, as he had already acquired cow-pox, which he had contracted accidentally from the cows. Some of his famly were not so protected, and the fact that two of his maidservants, who had previously had the disorder from the cows, attended patients suffering from smallpox without infection, seems to have determined Jesty to inoculate the cow-pox into his own family as a preventive of smallpox. Accordingly, Jesty carried out his ideas and inoculated his wife and two sons, aged 2 and 3 years, with the cow-pox. The patients went into the fields and the virus was taken on the spot from the teats of the cows. A stocking-needle was the instrument used, Mrs. Jesty being inoculated under the elbow, the sons above. The latter had the disorder in a favorable way, but in the course of a week Mrs. Jesty's arm was much inflamed. She had fever, and was so ill that a neighboring surgeon, Mr. Trowbridge, of Cerne, was called. He said: "You have done a bold thing, but I will get you through it if I can." She soon recovered perfectly, but the boldness and novelty of the attempt produced no slight alarm in the family and no small sensation in the neighborhood. Fifteen years later, in 1789, the sons were inoculated for the smallpox by Mr. Trowbridge along with others who had not had the cow-pox. The arms of the Jestys inflamed, but the inflammation soon subsided, and no fever or other variolous

symptoms were observed, while the unprotected individuals went through the usual course of inoculated smallpox. Subsequently Mrs. Jesty and her sons were often exposed to smallpox without taking it, while in 1805 one of the sons was again inoculated with a negative result. In 1805 the Jennerian Society persuaded Jesty to come to London for five days for the purpose "of taking your portrait as the earliest inoculator for cow-pock, at the expense of the institution; you will receive fifteen guineas for your expenses." He came and his portrait was duly taken, but he conceived a very unfavorable opinion of the metropolis, though he admitted it possessed one great merit, namely, that he could be shaved every day. He died April 16, 1816, at the age of 79, and he is buried in the little village churchyard at Worth Maetravers.

I can not forbear admitting that this magnificent act of Jesty has never been rated at its true value. That Jesty was a layman does not detract from the honor that is his due, but, to my mind, adds to it. Neither Jesty nor Jenner discovered the fact of immunity from vaccinia, and neither could explain it. That Jenner waited 25 or 30 years after the dairy folk had found the truth, and 22 years after Jesty vaccinated his family, before he vaccinated the Phipps boy, is not a reason for making Jenner the discoverer of vaccination. That honor seems to me to be due to Benjamin Jesty.

It appears[35] that the Chinese have long observed the association between the death of *rats* in the house and the appearance of a case of *plague* a few days later in the family living there. J. Campbell Gibson[36] directs attention to the fact that the disease which preyed on the Philistines, described in Samuel I, chapter v, vi, was bubonic plague, and that they recognized the dependence of the spread of this disease on rats (or mice as the text has it); the Philistines (who thought to appease Jehovah by sending back his ark) sent, at the same time, as guilt offerings, golden images of the tumors, the chief symptoms of the disease in those cases which were not fatal, along with golden images of mice. The importance they attached to this relation is plainly shown by referring to the Septuagint, wherein the tumors are spoken of as "plague boils," and it goes on to say "in the midst of the land thereof, mice were brought forth, and there was a great and deadly destruction in the city." The description of the disease is quite clearly that of bubonic plague; the recognition that mice were responsible is very interesting.

"Among the means of protection possessed by the living organism against infectious diseases and toxic agencies, laboratory investigation has placed the *bile;* but, as is true of so many other facts in medicine, empiric knowledge anticipated scientific discovery.[37]

It appears also that, from time immemorial, the peasants of central France have been in the habit of using the gall bladder as a remedy for viper bites. They seem to have anticipated the interesting and valuable experiment of Phisalix, Neufeld and Valée and others concerning the antitoxic properties of the hepatic substances. In the *Revue Scientifique* (Feb. 23, 1901) a correspondent adds this statement: "The natives of Bengal are not alone in knowing the antitoxic power of the liver and in employing it therapeutically. Although Professor Frazer of Edinburgh first showed by scientific experiment that the bile of the serpent is an antidote against the venom of that creature, the natives of Guiana[38] have, for years and years, treated poisonous bites with a powder composed of the liver and bile of the serpent. Moreover, in California, the Indians do the same thing.[39] And at our watering places to-day[40] one may see fishermen treat stings and pricks with a plaster of fish liver. It is interesting that such practices, scattered here and there, all over the globe, among the most diverse peoples, are not at all so irrational as might at first sight be thought. They are justified by the brilliant studies of Frazer on the action of the bile against venom, by those of Frantzius on the action of bile against the virus of rabies, and by those of Vicenzi on the action of bile against the virus of tetanus.

In *materia medica and therapeutics* our modern knowledge and methods of treatment are often accretions of the ages, and sometimes precisely those of the earliest times.

R. H. True[41] says that less than two dozen of the botanic drugs now in use, have been introduced during the century just closed. He defines "materia medica as that body of substances which, in the popular belief, possess efficacy as remedies, although no confirmation has been offered by science. Indeed, science has often merely put its official stamp on folk beliefs in producing our present materia medica." "The beginnings of our present materia medica antedate the most ancient papyrus or inscription. It seems to have had its beginning in Egypt, Phoenicia or India. There is even a hint of our modern hemotherapy, as arterial blood, dried and powdered, is sometimes used as a restorative."

The Talmud "pharmacopeia"[42] shows that there were used infusions, decoctions, draughts, wines, vinegars, syrups, liniments, cataplasms, blisters, ointments, electuaries, plasters, powders; also cathartics, emetics, tonics, sudorifics, expectorants, abortives, hemostatics, astringents, poultices. The following substances also receive individual mention: Wine, vinegar, honey, whey, cotton seed, walnut and olive oil, garlic, mustard, pepper, coriander, ginger; also ox-gall, calamus, aloes, myrrh, mint, cotton-plant, hyssop, thyme, broomtop, poppy, acacia, mandragora, mandrake, mush, mercury, soda, borax, alum, iron, copper, lead and yellow arsenic.

S. S. Cohen[43] observes that the use of *Passiflora incarnata* is not original with the medical profession, and goes on to say that Benjamin Rush told his students that they could learn many useful methods of treatment even from "quacks and old women." There is much that may be learned of drug-therapy from irregular practitioners whose crude reports of uncritical observations frequently contain accounts evidently truthful of trustworthy experience.

The use of *light as a curative agent* is said to have been discovered by accident and by laymen. In a communication to the Academie des Sciences, Dr. P. Garnault tells of his success in the use of light in the treatment of rheumatism and other diseases. His attention was first drawn to the subject by M. Trouve, who observed that a workman afflicted by rheumatism was completely cured by remaining in the vicinity of an intense arc-light used for an electric fountain, and, subsequently, that in works employing electric soldering, in which there is a great effulgence of light, workmen had ceased to be affected by such diseases as rheumatism and gout.

Another version is given by *The Practitioner* as to the light treatment of lupus:

Four or five years ago (so runs the story) a watchmaker of Berlin was the subject of lupus of the face, for which he had been treated in the clinic of Professor von Leyden at the Charité Hospital. As the condition did not improve, the patient left the hospital and resumed work. He was in the habit of using lenses of high power. One day, whilst examining the inside of a watch, he was standing close to the window. The rays of the sun passed through the lens, the focus of which happened to be on a part of the man's face affected by the

disease. He felt a sharp pain, and on looking into a glass he saw that the burnt spot had become white. He repeated the experiment on the following days, keeping the lens sometimes for hours between the sun and the ulcerated places. In six weeks cicatrization had taken place, and the patient went to show himself to Professor von Leyden, who had declared that the disease was incurable.

"It is a fact that some of the greatest advances in medical treatment have been due to outsiders. But even if it be true that the watchmaker did discover for himself that lupus could be burnt with a lens, the fact can not detract in the least from the merit of Professor Finsen's achievement in working out the rationale of the process and the details of the method. The account of his experiments, given in his little book on 'Phototherapy,' which has been translated into English by Dr. Sequeria, of the London Hospital, is an admirable example of scientific method."

The writers of the Talmud[44] understood *massage with oil inunctions; diaphoresis* by means of warm baths; and, most noteworthy, *venesection* for plethora and quinsy! (See Joma, 84, 1.) The *therapy of water* was also crudely understood (Sabb. 78, 1). Even *hypnotism* was resorted to, but without any appreciation of its real nature. By laying on of hands, hysterics were cured of blindness, paralysis, hysteromania, and catalepsy (Joma 84, 1).

The routine treatment, says Anders, of *intermittent and remittent fevers* by the Winnebago and Dakota Indians is an emetic or cathartic, followed by a vapor bath in the sweat house and then a cold plunge. The after-treatment consists in a tonic made by decoction of the willow. In *rheumatism* they rely almost wholly on the vapor bath, also the black cohosh (*cimicifuga*) in decoction, treatment hard to improve on to-day.

For *mucous enteritis* and *dysentery* they rely entirely on decoction of buttonwood bark (or American sycamore), which Anders says is singularly effective in their hand. They also use *Geranium maculatum* (cranesbill) successfully in *diarrhea*.

H. M. McClanahan,[45] who lived among the Gros Ventres and Assiniboine Indians, says they have learned by observation that it is necessary that the skin, bowels and kidneys should perform their several duties. They induce perspiration most effectually by means of their sweat houses. These are about 4 feet high, 8 feet in diameter, and sunk one foot below the level of the ground. In the center of the dug-out, which is covered almost air-tight with blankets, are placed very hot stones, over which hot water is poured, and the occupants of the bath thus get a steam bath. (Observe how the Turkish bath is foreshadowed.) Then, unless it be freezing weather, the bathers go from the bath to the river and plunge in. To produce catharsis, they sometimes resort to abdominal kneading to excite peristalsis as we do to-day. In suppression of urine, small heated stones are placed under the patient's back, failing in which the steam bath is resorted to. Recognizing that an unarrested hemorrhage means death, they use compression and spider's web, the latter to favor clotting of the blood.

R. H. True[46] says that in the seventeenth century, the wife of the governor of one of the Spanish colonies (Peru), west of the Andes was attacked by malarial fever, and seemed likely to die. The natives gave to a Jesuit missionary, who worked among them, bark from a certain small tree, telling him to grind it up and give it to the countess at regular intervals. She recovered and, being of a philanthropic disposition, obtained a quantity of the powdered bark and sent it to Europe for use among the poor. In due time, the trees and plants were botanically investigated and named by Linnaeus, in honor of the house to which the countess belonged, "Cinchona."

The Aconitum[47] of the Greeks and Romans refers in all probability to the *Aconitum napellus*. The ancients were well aware of the poisonous properties of the aconites. It was used by the ancient Chinese[48] as an arrow poison, and is still in requisition among the less civilized of the hill tribes of India. Something of the kind was in vogue among the aborigines of ancient Gaul.[49] "The use of *buchu leaves*[50] was learned from the Hottentots by the colonists of the Cape of Good Hope." At a very ancient date *camphor* seems to have been a well-known medicine among the Chinese, and *menthol* among the Japanese.

Coca leaves[51] were cultivated by the Incas prior to the Spanish invasion for use on long journeys, to ward off fatigue. This fact drew the notice of Europeans and the discovery of coca and cocain resulted. W. G. Mortimer[52] states that there is a custom among the Peruvian natives of opening old graves for the purpose of recovering sacred relics. When these old graves are opened, although there is no apparent odor, those who explore them are very apt to get a sore throat from inhaling the vapors or impalpable powder into which the bodies fall as they are exposed to the air. It has long been a custom to fortify against this condition by the use of coca, thus illustrating the intuitive adaptation of a native remedy empirically which it has required long years of study to apply since in a scientific way in the treatment of throat troubles.

Zelia Nuttall[53] takes the following from an unpublished manuscript in the Royal Library at Madrid on the customs of the ancient Mexicans: "Inflammation of the gums is cured by lancing them with an obsidian knife and rubbing in a little salt with the finger. Or heat a red pepper or capsicum and press it along with a grain of salt as tightly as possible on the painful spot. If these remedies do not suffice, draw the tooth and put a little salt into the hollow place." It is certainly interesting to find, in ancient Mexico, the employment of the modern *capsicum* toothache plaster, and to realize that centuries of experience had taught the natives the value of capsicum as a counter-irritant and of salt as an antiseptic.

There is no doubt that the use of *collodion* as a flexible antiseptic dressing is foreshadowed in the way these same Mexicans burned wounds (cauterized them) and then covered them with the melted juice of the *ulli plant*—the india rubber plant. All this was prior to the Spanish Conquest.

Curare, under the various names of curara, woorara, wourali, etc., was used by the natives of Demarara and the valley of the Amazon to poison their arrows. T. L. Brunton[54] says that an animal wounded with one of these arrows soon lags behind the rest of the herd, and quietly dies without any sign of suffering, appears, indeed, to go quietly to sleep. After the animal was apparently dead, however, it was found by Europeans whose notice was drawn to the subject that the heart could be felt beating vigorously for a considerable time, and if an artery were cut across the blood was ejected forcibly from it. It therefore occurred to Sir B. Brodie in 1812 that if he could keep up the respiration until the poison was eliminated the animal could be saved. This was done, and a most valuable agent for physiologic experiment discovered.

The forerunner of *tannic and gallic acid* as applied to hemorrhages may be found, according to Dr. D. Mitchell,[55] in the use made of the decoction of oak-tree leaves in hemoptysis.

Jaborandi leaves,[56] collected in the Amazon Valley, first attracted the attention of explorers by its use in the hands of natives as a remedy for snake bite.

The *Kola nut* is made of much use by the African natives, who attribute to it divers medical properties. For instance, the nuts are used for their stimulant sialagogue and stomachic properties. The Africans[57] chew them, much as the Brazilians do coca, and ascribe to them quite as marvelous effects. These latter are found to be almost wholly due to the caffein which is present in the proportion of about 2 per cent.

A decoction of willow bark[58] was used by the American Apache Indians for intermittent fever. Our *salicin* is derived from this source to-day.

Strophanthus,[59] a remedy now widely used for heart troubles, was first brought to the notice of explorers of equatorial Africa as a very deadly arrow poison, so deadly as to paralyze the heart by means of the smallest wounds.

A. J. Currie says that Pliny (xxiv 9) gives numerous instances of the use of herbs by the ancient Celts,[60] e. g., hyssop for diseases of the eye. Broom-top, juniper and foxglove have long been known as remedies for dropsy, and, in suitable cases, with good results. For the cure of "white lights," an old Scottish name for pulmonary tuberculosis, nourishing food and fat substances were found to be of great vaue. *Oil from the blubber of the seal* was recommended.

About the time of Herodotus[61] the acquaintance of the lay people with simples appears to have been considerable; for example, the diuretic powers of *squill* in hydropsic complaints and the effects of the salts of *iron* on disorders arising from a want of proper tone in the system.

Dr. Justus Sinexon of Philadelphia (personal communication) in the forest of northwestern Maryland observed the guides eating *May apple* and chewing with it birch leaves to prevent griping. Dr. E. W. Kelsey of Philadelphia (personal communication) during his stay in the Klondike, found that the Alaskan natives used a decoction of *green fir boughs* as a remedy for scurvy.

In many instances the extraction of the essential principle of the plant which was first discovered by the non-medical was made by chemists who were not physicians, and who derived their zeal for research from pure science rather than from therapeutics. This is especially true of the alkaloids, among which are atropin, brucin, cathartin, cinchonin, cystisin, delphin, digitalin, emetin, gentianin, lupulin, morphin, narcotin, picrotoxin, piperin, rhubarbarin, scillitin, solanin, strychnin, veratrin.[62]

E. T. Williams[63] states that, so far as we know, Moses was the creator of preventive medicine, an idea thought to be peculiarly modern. From whatever source the fragments of his system may have been derived the system was his own and that of the Powers which guided him. The notion of promoting health by preventing sickness was the foundation stone of the Jewish sanitary legislation. The prohibition against pork, considering the heat of the climate and its liability to be diseased, must be considered as a safe provision, especially in the light of present-day histology and trichinosis. The laws concerning "issues" or discharges from the genital organs, both of men and women, display similar wisdom. The laws concerning leprosy were strict. Every suspect had to present himself to the priest. If the diagnosis was doubtful, he was shut up for a week or two and then re-examined. Articles of clothing worn by lepers had also to be submitted. If found diseased they were burned. If doubtful they were washed and re-examined at the end of a week, when they were either burned or pronounced clean. When the walls of a house were attacked the affected parts had to be torn down and carried to a refuse heap outside the city. The remainder of the wall was thoroughly scraped, the scrapings themselves being carried out of the city and the broken places rebuilt with fresh materials. If these means proved insufficient the whole house was demolished and the debris removed from the town. Modern science may have discovered simpler methods of disinfection, but certainly nothing more thorough or effective. The object of circumcision is nowhere stated in the Bible. It probably does good by (1) reducing liability to venereal diseases; (2) as a preventive of masturbation; (3) by preventing phimosis and paraphimosis, and (4) it probably promotes continence by diminishing the pruriency of the sexual appetite.

Medicine, W. C. Bitting[64] says, never was a science among the Hebrews. Before the Exodus the hints of medicine are very scarce. For 430 years, however, the Hebrews were in bondage to the most enlightened people of the world. Herodotus (ii, 84) says of the Egyptian physician: "The medical practice was divided among them as follows: each physician was for one kind of sickness and no more; and all places are crowded with physicians, for there are physicians for the eyes, physicians for the head, physicians for the teeth, physicians for the stomach, physicians for internal diseases." Obstetrics among the early Hebrews was left entirely to the midwives (Genesis xxxv, 17). Ophthalmia with resulting blindness was not uncommon (Lev. xix, 4—Deut. xxvii, 18); leprosy was known in all its forms (Lev. xiv, 3—xxvii, 4—Numb. xii, 10, etc.); apoplexy cut down its victims (I Saml. xxv, 37); consumption thrust its ghastly symptoms into family life (Lev. xxvi, 16—Deut. xxviii, 22—Is. x, 16); rheumatism and gout twisted the joints of high livers and perplexed men as much then as to-day (II Chron. xvi, 12—Jno. v, 2, 3); epilepsy threw men into foaming fits (M. R. xix, 17—Luke ix, 38); atrophy of limb produced deformity (I Kings xiii, 4-6—Matthew xii, 10-13). In the matter of treatment, the materia medica was scanty. Balsam (Jer. viii, 22—xlvi, 11) was a favorite drug for external application, probably effective because it was a terebinthinate and therefore antiseptic. Wine because of its alcohol was also an antiseptic.

Purging was in vogue (Prov. xx, 30). Music was used to quiet Saul in his spells of acute mania (Sam. xvi, 16), which is quite in advance of many of our methods of to-day.

Moses[65] seems to have had great knowledge of medicine. In the book of Leviticus (xiii, 3-20) we find his three cardinal principles which to-day are utilized in the management of contagious diseases, namely, differentiation, isolation and disinfection. In Leviticus iv to xxvi one can not but be struck with the directions for preserving individual and public health; the selection of portions of creatures for sacrifice and rejection of those parts of the economy whose functions are the removal of impurities or excretions; the disposal of filth in such manner that it might contaminate neither air nor water; the disposal of the dead; disinfection and purification of clothing and dwellings, and the laws of quarantine.

In hygiene, says Bitting,[66] the Mosaic medicine is supreme. The priests were skilled in preventive medicine.

It was their duty to inspect and enforce sanitary arrangements. The history of the Hebrew race is singularly free from epidemics. Diet was carefully regulated. Pork was forbidden. To eat blood was a crime. Everything had to be washed before being cooked (Mark vii, 4—Lev. i, 9). Bathing was compulsory on those who had touched a leper, or those with any issue or flux (gonorrhea) or who touched anything that the diseased had touched (Lev. xv, 1-13), all men and women after copulation, women after menstruation—indeed, they ought to have been the cleanest people on earth. No doubt their freedom from venereal disease was due to these precautions added to the cardinal one of circumcision.

The sick were isolated as far as possible (Lev. xiv, 33-45). The lepers were kept outside camps and cities and away from the highways (Lev. xiii, 45, 46); the house in which leprosy originated was entirely demolished (Lev. xiv, 33-45); a little loss of real estate was cheerfully suffered rather than endanger the public health.

The camp sanitary regulations were the very best. Every man was his own scavenger. All refuse from the slaughter of animals was burned outside the camp (Ex. xxix, 14—Lev. iv, 11—viii, 17). Even the very spoils of war as well as the soldiers were to be disinfected before entering the camp after battle (Numbers xxxi, 21-24). What was not inflammable must be bathed in fire to cleanse it and everything else had to be washed in water.

From the Mishna (or Jewish traditions)[67] we learn how carefully all unclean things were removed from the vicinity of Jerusalem and the temple; and the investigations of Signor Perotti in that ancient city have revealed how complete were the systems of sewers and the means of sewage precipitation and disposal.

The Egyptians, says Herodotus (Vol. ii, Chap. 42), were particular in preventing anything remaining above ground which by putrefaction could taint the air; and this was the reason of their obliging every town to embalm whatever died there. . . . . To pollute the Nile with dead carcasses would have been in the highest degree inconsistent in a people so particular on this point. The Persians, Herodotus tells us (Vol. i, Chapter 139), never defile a river with the excretions of their bodies, nor even wash their hands in one; nor will they allow others to do so, as they have great reverence for rivers.

Herodotus tells us (Chapter 188, Vol. 1):

> The great king, Cyrus, when he goes to the wars is always supplied with provisions carefully prepared at home; and with cattle of his own. Water, too, from the river Choaspes (the modern River Kerkhah) is taken with him for drink. Wherever he travels he is attended by a large number of 4-wheeled cars, drawn by mules, in which the Choaspes water, *ready boiled for use and stored in flagons of silver* is moved with him from place to place.

The Greeks were evidently familiar with the purifying nature of *sulphur,* for Homer makes Ulysses say:[68] "Bring me, old woman, sulfur—the remedy for impurities—and bring me fire that I may fumigate the palace."

From all of these instances, and more that might easily be added, it would at first seem as if the discovery of new medical truth were almost hopeless. So much of our new knowledge is old, so much not true, that the common practitioner feels discouraged in any attempt to make additions to the existing body of truth. But to me, the lessons of these things cited are most encouraging, and should inspire the simplest mind with hope.

1. The plainest moral to be deduced is that a large deal of the ancient wisdom is really wisdom. It has been an egotistic habit to republish the nonsense and quackeries and superstitions of medical history as conceited proofs of how superior we are to our forbears. This was as foolish as it was untrue. We are not so mightily superior as we think. When we are really so we shall not boast nearly so much. Neither have we by any means learned all that the ancients and barbarians have to teach us. Modern armies and cities could still learn a great deal from Moses, one of the greatest men, and certainly the very greatest sanitarian of all history. And just at the present time one can not help feeling that the old, unused truth is often of more importance than the new one. The death rate is twice as high as it would be if we should give society the benefit of the medical truths discovered long ago, but which in our rage and race for new discoveries we have disregarded. We most urgently need the rediscovery and the practical use of the old truths. My own specialty, ophthalmology, has literally gone to seed, especially in the old countries; and there is no new discovery in any department of medicine of late years that will to a small degree lessen human suffering as would a rediscovery of astigmatism and a practical utilization of its relief.

2. It is remarkable that savages and barbarians have learned so many great medical truths and are so successful in the treatment of their diseases. With all their neglect, superstition, ignorance and crudity they have managed to get hold of many important verities, especially in things that do not appear on the surface of their lives, and are not observed by the superficial traveler. If our explorers were only medical men, or even if they were alive to the great need of accuracy and thoroughness in reporting facts of medical and hygienic value, we would learn much more than we have from them.

3. We are also incited by our illustrations to a more keen observation of the common people about us, even of old women and quacks. Even these have their uses, and are not altogether without perception of medical facts. No less a person than Professor James of Harvard College (and he was educated as a physician) opposed the passage of a medical practice act in Massachusetts, because he thought it might prevent the discovery of new medical truths by the people. I think he was ludicrously stupid, but he does not think so. There is nowadays little danger of the loss of new truth by the elevation of the educational standards of the medical profession. Genuine education teaches us that undiscovered truth lies all about us, and that the lowliest may not be scorned. Every eager and genuine student must necessarily be a discoverer. No disease has been exhausted. It still has secrets, and we should not fear the silly sneers of the over-self-satisfied, who rail at empiricism, for empiricism has given us our most valuable discoveries in medicine.

4. And the method by which we are able to make these discoveries is by careful and accurate observation. We must, in a way, exemplify in medicine the method of Sherlock Holmes, or better, of Zadig, as deduced from Voltaire's story by Huxley. We are prone to leave this method to the professional scientists and discoverers—and even, alas, to the quacks and scamps.

The striking lesson also appears that only by the unifying and systematizing power of modern science do the single and scattered discoveries of the world become of use to all. In all the instances cited it will be noted that prior to the rise of modern science no one people had

the benefits of the discoveries made by others. Each was held in the bondage of medical barbarism, because whatever single or discrete truths were known the great mass of truths were not known, and so there was no grand or general progress. By taking all that was good in all parts of the world and systematizing them to a common beneficence our science has at a stroke already largely lifted the world out of its course of disease and is every day lowering the death rate, which is, as it were, the thermometer of social welfare, more and more rapidly.

"One of the greatest losses in medicine," says T. Lauder Brunton,[69] "is the loss of individual experience. Men, most able and successful in the practice of their profession, die and carry their knowledge away with them. Some men record the cases they have seen, but comparatively few are able to record their experience in such a way as to make it thoroughly available for others. Science takes each contribution and 'gives it to all.'" An admirable example, further continues Brunton, of the application to medicine of the method of "tracking" (method of Zadig) used to be told by Dr. Milner Fothergill:

A surgeon, Mr. X., wishing to see the working methods of a celebrated quack, desired of the latter to be present some day at his office. The quack, much flattered that so great a man should patronize him, readily acceded to his request. Shortly after Mr. X. had taken his seat, a woman came in with a bottle of urine which she handed the quack. He looked at her, then at the bottle, held it up between him and the light, shook it and said: "Your husband's?" "Yes, sir." "He is a good deal older than you." "Yes, sir." "He is a tailor." "Yes, sir." "He lives at Scarcroft." "Yes, sir." "His bowels are obstinate." "Yes, sir." "Here," handing her a box of pills, "tell him to take one of these every night for a week, and a big drink of cold water every morning, and he will soon be all right."

No sooner had the woman gone out, than Mr. X. turned to the quack, curious to know how he had made out all this. "Well, you see, she was a *young* woman, and looked well and strong; so I guessed the water was not hers. As I saw she had a wedding ring on her finger, I knew she was married, and I thought the chances were it was her husband's water. If he had been the same age as she was, it was hardly likely he would have any illness, so I guessed he was older. I knew he was a tailor because the bottle was not stopped with a cork but with a bit of paper rolled up and tied around with thread in a way no one but a tailor could have done it. Tailors get no exercise, and are therefore apt to be constipated. I was quite sure he would be no exception to the rule, so I gave him 'opening pills.'" "But how did you know she came from Scarcroft?" "Oh, Mr. X., have you lived so long in Leeds, and don't know the color of Scarcroft clay? It was the first thing I saw on her boots when she came in!"

5. And it is not only the intellectual, the learned, the laboratory worker who can discover the new or rediscover the old. There is even more chance for the busy daily practitioner if he will only keep his eyes wide open and not be swayed by custom and fashion from seeing the hitherto neglected, and from ferreting out its ignored or unsuspected significance. The method of Zadig is at the disposal of the plainest country physician. He sees or may see the facts at first hand which the laboratory physician too often is prevented from actually seeing at all. And there is a perfect reason why to the end of time the individual discoverer can never have his opportunity taken from him. It is because every organism, every patient, differs from every other in the world. The protoplasm of everyone's body differs in chemical construction from that of every other. Each master's footstep is known by his dog, its scent being different from that of every other footstep in the world. Albumin has never been correctly analyzed, never analyzed twice alike. Each patient's disease is therefore peculiar and individual. Our large classes of disease are only rough generalizations, as each nation and race will have its typical protoplasm; thus all true discoveries and treatments must be individual, and the *science* of medicine can never conquer or render negligible the *art* of medicine. When our therapeutics becomes absolute and certain each patient must be treated differently. All the general truths and theory can never discover all the truth of the individual case.

6. And not only may we in our pride unsafely ignore the lay-world, far removed in time, space or culture; we are just as wrong-headed if we think there is not a subtle and even splendid medical wisdom in physiology and pathology, in the mechanism's adaptations, the healing powers and the teleologies of the tissues and organs of all living bodies. The number of articles of our materia medica derived from the animal body is so great that I can not even enumerate them here. Much of modern medical laboratory science is an attempt to rediscover the methods Nature has taken to prevent or cure disease by secretions and devices whose intricacy and ingenuity astonish us. The advance of serum therapeutics and the use of the extracts of the ductless glands are instances.

Immunity, as we have seen, is a device of Nature. We are really only now relearning its laws and taking advantage of them. Disease in the making is often discoverable in the study of habits, for we know, although we are too prone to forget it, that function always precedes structure, and that therefore malfunction always precedes organic disease. It is a truism that every device of civilization has been previously invented and used by what in our materialistic day we are foolishly likely to call "unconscious" nature.

Viewed simply as a machine for the utilization of force, every animal body is vastly superior to man's most perfect engine. In the steam boiler and engine from one-quarter to three-quarters of the heat is wasted, and in our fireplaces and stoves about 90 per cent. In our lamps but a small fraction of the energy goes to the making of light. If we could make light as inexpensively as the glow-worm and fire-fly! If our electric machines were one-tenth as perfect as that of the electric eel!

And if this is true to the physicist, how much truer is it to the physiologist, the physician and the pathologist! The Deity of biology and of therapeutics long ago discovered the methods of cure and of the prevention of disease which we are slow in working out with our most advanced science. He calls each of us to be His co-worker!

BIBLIOGRAPHY.

1. See e. g., an abstract in the Literary Digest, May 16, 1901.
2. Denver Medical Times.
3. Ledger Monthly, 1902.
4. Magnus: Die Augenheilkunder der Alten, p. 396.
5. The Reference Hand-Book of the Medical Sciences, vol. vi, 1888.
6. According to the British Medical Journal of March 30, 1901.
7. "Outlines of the History of Medicine and the Medical Profession," by Joh. Hermann Baas, M.D., 1889, p. 403.
8. Lancet, vol. i, 1892.
9. Medical and Surgical Reporter, Feb. 22, 1879.
10. Medical and Surgical Reporter, April 23, 1881.
11. The Northwestern Lancet, 1897.
12. Le Progres Medicale, 1895.
13. The Lancet, 1879, vol. i, p. 650.
14. The Memoirs of Captain Creighton, Nimmo's Edition, p. 563.
15. Chirurgie Antique, Le Speculum de la Matrice, etc., Dr. V. Deneffe. Antwerp, H. Caals, 1902. Reviewed in Lancet, Nov. 8, 1902.
16. New York Medical Journal, Aug. 3, 1901.
17. THE JOURNAL A. M. A., 1883.
18. The Asclepiad, 1888, p. 176.
19. Arch. f. Schiffs. u. Tropen Hygiene, vol. xii.
20. Lancet, 1892.

21. Mitchell: Glasgow Medical Journal, vol. xliv.
22. Wiener med. Presse, 1898. p. 1477.
23. Says the Spectator of Feb. 9, 1901.
24. Article on Malaria, Twentieth Century Practice of Medicine.
25. The Quarterly Review, July, 1809.
26. Travels in the Equinoctial Regions of South America, vol. ii, p. 205.
27. In the New York Evening Post for Sept. 6. 1901.
28. There was a play published in 1768, called "The Devil on Two Sticks," by Samuel Foote. In it the President of the College of Physicians is represented as delivering a lecture. He says:
"Brethren and Students—I am going to open to you some notable discoveries I have made respecting the source or primary cause of all distempers incidental to the human machine; and these, brethren, I attribute to certain animalcule, or piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid sport, toss, and tumble about like mackerel or codfish in the great deep; and to convince you that this is not a mere *gratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope! . . . Take a peep. . . . Those two yellow drops were drawn from a subject afflicted with the jaundice— What d'ye see?
Last.—Some little creatures like yellow flies that are hopping and skipping about.
Hcl.—Right. Those yellow flies give the tinge to the skin, and undoubtedly cause the disease; and now for the cure! I administer to every patient the two-and-fiftieth part of a scruple of the ovaria or eggs of the spider; these are thrown by the digestive powers into the secretory, there separated from the alimentary, and then precipitated into the circulatory, where finding a proper nidus or nest, they quit their torpid state and vivify, and upon vivification, discerning the flies, their natural food, they immediately fall foul of them, extirpate the race out of the blood, and restore the patient to health.
29. Transac. Congress Amer. Phys. and Surg., 1891, vol. ii.
30. The Practice of Medicine Among the Burmese. Edinburgh, 1879.
31. Chapter on Inoculation, Nothnagel's Encyclopedia of Practice of Medicine, American Edition, 1902, vol. ii.
32. Nothnagel's Encyclopedia of Practical Medicine, American Edition. vol. ii, 1902.
33. Edinburgh Review, 1899. p. 345.
34. Says the British Medical Journal of Dec. 14, 1901.
35. Editorial in American Medicine, July 27, 1901.
36. Exposition Times, quoted in above editorial.
37. The following letter of a traveler in Bengal (Revue Scientifique, February, 1901, reprinted from Gazette hebdomadaire de Med.) is of interest. He says: "Three months ago a mad dog bit six or seven men, among them two of my bearers, wounding them badly. I at once had some iron heated white hot to cauterize the wounds. But the natives looked on laughingly. 'El Sahib' said they, 'it's nothing at all; we have an excellent remedy; you shall see.' The dog ran again. One of the men seized a stick and killed him; another ripped open the abdomen, took out the palpitating liver, cut some pieces off and gave them to each of the wounded men, who swallowed them, raw and bloody as they were. 'The danger is over now,' they said. As I was incredulous they brought me a young man on whose legs were large scars. Bitten by a mad dog some five years before, this man had eaten a piece of the animal's liver and had felt no evil effects from his wound.
The case I witnessed happened in March. It is now the 3rd day of July. The wounds have healed and the men continue in good health. The natives even go so far as to maintain that if this remedy be given to a man already stricken with hydrophobia, it will infallibly cure!
38. Revue Scientifique, Feb. 20, 1892.
39. Scientific American, Oct. 7, 1893.
40. Jour. Amer. Folk Lore, July. 1901.
41. Jour. Amer. Folk Lore, April, 1901.
42. G. A. Stockwell: Ther. Gazette, 1887.
43. American Medicine, Sept. 20, 1901.
44. Weiss: Wiener Med. Presse, 1898, p. 1477.
45. Med. and Surg. Reporter, March 26, 1881.
46. Jour. Amer. Folk Lore, April, 1901.
47. Flückiger and Hanbury's Pharmacographia.
48. F. P. Smith: Mat. Med. and Nat. Hist. of China, Shanghai, 1871.
49. Pliny: Llb. xxvii, C 76, also xxv, 25; quoted by Flückiger and Hanbury.
50. Flückiger and Hanbury's Pharmacographia.
51. R. H. True: Jour. Am. Folk Lore, April, 1901.
52. History of Coca. J. H. Vail & Co., N. Y., 1901.
53. Johns Hopkins Bull., April, 1902.
54. Pharmacology and Therapeutics, 1880. Gulstonian Lectures.
55. Glasgow Medical Journal, vol. xliv.
56. R. H. True: Jour. Amer. Folk Lore, April, 1901.
57. L. E. Monnet: Therapeutic Gazette, 1885.
58. Hoffmann: Medical and Surgical Reporter, Feb. 22, 1879.
59. True: Jour. Amer. Folk Lore, April, 1901.
60. The Medical Lore of Celtic Scotland. The American Medical Journal, June, 1896.
61. W. Hamilton: History of Medicine from the Creation to the Nineteenth Century, London, 1831.
62. 1. ATROPIN. Discovered by Brandes, in the *Atropa belladonna*. 2. BRUCIN. Disc. in 1819, by MM. Pelletier and Caventou, in the false angustura, in the state of a gallate. 3. CATHARTIN. Disc. in 1820, by MM. Lassaigne and Feneulle, in the pods and leaves of senna. 4. CINCHONIN. Disc. by Duncan, in cinchona bark. 5. CYSTISIN. Disc. in 1820, by MM. Lassaigne and Chevallier, in the seeds of the *Cystisus laburnum*. 6. DELPHIN. Disc. in 1819, by MM. Lassaigne and Feneulle, in the seeds of staveacre (*delphinium staphysagria*). 7. DIGITALIN. Thoughts of its existence entertained by MM. Lassaigne and Chevallier; actually discovered by M. Le Royer, in 1824, in the leaves of the *Digitalis purpurea*. 8. EMETINE. Disc. in 1817, by MM. Pelletier and Magendie, in the roots of the *Viola emetica, Callicocca ipecacuanha*, and *psycotria emetica*, and by M. Boullay in the violet. 9. GENTIANIN. Found by MM. Henry and Caventou, in the root of gentian. 10. IODE. Disc. in 1813, by Courtois, in the mother waters of soda, as it is obtained from the sea-weed. 11. LUPULIN. By M. Planche, and nearly at the same time by MM. Ives, Payen and Chevallier, in the yellow matter of the flowers of hops. 12. Morphin. Disc. in 1817, by Seturner, in opium, in the state of a meconate. 13. NARCOTIN. Disc. in 1802, constituting one-fiftieth of opium, by M. Derosne, who named it opiane. 14. PICROTOXIN. Disc. by Boullay, in the *Coccus orientalis* (the fruit of the *Menispermum cocculus*). 15. PIPERIN. Disc. by Œrstaed, in black pepper. 16. QUININ. Disc. 1820, by MM. Pelletier and Caventou, in the cinchona. 17. RHUBARBARIN. Disc. by Pfaff, in the rhubarb cultivated in Europe. 18. SCILLITIN. Disc. by Vogel, in the bulbs of the *Scilla maritima*. 19. SOLANIN. Disc. in 1821, by Desfosse in the *Solanum dulcamara* and in the *Bolctus esculentus*. 20. STRYCHNIN. Disc. in 1818, by MM. Pelletier and Caventou, in the *nux vomica* and the bean of St. Ignatius. 21. VERATRIN. Disc. in 1819, by MM. Pelletier and Caventou, in the cevadilla, white hellebore, and in the colchicum.—[From the Lancet, Nov. 15, 1902.]
63. Boston Med. and Surg. Jour., 1882.
64. Trans. New York State Medical Assoc., vol. viii.
65. J. M. Magill: Fort Wayne Medical Journal-Magazine, February, 1898.
66. Transac. New York State Med. Assoc., vol. viii.
67. J. Spear: The Lancet. 1878. vol. ii.
68. Odyssey: Book xxii. 481 and 482.
69. Lancet. Jan. 2, 1892.

THE SINGLE CUFF METHOD OF CIRCULAR ENTERORRHAPHY:

A NEW METHOD.*

O. BEVERLY CAMPBELL, A.M., M.D.
ST. JOSEPH, MO.

A NEW METHOD.

A consideration of the evolution in the methods of circular enterorrhaphy occurring in the past seven centuries, with the use of mechanical devices and sutures, and by the suture methods alone, is indeed interesting.

The goose's trachea of the four masters, wood canula, dried intestine, Scarpa's tallow candles, Watson's gelatin tubes, Chopart and Sabatier's prepared cardboard, later, Senn's bone plates, Paul's bone tube, Ashton's rubber rings, Murphy's button, Jessett's bone tubes, Brokaw's segmented rubber rings, the potato cylinder, the forceps of Laplace and others, the rubber bulbs of Treves, represent the progress in mechanical devices; while the Glover suture and the open treatment of the wound, Jober's method, the Lembert suture, the Czerny-Lembert, the Maunsell method, Chaput's method, the Harris method, Kummer's method and the Connell suture, represent the progress in suture methods.

Considering the multiplicity of methods now in use, by mechanical devices and by suture, leads one to conclude that circular enterorrhaphy is still in an evolutionary state, that an ideal method had not as yet been devised.

Since Richat, Richerand and Treves, in the early part of the nineteenth century, taught that union is more readily obtained between serous surfaces than between mucous surfaces or beween serous and mucous surfaces, nearly all of the methods that have since been originated have adhered to the principle of obtaining union of serosa to serosa. The Lembert suture, placed through serosa, muscularis and submucosa with the knot outside of the lumen of the bowel, is probably the most universally popular method of suturing. Yet it must be admitted that closely placed sutures of this character in pathologic states of the bowel are often defective, because of pressure necrosis. The method is slow of accomplishment, also requiring great skill in placing the sutures through the submucosa without penetrating the mucosa. Should the mucosa be penetrated, a new danger is added, that of capillary oozing. By this method a diaphragm is formed within the lumen of the bowel, lessening to some extent its caliber. All of the methods

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in vogue which adhere to this principle produce a diaphragm within the lumen of the bowel, and some of the late methods have added to the danger of pressure necrosis, and have contributed a new danger in placing a foreign body within the lumen of the bowel, an occasional source of secondary leakage from necrosis, ileus, perforation and peritonitis.

Some of these later methods, however, possess the great merit of being time-saving measures, which must be recognized as extremely important in cases demanding resection of the intestine. Chaput, in 1889, developed an operation termed circular enterorrhaphy by abrasion and application, in which he coapts denuded mucous surfaces, demonstrating that permanent union may be thus obtained. Robinson, in 1891, in a paper entitled "Circular Enterorrhaphy by a New Method," demonstrated union between serosa and denuded mucous membrane. Robinson's method, as well as Chaput's, does not produce a diaphragm within the lumen of the bowel. Harris, in 1892, presented a method involving the same principles as Robinson's method, with, however, an improved technic, in that he does not use a

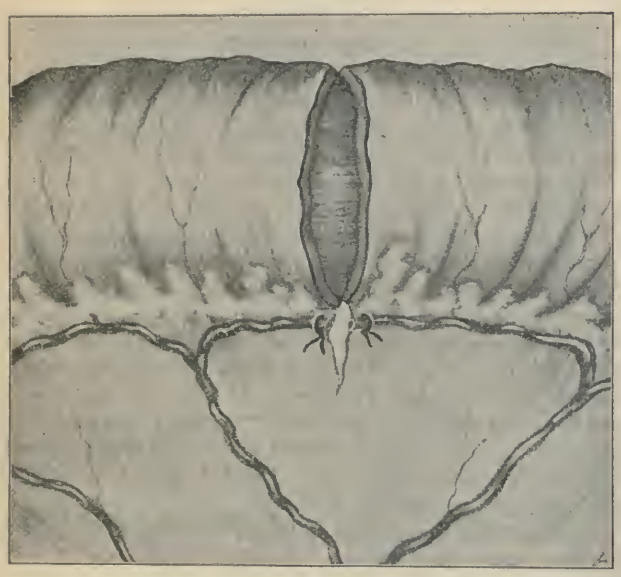


Fig. 1.—The mesenteric arteries are ligated, and a knife is passed through the mesentery and made to encircle the bowel, cutting through serosa and muscularis.

foreign body within the lumen of the bowel. Harris has also, besides extensive experiments on the dog, applied his method to the human intestine, demonstrating sero-fibrinous union. The requirements to be met in an ideal method are:

1. The union of the severed ends of the intestine by a method which provides against immediate and secondary leakage from the intestine.
2. The method must be applicable to pathologic conditions, as well as to the normal intestine.
3. Lessening of the caliber of the bowel at the site of union should be obviated.
4. Rapidity of execution.

I wish to present a method which, in my opinion, meets all of these requirements. The character of union obtained is serofibrinous.

DESCRIPTION OF METHOD.

The intestine is drawn out through the abdominal incision and its course determined. The contents of the intestine are stripped downwards and tapes or clamps applied. The mesenteric arteries are ligated. A knife is passed through the mesentery and made to encircle the bowel, cutting through serosa and muscularis. A cuff of serosa and muscularis five centimeters in length with the mesentery, is rolled back by means of gauze dissection on the distal portion of the bowel, which is well protected with gauze. The bowel thus denuded is severed at its distal end within one centimeter of the cuff. At the proximal end it is severed flush with the primary incision. Eight through-and-through sutures, the knots placed within the lumen of the bowel, unite the proximal end of the bowel to the denuded stump at the distal end.

The cuff is now rolled over the site of union on to the proximal end of the bowel and made secure by a suture placed through the mesentery close to the bowel and three interrupted sutures placed in the cuff through serosa and muscularis of the underlying bowel.

PRINCIPLES INVOLVED IN THE METHOD.

The cuff completely covers the sutures placed through the proximal end of the intestine and the stump of the distal end, so that leakage can not occur, as plastic lymph and blood agglutinate the cuff to the serosa of the proximal end of the intestine.

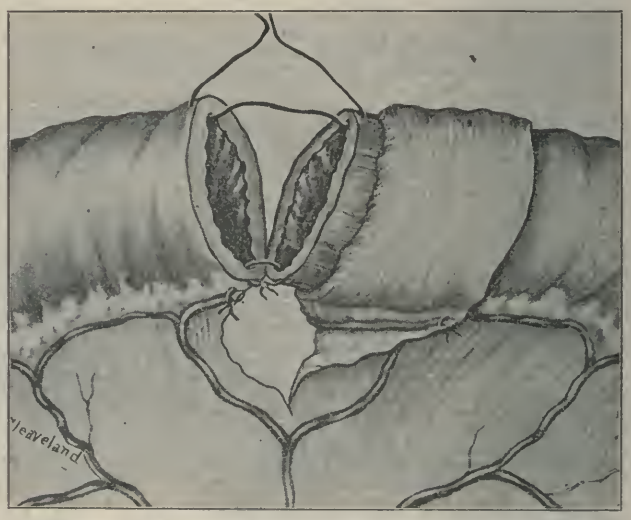


Fig. 2.—A cuff of serosa and muscularis with the mesentery is rolled back on the distal end of the bowel, by means of gauze dissection. The denuded area is severed at the distal end within one centimeter of the cuff, at the proximal end flush with the primary incision.

There can be no increase of tension on the sutures placed through the proximal end of the intestine and the stump, on the resumption of peristalsis, because of the rapid union between the cuff and the serosa of the proximal end of the intestine. The caliber of the lumen of the bowel at the point of union is unchanged.

ARGUMENTS IN FAVOR OF THE METHOD.

1. It is practical, easy of accomplishment and quick of execution.
2. It is the most natural way of uniting the severed ends of the intestine.
3. The cuff so covers and protects the sutures placed through the proximal end of the intestine and the stump of the distal end that the direct line of leakage and infection is obviated.
4. Pressure necrosis and leakage is not probable, and union is quite certain, as the blood supply to the cuff and the proximal end of the bowel that is covered with the cuff is undisturbed.

5. It is the most rapid of all methods, requiring but from five to eight minutes for its complete accomplishment.

6. It is the least complicated of any of the different methods now in use, and it can be safely performed by the ordinary surgeon, who rarely is called on to resect an intestine, quite as well as one greatly skilled in intestinal surgery.

7. Convalescence is more rapid and fewer post-operative sequelæ are likely to occur.

8. It is applicable to any part of the intestinal tract.

9. The security against primary and secondary leakage, furnished by the cuff, makes it the safest of all methods.

RESULTS OF EXPERIMENTS ON DOGS.

I will now submit a report of the pathologic findings following operation in specimens of union secured from dogs. There were four specimens examined, viz., two days, four days, eight days and thirty days, following the primary operations. The following is a report from the Columbus Memorial Laboratory, Chicago, by Prof. W. A. Evans:

SPECIMEN 1 (The two days' specimen).—This is a piece of small intestine, with mesentery attached. It is 5¼ cm. long.



Fig. 3.—Eight through-and-through sutures are placed through the proximal end of the bowel and the denuded stump of the distal end.

Near the center of the specimen is a discolored area 2¾ cm. long. Four circular incisions were made, one just above the discolored area, two through it and one just below it. A circular piece showing the convexity of the bowel was removed from just about the middle of the discolored area. At this point there is about ½ centimeter between the outer and the inner circular muscle coats. A second longitudinal section was taken through the line of juncture between the red and white at its proximal end.

SECTION A.—This is through the farther end of the cuff. Our sections are made lengthwise of the intestines. By microscopic examination we find the following: The mucous coat shows villi glands and other mucosa structures normal in every particular. The muscularis mucosa is normal. The submucosa is normal. It is rather thick just at the point of examination. This coat is quite thick, owing to it being the seat of a mucous fold. The circular muscle coat shows slight infiltration with leucocytes. The longitudinal muscle shows the same as the circular. Outside of the longitudinal muscle is a thin zone of mixed connective tissue fibers, fibrin, red and white blood cells. It is the union between the inner muscle tunic of the cuff and the serosa. It is as firm as it should be. This layer is about 1/10 as thick as the longitudinal muscle. Cuff circular coat is somewhat more inflamed than is the inner. Cuff longitudinal coat is somewhat more inflamed than the inner longitudinal. Cuff serosa does not show very well in sections.

CONCLUSIONS.—Union is good between the cuff and the underlying intestinal wall.

SECTION B.—This is a section made from near where the mucosa and the submucosa of one side was stitched to the wall of the other side. Mucosa: This coat shows villi glands and other mucosa structures. It is quite normal. At four points just on the mucosa side of the muscularis mucosa there is a moderate inflammatory reaction around the thread fibers. There are some leucocytes among those fibers. The muscularis mucosa is in two coats. In the submucosa there is moderate inflammatory reaction, especially along the vessel radicles. One thread is partly in this coat and partly in the mucosa.

INNER CIRCULAR MUSCLE.—This muscle shows one thread puncture just about its juncture with the longitudinal muscle. This layer shows a fair amount of inflammatory reaction along the vessel radicles.

LONGITUDINAL MUSCLE.—This shows about the same amount of inflammatory reaction as the circular coat. Outside the longitudinal muscle is the layer of fibrinous adhesions. This layer is four millimeters thick as it appears on the slide. It is composed of fibrin infiltrated with leucocytes and larger cells with considerable perinuclear protoplasm. In this district the thread shows at several places.

CUFF.—Circular muscle fibers show considerable inflammatory reaction and extravasation of blood. The cuff longi-



Fig. 4.—The cuff is now rolled over the site of union on to the proximal end of the bowel. A suture is placed through both folds of the mesentery of the cuff close to the bowel above the anastomosing branch of the mesenteric artery, and through both folds of the mesentery of the proximal end of the bowel. Three interrupted sutures are placed through the cuff into the serosa of the proximal bowel.

tudinal muscle shows much extravasation of blood and a fair amount of inflammatory reaction. The serosa, except for extravasated blood, is negative.

SPECIMEN 2.—This is a piece of small intestine with partial mesentery attached. It is 8 cm. long. Length of the discolored area in this specimen is 2 cm. The incisions were made just above the discolored area, 4/10 cm. below its upper border, 1 cm. lower down, and three other incisions each 5/10 centimeters apart.

SECTION A.—This extends longitudinally through the intestine at the tip of the cuff. The sections here show the same as in the section marked "Section A, Specimen 1." The photograph shows a very good union, still fibrinous, between the cuff and the underlying intestine. The other layers are about as reported in Specimen 1.

SECTION B.—This is a semicircular section of the convex half of the intestine near the point of union of the mucosa and submucosa, to the mucosa and submucosa of the unstripped end. It is mucosa. The epithelial elements of the mucosa are perfect. In the connective tissue structure of the mucosa is more inflammatory reaction than in

any section yet examined. The muscularis mucosa is in two coats, the longitudinal coat being the heavy one. The submucosa shows considerable inflammatory reaction. The circular muscle is filled with cells of inflammation, the fibers being considerably displaced. The longitudinal muscle shows the same as does the circular. The sections are evidently beyond the point of suture, i. e., in a region not split for the flap.

SECTION C.—These sections are just up the cuff from the line of suture of the mucosa. They show everything shown in "B" and in addition, external to the longitudinal muscle coat, is a coat of fibrous adhesion, and outside of this are the two muscle layers of the cuff.

SPECIMEN 3.—A piece of larger intestine than in the other specimens. The length of the piece is seventeen centimeters. The length of the discolored area is two centimeters. The bowel has been cut longitudinally just above the proximal end about 0.3 cm. below it, 0.5 cm. lower down, 1 cm. lower down, the last being outside the line of discoloration.

Sections were made as follows: A, longitudinal section through the cuff. B, the convexity of the bowel about the point of union of mucosa. B^1 near B.

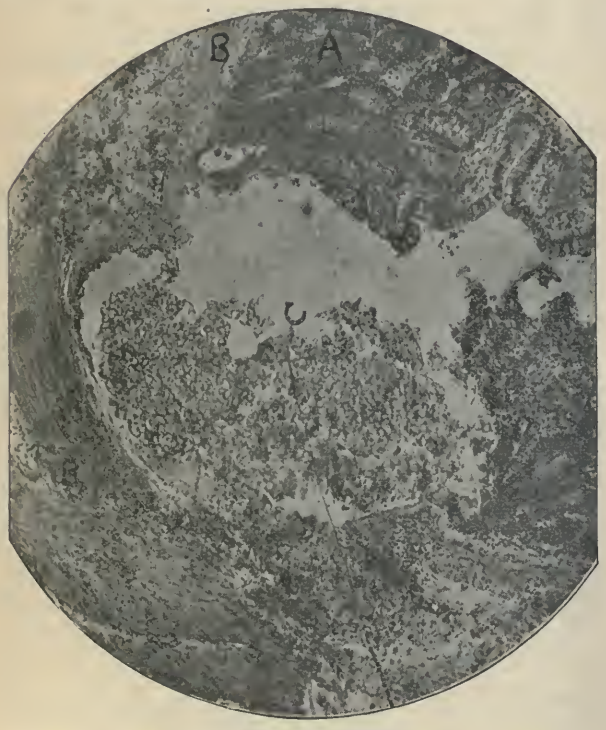


Fig. 5.—*a*, Mucosa. *b*, Muscularis mucosa. *c*, Thread.

SECTION A.—This is a longitudinal section near the tip of the cuff. The mucosa, muscularis mucosa, submucosa and longitudinal muscle are quite normal, showing very little inflammatory reaction. The line of union between the longitudinal muscle and the circular muscle of the cuff shows the following: The space covered is about 50 mikromillimeters. It is filled in by a loose reticular fibrous tissue. The fibers have no uniformity of direction. There are only a moderate number of blood vessels. These are young. There are many cells around the embryonal vessels. The vessels that I identify as such run lengthwise of the intestine. The two muscle coats of the cuff show about as much inflammation as the muscle coats of the intestinal wall. The serosa is thickened by inflammatory reaction until it is about as thick as one of the muscle coats.

SECTION B.—Longitudinal through the point where submucosa and mucosa of one side are joined to the intestinal wall of the other. The mucosa is perfect except for leucocytic infiltration. There is a deep V-shaped dip at the point of union, the apex being toward the muscle. Around the apex of the V runs the muscularis mucosa. The submucosa is also continuous. It is thin at the apex of the V. The circular muscle of the side is continuous and into the other. This is true of the longitudinal muscle and the serosa. The muscle coats of the other side come into the inverted V and turn up to form one of its sides.

They are joined to the circular muscle of the other side by a small amount of fibrous tissue. (The threads are knotted in the lumen and are firmly held in the wall.) All of the coats contain large numbers of leucocytes.

SECTION B^1.—Circular beyond the line of sutures. This shows as indicated for Specimen 2, except that there is greater leucocytic infiltration in each of the coats.

SPECIMEN 4.—This was a piece of intestine, split longitudinally. Microscopically we do not find any evidence of the operation procedure, though this is probably due to our not finding the proper area for section. There is a heavy wall of the usual coats. One half or more of the specimen has a serous coat that shows some peritoneal thickening. The other portion is not so covered.

EXPERIMENTS ON DOGS.

I have performed 75 primary operations on dogs, with the following results: 72 dogs recovered and 3 died, a mortality of 4 per cent. The convalescence in every case was short, the dogs being in every instance turned into the general ward at the end of forty-eight hours. The following is a report of the cases that died:



Fig. 6.—*a*, Cuff. *b*, Line of union.

CASE 1.—Dog No. 36 died five days following operation. Cause of death was general peritonitis. The great omentum was infiltrated with blood and pus, and was adherent to the cuff. Free pus was found in the peritoneal cavity. The intestines were not much distended, but were agglutinated together in several places. The site of operation showed the cuff rather dark, but union of the cuff to the underlying bowel wall macroscopically seemed good. A section of intestine involving the site of union was removed, and examined macroscopically, but no evidence of non-union was discovered. The intestine was gently distended with water, but no leakage was found. The cause of death was believed to be an infection from without, due to a faulty technic.

CASE 2.—Dog number 48 died four days following operation. The cuff was distended with blood and pus, a perforation was found in the cuff in the line of union of the proximal end of the bowel to the stump, with positive evidence of leakage.

CASE 3.—Dog No. 62, died thirty-six hours following operation. No evidence of peritonitis. The appearance of cuff was good, and was seemingly well adhered to the underlying bowel wall. On section the intestines were found quite well filled with blood, showing that death was due to hemorrhage.

Thirty dogs were reoperated on at periods varying from two to thirty days following the primary operation, with two deaths, a mortality of 7.5 per cent. The deaths occurring in dogs operated on at the end of forty-eight hours following the primary operation, and in each instance within twenty-four hours.

CONDITIONS OF THE CUFF FOUND.

In nearly every instance there were slight adhesions of the omentum to the cuff. The union of the cuff to the underlying bowel was good in every instance. In one instance the intestine above and below the cuff for a distance of five or six inches was adherent, making a bend in the intestine just below the cuff, but in no way obstructing the lumen of the bowel. In every respect the results were universally good.

WORK ON THE HUMAN.

I have only used this method in two cases, in the one a somewhat modified technic was followed, in the other the same technic, as above described, was adhered to.

CASE 1.—Mr. B., 50 years of age, was operated on Feb. 6, 1903, for the removal of a tumor in the region of the sigmoid flexure of the colon. The tumor, with several inches of the intestine, was removed. The proximal end of the intestine, which was to be covered with the cuff, was denuded of its serosa, so that the cuff came in direct contact with the muscularis. The patient made an uninterrupted recovery. The tumor removed proved to be an adenocarcinoma.

CASE 2.—Miss B., aged 20, had been operated on by the writer five months previously for the relief of chronic obstruction of the bowels, due to tubercular peritonitis. The patient was relieved of the obstruction, improved in general health, and it seemed for a time that her ultimate recovery was assured. Feb. 1, 1903, about five months following operation, she again developed pronounced symptoms of intestinal obstruction. Her condition grew worse from day to day, although slight bowel movements were secured by the use of the high rectal tube. February 12 she had stercoraceous vomiting, and a fecal discharge made its appearance in an abdominal fistula remaining from the previous operation.

Although the condition of the patient could hardly be more extreme, and but little hope could be given her of an operation benefiting her, yet she was desirous of the few chances that it might offer. The abdomen was opened in the median line. The intestines were greatly distended and very much adherent to the parietal peritoneum, and greatly matted together. The site of obstruction was searched for and found. The fecal fistula was located, the intestine just above the site of obstruction was perforated in two different places, so that it was necessary to resect about six inches of it, as it was impossible to attempt its repair. There was no difficulty in obtaining the cuff, the above described method being practiced in every detail. The time occupied for the complete resection was ten minutes. In the further liberating of the adherent intestines a large tear was discovered in a badly ulcerated area, and a second resection of probably four inches of intestine made.

The second resection was a little more difficult on account of adhesions and the extensive pathology in the mesentery; however, it was accomplished in a reasonably short period of time. The patient died at the end of thirty-six hours. A postmortem was denied, so that we can not say as to the behavior of the parts of the bowel united.

The method of operating had nothing to do with the results in this case, as it was evidently hopeless by any method of procedure. It has, however, demonstrated that a cuff can be readily formed of pathologic tissue and that the method is applicable in all cases where resection of the intestine is necessary.

REFERENCES.

Ovariotomy and Abdominal Surgery, by Harrison Cripps, F.R.C. S., Chicago Medical Recorder, September, 1892.
Transactions of the Western Surgical and Gynecological Association, 1900.
Abdominal Surgery, Greig Smith, vol. ii.
Chicago Medical Recorder, vol. xii.
Senn's Experimental Surgery, 1887.
Annals of Surgery, 1891, xiii, 427.
Treves' Operative Surgery.

INTESTINAL RESECTION,

WITH A REPORT OF SIXTEEN CASES: NINE WITH THE MURPHY BUTTON AND SEVEN WITH THE SUTURE.*

JAMES H. DUNN, M.D.
MINNEAPOLIS.

With the exception of small lesions toward the free border of the tube, surgical repair of the intestines usually implies a resection more or less extensive, hence the title intestinal resection has seemed more nearly descriptive of the matter on which it is my purpose to elicit discussion than the more usual term "intestinal anastomosis."

Every surgeon who undertakes even cases of strangulated hernia, intestinal obstruction or penetrating wounds of the abdomen, as well as all who open the abdomen for whatever cause, must be prepared to face, often in the most unexpected manner, a resection or repair of the intestinal canal. In the vast majority of cases intestinal surgery is decidedly emergent. The urgent nature and comparative rarity of such operations in any one surgeon's practice renders a perfect technic exceedingly difficult. To skilfully execute such an operation on a moment's notice under the most varying conditions, and perhaps at rare intervals, is a severe task. These considerations lend the subject a somewhat general interest, and place it among those topics which may be frequently discussed with profit even though nothing new be brought out, every surgeon having reason to frequently review his knowledge and rehearse his technic.

The first difficulty one meets is the great multiplicity of methods and the almost endless novelties of technics and operations from which to select. With the mind so full of many theories, and the preparatory drill spread over endless ways, the operator is in the worst possible condition to meet an emergency. Have we not arrived at a point where we can stop investigating new frills and settle on the simplest procedures with advantage?

During the past six years I have had occasion to resect the intestine 16 times, as follows: For strangulated hernia, 3; for fecal fistula, 3; for sarcoma of the small intestine, 2; for carcinoma of the cecum, 2; for carcinoma of the sigmoid, 2; for intussusception, 1; for gunshot wound, 1; for injury during operation, 2. In these the Murphy button was used 9 times, with 3 deaths; the suture 7 times, with 1 death.

The somewhat prodigious number of methods for uniting the bowel may be first divided into three general classes: First, mechanical appliances, to remain in the intestine; second, pure suture methods; third, special appliances to facilitate suture, and then to be removed.

The latter class, to say the least, belongs to those things which are more ingenious than necessary. For my part I do not use them, for many reasons, one of which is perhaps quite sufficient, viz., as good work may be done more conveniently without as with them.

Mechanical means versus the suture in intestinal anastomosis is often debated pro and con. As a simple general proposition, this is manifestly unjust. Possibly all anastomoses may be made by the suture, but cer-

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tainly in some localities and under some conditions a mechanical means is occasionally preferable. On the other hand, there are many situations and conditions to which mechanical anastomosis is entirely unfitted. Therefore, I conclude that the minimum of methods for good intestinal work is a good mechanical and a good suture method. The practical surgeon will therefore select what he believes to be the best mechanical method and the best suture method, master all the details of each, and be prepared with materials and by occasional rehearsals for the skilful execution of the method best adapted to the situation.

UNION BY MECHANICAL MEANS.

Doubtless any one of several buttons, bobbins, mats or what-not, may be used with more or less success, but increasing experience shows the Murphy button to be on the whole the most practicable. It is cheap, easily preserved indefinitely in readiness and has been used with success and increasing frequency in all parts of the world. Whatever theoretical objections may be conjured up against it, it has probably more success and as few failures to its credit than any other method of anastomosis, when applied properly to proper cases. Of my 9 resections with union by the Murphy button 3 died. One, Case 6, would surely have died despite any method of anastomosis. In one case, No. 9, I was led by the almost moribund condition of the patient to use the large button in an end-to-end union of the sigmoid, though it is generally recognized that the large intestine is not safely united by the button. This death, if due to any operative fault, in no way condemns the button for use in proper cases. In one case, No. 7, an end-to-side anastomosis after resection of the cecum for a very large carcinoma, in a very fat and flabby woman, the death from sepsis and nephritis on the thirty-first day, long after the button had passed, and without any bowel disturbance, makes it probable that the method of union was not at fault. In Case 5 a temporary fecal fistula followed the use of the button in an end-to-end anastomosis of the small bowel, for sarcoma. I have reason to believe that the fistula took place at the mesenteric border. The mesentery was considerably thickened and some difficulty was found in properly adjusting it within the button. Under these conditions either a very much larger amount of intestine should be resected or the suture used instead of the button. The ultimate result in the case has been entirely satisfactory so far as the anastomosis is concerned. In the remaining five button cases the immediate and subsequent course was without any complication.

The duodenum, owing to its fixed position and lack of peritoneal covering, is naturally excluded from end-to-end anastomosis by the button. The large intestine, for many reasons, both anatomic and physiologic, is not adapted to anastomosis by mechanical means. It is less richly supplied with blood vessels, its walls very variable in thickness, the appendices, epiploicæ and its mesentery often thickened and clumpy with fat and considerable portions not covered by peritoneum. Its contents are much thicker and more liable to block mechanical contrivances and its peristalsis comparatively feeble. Hence, with the exception of end-to-side anastomosis between the small and large intestine, the suture should practically always be used. In the unfixed portion of the small intestine, a good union is possible by either button or suture, but, on the whole, I believe the button anastomosis has the most points of excellence: First, it may usually be executed somewhat more rapidly; second, if skilfully applied is evidently primarily as safe in this location as suture. Third. After the button has passed the intestinal wall is left in better condition than by suture. In all suture methods where silk is used there is either for a long time or permanently left in the bowel material with decided possibilities of trouble. With the button, the primary healing once over, the most perfect conceivable condition is usually left and the condition is uniform. As much can not be said of any suture in any case and the results are materially far from mathematically uniform, even in the same surgeon's cases. The most skilful operator will vary a little in the amount turned in and in the regularity of his suture. The mechanism once properly placed cuts by its pressure to the same line. The objections to the button in this locality are mostly theoretical or drawn from very exceptional ill results or cases of faulty technic. When it may be said that any other method is absolutely perfect and without occasional mishap, the practical surgeon may give greater weight to the theoretical objections of a foreign body in the intestine, to isolated failures to pass, or to exulceration of the button, despite the many hundreds of successes at the hands of hundreds of surgeons, many of those of little experience, and the growing tendency of many of the very greatest surgeons at home and abroad to use this method in appropriate cases.

UNION BY SUTURE.

The suture has a much wider application. It may be used in practically all cases to which the button is applicable. In the duodenum and in the large intestines it has for anatomic and physiologic reasons practically the whole field. Hence a surgeon may nearly or quite dispense with mechanical means of anastomosis, but a good suture method is a necessity. While we undoubtedly owe a very large measure of our success to experimental work and the fundamental principles have been thus established, yet experimenters have borrowed an enormous amount of unnecessary trouble about lesser matters of which Nature takes little notice. The necessity of peritoneal approximation, the length of intestine which may safely be resected, the degree of narrowing which is permissible, the difficulties of the mesenteric border, etc., were early elucidated and are essential, but the fears of penetrating all the coats and the special dangers of the knot of elbowing in order to increase the caliber, etc., have been considerably overdone. I feel sure from much personal observation—having followed up individuals for years whose intestines were closed up with very rudimentary needlework—that the fears of some experimenters are not entirely well founded.

Of the 7 unions by suture, 4 were by the Connell method. The Connell suture appeals to me as by far the best suture up to date; first, a continuous suture is the safest; second, penetrating all coats it is the strongest and surest; third, it is a simple set procedure, capable of an unvarying technic from start to finish, with no change of stitch, and no apparatus but needle, thread and fingers; it is capable of greater rapidity than any other method except the button—the easiest and simplest of all, except at its finish. The closure of the last third, and especially of its last stitches, is, of course, somewhat difficult, but after sufficient drill probably not much more so than some part of any competent intestinal suture. It takes the best care of the weak point, the mesenteric border, while the gut is open. With one exception it is, for me, the *ne plus ultra* of intestinal sutures, viz., experimental work and autopsies show that

for a very long time, at least two or three months, the thread remains encircling the bowel wall or hanging into the intestine. While I am unable to point to any serious result demonstrably having followed this state of affairs, it is certainly not an ideal condition, and one which would seem pregnant with as many pathologic possibilities as the shorter stay of a foreign body in the case of a button. It is quite startling to find at the autopsy, thirty-one days after the resection, so much thread imbedded in the whole circumference of the otherwise beautifully restored bowel, as was observed in Case 13.

All the unions were end to end, excepting the two resections of the cecum, where end-to-side anastomosis was employed. When the resected ends can be easily approximated without tension and the mesentery is in a normal condition, end-to-end union would seem to be preferable to lateral anastomosis, as it more nearly restores the organs to normal conditions. Pathologic changes in the mesentery may sometimes render it desirable to close the ends by purse-string sutures and make a side-to-side union. When this is done with but little overlapping so that the blind ends are very short, antiperistaltic union is probably without very serious objection. However, an isoperistaltic union would seem preferable whenever practicable under all circumstances, and quite necessary if the blind ends are of much length. In resecting median portions of the small intestine, it is often difficult to quickly establish with entire certainty which is the proximal and which the distal limb of the loop. If an end-to-end union is to be made this is of no consequence, but in case of a lateral approximation it calls for a decision which further complicates the operation. I would therefore not choose lateral anastomosis except in cases in which some pathologic or anatomic condition of the mesentery rendered the end-to-end approximation unsafe.

CONCLUSIONS.

1. Suture is the most indispensable and generally applicable method of anastomosis in intestinal resection.

2. The Murphy button is equally useful, if not preferable, under certain conditions, but very inferior under others. For the end-to-end union of segments of normal small intestine, or the end-to-side anastomosis of healthy small and large bowel, it gives results unexcelled by any other method. In unions of the larger intestine it is so far inferior to suture as to be practically contraindicated. Pathologic changes in the small intestine or its mesentery which render the perfect application of the button difficult or such as would probably disturb the course of healing, should be united by suture.

3. Of suture methods that of Gregory F. Connell is incomparably the best; is, in reality, the simplest; a single row of continuous suture, all within the gut, the most likely to be even, strong and tight, with the smallest and most even diaphragm, admits of the easiest and most perfect dealing with the mesenteric border and is capable of a simple invariable technic.

4. It is especially desirable to choose the fewest and simplest means compatible with the best work, because intestinal operations occur at rare and irregular intervals as emergencies in the hands of many surgeons, and the little conveniences which enter into highly specialized operations of repeated daily execution are for the most part worse than impracticable.

NARRATION OF CASES WITH USE OF BUTTON.

CASE 1.—Miss H., age 27. Strangulated femoral hernia. Operation only twelve hours after onset of symptoms. Three inches of small intestine gangrenous. Resection of five inches; end-to-end anastomosis with Murphy button. Prompt recovery. The button passed on the eleventh day. No return of hernia. Now, six years after, health perfect.

CASE 2.—Fecal fistula from inflamed umbilical hernia. Mrs. B., aged 46, enormously fat, had a large umbilical hernia of ten years' standing. Three months before coming under my observation symptoms of inflammation and finally of intestinal obstruction had appeared. After eleven days of expectant treatment an abscess had broken through and pus and feces had discharged. A large fecal fistula had since discharged nearly all the bowel contents, only occasionally a little passed per anum. The abdomen was opened, the adhesions separated, the hernial sac and a portion of the omentum was removed, and three inches of small intestine resected. End-to-end union with the Murphy button and radical cure of hernia with silver wire. A large area of eczematous skin around the fistula was excised and the skin closed transversely. The button passed on the ninth day. The recovery was uninterrupted, excepting a slight superficial infection, which did not lead to removal of the deep wire sutures. Her health has remained good, no relapse of hernia and no trouble from the wire sutures at last observation, four and one-half years after operation.

CASE 3.—Fecal fistula. Mr. M., a farmer, aged 32. Had right inguinal hernia of long standing. About five weeks before coming under observation strangulation occurred, and Drs. DuBois and Hilbert of Sauk Center operated, after which the patient did well and was entirely relieved for ten days, when symptoms of strangulation again suddenly appeared. After a week of vomiting and inability to pass gas or feces, Drs. DuBois and Hilbert reopened the wound and incised a knuckle of adherent small intestine forming an artificial anus.

The patient then again did well for two weeks, when obstruction again, for the third time, became complete. I was then called by Dr. DuBois. The patient's general condition was now bad. He was emaciated and weak, and the operative field was rendered uninviting by recent operations and the recent fecal discharges which had constantly bathed and irritated the skin for two weeks. The operation was made at the patient's cottage under poor surroundings. On reopening the abdomen it was found that a small knuckle of intestine which was attached to the abdominal wall and the seat of the artificial anus had twisted on its axis, leading to complete obstruction. This loop was resected and an end-to-end anastomosis made with the Murphy button. The abdomen was closed with figure-of-eight silkworm-gut sutures, and the patient made an excellent recovery with only some slight suppuration in the wound. The conditions for primary union were as unfavorable as could be imagined. I examined the patient two years after the operation and he was well and free from hernia.

CASE 4.—Gangrene due to strangulated hernia. Male, laborer, aged 28. City Hospital. The patient entered with a large inguinal hernia, strangulated since six days. The scrotum was red, swollen and inflamed and the patient profoundly septic. On opening the sac about three feet of small intestine was completely gangrenous. Resection of three and one-half feet. End-to-end anastomosis with Murphy button. The wound was left partly open and the wound and abdomen drained. Death followed in forty-eight hours, due to peritonitis and sepsis. Postmortem showed the anastomosis to be perfect, and that the button was in no way responsible for the death. Probably it was a mistake to have resected at all. Under such conditions again I would lay open the sac without a general anesthetic, and if the patient recovered make a subsequent resection, as in Case 2.

CASE 5.—Sarcoma of small intestine. Mrs. B., musician, wife of a physician, aged 44. In August, 1896, she began to have looseness of the bowels, and ever since off and on had had spells of looseness, becoming worse each year. In November, 1902, she had a very bad diarrhea, which reduced her strength and weight very rapidly. This diarrhea was of a peculiar character, i. e., it was worse after lunch and still worse after dinner and all night, but from 9:30 a. m. to 1:30

p. m. it was not very troublesome. There were usually from eight to ten movements a day. There was no pain, but a very great quantity of gas was passed, the feces very thin and horribly offensive and of the consistency of muddy water. She was very anemic, greatly emaciated and weak.

I first saw her on the first of February, 1902, and on physical examination could distinguish a mass to the right of the uterus and attached to it, which was apparently of the size of a small fist. I suspected the bowel was involved in this mass, and advised exploratory incision. The operation took place at St. Barnabas' Hospital, Feb. 12, 1902. On opening the abdomen this mass was found to consist of a very much enlarged and dilated coil of small intestine attached to the uterus. The mesentery of the intestine was also infiltrated and thickened. I removed eight inches of the intestine and its corresponding mesentery and made an end-to-end anastomosis with the Murphy button. The patient did remarkably well for a few days, but on the twenty-first she developed some temperature. The abdominal wall was opened slightly and a fecal fistula made its appearance. For a few days a large quantity of feces was discharged through this wound. March 4 the patient insisted on being taken in the ambulance to her home. On March 6 the button was passed, and March 11 the fistula closed permanently, and she was up and about the house March 21, from which time she made a fairly satisfactory recovery.

The portion of intestine removed was believed on gross appearances to be a chronic inflammatory process and the specimen was sent to the laboratory of the University of Minnesota. Professor Wilson reported it to be a sarcoma. The patient is still—thirteen months after the operation—in very good health. At the time the union was made considerable difficulty was experienced in bringing the somewhat clumsy mesentery satisfactorily within the button, and I remember using an extra stitch through the mesenteric border and tying it around the button stem. This was doubtless the point where the fistula took place. It might have been better to have resected a much longer loop, thus securing a more normal mesentery or to have used the suture at the point chosen.

Case 6.—Carcinoma of cecum. Mrs. S., aged 36. For several months has complained of pain and tenderness in right inguinal region and of alternating constipation and diarrhea. There is a tumor in the region of the appendix and the condition thought to be some anomalous form of appendicitis, perhaps tubercular. On operation, carcinoma of the cecum was found. About six inches of the ascending colon, the cecum and four inches of the ileum resected. End-to-end anastomosis with the Murphy button. Uninterrupted recovery and health good when last seen, one and one-half years subsequently.

CASE 7.—Carcinoma of cecum. Mrs. L., French, aged 38. Mother of six children, youngest 2 years of age. Previous health excellent, excepting loss of control of bowels from a complete laceration of the perineum. She now wished this repaired, as she had been led to believe it was the cause of her present illness. About one and one-half years ago she began to have pain and diarrhea in the morning, with nausea and pain in the stomach. On examination I found a large woman, a very fat abdomen, and a very large, hard tumor, much larger than two fists, in the right iliac region. Complete laceration of the perineum. Diagnosis, probably carcinoma of the cecum.

Ten inches of the cecum and ascending colon and a portion of the ileum was resected with much difficulty, owing to the advanced stage of the very large growth. End-to-end anastomosis with the button. The button was found in the vagina five weeks later. For two weeks the patient did very well, she then developed temperature, suppuration in the large and deep external wound (the fat was about four and one-half inches thick at this point) and nephritis, dying seven weeks after the operation. No autopsy was permitted, but the death was clearly not due to the method of union, nor, indeed, to the anastomosis at all. The enormous wound in an obese and bad subject became infected, and sepsis and nephritis finally exhausted her resources.

CASE 8.—Strangulated femoral hernia. Mrs. M., aged 46, German. Had been ruptured for several years, and for the last two years the tumor had been irreducible, hence, despite symptoms of strangulation, the patient and her family physician had refused to look on the hernia as the cause of the constant vomiting until the fourth day, when I was called in consultation, and insisted on immediate operation. The sac was chiefly filled with adherent omentum, but a very small knuckle of small intestine had recently slipped in, become strangulated and was found gangrenous. Resection of three inches. End-to-end anastomosis with button, drainage of external wound. Prompt recovery.

CASE 9.—Stenosis of sigmoid from very small annular carcinoma. Mr. B., laborer, aged 45. Entered St. Mary's Hospital in March, 1900, complaining of a recent right femoral hernia, on which I operated, finding the appendix vermiformis and some omentum in the sac. The appendix, omentum and sac were removed, and he made a good recovery. While at the hospital it developed that he had had some slight difficulty in getting his bowels to move satisfactorily, but this seemed to be better on taking some laxative, and he left the hospital at the end of three weeks.

I saw nothing further of him until July, 1901, when I was called by his attending physician, Dr. Ringnell, and learned to my surprise that he had been having increasing trouble with his bowels since leaving the hospital, until of late he was having frequent attacks of complete obstruction, lasting for days at a time and in the intervals getting liquid movements with great difficulty. He was greatly emaciated and thin and seemed almost *in extremis* from pain, vomiting and distension. Chronic obstruction in the lower large bowel was diagnosed and immediate operation urged. The patient, however, stubbornly refused until September 1, when he consented to return to the hospital. He was then very weak and death very near. On opening the greatly distended abdomen a very small annular growth in the sigmoid, less than an inch in extent, was found, reducing the caliber of the intestine to that of a very small lead pencil. The gas and liquid feces were evacuated by introducing a glass tube into the intestine above the growth, and about four inches resected. On account of the almost moribund condition of the patient I chose the large Murphy button for making the end-to-end anastomosis. Death from peritonitis and sepsis in thirty-six hours. Autopsy showed button plugged and a leak from distension. The first mistake was the patient's in refusing operation for months after it was clearly necessary and strongly advised, the second in using the button under these conditions where suture is always indicated.

Thus of the 9 cases united by the button, 3 died, 1 clearly because no resection should have been undertaken—the patient probably would have succumbed in any event, but the only hope would have been in incision of the sac, which might have been done without anesthetic. In one the larger button was used in an end-to-end anastomosis of the sigmoid, and although the patient was in extremis it is quite possible that he might have recovered by the suture. This is the only case in which I have to regret the method of anastomosis chosen. One dies six weeks after operation, with extraperitoneal suppuration in the abdomen and nephritis. There is no reason to believe the method of anastomosis had anything to do with the result.

NARRATION OF CASES OF UNION BY SUTURE.

CASE 10.—Intussusception, necrosis at the neck. A boy, 6 years of age, symptoms of obstruction for eight days. Dr. Glenn was finally called and diagnosed intussusception. On opening the abdomen a large quantity of rather dark serum escaped. About a foot of the ileum invaginated into itself. The neck was at about the point of Meckel's diverticulum, of which there appeared to be a remnant. The invagination was reduced with considerable difficulty and a small necrotic area at the neck necessitated resection of a small portion of the gut. End-to-end anastomosis—Czerny-Lambert suture. Recovery without complication.

CASE 11.—Pistol wound of abdomen. W. J., aged 23. Shot in the abdomen with pistol at short range. Wound of entrance two inches to the right and a little below the um-

bilicus. No wound of exit. Operation twelve hours after injury. Seven perforations of small intestine, closed with continuous Lembert suture. Resection of twelve inches on account of injuries at the mesenteric border. End-to-end anastomosis with Czerny-Lembert suture. Recovery and perfect health two years after.

CASE 12.—Sarcoma of the small intestine and uterus. Mrs. M., German housewife, aged 38. In May, 1901, was taken with cramps in the bowels, pain radiating toward the center. She vomited for eight days more or less and there was much distension and gurgling in the bowels, and irregular diarrhea during the past four months. On examination a considerable tumor attached to the uterus could be made out. It was fairly movable and had been mistaken by several for a fibroid of the uterus. I was not just clear what the condition was, but believed it was primarily uterine with attachment to the bowel, and advised an exploratory incision.

Sept. 7, 1901, the abdomen was opened and a loop of small intestine about ten inches long and its mesentery was found involved in a new growth. This mass was firmly attached to the uterus, which was also invaded by the growth. Recognizing the condition as malignant and probably past successful removal, a side-to-side anastomosis of the two limbs of the loop of intestine above the growth was undertaken. After the button was introduced it was found defective and had to be taken out. I then decided to remove the growth and some sixteen inches of small intestine and its mesentery, the uterus, tubes and ovaries, and a portion of the base of the bladder, which were resected in one piece. End-to-end anastomosis of the resected intestine by Connell suture. The time of the whole operation from entering to leaving the operating room was one and one-half hours.

The patient made a good primary recovery, leaving the hospital twenty-seven days after operation to go to her home in Dakota. Her health was greatly improved for some months. Six months later the growth returned and at last reports she was failing rapidly. The specimen removed was submitted to Dr. White of the pathologic laboratory of the University of Minnesota, who reports it to be a lympho-sarcoma of the small intestine.

CASE 13.—Mr. H. Carcinoma of the sigmoid flexure of the colon; resection of six inches; end-to-end union by the Connell suture. The patient's health had been excellent until about one and one-half years ago, when he began to experience considerable difficulty in moving the bowels, obstruction symptoms not very severe until the past four months; he has attacks of pain before the bowels move, and for the past six weeks it is with great difficulty that they can be moved at all. By taking much physic and repeated enemata he is enabled to overcome the obstruction. The diagnosis was partial obstruction in lower colon, probably from carcinoma. March 4, 1902, resection of six inches of the sigmoid and end-to-end anastomosis with the Connell suture. The abdominal wound became slightly infected superficially with colon bacillus and discharged moderately for ten days, otherwise the after-course was uneventful. March 31 the patient was apparently well, having been up and dressed for two days. He had made all arrangements to leave the hospital for his home, some two hundred miles distant, on the following day, when he was seized with an apoplectic stroke, from which he died April 4, thirty-one days after the operation. Autopsy showed the operation wounds perfectly healed and the anastomosis was perfect with no intraperitoneal adhesions. On dissecting the intestine the whole suture was found intact in the walls of the intestine, forming a circle entirely around it. None of the stitches had so far been thrown off into the bowel.

CASE 14.—Gangrenous strangulated hernia. Sister A., a Little Sister of the Poor. Had a slight femoral hernia of long standing which had been strangulated for at least twenty-four hours. Several unsuccessful attempts at reduction by taxis had been made. On opening the very large sac about ten inches of small intestine was found to be gangrenous. As it was difficult to bring down a sufficient amount of bowel to make a good resection without cutting through Poupart's ligament, the abdomen was opened by a second incision above the ligament in the outer border of the rectus muscle, the operative field in the abdomen well packed off with gauze, the loop drawn into the abdomen and brought out through upper incision, and twelve inches resected. End-to-end union with Connell suture. The hernial sac then removed and hernial wound closed as usual. Uneventful recovery, patient leaving hospital seventeen days after operation.

CASE 15.—Mr. M., a young German farmer, when seen had obstruction of the bowels for four days. His condition was said to have been good until the last six hours, since which he had rapidly collapsed. He had had two very severe attacks of appendicitis ten years before, since the last of which his health had been excellent, until the sudden onset of symptoms of intestinal obstruction. Patient evidently failing rapidly every hour—cold extremities, rapid, feeble pulse, great distension. Nevertheless, the abdomen was opened at his desire. The small intestines were found bound down into the bottom of the pelvis by broad bands, so much so that they appeared to have a mesentery on both sides. The distended intestines could not be turned out of the abdomen on account of their attachment to bottom of the pelvis, hence there was great difficulty in dividing the bands. A knuckle of intestine was so injured that resection of about two feet became necessary, hurried end-to-end anastomosis, with Connell suture rather imperfectly done and reinforced at last third by continuous Lembert. Patient expired within an hour. It is needless to say the result has no bearing on the method of anastomosis.

CASE 16.—Mrs. J., aged 32. Had a violent appendicitis and pelvic suppuration some months previously. The abscess had been drained, but appendix not removed. Recovery never complete. At secondary operation intestines matted together in bottom of pelvis by old, well-organized adhesions, small pelvic abscess; appendix removed and many bands and adhesions severed, finally one knuckle of intestine so injured in several places that resection was deemed safer than isolated repairs in its diseased condition. Resection of almost six inches of small bowel, end-to-end anastomosis, Connell suture. Pelvic drainage. Recovery without complications.

Of the 7 unions by suture, 6 recovered; 4 were by Connell suture, with 1 death from collapse within one hour.

DISCUSSION

ON PAPERS OF DRS. CAMPBELL AND DUNN.

DR. A. F. JONAS, Omaha—The indications for this operation are so plain that they need no discussion, but the methods for doing an end-to-end approximation is a question that involves a multiplicity of ways. The inventive genius seems to be so prominent in American surgeons that no sooner has some one proposed a new method for the relief of any particular affection than the American man is not satisfied to try that particular method, but he immediately goes to work and tries to invent a method, hoping to get something better and something newer. For my own work I have only employed two methods; the first is the mechanical device practiced by Murphy, the second the simple suture. I desire to call attention to four points: The first is to get the approximation of the intestines at the point where it joins; the second, to leave no knots on the outside of the intestines; third, it must be watertight; and, fourth, it must be airtight. Now, with these four things carefully carried out, in a practice requiring a simple form of technic, the simple suture will be the best to use. The only way to do surgery is first to study the pathology, and in the operation do not use any methods that will lead to this pathology in the smallest possible way; if possible, do not use any mechanical devices for the purpose of holding the intestines in position.

Some years ago, Nicholas Senn described in THE JOURNAL of the American Medical Association, fifty or more appliances for the purpose of producing end-to-end union. Of all this long series, there is probably only one that is used to any extent at the present time, and that is the Murphy button. Of all the many sutures with which I have become familiar I employ none but the Connell suture, as it is the most easily applied, most satisfactory, gives the best results and leaves the knots all on the inside, thus giving no opportunities for the subsequent formation of adhesions in the intestines. All the forms of sutures which leave the knots on the outside favor adhesions

with the other parts of the intestines, or with other organs necessitating secondary operation. In order to properly apply any form of intestinal suture we need to practice that form more or less constantly. To do the operation with the Connell suture will require a certain amount of preliminary practice as with any other suture. It is practically impossible for any man to stand beside the operating table and see anyone else perform an operation and then go home and do the work without preliminary practice. What would you say if a tailor simply stood beside another tailor and watched him apply the stitches to your coat? Would you then expect him to make seams accurately and firmly? Why should you expect any more a man to be able to suture an intestine simply from what he reads in books or from standing beside another operator? The Murphy button, simple as it is in its application, must be practiced primarily on the dog, and certain details must be memorized before its use can be undertaken in the human subject. My plan is to use the Murphy button in all cases where the structures can be snugly drawn together between the two parts of the button. Where the structures are too thick, such as the large intestines, I employ the suture method. So far as Dr. Campbell's method goes, I have the objection to it that he still leaves the knot on the outside.

DR. J. SHELTON HORSLEY, El Paso, Texas—In regard to the term "intestinal resection," it seems to me there might be still further improvement. Resection means simply cutting out a portion of the intestinal canal, and has no reference to the subsequent joining of the divided ends, which is really the main and most important portion of the procedure. "Intestinal anastomosis" is also objectionable when applied to an end-to-end union. Anastomosis means that an obstruction in the main channel is compensated for by some more or less indirect route, as in the case of small branches of blood vessels taking up the circulation when there is an obliteration of the main channel. When, however, this obstruction in the main channel is removed and the direct current re-established, as in the case of end-to-end union in intestines, the term anastomosis is clearly inapplicable. "Circular enterorrhaphy" means merely suturing of intestine in a circular manner. In the operation for prolapse of the rectum, in which after abdominal section a portion of the sigmoid is drawn up and sewed to the abdominal wall, if this sewing is done in a circular direction, the term "circular enterorrhaphy" could most assuredly be used. "Intestinal union" is a term that is open to none of these objections and would seem to indicate the procedure.

In regard to the continuous suture, I have had a limited clinical experience in intestinal suturing, but a rather extensive experimental experience, and have found that this form of suture is by far the most satisfactory. I believe that the majority of operators who have done much experimental work will agree in this. This form of suture has many advantages not possessed by the interrupted. It is a physiologic principle that rest is essential for repair. It is with this idea that splints are used in fractures and wounded parts immobilized as much as possible. The action of a continuous intestinal suture is in the nature of a splint. In end-to-end union, for instance, where interrupted sutures are used, each distension of gas and every wave of peristalsis tends to stretch or relax the portion of intestine between any two interrupted stitches. When a continuous suture is used this strain is thrown, not on the wounded intestine, but on the thread. It is frequently taught, I believe, that all that is necessary to obtain complete union in intestinal suturing is to approximate serosa to serosa. This is certainly a false doctrine, for something else than mere approximation is necessary to obtain satisfactory union in every instance. This conclusion has been arrived at as the result of nine experiments on dogs. In six fine black silk was used and the dogs were killed after one, two, three, four, six and eight days. In three experiments No. 2 braided silk was employed and the dogs killed after four, six and eight days. Two loops of intestine were sutured, as in the preliminary steps of Abbe's intestinal anastomosis, the suture being continuous and running for about an inch and a half in the long axis of the gut. Another row parallel with the first and about one-third inch distant from it was inserted in the same manner. The specimens were removed after the number of days above indicated and sent to a competent eastern pathologist for examination. The condition of the serosa between these rows of sutures was that of perfect approximation, and on account of the continuous suture it would be impossible for this approximation to be disturbed. The pathologist reported that of the first six experiments, in four there had been failure of complete union of that area of intestine included between the rows of suture; in the other two, in which fine silk was used, the union was complete. Of the three experiments where No. 2 braided silk was employed, only one failed to unite completely. The pathologist also reported that there was markedly more inflammatory reaction around the coarser thread. As the conditions of approximation in these experiments were perfect, and as complete union was obtained in less than half of the number, it would seem that something else besides mere approximation is necessary for satisfactory union. Pressure is one of these things that is most desirable and is furnished by such appliances as the Murphy button. This pressure can be obtained by the continuous suture, but not by the interrupted.

DR. H. O. WALKER, Detroit—The methods by which the operation of intestinal resection is to be performed have been outlined by the gentlemen who have read papers and by the gentlemen who have already discussed them. The method given by the first gentleman would strike me as being one (possibly he can do it rapidly) that would take considerable time, while, as the gentleman just preceding said, it leaves some of the knots on the outside. I have had experience with pretty nearly every form of suture and mechanical appliance. I did one end-to-end anastomosis with the Murphy button in the latter part of 1902. I have used the Connell suture in six different cases; one where I removed 14½ inches of the colon, another 8 inches of the ileum, another the ileocecal junction, another 6 feet of the intestine, another at two different points in the descending colon. The first three cases were successful and the last three died, but I do not know that it could have been otherwise, because the condition of sepsis was such as to preclude recovery.

There is no mechanical device that has recently been brought before the profession that is of more value than the McGraw elastic ligature. I have had an experience in 17 cases with that ligature, and in all of the cases it was successful, so far as temporary relief was concerned. Of these 17 cases 122 jejunostomies were performed for malignant disease and 5 for gastroptosis. The use of the ligature as a mechanical appliance is simpler than anything else that we have. Of course, it is not applicable to an end-to-end anastomosis. It can be done quickly and produce no inconvenience. As has already been stated by the former speakers, no man should attempt to use this ligature unless he has practiced either on animals or on the dead intestines. In regard to the application of this ligature, you take a rubber darning needle, about 6 inches long, and be sure that the rubber in the ligature is in good condition, for in those ligatures which have been on hand for a long time the rubber is liable to break. For instance, we are doing a gastrojejunostomy. You take a bite on the stomach about 2½ inches. First, we make an approximation and run the suture of silk around the intestine and the stomach and then we introduce the ligature, draw it through the stomach and come back again on the intestine. After you have got your ligature in position and drawn it up, be sure you have it well on the stretch before you begin to tie.

DR. J. B. MURPHY, Chicago—The technic of surgical approximation is, I think, of lesser significance than the recognition of the pathologic condition of the intestines in, about and below the line of approximation. I believe that by any of the ordinary methods we will get a good and sufficient approximation if we will recognize the pathologic conditions of the intestines, whatever the position of the approximations, and the failures in intestinal approximation rest principally, I believe, in not recognizing that the intestinal wall is infiltrated, and that its action is impaired for a considerable distance above the position of the resection. My attention was called to this in some of the early operations with the button, where I found gangrene following the insertion of the button. No other legitimate outcome could have been expected; no other result could have been secured by any other method. So soon as we learn to remove a sufficient amount of the bowel at the

proximal end to leave completely healthy, uninfiltrated intestinal wall, we will have less failures. That accounts, in my opinion, for the failures in many instances.

DR. ALEX. HUGH FERGUSON, Chicago—I would like to raise my voice in favor of the promotion of every man who is going to do intestinal surgery. We can get no good by looking on and seeing others do these operations. We have to do it ourselves, and the paper read by Dr. Campbell is, in my opinion, a very excellent one. I have seen him perform the operation. I have looked over the notes very carefully, and I can see the beauties of that operation. In the first place, you have fewer sutures than by any other method. That flap can be rolled back very quickly, and the other sutures on the outside are few and are only the so-called "tack sutures," because they do not go through into the mucous membrane; so that, although they are on the outside of the bowel, they can not do any harm.

The suture which has seemed to me to be the best and that which I have used the most is the one introduced by Dr. Connell. I have used it a large number of times. The last few years I have been using it almost exclusively when I could, but occasionally I would get a little stuck and could not very well use it, and I would fall back on my old friend, the Murphy button. I have used the Murphy button a large number of times, and it has stood me well in some places where a suture could not be applied, for instance, in removing a section from the lower portion of the cecum or the lower portion of the rectum, where you can not very well employ the suture, but you can put in the large size of the Murphy button. In doing the Bacon operation for stricture you can use the suture and the patient does perfectly well. It comes in very well in gastroenterostomy, and, in fact, there are so many applications for it that I would not pretend to mention them now. The McGraw elastic ligature I used in one case where I had done a gastroenterostomy. I had become a little conceited and thought that I would not get a vicious circle. I made the approximation a little high up, so that the gastric current could not help go down. In this case I was mistaken; it would not do that, and consequently I had to open the abdomen again and make an anastomosis between the two arms of the anastomosis. I did that with the McGraw elastic ligature very quickly and it served my purpose. For some little time afterward he had slight trouble with the circle of Willis until the anastomosis was complete.

I would also like to emphasize what has been said by Dr. Murphy, that failures take place more frequently owing to error on the part of the surgeon in selecting the part where the bowel should be removed than from any defect in the technic.

DR. O. BEVERLY CAMPBELL, St. Joseph Mo.—It seems to me that the most of the discussion has been on the McGraw elastic ligature and the older methods. In regard to the knots outside the lumen of the bowel, which question was raised by two gentlemen, it was well answered by Dr. Ferguson, and certainly the knot can do but little harm, and it would certainly be far-fetched criticism that would criticise a knot of that character outside the lumen of the bowel. Of course, some surgeons are getting so very technical that it is a question where they will stop. Now we would not have expected this method to have received more than a discussion, but it does seem to me that we should have discussed this method rather than the older methods, as we are looking for better things, and not for the older methods that we have tested and which we know are good. We want something a little bit better.

Fate of Typhoid Bacilli in Beer.—Professor Surmont of Lille, France, has been testing the beer made there in respect to its effect on typhoid germs. He found that the cultures of typhoid bacilli added to the beer were all killed in one-half to sixty-seven hours, the bactericidal effect being most pronounced in proportion to the amount of lactic acid in the beer; the acetic acid had also a lesser influence of the same kind. The beer, as it is manufactured, is evidently a hygienic drink, but when water is mixed with it, as frequently occurs, the germs in the water may prove a source of infection. Beer weak enough to allow survival of bacteria becomes more bactericidal as it ripens, as the bacilli in it generate more lactic acid, which in turn has a destructive action on them.

REPORT OF A CASE OF PEMPHIGUS CHRONICUS.*

WILLIAM FRICK, A.M., M.D.
PROFESSOR OF DERMATOLOGY IN KANSAS CITY MEDICAL COLLEGE.
KANSAS CITY, MO.

The word pemphigus is derived from a Greek word, which means a blister. Hence the earlier writers used the term, with some qualifying adjective, for all bullous eruptions. This gave a large number of varieties. More recently the term is more restricted in its use, and instead of some of these varieties we hear of the bullous eruptions of syphilis, impetigo bullosa, epidermolysis bullosa, etc.

This seems to indicate that the work of elimination is going on and the term will in the near future be restricted in its use to some definitely described disease or perhaps several varieties of the same disease. The disease known as pemphigus vulgaris by Hebra, Kaposi and others, or as pemphigus chronicus by Unna, Crocker and others, is the one to which no other name is given,



Fig. 1.—The eruption on the leg.

and seems entitled to be distinctly known as pemphigus. It would seem that pemphigus foliaceous is but an advanced or malignant variety of the other. In this paper I will not attempt to consider anything but pemphigus chronicus, as that was the affection afflicting the patient whose clinical history I will try to relate. While this is a rare disease, especially in America, it still occurs with sufficient frequency to make it of great interest to those giving a good deal of attention to skin diseases. This interest is increased by its obscure etiology and by the gravity of the disease. While a large percentage of these cases recover temporarily, we would like to quote Kaposi, who has had a large experience and seems to have studied his cases carefully and observed them for a period of years in order to see the final results He says:

In 21 years (1866 to 1887) I saw at the hospital 210 cases, and altogether more than 300 cases. Among 182 cases which were carefully studied there were 35 deaths (with autopsy),

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

i. e., the mortality under our observation was 17 per cent. The remaining 83 per cent. can only be regarded as temporarily "improved" or "cured" and the majority of them terminated fatally. In my estimation, not 10 per cent. of the cases really recover permanently. (J. C. Johnson's translation of "Diseases of the Skin by Kaposi," p. 399.)

Those cases which lapse into pemphigus foliaceous are considered universally fatal. It occurs to me that until the etiology of a disease is well established, careful and accurate reports of the clinical history of the case may be of value; hence the attempt to report the following as accurately as possible. The case occurred in the practice of Dr. E. Carbaugh, by whom I was called in consultation and given the opportunity to observe and report the case.

FAMILY HISTORY.—Mrs. H. D. Father died at 76 of Bright's disease. Mother died at 59 with "some disease" of the liver causing dropsy. She had three brothers and three sisters. One brother had rheumatism and another varicose veins, but all three are living and reasonably healthy. Sisters are all dead. One died at the age of 39 years with gallstone, without operation; one at the age of 39 years with some throat trouble, probably cancer, and the third died at the age of 35 years with consumption. The sister who died with the throat trouble had at one time, several years previous to her death, an eruption of blebs on her face soon after being vaccinated, which was supposed to be a vaccinal eruption. Patient knows of no other skin disease in her family.



Fig. 2.—The eruption on breast and axilla.

PERSONAL HISTORY.—Patient is 53 years old and has been a widow for the last eight years. She is 5 feet 3 inches high, and previous to the menopause weighed 125 lbs. Since the change, which occurred seven years ago, she has increased in weight to 150 lbs. She is of the blond type, with decidedly nervous temperament. Says she always considered herself an entirely healthy woman previous to her present disease. She was born in Cromer, England, and came to America eighteen years ago. She was married at 29 years of age and had two children, the youngest of whom is now 21 years of age. She had a severe nervous shock eight years ago on account of the sudden death of her husband, and has been more nervous since. Thinks she has had more worry in the past two years than ever before.

HISTORY OF THE DISEASE.—The disease began a little more than two years ago on the mucous surfaces of the labia majora. Bullæ developed, varying in size from a pea to a pigeon egg. These came in crops lasting two or three weeks, after which they entirely disappeared for the same length of time, and then a fresh outbreak took place.

This manner of attack continued until early in June, 1892, when the eruption appeared on other parts of the body in about the following order: Inside the thighs, on legs, arms, breasts, abdomen, neck, outside the thighs, back of hands, feet, face, scalp, mucous membrane of mouth, and soles of feet. All parts of the skin were affected except the palms of the hands. A part of the time when the eruption was very profuse erythematous patches were observed covering considerable surfaces, but these seemed to have no influence on the bullous eruption. Blebs sprung up by the hundreds; sometimes on the erythematous patches, but quite as likely on normal appearing skin. They varied in size from a large pinhead to a hen egg, were superficially situated, and showed the greatest irregularity in distribution and size. It was interesting to see how quickly the largest attained their full size. Beginning with the pinhead size, they became as large as a hen's egg in six or eight hours. The most common size of the fully developed bleb was about that of the ordinary filbert, or, possibly, a little smaller. Some never became as large as a pea. Some stood alone, while others were grouped, but with no regularity of grouping. Every day fresh bullæ appeared, but no one could guess where they would appear the next day. One day the principal group might appear on the outer thigh, the next on the abdomen and the next on the foot. The largest of the bullæ developed on the inner side of the thighs. The blebs all stood out semi-globular, tensely filled with a clear, yellowish or straw-colored fluid, which became opaque within twenty-four hours if not ruptured. At the same time all stages can be seen from the beginning of the bleb to the pigmented spot after desquamation. The patient's appetite remained fair, and she appeared fairly well nourished, but rather pale. She complained of being weak and sleeping poorly. Bowels were inclined to sluggishness. Rigors and heat flashes were frequent, and the temperature ranged from 100 to 101 2/5 for a period of over two months. I saw her first on July 17. A urinary examination made July 20 showed: Amount passed in twenty-four



Fig. 3.—Distribution of the eruption.

hours, 24 ounces; specific gravity, 1024; reaction, acid; slight amount of albumin, but no sugar; a few coarse granular casts, numerous flat epithelial cells and a few pus cells. This specimen was not taken with a catheter, and we concluded the pus cells and most of the epithelial cells were from the labiæ. Six weeks later another examination of urine, removed by the catheter, showed a normal urine and it still remains normal. All of the finger nails and the great toe nails were exfoliated, beginning about the middle of August, and were replaced by brittle, poorly-developed nails, full of longitudinal ridges. They grow slowly and break off at the free border.

BACTERIOLOGY.—A bacteriologic examination was made of the fluid in the blebs. Fresh, tensely filled blebs were selected and, with a sterilized hypodermic syringe, the clear fluid was withdrawn and thrown immediately into culture tubes. Four tubes were used, with a different culture medium in each. These were given in charge of Dr. E. L. Stewart at the laboratory of the Kansas City Medical College, whose report we give:

"All the tubes showed a growth of bacteria. These were plated out and examined. The bacteria isolated in pure culture are of two types, one a micrococcus and the other a bacillus. The micrococcus answers every description of the *Staphylococcus pyogenes albus* and seemed to be quite small. The other type—a bacillus in morphology—resembled very much the typhoid bacillus as seen on agar-agar culture except that it was smaller both in length and thickness and was not so mobile as Eberth's bacillus. It grew readily on agar-agar, gelatin, potato and bouillon, and maintained its mobility and morphology on all four cultures. On agar-agar it first appeared as minute white specks, later becoming confluent and evenly disseminated except at the border, where there seemed to be a slight elevation. In gelatin a stab culture gave a crater form liquefaction which proceeded with moderate rapidity. On potato the growth was not as rapid as on other cultures, but in forty-eight hours showed a smooth, glistening culture. It seemed to stain with carbol fuchsin better than with methylene blue and was decolorized by Gram's method. No experimental inoculations were made."

BLOOD EXAMINATION.—We did not succeed in getting a proper examination of the blood at the time the eruption was profuse. Such an examination was made in February, about six months after that stage had passed, but while a few blebs were present on different parts of the body. This examination showed a normal blood in every way.

We were unable to secure material for a histologic examination.

The period of profuse eruption continued from early in June till late in August, nearly three months. The last week in August the number of bullæ diminished rapidly and seemed to cease about September 1. For about two months there were none to be seen on the body, but on the mucous surface of the labia, which had been better during the three months mentioned, the same condition reappeared as before. It still continues, fresh blebs continually appear and soon break, leaving raw surfaces. This location seems never to be entirely free; on other parts of the body a few poorly-formed, superficial bullæ form, soon rupture and disappear. The patient has gained in strength and appears in nearly normal health in every other way.

TREATMENT.—The treatment of the case consisted in the use of nutritious foods, perfect rest in bed, removal of all excitement and worry, and the administration of tonics, especially arsenic. Quinin, iron and strychnia were also freely given. The treatment which gave the most comfort and seemed to do the most good was the antiseptic bath. It seems all observers agree that this is a valuable aid in treatment. Hebra and Kaposi report severe cases cured by means of the continuous bath. We were unable to secure such a bath, but used a simple warm water bath and also medicated or antiseptic baths (bichlorid and boracic acid). The simple bath did not seem to accomplish as much as the medicated. The bichlorid bath seemed to do more for the patient than any other kind. This was given as strong as 1 in 5000, the patient remaining in it fifteen minutes. This strength was not used daily for fear of getting too much absorption of mercury, but a weaker solution, 1 in 20,000, was used more frequently than the other.

We are not trying to prove the cause of this disease in this paper, but simply reporting our observations. It seems quite reasonable to me to conclude that the point of departure from health is in the nervous system and through this the skin manifestations take place.

301 Rialto Building.

THE TREATMENT OF EMPYEMA BY CONTINUOUS ASPIRATION.

WELLER VAN HOOK, M.D.
CHICAGO.

The disastrous results which sometimes follow simple open drainage of empyemas have induced a number of experimental and practical workers to undertake improved methods of treating such cases. These bad results consist in the failure of healing; in the formation of fistulas leading down to large cavities, often persisting for years after incision and drainage; osteomyelitis of ribs; retracting of connective tissue about the pleura, resulting in distortion of the thoracic viscera; infection with tubercle bacilli; secondary and remoter conditions such as amyloid degeneration and intercurrent diseases; and especially the distortions of the skeleton and the distant musculature due to the contraction and collapse of the chest walls. Most of these consequences are due to the mechanical conditions under which healing has to take place.

When the pleural cavity is widely opened the lung, on account of its elastic tissue, retracts immediately toward its root. During expiration there is a slight tendency on the part of the collapsed lung to expand, owing to the air from the injured lung being driven by expiratory pressure into the bronchus of the opposite side. During this temporary distension of the lung adhesion between parietal and visceral pleuræ can occur. The unfolding of the collapsed lung and the filling out of the pleural cavity take place partly by a progressive union between the parietal and visceral pleuræ due to the relief of tension at the point where granulations are most effective, during expiration (Roser).

Another cause of the closure of these cavities is to be found in the filling of the space by granulation tissue, while retraction of the new-formed scar tissue aids in drawing together the pleural surfaces, diminishing the size of the cavity. Relaxation of the diaphragm and the partial collapse of the chest wall, together with the adaptation brought about by the attendant scoliosis, give assistance in the process.

When cavities are very large interruption of any one of these processes may stop the progress of healing and the condition may persist for years.

Naturally the proper material to fill this space is the lung. To close the cavity by the alteration of the chest wall or by the pulling over of the mediastinal organs to meet the parietal pleura are makeshifts of but slight physiologic value. Obviously the correct procedure lies in the rapid closure of the cavity by inducing the lung at once to meet the parietal pleura, so that the pleural surfaces may quickly heal by granulation.

Several attempts have been made by different workers to overcome the pneumatic difficulties involved in these cases. Schede showed in 1890 that a common bandage could be made to act in a valvular way if it were made very large and put on very tight, and he has given us

certain special directions about the method of its application. The effect of such a dressing is to allow some air to escape into the dressing while but little air is allowed to enter. In this way the advance made by the expanding lung is to some extent maintained by permitting adhesion of pleural surfaces and removing tension from the pleural new connective tissue, which may proliferate and retract.

A mackintosh has been used for the purpose of aiding in this valve action of the dressing, and oiled silk and plates of glass have been applied with the same end. Thiersch was the first to suggest the thin rubber plate for this purpose. Buelau was the first to recommend continuous aspiration drainage. He used for this purpose the well-known siphon principle.

All of these methods, however, from a physical point of view, are defective, and in comparison with the recently proposed plan of Georg Perthes,[1] mere child's play, excepting under the simplest conditions.

Briefly stated, Perthes' method consists in making an adequate opening, if necessary with rib resection, and then continuously maintaining a pressure less than that of the atmosphere in the pleural cavity, so that the lung may be made to more rapidly approach the chest walls. The striking results obtained by this method, obviating the need of destructive operative procedures, induce the writer to make a report on the management of two cases of empyema treated by him in this way, especially as he is able to give minute directions for the application of the principle in private houses.

The method calls for some special apparatus which is not expensive, but requires some mechanical ingenuity and attention for its construction and care. In the first place, there must be a properly constructed cover for the wound. Next there must be a continuously acting air pump to remove the air from the pleural cavity. In the third place, a collecting vessel is required for the pus, and this must be provided with a manometer.

The pump best adapted to the needs of the method is Bunsen's, which, it will be remembered, is actuated by the running water of the hydrant. This pump is a little brass instrument about seven inches long, which screws on to an ordinary hydrant. The waste water discharges into a sink, and a rubber tube connects the exhaust of the pump with the collecting vessel.

In the management of my first case the apparatus required had to be entirely extemporized. The first difficulty encountered was that the water service pipes of the house did not enter the room in which the patient lay, and beside, there was no drain through which waste water could be allowed to escape. The first difficulty was overcome by bringing water by means of a garden hose from the story above, where a large tank was located. The second difficulty was overcome by raising a window a trifle and passing a tube out to discharge the water on the ground. A Bunsen pump of metal was obtained at a supply house for chemical apparatus. The current of water was made to pass through this pump in a fair stream. The exhaust of the Bunsen pump was connected by means of a rubber tube with a glass tube passing through a rubber stopper in one neck of a three-necked Wolff bottle. The pump, therefore, diminished air pressure in this Wolff bottle. Through the second rubber stopper a tube was made to pass to the apparatus connected with the chest cavity of the patient. A manometer was connected with the third opening in the bottle. The purpose of this manometer was to regulate the air pressure in the empyema cavity. Inasmuch as there was leakage about the chest walls, air being admitted into the apparatus constantly on account of mechanical imperfections, it was necessary to provide for an excess of aspiratory action. This was admirably done by the Bunsen pump. Once set in action the pump required but little attention from the attendant. Night and day its action was continuous, and, in the main, entirely satisfactory. Variations in the water pressure, however, resulted in irregularities in the vacuum, unless this result was prevented by the use of a manometer. This simple apparatus is best understood by reference to the photograph and a reproduction of Perthes' cut. I obtained from the supply house a Y-shaped tube, such as is used in the laboratory for dividing the gas supply of an ordinary gas pipe. The lower end of the single branch of the tube was provided with a rubber tube slipped over the open end, the lower end being filled with mercury, retained by means of a pinch cock. The raising or lowering of the pinch cock raised or lowered the mercury in the arms of the Y. Connection by means of tubes was made between one of the arms of the Y and one of the necks of the Wolff bottle.

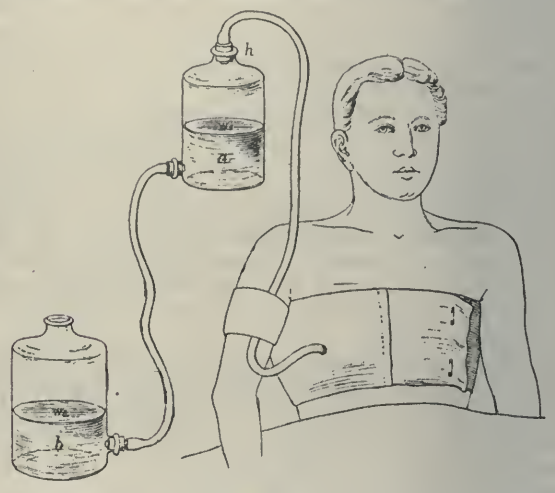


Fig. 1.—Application of dressing to side of patient. (Perthes.)

Thus, when the air was exhausted from the Wolff bottle the pressure on the mercury in the arms of the Y was altered, the mercury traveling upward in the arm nearest the Wolff bottle and sinking on the other side. If the exhaustion proceeded to a certain extent, the mercury was drawn down beyond the point of junction of the Y arms and the air passed over into the Wolff bottle. The mercury then flowed back into the Y, and the equilibrium was re-established. In order to prevent the mercury from being drawn over by the rush of air into the Wolff bottle, it was necessary to introduce into the manometer tube a glass tube provided with a bulb, so that the mercury might, when drawn up, spread out into a lake, and allow the air to pass through it. We used for this purpose an ordinary pipette. The nurse can regulate this part of the apparatus from time to time with ease.

The dressing applied on the chest wall was different from that originally described by Perthes. I prepared the apparatus used by taking dentists' heavy rubber dam material, making a small opening in the center of a piece about ten inches square, pushing the rubber drainage tube through this opening and sealing the junction between the tube and rubber plate with ordinary bicycle cement. The best tube to use for this purpose is that suggested by Perthes, a soft stomach tube. The rubber

1. Beiträge z. kl. Chir., Bd. xx, H. 1, 1895.

plate was laid on the chest wall of the patient in such a way that the tube readily entered the opening in the patient's pleural cavity. Needless to say, the apparatus had been disinfected by washing and soaking in chemical disinfectants. It was found that zinc oxid ointment spread thickly on the rubber dam tissue protected the skin, and at the same time prevented the ingress of air. The wrinkling of the rubber dam tissue may be prevented or diminished by using very heavy tissue, or by cementing the rubber dam tissue to the chest wall. The apparatus having been applied the impervious tissue may be fastened down by means of rubber adhesive plasters about the edges, and a large dressing with a hole in the middle may be fastened around the chest of the patient.

These preparations having been made, the pressure may be applied by turning on the water. At first the pressure should be low, not more than twenty-five or thirty millimeters of mercury, as measured in the Y



Fig. 2.—The author's apparatus.

arm of the manometer nearest the Wolff bottle. This can be accurately provided for before starting the apparatus in action by filling the two arms of the manometer to an equal height, this height being equal to one-half the desired pressure. At first the patient rather dislikes the pressure. Later he does not object to it. Our first patient bore thirty millimeters' pressure without complaint. He slept well while the pressure was maintained.

This entire apparatus can be provided at an expense of only a few dollars. No special apparatus is necessary, although Perthes has had such apparatus manufactured. The cost of Perthes' apparatus in Germany[2] is set at about sixty marks, equal to about fifteen dollars. The improvised apparatus, exclusive of the garden hose, was provided for less than five dollars.

Any physician of a mechanical turn of mind who has a good nurse to assist him can make use of this modification of Perthes' apparatus in any private home. The consumption of time and effort by the physician will be considerable. The patience of the nurse will often be tried, but the remarkable results obtained certainly justify all efforts and any degree of patience. The writer feels confident that the enormous empyema cavity with which he had to deal in this case would not have healed spontaneously by the usual treatment in a much longer time.

CASE 1.—The patient was Dr. N. of Sycamore, Ill., aged 32. A severe left-sided pneumonia preceded the empyema. Typical rusty sputum had been observed, in addition to the ordinary symptoms of that disease. The patient had been sick about three weeks.

His appearance when seen by the writer indicated extreme fatigue and exhaustion, but the expression was intelligent, although at times some mental aberration was noted. The patient had lost much weight, and the features were pale and drawn. Respiration was rapid and shallow and the pulse rate was high. On inspection of the chest the right side was seen to actively expand and contract with respiration, the excursion of the chest wall being greater than normal. The left side was bulging and comparatively inactive during respiration. The intercostal spaces projected to a marked degree. The cardiac pulsations were observed at the right of the sternum. Dulness was absolute over the entire left side from the region of the diaphragm to apex of the lung, both in front and over the back.

On account of the great pressure within the thoracic cavity, the displacement of the heart and other mediastinal organs and the embarrassment to both respiration and circulation, drainage of the pleural cavity was effected under local anesthesia (Schleich.)

The writer is strongly opposed to general anesthesia in operating on extensive pleural accumulations. Local anesthesia suffices for an incision, which is all that should be undertaken in a primary operation.

The patient bore the discomfort of the operation heroically. At least a gallon of pus was immediately discharged from the pleural cavity. A rib was not resected. It is not necessary to resect ribs, excepting where prolonged drainage is required, the intercostal spaces being amply large for all ordinary purposes, even in children. The respiration of the patient was temporarily very much embarrassed, and the pulse, for a time, was much accelerated. In a few hours, however, the patient experienced great relief. Twenty-four or forty-eight hours after the operation the condition of the patient was for a time alarming, but under appropriate stimulation the critical period was passed. For a variety of reasons not connected with the operation or the condition of the patient the aspiratory apparatus was not applied until the eighth day, although it would have been feasible and much more advantageous to apply the apparatus soon after draining the chest cavity.

At first the amount of the discharge was great, a pint being discharged in twenty-four hours. The quantity rapidly diminished until only a few ounces were found obtained in the bottle.

It was but a few days until the patient was able to sit up in bed, and in the course of four weeks the wound was entirely healed, the drainage tube having been gradually shortened.

Only a few hours after the application of the apparatus air could be heard entering the left lung and the tympanitic note of pneumothorax had disappeared. A pressure of thirty millimeters of mercury was contentedly borne, the patient sleeping in perfect comfort throughout.

Drs. George Nesbitt and J. S. Brown gave the most hearty and sympathetic co-operation in carrying out the plan. About six weeks after the operation the patient went to North Carolina to recuperate. His health is now all that could be desired and there is practically no chest deformity.

The value of Perthes' method and the indications for its application are yet to be determined by the larger experience of the profession. Perthes himself reports,[3] however, a number of cases, both of acute and chronic empyema, which he has treated by his method. His conclusions and comments are of interest and value.

2. C. G. Heinemann, Leipsic.

3. Mit. a. d. Grenz. Geb., Bd. vii, H. 4 u. 5.

He notes that in all recent cases the lung was distended (*entfaltet*) in a few days, "and yet the secretion diminished only gradually and the healing of the space (*spalte*) remaining after removal of the drain required a considerable time. This is only to be explained by assuming that a certain time was required until the pneumococci or streptococci imbedded in the superficial layers of the pleura died."

Perthes considers that his apparatus should be used when, four days having elapsed after incision, it is found that the lung has not resumed its contact with the parietal pleura. Of course, in many instances the tight dressing of Schede suffices.

In chronic empyema the necessity for the employment of this method of treatment is even greater than in acute cases. The second case observed by the writer convinced him of the value of the method under such circumstances.

Case 2.—George W., aged 6, entered Wesley Hospital Dec. 1, 1901. His previous health had been excellent. Seven weeks before, the parents stated, the child became ill rather suddenly and the family physician diagnosticated a pneumonia on the left side. Although the cough diminished, the patient did not improve much, and gradually the left side became more and more swollen.

On admission the patient was found to be a fairly well-developed child, but very much emaciated. He lay by preference on the right side and coughed a great deal.

Dulness on the left side extended from almost the level of the clavicle to the diaphragm, and from the spine to a point beyond the anterior median line. The heart was pushed well over to the right. The pulse ranged from 116 to 144; the respirations from 48 to 54. Marked bulging on the left side.

On account of the great embarrassment of the respiration and circulation the writer's usual practice of operating under local anesthesia was followed. At clinic an incision about one inch long was made in the anterior axillary line at the sixth interspace and an enormous quantity of pus escaped. Respiration became stormy and labored, until a large dressing was quickly applied. For several days the patient remained extremely weak, but, the temperature becoming nearly normal, improvement at last began and the cavity rapidly diminished in size. But when thirty days had passed and the cavity had for a week held two ounces of fluid, it was decided to apply Perthes' apparatus to hasten the healing process. In five days the capacity of the cavity was diminished by half. The manometric pressure was raised from thirteen to twenty-five millimeters. Two days later, January 9, it was again increased to forty-seven millimeters; January 11, to fifty-three millimeters, and January 17 to seventy millimeters. After forty-eight hours the apparatus was removed and dry dressings applied. The sinus was a little slow to heal, but on January 26 was finally cicatrized.

The deformity was very slight and will, I think, eventually almost entirely disappear.

These cases are presented because the writer considers them suggestive rather than demonstrative, and because the original apparatus of Perthes' can be extemporized in the manner indicated.

The writer believes that a very important field of usefulness exists for continuous aspiration of the pleural cavity both in acute and chronic empyema.

103 State Street.

The Campaign Against Quackery.—To discourage poor persons who suffer from pulmonary affections from patronizing concerns which profess to have a cure for consumption, the tuberculosis committee of the New York Charity Organization Society has issued thousands of circulars to the poor. This was because a concern had attempted to link the name of the society with one of its advertisements in such a way as to cause the impression that the society indorsed the "cure."—*Pharmaceutical Era.*

UNILATERAL DISEASE OF THE KIDNEY SIMULATING STONE.*

JOSEPH RANSOHOFF, M.D., F.R.C.S.
Professor of Principles of Surgery, Medical College of Ohio, Medical Department of University of Cincinnati.
CINCINNATI.

When one considers the achievements in any field of surgery there is always one spot brighter than the rest by reason of especially good results; results obtained through faultless interpretation of symptoms and clinched by brilliant operation. In the field of renal surgery this applies to the operation for stone in the kidney, that is, when a stone is found. Unfortunately the elating thrill the surgeon expects to experience when the finger touches the stone in the opened kidney is not always felt; in its place is chagrin, if not discomfiture, when the fullest search fails to reveal the object sought for. To whom has it not occurred? A year ago the writer saw one of the foremost specialists in kidney surgery fail to find a stone in two cases within ten days. Were Tiffany to rewrite a paper presented before the American Surgical Association in 1889, he might readily present the reports of 200 cases instead of 21 in which the kidney was explored with results negative as to finding of a stone.

Two questions, necessarily correlated, at once arise, the solution of which would remove the obloquy attending a seemingly fruitless if not hazardous operation. They are: 1. Have we any positive and absolute method of recognizing stone in the kidney? 2. Are there not other pathologic conditions in the kidney, the symptom-complex of which covers to a nicety that of stone? In determining the first question in a positive sense the Roentgen ray was of necessity a formidable factor from the moment its penetrating power was known. With increasing experience in the methods of exposure, radiography will, in most instances, give positive results. There are few of the world's famous specialists who, like Leonard, are ready to make a negative diagnosis of kidney stone.

When I contemplate a few of the stones I have removed by operation, weighing 11, 15 and 20 grains respectively, some of them not larger than a pea, and removed from very fleshy individuals, I can not but believe that their discovery by the *x*-ray would have been largely a matter of chance. It goes almost without saying that an effort should be made to locate a stone by radiography in every suspicious case before operation. The sounding for kidney stone with a wax-covered ureteral bougie, as suggested by Kelly, seems to me chimerical in the extreme. To one conversant with the variations in position of a kidney stone it must be evident that its detection by sounding must be altogether fortuitous. Aside, then, from the positive presentment of a calculus by radiography the signs most relied on are pain, paroxysmal or continuous, and certain changes in the urine.

To consider the former at length is beyond the scope of this paper. Suffice it to say that the pain of stone may be simulated by any gross pathologic conditions of the kidney or ureter, such as tuberculosis, tumor, hydronephrosis, etc., and what is most relevant to the question propounded, by microscopic changes in the kidney, changes affecting either the secreting, the circulatory or supporting frame work and capsule of the gland. While ordinarily renal colic is associated with intrarenal retention from obstructed outflow, in certain chronic af-

* Read before the Southern Surgical and Gynecological Association.

fections of the kidney with acute exacerbations the distension of a resisting capsule from within may be, and often does, give rise to a typical renal colic.

The most important factors making for a diagnosis of stone are obtained from an examination of the urine. Everyone associates hematuria with stone in the kidney. While this may be as profuse as in malignant tumors, it has, in my experience of nearly 20 cases, been marked rather by sparseness. In a paper[1] read before the American Medical Association in 1895, I insisted on the microscopic character and constancy of the hematuria as almost characteristic of stone in the kidney. The centrifuge alone will help us to distinguish a few, probably faded discs in nearly every sample of urine voided, and as long as pyelitis is absent a number of leucocytes proportioned to the discs as in normal blood. Albumin, except in traces, and casts, epithelial or blood, are not found ordinarily in the urine from a stone kidney, unless secondary nephritis has developed. The bleeding comes from the pelvis or its larger tributaries. During or after a renal colic the hematuria may be profuse. Its source is then not the pelvis alone, but the congested renal parenchyma, as it is in the hematuria from hydronephrotic kidneys.

In the urine of 1,997 persons examined by Musser blood was found by microscope in 364. All the cases of kidney stone had hematuria. "It is not an intermittent phenomenon, but one that is constantly persistent."

When we next consider that in certain but few cases of undoubted chronic nephritis albumin and casts are absent, often for months at a time and sometimes altogether, and that both pain and hematuria either microscopic or profuse may be present, it seems evident that the difficulties of differential diagnosis at times are insurmountable. True, in most cases of Bright's disease, hematuria is always microscopic; indeed, profuse hematuria has, until very recently, not been associated with this condition by clinicians. Naunyn's recent report of three cases has directed attention to the possibility of profuse hematuria accompanying Bright's disease.

With these difficulties of diagnosis before us it necessarily follows that cases must multiply in which a supposed stone is not found by operation or autopsy, and that many kidneys explored superficially by such inspection, as an operation permits, would be found seemingly normal. It also follows that explanations of the symptom-complex on some basis other than anatomic would be forthcoming. Because of the absence of such a basis it was natural that the pains should be designated neuralgic; surely an explanation that fails save in the rare cases of renal crises of locomotor ataxia, described as long ago as 1876 by Raynaud and Le-Roboullet, and distinctly allied to the gastric crises of Charcot. It remained for Sabatier, in 1889, to originate the euphonious term hematuric nephralgia to designate this group of symptoms; a term which defines concisely, but fails to explain. It is curious that in the Sabatier case he found a slight inflammation of the kidney, the importance of which in the production of symptoms he failed to recognize.

The same criticism of defining without explaining applies to the more recent terms of essential hematuria, angio-neurotic hematuria and renal hemophilia. But these terms are justifiably used when the non-existence of inflammatory or other changes in the kidney has been demonstrated by minute examination of post-operative specimens or by postmortems. How difficult this may be and how slight the changes, is illustrated by a kidney removed for essential hematuria and presented by Nickolish to the Paris Academy a year ago. In Vienna the kidney was pronounced normal. In Paris Albarran and Motz found marked evidences of glomerulonephritis. That profuse bleeding from the kidney can be a symptom of hemophilia, various forms of toxemia or arteriosclerosis without local changes in the kidney, is not to be questioned. It has also been noticed from normal kidneys after very prolonged exercises, notably horseback rides of many hours' duration. Barring these conditions, does it occur from normal kidneys? According to Schede, this only occurred in six cases, and Israel only concedes two, those of Schede and Klemperer, in evidence of its possibility.

A critical analysis of the conditions found when kidney stone or tuberculosis was fruitlessly sought, answers in the affirmative the second question propounded in the beginning of this paper, namely: Are there not other pathologic conditions of the kidney, the symptom-complex of which cover to a nicety that of stone? Such analysis, furthermore, enriches our knowledge of renal pathology by two important data. They are: First, that bilateral, chronic nephritis often manifests itself as an unilateral disease; and, second, that just as tuberculosis or infarct, though hemogenetic, may be unilateral, chronic interstitial, parenchymatous and capsular inflammation of the kidney may be limited to one side. Rayer already called attention to a case of this kind in his classical treatise on the kidney. Carefully studied cases of this nature are not numerous. This is my reason for presenting the following case:

HISTORY.—W. H. C.; aged 58; merchant. Family history negative in regard to patient's complaint. Father died at 56 of gangrene of the foot, mother died at 76 of pneumonia. One brother died at 60 of cancer of the stomach. Patient has always claimed to be of frail health. Had ordinary diseases of childhood. While in the voluntary navy had malaria. In 1884 had an attack of scarlet fever. After the attack of scarlet fever he became troubled with what was supposed to be cystitis, for which he was treated from time to time for ten years. In 1860 he had gonorrhea. About fourteen years ago he had his first attack of pain in the right loin and underneath the lower right ribs. This was associated with a sense of fulness and of soreness. He experienced at the time a sense of abdominal tension, which was relieved when vomiting set in. This was associated with an irresistible desire to urinate. Micturition was frequent and very painful. The attack lasted for several days, and was supposed to be appendicitis. The attacks first returned from time to time, and, to use the patient's language, then became more insistent and persistent. The patient has not been free from pain for a month at a time in the last ten years.

The case had been diagnosed at different times cystitis, appendicitis, pyelitis, stone in the kidney and floating kidney. When seen with Drs. Stewart and Forchheimer, the patient presented the following condition: Middle aged man of nervous temperament and ruddy complexion. Shows facial traces of severe suffering. He had been confined to his room for six weeks with pain in the right side of the loin reflected to the right groin. For the relief of this pain, the patient takes two to five grains of codein daily. During his confinement his temperature was always normal. When the attacks of pain are severest there is frequency of micturition. Micturition is painless. Never complains of pain in region of the left kidney.

PHYSICAL EXAMINATION.—This is negative except for some tenderness on deep pressure in the right costo-vertebral angle and over the right ureteral crossing over the pelvic brim. The kidney can not be palpated. Cystoscopic examination negative. Separation of the urines was not attempted.

URINALYSIS.—While the patient was under observation fully fifty samples of urine were examined. At times there

1. THE JOURNAL A. M. A., July 6, 1895, p. 1.

was a slight polyuria. The urine was always clear and limpid, free from albumin and casts. Every specimen examined when centrifuged, presented from five to ten red blood cells in the microscopic field. Often they were difficult to discern. Evidences of pyelitis were not found in the urine at any time. Hematuria was never manifest to the naked eye.

Feeling nearly certain that the kidney harbored a stone, an *x*-ray picture was taken. Although it clearly revealed the kidney shadow, it showed no stone. An exploration of the kidney was nevertheless determined on.

OPERATION.—At Jewish Hospital, April 21, 1902. Oblique, lumbo-abdominal incision. When the deeper layers of the perirenal fat were reached, they were found much firmer than normal, and in exposing the capsule of the kidney firm adhesions to this of the fat layer had often to be divided with knife or scissors. The freeing of the kidney preliminary to incising it was as difficult as I have seen it after long-standing pyorenal fistulæ. The kidney, of about normal size, was very grayish in color and much firmer to the touch than normal. A stone could not be felt. After placing an elastic ligature in the usual way about the pedicle, the kidney was freely incised in the line first described by Hyrtl, and the pelvis opened. Except for possibly a slight dilatation of the latter, nothing abnormal was found. To the naked eye the kidney section appeared normal, except for a grayish color which may have been due to the operative ischemia. A thin section was removed for microscopic study. The ureter was easily probed to the bladder and found normal. The operation was terminated as an aseptic nephrolithotomy. This was perhaps a technical error, for a slight infection occurred which delayed recovery. The suppuration was extrarenal. In the course of this, a thrombosis of the left femoral vein supervened. June 5 the patient was discharged from the hospital well, except for a slight swelling of the left foot, the last sequel of the femoral thrombosis. This also disappeared. Since his return from his vacation the patient has followed his affairs; has had no pain of any kind, and repeated examinations of the urine fail to show any trace of hematuria. November 1 the patient reports a gain in weight of twenty-four pounds since the operation.

PATHOLOGY.—The following is the report of Dr. Hiller on the findings: The examination of the thin slice of kidney substance removed *intra vitam* reveals changes in the parenchymatous elements. Although the glomeruli have generally retained their normal appearance, here and there in areas the normal tingibility is lost, and distinct atrophy with granular change has occurred. The cells lining the tubules show in these areas a granular change with desquamation, the lumen of the tubule being often occupied by a granular debris in which nuclei are absent. On looking at the apparently normal kidney structure in the slide, the quantity of red blood cells both in and outside of the blood vessels stand out in bold relief. There is not present any distinct overgrowth of connective tissue nor are there any bands passing from the capsula propria of the kidney. This structure, although it does not appear thickened, seems unusually dense toward the outside.

In April, 1903, the patient reported from the Nile that he was in perfect health.

REMARKS.

The case presented is evidently one of atypical chronic inflammation of the kidney. In patches there was a distinct glomerulonephritis. From the adherence of the capsule proper to the fat capsule one might believe that a stone had existed at one time and was passed. The disappearance of the microscopic hematuria after the operation and the disappearance of all symptoms, and the fact that the patient never suffered from pain in the left kidney, make it reasonably certain that the disease in this case was unilateral.

Of considerable importance is the fact that a surgeon should not consider an operation on the kidney, in which he expects to find a stone negative in its results, when other changes in the kidney, as in the case reported, cover to a nicety the symptoms of stone. The capsule splitting and the section of the kidney will doubtless relieve many cases which simulate stone, and in which, because of the impossibility to make a positive diagnosis, are not now subjected to an exploratory operation.

In conclusion, the author would advise that in every case a small section of the kidney be removed for the purpose of microscopic examination. It is only in such a way that minute changes of the kidney can be discerned, changes which, although seemingly slight, are often capable of producing, as in the case reported, the severest symptoms.

ACUTE SUPPURATIVE CERVICAL ADENITIS OF INFANCY.*

THOMAS S. SOUTHWORTH, M.D.

Attending Physician, Nursery and Child's, Minturn and Randall's Island Hospitals; Physician, Out-Patient Department Babies' Hospital.

NEW YORK.

The condition to which I would direct your attention within the brief limits of this paper is by no means rare to those who have considerable clinical experience among children, and deserves to be qualified by the words "of infancy" inasmuch as the great majority of the cases occur in children under 2 years of age. At this period of life the lymphatic system is especially vulnerable and the lymph nodes in the cervical region particularly liable to infection and suppuration.

While in a few of the cases met, the infection of the gland has been preceded by and is traceable to some infected cutaneous lesion, in the vast majority of the most typical cases it seems evident that they are dependent on absorption from the nasopharyngeal space. The degree of inflammation in the nasopharynx seems to bear but little relation to the occurrence of the glandular swelling, many young children suffering from acute coryza or pharyngitis of considerable severity with slight or no enlargement of the cervical glands, while in others, presenting the type under consideration, it is rather the rule than otherwise that there is little or no nasal involvement at the time of the attack, although careful inquiry may elicit the history of an almost forgotten coryza a week or ten days previously. We are therefore led to infer that pathogenic germs have been carried to the glands and have there remained quiescent, or that areas persist in the nasopharynx from which by absorption a sudden glandular inflammation of considerable intensity may be lighted up.

It may be well for greater clearness to state that while those infectious diseases of childhood and the exanthemata which affect the mucosa of the nose and throat may often be accompanied by swellings of the cervical glands or even by suppuration, these are not at present under consideration, nor do they present the characteristic type and course of the acute cervical adenitis of infancy.

The usual history of the latter is that either with or without a known antecedent attack of influenza or coryza there is the sudden appearance of a marked swelling below the angle of the jaw, which, on examination, proves to be due to palpable enlargements of a lymph gland or glands lying somewhat deeply and obliquely from behind downwards and forwards just below the angle of the jaw and either chiefly anterior to or posterior to the sterno-cleido-mastoid muscle. The variation in the

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antero-posterior position of the mass appears to be due to the fact that there are two glands lying on about the same horizontal plane, one or both of which may be involved. The anterior one of these is easily palpated, the posterior one, which causes the swelling behind the sterno-cleido-mastoid, less easily, probably owing to its deeper position. Usually the chief incidence of the inflammation falls on but one of the glands, and the position of that one which is most enlarged determines the location of the mass. Holt in his text-book pictures the tumor as usually posterior. I have found it with about equal frequency anteriorly, and I present for your inspection two photographs of the same child in which evacuation and partial healing of the anterior gland was followed by typical involvement and suppuration posteriorly, which definitely confirmed my opinion that one or both of two glands might be involved.

Despite these variations, however, the general appearance and situation of the swelling is so characteristic that the diagnosis can usually be made by inspection. The child's head is thrown towards the opposite shoulder and the usual hollow beneath the angle of the jaw is replaced by a prominent mass, one and a half to two inches long by an inch or more in depth. Fever is usually present, 101 to 103 degrees, with malaise and irritability, and the mass is more or less tender to the touch. Where resolution takes place the gland remains about the same size for some days, firm and easily movable, and then decreases in size more or less rapidly. If suppuration is to occur the definite outline of the gland is lost after some days in a brawny infiltration of the surrounding tissues and with considerable uniformity fluctuation is followed by pointing at about the end of the second week.

The careful clinical observer will not confuse this condition with the less definite external swelling caused by the dissection outwards of a post-pharyngeal abscess, which, if it have reached that degree, already gives its own characteristic clinical symptoms; nor with mumps, the swelling due to which surrounds the lobe of the ear and in young children extends but a short distance below the lobe—in fact, terminates at about the point at which the mass of an acute adenitis begins. The fact that tuberculous adenitis rarely occurs before the beginning of the fourth year, and that the progress of such glandular enlargement and suppuration is rather a matter of months than of days, should, but unfortunately does not always, prevent the mistaken diagnosis of that variety of infection.

To the parent any affection of the infant which calls for surgical interference with the knife is a source of anxiety and mental suffering, while cicatrices on visible portions of the body, such as the neck, are an especial source of regret. When suppuration has occurred with beginning fluctuation it is an important rule in the management of these cases to delay incision until the thoroughly softened mass points with redness, enabling us to choose for our incision a location where the skin only need be cut through to reach the purulent accumulation. This is occasionally considerably delayed, especially in deep-seated accumulations posterior to the sterno-cleido-mastoid muscle, but in the few cases where an earlier incision has been made without distinct pointing it has been evident that the glandular tissue had not fully broken down, and discharge from the abscess cavity was prolonged and healing was tediously protracted.

The general surgical rule to lay open freely any pus cavity for the purpose of securing adequate drainage has a notable exception in these cases of acute adenitis of infancy. Here the smallest incision which will allow of the evacuation of the pus and the introduction of the smallest obtainable drainage tubing is sufficient. If the mass is properly softened, as shown by pointing, the distended cavity contracts and granulation goes on with almost marvelous rapidity, granulations often pushing their way into the fenestræ of the tubing as early as the third day. Packing with gauze or the use of drainage wicks I have long since abandoned in favor of the tube, for the former is unnecessary, and both packing and wick become dry and adherent at the orifice, defeating our purpose by occlusion, favoring accumulation of pus and delaying restitution.

Since scars on the neck are to be regretted, especially in female infants, considerable attention has been given to securing the best cosmetic results by placing the smallest possible incision where it will be least noticeable. This is attained by placing the child in a bright light and seeking on or near the distended area of pointing for one of the delicate lines which mark what were the bottoms of the natural folds of the skin of the normal neck. On this line or, if it can not be traced over the mass, on a direct extension of this line, an incision is made without anesthesia but one-fourth of an inch in length. Evacuation of the pus is then favored by very gentle pressure and the occasional introduction of a grooved director or small dressing forceps until the cavity is entirely emptied After slight stretching of the orifice with the dressing forceps a fenestrated tube three-sixteenths of an inch in diameter and one and one-fourth to one and a half inches long is introduced on a probe or small director to prevent doubling so as to reach the deepest portion of the cavity. This is secured externally with an 00 safety-pin, beneath which a fold or two of the dry dressing is, of course, placed to prevent uncomfortable pressure. On the second day usually the length of the tube is reduced one-half. On the third or fourth day there is but little discharge on the dressing and the tube may be removed. Thereafter there is a little thin mucoid discharge for a few days, and at the end of about eight days the wound is healed, leaving a minute scar at the bottom of a natural fold.

Where, after the removal of the tube, there is considerable induration of the tissues, the application of a 10 per cent. ichthyol ointment favors absorption and is more comfortable for the child than the dry dressing which becomes rough and hard with the drying discharge. When two adjacent glands have been involved and but one suppurated, induration is slow in disappearing. Rarely, as in the case of which I have shown you photographs, the adjacent gland suppurates later. If softening occurs rapidly we may occasionally reach the new cavity through the unhealed incision, but this is not often feasible. I have seen one case where it opened spontaneously on the seventh day into the unclosed sinus. Bilateral adenitis is not uncommon, but if one side suppurates the other usually resolves. My records, however, show cases where the other side suppurated from twenty days to six months later. Suppurative otitis media on the same side is a common sequela.

While strongly urging delay in incising until the appearance of localized pointing, this delay should not be prolonged until the skin is badly undermined, for in such neglected cases brought late to the surgeon healing is slow and unsatisfactory. This recommendation also should in no wise be construed to apply to the deep brawny phlegmon of the neck occurring in the course of scarlet fever where early incision is urgently indicated to prevent destruction of tissue if not of life.

Not all cases, however, of acute adenitis of infancy go on to suppuration. Holt states that in his experience of 109 cases, of which 96 were cervical, 62 per cent. suppurated. In my earlier experience with these cases certainly the majority of the glands broke down, but since the employment of the early and energetic abortive treatment, to be detailed below, suppuration has been the exception. Some years ago attempts to discover a successful abortive treatment were begun. Ichthyol ointment in various strengths was usually unavailing. Painting with iodin gave no better results. The continuous use of the cervical ice bag was ineffective. The various proprietary preparations of glycerin, kaolin and antiseptics in a mass of putty-like consistency, were faithfully tried, and only served to hasten suppuration like a poultice, for which purpose I now occasionally use them when abortive measures are clearly useless in the later stages. Absorption through the skin was evidently not sufficient in this region to affect the deep-lying glands.

The connection between chronic or subacute enlargement of the lymph nodes at the angle of the jaw and catarrhal conditions in the nasopharynx dependent on the presence of adenoid masses was then brought to my notice by the writing of Dr. Joseph Huber. The nasopharynx, owing perhaps to its situation and construction, has been accorded rather more than the usual neglect shown cavities whose interiors do not lend themselves easily to direct inspection. It seems to be only of comparatively recent date, despite the intimate connection between the condition of the mucosa of the nasopharynx and the integrity of the eustachian tube and the middle ear, that treatment of inflammations of the respiratory tract has been directed with any degree of regularity to this most resistant seat of catarrhal trouble, which, especially if adenoid masses are present with their deep sulci, affords an ideal opportunity for the retention and absorption of septic material. It is to Jacobi and Caillé that we owe, in this country most especially, the earnest recommendation of the nasal and post-nasal toilet for children, but only in the infectious diseases has this teaching taken root in general practice.

The connection between inflammatory conditions of the nasopharyngeal space and acute infections of the glands at the angle of the jaw once in mind it seemed probable that if promptly after the lighting up of the primary inflammation of the gland as evidenced by its enlargement, further absorption of infectious matter from the nasopharynx could be prevented, the gland might be able to cope successfully with the initial invasion and resolution occur, but that if fresh invasions were allowed to take place resistance would be overcome and the gland would break down. Attention was therefore at once directed to the problem of limiting septic absorption from the nasopharynx by measures which would keep the mucous membrane clean and also restore it as soon as possible to a normal condition. The plan adopted was as follows: When fever was present tablets were given containing:

℞. Tinct. aconiti
Tinct. belladon., āā.....m. 1/4 | 016
Camphor.....gr. 1/10 | 006

Sig.: One-half to one tablet, according to age, every two hours.

Chlorate of potash has an almost specific action in limiting the pharyngeal inflammations of childhood, therefore:

℞. Potassi chloratis.....gr. i to ii | 06-.12

Sig.: Every 2 hours for 24 hours, then every 3 hours, and later every 4 hours.

To cleanse and soothe the naso-pharynx:

℞. Tablets alkaline antiseptic (Seiler).

Sig.: Dissolve one in half glass water and pour a little with a teaspoon into each nostril every 3 hours.

The results obtained from the institution of this line of treatment were immediately most gratifying and a period of over one year during which these abortive measures were successful in producing resolution in every case would have been made rather too favorable a report to be credited. I have therefore withheld it until the series has been broken by a few failures (four in number) which under careful observation have in themselves proved most instructive.

A comparison of the series of cases, both without and with abortive treatment, shows in the latter a very marked reduction in the frequency of suppuration. In children over one year of age among whom under old method pus formation occurred frequently, there have been no failures. In infants under 1 year there have been but four failures, at 4, 5, 7 and 10 months of age respectively, in each of these temperature persisted and reached an average of 101 to 102 degrees each day.

1. The conclusions to be drawn from my experience are that: The abortive treatment of acute cervical adentitis of infancy as outlined is most promising, especially in children over 1 year of age.

2. The younger the infant the greater is the liability to suppuration.

3. A continuation of temperature makes the occurrence of suppuration probable.

807 Madison avenue.

DISCUSSION.

Dr. A. C. Cotton, Chicago—I believe it is my duty to go on record as approving this paper in the main. There is nothing especially new in the idea of the nasopharyngeal treatment of such cases, yet it is a matter of common observation that it is very rarely carried out. I think most practitioners of to-day will approve of a careful, judicious antiseptic cleansing of the nasal and post-nasal cavities. To be sure, there have been some objections on account of the possibility of forcing fluid, or rather infection, into the eustachian tube. With perhaps this single objection, I presume no one would differ from the essayist in regard to the importance of this nasopharyngeal and oral toilet. The determination of how much we believe in a thing may be best arrived at by observing our actions in regard to it. The Wisest Teacher said: "By their fruits ye shall know them." I recall a friendly review of a little publication that I brought out a few years ago, in which the book was treated in a most flattering manner, but the review closed with this statement: "The author's west side babies must be more tractable than those of the north and south sides, if they will permit the use of the tooth brush and atomizer advocated in this treatise." It was my privilege a year later to show the reviewer some families in which the daily systematic use of the tooth-brush, atomizer or nebulizer was as much a part of the toilet as the daily bath. The difficulties which to some physicians seem to be obstacles to the daily cleansing of the nasopharyngeal area are really insignificant. One father exclaimed: "Would you have me hold the child morning and evening while the mother and aunt perpetrate this cruelty?" It is needless to say that it had been improperly done. A little reflection will tell you that it is a simple matter if you approach the child on his weak side, and tell him he may have an atomizer for himself, such as papa and mamma have, provided he is specially good. You may use albolene at first; then some favorite perfume or flavoring, and finally you can use some disinfectant agent. Let me say that in the families in which I have succeeded in installing this nasal toilet during the past five years there has not been one case of suppurative adenitis. I think that prophylaxis lies along this line.

Dr. Charles Gilmore Kerley, New York City—I agree with Dr. Southworth regarding most of the statements made.

It is only necessary to make use of a small opening. Unless some means of drainage is employed, this small incision is very apt to close in twenty-four or forty-eight hours, and will then require reopening.

The point of differentiation between tubercular adenitis and simple acute adenitis might perhaps have been brought out more clearly. I understood the author to say that tubercular adenitis was not frequently found under the fourth year. I should modify this statement somewhat. I have seen quite a few cases of tubercular adenitis in children under four years of age; hence, this is not a sufficient ground for differentiation. I should lay stress on chronicity. In acute adenitis there is always more or less fever, and the swelling is more rapid, and one. two or perhaps three glands are involved; in other words, there is a distinct localization, whereas if the process is tubercular there is much more apt to be a distinct chain of affected glands extending sometimes down even to the clavicle.

The treatment of the nasopharynx is excellent. I am glad to hear chlorate of potash advocated, for I know of no better remedy for internal use. I have learned, in cases of acute tonsillar inflammation, to depend on chlorate of potash, and I believe that whatever good the old iron and chlorate of potash mixture did in diphtheria is to be attributed to the chlorate of potash it contained. The chance of infection of the eustachian tube in nasal cleansing I believe to be considerable, and I do not allow my students to make use of any force. The patient is placed on the back and the fluid is dropped in, or perhaps an atomizer is used. There can be no doubt that bacteria may be forced into the tube by the use of the syringe. Four or five years ago, in one of the hospitals for infectious diseases in New York City, nasal irrigation was used very extensively by means of the fountain syringe, and during this period the aurist was kept very busy treating disease of the ear. This only confirms my own experience. I prefer simple oil or albolene medicated as the case may require, and this should be sprayed or instilled and not injected into the nose. With regard to the abortive treatment, I have had good results from the application of a small ice bag kept constantly on the parts.

DR. R. B. GILBERT, Louisville, Ky.—It is probable that the majority of cases of cervical adenitis do not come from the nasopharynx; most of the cases I see are the result of injuries and abrasions about the scalp. This is especially true in connection with invasion of the superficial glands, as from eczema. We often meet with cervical adenitis arising from caries of the teeth. I agree with the essayist, however, regarding the value of stimulating and cleansing applications to the nasopharynx. This should certainly be the routine measure. I can not quite agree with all that has been said regarding local applications, for I believe that fewer local applications, with possibly the exception of the ice bag, the better. Warm applications and ointments I think should be excluded. Iodid of potassium used internally certainly favors absorption, and I believe when administered every three hours in the full doses for the age of the patient, will accomplish more than any of the local applications mentioned, even more than the stimulating applications referred to. This treatment should be begun and carried out as promptly as possible in order to preclude surgical operation and unsightly scars.

DR. EVERETT J. BROWN, Decatur, Ill.—The reintroduction of chlorate of potash to the therapeutics of disease is to me very instructive. When I studied medicine the teachers warned us against the use of this drug, claiming that it produced profound anemia. My father, being an old practitioner, used to employ the old iron and chlorate of potash mixture, but I avoided it for the reason just mentioned. The patients, however, began to ask me why I did not prescribe the old mixture. I then began using it without the iron and I found that it was very valuable. In recent years chlorate of potash has been used very freely again, and has been recommended in very large doses in habitual abortion. For this class of cases I am now using it in divided doses of two and a half drams per day.

DR. C. F. WAHRER, Fort Madison, Iowa—We have been told formerly by the best authorities that chlorate of potash caused a great deal of disturbance of the kidneys in young children. I believe we should not turn lightly from one position to the other in a Section like this, because its published opinions carry great weight. We can not afford to use forcible irrigations, and particularly with a substance like hydrogen dioxid. I have seen this substance employed in half strength in a child's nostril. The explosion of such a substance may do a great deal of harm by its action on the eustachian tube and middle ear, forcing infections beyond our control. The cleansing by such an agent should certainly be done only by instillation. The older practitioners looked on these cases of cervical adenitis as one of the evidences of scrofula, and while I am not quite sure what is meant by scrofula at the present time, I am of the opinion that it is generally tuberculous. However, we must be still careful about heroic medication with chlorate of potash and in the use of forcible irrigations in patients of tender age.

DR. WILLIAM CARVER WILLIAMS, Chicago—Has the author of the paper had any experience with mixed infection in these glandular cases? I recently had a case of typical adenitis, such as he described, which was treated by the small incision at the stage of pointing. It refused to heal and there was considerable discharge at first. In time the whole chain became indurated, and exhibited the evidence of tubercular inflammation, and these glands eventually required removal by operation.

DR. JAMES G. MASTIN, Chicago—I have been in the habit of using chlorate of potash internally in suppurative conditions and locally in sore throat. I believe this remedy will limit the formation of pus in a suppurative adenitis, and that if it is begun early enough we can almost wholly prevent the formation of abscesses. I think that chlorate of potash may be given without fear if the kidneys are in a healthy state. The use of irrigations by means of the fountain syringe, etc., and atomizers I look on as bad practice because it involves more or less force in the application of the remedy. For the past year I have been using Pattison's nasal irrigator, with which we can apply as much or as little force as we like. By applying the irrigator to one nostril a thin stream of water will flow out of the opposite nostril and by closing it with the fingers and holding the mouth open a thin stream of water will pass through the nasopharynx and out of the mouth, thus closing the nasal cavities and post-nasal space. I have not recently made use of albolene or other oily preparations, for, although they are good, I believe that normal salt solution is superior to them all.

DR. H. N. LEAVELL, Louisville, Ky.—With regard to tonsillar involvement: Very often, if we will pull back the anterior pillar of the fauces, we shall find a little crypt full of cheesy matter which has not been sufficient to cause an acute tonsillitis but has produced enough irritation to involve the lymph channels. This, it appears to me, is an etiologic factor of some importance. With regard to the abortive treatment of these cases of cervical adenitis, I may say that I employed such methods very faithfully some years ago in the hope of avoiding suppuration, but like Dr. Southworth, I failed, and I believe there is not much gained by local applications to these glands. He is certainly reaching the cause of the trouble with his cleansing applications to the nasopharynx, but we must not lose sight of the fact that the eustachian tube is present in this region and is much more pervious than in the adult, so that the infectious material is more likely to be transmitted to the internal ear. This emphasizes the need of great caution against the employment of force. I agree with the last speaker regarding the use of saline solution. I believe it is better for cleansing purposes than anything else, and that it hastens resolution of the inflammatory process in the nasopharynx. It might be advisable to follow it up with the use of albolene sprays.

DR. A. C. COTTON—I wish to explain what I have said. I did not refer to treatment but to the prophylaxis of cervical adenitis when speaking of the toilet of the nasopharynx. The albolene atomizer to which I had reference was the one which nebulizes the albolene. and it is deposited like a fog on the parts. Absolutely no force is used in the application, and the albolene goes wherever the air current goes. This oily ma-

terial protects against crusts and the concealment of colonies of bacteria.

DR. T. S. SOUTHWORTH—I spoke in my paper about the employment of the spoon because it can be used without any force. The nose and throat specialists say a great deal about the danger of applications which we make to children's noses and throats, and yet they are in many cases employing compressed air sprays. I am of the opinion that if fluids are simply allowed to percolate through the nose and cleanse the mucous membrane, unless the nose is forcibly blown at this time no harm will result. It is the extension of the inflammation along the tube which I believe causes most of the trouble.

With regard to differential diagnosis of tubercular and ordinary cervical adenitis I would say that tubercular adenitis rarely occurs before the fourth year. While this is not an absolute point of differentiation it is, I think, a useful one. I am glad to hear that there is such a general use of chlorate of potash for pharyngeal and nasopharyngeal affections. I have always felt some anxiety with regard to the use of this remedy, although I prize it very highly. I have used it always very cautiously, yet it was only last summer that I learned from a medical friend of a fatal acute nephritis with hematuria in a girl of 17 from the use of chlorate of potash. The girl had purchased the tablets for a cold, and had eaten them very freely, with the result stated. Such cases should at least make us very cautious. The cases in which iodid of potassium proves serviceable in my experience are chiefly those in which there is a persistent induration, or in cases having a specific taint. I have not found it of so much service in acute cases. I have not made use of the chlorate of potash locally. It is quite possible that some of the cases which are very persistent are those in which there is a specific element, or perhaps a mixed infection. Here also the use of chlorate of potash has seemed to be of advantage.

THE ESTIMATION OF UREA BY MERCURIC NITRATE.

J. H. LONG.
CHICAGO.

Since the original publications of Liebig on the use of a solution of mercuric nitrate in the urea estimation several attempts have been made to so modify the process as to render it more perfectly accurate for the purpose. Liebig himself recognized the variable character of the precipitate formed when a solution of mercuric nitrate is added to one of urea, even when the latter has a mean concentration of 2 gm. to 100 c.c. and the mercuric solution is dilute, with 1 c.c. about equivalent to 10 mg. of urea.

This irregularity depends in part on the liberation of free nitric acid in the operation, and Rautenberg and others[1] attempted to correct for this by the gradual addition of alkali in the form of calcium carbonate. In this paper the authors recommend to correct the direct result of the titration by subtracting 0.06 c.c. of mercury solution for each cubic centimeter below 30 employed in titration of 15 c.c. of the prepared urine (that is 10 c.c. of urine and 5 c.c. of the usual baryta mixture). For example, if, in a given titration, 22 c.c. were used the correction to be subtracted from 22 c.c. is $8 \times 0.06 = 0.48$, leaving practically 21.5 c.c. to be used in the calculation.

Pfeiffer[2] later confirmed the value of the Rautenberg method as against the criticisms of Pflüger and others. Pflüger[3] published an elaborate investigation of the whole question and proposed a more delicate correction as well as certain definite methods in performing the operations of the test. His work is the basis of the processes described in many of our text-books.

Gradually, however, it began to be recognized that the mercury solution combines with several substances besides urea, and that it measures really, in a certain sense, the total nitrogen of the urine. This fact, coupled with the somewhat complicated procedure and corrections of Pflüger, led finally to the practical abandonment of this simple method in favor of others which are apparently more accurate. The various hypobromite processes can not, of course, be included here; their use is limited to the roughest kind of clinical applications. But I refer to the methods described by Pflüger and his followers on the one hand, and by Mörner and Sjöqvist on the other, for the separation of the disturbing factors from the urea before the actual test is made. A study of the literature, however, reveals the fact that in all of these methods and their modifications corrections are still necessary, and that, in general, they are not suitable for use when a rapid and fairly accurate process is required in making routine tests in urine investigations where the other important constituents are measured at the same time.

It is unquestionably true that in the mercury titration process the chief source of error is found in the volumes of solution required by the chlorids, the ammonia and the creatinin. The correction for the first may be easily made after the chlorin titration, and in fresh urine an approximate correction may be introduced for the ammonia and the creatinin, if they are not accurately determined. In a former investigation[4] I have made a large number of ammonia, creatinin and uric acid determinations and have found the correction to be introduced in the urea estimation on account of the presence of these. The mean value of the corrections are seen from these figures:

6 mg. of ammonia in 20 c.c. require 1 c.c. of mercury sol.
7.5 mg. of uric acid in 20 c.c. require 0.15 c.c. of mercury sol.
14.0 mg. of creatinin in 20 c.c. require 0.85 c.c. of mercury sol.

The 20 c.c. in each case is supposed to be made up of 10 c.c. of urine and 10 c.c. of water or baryta solution. In employing the process at all, or in the determination of ammonia, it is necessary to keep in mind that only fresh urine can be used with accuracy, because of the fact that in decomposition urea yields ammonia.

The apparently complicated corrections in the process as recommended by Pflüger are an objection to its practical use. I have, therefore, sought to simplify the procedure and corrections as far as possible, which may be accomplished in this way: First, the mercury solution is made in the usual manner and so adjusted that 20 c.c. correspond exactly to 200 mg. of urea in 20 c.c. when the end reaction is found as follows: Spread a number of drops of normal sodium carbonate solution (53 gm. Na_2CO_3 to the liter) on a glass plate with dark background, and as the end of the titration is neared bring a drop of the mixture in the beaker alongside one of the carbonate drops and cause the two to mix on one edge. Part of the beaker drop is thus drawn over the carbonate, giving a precipitate; as soon as this appears distinctly yellow consider the process finished and dilute the mercury solution so that exactly 20 c.c. should be required to produce this reaction, it being assumed that the standard solution in the beaker contained exactly 200 mg. of urea in 20 c.c. If a paste of sodium bicarbonate and water is used for the end reaction, or if the colored precipitate is

1. Zeitschr. analyt. Chemie, 2, p. 90, 1863.
2. Ibid., 24, p. 475, 1885.
3. Ibid., 19, p. 375, 1880.
4. Jour. Am. Chem. Soc., 23, p. 632, 1901.

obtained on mixing the drops by stirring, a different result will be reached. But if the final reaction is always made as just explained it will be found most satisfactory and readily observed. The actual urine titration must, of course, be made in the same manner, starting with a volume of 20 c.c. of prepared filtrate. Care must be taken to use pure urea for the standardization. That sold by dealers as pure may not contain over 90 per cent. of urea.

ESTIMATION OF UREA.

Hg Sol. Used, c.c.	Urea Corresponding, mg.	Hg Sol. Used, c.c.	Urea Corresponding, mg.	Hg Sol. Used, c.c.	Urea Corresponding, mg.	Hg Sol. Used, c.c.	Urea Corresponding, mg.
10.0	95.41	17.6	174.70	25.2	254.88	32.8	336.02
10.1	96.44	17.7	175.76	25.3	255.94	32.9	337.10
10.2	97.47	17.8	176.82	25.4	257.00	33.0	338.17
10.3	98.49	17.9	177.88	25.5	258.06	33.1	339.24
10.4	99.52	18.0	178.94	25.6	259.13	33.2	340.31
10.5	100.55	18.1	180.00	25.7	260.20	33.3	341.39
10.6	101.58	18.2	181.05	25.8	261.26	33.4	342.46
10.7	102.61	18.3	182.10	25.9	262.33	33.5	343.54
10.8	103.64	18.4	183.15	26.0	263.39	33.6	344.62
10.9	104.66	18.5	184.20	26.1	264.45	33.7	345.70
11.0	105.69	18.6	185.25	26.2	265.52	33.8	346.77
11.1	106.72	18.7	186.30	26.3	266.59	33.9	347.84
11.2	107.75	18.8	187.35	26.4	267.66	34.0	348.92
11.3	108.78	18.9	188.40	26.5	268.73	34.1	350.00
11.4	109.81	19.0	189.45	26.6	269.80	34.2	351.08
11.5	110.84	19.1	190.50	26.7	270.86	34.3	352.16
11.6	111.86	19.2	191.55	26.8	271.92	34.4	353.25
11.7	112.89	19.3	192.60	26.9	272.98	34.5	354.34
11.8	113.92	19.4	193.65	27.0	274.04	34.6	355.43
11.9	114.95	19.5	194.70	27.1	275.10	34.7	356.52
12.0	115.98	19.6	195.76	27.2	276.16	34.8	357.61
12.1	117.01	19.7	196.82	27.3	277.22	34.9	358.70
12.2	118.04	19.8	197.88	27.4	278.28	35.0	359.79
12.3	119.07	19.9	198.94	27.5	279.34	35.1	360.88
12.4	120.10	20.0	200.00	27.6	280.41	35.2	361.97
12.5	121.13	20.1	201.05	27.7	281.47	35.3	363.08
12.6	122.16	20.2	202.10	27.8	282.54	35.4	364.17
12.7	123.19	20.3	203.15	27.9	283.61	35.5	365.25
12.8	124.22	20.4	204.20	28.0	284.67	35.6	366.33
12.9	125.25	20.5	205.25	28.1	285.73	35.7	367.42
13.0	126.29	20.6	206.30	28.2	286.80	35.8	368.50
13.1	127.32	20.7	207.35	28.3	287.87	35.9	369.59
13.2	128.35	20.8	208.40	28.4	288.93	36.0	370.68
13.3	129.38	20.9	209.45	28.5	290.00	36.1	371.77
13.4	130.42	21.0	210.50	28.6	291.06	36.2	372.85
13.5	131.47	21.1	211.55	28.7	292.12	36.3	373.93
13.6	132.52	21.2	212.61	28.8	293.19	36.4	375.01
13.7	133.58	21.3	213.67	28.9	294.26	36.5	376.09
13.8	134.63	21.4	214.73	29.0	295.32	36.6	377.17
13.9	135.69	21.5	215.79	29.1	296.38	36.7	378.25
14.0	136.74	21.6	216.85	29.2	297.45	36.8	379.33
14.1	137.79	21.7	217.90	29.3	298.52	36.9	380.42
14.2	138.85	21.8	218.95	29.4	299.59	37.0	381.51
14.3	139.90	21.9	220.00	29.5	300.66	37.1	382.60
14.4	140.95	22.0	221.05	29.6	301.73	37.2	383.69
14.5	142.00	22.1	222.10	29.7	302.80	37.3	384.78
14.6	143.05	22.2	223.15	29.8	303.87	37.4	385.87
14.7	144.10	22.3	224.20	29.9	304.94	37.5	386.96
14.8	145.15	22.4	225.25	30.0	306.01	37.6	388.04
14.9	146.20	22.5	226.30	30.1	307.08	37.7	389.12
15.0	147.25	22.6	227.35	30.2	308.14	37.8	390.20
15.1	148.29	22.7	228.40	30.3	309.20	37.9	391.28
15.2	149.34	22.8	229.45	30.4	310.26	38.0	392.37
15.3	150.39	22.9	230.50	30.5	311.33	38.1	393.46
15.4	151.46	23.0	231.55	30.6	312.40	38.2	394.55
15.5	152.53	23.1	232.60	30.7	313.47	38.3	395.64
15.6	153.60	23.2	233.65	30.8	314.54	38.4	396.73
15.7	154.66	23.3	234.71	30.9	315.61	38.5	397.82
15.8	155.73	23.4	235.77	31.0	316.68	38.6	398.91
15.9	156.80	23.5	236.83	31.1	317.75	38.7	400.00
16.0	157.86	23.6	237.89	31.2	318.83	38.8	401.09
16.1	158.93	23.7	238.95	31.3	319.90	38.9	402.18
16.2	160.00	23.8	240.01	31.4	320.97	39.0	403.27
16.3	161.05	23.9	241.07	31.5	322.04	39.1	404.36
16.4	162.10	24.0	242.13	31.6	323.11	39.2	405.45
16.5	163.15	24.1	243.19	31.7	324.19	39.3	406.54
16.6	164.20	24.2	244.25	31.8	325.27	39.4	407.63
16.7	165.25	24.3	245.31	31.9	326.35	39.5	408.72
16.8	166.30	24.4	246.36	32.0	327.43	39.6	409.81
16.9	167.35	24.5	247.43	32.1	328.51	39.7	410.90
17.0	168.40	24.6	248.50	32.2	329.59	39.8	411.99
17.1	169.45	24.7	249.57	32.3	330.66	39.9	413.08
17.2	170.50	24.8	250.63	32.4	331.74	40.0	414.17
17.3	171.55	24.9	251.70	32.5	332.81		
17.4	172.60	25.0	252.76	32.6	333.88		
17.5	173.65	25.1	253.82	32.7	334.95		

With a mercury solution so adjusted I have made the following determinations. In each case a solution of urea in 20 c.c. of water was used and the end reaction was found as described. No neutralization was made, as part of the object of the experiments was to determine how to avoid this:

Urea in 20 c.c.	Hg sol. required.	Urea cor. to 1 c.c. of Hg solution.
100 mg.	10.45 c.c.	9.57 mg.
200 mg.	20.00 c.c.	10.00 mg.
300 mg.	29.47 c.c.	10.18 mg.
400 mg.	38.72 c.c.	10.33 mg.

The numbers in the second column are the means of many closely agreeing experiments. Those in the third column show the increase in the precipitating value of the mercuric solution. The value, y, of 1 c.c. of this solution for urea solutions containing from 1 to 4 gm. in 100 c.c. is given by the following interpolation formula derived from the observations:

$$y = 8.66 + 1.217x - 0.345x^2 + 0.03665x^3$$

By the aid of this formula and a curve drawn from the observations I have calculated the table given, in which the amounts of urea corresponding to different volumes of the mercury solution used are stated. The application of this table presupposes the use of a standard mercury solution, adjusted as explained above, and, further, that the titration is always made as recommended. The volume of mercury solution to be employed in the calculation is that which remains after subtracting from the total volume used the amounts used by the chlorids, uric acid, ammonia and creatinin, as shown in a short table above. In my own laboratory the method has been followed with excellent results.

In preparing urine for the test, I use 25 c.c. and mix with an equal volume of the usual baryta solution, accurately measured. The mixture is poured through a dry filter, and of the filtrate 20 c.c. is taken for the titration. This must be neutralized exactly with nitric acid, of which a drop or two is enough. Throw a bit of litmus paper into the filtered liquid and add the dilute nitric acid by means of a glass rod until neutrality is reached. The liquid is then ready for the mercury titration as described.

Northwestern University Medical School.

Personalities vs. Organization.—Every physician either is or is not honest and honorable and ethical, so far as the practice of his profession is concerned. If he is honest and honorable in his professional work, he should be a member of his local and state society; if he is not, he should not be permitted to join such societies nor to retain his membership in them if he has already joined. But no question other than professional integrity should be allowed to enter into the matter of medical society membership. Personal differences of opinion, envy, hatred or malice, likes or dislikes, nor race, school nor religion should so much as be thought of when the one great question of professional organization and of membership in the local and state medical societies is considered. If there must be squabbles, let them be outside; let medical organization be on the broadest possible lines, for professional honor and advancement, and for the benefit and protection of all honest and honorable professional men, no matter what their personal differences may be. Let us have a state society so big that personalities will be lost in it.—*California State Journal of Medicine.*

A Just Protest.—The *Medical World* of recent date contains a lengthy editorial instructing physicians how to extract teeth, describing the outfit needed, and urging them to take up the work. The article does not contain a word about what teeth should or should not be sacrificed. What would a physician think of a dental journal which advised dentists to perform amputations of various parts of the body, simply as a means of increasing their income?—*Dental Digest.*

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THE CLINICAL SIGNIFICANCE OF ALBUMOSURIA.

Despite all modern methods of diagnosis the decision as to whether pus is or is not present, hidden in some unexplorable locality, continues to fret the diagnostician. The determination of the leucocyte count has not been as valuable as it promised to be, according to many, and at the best it is often inconclusive when a positive help is most needed. Any means that may assist in deciding this point is certain to attract attention, and we predict a general interest in the recent article of T. J. Yarrow, Jr.,[1] which considers the question of albumosuria as an aid in determining the presence or absence of suppuration, based as it is on extensive investigations by the author. Albumoses may get into the blood in a number of conditions, and even if only in small amounts they seem to enter the urine usually. The albumoses formed in normal digestion are ordinarily changed into something different while passing through the intestinal wall, but in case there is an area in which the intestinal epithelium is absent, as in ulcerative processes, they may pass into the blood unchanged and appear in the urine. The peptone that always accompanies the albumose in ordinary digestive processes seems to be more readily destroyed in the body than the albumose, for true peptone seems never to occur with the albumose in the urine. With the exception of this faulty intestinal absorption, albumoses are present in the urine only as a result of self-digestion of tissues in the body; conversely it may be said that whenever any considerable amount of dead tissue is undergoing softening at a fairly rapid rate, albumosuria may occur. Softening of dead tissues does not differ greatly from their digestion in the alimentary tract, for in each case similar proteolytic enzymes are producing similar splitting products, among which is the albumose. Although all tissues contain more or less active proteolytic substances, when softening is at all rapid it will be found that the leucocytes are taking a prominent part, not so much through phagocytosis and intracellular digestion, as we once thought, but more by extracellular digestion by enzymes that they liberate. Hence the rapidity of softening, and therewith the probability of albumosuria, will vary directly with the number of leucocytes attracted to the spot. For example, an aseptic infarct will soften much more slowly than a septic infarct, not chiefly because bacteria are present to destroy the dead tissue, but because the bacteria attract the leucocytes; similarly a tuberculous area is slowly or not at all absorbed because it does not attract leucocytes in any considerable number.

In view of these facts it is evident that albumosuria may occur under many and varied conditions, of which suppuration is but one, although the most prominent. For example, while the uterus is undergoing involution considerable quantities of albumose may be found in the urine, i. e., during the first three weeks after childbirth. Evidently, then, as with the leucocyte count, it is one thing to determine the existence of the symptom and another to draw proper conclusions. A simple method of detecting albumose is the first desideratum, and Yarrow recommends a solution of salicyl sulfonic acid, which produces with albumose a solution that clears up on heating, while the precipitate with other proteids becomes denser when heated. Again, it is important that a fresh specimen of urine be examined, since albuminous urines are soon digested by bacteria with production of albumoses. As a rule, the conditions that might cause albumosuria aside from suppuration can be excluded, and then the determination of this substance becomes of positive value. The instances of its usefulness are too familiar to need to be recalled, but, of course, appendicitis is prominent; here, Yarrow says, not only may the onset of suppuration be determined, but also the time of its safe encapsulation is indicated by the stoppage of absorption and elimination of albumose. If this is a general rule it will prove a great aid in determining the time of election for many sorts of operations. Another instance of the value of this symptom is seen in meningitis, for the tuberculous form will not produce albumosuria as does the suppurative. Resolution of pneumonic exudate, although entirely different from suppuration in its results, is chemically much the same as suppuration, and the albumosuria of resolving pneumonia has long been known. Of special interest to physiologists is the study by Yarrow of the urine of "over-feeders," for the failure to detect albumose indicates that the intestinal wall when normal can take care of all the albumose produced even with excessive diets.

It will be granted that albumose is not sought for in routine urinary examination by more than a very few, and since this symptom promises to be of value it is greatly to be hoped that Yarrow's work will lead others to study the occurrence of albumosuria, for in the matter of pathologic urine it is particularly true that only the accumulated results obtained in great numbers of cases by many investigators are of permanent value.

In passing we may mention the condition known as "Bence-Jones' albumosuria," about which a number of articles have been recently written, for it is to be distinguished from the true albumosuria of tissue disintegration. The Bence-Jones bodies, as the substance is more properly called, are not a true albumose at all, but, according to Simon,[2] it is more closely related to the water-soluble globulin. It is characterized by being coagulated by a relatively low heat, 58 C., as

1. American Medicine, 1903, v, 452.

2. Amer. Jour. Med. Sci., 1902, cxxiii, 939.

true albumose does not, and redissolving when heated higher, the precipitate again appearing when the urine is cooled down. Occurring as it does chiefly with the rare bone tumor, multiple myeloma, it seems to bear no relation to true albumosuria. Those interested in the subject are referred to the above article by Simon, and to articles by Bradshaw[3] and Boston,[4] where references to the literature will be found.

WHAT IS THE PROPER FUNCTION OF PUBLIC BOARDS OF HEALTH?

This question may well be raised at the present time, when it appears that health officials hold widely divergent views as to the proper scope of their activities. We take it that no physician will care to contend that the function of such boards is in any degree concerned with the health or well-being of any political party, although occasionally the solicitude of such a board for the success of the dominant party or its eagerness to oblige party leaders might suggest another view.

Setting aside, then, the always sinister influence of politics on the work of such a body, for what should a department of health stand? First, we must take for granted its strictly preventive functions. It must enforce vaccination and quarantines. It must abate nuisances. It must vigorously enforce the health laws and ordinances. But this is only a beginning. If it is the function of such a department to conserve the public health, then its scope and power must be constantly widened with the growth of the city, the development of the country and the growth of the science of sanitation. Nothing will compensate for the lack of a vigorous, fearless, scientific grappling with the difficult but immediate problems of public health and sanitation. It is to its board of health that a city should look for leadership, at least for co-operation, in the solution of the housing problem, for action in the prevention of tuberculosis, for fearless abatement of the nuisances created by certain great business concerns, such as glucose and rendering factories and various of the enterprises connected with abattoirs, for supervision of the health of school children and of the sanitary conditions in factories and stores where its citizens spend their working hours. Does this sound fanciful? It is merely a brief suggestion of the work of the New York Board of Health at the present day. If the board of health in any town lacks the power and equipment to carry out such a program its first duty is to make that fact known. If this is done in a manly and convincing manner there is no danger that popular response will fail.

Let us imagine, further, the value of a health campaign vigorously carried on by a state department of health. State universities employ teachers to travel over the state, to speak in every county on the health of cattle and the vigor of corn and the care of the soil. Why should not the state board of health send out teachers to speak on health and sanitation? If there were some popular knowledge of the premonitory symptoms of nervous breakdown our state insane asylums would soon feel the relief, and, in mere dollars and cents, the state would be repaid for its teaching.

City and state boards of health examine bacteriologic specimens for physicians free of charge. Why should not these boards also examine those conditions of water supply and sewage disposal, whose imperfections too frequently spread disease; why should they not distribute information in the remoter districts by means of lecturers and bulletins covering those simple precautions which would stay the spread of tuberculosis?

A public department of health should be not only an executive body administering laws and ordinances, making investigations, gathering and publishing reliable statistics, but it should be a great aggressive organ of popular education regarding personal and public hygiene, and all that pertains to public health and physical well-being.

THE PROTECTION OF THE BODY AGAINST ITS OWN DIGESTIVE FERMENTS.

Among the "old questions that are ever new" is the immortal problem: Why does not the stomach digest itself? A recent revival in interest is now evident, due to new observations along two lines, one of which is the demonstration of the presence of proteid-digesting enzymes in all the cells of the body, the other the direct study of "antiferments." Since it has been shown that all cells are capable of digesting themselves, after death of the tissue that contains them, the question naturally arose why they were not similarly digested during life. One of the popular solutions of the problem of the stomach and its failure to commit self-digestion was that the alkalinity of the blood in the walls of the stomach prevented the pepsin from acting on them, since it required an acid medium. But the fact that pancreatic trypsin acts best in alkaline medium rendered this explanation futile when applied to the conditions of self-preservation of the intestines, and the same thing applies to the autolytic ferments of the tissues. An ingenious method of attacking the problem lies in the ability of intestinal parasites to live in the active digestive fluids of the alimentary tract without suffering harm. That they are not impervious to the alimentary fluids is evident, since they obtain their nourishment by absorption from these fluids. As early as 1878 Fredericq observed that round worms from the dog's intestines could live for many days outside the body when kept in a solution of pancreatic juice. The early authors considered that the living tissues resisted the action of digestive ferments in the same way that they resisted the action of stains and of other substances, but this was more of a substitution of one problem by another than an explanation. E. Weinland found that not only do parasites resist the action of trypsin, but that they also rendered it incapable, to greater or less degree, of digesting other substances, and he thought that the para-

3. Lancet, Oct. 4, 1902.
4. Amer. Jour Med. Sci., October, 1902.

sites protected themselves by producing an antibody for the ferment, an "antitrypsin." Dastre and Stassano[1] have followed the study of the defense of the tenia serrata of the dog still farther, and seem to have proved very nicely the method of protection. As has now become well established, the pancreatic juice as first secreted from the gland is usually quite inactive to proteids. Its proteid-digesting enzyme is in an inactive form, trypsinogen, and needs to be acted on by the intestinal juice before it is changed into the active trypsin, this change being accomplished by the enterokinase of the intestinal secretion. Dastre and Stassano found that if an extract of the tenia was permitted to act on enterokinase about four hours, the effect was that the enterokinase was unable to render fresh pancreatic juice active. On the other hand, if the tenia extract acted on fresh pancreatic juice, and this later was added to enterokinase, it became active almost as if untreated. Further, if the enterokinase and pancreatic juice were left to act on each other for a time and then treated with tenia extract digestion is active, although less than in the controls. Therefore, it seems that the tenia extract prevents the enterokinase from activating the trypsinogen, rather than interfering with tryptic action.

Fermi first showed that fresh blood serum not only was not digested by pancreatic juice, but that it attacked and destroyed its tryptic enzyme, an observation that has since been abundantly verified. Here again the action seems directed more against the enterokinase than against the trypsin. Delezenne[2] finds that serum not only checks enterokinase, but also the substances that occur in leucocytes, bacteria and venoms that have similar activating effects on trypsinogen. This power of normal serum to prevent the action of ferments seems to be quite as general as it is remarkable. For example, Simnitzky[3] finds that papain is similarly affected, and that the serum of animals immunized to certain bacteria is not only antagonistic to the proteolytic ferments of the specific bacteria, but also to similar ferments of other bacteria.

On the basis of these observations it would seem that the tissues do not digest themselves and each other because they contain something that prevents the action of the digestive ferments. But since it is shown that this antibody does not affect the ferment that has been made active, but is only effective against the kinase, being in fact an antikinase, it seems to us that the problem is quite as open as before, for in the alimentary tract the parasites and the intestinal walls come in contact with large quantities of active ferment. Jacoby's demonstration that the ferments of the tissues are specific for their native tissues also fails to explain why the tissues are able to digest themselves when they are dead, but not when alive, except on the assumption that during life the circulation restores the equilibrium as fast as the intracellular enzymes break it down. The leucocytes also show a great power to digest proteids of all sorts, not only themselves, but also the other tissues, and even foreign substances like catgut sutures, provided only that the proteid is dead proteid. It seems to us that so far the antiferments, interesting and important as they are, have failed to explain the riddle of the failure of self-digestion of the body by its own enzymes.

1. Comptes Rend. Soc. Biolog., 1903, No. 3, p. 130.
2. Ibid., p. 132.
3. Prager Med. Wochenschr., Sept. 11, 1902.

TO PREVENT ADULTERATED DRUGS.

It has been decided by the Attorney-General of New York that the State Board of Pharmacy has the right to take samples from drugs kept for sale by druggists to determine whether they are pure and of the quality established by the Pharmacopeia. There was evidently some opposition to this, but the recent publication of the Board of Health on the extent of cheating shows its necessity. It would be an excellent thing if similar bodies in other states exercised the same authority and carried it out in practice. The amount of damage done by adulterated drugs can only be imagined, but it must be a serious one in the light of such facts as were brought out in New York. Things are probably equally bad in other states and the remedy is just as applicable.

LIQUOR SELLING BY DRUGGISTS.

According to the *Western Druggist* the last New York legislature passed a law regarding the sale of liquor by druggists which permits its sale, without a physician's prescription, in quantities of less than one pint, with a state revenue stamp fixed to the package. As a preventive of too regular or too frequent sales, the provision is included that not more than one sale can be made to the same person in the same twenty-four hours. We do not know whether this law is a concession to the patrons or to the druggists. If the former, it is a fraud in prohibition communities, nullifying the will of people, and if the latter, it indicates a greater degeneracy of the pharmaceutical profession in New York than we like to think probable. The sole function of the druggist in the sale of liquor should be to provide it as medicine when prescribed by medical authority. If he is allowed to sell it to whoever asks, he is practically on the level of the dramshop keeper and nothing better. The sale of liquor should be under direct police regulations, and to permit it as an unguarded function of pharmacists destroys this essential feature. The New York law appears to us to be a distinct step backward and it ought to have the opposition of the licensed liquor sellers as well as the temperance public generally.

DEEDS OF DARKNESS.

Though Armstrong was duly sent up, not exactly in a chariot of fire, his mantle seems to have fallen on others, this time in the East. There exists at present, according to the *Baltimore News* of May 6, in that city a rather sacrilegiously named institution, the "Christ's Institution Medico-Chirurgical and Theological College," conducted by six colored men, an establishment which gives all sorts of degrees, and especially medical ones. When incorporated in 1900 it had only one M.D. among its organizers, and he signed his mark instead of his name. Now they all have M.D.'s, besides D.D., B.D., etc., *ad nauseam*. The man who could not sign

his name in 1900 now appears as a Bachelor of Arts, Master of Arts, Bachelor of Divinity and Doctor of Philosophy. He is also professor of "linguistal," whatever that is. The degree of B.D. is given for $5 and a certain amount of study. Candidates for M.D. and D.D. apparently pay $50 per annum for their instruction. There is also a nurses' school attached to the concern that graduates its trained nurses. The establishment is in full blast and considerably patronized, not only by candidates for degrees, but by patients from the poor whites and colored people of the neighborhood. All this is almost directly under the shadow of the Johns Hopkins University It reminds one of the byway to sheol described by Bunyan under the walls of the celestial city.

HYDROPHOBIA.

We regret to see a regular medical journal indulging in sneers of "ignorant clamor" against hydrophobia. Hydrophobia is a reality, and a very serious one, and not all the sentiment or pseudo-benevolence of the zoophiles can disturb this fact. The destruction of all wandering dogs and all the pampered pets in our large communities would not compensate for the loss of a valuable human life destroyed through their agency. It is hard to see why a muzzling law can never be enforced; it has been enforced in Great Britain with the result of practically stamping out hydrophobia in that country. The editor of the monthly journal referred to remarks that the statistics of the New York Board of Health will probably show that perhaps two persons died of the infection from dog bites in four years. We can not dispute this from actual knowledge of the facts, but if statistics show that there were only two deaths from rabies in four years in New York, either the statistics are very far from being reliable or else New York has a much better record than other cities in this country. The fling at the New York Medical Association is unworthy. The Association is in much better business in agitating against hydrophobia than is the journal in belittling the importance of the disease and encouraging a false sense of security which may prove fatal to innocent individuals.

"DRUGS THAT ENSLAVE."

A short time ago we noticed some rather striking and alarming statements made in newspapers in regard to cocain addiction. Also in a recent number of the *Philadelphia Medical Journal* Dr. Simonton of Pittsburg gave an account of the spread of cocain under his observation. From the facts given by him, as well as those obtained elsewhere, it seems that the introduction of this drug to the public has been, and is likely to be still, a curse to the community. Its therapeutic advantages, and they are not slight, are hardly balanced by the evils that may come from its self-prescription. It is especially among the lowest classes that its use seems to be most general, though others are not exempt; Simonton speaks of even railway employes being victims to the habit. The negroes of the South, in the cities especially, seem to be becoming devotees of the cocain habit. The facts brought out would necessarily imply that certain druggists have been criminally active in making profit by spreading the sale of cocain. Some physicians have perhaps in the past thoughtlessly prescribed cocain in such a way that the patient has had it renewed and thus set up the habit. It is a matter that deserves the attention of the members of the medical profession, and they can not neglect it. Cocain is an attractive drug to prescribe, for its effects are so quick and decided, but it is, at the same time, one of the most dangerous tools we can use. Cocain addiction, however, is not the only vice that seems to be growing. In fact, a certain portion of the public seem bound to intoxicate themselves with almost every abomination that can produce a temporary effect. It is said that boys in some eastern cities have gotten into the habit of fuddling with gasoline, stealing it from suburban street lamps or from tank cars. In a recent case a boy in attempting this was blown up, the explosion injuring at the same time several others who were with him.

Medical News.

COLORADO.

Banquet to Dr. Tillmanns.—Dr. Henry Tillmanns, Leipsic, who is visiting America, was given a banquet at the Antler's Hotel, Colorado Springs, by Dr. B. P. Anderson of that city. A number of the profession were present, and toasts were responded to. The famous surgeon spoke in great appreciation of the reception extended to him in this country.

ILLINOIS.

Diseases at Bridewell.—Dr. Sceleth, physician at the Bridewell, Chicago, reports 82 patients in hospital, including 19 cases of pneumonia and 24 of delirium tremens.

New Trades Union.—Hospital attendants and nurses at the Cook County Institutions, Dunning, met, May 12, and organized a union with an initial membership of 160.

To Complete Hospitals.—The legislature has appropriated $200,000 for the completion of the hospital for the incurable insane at Bartonville, and $200,000 for improvements at the insane hospital at Watertown.

Personal.—Dr. and Mrs. William S. Pearce, Waukegan, celebrated their golden wedding anniversary, May 16.——Dr. and Mrs. H. H. Deming, Chicago, have returned after spending the winter in Cuba and Florida.——A banquet was tendered Dr. T. J. Bluthardt, Chicago, newly-appointed consul to Bonn, prior to his departure for his post of duty.——Dr. David M. Paulson, Chicago, sailed for Europe, May 15.

Osteopathy Bill Vetoed.—The governor has vetoed the bill which provided that:

Licenses to practice osteopathy shall be granted by the state board of health to all applicants of good moral character who pass the regular examination of such board in anatomy, histology, physiology, obstetrics, gynecology, pathology, urinalysis, toxicology, hygiene and dietetics, diagnosis, theory and practice of osteopathy, and present to said board a diploma from a regular college of osteopathy maintaining the standard of the associated colleges of osteopathy in its requirements for matriculation and graduation, and requiring personal attendance for at least four terms of five months each.

Chicago.

Care for the Babies.—The department of health notes a decrease in the death rate last week among infants under one year of age, and considers it, in part at least, due to the urgent crusade now being made for pure milk. The department is circulating in seven languages directions for securing and recognizing good milk and caring for it before use.

Too Emphatic Statements.—Dr. T. S. Middleton, Chicago, who is given in Polk's directories as being both "R." and "H." and has having graduated at the Medico-Chirurgical College of Philadelphia in 1897: in the Illinois Medical Blue Book "Royal Coll., London; Wurzburg Univ.; Vienna Medic.; Chi., Phila., 1880, 1884, 1888," is evidently desirous of still more notoriety, as the following will show:

Chicago, May 26, 1903.

To T. S. Middleton, M.D.:—I have been reluctant to believe that you were correctly quoted in recent interviews published in some of the Chicago newspapers. But the report made to me yesterday by Dr. W. K. Jaques, director of the city laboratory, and corroborated

by a reporter, leaves no room for further doubt that the interviews as published were substantially correct, or, as you said to Dr. Jaques on Friday evening, "all true and much more," implying that you had not told the worst.

Briefly summarized, and largely in your own language, your statements are as follows:

"Within the last month I lost twelve babies with something like marasmus. Then I began to analyze the milk and found formalin in every bit of it." "I found as much as three parts of formalin to ten of milk." "I use lime and blotting paper" in analyzing for formalin.

"There were nearly 125 deaths of milk fed infants and children on Wednesday of this week."

Each and every one of these sensational and mischievously alarming statements is absolutely and unqualifiedly false.

You have reported "within the last month" not one death of a baby to the bureau of vital statistics, as you are required to do by the state law and city ordinance with all deaths occurring in your practice. The only death you have reported since April 20 was that of a woman 77 years old, died on May 14.

You have failed to furnish any clew whatever to the identity of any one of these "twelve babies," although you promised to do so. Inquiry shows that you have not referred any one of these alleged deaths—due, as you assert, to formalin poisoning—to the coroner for investigation, as you are also required by the law to do in all cases of suspected poisoning.

You have not found "as much as three parts of formalin to ten of milk," and this mixture fed to one of your "twelve babies." In much less proportion formalin curdles milk and the formaldehyd gas given off would instantly strangle any person, baby or adult, who should try to swallow it.

You have never found formalin in any milk by your "lime and blotting paper" method. It is a chemical impossibility—an absurdity.

The standard and approved test for formalin is sulphuric acid, and in the thousands of examinations made for this agent by the laboratory it has never been found in greater proportion than one part of formalin to 10,000 parts of milk. And yet the test is so delicate and conclusive that it has been found in so small a proportion as 1 to 1,000,000 parts of milk, and the dealer was prosecuted and convicted on this evidence. "Lime and blotting paper," forsooth.

There were not "nearly 125 deaths of milk fed infants and children" last Wednesday, and you have no possible means of knowing on any given day how many deaths, even "nearly" there were on that day. The total deaths under 5 years of age for the whole week was 178—including those who died from convulsions, diarrheal diseases, diphtheria, measles, scarlet fever, and whooping cough. The highest number of deaths of infants and children under 5 years reported during the week was 43 on Monday, the 18th, but even the registrar of vital statistics could not know that until the following day.

In defense of the reputation of the city, which you have so recklessly assailed as one in which infant and child life is needlessly sacrificed: in justice to this department, whose working efficiency and morale have been impaired by your statements and others as baseless and mischievous; and in the interest of all honorable members of the medical profession—it becomes my duty to prefer charges against you before the State Board of Health for "unprofessional and dishonorable conduct," within the meaning and intent of the medical practice act, to the end that your license to practice medicine in the State of Illinois may be revoked. I am, sir,

ARTHUR R. REYNOLDS, M.D.,
Commissioner of Health.

KENTUCKY.

State Board of Health Officers.—On May 22 Dr. J. M. Mathews was re-elected president for two years; Dr. J. N. McCormack, secretary for four years; Dr. F. T. Eisenman, state veterinarian.

Cross-Border Troubles.—Dr. A. P. Hauss, New Albany, Ind., has protested against a decision of the Kentucky State Board of Health that he could not reside in New Albany and practice in Louisville, the ground for the refusal being the ruling of the Indiana State Board refusing residents of Kentucky a license to practice in Indiana, the language of the laws being identical in the two states.

Bad Water.—Secretary McCormack, in his report before the State Board of Health, referred in an exhaustive manner to the epidemics of smallpox in the state, the sources of the same, the difficulty of having many county courts pay the expenses of stamping out an epidemic, and the use of humanized virus in the country districts. Attention was called to the pollution of water supplies and a suggestion was made that the legislature be petitioned to pass stringent laws governing this question. A free examination of suspected water will be made by the state college if sent by a county board of health.

Sanitation in Railway Cars.—The annual meeting of the State Board of Health of Kentucky was held May 22 with a full attendance. President Mathews, in his report, referred to the necessity for action in regard to the sanitary condition of sleeping cars and day coaches. The report of the special committee on this question was heard, after which attorneys for the Pullman Car Company and the railroads asked for a hearing, which was granted. A special committee was then appointed to draw up regulations for the disinfection of cars to be referred to a called meeting of the board in June for final adoption.

MARYLAND.

The Biological Laboratory at Beaufort, S.C., will be under the directorship this year of Dr. Caswell Grave of Johns Hopkins. A large number of members of the graduate department of biology will spend the summer there in special research.

New Eastern Shore Hospital.—The cornerstone of the new hospital at Cambridge was laid May 26. The contract price is $35,000. Mr. John E. Hurst, a merchant of Baltimore, gave $25,000 of this. It is expected to be ready for patients by June 1, 1904. The present hospital is in two dwellings, and has fifteen or twenty beds.

Baltimore.

The deaths last week numbered 198, being an annual rate per 1,000 of 18.44 (white 16.03, colored 31.70). Consumption and pneumonia caused 24 and 18 deaths respectively.

Eastern Dispensary Staff.—The following were elected as the medical staff of the Eastern Dispensary, May 19: Dr. R. S. Kirk, superintendent, Drs. A. Hebb and A. L. Tumbleson, assistants.

The new staff of the Maryland General Hospital, connected with the Baltimore Medical College, consists of Dr. J. M. Delavett, resident physician, and Drs. W. G. F. Olmstead, A. W. Nelson, S. T. Cavins, E. G. Bray and H. M. Hutchins, assistants.

New Quarantine Building.—The board of estimates has appropriated $6,383 from the contingent fund for the erection of a detention barracks at quarantine. The building will accommodate 100 persons and will have four wards, one for each sex of each color.

The Charles Frick Research Fund has, by the beneficence of some citizens, been founded at the University of Maryland, the object being to found a memorial of this great investigator, who lost his most promising life forty-three years ago from diphtheria. It is an appropriate way to perpetuate his memory by reviving and perpetuating in the university where he gained his fame, those researches in diseases of the blood, urine and fevers which immortalized him a half century ago.

At St. Joseph's Hospital the resident surgeons for the next two years will be Dr. W. L. Burke, Baltimore Medical College, 1902, and Dr. W. E. Kurtz, University of Maryland, 1903. The resident physicians will be Dr. T. J. O'Donnell, University of Maryland, 1903, and Drs. J. A. Chatard and J. F. Fisher, both of Johns Hopkins, 1903. Of the old staff Dr. T. M. Green has gone to Wilmington, N. C.; Dr. Frank K. Boland to Atlanta, Ga.; Dr. W. E. Dolan to Boston, and Dr. H. J. Kearny to a New York hospital.

Personal.—Dr. Hector H. Goodman has returned from an extended tour through Europe and Palestine.——Dr. Charles H. Tilghman has been elected vice-president of the Queen Anne's Railroad Company.——Dr. Ira Remsen, president of Johns Hopkins University, was one of the speakers at the centennial of Justus Liebig's birth in New York, giving his personal reminiscences of the great chemist.——Dr. C. B. Farrar of the staff of the Sheppard and Enoch Pratt Hospital, has had his leave of absence extended so that he may continue his studies in physiologic psychology abroad. He has declined an appointment in one of the psychologic laboratories under the Carnegie fund.——Drs. Seymour D. Ludlam and Glanville G. Rusk, of the same institution, have been offered and have accepted positions, the former as assistant physician at the Friends' Asylum, Frankford, Pa., the latter as assistant in the laboratory of the New York State Hospital for the Insane, Ward's Island. ——Drs. Franklin P. Mall and Warren H. Lewis sailed for Europe, May 25.——Dr. Jas. Bordley, Jr., sailed for Europe, May 30.

The graduating class at the University of Maryland School of Medicine number 96. The commencement was held May 19, Prof. Francis P. Venable of the University of North Carolina being the orator. The president of the class was Dr. A. L. Wilkinson. The prize winners were: First, Dr. Howard S. Holloway, Maryland; certificates of honor were given to Drs. J. Rosett, Maryland; G. C. Lockard, Maryland; E. H. Mullan, Maryland; F. C. Moor, Florida, and F. G. Wright, Virginia. Appointments were made as follows: Assistant resident physicians, University Hospital, Drs. H. S. Holloway, C. T. Young, and F. G. Wright; assistant resident surgeons, University Hospital, Drs. A. M. Shipley (reappointed), E. H. Mullan, W. Alstead and W. R. Hunter; assistant resident gynecologists, Drs. W. K. White, H. W. Brent and R. W. Fisher; resident pathologist, Dr. F. W. Weed. Drs. C. T. W. Sappington and J. H. Iglehart were appointed resident physicians at the

Maternity Hospital, and Dr. A. L. Wilkinson, assistant resident physician at Bayview Hospital.

MASSACHUSETTS.

Vaccination Suit Fails.—A suit brought against the town of Hyde Park by two children because they were excluded from school, through failure to comply with the school regulations in regard to vaccination, for $10,000 each, resulted in a disagreement of the jury.

The Children's Island Sanitarium, located in Salem Harbor, reports that during last season they cared for 229 sick children; 32 of whom had hip disease and 23 Pott's disease. Children from 2 to 10 years old are admitted and kept for several weeks. The season opens about June 1.

Bequests.—The Free Hospital for Women in Brookline receives $20,000 as a permanent fund for the general purposes of the hospital by the will of the late Robert C. Billings.—— Dr. Edward de la Granja, who died May 11, left his entire property to the Massachusetts Maternity Foundling Hospital, including his private hospital in Shawmut avenue.

Boston.

Heat Causes Sickness.—The heat of the past week, while at no time reaching 90 F., produced several cases of sunstroke, most of whom were treated in the new City Hospital Relief Station.

One Smallpox Case.—The first case of smallpox to be reported in Boston for several weeks, has developed in a soldier stationed at Fort Strong, one of the harbor defenses, who had been in the city on leave of absence.

Quarterly Death Report.—Two thousand, nine hundred and eighty-two deaths were reported in Boston during the first quarter of the year, a rate of 20.07. Infectious diseases, except scarlet fever, were much less prevalent than last year.

The open-air gymnasium for women and girls at the Charlesbank, Boston, was reopened, May 15. Here, under a competent instructor, they have the same advantages offered in many places to men and boys. An enrolment of 200 working girls shows how the offer is appreciated.

Boston Death Report.—In spite of the heat, the reported deaths decreased to 196 for the week ending May 23, a rate of 17.43 per 1,000. Pneumonia was responsible for 26 of these; whooping cough, 5; heart disease, 15; bronchitis, 4; diphtheria, 6; scarlet fever, 4; typhoid fever, 3, and tuberculosis, 27. The number of children who died under one year was 30, and under five years 52, while of those over 60 there were 35.

The American Social Science Association devoted one day of its annual meeting to health topics. Dr. Samuel H. Durgin, chairman of the Boston Board of Health, presided. Dr. S. W. Abbot, secretary of the State Board of Health, spoke on "Possibilities of the Medical Examiner System"; Dr. Robert Amory on "Deaths Caused by Poison"; Dr. Edward M. Hartwell on "The Relation of Death Rates to Growth Rates"; Dr. Charles V. Chapin on "Preventive Medicine and Natural Selection."

MINNESOTA.

Osteopath Board Named.—Governor Van Sant has signed the bill regulating the practice of osteopathy and has named a state board of examiners.

Personal.—Dr. Burton J. Merrill, Stillwater, has been appointed a member of the State Board of Health, vice Dr. M. H. Reynolds, St. Anthony Park.——Dr. Ray Humiston, St. Paul, has been appointed police surgeon, vice Dr. Paul Cook, resigned.

Smallpox.—During March and April four deaths occurred from smallpox in St. Paul, and the health commissioner fears a further spread of the disease before summer.——Secretary Henry M. Bracken, of the State Board of Health, has issued a report of the smallpox conditions in the state for the week ended April 25, which shows a total of 107 cases as compared with 162 for the preceding week and 193 for the week previous. Hemorrhagic smallpox has appeared in Hibbing on the Masaba Range. One death has occurred, and it is reported that there are more than 20 cases in the town.

Medical Course Not Shortened.—Dr. Thomas G. Lee, Minneapolis, has sent the following communication to THE JOURNAL:

> Permit me to correct a statement made in THE JOURNAL, May 2, 1903. On page 1226 it is stated that the medical course at the University of Minnesota has been shortened. This is not the case. The length of school year has just been lengthened from eight and one-half months to nine months. The medical student must take four full years in the medical department. There has been recently established a six-year combination course leading to the degrees of B.A. and M.D. In this course a student takes the first two years in the academic department, then enters the medical department, and at the end of two years receives B.A. and two years later M.D. The present entrance requirement in the department of medicine is one year's academic work, and two years' academic work will be required for entrance in 1905.

MISSOURI.

Mudd's Will Filed.—The will of the late Dr. Henry T. Mudd, St. Louis, was recently filed for probate. The estate is valued at several hundred thousand dollars.

Dr. Bauduy Injured.—Dr. Jerome K. Bauduy, St. Louis, was seriously injured, May 13, by being run over by a wagon, whereby he sustained a concussion of the brain and other injuries.

Personal.—Dr. Herman L. Nietert retired from the superintendency of the City Hospital, St. Louis, which he had held for more than four years, and was succeeded by Dr. John Young Brown.

Many New Physicians.—On May 14 the medical department of Washington University, St. Louis, graduated a class of 53. The degrees were conferred by Chancellor W. S. Chaplin of the university and the venerable Dr. Elisha H. Gregory delivered the address to the graduates.

New Officers for Medical Colleges.—At the annual meeting of Central Medical College, St. Joseph, the following officers were elected: Dr. Thompson E. Potter, president; Dr. Chester A. Tygart, secretary; Dr. William T. Elam, treasurer, and Drs. O. Beverly Campbell, Hubbard Linley, M. F. Weymann and George C. Potter, directors.

NEW YORK.

Buffalo.

The Ewald Reception.—A reception was given to the members of the Buffalo Academy of Medicine by Dr. Charles G. Stockton at the Saturn Club, May 20, in honor of Professor Ewald of Berlin.

Deaths for the Month.—The April report for the department of health shows an annual death rate of 15.72 per 1,000. The principal causes of death were as follows: Pulmonary consumption, 51; typhoid fever, 13; pertussis, 6; diphtheria, 7; debility, 41; alcoholism, 5; cancer, 18; apoplexy, 14; meningitis, 16; arteriosclerosis, 7; valvular disease of the heart, 32; bronchitis, 16; pneumonia, 27; appendicitis, 4; nephritis, 18; violence, 41. Total deaths for April, 1903, were 498, as compared to 436 for 1902. From a bacteriologic point of view the Niagara River water was in fair condition.

New York City.

Foreign Surgeons in New York.—Prof. Hans Kehr, Halberstadt, Germany, was given a dinner in his honor by Dr. Willy Meyer. By the invitation of the same gentleman, Professor Kehr gave a clinic at the German Hospital. He was also invited by Dr. B. Farquhar Curtis to hold a clinic at Bellevue Hospital.——Professor Ewald of Berlin, Germany, read a paper before the German Medical Society, May 26. He is also expected to take part in the scientific program of the meeting of the Medical Society of the County of New York on June 3.

OHIO.

To Fill Chair of Physiology.—Dr. J. J. R. MacLeod, London, England, a graduate of Aberdeen in 1898, and at present demonstrator of physiology in London Hospital Medical College, has been appointed professor of physiology in the medical department of Western Reserve University, Cleveland.

Faculty Changes.—Several changes have been made in the faculties of Ohio Medical University, Columbus, Drs. Thomas G. Youmans and Darlington J. Snyder having resigned. Dr. Youmans will be succeeded by Dr. McKendree Smith. Drs. Ernest Scott, E. A. Hamilton, Scott Fulton and H. H. Snively were added to the medical faculty.

New Faculty Members.—Starling Medical College, Columbus, has made the following faculty appointments: Dr. Harvey W. Whitaker, professor of diseases of the nose and throat; Dr. Starling S. Wilcox, professor of genito-urinary diseases; Dr. William K. Rogers, professor of otology; Dr. John Dudley Dunham, professor of bacteriology; Dr. William D. Deuschle, professor of mental and nervous diseases; Dr. Charles B. Morrey, professor of physiology; Dr. Dickson L. Moore, pro-

fessor of diseases of children; Dr. Earl M. Gilliam, associate professor of gynecology; Dr. Isaac B. Harris, lecturer on physical diagnosis.

Cincinnati.

Personal.—Drs. C. R. Holmes, A. B. Isham and Louis Schwab have been appointed medical directors of the Cincinnati Hospital.——Dr. Louis E. Cook has been appointed pathologist to the branch city hospital for tuberculosis.

The commencement exercises of the Medical College of Ohio were held May 2. Addresses were delivered by Drs. P. S. Connor and T. A. Reamy and by Prof. Howard Ayres, president of the university. The graduating class consisted of 53, a number of whom secured positions as internes to the various hospitals: Cincinnati Hospital, Dr. Harry E. Shilling, Troy, Ohio; Dr. Charles Goosman, Cincinnati; Dr. Alfred Vos, Cincinnati; Dr. Sidney, Cincinnati. To Christ's Hospital: Drs. Charles A. Langdale, Cincinnati; Dr. Gordon F. McKim, Burlington, Ky. To the Jewish Hospital: Dr. Charles E. Hauser, Cincinnati, and Dr. Frank P. Zerfass, Oxford, Ohio. To St. Mary's Hospital: Dr. Claude Youtsey, Newport, Ky., and Dr. Karl G. Zwick, Covington, Ky. To the Good Samaritan Hospital: Drs. Grear H. Baker and Merrick L. Bates, Cincinnati, and Dr. Robert Cofield, Bethel, Ind. To Speers Memorial Hospital, Dayton, Ky.: Dr. Walter C. Cook, Cincinnati. The commencement exercises of the Miami Medical College were held May 1, the college graduating a class of 40, one of the largest classes of recent years. Addresses were made by the dean, Dr. J. C. Oliver, and by the Rev. Dr. Davil Philipson. Interneships were secured by the following: Drs. Earl H. Bruns, Merle Flenner, H. H. Johnson, F. W. Krueger, Cincinnati Hospital; Dr. Park Gilmore, St. Mary's Hospital; Dr. J. H. Grossman, Marine Hospital; Drs. W. C. Williams and C. J. Harris, German Deaconess Hospital; Dr. A. J. Markley, Jewish Hospital. The meeting of the alumni of the Miami College was held on the evening of May 1 and some two hundred sat down to the banquet. Dr. Millikin of Hamilton acted as toastmaster, and addresses were made by Drs. Chapman of Toledo, Fackler and others. Dr. Joseph Ransohoff has been appointed under the new code trustee to the Cincinnati Hospital.

PENNSYLVANIA.

Chester Hospital has an anonymous donation of $2,000 for a sun parlor.

Pseudo Butter in Almshouse.—An agent for the Dairy and Food Department has discovered that the managers of the Williamsport Almshouse have been feeding oleomargine to the inmates. The maximum penalty is $1,000 fine and imprisonment. The managers are to be prosecuted.

Foreigners and Insane.—In his recent report to the board of managers of the Friends' Asylum for the Insane, at Frankford, the superintendent, Dr. Robert H. Chase, regards insanity to be on the increase. He considers that in the United States immigration is a potent factor in this increase; while only one-eighth of the population is foreign born, one-third of the insane belong to this class. The high pressure and rapid pace of living in densely populated centers is another potent factor ascribed to the results. A high value is set on the occupation of the insane in their treatment.

Report of Smallpox in the State.—At a meeting of the State Board of Health, May 23, the chief subject for consideration was smallpox, and its prevalence in certain localities. In the lumber camps about Cross Fork, Potter County, 75 cases of the disease are said to exist. The locality has been placed under strict quarantine, railway and postal communication being cut off. Dr. Benjamin Lee, secretary, reported that during March and April there were 1,416 cases of smallpox, with 61 deaths in Pennsylvania. Included in this number are: Philadelphia, 219 cases, 20 deaths; Pittsburg, 153 cases, 15 deaths; West Farfield township, Crawford County, 137 cases; St. Mary's, Elk County, 100 cases.

Philadelphia.

The new maternity and nurses' home of the West Philadelphia Hospital for Women, including four adjoining houses, was opened with a reception on April 28. By improvements which cost about $15,000 the hospital can accommodate 60 patients.

Physicians Dine.—On the evening of May 21 the celebrated Clover Club, of which Colonel A. K. McClure is president, gave a "doctor's dinner," at which the guests were chiefly prominent physicians, some fifty in number. Lieutenant-General Nelson A. Miles was one of the guests of honor.

Pennsylvania Hospital Annual Report.—At the recent annual meeting of the board of managers of the Pennsylvania Hospital it was reported that the expenditures during the past year were $135,185, which is $37,000 in excess of its income. During the year 40,701 patients received treatment.

Heat Strokes.—A period of excessive heat in Philadelphia and vicinity for the week ended May 23 resulted in a considerable number of cases of heat stroke. The temperature has rarely been so high in May; the maximum was reached on the 20th, the thermometer recording 92 degrees, making Philadelphia, for the day, the hottest city in the country.

Women Graduate.—May 20 the Woman's Medical College of Pennsylvania graduated 30. Dr. Ella B. Everett, professor of gynecology in the college, delivered an address on "The Future of Women in Medicine." General George M. Sternberg, surgeon-general of the U. S. Army, retired, gave an address on the "Newer Knowledge and Prophylaxis of Infectious Diseases."

To Inspect Foreign Hospitals.—Dr. Geo. W. Holden, Denver, Col., recently inspected the Henry Phipps Institute for the treatment of tuberculosis. Dr. Holden represents Lawrence Phipps, who recently gave $500,000 for the building and equipment of a hospital in Denver for the treatment of consumptives. Dr. Holden has gone abroad to study European hospitals for the treatment of tuberculosis.

Commencement.—May 23, at the commencement exercises of the Medico-Chirurgical College, 93 students were graduated in medicine. The orator of the occasion was Prof. Arthur E. Kennelly, Sc.D., of the department of electrical science of Harvard College. The previous evening the annual meeting of the alumni association was held, at which ex-Attorney-General John P. Elkin made an address. The annual banquet followed.

Hospital Appointments.—Dr. Mary W. Griscom has been appointed chief of the obstetrical staff of the Woman's Hospital. Associated with her are Dr. Elizabeth L. Peck, senior member of the staff of the West Philadelphia Hospital for Women, also a member of the staff of the Philadelphia Hospital, and Dr. Sarah H. Lockrey, elected to the vacancy caused by the retirement of Dr. Anna E. Broomall. The latter recently succeeded Dr. Ida Richardson as visiting physician to the West Philadelphia Hospital for Women.

Foreign Surgeons Hold Clinics.—Prof. Hans Kehr of Halberstadt, Germany, on his way to and fro to the Congress of American Physicians and Surgeons, held a number of clinics in Philadelphia, chiefly on the line of gall-bladder surgery. While in the city he was the guest of Dr. Max J. Stern of the Polyclinic, but was entertained by several of the prominent men of the profession. Prof. J. von Mikulicz-Radecki of Breslau held a clinic at Jefferson Hospital on May 16. A large number of the profession were present.

Cerebrospinal meningitis made its appearance at the League Island Navy Yard on April 1, since which time four of the apprentice sailors have died of the disease. There are said to be six sailors in the Hospital of the Naval Home suffering with the disease. The outbreak is believed to be due to the crowded condition on some of the receiving ships. The medical officials, including the chief medical inspector of Philadelphia, state that the disease is not "spotted fever," and that there is no cause for fear of the spread of the affection. Tents are being used to relieve the congestion of the vessels, and it is believed that the disease will soon be stamped out.

Health Education Campaign.—Dr. Edward Martin, the new director of the department of health, has announced his intention of conducting the department on educational lines. It is his purpose to ask the County Medical Society and the College of Physicians to aid in bettering the health conditions of the city, by taking up for discussion practical subjects such as preventive measures of disease. The source of typhoid fever infection, chiefly through the water supply, is emphasized. The Pediatric Society is asked to formulate regulations setting a standard for the milk supply, and to offer suggestions about infant feeding. Impure, unfiltered drinking water has been used in most of the public schools and the board of education has been asked for a report on the matter to the end that pure water may be supplied. The Pennsylvania Society for the Prevention of Tuberculosis has been asked to co-operate with the department in the warfare against tuberculosis. A plan is on foot to have the subjects of the latter disease who are inmates of the Philadelphia Hospital, to sleep in the open air, temporary provision for the same being made on the roof of the hospital.

Many Bequests.—By the will of the late Hiram Brooke, a retired dry-goods merchant of Philadelphia, $77,000 was bequeathed to charities. Among many bequests are the following: Philadelphia Dispensary, $500; Pennsylvania Hospital, $2,000; St. Joseph's Hospital, $1,000; Friends' Society for the Relief of the Sick, $2,000; Philadelphia Nurses' Home, $500; Insane Department of Pennsylvania Hospital, $1,000; St. Timothy's Hospital, $500; Home for Consumptives, Chestnut Hill, $500; Jewish Hospital, $1,000; German, Jefferson, Hahnemann and Episcopal hospitals, each $2,000; Bethany Dispensary, $2,000. Louis Rosenberg has given to the Jewish Hospital $5,000, to endow a bed in honor of his wife, and a like amount has been given by the sister and brothers of Herman Jonas, to found a bed in his memory. Nineteen hundred and sixteen subscribers to the Federation of Philadelphia Jewish Charities contributed $123,039.50 to the organization the past year. In the allotments made the Jewish Hospital Association received $30,000; the Jewish Maternity Association $9,000; the National Hospital for Consumptives, Denver, Col., $3,000. Among the bequests from the estate of Mary A. Allison were those of $2,500 to the Presbyterian Hospital, and $5,000 to the Methodist Hospital.

TENNESSEE.

Personal.—Dr. William Krauss announces that he is no longer connected with Memphis Hospital Medical College.

College Opens.—The medical department of the University of the South, Sewanee, opened for its eleventh year, May 7, with an initial registration of sixty.

Accident to Physician.—Dr. William Morrow, Nashville, was run over by a train recently, and his left hand was so badly crushed that amputation was necessary.

A Large Graduating Class.—A class of 195 was graduated, April 27, from Memphis Hospital Medical College. Dr. William B. Rogers, dean, delivered the faculty address; Colonel Carroll, president of the board, made the address to the graduating class, and conferred the degrees, and Dr. Rogers delivered the diplomas to the class.

GENERAL.

The Meningitis Outbreak.—Two additional cases of meningitis developed last week among the sailors at League Island Navy Yard. Most of the recruits are now encamped in tents, and no serious extension of the disease is feared.

Association of Medical Librarians.—The sixth annual meeting of this association was held in Brooklyn, N. Y., May 16, 1903. A number of librarians and physicians representing medical libraries throughout the country were present. Papers and discussions were contributed by Mr. C. P. Fisher of Philadelphia, Dr. T. G. Lee of Minneapolis, Mrs. G. W. Myers and Dr. E. H. Brigham of Boston, Mr. J. S. Brownne and Dr. W. S. Dennet of New York, Mr. A. T. Huntington of Brooklyn, and others. The officers elected for the ensuing year are: President, Dr. William Osler, Baltimore; vice-president, Dr. Abraham Jacobi, New York; secretary, Mr. Albert T. Huntington, Brooklyn, and treasurer, Dr. George D. Hersey, Providence.

FOREIGN.

Serum Diagnosis of Meat Poisoning or Botulismus.—The German war department has issued orders that in case of suspected poisoning from meat the serum test shall be applied, as it has been found that the serum of persons convalescing from botulismus has marked agglutinating properties for the enteritis bacteria. The results of this test may enable a retrospective diagnosis to be made, even several days after recovery.

Pribram's Jubilee.—The thirtieth professional anniversary of Professor A. Pribram was celebrated May 14 at Prague, with much ceremony. The *Prager Med. Wochft.* of that date contains the complete list of the scientific works of this eminent savant and those of his pupils, filling several pages. Three numbers of the *Deutsches Archiv f. klin. Med.*, vol. 74, formed a jubilee number in his honor, the articles all emanating from his clinic.

Jubilee for Professor Runeberg.—The *Zeitschrift f. klin. Medicin* has issued a Festschrift in honor of Professor J. W. Runeberg, who has completed his twenty-fifth year in the chair of clinical medicine at Helsingfors. Twenty original articles were contributed by his present or former pupils. We notice that one of the prominent pictures at this year's Salon at Paris is a portrait by a Finnish artist of Runeberg in his apron at the bedside of a hospital patient.

Medical Study Trip in Germany.—The third annual study trip of physicians to the watering places of Germany from Kreuznach, Ems, Nauheim, Wildungen and Oeynhausen, etc., to Pyrmont, commences at Mayence, September 8, and terminates at Cassel the day before the opening of the Naturforscher Congress there September 20. The first stage of the journey will be by steamer on the Rhine. These study trips are becoming more and more popular every year, and the party receives almost an ovation at each health resort visited.

Campaign Against Yellow Fever in Brazil.—According to an official announcement by the Brazil Board of Health, disinfection will no longer be enforced in cases of yellow fever. As it has been established that the mosquito is the only means of transmission of the disease, prophylaxis will be restricted to isolating the patient, in his own house, if desired, screening doors and windows and using pyrethrum, formol and other insecticides in the house and in those adjacent. Physicians are urged to report all cases on suspicion, without waiting for a positive diagnosis, and the lay press, as the guide of national opinion, is entreated to uphold the authorities in this campaign on new lines.

Campaign Against Quacks in France.—De Lavarenne has been publishing in the *Presse Médicale* a series of articles urging concerted and vigorous action against the ads of charlatans, and emphasizing the harm done by them both to the public and medical profession. The matter has been taken up by Dr. Maxwell, who is attorney general for the Bordeaux Court of Appeals, while he is at the same time a physician. He is collecting material for a medicolegal study of the subject, and appeals to the profession at large for data. He wishes to have samples of particularly flagrant ads forwarded to him, and also all information of injury done by the quack practices or by the delay imposed and of excessive charges.

The Outlook for the Consumptive.—Lutaud protests editorially in his *Journal de Méd. de Paris* against the exclusion of tuberculous subjects from various occupations, which is being advocated in France. He thinks that the campaign against tuberculosis is becoming more and more "war on the tuberculous." If the state closes all avenues of employment for them, official clerkships, positions as teachers, etc., then, he argues, the state must either kill them off or else support them. If the latter, the state will in time be besieged by troops of impostors simulating tuberculosis to be supported without work. Lutaud has never accepted the prevailing bacteriology and exclaims in conclusion: "Oh Theory, Theory, how many stupid things are done in thy name!"

The Contract Practice Troubles in Germany.—The Reichstag has modified the sickness insurance legislation, as anticipated, to increase the maximum period of support from thirteen to twenty-six weeks, and in maternity cases from four to six weeks, and also to include the venereal diseases in its provisions. The new law does not mention the question of remuneration of the physicians, but five of the deputies, representing all the political parties except the socialists, delivered able speeches on the exploitation of the medical profession by the sick benefit societies, and other matters affecting the relations between the profession and the "Kassen," calling on the government to interfere to prevent the degradation of the medical profession. One exchange remarks that the subject could not have been presented better or more convincingly by any medical man, and this unprecedented pleading on behalf of the profession is accepted as a very gratifying sign. The Reichstag in consequence adopted a resolution before it dissolved commending the matter to the action of the next parliament, suggesting the appointment of a standing committee of representatives of the medical and lay officers of the "Kassen."

International Congresses in Europe.—The third International Congress of Thalassotherapy (marine) met at Biarritz, April 19 to 21, with a numerous attendance. Addresses were made by Liebreich, Berlin; Winternitz, Vienna, and Robin, Paris. The International Antialcohol Congress convened at Bremen just before, and the second International Congress of the Medical Press followed at Madrid, preceding the great International Medical Congress. The third International Congress of Public Assistance and Private Benevolence will meet at Bordeaux, June 1 to 7, and the seventh of otology at Bordeaux August 1 to 4. Beside these the German Otologic Congress assembled at Wiesbaden May 29; the German Congress of Surgery will be held at Berlin, June 2, and of orthopedic surgery at the same time, while the gynecologic will be held at Würzburg; August 1 is the date for the third French Congress of Neurology. The eleventh International Congress of Hygiene and Demography is announced for September 2 to 8 at Brussels. September 16 to 19 the German Public Health Congress

will meet at Dresden, and September 20 to 26, the seventy-fifth Naturforscher Congress at Cassel.

Second International Congress of the Medical Press.—The constitution outlined at the Monaco conference was definitely accepted at this congress, which immediately preceded the International Medical Congress at Madrid. Dr. Cortezo of Madrid was elected president of the international association, and his journal, "El Siglo Medico," will, therefore, be the official organ of the international medical press until the next congress. He is an accomplished linguist and addressed the assembly in four languages, turning to the French, German, Italian and Spanish members as he spoke in their tongue. It was stated that there are at present 1,183 medical periodicals in the world, this country leading with 258, followed by France with 237, Germany with 163, Italy with 109, England with 77, Austria with 73, and Spain with 70. Russia has 47, Belgium 28, Holland 23, Argentina 11, and so on to Venezuela with one. Among the addresses made at the congress was one by Blondel, Paris, on the necessity for establishing an international central bureau for medical journals similar to that of the Associated Press for daily papers. Others spoke on the influence of the medical press on the decrease in the mortality from diphtheria. Rodriguez-Mendez discussed the subject of the education of the medical journalist. Noguera expatiated on the influence of the medical press on the progress of military science, and Pulido on the relations of the medical press to the public authorities. Interesting historical sketches of the medical press in various countries were read by delegates. The members of the congress assembled in a banquet after the congress adjourned.

International Anti-tuberculosis Conference at Paris.—The second and final sitting of the inner council of the international bureau for the prevention of tuberculosis, was held at Paris, May 3. The first conference met at Berlin and we all remember the heartiness with which the German government threw open its national halls for the conference and promoted it in every way. At Paris, on the other hand, the public authorities were too engrossed with the reception of the king of England and other matters to officially co-operate, so the entire arrangements devolved on private initiative. Letulle is secretary-general to the International Antituberculosis Congress to be held at Paris in October, 1904, and welcomed the members of the inner council at a reception at his house, where some unpublished poems of Professor Richet were recited or sung by professionals. The council accomplished its task, which was the gathering and comparing of information in regard to the campaign against tuberculosis in various countries, as a preliminary for the work of the approaching congress. The assembly concluded with a grand meeting thrown open to the public, the hall crowded to the doors, eliciting great enthusiasm. Casimir-Perier in his address at this meeting urged the co-operation of hygiene to arrest the progress of tuberculosis, with state aid, which deprives it of victims. These two are indispensable and inseparable. Both should act with gentleness and not with brute force. Their success, he added, is bound up with the solution of the most complex social problems and the campaign against tuberculosis should not be left to the medical profession alone, but requires the mobilization of all the forces of society, public and private, official and voluntary. A subcommittee was appointed to confer with local and national authorities in regard to measures to control the spitting nuisance. A resolution was adopted urging that the laws governing the spread of infectious diseases, especially tuberculosis, should be taught in schools and colleges.

LONDON LETTER.

Increase of Lunacy in Scotland.

From the report just issued it appears that the number of insane in the asylums of Scotland is 16,658. The statistics from the year 1858 onward show an increase. In that year the number was 5,824. The proportion of insane to the population has been steadily rising in the last ten years. In 1893 it was 204 per 100,000; now it is 250.

The Sleeping Sickness in Uganda.

Dr. C. Christy of the Liverpool School of Tropical Medicine and one of the commission dispatched to Uganda by the Foreign Office and Royal Society to investigate sleeping sickness, which is ravaging that country, has just returned to England. He made a very interesting journey among many little known tribes, returning via Fashoda and Khartoum. His special object was to prove or disprove the theory that sleeping sickness depends on filaria in the blood stream. After three months traveling he found a large district in which sleeping sickness raged and there was no sign of filariæ. It is now proved that sleeping sickness is in no way connected with filariæ. Simultaneously Dr. Castellani, bacteriologist of the commission, was working in his laboratory at Entelobe. He has proved that sleeping sickness is due to a previously unknown bacillus. Meanwhile the disease is making great ravages through South Kavirondo and along the shores of Victoria Nyanza. In villages through which Dr. Christy passed half or two-thirds of the people were suffering from sleeping sickness. A satisfactory feature with regard to Uganda is that the disease shows no tendency to spread far from the shores of Victoria Nyanza. It is not infectious in the ordinary sense of the word, and seems seldom to be conveyed from one person to another.

The King's Sanatorium.

As announced in THE JOURNAL, Sir Ernest Cassel, a wealthy merchant, placed at the disposal of the king about a year ago the sum of $1,000,000 for some purpose of public utility. The king decided to build a sanatorium for consumption. Prizes were offered for the best essays and plans for such an institution. Of 180 essays sent in Dr. A. Latham gained the first prize of $2,500. A sanatorium will be built according to his plans at what Sir William Broadbent describes as "a perfect natural site" in Sussex, near Midhurst. It is near a vast open space called Pound Common, which is public property, and, therefore, safe from the encroachments of the builder. For miles around are breezy stretches of gorse and heather. To the north of the site is a solid screen of the plateau itself, and on the east and west are acres of trees. The aspect of the sanatorium will not be absolutely south, for Dr. Latham has pointed out that it is not desirable in summer, when the sun would pour directly into the patient's rooms to make them uncomfortably hot. A slight inclination to the east or west will, therefore, be adopted. The extent of the property to be laid out is 151 acres. A fine garden will be laid out around the building. It is the ambition of the king that this should be the most perfect sanatorium for consumption in the world, embodying the experience of all the best models.

The Action on Bacteria of Electrical Discharges of High Potential and Rapid Frequency.

At a meeting of the Pathological Society Mr. Alexander G. R. Foulerton and Dr. A. M. Kellas read an interesting paper on this subject, in continuance of a communication on the same subject presented to the society last year, showing that by discharging the current close to the surface of a fluid containing bacteria, held in a test-tube, through the bottom of which a platinum wire had been sealed, suspended organisms could be destroyed. The current used was one of from 2.5 to 5 ampères, the voltage varied from 35 down to 24, and the experiments were carried out in common air.

The Plague.

In Cape Colony the following cases are reported for the week ending April 18: Quarantine station, Saldanha Bay, 2 Asiatics; Port Elizabeth 7, of whom 6 were natives and 1 European. Of the former 3 were found dead; at the plague hospital, Port Elizabeth, there are 17 cases under treatment. Plague-infected rats continue to be found in the town

Deaths from Violence in London.

Sixty-five deaths from violence occurred in the week ending April 25; 13 were suicide and 2 homicide, while the remaining 50 were attributed to accident or negligence.

Infectious Diseases in London.

In the London fever hospitals there are now 38 cases of smallpox, 1,698 of scarlet fever, 767 of diphtheria, 10 of typhus, and 60 of enteric fever. The admissions during the week as compared with the preceding three weeks are as follows: Smallpox, 9 cases against 3, 5 and 22; scarlet fever, 243, against 205, 158 and 188; diphtheria, 108, against 136, 99, and 96; enteric fever, 4, against 15, 8 and 5. During the four weeks ending April 25 the total death-rate for the metropolis was 16 per 1,000, being 3.3 below the mean rate in the corresponding periods of 10 years, 1893-1902. In the week ending April 25 there were 1,483 deaths, which included 80 from measles, 7 from scarlet fever, 22 from diphtheria, 33 from whooping cough, 17 from diarrhea, and not one from smallpox, typhus or enteric fever. The deaths from measles, which had been 73, 48 and 74 in the preceeding three weeks, rose to 22, but were 11 below the average. The deaths from whooping cough, which had been 60, 47 and 33 in the preceding three weeks, rose to 38, but were 22 below the average. Twelve deaths were attributed to influenza against 17, 17 and 8 in the preceding three weeks.

Correspondence.

Illinois Nurses' Bill Vetoed.

CHICAGO, May 26, 1903.

To the Editor:—An editorial bearing the above caption appeared in THE JOURNAL, May 16. As the information therein is incorrect, and as an injustice has, doubtless unwittingly, been done Governor Richard Yates of Illinois, an executive whom the Illinois State Medical Society took occasion to highly compliment in formal resolutions adopted less than a month ago, I beg leave to state the facts in the case.

The editorial states that the bill was vetoed "simply on the ground that the examining board was to be appointed from names selected by the Illinois State Medical Society." Again, "the governor objects to this as taking from the executive his prerogative, and, we might add, his political perquisites."

The above must be a mistake, as the Illinois State Medical Society is not mentioned in the bill (Senate Bill No. 147).

The bill provided for the appointment of an examining committee by the State Board of Health, from names submitted by the Illinois State Association of Graduate Nurses; the appointment of one board by another. The board of health, not the governor, was clothed with the appointing power. Furthermore, appointment from these nominations was mandatory as the word "may" in the law means "shall." This practically gave the appointing power to the Nurses' Association, and at the same time held the governor responsible for the work of the board over which he had no control.

The governor says in his veto:

> I veto this bill because I do not believe there was due deliberation in its consideration and passage, and because it is not consistent with the general policy of the constitution.
>
> The theory of the constitution is, that the governor of the state, by and with the advice and consent of the state senate, shall nominate and appoint the state officers, and that the state officers shall perform state duties. . . . The performance of said duties by persons who are not state officers is not contemplated by the constitution, and was not contemplated by the framers thereof. . . . When the people shall deem it wise to commit the performance of the official duties of the state to persons who are not state officers, they may revise the policy of the present constitution by amending the same. . . . Until then, state duties should be performed by state officers and not by persons selected or nominated by societies. . . . The tendency to create boards consisting of persons whose selection is absolutely dictated by mere volunteer associations of persons who gather themselves together and constitute a society, is a tendency that should be checked.

The above is in accord with the decision of the Illinois Supreme Court in 1899 in the case of Charles W. Lesher vs. the People of the State of Illinois.

In the matter of appointments by the executive, the governor thus takes the ground that the constitution guarantees to the governor the right not only to appoint, but also to nominate and appoint. This being the case, it is his opinion that any statute which undertakes to nullify and abridge the constitution must be considered not only a violation of the constitution, the fundamental law of the state, but also wholly wrong in policy and principle.

That Governor Yates does not object to "the assistance of a qualified organization in the selection of persons for a purely professional function" the Illinois State Medical Society is in a position to testify. At the beginning of his administration the governor submitted to the judicial council of the society the names of many persons seeking medical appointments under the state government, and asked for recommendations. The judicial council by resolution has since expressed its appreciation of this act of Governor Yates. In the presidential address in 1901, the president of the state society stated that Governor Yates had kept his ante-election promises, and had given the society all possible consideration. As late as two months ago the legislative committee of the Illinois State Medical Society, in a circular letter sent to over 5,000 physicians, stated that Governor Yates had given the medical profession of Illinois more consideration than any governor of recent years and that he was in hearty sympathy with the high ideals entertained by the profession.

In conclusion permit me to quote from the remarks of Governor Yates in his veto of the Dental Examiners' Bill on May 15, 1903:

> The present executive is willing, and doubtless any other executive will be willing to listen to proper and reasonable recommendations, and it may be in the appointment of professional boards every executive will, in nine cases out of ten, select as members the persons recommended by the profession affected, inasmuch as the executive will doubtless assume that the profession affected is more interested and better informed than any other persons or citizens can possibly be.

GEO. W. WEBSTER,
President State Board of Health.

Maternal Impressions.

TELL CITY, IND.

To the Editor:—In THE JOURNAL of April 4, Dr. E. T. Shelly relegates the maternal-impression theory to the medical lumber-room, a very comfortable, if not a very satisfactory, way of disposing of all abstruse theories which are not clearly understood. The difficulty, however, we meet at the very threshold of such a happy disposal of the subject, makes it a herculean task, for are there not on every hand too many and too conspicuous cases to satisfactorily dispose of them with a wave of our wand? When Dr. Shelly declares there is no anatomic or physiologic connection between the mother and child he assumes a conclusion not thoroughly established, and which may be a figment of the fancy. If, however, there is no such connection, it does not follow that there is an absence of psychologic connection. Surely we witness the too often painful effect of environment during the gestatory period. The mother may not be wholly blamable if her offspring, gestated in an atmosphere reeking with all that is base and degrading, is born a pitiable object. True, the child born in a den of vice and infamy may, by inherent qualities or central impetus, burst the restraints of infamy and burn a star of light over a sea of corruption. Too often, alas, the reverse is true.

There is a subtle and possibly a reciprocal connection between the mother and the fetus during the entire embryonic life. Nor is she blamable if, during gestation, she be so rudely shaken from the poise of harmony by some sudden shock that the brunt is borne by the offspring ever after. I have witnessed too many well authenticated cases to doubt it for a moment. The mother should have the most harmonious, beautiful and elevating surroundings during gestation. The restraints of toil and care should irk her not. She should not be stewed with worry or spitted with starvation. She should be placed on a well-guarded pedestal, canopied with comfort and gently basted with sweet-scented bouquets. Her make-up is intricate. She is a problem, to be solved by no simple rule of mathematics. On her environment hangs the future welfare of posterity. Her mental impressions may wonderfully impress the embryo, may mark it, ay, may destroy its harmony, its usefulness, its life.

F. ANSON EVANS.

Preserved in Wax.

MUSKEGON, MICH., May 22, 1903.

To the Editor:—The following case illustrates the remarkable preservative properties of cerumen: J. W. S., age 63; white; Civil War veteran. A beetle of the species *Tenebrio molitor* entered right ear one evening in August, 1861, while patient was in Camp Good Hope, near Navy Yards, Washington, D. C. Patient immediately applied to regimental surgeon, who, failing in efforts to remove insect, applied olive oil to ear and instructed patient to return to tent and lie on right side, and suggested that the bug would probably be found on blanket in the morning. Pain in ear kept patient awake until nearly morning and when awakened ear felt much better, and patient forgot to look on blanket for insect, which he supposed had escaped from the ear. Since insect entered ear, patient has been able to hear but faintly with right ear.

Patient applied to me for relief from deafness May 8, 1903. On examination, I found external canal filled with cerumen. Applied solvent and instructed patient to return in twenty-four hours. After syringing the ear the following day, I found the beetle, which was ⅝ inch in length and slightly greater in width than the normal caliber of the canal and with ear tenaculum, removed it, not without some difficulty. The head of insect lay within one line of tympanum.

After 41 years and 8 months the beetle was in perfect state of preservation; legs, feelers and all appendages intact. One week after removal the external canal appeared normal and the hearing is nearly normal. F. B. MARSHALL, M.D.

Plaster-of-Paris Bandages.

TOLEDO, OHIO, May 8, 1903.

To the Editor:—It is not generally known that the late Dr. Hezekiah P. Mead of Morrisville, Madison County, N. Y., who died last year, was the first to discover the practicability of applying the plaster-of-paris bandage to the treatment of fractures and other displacements in which it is so universally used by the profession throughout the land. This was early in the year 1860.

With an utter lack of any thirst for notoriety, and content with his mere contribution to the profession and to the good of humanity, he gracefully allowed the name of another skilled and more prominent surgeon of the time to be credited with this valuable discovery.

Through intimate association and personal knowledge of the facts at the period named, I have felt it incumbent on me to call attention to the above fact, in justice to a man of consummate skill and the highest citizenship. In a personal reminiscence which I caused to be published in the *Toledo Blade* in 1901, I gave in some detail the circumstances which first led to the adoption of this new use of a common and well-known article, and which I believe I am able to substantiate if desired.

N. B. BACON.

Failure of the Eddyites in Arkansas.

WINFIELD, ARK., May 12, 1903.

To the Editor:—I see in THE JOURNAL, May 9, that the Eddyites failed to receive a charter in Philadelphia. At the past session of the Arkansas legislature these people got a bill through the senate to exempt them from Section 13 of the recent medical act of the state, but in the house we managed to put an amendment on the bill "providing that they receive no pay for their practice." The senate never concurred in the amendment, so they are out here. CHEVES BEVILL.

Triplets.

HOPE, ARK., May 19, 1903.

To the Editor:—May 14 I delivered Mrs. M. of triplets, two girls, one boy. The weights of the two girls were 5½ and 6 pounds and of the boy 6½ pounds. They are all hale and hearty and at this time are doing nicely. Mrs. M., who is the mother of four other children, is also doing nicely. She had the easiest time of any of her confinements.

J. H. WEAVER.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

DO NEGROES RECOVER FROM PHTHISIS?

ALBUQUERQUE, N. M., May 13, 1903.

To the Editor:—I desire to learn through the columns of THE JOURNAL, from one or more physicians residing in southern states and who have had any considerable number of cases of pulmonary tuberculosis among the African race, if they know a recovery among negroes suffering from this disease. I desire the information for statistical use and will consider it a great kindness from anyone who can give me such aid, either by personal communication or through THE JOURNAL. FRANCIS CROSSON.

SALOL COATED IPECAC PILLS.

NEWMAN GROVE, NEB., May 15, 1903.

To the Editor:—Will you please inform me where I can get ipecac pills that are coated with salol? D. B. MCMAHON, M.D.

ANS.—We are unable to learn of any such ready-made pills. Any of the large pharmaceutical houses, however, will prepare these for you, or perhaps a druggist in your own city will be able to do the same satisfactorily.

PINK REACTION IN URINE.

PHILADELPHIA, May 18, 1903.

To the Editor:—With reference to the pink coloration of urine noted by Dr. Minter in THE JOURNAL, May 16, p. 1386, on addition of nitric acid: I have observed such a reaction in a case in which also tubercle bacilli were found in the urine, and the same observation has been made, I believe, by Dr. Joseph Walsh of this city.

AUGUSTUS A. ESHNER.

PHOSPHORUS ELIMINATION IN TABES.

MATAGORDA, TEXAS, May 6, 1903.

To the Editor:—Has it been observed that there is an increased elimination of phosphorus through the urine in tabes dorsalis? And, if so, has the administration of phosphoric acid been recommended for treatment of this disease? S. A. F.

Book Notices.

THE PREVENTION OF DISEASE. Translated from the German with an Introduction by H. Timbrell Bulstrode, M.A., M.D., D.P.H. In Two Volumes. Cloth. Pp. 1063. Net Price, $3.75 per Volume. New York: Funk & Wagnalls Company. 1903.

This is a translation of a well-known German work, a composite production by numerous teachers. The names of the authors give, in themselves, a fairly good idea of the merits of the work, including as they do some of the most eminent specialists and internists of the German Empire. There are, of course, in a work like this some divergences of opinion and in one particular it seems peculiar that a book coming from the publishing house of Funk & Wagnalls should contain arguments advising the moderate use of alcohol and even occasionally the taking of a little more than usual on festive occasions, as suggested in Dr. Einhorn's article on the "Prevention of Diseases of the Digestive Organs." In another article, that of Fuchs on the "Prevention of Mental Disease," total abstinence seems to be advocated, at least on the part of the physician. The two volumes as a whole, however, are a valuable addition to the hygienic medical literature in our language.

THERAPEUTICS OF INFANCY AND CHILDHOOD. By A. Jacobi, M.D., LL.D. Third Edition. Cloth. Pp. 559. Price, $3.50. Philadelphia and London: J. B. Lippincott Co. 1903.

As the author says in his introduction, while many additions have been made to the book, there have been no actual changes in its general contour. It is the revision of a well-known work which has already received its share of favor with the profession. The author's views in regard to the at present much discussed question of infant feeding are stated by him in the beginning, that there will be no unanimity on the question as long as infants insist on being individuals, having their own special constitutional idiosyncrasies. The author acknowledges his indebtedness to the contributors to the Festschrift published in his honor between two and three years ago, than which he says he knows of no collection of an equal number of monographs on scientific and practical subjects of equal value connected with pediatrics.

BOOK ON THE PHYSICIAN HIMSELF and Things that Concern His Reputation and Success, by D. W. Cathell, M.D. The Twentieth Century Edition, Being the Eleventh Edition Revised and Enlarged by the Author and His Son, William T. Cathell, A.M., M.D. Cloth. Pp. 411. Price, $2.50 net. Philadelphia: F. A. Davis Company. 1902.

The appearance of the eleventh edition of a work ought to be sufficient evidence of its popularity. This book has been before the medical public for many years. There is no other exactly like it in its combination of worldly wisdom and ethical advice. Numerous quotations interpolated in the book remind one of the Latin quotations in old Burton's "Anatomy of Melancholia," but they are so funnily chopped up and sawed off in some cases that the impression is somewhat different. We do not consider them a valuable addition.

PHYSICAL CHEMISTRY for Physicians and Biologists. By Dr. Ernest Cohen, Professor of General and Inorganic Chemistry in the University of Urecht. Authorized Translation from the German. By Martin H. Fischer, M.D., Instructor in Physiology in the University of California. Cloth. Pp. 343. New York: Henry Holt & Co. 1903.

Nowadays when the ions, electrolytes, etc., are beginning to play such an important part in the discussions of therapeutics and physiology, a work like this translation of Prof. Cohen's should be welcomed. As a preliminary note to the American

translation Prof. Jacques Loeb says it not only serves as an introduction to physical chemistry, but also teaches the physician and biologist how to apply this science to medical and biologic problems. We admit that in some respects the book will itself require some introductory study by a large majority of practitioners, but this is not an avoidable defect. The translator has evidently done his work well and has made his matter as clear as possible considering the nature of the text.

Marriages.

RACHEL ROBBINS, M.D., to WILLIAM E. STIEREN, M.D., both of Pittsburg, Pa., April 30.

JOHN H. JENNESS, M.D., Rising Sun, Md., to Miss M. Bessie Marshall, at Baltimore, May 6.

MARK MONROE EVANS, M.D., Le Grand, Iowa, to Miss Mary Carolyn Dodd of Montour, Iowa, April 29.

E. A. CANTONWINE, M.D., Van Cleve, Iowa, to Miss Daisy M. White of Rolfe, Iowa, at Marshalltown, Iowa, May 6.

Deaths.

Thomas G. Morton, M.D., who for years has been one of the most prominent surgeons of Philadelphia, died at Cape May of cholera morbus May 20. He was born Aug. 8, 1835, in Philadelphia, his father being Dr. S. G. Morton, a distinguished physician and scientist. Graduating from the Medical College of the University of Pennsylvania in 1856, Dr. Morton served as resident physician in the Pennsylvania Hospital, where he later succeeded Dr. Joseph Pancoast as attending surgeon. He was one of the founders of the Polyclinic and Orthopedic hospitals. During the Civil War he organized a military hospital, and became surgeon to other army hospitals. His many services to the state included chairmanship of the committee of the commission for the erection of the State Hospital for the Insane for the southern district of Pennsylvania. He has served as vice-president of the Society to Protect Children from Cruelty. He was at one time a commissioner of the State Public Charities and again chairman of the State Committee on Lunacy. The clinical lectures he held at the Pennsylvania Hospital have been attended by thousands of students. Dr. Morton was a member of various foreign and American professional societies, was a frequent contributor to current medical literature, and has written standard works on medical subjects, including "The Transfusion of Blood and Its Practical Application." Since 1890 he has been an active member of the Board of Public Education. Deceased is survived by his wife, three daughters and two sons, one of the latter being Dr. Thomas S. K. Morton.

Adelbert H. Tagert, M.D. University of Vermont, 1866, died at his home in Chicago, May 27, of pneumonia, after an illness of a few days, aged 57. Dr. Tagert, after practicing in Buffalo for two years, came to Chicago thirty years ago, where he has since resided. He was surgeon of the C. M. and St. P. Railway for seventeen years, and at the time of his death was president of the Kedzie Hospital. He was a member of the Chicago and Illinois State Medical societies and of the American Medical Association.

Florence W. Hunt, M.D. Northwestern University Woman's Medical School, 1894, formerly a member of the Illinois State Board of Health, neurologist to St. Joseph's Hospital, and a member of the Chicago and Illinois State Medical societies and the American Medical Association, died in Milwaukee May 27. This news is received as we go to press, and a further notice will be given next week.

H. Grey Latham, M.D. University of Virginia, Charlottesville, 1851, died from heart disease of long standing at his home in Lynchburg, Va., May 5, aged 72. He was commander of the famous Latham battery during the Civil War, and was for several terms president of the Virginia Medical Board.

William R. Hayden, M.D. Eclectic College of the City of New York, 1867, died at his home in Bedford Springs, Mass., April 29, aged 83. He was president of the New York Pharmaceutical Company for 45 years.

Charles Clayton Abernathy, M.D. University of Pennsylvania, Philadelphia, 1851, of Pulaski, Tenn., who achieved distinction as a surgeon in the Confederate service, was found dead in bed, April 27, aged 75.

Edward De La Granja, M.D. Central University, Madrid, Spain, 1855, a member of the Royal Society of Medicine; brigade surgeon in the Crimean War, and for many years a resident of Boston, died at his home in that city, May 10, aged 73.

George W. Hunton, M.D. Jefferson Medical College, Philadelphia, 1847, died at his home in Virginia, from asthma, aged 77. During the Civil War he was surgeon of the Eighth Virginia Infantry, C.S.A.

Alfred E. Moore, M.D. Medical Department Iowa State University, Iowa City, 1887, died at his home in Wayland, Iowa, from pneumonia, April 21, after an illness of two weeks, aged 40.

Augustus S. Long, M.D. Long Island College Hospital, Brooklyn, 1865, died at his home in St. Joseph, Mo., from inflammatory rheumatism, April 30, after an illness of two weeks, aged 62.

John C. Brown, M.D. Atlanta Medical College, 1875, of Whitesburg, Ga., died at the home of his daughter in Carrollton, Ga., April 27, from paralysis, after an illness of three weeks.

Walter Bacon Morrison, M.D. Long Island College Hospital, Brooklyn, assistant surgeon in the Civil War, died at his home in Muskegon, Mich., May 2, after a lingering illness, aged 65.

James Aloysius Roache, M.D. Long Island College Hospital, Brooklyn, 1891, died at his home in Brooklyn, from cirrhosis of the liver, May 3, after an illness of four weeks, aged 44.

Alfred B. McChesney, M.D. University of Michigan, Ann Arbor, 1853, a surgeon in the Army during the Civil War, died at his home in Chicago, from pneumonia, May 7, aged 75.

Fieldon R. Waggoner, M.D. Missouri Medical College, St. Louis, 1878, died at his residence in Sacramento, Cal., April 28, from paralysis, after an illness of four days, aged 67.

Samuel P. Buck, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1853, died at his home in West Woolwich, Maine, April 22, after a brief illness, aged 77.

Harold Hamilton Haas, M.D., passed assistant surgeon, U. S. Navy, died from the effects of a self-inflicted gunshot wound of the head, at Staunton, Va., aged 30.

Jesse J. Morgan, M.D. College of Physicians and Surgeons, Baltimore, 1883, died at his home in Dacusville, S. C., April 27, after an illness of one year, aged 42.

James W. Taylor, M.D. Jefferson Medical College, Philadelphia, 1854, died suddenly at his home in Leesburg, Va., from heart disease, April 28, aged 70.

James M. Clopton, M.D. New York University, 1867, died suddenly from heart disease at his home in Mercury, near Huntsville, Ala., April 24.

John H. Salyer, M.D. Tulane University, New Orleans, 1899, of Ledbetter, Texas, died at Navasota, Texas, after a long illness, April 28, aged 29.

Bernardus Schutte, M.D. University of Leyden, Holland, 1875, died at his home in Grand Rapids, Mich., April 30, from aortic aneurism, aged 56.

Griffin Reno, M.D. Albany Medical College, 1862, of Bradford, Pa., died at Venus, Venango County, Pa., April 30, from heart disease, aged 60.

Sylvanus L. Roberds, M.D. Kansas City Medical College, 1876, of Myrtle Point, Ore., died recently at a hospital in Portland, Ore., aged 56.

Lisle C. Waters, M.D. Rush Medical College, Chicago, 1880, died at his home in Chicago, April 30, from anemia of the aorta, aged 54.

William Deegan, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1884, died at his home in Chicago, May 6.

James C. Rhodes, M.D. Geneva (N. Y.) Medical College, 1847, died May 1, at his home in Stillwater, Minn., aged 79.

Joseph B. Le Matty, M.D. Missouri Medical College, St. Louis, 1877, died at Bardolph, April 5, aged 56.

Henry Eversman, M.D. Medical College of Ohio, Cincinnati, 1861, died at Effingham, Ill., April 7, aged 66.

Elizabeth McKitterick, M.D. Woman's Medical College, Chicago, 1880, died recently at Guthrie, Okla.

Thomas H. Mangum, M.D., retired, of Trenton, Texas, died at his home in that place, April 29, aged 69.

William A. Noel, M.D. University of Louisville, 1843, of Pine Bluff, Ark., died recently.

R. B. Cotton, M.D. Toronto University, 1886, died in Regina, N. W. T., May 6, aged 48.

Deaths Abroad.

H. Gutschow, M.D., chief of the medical department of the German navy, died at Berlin, April 23.——**Felix Beetz, M.D.**, a former collaborator on the *Deutsche Med. Wochft.* and the *Reichs-Medizinal-Kalender*, died at Berlin, April 11, aged 54. ——**G. Nepveu, M.D.**, professor of pathologic anatomy at Marseilles, author of numerous works on surgery and bacteriology. ——**J. La Bonnardiere, M.D.**, professor of therapeutics at the French medical college of Beyrouth.——**M. Rio de la Loza, M.D.**, president of the section of medical physics and chemistry of the Mexican Academy of Medicine, died at Mexico, April 9.

Dr. F. Colzi, professor of surgery at Florence, one of the leading surgeons of Italy, died at Florence, April 10, aged 47, from the results of an accidental gunshot wound which shattered his forearm. Tetanus developed and proved rapidly fatal, notwithstanding amputation of the arm.

Dr. Anton Bumm, of Munich, professor of psychiatry, died at his home, April 13, from gallstone disease, aged 54.

Dr. E. Oehl, professor of physiology at Pavia, died April 5, aged 76.

Dr. G. von Veit, professor of gynecology at Bonn, 1863 to 1893, died at Gevelsdorf, April 20, aged 79.

State Boards of Registration.

The next Illinois examination will be in the Seventh Regiment Armory, Chicago, June 1 to 3. This is a special examination for physicians only. The next regular examination will be at the same place, July 22.

Texas.—The next meeting for the examination of applicants who desire to practice surgery, medicine and midwifery in Texas will be held in Austin, June 15. For blanks, rules and any other information, address Dr. M. M. Smith, the secretary, Austin, Texas.

New Hampshire.—The next examination will be held in Concord, June 23-24. By an amendment to the medical registration law, enacted by the legislature at the session of 1903, hotel physicians, employed by the landlord of a summer hotel in the care of his guests or employes, will hereafter be obliged to secure a license to practice, in accordance with Chapter 63 of the Session Laws of 1897. This license can be obtained only by examination.

Reciprocity.—There was held in Chicago, April 23, a meeting of the representatives of the medical examining boards of Indiana, Ohio, Iowa, Kansas, Michigan and Wisconsin. An organization was formed entitled the American Confederation of Reciprocating, Examining and Licensing Medical Boards of the United States of America, having for its object the establishing of reciprocal relations between the medical examining and licensing boards of the United States. The basis for reciprocal medical registration is stated as follows:

For the purpose of establishing medical reciprocity among the states composing it, the American Confederation of Reciprocating Examining and Licensing Medical Boards does hereby agree to the following propositions as a basis of reciprocal medical registration:

(*a*) That a prerequisite to reciprocal registration, the applicant therefor shall file in the office of the board of the state of which he is a licentiate such evidence as will enable the said board to certify that he is of good moral and professional character. Such certificate shall be filed with his application for reciprocal registration in another state.

QUALIFICATION 1.

(*b*) That a certificate of registration showing that an examination has been made by the proper board of any state, on which an average grade of not less than 75 per cent. was awarded, the holder thereof having been at the time of said examination the legal possessor of a diploma from a medical college in good standing in the state where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the state in which registration is sought, the applicant may be required to submit to a supplemental examination by the board thereof in such subjects as have not been covered.

QUALIFICATION 2.

(*c*) That a certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state. Provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the state in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such state.

Texas Report.—Dr. M. M. Smith, Austin, secretary of the Board of Medical Examiners for the State of Texas, reports the examination held at Austin, April 20 to 23, 1903, as follows: Subjects, 13; questions, 135; percentage required, 75; written examination; examined, 97; passed, 87; failed, 10, including one applicant for license as a midwife.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
E. Y. A.	R.	Univs. of Louisville and of Nashville	*	84
C. J.	R.	University of Louisville	1892	83
G. L. P.	R.	University of Louisville	1897	82
A. L. T.	R.	University of Louisville	1903	87
J. R. B.	R.	University of Ft. Worth	*	83
W. H. D.	R.	University of Ft. Worth	*	83
S. B.	R.	University of Vienna	1887	85
R. C. C.	R.	University of Texas	*	94
E. S. E.	R.	University of Texas	1903	90
B. F.	R.	University of Texas	1903	90
L. L. G.	R.	University of Texas	1903	90
G. H. G.	R.	University of Texas	1903	93
L. H. K.	R.	University of Texas	1903	96
A. T. K.	R.	University of Texas	1903	87
L. L. L.	R.	University of Texas	1903	85
J. F. M.	R.	University of Texas	*	89
E. G. M.	R.	University of Texas	1903	89
J. A. M.	R.	University of Texas	1903	93
J. W. R.	R.	University of Texas	1903	91
M. R. S.	R.	University of Texas	1902	93
P. E. S.	R.	University of Texas	1903	89
F. S.	R.	University of Texas	1903	93
J. T. W.	R.	University of Texas	1903	90
J. A. W.	R.	University of Texas	1903	91
Z. T. S.	R.	University of Texas	1903	94
C. A. S.	R.	University of Texas	*	89
J. L. T.	R.	University of Texas	1903	87
F. B. H.	R.	University of Texas and Tulane	*	81
T. D. F.	R.	University of Dallas	*	78
N. E. F.	R.	University of Dallas	*	96
J. J. S.	R.	University of Dallas	*	87
E. C. W.	R.	University of Dallas	*	92
C. G. K.	R.	University of Dallas	1902	90
P. S. R.	R.	Univ. of Dallas and Barnes Med. Coll.	*	79
L. A. C.	R.	University of Nashville	*	88
J. D. M.	R.	University of Nashville	*	83
R. D. C.	R.	University of Nashville	*	85
J. S. C.	R.	University of Georgia	1885	78
T. H. C.	R.	University of Tennessee	1903	87
C. B. H.	R.	University of Tennessee	1897	80
J. R. M.	R.	University of Tennessee	1903	82
B. U. S.	R.	University of Tennessee	*	84
F. D. S.	R.	University of Tennessee	1903	83
M. I. F.	R.	University of Toronto	1892	86
W. B. H.	R.	University of Alabama	1897	81
E. M. H.	R.	University of Arkansas	*	80
J. D. L.	R.	University of Arkansas	1894	84
I. V.	R.	University of Prague	1874	82
A. H. W.	R.	University of Maryland	1902	91
J. M. Y.	R.	University of Virginia	1902	85
C. H. B.	R.	Tulane University	*	80
T. H. B.	R.	Tulane University	*	86
C. W. L.	R.	Tulane University	1899	87
G. H. B.	R.	Barnes Medical College	*	84
A. G. L.	R.	Barnes Medical College	1901	82
E. M.	R.	Barnes Medical College	*	83
W. M. M.	R.	Barnes Medical College	1896	75
J. C. B.	R.	Vanderbilt University	*	87
T. C. D.	R.	Vanderbilt University	1903	81
A. T. O.	R.	Vanderbilt University	1901	92
A. O. C.	R.	Vanderbilt University	1900	82
P. C. S.	R.	Vanderbilt University	1903	88
C. P. B.	R.	Rush Medical College	1902	92
W. L. B.	R.	Rush Medical College	1896	88
E. J. M.	R.	Rush Medical College	1886	88
B. F. S.	R.	Rush Medical College	1899	90
A. D. P.	R.	Rush Medical College	1899	90
W. T. B.	R.	Dallas Medical College	*	86
F. C.	R.	Jefferson Medical College	1879	90
H. M. P.	R.	Jefferson Medical College	1892	91
J. G.	R.	Illinois Medical College	1902	83
J. P. G.	R.	Columbia University	1901	88
T. M. G.	R.	Atlanta Medical College	1888	75
A. C. J.	R.	Atlanta College of Phys. and Surgs.	1902	83
J. W. G.	R.	Trinity University (Dallas, Tex.)	1902	77
C. H. H.	R.	Louisville Medical College	1903	86
G. K. T.	R.	Louisville Medical College	1890	84
W. L. H.	R.	Louisville Medical College	*	84
J. A. H.	R.	Missouri Medical College	1890	91
D. C. H.	R.	St. Louis College Phys. and Surgs.	*	80
H. L. J.	R.	Grant University	1903	75
W. P. K.	R.	Meharry Medical College	1903	87
J. L. L.	R.	Central College of Phys. and Surgs.	1902	88
M. M. R.	R.	Marion Sims-Beaumont Med. Coll.	*	77
J. E. S.	R.	Chattanooga Medical College	1900	76
J. V.	R.	Medical College of Mexico	1901	79
J. L. W.	R.	Memphis Hospital Medical College	*	80

FAILED.

1	R.	Barnes Med. College	1899	67
2	R.	University of Dallas	*	69
5	R.	University of Dallas	*	71
4	R.	Univ. Dallas and St. Louis P. and S.	*	39
8	R.	University of Louisville	1894	67
3	R.	Chattanooga M. C. and Univ. Dallas.	*	72
6	R.	Vanderbilt University	1885	73
7	R.	Knoxville Medical College	*	68
9	R.	Memphis Hospital Medical College	*	67

* Undergraduates.

Proposed New Board in Kentucky.—At the annual meeting of the Kentucky State Board of Health it was recommended that the board refuse recognition to the graduates of colleges where it could be proven that the college had cut fees from the advertised rates, or had violated other entrance requirements. A suggestion was made that the board amend its requirements so as to make it an examining board for the examinations of applicants to practice in the state, or that the legislature be petitioned to create an examining board, to be composed of men in no way connected with medical colleges. To meet this emergency it was stated that from this date no member of the present board will have any connection with a medical college.

Idaho Report.—Dr. R. L. Nourse, Hailey, secretary of the Idaho State Board of Medical Examiners, reports the examination held at Boise, April 7, 1903, as follows: Number of subjects examined in, 12; total questions, 120; percentage required to pass, 75; written examination; total number examined, 22; number passed, 13; failed, 9.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
		PASSED.		
1	R.	St. Louis Medical College	1872	77.8
2	R.	Toronto Medical College	1902	92.2
3	R.	Kansas City Medical College	1900	75.1
10	R.	Kansas City Medical College	1899	77.3
4	R.	Woman's Med. College, Kansas City	1899	88.8
5	R.	University of Iowa	1880	91.5
16	R.	University of Michigan	1900	91.7
17	R.	University of Minnesota	1895	77.7
6	H.	Chicago Homeopathic Med. College	1894	77.5
13	R.	Louisville Medical College	1903	84.6
14	R.	N. W. Woman's Med. College, Chicago	1901	84.7
15	R.	College P. and S., Chicago	1902	81.1
21	R.	Hospital Coll. of Medicine, Louisville	1902	81.1
		FAILED.		
7	R.	Kentucky School of Medicine	1892	59.5
22	R.	Kentucky School of Med., Louisville	1879	15.9
8	E.	American Med. College, St. Louis	1890	56
11	R.	Barnes Medical College, St. Louis	1902	62.9
12	R.	Harvey Medical College, Chicago	1901	70.8
9	R.	Central Med. College, St. Joseph	1897	74.5
18	R.	Louisville Medical College	1903	61
19	R.	University of Iowa	1887	67.6
20	R.	University Med. College, Kansas City	1897	69.4

Association News.

New Orleans Arrangement Committee Finds a Balance.

The Committee on Arrangements met at New Orleans, May 14, and found that after paying all bills there would be a balance on hand of $1,700. This saving resulted from there being less expense than had been planned for some receptions, and from an increase in the receipts from the exhibits over that which had been counted on. Of this balance, $750 was unanimously voted to the Confederate Reunion Committee, with which to entertain the veteran surgeons of the Army and Navy at their convention. In view of the courtesies extended by the Young Men's Christian Association, the Touro Synagogue and the Carondelet M. E. Church, and in appreciation of the use of their meeting halls, $25 was voted to each. The remainder of the surplus it was voted to contribute to the fund being raised for the establishment of a branch of the Pasteur Institute in New Orleans. The Committee passed a vote of thanks to the newspapers, telephone and telegraph companies, the clubs who extended courtesies, prominent citizens who assisted in various ways and to numerous other persons and bodies who assisted in making the New Orleans Session such a brilliant and successful convention. The Arrangement Committee then adjourned sine die.

Medical Organization.

Manhattan (Kan.) Medical Society.

Nine physicians of Manhattan met, April 20, and organized a medical society with the following temporary officers: Chairman, Dr. Charles F. Little; secretary, Dr. James D. Colt, Jr.

Carroll County (Ga.) Medical Society.

The physicians of Carroll County met at Carrollton for organization and elected Dr. Buna C. Powell, Villa Rica, president; Dr. W. Lee Fitts, Carrollton, vice-president; and Dr. J. F. Cole, Carrollton, secretary and treasurer.

Cedar County (Iowa) Medical Society.

This society perfected its organization at Tipton, April 29, by adopting a constitution and by-laws and electing the following officers: Dr. L. W. Baker, Stanwood, president; Dr. H. R. Chapman, Bennett, vice-president; Dr. Roscoe A. Nash, Tipton, secretary, and Dr. Louis J. Leech, West Branch, treasurer.

Lyon County (Kan.) Medical Society.

At the annual meeting held in Emporia, May 5, the society voted to affiliate with the district and state societies along the lines suggested by the American Medical Association. Dr. John M. Parrington was elected president; Dr. Frank A. Eckdall, vice-president, and Dr. John M. Poindexter, secretary and treasurer, all of Emporia.

Crawford County (Ohio) Medical Society.

Representative medical men of Galion, New Washington, Crestline and Bucyrus, met at the latter city, May 1, and after an address by Dr. Theodore W. Rankin, Columbus, councilor for the sixth district, perfected organization by adopting a constitution and by-laws in conformity with that suggested by the American Medical Association, and electing the following officers: Dr. Burton R. Miller, New Washington, president; Dr. Thomas L. Brown, Galion, vice-president; Dr. Robert S. Reid, Bucyrus, secretary; Dr. Charles E. Trimble, Crestline, treasurer, and Dr. Arthur M. Duncan, Bucyrus, delegate to the state society.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, South McAlester, June 2-3.
Medical Society of the State of North Carolina, Hot Springs, June 2.
Ohio State Medical Society, Dayton, June 3-5.
Rhode Island Medical Society, Providence, June 4.
Wisconsin State Medical Society, Milwaukee, June 3-5.
Maine Medical Association, Portland, June 3-5.
Indiana State Medical Society, Richmond, June 4-5.
Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

The University of Toronto alumni, resident in California, held their first meeting March 27. The organization starts out with a membership of 22. There are nearly 60 graduates and undergraduates in California.

Medical Association of the District of Columbia.—The annual meeting was held in Washington, April 7, at which the following officers were elected: President, Dr. Albert F. A. King; vice-presidents, Drs. Raymond T. Holden, and Louis Mackall, Jr.; secretary, Dr. Daniel W. Prentiss, and treasurer, Dr. Frank Leech, all of Washington.

Litchfield County (Conn.) Medical Association.—This association, the oldest of its kind in the United States, held its one hundred and thirty-ninth annual meeting at Winsted, April 29. Dr. Jerome S. Bissell, Torrington, president; Dr. George H. Knight, Lakeville, vice-president; Dr. Albert E. Cobbs, Falls Village, secretary and treasurer, and Dr. William S. Hulbert, Winsted, reporter.

Sanitary Officers of Baltimore County.—At the meeting at Towson, May 6, the following officers were elected: Dr. James F. H. Gorsuch, Fork, president; and Dr. T. Ross Payne, Corbett, secretary. A resolution was adopted exonerating Dr. John C. Schofield, Baltimore, from any blame for the escape of smallpox suspects from the Homburgville camp, which had been criticised so severely by the health commissioner of Baltimore.

Western Alumni Association of the University and Bellevue Hospital Medical College.—The third annual meeting and banquet was held in Chicago, April 30. Dr. George N. Kreider, Springfield, Ill., was the toastmaster. The following officers were elected: President, Dr. David W. Graham, Chicago; vice-presidents, Drs. Charles C. Hunt, Dixon, Ill., Joseph M. Patton, Chicago, and James A. Duncan, Toledo, Ohio; secretary, Dr. Willis O. Nance, Chicago, and treasurer, Dr. Calvin M. Fitch, Chicago.

Arkansas Medical Society.—The twenty-eighth annual session was held in Jonesboro, April 30, May 1 and 2. The following officers were elected: Dr. Leonidas Kirby, Harrison, president; Drs. Joseph L. Burns, Jonesboro, Joseph C. Cleveland, Bald Knob, and James C. Wallis, Arkadelphia, vice-presidents; Dr. Joseph P. Runyan, Little Rock, secretary, and Dr. Richard C. Thompson, Pine Bluff, treasurer. The following board of councilors was elected: Dr. Edwin R. Dibrell, Little Rock, president; Dr. Montague Fink, Helena, secretary, and Drs. Morgan Smith, Eldorado, Gus A. Warren, Imboden, Charles T. Drennen, Hot Springs, and John B. Bolton, Eureka Springs. The society will meet next year in Texarkana.

Association of Military Surgeons of the United States.—At the twelfth annual meeting held in Boston, a report of which will shortly appear in THE JOURNAL, Captain John C. Wise, medical director U. S. Navy, was elected president; General Walter Wyman, surgeon-general U. S. Public Health and Marine-Hospital Service, first vice-president; Major Albert H. Briggs, Buffalo, surgeon Sixty-fifth Infantry, N. G., N. Y., second vice-president; Brigadier General Robert M. O'Reilly, surgeon-general U. S. Army, third vice-president; Major Herbert A. Arnold, Ardmore, Pa., surgeon, N. G., Pa., was re-elected treasurer, and Major James E. Pilcher, Carlisle, Pa., surgeon U. S. Army (retired), secretary. St. Louis was selected as the meeting place for 1904, subject to the approval of the executive committee.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Sixth Triennial Session, held in Washington, May 12 to 14, 1903.

The President, Dr. W. W. Keen, in the Chair.

The subject of the Tuesday session was "The Pancreas and Pancreatic Diseases."

DR. E. L. OPIE, Baltimore, read a paper on the anatomy and histology.

Physiology of the Pancreas.

PROF. R. H. CHITTENDEN, New Haven, read a paper on the "Physiology and Physiologic Chemistry," in which he referred to the many abnormalities which occur when the pancreas is extirpated, bodies more or less toxic being formed. He believed that the cells of the pancreas have several more peculiarities of composition than one realizes, and referred to the synthetic action of the pancreatic ferments on glucose. He claimed that the pancreatic juice was considerably modified by food, and that there were many deviations from the ordinary metabolic processes of the body after removal of the pancreas.

Pathology of the Pancreas.

DR. SIMON FLEXNER, Philadelphia, read a paper on the "Etiology and Pathologic Anatomy," in which he commented on the relationship existing between inflammations and degenerations of the pancreas and diabetes. He briefly detailed the experiments that have been made in the attempt to artificially produce hemorrhagic pancreatitis, and mentioned two forms of suppurative pancreatitis, (1) where the abscesses are small and localized, and (2) where they are large and diffuse. He concluded his paper by some references to the subject of fat necrosis.

Diagnosis in Pancreas Affections.

DR. REGINALD H. FITZ, Boston, read a paper on the "Symptomatology and Diagnosis," and commented on the association of diabetes with diseases of the pancreas. He reported 29 cases of steatorrhea in which jaundice was present in 12 cases and absent in 17. He laid stress on the importance of ascertaining the ability of patients to digest muscle fiber in cases of pancreatic disease, and in order to determine the power of the pancreas to digest and assimilate food he urged the feeding of such things as called for pancreatic activity. In his opinion the important differential diagnosis lies between acute and chronic conditions. In closing his paper he advised that in all cases of sugar in the urine an examination should be made of the feces for fat.

Injuries and Inflammations of the Pancreas.

PROF. JOHN VON MIKULICZ-RADECKI, Breslau, read a paper on "Injuries and Inflammatory Processes," and drew especial attention to the topographical relations of the pancreas. He stated there were two methods of exposing the pancreas, (1) transperitoneally, and (2) retro-peritoneally, and considered operations on this organ more dangerous than those on any other in the abdomen. He has collected 80 cases of operations, of which 41 died, and 37 were drained. He showed by statistics that all cases of pancreatic injuries not operated on died, while of those operated on many recovered.

Pancreatic Tumors.

DR. ROSWELL PARK, Buffalo, read a paper on "Tumors, Cysts, Etc.," in which he approved of Dr. Robson's six divisions of pancreatic disease. He referred briefly to two cases of obstruction of the pancreatic duct by lumbricoid worms, and expressed the opinion that hydatid cysts of the pancreas were extremely rare. He commented on the difficulty of dealing with the fistulæ that follow operations on the pancreas, and gave in brief the symptoms of pancreatic cysts. He claimed that the differential diagnosis must be made from at least thirteen different kinds of cysts, and dwelt at some length on the importance of drainage in these cases. He took up the question of cancer, tuberculosis and syphilis of the pancreas and advised operation when in doubt.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo, said that diabetes may exist without ascertainable disease of the pancreas. A relatively large amount of sugar may appear without a corresponding increase in the amount of urine, or a large amount of urine and not much sugar. He stated physiologists have found that the secretion of the stomach acted as a normal stimulus to the secretion of pancreatic juice, and that if the stomach secretion is diminished the secretion of the pancreas, as well as pancreatic digestion, should be diminished also, but claimed that clinically this is not the case.

He advised delay in accepting the Robson classification. He did not favor the classification of acute, subacute and chronic, until it had been proven that inflammatory processes of the pancreas are like those of other parts. He compared the induration of the pancreas with cirrhosis of the liver, and called attention to the difference existing between gangrenous pancreatitis and the ordinary gangrenous processes. Reference was made to Dr. Robson's suggestion that the hemorrhages from the pancreas may depend on the presence of glycerin, and to explain these hemorrhages as being of diabetic origin was considered very unsatisfactory, as they are altogether too frequent.

DR. HERBERT U. WILLIAMS pleaded for examinations for evidences of fat necrosis in making a diagnosis, and laid stress on the use of the microscope. He said that there is still something undiscovered and this unknown factor might be the one which is most concerned in the production of fat necrosis. Fat necrosis and hemorrhagic pancreatitis differ only in degree.

DR. MAURICE H. RICHARDSON, Boston, commented on the frequent investigation of acute lesions of the pancreas, due in many cases to a false diagnosis of appendicitis or some other acute lesion. At the Massachusetts General Hospital all the operative cases, four in number, were fatal, while a fifth case, one of acute pancreatitis, and a sixth, one of subacute pancreatitis, also died, whereas those cases in which there was simply an abscess, and drainage was employed, terminated favorably. The difficulty of making a diagnosis before operation was considered due to the absence of subjective and objective symptoms. The difficulty is chiefly caused by the obscurity of the onset, irregularity of the symptoms and absence of localizing signs. A class of patients in whom operative interference is a doubtful expedient was considered as those who are beyond middle life, of unfavorable physique, stout, flabby and of poor resistance. Brief mention was made of four cases of suppurations apparently dependent upon less extensive necroses, with well localized abscesses, of comparatively slow onset, in which drainage was easily employed by a simple incision. Favorable results were reported in six cases of cysts of the pancreas, benign new growths, and stress was laid on the necessity for painstaking palpations of the common duct in the search for gallstones, not a few enlargements of the head of the pancreas being discovered by this means. The treatment by cholecys-

totomy of patients suffering with jaundice, gallstones, and an enlarged pancreas, if drainage be employed, has usually been successful, but the author could not understand why deviation of the biliary stream through the abdominal wall should have any influence on pancreatic drainage. Much may be learned of pancreatic disease if careful examinations are made during abdominal operations, and especially if the abdominal incision be made large enough to permit of inspection of the pancreas, as well as palpation. While the surgery of the pancreas is encouraging, the Doctor did not think that the future of acute pancreatitis promised much improvement on the present results of surgical treatment until much more is learned concerning acute infections of this important organ, and especially its earliest manifestations.

PROF. B. S. A. MOYNIHAN, Leeds, England, called attention to the fact that many cases of pancreatic disease are discovered when operating for gall bladder disease, which was due, in his opinion, to surgeons having gone a step further in their gall bladder operations. He reported having operated on 15 cases of chronic pancreatitis, all of which recovered. The author has only been able to collect seven or eight cases of acute pancreatitis, two of which occurred in his own practice, both being associated with cholelithiasis, one recovering without operation and the other dying. Considerable stress was laid on the excellent work being done on this side of the Atlantic in this line of surgery, and especial praise was accorded Dr. Opie.

(To be continued.)

INTERNATIONAL CONGRESS OF MEDICINE.

Fourteenth Session, held in Madrid, Spain, April 23-30, 1903.

(Continued from page 1304.)

A New Symptom in the Diagnosis of Arteriosclerosis.

DR. L. MIRAGLIA, Naples, said that the movability of the apex beat offered a symptom of importance, hitherto not described, in the diagnosis of sclerosis of the root of the aorta. Normally the impulse lies in the fifth space, between the mammillary and parasternal lines, and migrates, in the left lateral decubitus, to a position midway between the anterior axillary line and the mammillary. Its displacement is about 3 centimeters. In sclerosis of the root of the aorta, this displacement may amount to 4 or 5 centimeters, and the impulse may appear in the axillary line or beyond. The phenomenon is due to the fixation of the base of the heart, as a pivot, a firm center, around which the heart swings, and, secondly, to the elongation of the heart which expresses the hypertrophy of the left ventricle. No other pathologic condition presents this symptom in equal degree. In the "nervous heart" of the young there is, indeed, a somewhat increased displacement, but it is far less in degree. On the other hand, advanced cases of tuberculosis or marasmus also present the phenomenon, owing probably to the decreased resistance of the lungs, but here also there is no possibility of confusing the conditions.

Cinnamate of Soda in Tuberculosis.

DR. A. S. HERRERA, Madrid, said that all the forms of medical treatment hitherto employed in the cure of tuberculosis had, by general consent, been discarded. The last vaunted method, that of Landerer, had given him good results in 20 per cent. of the cases of a very mild type. He had, however, discovered a modification of the method, which enabled him to achieve a cure in 80 per cent. of the cases of advanced tuberculosis with cavity formation. He uses Landerer's solution of 4 of cinnamate of soda to 100 of water, but employs the solution hypodermically instead of intravenously. He can thus give doses of 10 to 20 times the amount, without ill effect. He begins with 3 c.c. and increases up to 20 c.c. daily, which represents the normal dose. He has, however, given 70 c.c. in bad cases without ill effect. The improvement in the symptoms is prompt, and affects first the fever and the marasmus, then the cough. At the end of three months the bacilli have generally disappeared from the sputum. They may persist, however, as long as five or six months. All of the cases which resulted fatally in spite of this treatment presented previous involvement of the gastrointestinal tract, amyloid, etc., and died not of tuberculosis but of marasmus.

Treatment of Rheumatic Affections.

DR. R. BLOCH, Austria, asserted that the hypodermatic injection of tropacocain, in the form of a Schleich infiltration, accomplished therapeutic results not approached by any other method in the relief of the agony of neuralgias and myalgias of rheumatic origin. The injection should be made in the area of greatest tenderness to pressure, and varies slightly in technic from that practiced for surgical purposes, inasmuch as it demands the injection of as large quantities of the fluid as possible, with a syringe capable of exerting powerful pressure. The method is successful in acute, subacute, and chronic cases in which fibroid changes have not already taken place; furthermore, it offers a sign of diagnostic importance, since it offers relief only in the neuralgias of rheumatic origin. In rheumatic affections of tendons and joints it is available only in very light cases, with small amounts of exudation.

DISCUSSION.

PROF. CASTELLVI, Madrid, said that his method of obtaining analgesia in all the forms of neuralgia by the injection of pure oxygen gas at high pressure into the tissues also gave admirable results in the pains of chronic rheumatism and arthritis deformans. He illustrated his instrument, which consists essentially of a metal cylinder capable of holding the gas at high pressure, of a simple apparatus for regulating the flow of the gas, and of rubber tubing which connects the cylinder with a fine hypodermic needle. The injection is practiced preferably at the point of emergence of the nerves. The dose varies from 200-1000 c.c. of the gas, and must be empirically determined. Several injections may be made if there are seats of pains in various parts of the body. As a rule the resulting analgesia, which the author attributes to the chemical action of the gas, is limited to a zone of small radius from the center of injection. The pain begins to diminish about 15 minutes after injection, and the effects generally last 24 to 48 hours. It is almost specific in neuralgias, *e. g.*, sciaticas.

Radioscopy in Pulmonary Tuberculosis.

DR. HENNECART, Sedan, said that a study of 32 cases of pulmonary tuberculosis with the help of the *x*-rays had convinced him of its efficiency as a diagnostic aid. He found in 30 cases a diminution of clearness at the affected apex. In 14 cases, he found a decreased area of pulmonary illumination (William's sign). In 29 cases, he observed a diminished excursion of the diaphragm of the diseased side in inspiration.

(To be continued.)

CONFERENCE ON THE RELATION OF THE COLLEGE TO THE PROFESSIONAL SCHOOL.

Held in Chicago, May 8-9, 1903.

The current movement to reduce the total scholastic period devoted to preparation for the professional degree, and the taking of the same in a technological, law, theological or medical school, is moving the small colleges and professional schools to look sharp to their future; for the shortened combined courses of the universities threaten these smaller institutions with serious diminution of patronage if they hold to their courses of traditional length, abstaining from any system of co-ordination and reciprocity in way of a time-saving route to the professional degree.

Accordingly, the conference of college presidents and professors assembled in Chicago May 8 and 9, by President James, of Northwestern University, to discuss the relation of the college and the professional school, will have an important bearing on the evolution of our national educational system, both with respect to the scope and perpetuity of the old-fashioned college and with the manner of qualifying in the various studies antecedent to the professional degree.

The conference was attended by delegates from remote parts, and stood for the sentiment and purpose of the smaller colleges and universities of the United States.

The Present Situation.

In a synopsis of the present situation Prof. A. V. E. Young, of Northwestern University, showed that since its opening the

Johns Hopkins Medical School has required the bachelor's degree for admission, and that such is now the requirement of the medical school of Harvard and that of Baltimore University. The medical school of Western Reserve University requires the equivalent of three college years; the medical school of the universities of Michigan and Chicago two, and of the University of Minnesota one. Other leading institutions emphasize the need of a general education as preliminary to medical study by encouraging the taking of a bachelor's degree before asking of them matriculation in medicine. The presidents of Yale, Columbia, Harvard and Cornell have given lengthy consideration to this matter in late reports, President Eliot advocating the bachelor's degree before professional study, and President Butler declaring it is the settled policy at Columbia that its technical and professional schools shall rest on a college course, though not necessarily four years of liberal study.

A National College Association.

No platform was adopted by this conference, nor was any policy formulated, but the conference ordained its own perpetuation in the appointment of a committee, President James, chairman, to select a commission of fifteen, which should report a program and plan of organization and membership one year hence, by this act providing for a new factor in the control of higher education in this country—a national college association.

The Speakers on the Medical Standpoint.

The subjects discussed by the conference were:

Has the college a field peculiar to itself, not covered by the technical school or by the demands of preparation for the professional school?

Is it desirable that the college course should be reduced in time from four to three or even two years and correspondingly in amount of work?

What subjects in the typical college course can be accepted by the professional school as qualifying in part for the professional degree so as to shorten the time required for graduation in the professional school?

If reduction is allowed, should it be (*a*) by acceptance of credits in the college of liberal arts for work done in the professional school, or (*b*) by acceptance in professional school for work done in the college of liberal arts, or (*c*) by combining these plans?

The relation of the technical school to the college.

On the third topic the speakers of professional training and connections, who sought to show how the independent college and the professional school, independent or with university relations, might work together and so shorten the period of their several courses, were Dr. Arthur R. Edwards, of the Northwestern University Medical School; Dr. R. McE. Schauffler, secretary of the faculty of the Kansas City Medical College; Dr. Frances Dickinson, dean of Harvey Medical College, and Prof. W. A. Locey, of the chair of zoology in Northwestern University. Dr. Edwards held that if medicine grows in the next ten years as it has in the last a medical course will require five or six years of study, and the courses of the college and medical school must overlap. He would have the college teach some of the sciences that are preparatory to medicine, for instance, chemistry and the principles of anatomy and histology, and so would demand of the college course that it do 60 to 80 per cent. of the work done in the first year of the medical school. In such way he would base a degree on a six years' pursuit of continued courses. On the other hand, from the point of view of the college, Professor Locey held that such work as the professional school offered for allowances in the college of liberal arts should be work done in a broad and liberal, and not an ultra-professional spirit. So taught, chemistry, physiology, histology, embryology, neurology, bacteriology and pathology, all sciences contributing to a knowledge of organic nature, might be accepted by the college.

Dr. Dickinson contended that high school graduates are not fitted for medicine, and that some college training is essential to medical study. In most medical schools, she said, the first two years belong to the college courses. Dr. Dickinson plead for one year's advance standing for five or more years of business training.

The Need of a College Course Foundation.

Dr. Schauffler said that, as a graduate of the medical department of Columbia, he wanted to say that although President Butler says that to require an A.B. for admission is economically impossible, and from the standpoint of social service unwise, nevertheless, one quiz master in that institution was not afraid to make a bachelor's degree an absolute condition for entrance to his quiz. With fifteen men from small colleges and from the academic departments of Yale and Princeton, taught largely in his office by methods of college rather than university, he took all three of the prizes at Columbia and in competition with all medical colleges in New York and many other centers east took twelve of the thirty best hospital appointments in the city. This was not for one year, but was about his average. Dr. Schauffler further said that he never knew of a man from the short-cut Columbia combined course who ever took a Harzen prize or secured a conspicuously good hospital appointment. It often happened that some other student, even one direct from a secondary school, by fine memory and application, stood higher on theoretical work than the Eliot quiz man, but when it came to practical examination in the diagnosis of unknown cases the ability to reason quickly and correctly, the poise, as some one here to-day has said, the "flexibility" of the college graduate always carried him through the ordeal successfully. What is the present situation? We are giving one year's credit on the medical course for an A.B. degree. The theory of this credit is involved in the question, "What subjects in the college course may be accepted for credit in the medical course?" We should say physics, biology, including histology and embryology, chemistry, physiology, comparative anatomy and botany, with a trend toward pharmacy, However, many of these subjects are the ones which, from lack of equipment or sufficiently large faculties, are most poorly taught in the colleges surrounding us. The year's credit for the A.B. is then often unsatisfactory, but we can struggle along with it. He said further:

Now comes the proposition from the universities to give the combined course in six years. It is flatly impossible for us to give two years' credit for the bachelor's degree. You may say that if the independent school can not stand the competition it must, in the course of evolution, go to the wall. That day must be sometime distant, however, in our part of the country, where the neighboring state universities are in small towns and can not, for lack of clinical facilities, entirely replace the city school. We are not whining over the pressure which comes from the universities on account of wealth and enlarged facilities. While it is requiring much effort and sacrifice, we must hold our own or we are not worthy to survive. What we do object to is the university throwing in an A.B. degree "to boot" for only two years, as an inducement to the student to spend his entire time within its walls. Until it is accepted by a reasonable majority of institutions that two years is sufficient time for a college course, we hold that this action is an effort to take an unfair advantage.

Of course we can immediately seek alliances with independent colleges surrounding us for joint traffic arrangements. As local conditions are at present in the West this will lead to much confusion and, moreover, give an opportunity for the college which is not over-scrupulous in its scramble for students to let down the bars just at a time when there seems hope of enforcing uniformity and thoroughness in medical education.

In my opinion our goal, which we can not in the West reach at a single bound, is:

1. Two years of a college course as a requirement for admission to a medical school.

2. No advanced standing for a degree *per se*, but only for specific groups of scientific subjects which adequately cover part of the first and second years of the medical course.

AMERICAN UROLOGICAL ASSOCIATION.

Second Annual Meeting, New Orleans, May 8 and 9, 1903.

The President, Dr. Ramon Guiteras, New York, in the Chair.

The Present Status of Urology in the United States.

DR. GUITERAS, in his president's address, reviewed urology as a specialty, distinct from surgery in general. He showed what this Association, modeled on the plan of the Societe d'Urologie Francaise, even in its brief existence, had done to establish the separate existence of urology. He further showed the need of such an organization which but a year ago had its first annual meeting. It then counted but forty members, while now it has over 150 of the most eminent men in our land.

Drs. Lydston, Guiteras and Valentine showed instruments.

The Diagnosis of Tuberculosis of the Kidney and Ureter.

DR. J. WESLEY BOVÉE, Washington, emphasized the need of establishing a positive or negative diagnosis, not only by cysto-

scopy but also by cultures and animal inoculations, by determining the presence or absence of the tubercle bacilli.

Prostatectomy.

DR. JOHN B. MURPHY, Chicago, gives preference to the radical operation over any of the palliative measures advocated.

DR. WILLY MEYER, New York, recited the results in fifty-nine prostatics on whom he had operated by the Bottini incisor in the past five years. His experience in these cases led him to advocate the use of the Bottini instrument.

DR. GRANVILLE MACGOWAN, Los Angeles, reported a patient whose prostate he had enucleated for sarcoma. As the patient had had no recurrence in four years and finally died from other causes, the author believed that early radical operation in such cases should be performed.

DISCUSSION.

DR. MCRAE believed that the suprapubic operation for prostatectomy was the easier operation for the surgeon with a good sense of touch and not afraid of the bugbear of hemorrhage. He believed continuous catheterization was an important measure.

DR. FERGUSON, Chicago, believed the perineal route was the operation of choice and the route to take in the large majority of cases. He described his method of procedure and preferred removing the prostate piecemeal. The tendency to do a complete prostatectomy, he thought, was passing, and more attention being given to the removal of the obstruction only.

DR. LYDSTON, Chicago, condemned any tendency to routinism and did not believe that any considerable number of cases could be operated on by any one method. There was a time when he thought the suprapubic method was the proper one. He now believes that the combined method is the ideal way, though, unfortunately, we usually have a septic bladder to deal with. The cases are usually brought because nothing else can be done for them, and they have infected bladders and surgical kidneys. For this reason he emphasized the need for earlier operations in most cases, and thought the results would then be as favorable as in operations on other portions of the tract.

DR. MACGOWAN said that wherever we have reason to suspect cancer of the prostate we should use the Bottini operation. There is practically no danger from hemorrhage. Wherever the patient is too weak to be confined to bed for any considerable time, use the Bottini method. Wherever the collection of urea is below 20 g. per day, use the Bottini method.

DR. GUITERAS spoke from the standpoint of prostatic obstruction, the object of the operation being to enable the patient to empty his bladder, or as nearly as possible the actual size of the prostate remaining a secondary question. Formerly he had been enthusiastic in advocating the suprapubic operation, but has now almost abandoned it and would perform this operation only in cases where the prostate was high up on the bladder. In attacking through the perineum he employs a large perineal tube and leaves this in position for a week or ten days. This gives the space where the prostate has been a chance to close up. As an aid to the finger he advocated the use of the prostatic depressor which enables the operator to push the prostate down into reach. There are two varieties of prostatic enlargement—the variety which can be shelled out and the variety which causes an obstruction in the floor of the prostate, where there is a collar or some deformity preventing the patient from emptying his bladder, and these are the cases for the Bottini operation. He believed the Bottini operation has a high place in prostatic surgery.

Retention of Urine.

DRS. FERD C. VALENTINE and T. M. TOWNSEND, New York, subsequent to analyzing the causes of retention, showed that the emergency is entirely within the general practitioner's field. They pointed out the method by which each kind of emergency must be met and the technic thereof.

DISCUSSION.

DR. LYDSTON said the relation of this society to the general practitioner is largely educational. Only the specialist sees the result of injudicious work done by the practitioner in his efforts to relieve retention. He said there are still some physicians who think it perfectly proper to lubricate the catheter with the soap at the office sink. He thought more emphasis should be placed on the danger of complete and sudden emptying of the bladder after prolonged retention.

DR. SHELBINE, Texas, mentioned the case of a patient having lost the catheter which slipped back into the bladder. Suprapubic cystotomy was performed and the catheter recovered.

DR. GUITERAS thought the lithotrite might have been used for the recovery of the catheter.

DR. VALENTINE said the case was of practical interest. He had three cases where he was sure the reflex swelling would take the catheter into the bladder very rapidly should it be released.

AMERICAN ACADEMY OF MEDICINE.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 11, 12, 1903.

The President, Dr. Charles McIntire, Easton, Pa., in the Chair.

Drs. Helen C. Putnam, Edward Jackson and George G. Groff were appointed a committee to report on the teaching of school hygiene at the next annual session.

Time Allowance in the Combined Collegiate and Medical Course.

DR. A. L. BENEDICT, Buffalo, stated that a large number of replies had been received to communications sent to colleges, medical schools and universities by his committee. Some conclusions drawn were that it will be impracticable for many years to insist on the basis of a bachelor's degree as a preliminary to a medical training; that it may be expected that all of the more densely populated states will have insisted on a full high-school education for medical students within a few years; that a combination collegiate and medical course of six or seven years will produce a higher average attainment than the admission of the high school and college graduates to the medical school on precisely the same basis; that the combination course is not to be considered as compromising the educational value of the college course or the technical value of the medical, provided, that a suitable arrangement of details is made; that the segregated medical colleges manifest the tendency to minimize the importance of mental training and broad culture and to exaggerate the importance of purely technical facts; that unless it be granted that the tendency to the destruction of the independent college and to the inferiority of the independent medical school is inevitable and desirable, voluntary co-operation and legislative control must be invoked in the interests of such institutions.

Results of the State Examinations for Medical Licensure in 1902.

DR. CHARLES MCINTIRE made a report, giving the results of examinations in all states arranged by colleges.

DR. H. BERT ELLIS, Los Angeles, Cal., read a paper on "The Necessity for a National Bureau of Medicines and Foods."

The Life and Education of Our Girls as Affecting Their Future.

DR. JAMES H. MCBRIDE, Pasadena, Cal., in a paper on this subject, urged the necessity of good physical development as a foundation for mental development. He referred to the necessity of girls knowing something of the duties of home life and of the responsibilities of motherhood. He stated:

> The mind is the highest expression of human life. Our ancestors shaped our bodies by their lives. Their lives afforded them exercise. We need to find something to develop our bodies now that our mode of living has changed. Especially true is this of woman, whose greater complexity and more delicate organism makes it important that she lay a good physical foundation.

Overstudy, unhygienic dress, and fictitious animation are common causes of nervous disorder and other forms of ill health in girls and women. The highest ideal for girlhood, he said, is thorough womanhood.

DISCUSSION.

DR. S. A. KNOPF, New York City, believed that the American women have improved in physical development very wonderfully in the last twenty-five years. In the better classes of society investigation would show that physically women had gained more, proportionately, than men; possibly this was also

true morally and mentally. On the other hand, in the lower classes of society, the development of women had been sadly neglected, particularly through the curse of child labor. This is particularly so in the eastern states. Regarding the education of children, he believed that the superintendents of the public schools should be educated to cut down the curriculum and to pay more attention to the physical development of the children.

The Teaching of Hygiene in the Public Schools.

The afternoon was devoted to a symposium on the above subject.

DR. WALTER L. PYLE, Philadelphia, read a paper entitled "The Teaching of Personal Hygiene." Dr. Pyle contended that what is needed is simple instruction by capable teachers in the proper care and use of the body, authoritatively based on the best available modern, anatomic, physiologic and hygienic data. The aim should be to give every man fundamental knowledge that will enable him to understand and if necessary formulate the requisite rules of health, and to distinguish scientific medicine from quackery. He strongly urged more literature and personal explanation in this direction from the medical profession. The instruction should be begun before habits of carelessness and indifference are formed. Teachers should be trained in the proper care and use of the human body in order to give this instruction.

DR. GEORGE G. GROFF, Lewisburg, Pa., presented a paper on "Physiology vs. Hygiene in Our Public Schools," which was read by the secretary. Dr. Groff said that anatomy and physiology should not be taught young children because the subjects are in the main beyond their comprehension; teachers are not prepared to teach the subjects; the impressions received by young children are unfavorable when anatomic structures and physiologic processes are displayed to them. Plain hygienic instruction can be readily comprehended without anatomy or physiology. Physiology as physiology he would not have taught below the grade of the high school, because teachers have no adequate knowledge of the subject; and because, until this time, pupils are not prepared for it. Personal hygiene is best taught to young children through incidental talks given at suitable times. Existing text-books need revision, he stated, in reference to loose generalized statements, inaccurate statements and statements actually false. Numerous examples of gross misstatements were cited.

The Teaching of Physiologic Breathing.

DR. G. HUDSON MAKUEN, Philadelphia, said it has been estimated that there are in the United States alone more than 300,000 stammerers, and that a study of this distressing affliction as manifested in several hundred cases has led him to the conclusion that its chief cause is faulty breathing in childhood. Still more serious is the result of faulty breathing on health and general development. Many grave diseases of childhood may be traced directly to the impoverished condition of the blood due to inadequate oxidation. The important factor is the unnatural and cramped position assumed by children in school. The importance therefore of establishing correct physical habits during school life can not be overestimated. He would have the teachers insist on the children taking correct positions at all times as a preliminary to physiologic breathing. Physical obstruction to normal breathing should be removed as early as possible. All breathing exercises are harmful when they are obstructed in the respiratory tract. As an examination of the eye is insisted on in the schools, so would he insist on an examination of the respiratory tract. It has been estimated that about 70 per cent. of people fail to use the nose in breathing at night, and in so doing fail to get the 20 to 40 per cent. of heat and the 60 per cent. of moisture in the respired air that should come from the nasal passages, and, moreover, they take into the throat countless germs that would otherwise find lodgment in the vestibules to the nostrils.

Dr. Makuen quoted the census of 1900 as showing that about 40 per cent. of the deaths occurring between 20 and 50 years were due to diseases of the respiratory tract. He is convinced that faulty breathing is an important factor in the causation of this great mortality, and that the percentage may be reduced by the scientific teaching of physiologic breathing.

Teaching of School Hygiene.

DR. HELEN C. PUTNAM, Providence, R. I., in the next paper, maintained that the head of the department of hygiene in public schools should have medical and liberal degrees, five years' private practice and at least two years' special study of pedagogics, gymnastics and school sanitation. The department should conduct medical inspection, supervise sanitation and teach hygiene in theory and practice. The staff of the head of the department should comprise inspectors who are qualified physicians; teachers of hygiene, college and normal graduates who took scientific electives; of physical training and "domestic science," from special schools. It is suggested that the department can be established by city authorities, though this would be less satisfactory than by private endowment. In the private endowment plan one advantage is a special committee, safe from political influence, to administer the funds.

Methods in Michigan Schools.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., reviewed the attempts made in Michigan to secure instruction in hygiene in public schools. Under authority of the State Board of Health a monthly sanitary bulletin is sent free to every teacher in the state. This plan has been found to work satisfactorily.

The Training of Teachers of Hygiene.

DR. THOMAS D. WOOD, New York, maintained (in a paper read by Dr. Edward Jackson) that every teacher in the public schools should be a teacher of hygiene and the art of health, and should be in personality and conduct an example of rational living. There should be thoroughly trained special teachers of hygiene to supervise the instruction given in matters of health by the general teacher. The general teachers should be trained in the normal schools for this health instruction by course in biology, physiology, personal and school hygiene and sanitation.

DISCUSSION.

HON. WILLIAM T. HARRIS, U. S. Commissioner of Education, Washington, D. C., stated that with the matter of hygiene in the public schools in the hands of regular physicians great improvement would be brought about. The gymnastic exercises popular in the public schools he feels rob the brain of nervous energy and, if vigorous, can not be good for the child after a hard lesson. The only result of calisthenics under such conditions is to give a tendency toward nervous dyspepsia. The only aid in the teaching of hygiene in the public schools he felt must come from the medical profession.

DR. S. A. KNOPF, New York City, said practical hygiene could be taught a child of 4 or 5 years, in that it could be taught that it should not kiss its neighbors on the mouth, and that when it had dirty finger nails it should not scratch itself, and that a cut finger should be allowed to bleed, put under clean water and wrapped up. When the child gets older it should be taught not to expectorate on the floor and that all expectoration contains what are called pathogenic micro-organisms. In his own practice many tuberculous patients did not know what it meant to take a deep breath. In the teaching of school hygiene in New York they have experimented in having the nurse attached to the school, go to the home and teach the mother how to take care of a child sent to the school suffering with any skin disease. One practical lesson in hygiene taught the mother he thinks of more value than many to the children. In addition to the sanitary bulletin issued to the teachers mentioned by Dr. Vaughan, he would have leaflets on hygiene sent to the pupils.

DR. F. H. GERRISH, Portland, said that if there were no teaching of hygiene at the present time it would be comparatively easy to institute a good method. The pernicious method now in vogue could be readily understood by an examination of some of the books recommended.

DR. JAMES H. MCBRIDE, in reference to faulty positions of school children, said that many a child seemed dull because he was not taught to sit up and keep his muscles in harmony with his mental attitude. He suggests that a school of hygiene for physicians might be of value.

DR. W. R. WHITE, Providence, thought the experiment described by Dr. Putnam an extremely practical one. He thinks the time is coming when the school physician will have his proper position, and that the instruction which the head of this department would give through his assistants to teachers,

enabling them to distinguish early the symptoms of different diseases, would be of the utmost value in the saving of time and of public money.

DR. A. L. BENEDICT, Buffalo, thought a sharp distinction should be made between hygiene and the teaching of hygiene. Both are important subjects and it is difficult to avoid confusing them.

DR. EDWARD JACKSON, Denver, believed that the teaching of hygiene by the wholesome, healthful life is the supreme object. It is not the teaching of hygiene as a special technical branch which deals with the periods of incubation of certain diseases or the particular way in which certain bacterium is transmitted, but the teaching of the healthful life; and, in these discussions, the personal hygiene, he thought, was too much lost sight of. The important thing in school hygiene is to have the supervisor of the right sort. While he does not think the present system of school hygiene altogether a hindrance, as had been indicated, he thought it a matter of shame to the medical profession that these laws had been framed, passed and enforced in nearly all the states by persons who had no intelligent comprehension of what the teaching of hygiene should be.

DR. G. HUDSON MAKUEN believes that the value of the gymnastic exercises is not alone in throwing the windows open and getting fresh air into the school room, not so much in the exercise of the muscles, but in the exercise of the mental faculty, the faculty of attention and of imitation. He believes that the calisthenic exercises have in them elements of psychical development not found in the average school work and study.

At 8 p. m., the president, Dr. Charles McIntire, gave his address on "Muck-Rake Methods in Medical Practice."

(*To be continued.*)

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 12 to 14, 1903.

(*Continued from page 1447.*)

Myomectomy or Hysterectomy.

DR. JOSEPH TABER JOHNSON, Washington, D. C., said the treatment depended on the size, variety and location of the tumor, as well as the size of the pregnancy. Myomectomy in favorable cases should be the operation of election. However, cases occasionally present themselves with such urgent symptoms as to require supravaginal hysterectomy as a life-saving operation. He described briefly successful operations of both varieties. He discussed the questions of abdominal and pelvic operations during pregnancy; also the propriety of inducing premature labor, as well as the policy of trusting to the *vis medicatrix naturæ*.

Pregnancy and Labor Complicated by Myomata.

DR. GEORGE TUCKER HARRISON, New York, followed. No general rules can be laid down with reference to the treatment, as each case must be carefully studied in all its circumstances before recourse is had to operative intervention. The dangers of this complication of pregnancy as a cause of dystocia were formerly over-estimated. The plan of treatment during pregnancy, as a rule, is an expectant one.

Discussion on Fibroids, Etc.

DR. EDWARD REYNOLDS, Boston, spoke of the treatment of large incarcerated fibroids, at or near term, in advance of the fetal head. He has seen ten such cases. No one of these tumors was smaller than the seventh month fetal head. In each instance the woman was delivered either normally or by forceps.

DR. J. DUNCAN EMMET, New York, said there is no question but that certain myomata must be removed either by myomectomy or by the radical removal of the uterus, while there are other cases in which the tumors do not interfere with the course of pregnancy. He was glad one of the essayists had emphasized a preference for myomectomy rather than the removal of the uterus, for the reason that the latter is such a serious procedure in its after-effects, etc.

DR. WM. R. PRYOR, New York, expressed himself in favor of conservatism in the treatment of fibroids associated with or complicating pregnancy. If the tumors are situated in the anterior wall of the uterus, and are very small, they would slide up over the pubes without much trouble. Even before the seventh month, while some of these tumors may seem to be an actual bar to delivery, they accommodate themselves by their softness to the situation. Subperitoneal fibroid tumors complicating pregnancy demand operation, as a rule.

DR. HENRY D. FRY, Washington, D. C., spoke of emptying the uterus, saying he thought the cases are rare where this procedure is called for. The treatment is either expectant or radical. Those tumors which indicate emptying the uterus are necessarily located in the lower uterine segment, and yet some of these occasionally rise in the pelvis and give very little or no trouble.

DR. WALTER P. MANTON, Detroit, looked on cases of fibroid tumors complicating pregnancy as very rare. Personally, he has seen but six such cases out of approximately five or six thousand cases of labor in both private and hospital practice. In the majority of cases of interstitial submucous fibroids, abortion almost inevitably occurs between the third and fifth months.

DR. REUBEN PETERSON, Ann Arbor, Mich., spoke of a case on which he had operated. The tumor was located in the lower uterine segment, and was of the interstitial variety. He did a myomectomy, the woman went on to full term and was delivered of a child.

DR. GEORGE J. ENGELMANN, Boston, had twice seen the disappearance of fibroids following confinement.

The symposium was further discussed by Drs. Charles M. Green of Boston; Arthur W. Johnstone of Cincinnati; James Clifton Edgar of New York City, and the discussion closed by the essayists.

Combined Bisection of Tumors and Uterus, with Enucleation of the Former, in Abdominal Hysterectomy for Large Fibroid Tumors.

DR. GEORGE H. NOBLE, Atlanta, Ga., read a paper entitled as above. In case of large fibroid tumors in the body of the uterus the author recommends bisecting the tumor, bisecting the uterus and then enucleating the bisected tumor. In intraligamentous tumors the uterus should be bisected, the capsule of the tumor penetrated from the cavity of the uterus and the tumor enucleated from its capsule.

The advantages of this method are: Saving of time, prevention of hemorrhage, increased working space, easy manipulation, accessibility to the blood supply in the deep pelvis, and freedom from liability of injury to the ureters and uterine arteries.

Dr Noble then discussed "The Enucleation of Intraligamentous and Postperitoneal Fibroid Tumors in the Deep Pelvis." He stated that he had received a reprint from Dr. Pryor, in which Pryor anticipated him in the treatment of intraligamentous tumors or postperitoneal fibroids in the deep pelvis. As the principle is the same, and both of them only differ in technic, the essayist indorses it. Intraligamentous tumors are partially enucleated by penetrating their capsules from the cavity of the uterus after bisecting the organ. They should be turned out with the fingers and morcellation forceps, then drawn up and rotated outward as described. The portion of the tumor attached to the capsule everts the latter as it is drawn out of the abdominal incision, and often to such a surprising extent that it may be included in the ligature placed around the upper border of the broad ligament. In this way the capsule in some cases may be entirely removed, and in others only cut away, and, if within the ligature of the pedicle, avoids the necessity of suturing the edges of the capsule. He said that Dr. Pryor did complete enucleation of the tumor and sutured the capsule, while he partially enucleated the tumor, utilizing its attached portion to pull up the capsule, transfix and tie off, in part or entire, with the ligature of the broad ligament.

The Relation and Corelation of Gynecologic and Nervous Affections.

DR. CHAUNCEY D. PALMER, Cincinnati, spoke of this relationship from two standpoints: (1) What influence do female

pelvic diseases have in the induction of nervous disorders? (2) What affections of the female pelvic organs arise from nervous derangements?

He ruled out any thought of the occurrence of any organic, so-called structural, lesions of the nervous system, as resulting, unless indirectly and quite remotely, from pelvic diseases. The morbid changes to which reference was made were hysteria, neurasthenia, neuralgia, chorea, epilepsy, hystero-epilepsy, certain paralyses, migraine, convulsions of certain kind, including tetanus, also mental aberrations and vasomotor changes.

While many hysterical women have no anomaly of the sexual organs, a certain proportion of them have some imperfection in the development of their sexual apparatus, especially the uterus. Hence, the justifiability of an oöphorectomy in some such cases. Should the sexual organs be diseased in hysterical women, one could not say that the hysteria was secondary. Psychical causes are at work which are more potent than the local disease.

Errors in diet, in general hygiene, in lack of rest, and in various indulgences of the mind and body in girlhood, lead to physical anomalies and give rise to abnormal mobilities of the nervous system. The functions of ovulation and menstruation play more than the ordinary rôle in the inauguration of nervous phenomena.

The author spoke of cases of insanity having been promptly relieved by gynecologic operations. Likewise, insanity had immediately followed operations. Such sequelæ were probably more common than after other operations.

In the treatment of women for the special diseases of their sex there is too much of a tendency to place undue stress on real or supposed lesions of her reproductive organs. This is particularly true in reference to some so-called ovarian affections. Gynecology of to-day would not amount to much without an appropriate surgery, but indiscreet surgery, like overmedication, may be an abuse. Every theory in medicine must be the outgrowth of an extended experience. "Knowledge comes, but wisdom lingers."

The Etiology, Pathology and Treatment of Puerperal Sepsis.

Dr. Hiram N. Vineberg, New York, contributed this paper. Severe sepsis may be caused by a variety of pathogenic germs. The variety of germs found in the uterine discharge in a given case is no criterion of the severity of the case, and forms no safe guide as to prognosis or as to the treatment to be adopted. Bacteriologic examination of the blood is of little value, either from a prognostic or therapeutic standpoint. The treatment of puerperal sepsis must be based chiefly on the clinical history and physical signs of each individual case. Wounds or infection in the perineum, vagina or cervix are to be treated on the general surgical principles of irrigation and drainage. Curettage is indicated where there are evidences of placental decidual residue in the uterus independent of the variety of bacteria that may be found in the uterine cavity. In those rare cases in which adherent and sloughing placental tissue can not be removed, either with the sharp curette or fingers, hysterectomy is indicated, provided the patient is not already moribund. Hysterectomy is also indicated in cases of septic endometritis or infection of the placental site, so long as the infection is still limited to the uterus, and when the symptoms steadily grow worse in spite of uterine irrigation, with or without curettage, and appropriate hygienic stimulating treatment.

In abscess of the uterus the abdomen should be opened, and, when feasible, the purulent foci should be drained and the uterus preserved. If the uterus be studded with small abscesses hysterectomy is indicated. The abdominal is to be preferred to the vaginal route for hysterectomy. If the infection has passed from the uterus into one or other tube, and has set up a violent grade of inflammation, the abdomen should be opened and the infected tube removed before a general peritonitis develops. When the infection has passed through the uterus, and has set up a general peritonitis, a case might occasionally be saved by a timely abdominal section and drainage. In cases of parametric exudates the treatment should be conservative, and surgical intervention is indicated only when there are evidences of pus formation. In obscure cases in which the pathologic lesion can not be determined, and the symptoms are steadily growing worse, it may be advisable to open the abdomen to search for a hidden purulent focus, or for a circumscribed slough of the uterus. The procedure proposed by Trendelenburg, and executed by him and others, of ligating the pelvic veins when they have become infected and thrombosed, is worthy of further trial.

DISCUSSION.

Dr. Wm. R. Pryor, New York City, took issue with the essayist in regard to the significance of certain pathogenic germs. In mild cases of puerperal sepsis, very rarely is the streptococcus present, while in the severe ones streptococci are found. In the mild forms of the disease many other kinds of germs are found, chiefly staphylococci and saprophytic bacteria. The form of puerperal sepsis which demands careful attention is due to the streptococcus.

Dr. Edwin B. Cragin, New York City, related his experience at the Sloane Maternity. In this institution infection occasionally occurs, because cases are taken undelivered, no matter whether they have been handled by midwives or by beginners. Women are admitted whether they are just in labor or whether they have been in labor for several days. Occasionally a patient has been lost from puerperal infection, although pathologist and bacteriologist were unable to find the streptococcus. A number of severe cases have been observed in this maternity in which a variety of bacteria were found in the uterus. In the management of puerperal sepsis he emphasized two points: First, to make sure the uterus is emptied. Second, in making sure that it is emptied, do just as little damage to the inside of the organ as possible.

Dr. J. Whitridge Williams, Baltimore, laid stress on the value of bacteriologic examinations of the uterine lochia and of the blood. In many cases there is no definite indication for treatment from such examinations, yet there is no doubt in his mind that important and valuable information as to the condition of the patient can be elicited in this way, more particularly by examining the blood. He has seen but two cases of puerperal sepsis in which he feels operation was distinctly called for.

Dr. Matthew D. Mann, Buffalo, N. Y., spoke of gonorrheal infection in connection with the puerperium. Recently he saw a patient in consultation who had been sick for more than a week when she was first observed by him. Her temperature reached 111 before death. She had been having a temperature of from 107 to 108 for a number of days. Pulse was 120. Examination of the discharges by competent bacteriologists showed a pure culture of the gonococcus. There was no other germ present in any of the secretions. He thought the infection would localize itself and the woman would recover; but the joints and heart became affected and the patient died.

Dr. G. Gill Wylie, New York City, said there can be no question but that surgical intervention is indicated in some of the severe cases of puerperal sepsis. Of his first nine cases, which were treated at the Bellevue Hospital some twenty years ago, seven were dealt with locally and two surgically. He believes the uterus should be emptied in every case of severe streptococcus infection.

Dr. Edward P. Davis, Philadelphia, in speaking of hysterectomy in cases of puerperal sepsis, stated that this operation has nothing definite to support it except in rare cases of adherent placenta. A method which yields good results, where irrigation has failed, consists in opening the abdomen and inspecting the uterus, tubes and ovaries, freeing adhesions, etc., and, if there is a collection of pus in the tubes, drainage by means of iodoform gauze carried through into the vagina, separating the organs from abnormal adhesions.

Dr. Malcolm McLean, New York City, referred to the curette as a dangerous instrument in cases of puerperal sepsis in the hands of the average general practitioner. Emptying of the uterus is an absolute necessity in some cases, especially where there is evidence of putrid absorption, with chill and sudden high temperature.

Dr. Henry D. Fry, Washington, D. C., said the practice at the Columbian Hospital, where a large number of maternity cases were observed, was first to thoroughly clean out the

uterus, particularly if the patients were seen at the beginning of sepsis and it was confined to the uterine cavity. After having taken a culture, active treatment of the uterus is suspended until the result of the culture is made known. If there are retained pieces of placenta, and blood clots, accompanied with a foul odor, producing infection, the indication for cleaning out the uterus is clear. On the contrary, if the culture showed streptococcus, staphylococcus, colon bacillus, or gonococcus, the uterus was left alone. In cases of streptococcus infection he believes the use of the curette does a great deal of harm, in that it breaks down the protective zone of inflammatory tissue, which is thrown out by Nature and which causes ultimately a general systemic infection.

Dr. Herman J. Boldt, New York City, said experience has taught him, so far as the treatment of puerperal sepsis is concerned, that a bacteriologic examination of the secretions from the vagina or from the uterus, or a bacteriologic examination of the blood, furnishes no indication whatever for treatment, because there is usually a mixed infection, both streptococci and staphylococci being found in the secretions of the uterus and vagina. Such patients frequently manifest mild clinical symptoms, although operative intervention is not indicated. In all cases that come under his care, examinations of the secretions and of the blood are invariably made, and in patients who show bacteria in the blood, even a pure staphylococcus infection, the general condition of the patient does not seem to indicate the need of surgical intervention, consequently they are left alone, and recover. On the other hand, many patients show absolutely no bacteria in the blood, yet they die, so that, as the result of accumulated experience, bacteriologic examinations of the secretions and of the blood of such patients do not give a definite clue as to the indication for treatment.

Hysterectomy is of no avail in the severe cases of puerperal sepsis, as the patients die within a few days.

Dr. Seth C. Gordon, Portland, Me., thinks surgical treatment is undertaken too early in some cases of puerperal sepsis. If there are abscesses of the fallopian tubes, they should not be opened until one is quite sure that he can make a straight incision from the vaginal vault into the abscess cavity, without having any doubt as to whether pus is limited to the top of the vaginal wall. Every time an abrasion is made in the uterus or vagina with the curette or knife, he thinks a new avenue of infection is opened up, and causes, in many cases, a great deal of harm.

Dr. H. G. Wetherill, Denver, referred to the Carosso method of treatment of puerperal sepsis, saying its value was unquestionable. This method has been advocated particularly by Dr. Edward J. Ill, of Newark, N. J.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Seasickness.

According to an abstract in the *Indian Med. Record*, railway and seasickness is due to the rapidly changing focus, occasioned by the eyes closely following the apparent approach and withdrawal of objects. It was observed that by closing one eye the usual unpleasant sensation was prevented. On sea the sickness is likewise produced by watching the top of the waves, and this, together with the movement of the ship, which, according to the author, complicates very much the mechanism of focusing produces an intersection of focus curves, and thus causes seasickness. Covering one eye abolishes all these curves and relieves the nervous condition. So lying on the back serves a similar purpose because the eyes are then focused at a definite and fixed distance. Lying on the side is not so good because of the greater probability that the focus will be changed.

Calcium Chlorid in Scrofula.

Lilgois, as noted by the *New York Med. Jour.*, states that calcium chlorid is of value in the treatment of scrofula. The salt contains more than one-third of calcium, is of great benefit to the osseous system, in scrofula, which is poor in mineral matter. The following combinations are recommended:

℞. Calcii chloridi
Calcii phos., āā ..... gr. viiss | 50

M. Ft. chart. No. i. Sig.: One such after the mid-day and evening meals; or:

℞. Calcii chloridi ..... 3i | 4
Aq. destil. ..... ℥xii | 360
Syr. Corsican moss ..... ℥iss | 45

M. Sig.: To be taken in three doses during the day; or:

℞. Calcii chloridi ..... 3ii-3iiiss | 8-14
Aq. destil. ..... ℥xvii | 510
Syr. gentianæ ..... ℥ii | 60

M. Sig.: One or two tablespoonfuls daily; or:

℞. Calcii chloridi ..... gr. lxxv | 5
Syrupi ..... ℥xiii | 390
Aq. menth. pip. ..... ℥iiss | 75

M. Sig.: One tablespoonful before each meal.

The calcium should be continued for weeks, and in some cases the treatment should be prolonged for months.

Gonorrhea.

The following outline of local treatment of gonorrhea, according to the *New York Med. Jour.*, is recommended by Z. Rojos de Molina:

℞. Zinci sulphatis ..... gr. iss | 09
Aquæ destil. ..... ℥i | 30

M. Sig.: Use as an injection after each urination.

The author prefers the foregoing combination to potassium permanganate, protargol or other similar preparations. In order to subdue the pain after each micturition, the patient is directed, after each urethral injection, to inject a small amount of the following:

℞. Zinci sulph. ..... gr. 3/10 | 018
Cocainæ hydrochlor. ..... gr. iii | 20
Aquæ destil. ..... 3v | 20

M. Sig.: As an injection.

Quinin Salicylate.

Moore, in the *Practitioner*, states that quinin salicylate is of great service in the treatment of rheumatism. In diphtheria, in addition to the administration of antitoxin, he recommends the following as a spray to the throat:

℞. Resorcin ..... gr. x | 65
Aquæ ..... ℥i | 30

M. Sig.: Locally as a spray.

He also gives quinin salicylate in 3 to 5 grain (.20-.30) doses, according to the age. It is of great service also in influenza, pneumonia, typhoid fever, scarlatina, erysipelas and measles. He also prescribes it in herpes zoster to relieve the pain and in chlorosis as a gastro-intestinal antiseptic and disinfectant.

Alopecia Circumscripta.

Shoemaker, in *Med. Bul.*, states that persons troubled with alopecia circumscripta generally require constitutional treatment by means of diet and proper medicine.

The following combinations are advised by him:

℞. Syr. ferri lactati ..... 3ii | 8
Ext. malti diastasic ..... ℥vi | 180

M. Sig.: One dessertspoonful three times a day, after meals. Locally the following:

℞. Sulphuris sublim. ..... 3i | 4
Olei eucalypti ..... m. x | 65
Acidi salicylici ..... gr. x | 65
Ung. zinci oxidi ..... ℥i | 30

M. Ft. ung. Sig.: Rub into the affected spots well twice a day.

Acute Parotitis.

E. Grande, in *Sem. Méd.*, advocates the employment of guaiacol in the treatment of epidemic parotiditis. He applies it locally in the form of an ointment of 5 per cent. strength

and repeats the application four or five times during the day, followed by a thick covering of absorbent cotton. The swelling rapidly subsides and the pain on chewing and swallowing is likewise decreased. He is of the opinion that the guaiacol exerts a local antiseptic action as well as an analgesic condition. No eczematous condition follows the application to the face as is frequently the case when applied to the scrotum.

Eczema.

In chronic eczema the same author recommends, after correcting the cause, the following outline of treatment:

℞. Vini antimonii 3iii 12
Tinct. nucis vom. 3iii 12

M. Sig.: Ten drops four times a day, gradually increased to twenty drops four times a day.

The antimony, it is believed, allays the congestion and promotes the elimination.

Externally the following is used:

℞. Chloralis hydratis 3ss 2
Camphoræ .....gr. x 65
Acidi carbol. .....m. xx 1 30
Ung. zinci oxidi .....℥i 30

M. Ft. unguentum. Sig.: Apply locally night and morning.

Hemorrhoids.

Dr. J. P. Tuttle, in *Interstate Med. Jour.*, favors the treatment of hemorrhoids by means of injection, using a moderately strong solution of carbolic acid in order to set up inflammatory induration, which will cut off a portion of the circulation to the growth and result in gradual atrophy. He claims, with the proper antiseptic precautions, that there is no danger of sepsis, abscess formation or sloughing. He recommends the following combination to produce the results above stated:

℞. Acidi carbol. 3ii 8
Acidi salicylici 3ss 2
Sodii biboratis 3i 4
Glycerini q. s. ad.....℥i 30

M. Sig.: Five minims to be used as an injection into the hemorrhoid.

At the end of one week, as a rule, the remaining tumors may be similarly treated.

In the varicose type of external hemorrhoids prompt evacuation of the bowels should be obtained by administering a cold enema, after which the following ointment should be applied:

℞. Ung. acidi tannici
Ung. belladonnæ
Ung. stramonii, āā.....℥i 30

M. Sig.: Apply freely to the affected parts.

Dandruff.

The following is recommended by Merck's Report:

℞. Resorcin 3i 4
Tannoformi 3i 4
Acidi salicylici .....gr. v 30

M. Ft. chartula. Sig.: Dissolve the powder in three ounces of alcohol just before use, to which is added one ounce of water and the entire amount filtered; or:

℞. Resorcin 3i 4
Acidi borici 3ss 2

M. et fiat chartula. Sig.: Dissolve in four ounces of water just before using.

Rachitis.

Burney Yeo, in *Clin. Ther.*, recommends, in the treatment of rickets, that too much carbohydrates should not be given to hand-fed children. The milk used should contain its full proportion of cream. He recommends cod-liver oil made into an emulsion with lime water flavored with sugar of milk, giving ten or fifteen drops at a dose. The pulp of raw meat is also of great service, giving as much as two ounces (.60) daily, varying the amount according to the age. In feeding older children milk puddings may be served made out of entire wheat flour, or sandwiches or raw meat pulp, meat juices and broths, eggs beaten up with milk, and the juice of fresh fruits may be added. The proper attention must be given to hygienic surroundings, sunshine, etc.

Rachitic children are more susceptible to pneumonia and other pulmonary complications and consequently they must be warmly clad with woolens and a woolen bandage applied to the abdomen. The clothing must fit loosely in order not to restrict the respiratory movements or the movement of the limbs.

In the anemic cases Yeo recommends the syrup of the iodid or citrate of iron and ammonia. Arsenic is also of service in these cases. If nervous complications arise the following mixture may be given as required:

℞. Sodii bromidi .....gr. xv-xx 1.-1.30
Chloralis hydratis.....gr. viii 50
Aq. cinnamomi .....℥i 30

M. Sig.: One teaspoonful as necessary.

The following combinations, as employed by Billroth, are recommended by the author for the constitutional treatment:

℞. Ferri carb.
Ferri lactatis
Calcii phos.
Sacchari lactis, āā.....3iss 6

M. chart. No. lx. Sig.: One powder two or three times a day; or:

℞. Olei morrhuæ
Syr. calcis lactophos.
Liq. calcis, āā .....m. xv 1

Sig.: At one dose; to be repeated three times a day—for a child of one year.

The following, containing phosphorus, are frequently prescribed:

℞. Phosphori .....gr. i 06
Alcoholis 3v 20
Spts. menth. pip. .....m. x 65
Glycerini q. s. ad.....℥ii 60

M. Six to twelve drops three times daily after meals; or:

℞. Phosphori .....gr. 1/7 0085
Saccharin .....gr. lxxv 5
Ess. limonis .....m. ii 12
Ol. morrhuæ .....℥iiiss 105

M. Sig.: One teaspoonful three times a day in milk.

Medicolegal.

Alteration of Unauthorized Temporary License.—In the case of Volp vs. Saylor and others, State Board of Medical Examiners, it appeared that, in 1891, the Oregon State Board of Medical Examiners issued what was intended to be a temporary license only, certifying that Heinrich Volp, having passed a satisfactory examination in medicine and surgery, was authorized to practice same until a certain date, or, in other words, for six months. The secretary testified that the board had adopted the practice of giving temporary permits so that the applicant, if unsuccessful, could still earn a livelihood, with the understanding that he again submit himself for an examination at the expiration of the period fixed in the certificate. On the trial, however, it was stipulated that the board had no power to issue a temporary permit or license. But because the board of examiners adopted an irregular and unauthorized practice, and issued a permit or license, using the form of a regular certificate, but limiting its duration, the Supreme Court of Oregon does not consider that it followed, as was argued, that such board issued and delivered an ordinary or regular license, unlimited in its scope, and therefore valid. It says that to construe such an act as the board's into absolute regularity, and the permit of six months' duration into a license regular in form and unrestricted as to the time of the operation, would be to contort an irregular and void proceeding into one of due regularity and perfect legal efficacy. The erasure of that portion of the certificate intended as a limitation could not, by any rule of ethics or practice, either in law or morals, operate to admit the holder as a regular practitioner of medicine and surgery. The fact that it was certified that he had passed a satisfactory examination could not aid him, as the certificate by its very terms limited the time the board intended he should exercise the privilege accorded, and the suggestion that the board was precluded

from showing that the examination was unsatisfactory was without relevancy in the argument. He may have been entitled to a full license on such a showing, but he did not get it, and his act of changing the certificate received could not operate as an act of the board granting that which he applied for. Nor does the court accede to the contention that his license could be revoked except for unprofessional or dishonorable conduct, and that his act in changing the certificate, and thus procuring his name to be entered in the register, did not come within the meaning of such terms as declared by the act of 1895, which provided that all persons who had been regularly licensed under theretofore existing laws of the state, and had complied with the provisions thereof, should be taken and considered as licensed physicians under this act. It says that this proceeded on the assumption that he was regularly licensed, and that he was then entitled to practice by reason thereof. But he had no such license to revoke. The record he caused to be made gave him none, but it falsely showed that one had been regularly issued to him, and it was to get rid of this record that the board took action. What the board really did was to vacate a void record. Furthermore, the court holds that, where the record is admittedly fraudulent, as it was here, a court of justice will not intercede to reinstate it, even though it was vacated without notice to the party affected by the order. If the court could see that the party had been deprived of any substantial right without an opportunity to be heard, the case would be different; but he was insisting on a privilege vouchsafed to him by a license or record which he conceded to have been obtained through his own wilful and fraudulent act, and the court would not thus intercede to permit him to enjoy the fruits of his own wrong.

Compulsory Vaccination and Revaccination Law Upheld.—The Supreme Judicial Court of Massachusetts holds constitutional, in Commonwealth vs. Pear, Section 137 of Chapter 75 of the Revised Laws of that state, which provides that "The board of health of a city or town, if in its discretion it is necessary for the public health or safety, shall require and enforce the vaccination and revaccination of all of the inhabitants thereof, and shall provide them with the means of free vaccination. Whoever, being over 21 years of age and not under guardianship, refuses or neglects to comply with such requirement, shall forefeit five dollars." It says, among other things, that, so far as it is aware, all courts that have considered the subject have recognized the right of the legislature to enact laws founded on the theory that vaccination is important as a preventive of smallpox, and to impose restrictions, during an epidemic, on persons who have not been vaccinated. There are some cases in which it has been held that the statute did not go far enough to authorize the restrictions which the authorities sought to impose. But these assume that the legislature may interfere with the exercise of the ordinary rights of individuals if they are not vaccinated when smallpox is prevalent. Legislation requiring vaccination, or authorizing some local board to require it, as a prerequisite to attendance at school, has been sustained whenever called in question. Legislation requiring vaccination is mentioned by the Supreme Court of the United States as a proper exercise of the police power in Lawton vs. Steele, 152 U. S. 133-136. Statutes substantially the same as the one in this case have been sustained, after careful consideration, by the highest courts of Georgia and North Carolina. The views of the party here refusing to be vaccinated could not affect the validity of the statute, nor entitle him to be excepted from its provisions. He made some eleven offers of proof of alleged injurious or dangerous effects of vaccination, but the only competent evidence that could be presented to prove these propositions was the testimony of experts giving their opinions. It would not have been competent to introduce the medical history of individual cases. Assuming that medical experts could have been found who would have testified in support of these propositions, and that it had become the duty of the judge to instruct the jury as to whether or not the statute was constitutional, he would have been obliged to consider the evidence in connection with facts of common knowledge, which the court will always regard in passing on the constitutionality of a statute. He would have considered this testimony of experts in connection with the facts that for nearly a century most of the members of the medical profession have regarded vaccination, repeated after intervals, as a preventive of smallpox; that, while they have recognized the possibility of injury to an individual from carelessness in the performance of it, or even in a conceivable case without carelessness, they generally have considered the risk of such an injury too small to be seriously weighed as against the benefits coming from the discreet and proper use of the preventive; and that not only the medical profession and the people generally have for a long time entertained these opinions, but legislatures and courts have acted on them with general unanimity. If this party had been permitted to introduce such expert testimony as he had in support of these several propositions it could not have changed the result. It would not have justified the court in holding that the legislature had transcended its power in enacting this statute on their judgment of what the welfare of the people demanded. The theoretical possibility of an injury in an individual case as a result of its enforcement does not show that, as a whole, it is unreasonable. The application of a good law to an exceptional case may work hardship. Naturally, there would be regard to temporary conditions, if they became important, as to the time and manner of its enforcement. If a person should deem it important that vaccination should not be performed in his case, and the authorities should think otherwise, it is not in their power to vaccinate him by force, and the worst that could happen to him under the statute would be the payment of the penalty of $5. The contention that the statute works unequally, in making an exception of minors and persons under guardianship, is not well founded. It only limits the liability to a penalty for neglect of the requirement to persons who have a right to control their own conduct.

Current Medical Literature.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

May 16.

1 *The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
2 *Cancer and Immunity. A. F. Jonas.
3 *The Relation of Cholelithiasis to Acute Pancreatitis. Joseph Wiener, Jr.
4 An Unusually Long (twenty weeks) Case of Relapsing Typhoid Fever. W. L. Stowell.

1, 5, 8, 12, 24. These articles are identical.

2. Appeared in THE JOURNAL of May 9, p. 1277.

3. **Cholelithiasis and Pancreatitis.**—The relation of these two conditions has only been lately a matter of consideration by the profession, and yet there are good reasons to assume its possibility. The pancreatic and common bile ducts have a common opening into the duodenum and the obstruction of the one may also be the obstruction of the other. Wiener discusses the subject and the literature, reporting a case of his own. He says from a careful study of 33 cases reported of pancreatitis associated with cholelithiasis, we are forced to the conclusion that in many there is a relationship between the two conditions. In a few cases the autopsy showed the duct of Wirsung occluded by gallstones. In one case, that of Dieckhoff, a biliary calculus had actually found its way into the pancreatic duct. Other cases point in the same way, and it is fair to assume, he holds, that in some instances where the offending calculus was not found, it had already escaped into the bowel. Fortunately the anatomic conditions are often unfavorable to occlusion of the duct of Wirsung or we would have many more cases of acute pancreatitis from gallstones. The author's case was saved, not because of an early correct diagnosis, but because of an early exploratory incision, and this, he thinks, is the crux of the whole problem in the prevention of these conditions.

Boston Medical and Surgical Journal.

May 14.

5 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
6 *Social Conditions in America in Their Relation to Medical Progress and Disease. J. M. Anders.
7 *Differential Diagnosis in Diseases of the Gall Bladder and Ducts. George E. Brewer.

6. This article appeared in THE JOURNAL of May 9, p. 1284.

7. **Diseases of the Gall Bladder and Ducts.**—Brewer goes into detail as to the significance of various symptoms of gall-bladder and gall-duct diseases. He remarks in conclusion that it is well to remember the following facts derived from the best authorities:

Gallstones are rarely found in young subjects; according to Schroeder only 2.4 per cent. occur in individuals under 20 years of age. The same author states that 20 per cent. of all female, 44 per cent. of all male autopsies show the presence of calculi in the gall bladder. Ninety per cent. of the women have borne children. Gallstones have been known to escape from the biliary passages into the alimentary canal by ulcerative processes, and to produce intestinal obstruction without giving rise to pain or any other symptom until the evidences of bowel obstruction appear.

In common duct stone the calculus is found in 67 per cent. of the cases in the duodenal extremity, in 15 per cent. in the hepatic extremity, and in 18 per cent. in the middle portion of the duct (Robson).

One-half of all cases of common duct obstruction only are due to stone (Robson).

In 70 per cent. of the cases of obstruction located in the neck of the gall bladder the pain is referred to the right subscapular region, in 10 per cent. to the left subscapular region, and in 20 per cent. to the precordia, sternum, right subclavicular region or neck (Murphy).

The temperature chart in biliary infection is characterized by angularity rather than by curves, and by more or less prolonged periods of complete intermission (Murphy).

Jaundice is absent in from 80 to 90 per cent. of all operative cases of gall bladder or duct disease.

Jaundice preceded by colic is practically always due to stone; jaundice without pain is practically always due to inflammation or new growths of the ducts, or to outside pressure.

The bile in all cases of cholelithiasis should be regarded and treated as an infected secretion.

During the presence of a calculous jaundice, the sudden occurrence of acute epigastric pain, muscular rigidity, nausea, vomiting and collapse, without leucocytosis, strongly suggests acute pancreatitis occasioned by the presence of a stone in the diverticulum of Vater (Murphy).

Medical News, New York.

May 16.

8 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
9 *Fracture at the Base of the Skull—Neurological and Medico-legal Considerations. Pearce Bailey.
10 *Notes on Blood Pressure in Man. (To be continued.) S. S. Goldwater.
11 Some Recent Advances in Medical Therapeutics. Thomas E. Satterthwaite.

9. **Fracture at the Base of the Skull.**—The presidential address before the New York Neurological Society by Bailey reviews the symptoms and outcome of fractures of the basis cranii. He goes over the various clinical symptoms relating to the special cranial nerves, finding pupillary abnormalities one of the commonest symptoms, injury of the motor nerves of the eye frequent and that of the facial nerve most frequent of all. Conditions of paralysis, changes of reflexes, mental symptoms, etc., are also remarked on. The immediate prognosis is bad; fatal results may be looked for in more than one-half the cases. The ultimate prognosis, if not immediately mortal, is somewhat better. He thinks the mental condition in the majority of cases is restored. In some cases there is a certain amount of irritability and change of character and in a few cases permanent mental impairment. There are but a comparatively small proportion of cases in asylums with a record of fracture of the base of the skull as a cause, and he says it seems to be an entirely unimportant cause of mental disease. Fractures of the base can hardly be compared with those of the vault with direct involvement of the cortex in the latter. The physical symptoms also seem to be largely relieved, if not cured, in many cases where death does not immediately follow the injury.

10. **Blood Pressure.**—Goldwater has examined the question of blood pressure in man, finding it varying from 250 or 255 mm. as the extreme to only about 40 mm. as the lowest. He discusses at length the conditions of blood pressure under special conditions, like pregnancy, the puerperal state, as producing changes in the blood pressure and the effect of mental effort. The fact that blood pressure appears to be raised in insanity during the periods of depression is discussed, emphasizing a further study of the relations existing in healthy individuals between depressing emotions and intravascular tension.

Philadelphia Medical Journal.

May 16.

12 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.
13 *Tumors of the Breast. Jonathan Hutchinson, Jr.
14 A Case of Femoral Thrombosis in Acute Croupous Pneumonia. D. J. Milton Miller.
15 *Tetanus. A Study of 57 Cases from the Records of the Pennsylvania Hospital. George W. Norris.
16 Gastric Carcinoma Associated with Hyperchlorhydria and with Attacks of Stupor. Norman B. Gwyn.
17 Foreign Bodies in the Bladder. Swithin Chandler.

13. **Tumors of the Breast.**—Hutchinson first notices Paget's eczema, in regard to which he remarks that the supposed parasites are, in his opinion, only the results of epithelial degeneration. As regards cysts in the breast, 80 per cent. of them are true retention cysts with milky contents, and the majority of cases require but simple tapping. In the remaining 20 per cent. the cysts are multiple and due to fibrous degeneration of the organ and, unlike retention cysts, situated usually in the periphery or circumference of the breast. He recommends an exploratory incision in case of retention cyst simulating cancer, holding that it will not do harm. Of course, the knife should be laid aside and disinfected after doing the incision. In fact, he says the surgeon should invariably make a cut into the substance of any supposed cancer. As regards excision of adenomata and cysts, he offers the following practical point, that in sewing up the incisions the stitches must be carried down to the bottom of the wound on either side, or else a bloody cavity will be very apt to form and delay healing as well as alarm the patient. The rare involution cysts, especially of the periphery, he thinks, in most cases would be better left alone. The most important point in differentiating retention cysts from carcinoma is, he holds, adhesion to the skin and its redness and dimpling in the latter. If the disease has long existed, of course there will be retraction of the nipple. Cachexia is the poorest sign of all and the least important. As regards excision of the breast, he says when you wish to obtain primary union you should not carry the incision through the middle of the axilla. Make it not through the center of the axilla, but up over the pectoralis major, right away from the area of the large sebaceous glands. If the scirrhus goes anywhere near the pectoralis major, remove the lower half of that muscle. Whether or not the pectoralis minor should be removed depends on the conditions, but access to the summit of the axilla is perhaps more free if it be excised. Avoid drainage tubes; wounds do not heal so well with them. Never tie the arm to the chest, but always bandage with it away from the side, to avoid subsequent stiffness. As regards the clearing out of the glands which are adherent to the axillary vein, he thinks it is better to dissect them out rather than to cut the vein boldly and tie it some inches higher up. For, by tying the vein, you may have persistent edema of the arm. The mortality of complete operations in his hands has not been over 3 or 4 per cent. His figures agree very well with those of Mr. Butlin at St. Bartholomew's and of Barker of the University College Hospital. The axilla should be cleared in every case, since in three out of four cases we find secondary deposits there. As regards secondary deposits of scirrhus, they are present mostly in the liver and next in the pleura and lungs and last in the pericardium, other breast, peritoneum, etc. The only frequent non-cancerous condition in patients dying from cancer of the breast is pleurisy. Oöphorectomy he considers as practically of very little value. There is no safe time limit for cure; as regards recurrence, he thinks the more experience one has the more one is encouraged to operate.

15. **Tetanus.**—Norris gives an analysis of 57 cases of tetanus from the records of the Pennsylvania Hospital, including all the cases treated there between 1874 and 1903. A curious thing is the complete absence of cases of tetanus between 1886 and 1893 which can not be accounted for. The mortality is largest in the warm months, August, September and October, and least in the colder part of the year, with a total average mortality of 85 per cent. Thus temperature seems to play a part, though the Fourth of July casualties, of course, account for a portion of the hot weather cases. The mortality is greatest in cases from wounds of the head and neck, 100 per cent. in the figures here given, and least in cases of the trunk and mixed injuries; there was only one case of injury of the trunk reported followed by tetanus. The heaviest mortality, according to age, was in the very early years and in

advanced life, nearly 100 per cent. in both, though the figures are small, only 5 of the former and 3 of the latter. The greatest number of fatalities occur in the early part of the disease. It would also appear from the table that the longer the incubation the less the mortality, though, of course, the insufficiency of statistics prevents thorough conclusions. Cases of punctured wound seem to be specially liable to produce the disease, and burns perhaps the least liable. The condition of the urine was noted in only 17 cases, but is interesting from the fact that the average specific gravity was 1.026. No definite relation could be established between the severity of the attack and the outcome of the urine analysis. The first symptoms were usually pain and stiffness in the back of the neck. Fever was present in nearly all of the cases where the temperature was recorded, and steadily increased to the end. Delirium is said to be a common symptom in alcoholic subjects and was recorded eight times. As regards treatment, the symptomatic is credited with 87 per cent. of mortality, carbolic acid treatment, according to the Bacelli method, 7 cases with 85 per cent., and antitoxin with 66 per cent. Though the latter was only employed in three cases, one of them recovered. He concludes his article by saying the following facts should be remembered in connection with the treatment of tetanus:

1. That tetanus toxin is found mainly in the nervous tissues; that, once united with these, antitoxin is powerless in its action on already affected cells.
2. That antitoxin is harmless, but deteriorates rapidly; therefore, it should be procured freshly and administered in continuous and large doses with the hope of immunizing the intact nerve cells.
3. That all cases of wounds in which there is a possibility of tetanic infection should receive prophylactic injections of antitoxin.
4. That local treatment is of great importance, hence the infected area should be excised; when this is impossible, extensive disinfection, preferably with carbolic acid, should be carried out; furthermore, that, as Behring has shown, antitoxin is of benefit locally as well as systemically.
5. That every effort should be made to maintain the nutrition of the patient, for Castronuovo has demonstrated that antitoxin is of no value in tetanic animals which have been starved.

American Medicine, Philadelphia.

May 16.

18 *The Surgical Treatment of Pruritus Vulvæ, with the Report of a Case Cured by Resection of the Genitocrural, Ilioinguinal, Inferior Pudendal and Superficial Perineal Nerves. Barton C. Hirst.
19 *Congenital Dislocation of the Hip: Report of a Bloodless Reposition, Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment. (To be continued.) H. Augustus Wilson, J. Torrance Rugh and W. M. L. Coplin.
20 Heart Showing Chronic Tuberculosis of the Pericardium, with Involvement of the Myocardium. A. G. Ellis.
21 Sarcoma of the Thumb; Report of Two Cases. William B. Trimble and George Reese Satterlee.
22 *Serious Infection Following Puncture, Laceration or Contusion of the Finger or Toe. Thomas H. Manley.
23 *The Uses and Abuses of the Urethral Sound. J. Henry Dowd.
24 The Duties and Responsibilities of Trustees of Public Medical Institutions. W. W. Keen.

18. **Pruritus Vulvae.**—Hirst remarks that the treatment of this condition is one of the unsolved problems. Two surgical methods are available: 1. That of exclusion of the affected part as proposed by Schroeder, and the other, resection of the nerve. Hirst discusses the advantages and disadvantages of this method, but while report of a case is stated in the title, his paper does not contain more than a brief mention of one thus relieved. In a footnote it is stated that still another case has been similarly operated on. He offers the following questions as of interest in connection with the subject:

1. Which is the better of the two surgical treatments of pruritus vulvæ, exsection of the affected skin or resection of the sensory nerve supply?
2. What is the best surgical technic for isolating and resecting the sensory nerves supplying the vulva?
3. What has been the permanent result of this operative procedure in the experience of those who have performed it or have had the opportunity of watching cases afterward?
4. If a cure of the pruritus can be expected, is there a likelihood, or has any one clinical evidence to present, of the development of kraurosis vulvæ, and possibly of an associated epithelioma?

19. **Congenital Dislocation of the Hip.**—The first portion of this article only is included in this issue. The authors tabulate their cases and report certain of them briefly. All thus far reported have been progressing well. They remark on the slight dependence placed by Lorenz in these cases on the *x*-rays, and state that their experience has confirmed the impossibility of relying much on them. One of the most difficult of all the cases was by the radiograph, apparently the most favorable.

22. **Infection from Puncture of the Finger or Toe.**—Manley calls attention to the large number of cases of serious phlegmonous inflammation occurring from slight punctures of the fingers or toes. These occur far more frequently in the winter and spring seasons and at the time when carbuncle, felon and erysipelas are most common. The difference from erysipelas in these cases is simply the absence of redness and metastatic invasion. Lymphangitis is always well pronounced, but the real mischief only begins when the vascular supply is compromised. Vasomotor paralysis is always an early phenomenon. Whatever the termination the pathologic feature is slow to yield. He warns against the use of narcotics in these cases and insists on the importance of local treatment. Nothing less than the free use of the scalpel will suffice. The limb must be freely exsanguinated in the areas of greatest distention. The tissues must be disinfected. Here he insists on the importance of the use of the Powell-Phelps mode of directly charging the tissues with pure carbolic acid, followed by neutralization with strong alcohol. After a surgical procedure opium is useful as well as other stimulants. When the temperature falls small doses of calomel, quinin and bitter tonics may be given. Recovery is likely to be slow, more or less functional embarrassment and stiffness remain for some time and in some cases have been permanent.

23. **The Urethral Sound.**—The following general rules for the use of the steel sound are given by Dowd:

1. When the urethra has been involved by inflammation, specific, or otherwise, no instrument, and especially the steel sound, should be used until the urine is clear excepting for shreds or floating particles. (Prostatic plugs.)
2. The urethra should in all cases be flushed with an antiseptic solution (formaldehyd, 1/3000) before the passage of any instrument. Following its withdrawal an astringent should be used, preferably silver nitrate 1/10000.
3. A sound should never be passed for at least three months following acute gonorrheal infection, and then only when the urine is as in No. 1.
4. When dilation of a stricture will answer, sounds are increased in size according to the tissue forming the pathologic growth and its location. True gonorrheal strictures of the deep urethra may be dilated five or six numbers at each sitting, up to 18 or 20 F.; following this, two or three numbers should be the rule.
5. In case of traumatic or gonorrheal stricture in the pendulous urethra, or when the sound is followed by marked irritation, etc., cutting gives the best result.
6. When the contraction seems not to dilate without too much force, weekly treatments being followed by considerable irritation, making the interval 10 to 14 days is generally followed by the most gratifying results.
7. Stricture can be permanently eradicated. This occurs when, after dilating the circular muscles of the canal to their fullest extent, without rupturing, no bloody string is found in the washings after four to six dilations which have varied from one to four months apart.

Medical Record, New York.

May 16.

25 *Uremia and Its Treatment. W. H. Thomson.
26 *A Study of the Rectum, with Reference to the Causative Factors of Obstipation (with Demonstrations). Louis J. Hirschman.
27 *Is the Gall Bladder as Useless as It Is Dangerous? Woods Hutchinson.
28 Ocular Symptomatology in Diagnosis. Henry B. Hollen.
29 Hydrocephalus Complicating Labor. G. W. Squires.
30 Syphilis Transmitted by Dental Forceps. S. S. Cartwright.
31 Fatal Case of Poisoning by Chlorate of Potassium. A. R. Ellis.

25. **Uremia.**—The peculiarities of uremia and its treatment are noticed at some length by Thomson, who remarks that there must be a variety of distinct toxemias included under this condition as commonly understood. He thinks there is one special poison which is quite common and which is generated in the kidney, and acts very much like the secretion of the suprarenal gland, producing high blood tension. For special cases he believes aconite is a vasodilator par excellence. He would recommend its systematic use as long as the pulse remains both tense and frequent, so as to lessen the strain on the heart, check the progress of vascular disease and increase defective urea excretion. In cases, however, where chronic endo-arteritis has co-existed with obliterated arteries, we can not safely utilize this drug. We should hesitate to employ it in old people, though it sometimes may be used where the pulse is quiet and there is exacerbation of chronic renal trouble. In puerperal eclampsia he says we have a remarkable illustration of such a poison being rapidly formed and giving rise to extreme high tension, but here complicated with rapid and powerful heart action. In this case the speediest and best vasodilator would be venesection, but if that be objected to,

then veratrum viride should be given in large doses according to the effect on the tension of the pulse. Aconite is too slow in such cases. He does not incline much to the thyroid theory of this condition under such circumstances. In cases of organic disease of the kidney he remarks that the subject is extensive and he can only notice a few features. In scarlatinal nephritis the best prophylactic, in his opinion, not only against nephritis, but against its running a bad course, is to begin at once with a laxative dose of calomel, repeating it every night until the tongue desquamates. We are to look to the condition of the kidneys and almost universally the first danger signal is not albuminuria, but diminution in the quantity of urine and a fall in its specific gravity. When nephritis has developed and is advancing we should use the rectal douche with normal saline solution at 115 F., allowing at least two gallons of hot saline to run in and out at a time, the best instrument for this being Kemp's rectal irrigator. Certain special points in chronic interstitial nephritis are mentioned. Many people go along without indications of renal disease until uremic convulsions or other symptoms announce its existence. He believes in the great majority of such cases a new element, septic invasion of the kidneys by bacteria, especially by the colon bacillus, has entered into the case. He also remarks that he specially dreads cholera morbus in elderly persons, and should always investigate the kidneys in such cases. The prognosis in any case of chronic interstitial nephritis must always be uncertain because we can never tell how much good kidney there may be left. The diet is a matter of some importance and he would exclude any full meat diet. He remarks particularly on the difference in proteid metabolism between the day and night hours. The patients are apt to be worse in the morning, and in cases with melancholia, migraine or Graves' disease with this particular symptom he shuts off red meats. We should bear in mind these particulars when we aim to regulate a man's life who has a high tension pulse and rigid arteries. The chemistry of these night generated poisons is yet to be worked out, but he thinks they have much to do with the changes in the alimentary canal, connected with the nitrogenous elements of food, and every person with cirrhosed kidneys should be enjoined, like an asthmatic, not to eat heartily after midday. One of the best remedies for auto-infection and a prophylactic against the dangers of chronic interstitial nephritis, is life in the open air. A mild climate in winter is needed by such a patient as much as by a bronchitic or phthisical patient. Intestinal antiseptics, especially minute doses of bichlorid of mercury or sodium iodid for prolonged periods, are advised. In conclusion, he points out the differences between interstitial and parenchymatous nephritis and the different problems of treatment in the two cases. He hopes that Edebohl's surgical method will have good results. Last of all, he remarks in regard to albuminuria, that it is only a symptom, the significance of which greatly varies.

26. **Constipation.**—Hirschman's article is a description of the Houston valves with the operation for their treatment. He thinks these valves are the cause of a very large proportion of the cases of constipation, and it should be the duty of every one who has to treat any condition of the rectum to thoroughly examine and find whether these valves are hypertrophied or interfering with the normal function.

27. **The Gall Bladder.**—The question as to the value of the gall bladder to the organism is remarked on by Hutchinson. He looks at it from the point of view of its comparative anatomy and its mechanical action and the variations we find in its condition. He remarks, to sum up, that:

> The gall bladder is a nearly functionless organ, inadequate in size to act as a reservoir of any value for the bile, inadequate in muscular power, and in mechanical position, to exercise any important effect on the pressure of the bile flow, entirely absent in many species without interfering with the processes of digestion or the vital functions in any way, capable of removal from a species in which it is normally present without noticeable injury, and chiefly notable as a settling basin for the formation of gall-stones, a suitable harbor for the multiplication of pathogenic bacteria, or for the assumption of pathogenic properties by non-pathogenic forms. In short, it seems a source of danger at least double any possible usefulness which it may possess.

St. Louis Medical Review.

May 9.

32 *Medical Education in the United States. Frank Billings.
33 *Cancer and Immunity. A. F. Jonas.

May 16.

34 A Case of Edematous, Intraligamentous Fibromyoma Following a Pelvic Exudate of Puerperal Origin—Operation. C. Lester Hall.

32, 33. These articles appeared in THE JOURNAL of May 9, on pp. 1271-1277 respectively.

Cincinnati Lancet-Clinic.

May 16.

35 Report of a Few Mastoid Cases. L. R. Culbertson.
36 Medical Sciolism vs. Medical Science. Brose S. Horne.
37 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

Medical Age, Detroit, Mich.

May 10.

38 Prevention of Tuberculosis in Private Practice. J. W. McLaughlin.
39 The Criminal Insane. G. H. Moody.
40 The Canine Red Cross Corps. W. Th. Parker.

Virginia Medical Semi-Monthly, Richmond.

May 8.

41 *Nitrous Oxide-Ether Anesthesia. Charles S. White.
42 *Foreign Bodies in the Ear and Nose, with Constitutional Symptoms. R. L. Goodbred.
43 Two Cases of Osteitis of Os Calcis. W. H. Brambiett.
44 Some Observations in European Hospitals, with Special Advantages for Genito-Urinary, Skin and Rectal Study. Eaton K. McNeil.
45 Case of Ectopic Gestation, with Diagnosis and Clinical History. E. W. Peery.
46 Laceration of the Perineum Incident to Pregnancy. Charles R. Robins.
47 Prevention and Treatment of Lacerations of the Perineum. Marvin E. Nuckols.
48 Treatment of Carbolic Acid Poisoning. John R. Atwell.
49 Undetermined Abdominal Cyst, Containing Pus, Followed by Jaundice.
50 Biliary Fistula—Operation—Recovery. W. W. Rangely.
51 Rupture of Carotid Artery—Successfully Ligated. R. J. Preston.

41. **Nitrous Oxid and Ether Anesthesia.**—White advocates the preliminary use of nitrous oxid where general anesthesia is required. It is the safest anesthetic, diminishes the vomiting, hastens reaction and diminishes shock. The apparatus is bulky, which is a disadvantage, and the original cost is an item which has to be taken into account. He recommends, however, the method for more general use for the reasons given. While he does not believe it will supersede chloroform, it will be instrumental in reducing the deaths during anesthesia with which we are altogether too familiar.

42. **Foreign Bodies in the Ear.**—Goodbred calls attention to the constitutional symptoms following the introduction of foreign bodies into the ear and varying very much in different cases. In one case which he reports typhoid fever was diagnosed, but on removal of a pea which had been inserted high up in the nostril the condition was completely relieved. Another case almost like this was followed by like relief after removal of the foreign body. He does not say why the presence of a foreign body in the ear or nose should cause erysipelas in one patient, catarrh in another, fever resembling typhoid in another and in others no symptoms at all, but he calls the attention of the profession to these facts.

Medical Fortnightly, St. Louis.

May 11.

51 *The Treatment of Obesity. A. E. Taussig.
52 A Report of a Case of Unusual Recurrent Somnambulism. Wm. Shirmer Barker.
53 History of a Case of Bladder Exstrophy. T. C. Witherspoon.

51. **Obesity.**—Taussig sums up the treatment of obesity in reducing the income below the outgo. It is a matter of indifference, he says, whether the proteids, carbohydrates or fats are restricted, but the diet must be carefully selected and the number of calories estimated. From easily accessible tables, the normal weight of the individual corresponding to height, sex and race can be ascertained and the diet restricted accordingly. The restriction of water as well as a fat, rich diet represent merely technical aids and are sometimes of service and often not. Hydrotherapeutic procedures, especially with properly regulated exercise, increase considerably the combustion of body fat. Only in exceptional cases would he use thyroid preparations, and then in small doses where a rigid diet is poorly borne or where weak circulation or other conditions prevent a sufficient increase in exercise. Alcohol should be entirely excluded from the dietary of the obese. It is con-

sumed in the tissues instead of fat, which is thereby left over to accumulate in the body.

Cleveland Medical Journal.

May.

54 *Pregnancy and Labor Following Nephrectomy. J. F. Baldwin.
55 *On the Relation of Age, Sex and Conjugal Condition to Death from Typhoid Fever. George W. Moorehouse.
56 Normal Saline Solution Before, During and After Abdominal Operations. William H. Humiston.
57 Pyothorax. O. T. Maynard.
58 A Case of Pemphigus Neonatorum Associated with a General Infection by the Staphylococcus Pyogenes. J. C. Miller.

54. **Pregnancy Following Nephrectomy.**—Pregnancy after nephrectomy has been very rarely observed. Baldwin was able to find but two cases besides the one he reports himself. It would naturally be supposed, as the author remarks, that when the work of two kidneys is being performed by one a patient would suffer more from the effects of pregnancy than ordinarily. He reports two cases of his own observation, in both of which there was a successful outcome and apparently good health following, though in one case the patient died of typhoid within a year. These two cases, together with the three in Bovée's report, while not numerous enough for generalization, would seem to indicate that the prognosis of pregnancy after nephrectomy is by no means unfavorable.

55. **Typhoid Fever.**—Moorehouse has studied the mortality statistics of typhoid in Cleveland for the thirteen years from 1890 to 1903, and finds that it furnished 3 per cent. of the total deaths; 19 per cent. of all tuberculous deaths occur between the years of 20 and 25; 36 per cent. between 20 and 30, and 50 per cent. between 18.5 and 35.4 years. The proportion of deaths from typhoid fever in total mortality was 1.8 per cent. in males, which is rather in excess of the females, being 58.1 per cent. of the total typhoid mortality. In proportion to the total, the greatest number of deaths both for males and females is found in the five-year period between the age of 20 and 25 years. In this respect the mortality of typhoid fever differs essentially from that of tuberculosis, in which the highest mortality is past middle life. There is a notable decrease in the percentage of typhoid deaths in married individuals as compared with that in tuberculosis. The percentage excess of married over single mortalities in tuberculosis is four times that found in typhoid fever, from which Moorehouse concludes that tuberculosis frequently delays and prevents marriages. He finds presumably no relation between the conjugal condition and death from typhoid fever unless it be a moderate increase in liability to infection on the part of the unmarried, and this, if it exists, is thought to bear equally on the two sexes.

Providence Medical Journal.

May.

59 *Cases Illustrating the Value of Bacteriological Investigation of the Conjunctival Sac. F. T. Rogers.
60 A Glimpse of Degeneracy. George F. Keene.
61 The Bubonic Plague. William B. Cutts.
62 A Case of Antepartum Hour-glass Contraction of the Uterus. Daniel S. Latham.
63 A Case of Hemopericardium. W. E. Wilson.

59. **Conjunctival Bacteriology.**—Several cases are reported by Rogers which he thinks illustrate the danger of operations on the eye without previously ascertaining the conjunctival bacteriology. He believes that examination of the conjunctival sac is of value to determine if operative procedures can be instituted with safety, and to determine certain etiologic factors that can be of great value in the prophylaxis, and are of equal service in possible malpractice suits.

Journal of Medical Research, Boston.

May.

64 The Toxicity of Tetra-Phosphorus Tri-sulfid—A Preliminary Report. A. E. Thayer and C. G. L. Wolf.
65 A Case of Multiple Fibroma (Fibro-neuroma) of the Nerves of the Lower Extremities, with Diffuse Enlargement of the Sciatics—Complicating Sarcoma and Metastases in the Lungs. John H. Larkin.
66 A Case of Septicemic Glanders in the Human Subject. Warren Coleman and James Ewing.
67 The Formation of Hemolymph Glands from Adipose Tissue in Man. D. J. McCarthy.
68 *The Vitality of Bacteria from the Throats of Scarlet Fever Patients, with Special Study of Streptococci. George H. Weaver.
69 On the Plurality of Cytolysins in Normal Blood Sera. Simon Flexner and Hideyo Noguchi.
70 The Agglutination Affinities of Related Bacteria Parasitic in Different Hosts. Theobald Smith and Arthur L. Reagh.
71 *Actinomycosis of the Central Nervous System, with the Report of a Case Due to an Unidentified Member of the Actinomyces Group. William T. Howard, Jr.
72 An Example of a Proposed Arrangement of Specimens of a Single Structure for Museums. Thomas Dwight.
73 The Adrenal Gland and Its Active Principle in Their Relations to Cytolysins and Antitoxin Production. A. C. Abbott.
74 Enzymes in Tumors. B. H. Buxton.
75 A Preliminary Communication on the Etiology of Variola. William T. Councilman, George Burgess Magrath and Walter R. Brinckerhoff.

68. **The Vitality of Bacteria.**—Weaver has investigated the throats of scarlet fever patients with the idea of studying the vitality of the streptococcus. His conclusions are given as follows:

1. Streptococci are almost always, if not constantly, present in the throat in cases of scarlatina. In the early stages they are usually in very large numbers, becoming less numerous as the disease progresses. 2. The streptococci in the throat of scarlatina patients resist drying as long as the other bacteria usually present, and they often outlive all other forms, being alive as long as ninety days after the material is collected. 3. These streptococci remain alive for a long time in milk. 4. A small amount of sugar in nutrient media increases their value for the cultivation of streptococci. 5. Streptococci from scarlatinal anginas are not different from streptococci from other sources so far as cultural and morphologic peculiarities are concerned.

71. **Actinomycosis of the Central Nervous System.**—Howard reports a case and reviews the literature. He finds the condition rare, only 5 primary cases, including one here reported by the author, and 13 secondary cases have been published. It usually affects males in the prime of life; only two cases in females have been reported. Of the primary, 3 were reported as instances of streptothrix infection, and only one was regarded as a typical actinomycosis. Of the 13 secondary cases, 8 were regarded as typical actinomycoses, 2 as probable and 2 as cladothrix and 1 as streptothrix infection. All the primary cases with the exception of one were acute, while of the secondary the lesions were recent and usually the cause of death. In 2 each of primary and secondary cases the organisms were cultivated. No mention is made of any attempt to test the acid resisting powers. Actinomycotic granules were noticed in several and in one there were multiple nodular masses instead of abscesses, and in one other there was a firm mass the size of a hazelnut in the third ventricle and in the foramen of Monro. Primary lesions in secondary cases were usually in the lungs and bronchial glands. In one case the actinomycotic process extended directly through the skull to the meninges and brain. Howard remarks that in the present state of our knowledge all the processes caused by micro-organisms, having a mycelium of branching, interlacing and sometimes radiating threads are to be considered as actinomycosis, and that organisms with the above characteristics, whether or not they form "drusen" and clubbed hyphæ in the tissues, are to be regarded as actinomyces. A satisfactory classification is at present impossible, and it seems doubtful to him whether it is advisable to consider tuberculosis as an actinomycosis. There are two types of actinomyces, the acid-resisting, including the *Bacillus tuberculosis*, and the other, non-acid-resisting or acid-bleaching. Typical tuberculosis is always caused by the prominent member of the former, and typical actinomycosis by the prominent member of the latter group. It is better, he says, with Lehmann and Neumann, to use the term "actinomycetes" for the large number of organisms of the latter group, which were present in the case reported.

Archives of Pediatrics, New York.

May.

76 *Congenital Tumors of the Kidney, with a Report of Two Cases. Lawrence W. Strong.
77 *The Occurrence and Mortality of Typhoid Fever in Infants and Children. Henry Koplik.
78 *The Etiology of Endocarditis in Childhood. Sanford Blum.
79 A Case of Self-induced Cystitis Due to the Colon Bacillus. I. Leopold and I. Valentine Levi.
80 *Inversion in the Treatment of Acute Pulmonary Edema in Young Children, with Report of a Case. Thomas S. Southworth.
81 Congenital Hypertrophic Stenosis of the Pylorus. H. Beardsley.

76. **Congenital Tumors of the Kidney.**—From a study of these tumors, and of their literature, etc., Strong concludes as to their embryonic origin. The term carcinoma can not be applied to them as the adenomatous type is evident, and as the epithelial elements do not take origin from the developed glands of the kidney. Histologic comparison shows that these

tumors resemble the embryonic Wolffian body. There is a continuous system of tubules and their derivative cell masses throughout the tumor. The cell masses are derived from the tubules by retrograde metamorphosis. Histologic characteristics vary with the age of the part; the pelvic region is oldest, showing complete differentiation of mesenchyme and mesothelium. The metastases are youngest and show an embryonic condition where all cells are alike. Bilateral tumors are coincident and not metastatic. Metastases may occur through the lymph stream as well as through the blood stream.

77. **Typhoid in Children.**—Koplik reviews the records and statistics of typhoid in children, remarking that in the newborn it runs an atypical course, the classic symptoms being absent. Its infrequency in children under 2 years of age can be readily explained on external grounds. During the first year and in most of the second year of life infants and young children are fed with food which has been subjected to heat to a greater or less extent. Such children, it must be assumed, become infected either through the food or from contact in some uncleanly way with infectious material. The mortality is probably larger than is generally appreciated. The mortality apparently diminishes after the second year of life, though Koplik thinks this is true only in mild epidemics. As regards perforation, he has himself met with two undoubted cases, one of which was operated on, in a series of 100 cases. The heart, though undoubtedly affected, did not present the severer forms of myocarditis or endocarditis. These complications seemed to be rarer than in the adult. The mortality, of course, varies according to the severity of the epidemic, but typhoid fever in the new-born is in most cases a fatal infection. Up to two years of age it is uncertain, and statistics are not entirely reliable. From 2 to 10 years the mortality varies according to the severity of the type, sometimes high and then again very low.

78. **Endocarditis in Children.**—The instances of endocarditis and its cause in young children are reviewed from the literature by Blum, who finds that there is a condition of endocarditis that may occur in fetal life. The pathologic changes in these cases include thickening, shortening and agglutination of the valves. It may also create a predisposition to subsequent attacks in children thus affected. Acquired endocarditis is of common occurrence after the fifth year, and frequently in later youth, from rheumatism, scarlet fever, etc. Malignant endocarditis is evidently rare in children. The endocardium, like the tissues, has less power of resistance than in adult life, and especially so if congenital defects exist, which furnish a point of lessened resistance. Children are the chief sufferers from exanthemata, and endocarditis secondary to this group of diseases is practically limited in its inception to children. About puberty the endocardium may be affected owing to the great demands made on the heart, and, unfortunately, there is a considerable number of cases of congenital endocarditis of the severe grade which never attain adult life. In fact, these severer cases other than those implicating the pulmonic orifice rarely exceed the age of 12. The predisposition to occurrence in rheumatism, etc., is greater in childhood than in adult life. While malignant endocarditis is rare, when it does occur it is usually associated with rheumatism. The child completely escapes from the atheromatous ravages of advanced age, but the influence which depraved systemic conditions in the mother, such as alcoholism, metallic poisoning, etc., may exert on the endocardial structures of the fetus can only be conjectured. That bacterial endocarditis may occur in the embryo he sees no reason to deny.

80. **Inversion in Pulmonary Edema of Young Children.**—Southworth reports a case where this manipulation was quickly applied in a case of sudden pulmonary edema, and was followed immediately by marked relief. After subsequent use of stimulants the child made a rapid recovery. Since a number of cases which had occurred in the same institution and were treated in the same way as regards medication, had succumbed, Southworth is inclined to think that inversion was an active factor in producing the recovery and a life-saving measure. The child was inverted and firm, steady pressure made over the lungs, with stroking pressure over the bronchi toward the head, squeezing out a little frothy fluid.

Chicago Medical Recorder.

May 15.

82 *Hydrophobia; Prevalent in Chicago. Arthur D. Bevan.
83 *The Indications for Operation in Hypertrophy of the Prostate Gland. A. J. Ochsner.
84 Laparotomy Convalescence. Robert W. Hardon.
85 *The Diagnosis of Influenza. Bertram W. Sippy.
86 Concerning the Bacteriology of Influenza. Eldridge Wynekoop.
87 The After-Treatment of Influenza. John S. Perekhan.

82. **Hydrophobia.**—Bevan reviews the symptoms of hydrophobia and calls attention to its present prevalence. Statistics show that hydrophobia, during the last eleven years, caused 91 deaths in Chicago. He is satisfied that this does not represent the actual mortality, as some cases are not recognized or not properly reported. He thinks it is a duty to call the attention of the authorities to the prevalence of hydrophobia in the city of Chicago, and that by proper dog laws radically enforced it would be possible to eradicate the disease.

83. **Prostatic Hypertrophy.**—Ochsner formulates the indications for operative treatment in prostatic hypertrophy as follows:

1. Perineal prostatectomy is indicated in all cases of obstruction due to hypertrophy which can not be relieved for any considerable period of time by hygienic measures and medical treatment. 2. This is especially true in old men past the period of virility because in these cases it is not necessary to preserve the seminal vesicles. 3. In younger patients more persistent efforts should be employed to obtain relief with non-operative treatment and in case of operation the seminal vesicles should be preserved. 4. In the presence of stone of the bladder complicating or resulting from the obstruction due to enlargement of the prostate gland, the latter should be removed and the stone extracted through the perineal wound. 5. The contraindications to the operation are (*a*) acute infection, (*b*) advanced nephritis with or without pyelitis, (*c*) other coexisting conditions of sufficient importance to make any major operation very unsafe. 6. If possible, thorough preparatory treatment should precede the operation. This should consist in hygienic measures, rest in bed, drinking distilled water, irrigation of the bladder and the administration of non-irritating remedies which have a tendency to render the urine sterile. 7. In case the obstruction is complete and catheterization impossible because of the obstruction or on account of the resulting hemorrhage, an immediate operation is indicated. 8. The operation should be performed before patients have advanced to this condition.

He gives a tabulated list of 22 operations with their results, including cases of suprapubic and perineal prostatectomies, castration and vasectomy. From each of these operations there were a number of cases of complete cure. Of the total number 11 were cured, 7 improved and 4 died. All the patients but 2 were over 60.

85. **Diagnosis of Influenza.**—The different forms of influenzal attacks are described by Sippy, and in conclusion he says that a positive diagnosis is only possible by determining the influenza bacillus in various secretions. Aside from the bacteriologic proof, the presence of an epidemic of the disease offers important points in diagnosis, though it is probable that sporadic influenzal infection is not rare. Certain local and general manifestations of the disease have a minor value in the diagnosis, and their importance should not be underrated, as they may lead us to suspect what can be confirmed by bacteriologic proof.

Journal of Nervous and Mental Disease, New York.

May.

88 *The Geographical Distribution of Insanity in the United States. William A. White.
89 *The Changes Found in the Central Nervous System in a Case of Rabies with Acute Mental Disturbance. Charles L. Allen.
90 Psychomotor Hallucination and Double Personality in a Case of Paranoia. William Pickett.

88. **Geographical Distribution of Insanity.**—White finds that insanity is far more prevalent along the eastern coast of the United States and also on the Pacific coast than it is in most other parts, though certain of the central states, like Ohio, Illinois and Missouri, show a large percentage. The cause of this he attributes to the increase in population and the stress of modern civilized life. No hypothesis founded solely on meteorologic or topographical conditions can explain the distribution.

89. **Rabies.**—Allen reports a case with postmortem. He finds that the lesions agree in general with those previously described, but while strongly suggestive in a case with suspicious history, taken alone without the animal inoculation they would hardly justify a positive diagnosis. From a study of the

literature of the subject and this case he concludes that neither the ganglionic changes of Van Gehuchten and Nélis, nor the rabic tubercle of Babes are absolutely characteristic of human rabies, though their presence in a suspicious case may be of considerable diagnostic value. The diagnostic importance of these changes in the dog is not yet settled, but their presence is suggestive and should always be sought for.

Bulletin of the Johns Hopkins Hospital, Baltimore.
May.

91 *On the Mechanism of Absorption of Granular Materials from the Peritoneum. W. G. MacCallum.
92 *On the Occurrence of Diastolic Murmurs without Lesions of the Aortic or Pulmonary Valves. Richard C. Cabot and Edwin A. Locke.
93 The Use of the X-ray in Surgery. E. A. Codman.
94 *Traumatic Pericarditis, Endocarditis and Myocarditis. J. Hall Pleasants.
95 Giant Cell Sarcoma of Bone. Joseph C. Bloodgood.
96 Angioneurotic Erythema and Its Surgical Treatment by Neurectomy. Joseph C. Bloodgood.

91. **Absorption of Granular Materials from the Peritoneum.**—From a careful study of the conditions, which he reports in full with illustrations, MacCallum concludes that we find no support whatever for the belief that there exists a connection between the peritoneum and lymphatics, nor can we uphold the idea that the peritoneal cavity forms a part of the lymphatic system. Each of these cavities is lined with cells which retain their specificity throughout and nowhere merge into one another or into the adjacent connective tissue cells. Each develops independently, and it is only later that they come into such intimate relationship that the transfer of materials from one to the other is relatively easy. The idea of the complete specificity of the endothelial cells of the lymphatics was expressed also in a previous paper by the author, and has since been confirmed—indeed, one might say proven—by the embryological investigations of Dr. Sabin. And it does not interfere with the truth of these statements, that we find that the individual cells in any of these membranes are separable by adequate forces and that the mechanical violence of the respiratory movements is sufficient to force fine granules between them.

92. **Diastolic Murmurs Without Aortic or Pulmonary Lesions.**—The summary and conclusions of Cabot and Locke's study are given as follows:

Diastolic murmurs without organic valve lesions are not uncommon in connection with dilatation of the aorta, localized or diffused. One of the cases reported seems to be of this type. 2. When the pleura and pericardium are adherent owing to tuberculosis or other causes, diastolic murmurs are occasionally audible in the precordia. Such murmurs are notably affected by respiration and by position; they are probably due, in most cases, to suction or pulsion exerted by the heart on portions of lung adherent to the pericardium (cardio-respiratory murmurs). 3. In cases of intense anemia, when the red cells are reduced to or below 1,000,000 per cu. mm., one occasionally hears diastolic murmurs not to be explained by permanent dilatation of the aortic ring nor as "cardio-respiratory murmurs," and not due to a diastolic accentuation of a venous hum. The cause of these murmurs is obscure.

94. **Cardiac Traumatism.**—The part played by traumatism in the production of pericarditis, endocarditis and myocarditis is the subject of Pleasants' rather long article. He reports a case of his own of traumatic pericarditis with autopsy, and reviews other cases from the literature. Traumatic endocarditis is also considered, and a case reported following contusion of the chest without fracture, but with an immediate onset of cardiac symptoms with fever. The development of chronic mitral insufficiency and chronic traumatic endocarditis occurring at varying intervals after traumatism is apparently more frequent. A tabulated statement is given and a number of cases reported of both forms developing into valvular disease. Traumatic myocarditis is represented by four cases taken from the literature, and, as the condition seems rare, a synopsis of reported cases is given. The author concludes that it can hardly be doubted that myocarditis occasionally develops as the result of contusions of the chest Other effects of trauma on the heart include the alleged dislocation in a case of Stokes, which he thinks was hardly a correct diagnosis. Aneurism and cardiac neuroses are also mentioned.

Annals of Surgery, Philadelphia.
May.

97 *The Surgical Treatment of Facial Paralysis by Nerve Anastomosis. Harvey Cushing.
98 *On the Possibility of Operative Relief of Certain Forms of Facial Paralysis. Levi Jay Hammond.
99 Intracranial Neurectomy. Howard D. Collins.
100 *The Surgery of the Lower Ureter. Hugh H. Young.
101 Contribution to the Subject of Perineal Prostatectomy. Jonathan M. Wainwright.
102 *Ruptured Crucial Ligaments and Their Repair by Operation. A. W. Mayo Robson.
103 *A Case of End-to-end Anastomosis of the Popliteal Artery for Gunshot Injury. Alexander H. Ferguson.
104 The Successful Removal of a Large Enchondroma of the Chest Wall, Involving the Diaphragm. J. C. Reeve, Jr.
105 *Hepatic Syphilis from a Surgical Standpoint. Charles G. Cumston.
106 Chronic Interlobular Pancreatitis. Lewis W. Allen.
107 Tuberculosis of the Femoral, Inguinal and Iliac Lymph Nodes Secondary to Foot Wounds. Charles N. Dowd.
108 *Contribution to the Literature of Old Irreducible Dislocations of the Shoulder Joint. A. F. Jonas.
109 An Os Trigonum Detected by the Roentgen Rays. Henry P. Moseley.
110 An Aspirating Trocar. Edward H. Ochsner.
111 A New Osteoplastic Trephine. W. Barton Hopkins.

97. **Nerve Anastomosis in Facial Paralysis.**—Cushing reports and illustrates a case of nerve anastomosis of the facial to the spinal accessory similar to those reported by Ballance and Stewart, abstracted in THE JOURNAL of May 23, ¶76, p. 1474. The paralysis of the facial muscles is much less noticeable in the condition of rest since the operation, but extensive voluntary motion is only produced with simultaneous movement of the shoulders. Some independent control of special muscle groups in minor movements was regained also. Cushing remarks that the course of these impulses after an anastomosis similar to that described can only be conjectured, and it seems that there are two possible hypotheses:

1. That the cortical centers concerned in shoulder movements (trapezius) and rotation of the head (sterno-cleido-mastoid) may themselves in the course of time be educated by training to coordinate the impulses, which have been sidetracked into the motor area of the facial nerve, so as ultimately to lead to expressional movement.
2. That the cortical centers originally presiding over movements of the face continue to play a part in the co-ordinate action of these muscles, possibly influencing the higher neurones of the *N. accessorius* through the intermediation of connecting tracts in the cortex.

98. Practically the same article appeared in THE JOURNAL of March 28, title 69, p. 874.

100. See abstract in THE JOURNAL, xxxix, p. 1409.

102. **Ruptured Crucial Ligaments.**—It would appear, as Robson remarks, that a force sufficient to rupture the crucial ligaments of the knee would lead to complete disorganization of the joint, but the case here reported demonstrates not only that the crucial ligaments may be ruptured without serious damage to the joint as a whole, but that their repair by operation is both feasible and hopeful as to ultimate result.

103. **Anastomosis of the Popliteal Artery.**—The case reported by Ferguson is of interest as being the only one so far as we know of in the literature. Anastomosis was made by the invagination method. The upper end was introduced into the lower for a distance of a quarter of an inch and held there by four retention sutures of fine silk. The free edge of the lower end was sewed around the upper with a fine continuous suture of the same material. Then the temporary gauze ligatures which had been put on were removed and the blood allowed to enter the limb. Pulsation at the ankle was restored at once and the result was in every way favorable. The patient had some difficuty in straightening his limb after operation, owing to the cicatricial contraction which was removed, occasion being taken to examine the artery at the time. Pulsation was present both above and below the seat of the anastomosis.

105. **Hepatic Syphilis.**—Cumston reports several cases of hepatic syphilis operated on with good results. He disagrees with some authorities who object to operative interference in these cases. He remarks that the essential thing is that the tumor be situated not too deep in the hepatic substance so as to necessitate extensive destruction of the organism and risk the patient's life. Where the gumma is covered only by a thin layer of parenchyma resection is without danger and relatively easy.

108. See abstract in THE JOURNAL of January 10, p. 118.

American Practitioner and News, Louisville, Ky.
February 15.

112 Sarcoma, with Report of a Case. A. David Willmoth.

Denver Medical Times.

May.

113 Movable Right Kidney as a Cause of Pancreatic Diabetes, with Report of Cases Cured by Nephropexy. Sherman T. Brown.
114 Dr. William P. Munn—The Man and Friend. Henry Sewell.
115 Dr. William P. Munn, His Professional Character and His Ideals. J. N. Hall.
116 Some Remarks on Dr. Munn. Leonard Freeman.

Medical Bulletin, Philadelphia.

May.

117 Seborrhea. John V. Shoemaker.
118 An Improvement in the Local Treatment of Diseases of the Throat, Nose and Ear. E. B. Gleason.
119 Practical Experiments of Electrolysis and Its Treatment of Urethral Stricture. Robert Newman.
120 An Effective Treatment of Rheumatism. George A. Hewitt.

Medical and Surgical Monitor, Indianapolis, Ind.

May 15.

121 On the Surgery of the Hypertrophied Prostate. (To be continued.) Bransford Lewis.
122 Some Elements to Be Considered in Urinalysis. Qualitative and Quantitative Determination of Albumen and Sugar. (To be continued.) J. W. Crismond.
123 Acute Peritoneal Infections. J. C. Sexton.
124 The Use of Adrenalin Chloride in Nasal Surgery. J. L. Masters.
125 Handling of Tuberculous Sputum. Walter N. Sharp.
126 Teratology. Report of Case of Sternopagia. T. G. Smith.

Medicine, Detroit, Mich.

May.

127 A Case of Diverticulum of the Esophagus, with Autopsy. Joseph McFarland and John M. Swain.
128 The Race Problem. Charles S. Bacon.
129 Educational Influences and Opportunities of our Civil Courts from a Medical Standpoint. O. B. Will.
130 Survivals of Folk-lore in Medicine. Harriet C. B. Alexander.

Iowa Medical Journal, Des Moines.

May 15.

131 Vital Statistics: Their Value to the Public. F. I. Herriott.
132 The Diagnosis and Treatment of Ectopic Pregnancy. Palmer Findley.
133 Heart Affections and Their Relation to the Respiratory System. A. J. Burge.
134 Report of Two Interesting Cases (Appendicitis with Uterine Adhesions; Cholecystitis). E. E. Dorr.

St. Louis Courier of Medicine.

May.

135 Specimens of Extrauterine Pregnancies. Henry Schwarz.
136 Report of a Case of Spina Bifida (Meningomyelocele). W. L. Johnson. Pathological Report. Carl Fisch.
137 Congenital Aortic Stenosis. F. N. Gordan.
138 Case of Syphilitic Epiphysitis. W. L. Johnson.
139 Specimen of Ectopic Pregnancy. John Y. Brown.

The Post-Graduate, New York.

May.

140 Intravenous Infusion, Indications and Technic, with Demonstrations on the Human. Forbes Hawkes.
141 The Functional Examination of the Ear. John B. Rae.
142 Notes from the Clinics. Nasal Polypi-Asthma—Hay Fever. Bryan D. Sheedy.

Clinical Review, Chicago.

May.

143 The Albuminuria of Pregnancy. William Rittenhouse.
144 Report of a Case of Choroidal Sarcoma. J. Elliott Colburn.
145 Lectures on Gynecology. Franklin H. Martin.
146 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Memphis Medical Monthly.

May.

147 Malarial Nephritis, with Report of Case. William Britt Burns.
148 The Forceps in Obstetric Practice. I. A. McSwain.
149 Some of the Uses and Abuses of Quinin and Calomel. H. X. Richardson.
150 Some Recent Features in Surgical Technic. J. A. Crisler.
151 Report of a Case of Poisoning with a Small Dose of Quinin. M. Goltman.
152 Treatment of Purpura Hemorrhagica. Fred M. Kinsey.
153 Dipsomania. W. W. Hipolite.

Merck's Archives, Philadelphia.

May.

154 The Two Actions of Drugs. W. H. Blake.
155 Clinical Notes on a Few Cases of Tuberculosis. M. E. Chartier.
156 Calomel as a Therapeutic Agent. Fred Schreiman.
157 An Index of Diseases, Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Bjorkman.

Wisconsin Medical Journal, Milwaukee.

May.

158 Hook-worm Disease and Its Rôle Among the Diseases of America. J. A. Capps.
159 Perforation of Typhoid Ulcer. Pulmonary Tuberculosis, Uremic Coma and Pneumonia. H. A. Hare.
160 Petit Mal. Arthur J. Patek.
161 The Possibilities of Ureteral Catheterization. G. Kollscher.

Medical Times, New York.

May.

162 The Prevention of Infectious Diseases. Thaddeus A. Casey.
163 Recent Advances in Medicine. Henry Taylor.
164 Voice Production from a Laryngologist's Point of View. J. Mount Bleyer.
165 Treatment of Nervous Conditions. C. Williams.
166 Points in the Treatment of Heart Disease. M. McCrary.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 9.

1 *Therapeutic Inoculations of Bacterial Vaccines. A. E. Wright.
2 *On Exaltation of Bacterial Virulence by Passage in Vitro. E. A. Shaw.
3 Further Observations on the Reaction of Bacillus Pestis in Plague. R. Row.
4 The Use of Antitoxin in the Treatment and Prevention of Diphtheria. Robert D. Rudolf.
5 *Clinical Evidence for a Toxic Factor in Certain Diseases. James Adam.
6 Case of General Pneumococcal Infection, with Few Symptoms. George Parker.
7 Note on the Absence of B. Coli, Etc., from the Normal Oyster. R. Tanner Hewlett.
8 Acute Rheumatism and Sepsis. Joseph A. Arkwright.

1. **Bacterial Vaccines.**—Wright insists on the importance of the recognition of a negative as well as a positive phase in the immunizing process, that is to say, there is a phase of diminished as well as one of heightened resistance, with an increased base line of immunity. He finds that the inoculation of excessive doses may involve a risk of undue prolongation of the negative phase and thereby hasten the progress of the disease rather than protect the patient. This has been illustrated in some cases, he thinks, in vaccination for smallpox, where patients have been vaccinated just before the attack or during it and their resistance reduced. The inoculation of a series of doses of vaccine in cases where the inoculations were uncontrolled by the blood examinations may involve the production of a cumulative negative phase. The cumulative positive phase, which is a desideratum either in itself or as leading to the maintenance of a high base line of resistance, is achieved only when the successive doses are properly adjusted and the inoculations properly interspaced. The success of serumtherapy in diphtheria and its comparative failure in other diseases is explained by the fact that in the first case we are able to secure the elimination of all negative phase blood and are able to induce in the vicariously inoculated animals a cumulative positive phase of absolutely phenomenal dimensions. In any other disease we have not been able to secure these prerequisites. In patients who, though suffering from localized bacterial invasions, are possessed of a considerable balance of resistance power, it is possible without risk to undertake therapeutic inoculation of bacterial vaccines, provided that the results of these inoculations are controlled by subsequent blood examinations. The power of response of the individual is what the success will depend on and in a particular patient that power of response may fail us. It may also fail in special bacterial invasions. He thinks that it is most likely to be successful in simple staphylococcus infections in the young and otherwise robust. There is a prospect also of certain coli infections being thus controlled.

2. **Bacterial Virulence.**—Shaw has experimented with cholera spirillum, anthrax and typhoid bacilli to determine the increase of virulence by passage *in vitro* and finds that the minimum lethal dose of anthrax grown for fourteen generations on agar alone was more than four tubes; the minimum lethal dose of anthrax passed through fresh blood serum for fourteen generations was not more than one tube, an increase of virulence fourfold at least, a result attained in the fifth generation and not improved on in the succeeding nine generations. With cholera he finds that successive cultures beginning with a growth which had to be diluted only to the extent of one in five to insure the occurrence of no growth had ended with successive cultures, which had to be diluted to as much as 1 in 1,250 to obtain it. In case of typhoid, the series commenced with a growth which had to be diluted 1 in 250, and ended in one

which required a greater dilution than 1 in 10,000,000 to ensure no new growth, thus showing the increasing power of resistance of these micro-organisms to the bactericidal power of the blood serum used.

5. **The Toxic Factor.**—Adam calls attention to the periodicity of certain diseases, notably asthma in workingmen, which appears most frequently on Sundays and Mondays, and which he accounts for by assuming a toxin produced during the idle period of Sunday without being sufficiently worked off by active exercise. He also notes what is called the Sunday morning disease in horses, which has been particularly noticed in America, as being due to the same cause. They may have, of course, other factors which demand treatment, but the importance of preventing toxin formation by suitable hygiene and the procuring of rapid elimination is obvious.

The Lancet, London.

May 9.

9 Where Memory Sleeps. James F. Goodhart.
10 Treatment of Bubonic Plague by Yersin's Serum, with Observations on its Mode of Action. D. Louis Cairns.
11 A Case of Trans-sacral Removal of an Intussusception with Malignant Growth by a Method Unusual at Present. Arthur E. Baker.
12 *Acute Amaurosis Following Infantile Convulsions. Henry Ashby and Sydney Stephenson.
13 Foreign Body in One of the Main Divisions of the Left Bronchus; Attempted Removal by Posterior Bronchotomy Through the Pleural Cavity. J. Grant Andrew.
14 A Case of Hematosalpinx Due to Tubal Pregnancy Complicated by Torsion of the Pedicle; Operation; Recovery. Frederick J. McCann.
15 *A Note on the Serum Reaction of Tubercle, with Special Reference to the Intimate Nature of Agglutination Reactions Generally and to the Therapeutic Inoculation of the New Tuberculin. A. E. Wright.
16 *A Note on the Position of the Heart in Some Cases of Aortic Aneurism. Hugh Walsham.

12. **Acute Amaurosis After Convulsions.**—Several cases are reported by Ashby and Stephenson of amaurosis occurring in children after convulsions, and they conclude that there is a form occurring in infants and young children which is post-eclamptic and due to anesthesia of the visual centers. It usually follows convulsions due to various causes, generally severe and accompanied by coma. The amaurosis may be associated with aphasia and paresis of hemiplegic distribution; the hemiplegia may be permanent. The amaurosis itself is for the most part transient. It may be that in some cases there is a hemianopsia.

15. **Tubercle Serum Reaction.**—Wright adapts the same general principles elucidated in the paper previously noticed to the therapeutic use of antitubercle serum. Every patient who is submitted to the antituberculous inoculation with the new tuberculin ought to be regularly tested with the serum test to ascertain that he responds correctly. With such a system of test we may be successful in getting a cumulative positive phase in localized tuberculous infection and increasing the resistance. If the tests are omitted we may manage to produce by inoculation only a cumulative negative phase.

16. **Aortic Aneurism.**—Walsham notes the displacement of the heart in aortic aneurism, calling particular attention to the transverse position, which he thinks has not received sufficient attention. This transverse position of the heart he holds becomes of great diagnostic value, and he reports two cases to illustrate this point.

The Practitioner, London.

May.

17 *On Cancer of the Lips. Thornley Stoker.
18 *Excision of the Tongue for Cancer. Walter Whitehead.
19 On Cases in Which I Have Experienced Great Difficulty in the Diagnosis of Cancer of the Tongue. Henry T. Butlin.
20 *A Few Lessons from Fifty Cases of Operation for Carcinoma of the Tongue. W. H. A. Jacobson.
21 On a Series of Cases of Cancer of the Tongue. Stanley Boyd and W. H. Unwin.
22 *The Diagnosis of Epithelioma of the Mouth from Tertiary Syphilitic and Other Lesions. Jonathan Hutchinson.
23 Transhyoid Pharyngotomy. Albert Carless.
24 *The Insidiousness of Cancer of the Mouth. Edmund W. Roughton.
25 Notes upon Sarcoma of the Tongue, Based on an Analysis of Forty-four Recorded Cases. A. D. Fripp and R. H. J. Swan.
26 Inflammatory and Other Neoplasms of the Jaws Dependent on Teeth. J. G. Turner.
27 A Further Contribution to the Distribution of Cancer. D'Arcy Power.

17. **Cancer of the Lips.**—Stoker finds cancer of the lips much more abundant in men, though a few cases have occurred in women. It almost invariably occurs on the lower lip. The use of the pipe is the exciting cause in almost every case. It is rare under 40 and the position in life seems to have something to do with its existence. The well-to-do classes seldom smoke clay pipes and rarely suffer from the disease in this situation. Its progress is definite and regular if unchecked; it is always a squamous-celled epithelioma. The operation is a simple one; he objects to any special attention to cosmetic considerations, the more elaborate the operation the more likely the recurrence. The prognosis is extremely good even in severe cases if the operation is thorough.

18. **Excision of the Tongue.**—Whitehead has excised the tongue with scissors in 116 cases within the last twelve years, with only three deaths and in only one of these could the death be directly attributed to the operation. He does not favor the idea of preliminary tracheotomy and thinks that the ecraseur should be dropped from the list of recognized surgical instruments. Division of the jaw is unjustifiable in excising the tongue or even in removing the glands beneath. The preliminary ligation of the linguals is not necessary; it is much easier to secure vessels in the mouth than in the neck. He prefers for the operating table the ordinary high-backed rocking chair, which will be found in almost every house. He fastens the patient to the rocking chair with the roller towel and bandage, and the chair may be turned back, made horizontal or used at any angle. In case of any suspicion of syncope, the patient can be instantly lowered to the recumbent position. The details of the operation are described. The tongue is seized, pulled forward, and a strong ligature attached for the purpose of forward or upward traction during the operation. This controls to a large extent the main arteries and makes all subsequent operations easier. With this ligature the operator draws the tongue forward and upward to the fullest extent and commences by freely dividing the frenum by means of a pair of scissors, slipping the lower blade of the scissors under the mucous membrane to each side as far back as the interior pillar of the fauces. By closing the scissors the attachment of the mucous membrane to the jaw is severed. After dividing the anterior pillars he liberates the lateral attachments. As a rule, after dividing the frenum, a finger can be easily run under the mucous membrane and act as a guide. When these incisions are completely accomplished it will be found that nearly the whole of the tongue can be pulled out of the mouth, making the rest of the operation extra-oral, which is of great advantage. Having thus separated the tongue so far there is no absolute necessity for further using a cutting instrument; the tissues may be broken down with a blunt dissector and the arteries and nerves exposed. Nothing is easier than seizing each artery separately by forceps, snipping the distal end, and gently twisting the stump of the vessel. If it does not bleed immediately after torsion, there is practically no danger of subsequent hemorrhage. Having twisted each artery, he thinks it is desirable to place a loop of strong ligature through the under and attached part of the stump of the tongue to prevent the stump falling back when the tongue is finally removed. This may not be necessary in hospital practice, but it is of great advantage and gives the nurse confidence. The final separation may be completed by either snipping through the remaining muscular fibers, or deliberately twisting the stump until the tongue becomes completely detached. After removal of the tongue and any small vessels still bleeding twisted and when the floor of the mouth is quite dry, he thinks it a great advantage to apply a varnish to the floor of the mouth. He uses for this a varnish made by substituting for the spirit ordinarily used in the preparation of "Friar's Balsam" a saturated ethereal solution of iodoform, adding one volume in ten of turpentine. In addition to other advantages it checks capillary oozing and deadens the acute sensibility of the raw surface, enables the patient to take local nourishment almost immediately and lessens the danger of septic infection. It may be applied repeatedly during the

convalescence, the patient welcoming it. As a routine practice he would prop the patient up in bed and prevent his reclining during the first night. Next day he would be encouraged to get out of bed and sit up; and on the second day, if the weather is good, to go out of doors. Infected glands should be exposed as far as practicable, but when they can not be removed, removal of the tongue is often justifiable to relieve the discomforts and lengthen life. Whitehead reports the cases of patients who have lived more than eleven years after the operation and one of thirteen years after the neck glands had also been excised. In one case of a plumber with removal of the tongue 14 years ago, up to two years ago, when he was lost sight of, he was in good health and an accomplished public local tenor singer.

20. **Pre-Cancerous Conditions.**—In the first part of Jacobson's article the subject of pre-cancerous conditions is chiefly discussed. The tongue is a witness for itself at all times, and we have a better chance in this organ to ascertain the conditions producing malignant disease. The conditions which he notices are bald tongue, or chronic glossitis resulting in wasting and destruction of the protective papillæ, ulcers, cracks, fissures, leucoplakia, or leucoma, and old persistent glossitis with numerous sulci and chronic enlargement of the tongue. The chances of a patient with pre-cancerous conditions not having cancer are small. When we see these conditions early we should impress on the patients that they are in danger and that their speech will not be insufficient after operation, that operation in this early stage is a safe one and attended by rapid healing. The pathology is noted and cases illustrating the power of speech after extirpation of the tongue are given.

22. **Epithelioma of the Mouth.**—Hutchinson discusses the diagnosis of epithelioma of the mouth from tertiary syphilis. The difficulties are shown by the fact that in at least 30 per cent. of the patients of this class, a history of former syphilis can be obtained. In perhaps 20 per cent. epithelioma supervenes on tongues that have been the site of chronic syphilitic inflammation. In certain cases it is impossible to tell, except by microscopic examination, the nature of the growth. The therapeutic test is often fallacious. Epithelial cancer is no uniform occurrence; it varies greatly. He points out the characteristics and gives illustrations of the different types. They may simulate or cause confusion with such conditions as gummata, papilloma, leucoplakia, etc. In case of dental ulceration a hard-edged ulcer of the tongue opposite a sharp or carious tooth must always be regarded with suspicion, and it is best to excise it and treat it as a cancer or epithelioma.

24. **The Insidiousness of Oral Cancer.**—Roughton's article is mainly a report of cases where cancer progressed to the inoperable stage without producing serious discomfort or exciting sufficient attention. He thinks it remarkable that dentists and doctors should overlook the early stages of such a malignant disease. Nevertheless it often causes so slight inconvenience that the patient does not think it worth while to consult a medical man until it is too late.

Bulletin de l'Academie de Medecine, Paris.

28 (April 7.) *Le tétanos consécutif à l'emploi de la gélatine comme hémostatique. Chauffard.
29 (April 11.) Obituary of J. B. V. Laborde, M.D.
30 Cuspidors in Public Institutions. Landouzy.—Crachoirs dans les prisons, etc.
31 Volvulus congénital de l'anse sigmoide chez un enfant de deux ans et demi. Laparotomie et résection de cette anse. Guérison. J. Boeckel.
32 *De l'ablation de l'utérus et de ses annexes comme moyen curatif de l'ostéomalacie. A. Fochier.
33 (April 21.) *Recurrences of zona. P. Fabre.—Les récidives du zona.

28. **Tetanus After Hemostasis with Gelatin.**—Chauffard tabulates the details of 18 cases of fatal tetanus that are known to have occurred after injection of gelatin in the last two years. Six were reported by German writers and the others by French or Swiss physicians. The subjects were all exhausted by extensive losses of blood, and hence their resisting power was feeble. On the other hand, as Chauffard emphasizes, tetanus has not occurred in any one of the numerous cases of aneurism of the aorta in which gelatin has been injected, with possibly the exception of 2 cases cited without details in the "British Med. Journal" for 1901, II, p. 638. The vitality in case of an aneurism is not at such a low ebb as in severe hemorrhage. Lop and Murat recently observed a case of tetanus, rapidly fatal, developing four days after four injections of a 7 per 1,000 "gelatinized serum," used to arrest repeated and profuse intestinal hemorrhage in the course of a severe typhoid fever. Hirtz has also observed a similar case. In some of the fatal cases reviewed, severe local lesions developed at the point of the injection, and the pus from these lesions induced tetanus in animals. There was unmistakably an infectious symbiosis causing local gangrenous phlegmons or phlegmonous abscesses in some cases, but not in the majority. Chauffard sterilizes his gelatin at 115 C. for half an hour and has never had a mishap of any kind with it. He urges that preparations of gelatin for such uses should be surrounded with all the restrictions and precautions imposed on the manufacture of the curative serums. Lancereaux stated in the following discussion that in more than a thousand injections made by himself or his pupils there has never been any local accident beyond an occasional slight tumefaction of the part without suppuration, and no general disturbance except possibly fever to 40 C., which never lasted more than twelve hours. Pouchet has been testing gelatin in order to determine whether exposure to high temperatures reduces its coagulating power. He found that long sterilization even to 120 or 130 C., after which the gelatin did not solidify on cooling, did not affect the coagulating power of the gelatin when injected. He suggests that the coagulating power may be connected with the lime in the gelatin, which is not modified by the heat. Gley accepts this view and has found that gelatin deprived of its lime has no coagulating influence. The logical conclusion is that the lime alone might prove as effectual a hemostatic as the gelatin, and he proposes a solution of calcium chlorid for the purpose, in place of the gelatin, as he is convinced that the coagulating properties are due exclusively to the acidity of the fluid and the proportion of lime. Chantemesse has long abandoned gelatin, he asserted, in favor of calcium chlorid, which he administers by the mouth in case of intestinal hemorrhage in typhoid fever. As a preventive measure he gives 5 c.c. of calcium chlorid to all his typhoid patients, to be dissolved in sweetened water and taken in the course of eight to ten days. The results have been excellent, as also in case of erythem consecutive to the use of diphtheria antitoxin. The Académie appointed a committee to report on the subject of gelatin in hemostasis after further study of the matter.

32. **Cure of Osteomalacia by Hysterectomy.**—Fochier relates a case of rapidly progressive osteomalacia very much aggravated by a four months' pregnancy. The patient promptly recovered after ablation of uterus and adnexa. The pains vanished the same day. He witnessed also recovery in another case after a Porro operation.

33. **Recurring Zona.**—Fabre has observed 4 cases of relapsing zona in an experience of 207 cases. In one patient zona of the neck recurred eight times in the course of four years, four times on the right side and accompanied by an angina on two occasions. He calls this "repeating zona"—"à répétition"—and has observed a number of cases of this form, the zona returning at the same place after more or less regular intervals not longer than twelve to fifteen months. He has also seen cases of recurrence of the zona at the same spot a few weeks after the first eruption. He suggests the name "periodical zona" for that form of zoster which includes herpes appearing at regular intervals and alternating or coinciding with menstruation or hemorrhoidal flux. This category does not include labial, nasal, genital or vulvar herpes although, when unilateral, this has marked analogy with zona.

Presse Medicale, Paris.

34 (No. 38.) L'adipose douloureuse. Maladie de Dercum. G. Ballet.
35 Diagnosis of Paralysis of Ocular Muscles. F. Terrien.—Diagnostic des paralysies des muscles de l'oeil.
36 (No. 29.) Texte de la declaration obligatoire de la phthisie sous Ferdinand VI, roi d'Espagne, 1751. L. Landouzy. Mentioned in The Journal, p. 1229.
37 La thérapeutique physique. Un institut français à Argelés (Pyrénées). E. De Lavarenne.

38 *Traitement de la névralgie du trigeminus. E. Zimmern.
39 (No. 30.) *La cure esthétique des hernies inguinales chez la femme. H. Morestin.
40 Infiltration epithéliale expérimentale. L. Bruandet.
41 L'hermophényl dans les infections graves. J. Jarricot.
42 (No. 31.) Les honoraires d'un chirurgien d'autrefois, 1703. E. De Lavarenne.
43 The Enema in History and Art. P. Desfosses and A. Martinet. —Le lavement.
44 (No. 32.) Les relations internationales et la Médecine. E. De Lavarenne.
45 Diagnostic et traitement urétroscopique des urétrites. G. Luys.
46 Technique de l'autopsie. M. Letulle.
47 Le Glycogène comme médicament. J. de Nittis.
48 Technique pour petite injection médicamenteuse sous-cutanée (1 à 20 gm.). F. Jayle. Large chart for ready reference.

38. **Treatment of Trifacial Neuralgia.**—In case the neuralgia proves rebellious to the usual methods, including opium, Zimmern institutes a course of electric treatment kept up for three months. Only when this proves ineffectual does he propose surgical intervention, and he reserves gasserectomy for the last resort, and only on threats of suicide. His method of applying the electricity in the severer forms is by means of a mask of cotton molded to the side of the face affected, with a continuous current of 3 to 12 milliamperes, each seance lasting an hour or more. The negative electrode is applied to the back or back of the neck. The half mask is fastened to the head with a rubber band or strip of gauze, and as the patient has nothing to hold, the seance is not fatiguing. It is repeated every day at first, preferably at the same hour. There may be a slight improvement by the end of a week, but usually a month must elapse before the patient realizes that he is being much benefited. The pain may be even increased at the first sittings. After three months the great benefit is apparent and the electric treatment can be suspended, but the patients are instructed to return for a week of seances once a month until the pains become insignificant. Even when the neuralgia recurs after such a course there is no comparison between the intensity of the pains before and after. In an extensive experience at the Charcot clinic Zimmern has encountered only two cases of severe trifacial neuralgia which resisted this course of treatment.

39. **Esthetic Treatment of Inguinal Hernia in Women.**—Morestin sometimes operates for inguinal hernia in women through a vertical incision on the median line of the mons veneris. He describes four cases in detail, with illustrations, to demonstrate the facility with which it is possible through and from this incision to suppress the sac, reform the wall and yet leave no visible scar. He thinks the method is equally applicable to femoral hernia, but has not yet tried in this class. The adipose tissue is easily detached and stretched and the soft parts yield to traction until the incision can be brought nearly over the inguinal ring. Small congenital inguinal hernia is the most appropriate subject for this form of herniotomy, but it is applicable to a certain number of simple and easily reduced hernias in young women or girls, and can be done as thoroughly as by the usual technic while the scar is concealed by the hair.

Semaine Medicale, Paris.

49 (No. 15.) *The Slow Pulse in Icterus, etc. L. Bard (Geneva). —Le ralentissement du pouls dans l'ictère: bradycardie ou rhythme couplé?
50 Letter from America. F. Munch.—L'angiotripsie et la cauterisation combinées comme méthode d'hemostase.
51 Indican in Urine as Aid in Determining Condition of Gastric Chemistry. J. Carles (Bordeaux).—La recherche de l'indican dans les urines comme moyen de diagnostic de l'état du chimisme stomacal.
52 Letter from America. F. Munch.—La diphthérie à Chicago.
53 (No. 16.) *La projection de la retine sur la corticalité calcarine. S. E. Henschen.
54 (No. 17.) *Comparative Mortality of French and German Armies. A. Villaret.—La mortalité comparée des armées française et allemande de 1888 à 1900.
55 Letter from America. F. Munch.—L'anesthésie chirurgicale par l'injection intratronculaire de cocaine.

49. **Bradycardia or Couple Rhythm?**—Bard has proclaimed for some time that the supposed bradycardia during convalescence from an acute disease is in reality merely one form of couple rhythm. He analyzes the characteristics of the pulse in two cases of catarrhal icterus, showing that in each it simulated bradycardia but was in fact a couple rhythm. He ascribes it to a toxic action on the medulla by the elements of the bile, this action favored undoubtedly by some special personal susceptibility. The couple rhythm in these cases is like the "digitalic couple rhythm" and like that due to some simple functional nervous disturbance. He reviews the mechanism of the heart action as determined by the latest researches but rejects the theory of the "Herzblock" of the Germans as the explanation of true couple rhythm, and of "extrasystoles" as explaining the bigeminal pulse. He refers the irregularities to the medulla and not to the heart itself. The couple rhythm deserves closer study than hitherto bestowed, as it occurs in the majority of cases still accepted as true bradycardia. Every slowing of the pulse, transient or permanent should suggest couple rhythm, and it may occur with a pulse of normal frequency, thus masking pronounced tachycardia. Couple rhythm is usually associated with slightly tachycardiac heart, a pulse of 50 corresponding to a heart beat of 100. In differentiating true bradycardia the venous pulse is of great assistance, and also the behavior of the pulse on change of position. In case of toxic couple rhythm of slightly or purely functional character, a change of position or even an emotion may abruptly double or nearly double the pulse beat. This transition from one rhythm to another is seldom observed in the sphygmograph. Auscultation of the heart requires practice to render it of much value in the differentiation. The usual character is in fact a threefold rhythm—"à 3 temps"—as he describes in detail, reviewing the conditions with which it might be confounded. It is difficult to determine the prognosis, as attacks of couple rhythm, apparently of neuropathic origin, may be followed several years later by general paralysis, as has happened in his experience. The characteristics of the rhythm are more important than its fixity or variability, or even the concomitant symptoms. Generally speaking, the prognosis is grave in couple rhythm of organic origin and less so in the toxic or functional cases. But we must not forget that it is a bulbar symptom, and that in this department of the nervous system even the merely functional troubles are not exempt from danger.

53. **Projection of Retina on Cortex.**—Henschen contends that the value of negative cases of hemianopsia has been overlooked. The entire lateral surface of the occipital lobes and of the angular gyrus may be destroyed without this disturbance of vision. Lesions in the calcarine region alone induce hemianopsia. He illustrates several typical cases personally observed, showing the exact correspondence between the form of hemianopsia discovered and the site of a lesion found in the calcarine region. In one case the lesion was correctly diagnosed during life and the lesion discovered exactly at the point designated. The upper lip always corresponds to the superior quadrant of the retina and the lower lip to the inferior quadrant. The bottom of the calcarine fissure, therefore, evidently corresponds to the horizontal zone of the retina. A lesion in the depths of the sulcus hence would induce a constant horizontal scotoma, and this assumption was realized in a case recently observed. The homonymous scotoma in the horizontal meridian noted during life was explained by a circumscribed lesion discovered at the autopsy at the bottom of the calcarine fissure, a loss of substance consecutive to softening. The arguments and 23 cuts establish beyond question the existence of a cortical projection of the retina.

54. **Comparison of Mortality in German and French Armies.**—Villaret's sixteen charts embrace a period of twelve years and are computed for troops under approximately like conditions. The total mortality was 5.9 per 1,000 for the French and 2.7 per 1,000 for the Germans. The French mortality from grippe was eleven times higher than the German; from typhoid fever more than six times; from measles thirteen, scarlet fever eight, and diphtheria three times; from dysentery ten times and from pulmonary tuberculosis more than twice as high; from tuberculosis of other organs five times; from pneumonia twice, and from pleurisy once and a half. On the other hand, the German mortality from meningitis was a third higher than the French, and also from peritonitis, while the suicides were twice as numerous—.47 against .27 per 1,000—and deaths from accidents numbered .34 against .27 per 1,000. Villaret analyzes

the conditions minutely and concludes that there is no inherent reason for the difference between the mortality of the two armies. It is due, among other things, to the more careful selection of recruits. The examiners are not allowed to pass on a larger number than 150 in one day. The family antecedents of the recruits are investigated and the recruit known to have a hereditary burden is submitted to minute and prolonged observation before final acceptance. He concludes with the remark that the population is beginning to feel the beneficial effects of the three great social laws (insurance against sickness, against old age and against industrial accidents) which cost the German empire at the rate of $250,000 a day. Compulsory military service has been organized in Germany since 1814, while it is of comparatively recent date in France, 1870. For all these reasons the general standard of health and hygiene in the army is at a high level in Germany, but there is no intrinsic reason why other countries can not reach the same by appropriate hygienic and prophylactic measures.

Berliner Klin. Wochenschrift.

56 (XXIV, 14.) Diagnostic Value of Urinary Pigment. G. Klemperer.—Die Messung des Harnfarbstoffs und ihre diagnostischen Verwerthbarkeit.
57 Atony of Stomach and Its Relation to the "Splashing Sound" and to Gastrectasia. P. Cohnheim.—Ueber Atonie des Magens und ihre Beziehungen zum Plätschergeräusch und zur Gastrectasie.
58 (No. 15.) Peculiar Vascular Murmur in Lung. P. K. Pel (Amsterdam).—Ein seltenes Gefässgeräusch in der Lunge.
59 Ueber Oesophagotomie, zugleich ein Beitrag zur Behandlung der periosophagealen Phlegmone. Peis-Leusden.
60 Conservative, Non-Operative Treatment of Female Affections. A. Pinkuss.—Zur conservativen, nicht operativen Behandlung von Frauenleiden. (Commenced in No. 13.)
61 Determination and Legal Status, etc., of Hermaphrodites. T. Landau.—Ueber Hermaphroditen nebst einigen Bemerkungen über die. Erkenntnis und die rechtliche Stellung dieser Individuen.
62 (No. 16.) Study of Arrow Poisons. Fifth article. L. Brieger and G. Diesselhorst.—Untersuchungen über Pfeilgifte aus Deutsch-Ostafrika.
63 Processes in Cure of Pneumonia. F. O. Huber.—Ueber einige Vorgänge bei der Heilung der Pneumonie.
64 Mesotan, an External Remedy for Rheumatism. K. Liepelt.—Mesotan, ein äusserliches Antirheumatikum.
65 Can Segregation of Urine Take Place of Catheterization of Ureters? J. Cohn.—Kann der Harnleiterkatheterismus durch Harnsegregation ersetzt worden?
66 Reform in Training, etc., of Nurses. Salzwedel.—Aerztliche Forderungen zu Reforme des Krankenpflegewesens. (Commenced in No. 14.)
67 The Lymph Glands. W. Sukiennikow.—Topographische Anatomie der bronchialen und trachealen Lymphdrüsen. (Commenced in No. 14.)

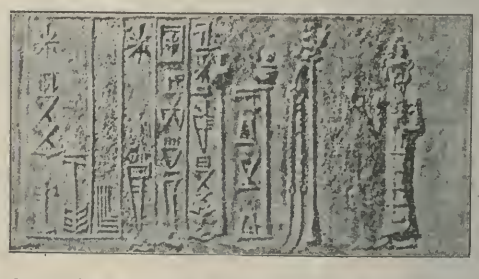
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68 (XXX, 9.) Simplification of Suture in Applying Murphy Button. Sprengel.—Zur Vereinfachung der Naht bei Anwendung des Murphyknopfes.
69 (No. 10.) *Einiges über die subkutanen Prothesen nach Gersuny. S. Kofmann.
70 (No. 11.) *Single Phases of Commencing Narcosis. C. Hofmann.—Ueber die einzelnen Phasen der Betäubung zu Beginn der Narkose.
71 (No. 12.) Chemistry of Oxygen-Chloroform Narcosis. Roth.—Zur Chemie der Sauerstoff-Chloroformnarkose.
72 (No. 13.) Plastic Operation on Face: Drawing the Skin Over While the Soft Parts of Nose Are Temporarily Turned Back. H. Schloffer.—Gesichtsplastik mit Verschiebung der Gesichtshaut unter temporärer Aufklappung der weichen Nase.
73 (No. 14.) Zur Ether-Chloroform-Mischnarkose. H. Braun.
74 (No. 15.) *Legal Status of Surgeon in Abraham's Time. Oefele (Bad Neuenahr).—Rechtliche Stellung des Chirurgen zu Abraham's Zeit (2250 V. C.).
75 (No. 16.) *Iodoform Filling for Bones. Mosetig-Moorhof (Vienna).—Die Iodoformknochenplombe.
76 *Zur operativen Behandlung der Peroneus-Lähmung. C. Deutschländer (Hamburg).
77 (No. 17.) *Fixation of Wandering Kidney in Relatively Normal Position. G. Ruggi (Modena).—Rationelle Methode zur Fixierung der Wanderniere in einer relativ normalen Position.
78 *Closure of Abdominal Wounds and Hernia by Buried Metal Plates. Z. Isnardi (Turin).—Verschliessung von Bauchwunden und Bruchpforten durch versenkte Metallplatten.
79 (No. 18.) Ueber die Rhinosklerompolypen und über eine Experimentalmethode der Diagnostik des Rhinoskleroms. A. D. Pawlawsky (Kiev).
80 Automatic Syringe for Infiltration Anesthesia. Siegfried Spiegel (Mosetig-Moorhof's clinic, Vienna).—Zur Technik der Infiltrations-Anesthesie. Eine selbstwirkende Injektionsspritze.

69. Warning Against Paraffin Prothesis in Gynecology.—Kofmann comments on the enthusiasm with which he introduced this method of correcting deformities into Russia and his constant success until he enlarged its sphere to include gynecologic affections. His first case of the latter was a middle-aged woman who had suffered for years from granular endometritis and mild prolapse. She was treated by abrasio mucosæ, and two weeks later, for the prolapse of the vagina, by injection of paraffin according to Gersuny's directions. After two syringefuls of 10 gm. each had been injected the patient suddenly began to cough and succumbed in twenty-four hours to embolism of the lungs. This use of paraffin Kofmann believes is not adapted to gynecology. It should never be employed in a very vascular region. Since this occurrence he has followed Eckstein's directions, using paraffin with a melting point not less than 57 to 60 C., and in a syringe protected against cooling. The tips must be short and kept warm. He adds that Gersuny's suggestion to insert the tip first and aspirate must not be forgotten, as a trace of blood shows that some vessel has been invaded.

70. Separate Phases of Commencing Narcosis.—Hofmann states that the benumbing effect of the first whiffs of ether is not the prerogative of ether alone but is observed likewise with chloroform and mixed narcosis. In every narcosis there is evidently a preliminary phase in which the sensation of pain is deadened while consciousness is still retained. It occurs in every case, but is more or less transient. Sudeck calls it the "Ether Rausch," and he and others have been able to perform even protracted operations with it, repeatedly bringing the patient into this stage without allowing him to pass beyond it into actual narcosis. Hofmann suggests the term "early narcosis" for it to distinguish it from the later, profound narcosis. The two are separated by the period of agitation. The phase of early narcosis may be prolonged by further administration of the anesthetic into what Kronacher calls "half narcosis," or into the profound stage. The "Ether Rausch" is, therefore, not an innovation, but merely the effort to utilize the phase which every anesthetist produces with the first whiffs of any anesthetic. Hofmann himself prefers for this early narcosis the ether drop method with or without previous administration of morphin. With a few c.c. of ether he can banish the sensation of pain in one or two minutes. The patients feel and hear everything, but suffer no pain.

74. Legal Status of Surgeon in Abraham's Time.—Oefele is a student of the cuneiform language of ancient Babylonia, and regrets that so little attempt has been made by the legal and medical professions to delve in the cuneiform records stored in such profusion in the British museum and elsewhere. Almost all that is known about them is what the theologians have published, but the code of 282 laws promulgated by King Hammurabi, a contemporary of Abraham, was the basis of all international and national laws then and for thousands of years thereafter, as the Roman code is accepted to-day. A



copy of the entire code was found in the excavations at Susa. The laws of Moses were evidently based on it, but Moses ignored medicine and surgery in his compilation, while eleven of the paragraphs in the Hammurabi code referred to them. The standing of the surgeon before the law more than four thousand years ago is thus presented to us. The seal of the surgeon Urlugaledin has been preserved, and depicts the god Adar and next to the god the surgeon's instrument, a peculiar whip for scarifying and vessels for cupping. The word for this instrument may be translated "copper or bronze scorpion awls" and the seal shows the copper instruments tied to the end of the two whip lashes. It must have required considerable skill to manipulate the instrument properly. This copper instrument was also used to remove cataract. About 1,500

years later the cuneiform word used for the surgeon was "master of the lancet," but his instrument was described then as resembling more a pointed finger nail, and thus differs from the "scorpion awl." The code also throws light on the social position of the surgeon as it stipulates that the architect of a building or builder of a ship receives a fee for his services, but the surgeon is paid like the tailor, carpenter or potter for his work. The code establishes the remuneration for removing a cataract with the "scorpion awl" as 10 sekels when the subject is a freeman, 5 if a freedman and 2 for a slave. A sekel was about 25 cents. If the subject dies after the surgeon has applied the "scorpion awl" or the eye is lost after he has removed a cataract, if a free man, the surgeon's hands shall be cut off; if a slave, the surgeon must replace slave for slave. If the slave's eye is lost the surgeon shall pay half the price of the slave, and if a cow or ass dies after he has treated it with the "scorpion awl" he shall pay one-fourth its value. Oefele remarks that these extreme penalties may possibly be due to the fact that the ancient Babylonians believed that good and bad fortune depended on the stars, and that the surgeon, by operating on lucky days, could ensure success. The calendar expressly stated that the seventh and its multiples were unlucky days. The failure of an operation was, therefore, due either to the surgeon's lack of skill or to his neglect of the astrologic influences.

75. **Filling for Cavities in Bones.**—Mosetig-Moorhof has plugged the cavity left in the bone after removal of a lesion into sound tissue in 120 cases, and the filling was never expelled while the foreign substance was always perfectly tolerated. Every case healed without a fistula. Two patients with necrosis of the thigh bone were able to leave the hospital with a perfectly healed wound in three weeks. Radioscopy has shown that the filling is gradually substituted by neoformation of the bone exactly filling the cavity without leaving a trace of it by the end of a year, as he shows by radiograms of an instructive case. The filling is, therefore, merely temporary. It supports Nature in her horror vacui and serves as a stopgap until the bone can form again. He has found it very important to apply the filling with as careful asepsis and drying out the cavity as a dentist uses in filling a tooth. He then pours into the cavity a semisolid mixture of 60 parts iodoform in 40 parts each of spermaceti and sesame oil. The ingredients are heated together to 80 C. for fifteen minutes and then allowed to cool while the vessel is being constantly shaken in order to spread the iodoform evenly through the mass. When wanted to use it must be rewarmed to about 60 C. and well shaken. It is then slowly poured into the cavity until it is filled to the brim. After waiting a few minutes for it to harden, the flap of soft parts is sutured in place, leaving the fistula opening for drainage or a strip of rubber tissue. There is no bleeding nor secretion from a cavity thus filled. The method is applicable for cavities left from chronic osteomyelitis, necrosis, abscesses or cysts in the bones and carious foci. It is also a valuable aid in carious processes in a joint, and especially in fungous lesions in the joints. He thinks that the latter should be treated surgically at once on account of the danger of general infection from the focus. Any disturbance from resection of the bone can be obviated with this iodoform filling. He makes a practice of treating these lesions in children by removing the cartilage of the joint with the thinnest possible slice of bone, and extirpates most thoroughly the entire capsule and the fungous degenerated neighboring tissues in the soft parts. He is careful also to chisel out all isolated foci, leaving a cone-shaped cavity and filling the defect with the iodoform mixture. The results have been excellent. Growth proceeds undisturbed as the epiphysis cartilage is nowhere injured. Resections in the ankle, wrist and hip joints can be followed by applying this filling to the cavity left, although it is not properly a cavity in a bone. In case of extensive defect in the soft parts it is possible sometimes that part of the free surface of the filling is cast off. But even in this event the substitution of bone for the filling in the depths proceeds undisturbed.

76. **Operative Treatment of Paralysis of Peroneus.**—Deutschlaender's method is distinguished by the facts that the paralyzed tendons are transplanted into muscles innervated by the intact tibialis, and the transplantation is done on both sides of the foot. The necessity for symmetrical treatment has not been sufficiently regarded hitherto, he thinks. The tendons are crossed over the malleolus before being transplanted, which affords a firm support for them and also gives the tibialis a stronger hold for supination and the extensor for pronation. Another advantage is that the fibers of the tendons run obliquely to the axis of traction and are thus less liable to stretch. The stumps of the tibialis anticus muscle are sutured to the tendons at the point where they cross, which promotes dorsal flexion. It is even possible that active flexion may be regained as even much paralyzed muscles are liable to have their function restored when placed under sufficient tension. The various steps of the simple operation are illustrated.

77. **Fixation of Wandering Kidney.**—Ruggi first slits the fibrous capsule after exposing the kidney through a lumbar-costal incision. The capsule is then detached, and each half is seized with forceps and twisted with three or four turns of the forceps. Catgut is then tied around the base of the twist on each side, and the ends of the thread are drawn out through an intercostal space and tied, after the kidney has been drawn up into its normal position by traction on these threads. He has found by tests on the cadaver that these twists will bear a strain of 800 to 1,200 gm. By this technic the kidney is brought under the shelter of the ribs while its anatomic structure is not interfered with in the least.

78. **Buried Metal Plates for Abdominal Wounds and Hernias.**—Witzel and Goepel recommended in 1900 to use silver wire netting to close abdominal wounds. In 1890 Trendelenburg reported a case in which he had inserted a disc of bone for the purpose. The same year Isnardi commenced using thin metal plates and has now an experience of 50 cases of hernia thus treated, including some children. His technic differs from that of all the others as he places the plates directly on the peritoneum. Adhesions soon form and the plate becomes soldered to the peritoneum and moves with it. In a case of umbilical hernia and in one of hernia after appendicectomy, pregnancy and delivery followed without disturbances of any kind or discomfort from the buried plate. He uses a very thin round or oval perforated plate of flexible metal with a rounded, raised, smooth edge. It is wider than the hernial opening, and is inserted sideways as a button is worked into a button hole. The peritoneum is flattened by the plate and does not grow like a funnel into the relics of the hernial opening. It also prevents pressure on the cicatrix from the intestines. It is tolerated by the tissues without appreciable reaction and does not hook into them. He always concludes by suturing with wire, which practice he has been following for five years, using wire for all buried sutures and ligatures of vessels, and for laparotomies, etc. At the autopsy of a child who had been operated on with the plate for a large inguinal hernia and died from measles two years later, the plate was found solidly fastened to the peritoneum.

Therapeutische Monatshefte, Berlin.

81 (XVII, 2.) *Convenient Form of Quinin for Subcutaneous Use. Aufrecht (Magdeburg).—Eine bequemere subkutane Anwendungsweise des Chinins.

82 Camphor During Withdrawal of Morphin. A. Erlenmeyer.—Die Wirkung des Kampfers in der Abstinenzperiode der Morphium-Entziehung.

83 Zur Behandlung des Ileus. A. Schulze.

84 Ueber Pyelitis und Pyelonephritis auf Grund von Gonorrhoe. B. Marcuse.

85 Beitrag zur Behandlung der Lungen-Tuberkulose. J. Margoniner.

86 Franzensbad Waters in Gynecologic Affections. Nenadovics.—Zur wissenschaftlichen Verordnung der Franzensbader Moorbäder bei Frauenkrankheiten.

87 The Cold Sulphur Waters of Preston, Canada, and the Thermal Sulphur Waters of Landeck. Ostrowicz.—Die kalten Schwefelwässer von Preston, etc.

88 Mineral Water Soaps in Cutaneous Affections. Bardach.—Quellsalzseifen bei Hautkrankheiten.

89 Carbolic Acid, Lysol and Lysoform. F. Nagelschmidt.—Karbolsäure, Lysol und Lysoform.

90 Plaster Bandages for Enteroptosis. W. N. Clemm.—Ueber das A. Rosesche Verfahren Eingeweidesenkungen mit Heftpflasterverbänden zu behandeln.

91 *Prophylaxis of Carcinoma. H. Mohr.—Die Prophylaxe des Karzinoms, ein Ueberblick über den augenblicklichen Stand der Frage.
92 (No. 3.) Diuretic Action of Boric Acid. O. Liebreich.—Ueber die diur. Wirkung der Borsäure.
93 *Tests of Borax, Salt, Acetic Acid, etc., on Frog Skin. T. A. Maass.—Ueber die Einwirkung von Borax, Borsäure sowie von Kochsalz, Essigsäure, Weinsäure, Zitronensäure und Natriumkarbonat auf die lebende Froschhaut.
94 *Irrigation of Biliary Passages for Diagnostic and Therapeutic Purposes. F. Kuhn (Kassel).—Durchspülung der Gallengänge zu diagn. und therap. Zwecke.
95 Improved Rib Cutter. Aufrecht.—Eine Verbesserung der Rippenresektionsscheere.
96 Comparative Study of Gaultheria Oil and Mesotan. Dreser.—Pharmakologische Bemerkungen über einige Salizylsäureester.
97 Die Erfolge des Diphtherie-Heilserums. Lichtwitz, Jr.
98 Further Successes of Cancroin in Cancer. A. Adamkiewicz (Vienna).—Bericht über weitere Erfolge des Cancroin beim Krebs des Gesichtes, der Speiseröhre, des Mageus, des Mastdarmes, der Gebärmutter, der Brustdrüse und der Netzhaut. (Commenced in No. 2.)
99 *Harmlessness of Boric Acid. O. Liebreich.—Ein neuer Beweis für die Unschädlichkeit der Borsäure.
100 Holder for Murphy Button. M. Scheuer (Richmond, Cape).—Handhabe f. M.-Knopf.
101 Improved Curved Trocar for Hydrops, etc. E. Müller (Hagen i. Westfalen).—Modifizierter gekrümmter Trokart für Hydrops, Anasarka und Empyema des Thorax.
102 (No. 4.) Das Paraffin als subkutane Prothese. Wendel. General review.
103 *Zur endovenösen Applikation der Medikamente. F. Mendel.
104 *Electric Light Treatment of Certain Affections of Air Passages. W. Freudenthal (New York).—Ueber die Anwendung des elektrischen Lichts bei einigen Erkrankungen der Luftwege.
105 Ueber die Bedeutung der Syphilis in der Pathogenese der Tabes. W. Friedländer (Berlin).
106 Death After Injection of Diphtheria Antitoxin. W. Gerlach (Poltawa).—Tod nach einer Antidiphtherie Seruminjektion.
107 Application of Camphor During Withdrawal of Morphin. J. Hofmann (Cologne).—Ueber die Anwendung des Kampfers bei Morphiumentziehung.
108 Alte Bekannte. H. Naegeli-Akerblom. Historical.
109 Ichthyol Plaster as Substitute for Ordinary Adhesive Plaster. M. Eberson (Tarnov).—Ichthyolpflaster als Ersatz für das englische Pflaster.

81. Improved Technic for Subcutaneous Injection of Quinin.—Aufrecht has long advocated quinin in the treatment of croupous pneumonia and puerperal infection. It is not a specific, but it seems to counteract the injurious action of the bacterial products in the blood and have a generally favorable influence on the course of the affection. The mortality from croupous pneumonia had ranged from 13 to 24.9 per cent. until this quinin treatment was instituted, and since then it has never been over 10, and one year as low as 5 per cent. in a total of 382 cases. The improvement in the technic which he now recommends, as already mentioned in THE JOURNAL, p. 1394, is the addition of urethane, a mild sedative, which renders the quinin much more soluble. Without it the hydrochlorate requires 34 times its volume of water, but with .25 gm. urethane to .5 gm. quinin hydrochlorate water to make only 5 gm. is all that is needed. This mixture keeps for weeks if not exposed to severe cold, and in any event redissolves on heating. He injects it in the side of the abdomen, repeating it once or twice in twenty-four hours for eight days. His experience indicates that the unpleasant by-effects of quinin are less intense than when it is given by the mouth.

91. Prophylaxis of Cancer.—Mohr urges that more attention should be paid to the precursors of carcinoma, and the transitional phenomena.

93. Tests of Borax, Etc., on Frogs.—The experimental research described shows that salt and vinegar were much more harmful for the skin of the living frog than borax or boric acid.

94. Irrigation of Biliary Passages for Diagnostic and Therapeutic Purposes.—Kuhn's experience with 59 patients enables him to cordially recommend the practice of thorough rinsing of the biliary passages into the intestine during and after operation. The flow of water sweeps out hidden calculi and by distending the walls, massages the entire route. A fluid can be used that has a dissolving tendency, Carlsbad water or eunatrol, for instance, and a direct therapeutic effect thus be induced. He believes that recovery is prompter and more complete when the gall bladder is not removed.

99. Harmlessness of Boric Acid.—Liebreich contributes several arguments in favor of the harmlessness of boric acid.

103. Intravenous Medication.—Mendel attributes to Landerer and his cinnamic acid treatment of tuberculosis, 1888, the revival of the intravenous method of medication. Mendel has himself had excellent results from intravenous administration of arsenic in form of sodium cacodylate or the preparation of arsenic known as atoxyl. The general nutrition and metabolism were improved and the effects were particularly striking in tuberculosis, anemia and in chlorotic girls. He reports actually brilliant results from it in 3 cases of exophthalmic goiter. By the end of six to eight weeks the exophthalmus, struma and palpitations had diminished to such an extent that the patients considered themselves cured. In 9 cases of tuberculosis, 3 in the early stages were cured and the others very much improved. The tuberculous process was arrested, or at least materially retarded. In a case of disfiguring chloasma of the forehead, the increased circulation in the skin under the influence of the arsenic, resulted in the rapid absorption of the pigmentation. He has found it also extremely effective in the disturbances due to the natural or artificial menopause. He treated 10 cases of tuberculosis by a combination of intravenous injection of 1/10 mg. of tuberculin and arsenic in the form of atoxyl. The general reaction to tuberculin by this route seemed to be less severe, but the local reaction was more intense. He claims that the benefits derived commend it unhesitatingly for further trials. He found the intravenous technic free from danger or pain, and reports that 20 cases of syphilis were rapidly cured by intravenous injections of the form of mercury known as sublamin, which is peculiarly mild in its by-effects, never causing stomatitis nor other troubles in his experience, while the therapeutic effect was rapid and energetic.

104. Electric Light Treatment of Upper-Air Passages.—Freudenthal reviews his favorable experience with electric light in treatment of laryngeal tuberculosis, hay fever, etc.

Therapie der Gegenwart, Berlin.

110 (No. 4.) Ueber die diagnostische Bedeutung und Behandlung functioneller Myopathien. O. Rosenbach (Berlin).
111 *Experience with Boric Acid in Obesity Cures. K. Lenz (Berlin).—Ueber Erfahrungen bei Enfettungskuren mit Borsäure.
112 After-Treatment of Pleuritic Exudates. D. Rothschild (Bad Sodern a. T.).—Zur Nachbehandlung pleur. Exsudate.
113 Zur Tuberkulosefrage. F. Klemperer. General review.
114 Study of Results of Operative Treatment of Chronic Nephritis. G. Klemperer. General review.—Heilung der chron. Nierenentzündung durch op. Behandlung?
115 Early Operation in Appendicitis. Schultz (Friedenau).—Beitrag zur Frühoperation bei App. acuta.

111. Boric Acid in Obesity Cures.—Lenz noticed unpleasant symptoms in some cases but none in others, and recommends tentative use of this means of reducing obesity on account of its convenience and efficacy in certain cases. He begins with small doses and increases to 1.5 to 2 gm. of boric acid a day, dissolved in hot water, in three portions during the day. One of his 6 patients gained 9 pounds in eleven weeks, with no restrictions as to diet.

Riforma Medica, Palermo.

116 (No. 8.) Rhythmic Jerking of the Head. M. Bucco.—Le scosse ritmiche del capo nell' ipertensione con arteriosclerosi.
117 Contributo alla patologia del diverticolo di Meckel. G. Bendandi.
118 *Functions of Hypophysis. D. Pirrone.—Contributo sperimentale allo studio della funzione dell'ipofisi. (Commenced in No. 7.)
119 Considerazioni cliniche intorno a 2 casi di spondilite tubercolare. G. Morvano.
120 (No. 9.) Case of Hysteric Fever. G. B. Ughetti.—La febbre isterica.
121 Surgery of Neoplasms in Bladder. G. Bendandi.—Contributo alla cura chirurgica delle eteroplasie dell' urocisti.
122 Case of Febrile Whooping Cough. A. Cesarani (Buenos Ayres).—Tosse convulsa febbrile. Tipo intermittente quotidiano.
123 (No. 10.) *Cardiotoxic Serum. L. Ferrannini.—Un siero cardiotossico.
124 Infantile Cardiopathy of Left Heart. L. Concetti.—Sulla etiologia delle cardiopatie infantili del cuore.
125 Surgery of Abdominal Stab Wounds. V. Martinelli.—Stato attuale della chirurgia addominale per ferite d'arma bianca.
126 *La tachicardia parossistica di natura epilettica. G. Bellisari. (Commenced in No. 9.)
127 (No. 11.) Sopra un nuevo blastomicete patogeno (Saccharomyces infiltrans Casagrandi and Santori); (Saccaromyces pseudotubercolaris Santori). Casagrandi and Santori.

128 New Facts in Regard to Nutrition. M. Ascoli.—Fatti nuovi per la dottrina della nutrizione.
129 Due casi d'angiocolite muco-purulenta. A. Campani.

118. **Experimental Study of the Functions of the Hypophysis.**—Pirrone removed the hypophysis in 6 dogs, partially resected it in others, and also studied the effects of electric stimulation in another set of animals, while in still others he studied the influence on the function of the hypophysis of severe traumatisms affecting the nervous system. He found that total ablation was invariably fatal after a stage of motor disturbances, great depression, rapid emaciation and cachexia. Other phenomena observed after ablation of the organ were due to the traumatism of the operation and should not be attributed to the loss of the hypophysis. The composition of the urine was not modified by total ablation, but the pulse was accelerated at first and later became slower than usual. Electric stimulation slows the pulse and accelerates the respiration, the reaction increasing in intensity as the stimulation is applied farther to the rear.

123. **Cardiotoxic Serum.**—Ferrannini asserts that Belfanti and Carbone were the first to call attention to the fact that an animal (horse) treated by intraperitoneal injection of rabbit blood furnished a serum extremely toxic for rabbits. From this simple beginning has grown the famous researches of Büchner, Ehrlich and others in regard to the prepared serums active against the cells from which they were originally derived. Ferrannini has been experimenting with a cardiotoxic serum produced by injecting guinea-pigs with an emulsion of frogs' hearts and rabbits with toads'. The serum thus obtained was injected into frogs and toads. In small doses it had a stimulating action while in larger ones it invariably caused at first an exaggeration of the heart action followed by a gradual depression to complete suspension. Normal serum had no such effect.

126. **Epileptic Paroxysmal Tachycardia.**—Bellisari has collected 7 cases and has himself observed 4 which demonstrate the existence of a variety of paroxysmal tachycardia that should be regarded as an epileptic equivalent. The same as the latter, the etiology may include neuropathic heredity, trauma or cortical foci. The symptoms do not differ from those of essential tachycardia and the diagnosis must be based on the history of the case, the nocturnal onset, the premonitory and consecutive symptoms and the influence of bromid medication. These attacks of tachycardia may be interpreted as conditions of arrest of the cardio-inhibiting function of the vagus from some irritation of the cortex. The prognosis need not be so guarded as is necessary in other forms of unknown cause, although repetition of the attacks may entail permanent hyposystolia possibly complicated by some anatomic lesion independent of the neurosis. His first case was a man of 34, unmarried, free from venereal and alcoholic antecedents. At 16 he had commenced to have epileptic seizures which had gradually become attenuated and ceased entirely for two or three years, when he began to be affected with nocturnal attacks of tachycardia and tachypnea, becoming more frequent until they occurred nearly every night and several times in the night. The cardiac seizures increased in intensity as the ordinary epileptic seizures became attenuated, until finally the tachycardia was accompanied by coughing, vomiting and profuse diarrhea on each recurrence. The pulse was small, soft and 130 in the morning after such an attack, the respiration 52. There was no edema, no enlargement of the liver. Digitalis was administered, but without the slightest effect; the attacks recurred with increasing intensity. After three days it was substituted by potassium bromid and sodium iodid and the patient commenced to improve at once. The bromid rapidly conquered both the tachycardia and the tachypnea rebellious to digitalis. The patient was able to resume his occupation for five years, occasionally resorting to the bromid when threatened with return of the cardiac attacks, but symptoms then developed, indicating uncompensated hypertrophy and dilatation of the heart, with moderate but continuous tachycardia. The bromid was ineffectual at this stage, and the patient soon succumbed. The second patient was a woman of 33, an epileptic from infancy, with indications of spastic infantile hemiplegia. The menstrual period was accompanied by intense asthma for two or three days, during which time the lung increased in size by an entire rib, and tachycardia for a few hours was noted. During the time when these disturbances were observed the otherwise frequent epileptic seizures were suspended. The seizures evidently had a double equivalent in the asthma and the tachycardia which in turn seemed to be connected in some way with the menstrual molimen. The third patient was a woman of 46, not an epileptic but with neuropathic heredity, intelligent, with a history of enuresis nocturna and night terrors. Sixteen years before she was first seen she was awakened one night by extreme tachypnea and tachycardia for an hour, followed by intense headache. Similar attacks recurred every four or five months and were accompanied by profuse sweating or urination. The oldest of her seven children is an epileptic and feeble minded. Glycerophosphates and bromids were prescribed and the patient has had no recurrence of the attacks during the year since. The fourth patient was a young man who exhibited hemiparesis and transient aphasia in consequence of cerebral embolism occurring in the course of acute articular rheumatism with peri- and endo-carditis and mitral insufficiency. As these symptoms improved the character became altered and a typical epileptic seizure occurred, followed by others every week or two, lasting from ten to thirty minutes. As the convulsions came on the pulse rose to 150-160, and this tachycardia continued for about an hour after the seizure. Under the bromid treatment the seizures were arrested and nothing was left but the tachycardia, preceded by the aura, and these in turn finally grew less and less. The parallel evolution of the tachycardia aand epileptic seizure demonstrated that both were evidently due to the same subcortical lesion that had produced the hemiparesis and aphasia. The existence of the organic lesion of the heart in this case can not be invoked to explain the attacks of tachycardia, given their constant coincidence with the seizures and the persistence of the aura after the seizures had been arrested, precursor of the tachycardia and the testimony to its nature.

Corr. Blatt f. Schweizer Aerzte, Basle.

130 Indications for Sitz Baths. N. Platter.—Nochmals über Sitzbäder.
131 (No. 4.) *Treatment of Fractured Patella. H. Barlöcher.—Zur Behandlung des Knieschеibenbruches.
132 Influence of Magnetic Field on Organism. P. Rodari.—Die physikalischen und physiologisch-therapeutischen Einflüsse des magnetischen Feides auf den menschlichen Organismus.
133 (No. 5.) Case of Intoxication with Sulphuretted Hydrogen. H. Burckhardt.—Fall von Schwefelwasserstoffvergiftung.
134 Chiogen Treatment of Gallstones. Greppin, Glaser et al. See also Nos. 3 and 4.
135 (No. 6.) *Danger of Mountain Railroad Trips, Especially for Elderly Persons. T. Zangger.—Ueber die Gefahr der Bahnfahrten ins Hochgebirge speziell für ältere Leute. (Commenced in No. 5.)
136 (No. 7.) Injuries of Eyes During Birth. Sidler-Huguenin.—Beitrag zur Kenntnis der Geburtsverletzungen des Auges. (Commenced in No. 6.) Seven cases.

131. **Treatment of Fractured Patella.**—The principles of Bärlocher's method are suture of the parts around the patella, never of the bone itself; suture of the capsule; dry treatment of the exposed joint, and complete closure of the wound, with active movements commenced early. In 28 cases thus treated 20 healed without disturbance. In 5 cases there were some complications elsewhere, and in 3 there were complications at the knee, phlebitis in one case with resulting ankylosis. In another the knee was injured during delirium tremens, and the third exhibited symptoms of pneumonia the day after the operation with fatty degeneration of the heart, and soon succumbed. Only 5 of the total number still use a cane. The patients remained in the hospital from 35 to 68 days, with 2 exceptions, and were able to use the knee freely when dismissed. Examined a year or more afterward there was apparently complete restitution in nearly all.

135. **Dangers of Perpendicular Mountain Trips.**—Zangger remarks that many persons grow old without being aware of it and can live their usual life in perfect health. Let some sudden strain come on their vascular system and the deterioration of age becomes abruptly evident, with apoplexy or heart

failure as the possible result. He warns that such a strain is entailed by the railroads to the tops of mountains, and emphasizes their dangers for persons over 55, even for those apparently in robust health. He relates that when the railroad on the Jungfrau was planned the promoter was required to show that such an ascent was harmless before the scheme received official sanction. He accomplished this by having 7 persons carried by 42 bearers from Zermatt up the Breithorn to a height of 4,171 meters, a difference in altitude of 2,130 meters. The medical examiners testified that the results showed that healthy men could be carried to this height without objective injury to their health, but so soon as they attempted any active movements, disagreeable and even alarming symptoms of circulatory disturbances were liable to manifest themselves. The subjects of the tests were all more or less used to the mountains. Zangger does not think it necessary to forbid mountain trips to all persons over 60, but recommends that they should test their capacity by doing some mountain climbing at the lower altitude before venturing on the ascent. They should stop over two or three days at intermediate points, and should never attempt to go above 3,000 meters. He gives directions for treatment of the disturbances that may arise and describes an instructive case in detail in which acute dilatation of the heart was the unmistakable result of a trip up the mountains. In ten hours the individual in question went from 840 to 2,590 and 1,410 meters, and again a few days later in a few hours from 1,390 to 840 meters. The heart symptoms grew constantly worse for twelve days until the picture of collapse was presented, with Cheyne-Stokes respiration and symptoms resembling those of the heart failure after diphtheria. About .02 morphin was injected, and after sleeping twenty-four hours he awoke refreshed and gradually recuperated during the following month, but the dilatation of the heart still persisted to a certain extent. The harm done by these abrupt changes of altitude may not become manifest for several days after the subject has returned home. The connection between apoplexy or heart failure occurring under these circumstances and the previous mountain trip has been hitherto overlooked.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at the Fiftieth Annual Meeting, held at Philadelphia, Pa., September, 1902, also the Constitution, By-laws and Roll of Members. Cloth. Pp.1212. Baltimore: American Pharmaceutical Association. 1902.

FIFTY-FOURTH ANNUAL REPORT of the Board of Trustees and Superintendent of the Central Indiana Hospital for the Insane for Fiscal Year Ending Oct. 31, 1902. Paper. Pp. 62. Indianapolis: Wm. B. Burford. 1903.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Twenty-sixth Annual Meeting, held in Boston, Mass., Sept. 18, 19 and 20, 1902. Paper. Pp. 222. Chicago: P. F. Pettibone & Co. 1903.

OPERATIVE SURGERY. By Herbert William Allingham, F.R.C.S., Surgeon to the Household of His Majesty the King. Cloth. Pp. 367. Price $3 net. New York: Wm. Wood & Co. 1903.

ANNUAL REPORT OF NEW YORK STATE REFORMATORY AT ELMIRA for the Fiscal Year Ending Sept. 30, 1902. Twenty-seventh Yearbook. Illustrated. Paper. 138. Summary Press. 1902.

THE OHIO STATE MEDICAL SOCIETY. Transactions of the Fifty-seventh Annual Meeting, held at Toledo, Ohio, May 28, 29, 30, 1902. Cloth. Pp. 357. Cleveland: J. B. Savage. 1902.

The Public Service.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 14, 1903:

Assistant Surgeon-General H. D. Geddings, to proceed to Elkins, W. Va., for special temporary duty.

Surgeon D. A. Carmichael, granted leave of absence for seventeen days from May 19.

Surgeon P. C. Kalloch, to assume temporary command of the service at Portland, Me., during absence, on leave, of Surgeon S. D. Brooks.

Surgeon S. D. Brooks, granted leave of absence for three days from May 19.

P. A. Surgeon J. H. Oakley, granted leave of absence for three days.

P. A. Surgeon S. B. Grubbs, granted leave of absence for one month. To rejoin station at Gulf quarantine at expiration of leave of absence.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence, on account of sickness, for fourteen days from April 10.

Asst.-Surgeon T. F. Richardson, granted leave of absence for three days from May 8, under provisions of paragraph 191 of the regulations. To proceed to Gulf quarantine station for special temporary duty.

Asst.-Surgeon M. W. Glover, to proceed to Newbern, N. C., for special temporary duty.

A. A. Surgeon B. F. Duke, granted leave of absence for four days from May 18.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for five days.

A. A. Surgeon G. A. Gregory, granted leave of absence for four days from May 18.

A. A. Surgeon K. S. Kennard, granted leave of absence for twenty-one days from April 25.

A. A. Surgeon J. W. Stevenson, granted leave of absence for seven days from May 11, under provisions of paragraph 191 of the regulations.

Pharmacist A. M. Roehrig, granted leave of absence for five days from May 12, under provisions of paragraph 191 of the regulations.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 16, 1903:

P. A. Surgeon R. K. Smith, resignation accepted, to take effect May 19, 1903.

A. A. Surgeon J. R. Dykes, U. S. N., appointed assistant surgeon April 18, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 16, 1903:

SMALLPOX—UNITED STATES.

California: Los Angeles, April 25-May 2, 2 cases; San Francisco, April 26-May 3, six cases.
Colorado: Denver, April 11-25, 53 cases.
District of Columbia: Washington, May 3-9, 1 case.
Florida: Jacksonville, May 3-9, 3 cases.
Georgia: Atlanta, April 29-May 6, 1 case.
Illinois: Belleville, May 3-9, 5 cases; Chicago, May 3-9, 14 cases, 4 deaths; Galesburg, May 3-9, 4 cases.
Indiana: Indianapolis, May 3-9, 7 cases.
Iowa: Des Moines, May 3-9, 4 cases.
Kansas: Wichita, April 26-May 9, 1 case.
Louisiana: New Orleans, May 3-9, 18 cases.
Maine: Biddeford, May 3-9, 1 case.
Maryland: Baltimore, May 3-9, 4 cases.
Massachusetts: Holyoke, May 3-9, 1 case.
Michigan: Detroit, May 3-9, 12 cases; Flint, May 3-9, 1 case; Grand Rapids, May 3-9, 4 cases; Port Huron, May 4-11, 1 case.
New Hampshire: Manchester, May 3-9, 2 cases; Nashua, May 3-9, 3 cases.
New York: Buffalo, May 3-9, 3 cases; Rochester, April 30-May 7, 1 case, 1 death.
Pennsylvania: Johnstown, May 3-9, 3 cases; McKeesport, May 3-9, 1 death; Philadelphia, May 3-9, 26 cases, 2 deaths.
South Carolina: Georgetown, May 18, 1 patient from Charleston.
Tennessee: Memphis, May 3-9, 2 cases imported.
Utah: Salt Lake City, May 3-9, 3 cases.
Wisconsin: Milwaukee, May 3-9, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Brussels, April 18-25, 7 deaths; Ghent, March 28-April 25, 6 deaths.
Brazil: Rio de Janeiro, April 5-12, 3 deaths.
Canary Islands: Las Palmas, April 4-18, 44 cases.
Colombia: Bocas del Toro, April 21-28, present.
Great Britain: Birmingham, April 18-25, 7 cases; Dublin, April 18-25, 8 cases, 1 death; Liverpool, April 25, 69 cases, 6 deaths; London, April 18-25, 9 cases; Newcastle-on-Tyne, April 18-25, 2 cases; South Shields, April 18-25, 2 cases; Sunderland, April 18-25, 7 cases.
India: Bombay, April 7-14, 67 deaths; Calcutta, March 28-April 18, 7 deaths; Madras, March 28-April 3, 1 case.
Italy: Palermo, April 18-25, 1 case.
Mexico: City of Mexico, April 12-26, 21 cases, 11 deaths.
Russia: Moscow, April 4-11, 5 cases, 4 deaths; Odesa, April 11-18, 4 cases; Warsaw, April 4-11, 8 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 5-12, 29 deaths.
Colombia: Panama, April 30-May 7, 3 cases, 1 death.
Costa Rica: Limon, April 23-30, 2 cases.
Ecuador: Guayaquil, April 11-18, 2 deaths.
Mexico: Tampico, May 2-9, 2 cases, 2 deaths.

CHOLERA.

India: Calcutta, March 28-April 11, 206 deaths.

PLAGUE.

Australia: Perth, to March 23, 16 cases, 8 deaths; Rockhampton, to March 28, 2 cases; Townsville, to March 28, 3 cases.
Brazil: Rio de Janeiro, April 5-12, 2 deaths.
India: Bombay, April 7-14, 1,360 deaths; Calcutta, March 28-April 11, 1,779 deaths; Karachi, March 29-April 5, 195 cases, 161 deaths.

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Address.

DEVELOPMENT AND CARE OF CHILDREN.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON DISEASES OF CHILDREN AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS, MAY 5-8, 1903.

JOHN C. COOK, M.D.
CHICAGO.

It is with no little temerity that I enter on my duties of opening this Section of the Fifty-fourth Annual Session of the American Medical Association, while it is a great pleasure to appear in this capacity in my native heath, as it were, for my childhood and early boyhood days were spent in the sunny south, and I feel that my early impression enables me to appreciate the high-grade sensitiveness of the southern gentleman, and when, added to this, he is one of our own cloth, I feel that I can bespeak for myself and my brethren the cordial welcome always accorded a visitor in the southern fold.

To this glorious old city that has been the scene of so many disquietudes we have come to study with you the best methods of the most important subject now before not only the medical profession but before the whole world, namely, how best to save the lives of the tender babes and develop them into sturdy manhood and womanhood, and let it be the privilege of this Section to consign to oblivion the dogmas and superstitions surrounding the treatment of diseases of children, and by our scientific accomplishments reflect the rays of the noonday sun on true preventive medicine.

It is also within the province and power of this Section of the great medical body to refute the most dangerous and far-reaching condemnation of the medical profession that has ever been made, namely, that physicians are a national detriment because they preserve the weak and thereby weaken the whole nation. But we are at the wheel and helm not only to preserve the weak but to strengthen them, and so prove ourselves, as in the past, the greatest body of human benefactors that ever has or ever will exist.

Let us see anatomically and physiologically what this specimen is we call a child. Is it true that a man is simply a grown-up child or a child an immature man? Once clear on this subject, we are better prepared to study its requirements and judge of its capabilities. Fehling gives the percentage of water in a very young fetus as 97.5. Instead of this being a permanent feature, it is merely a transitory one and diminishes steadily until after birth it is 74.7 per cent. The decrease continues gradually but more slowly until in the adult it is only 58.5 per cent. Oppenheim's researches show us that the osseous system undergoes marked changes, that the organic and inorganic elements bear inverse ratio to the age from one to twenty-five, and this fact gives us an insight into the relative period over which ossification is spread.

Thus the walls of the shafts continue to grow thicker from birth to puberty and in some instances do not attain full development before the twenty-fifth year. Take, for instance, the bones of the head and face, the upper and lower jaw begin to ossify in early life and continue to change all through childhood and youth and do not attain full development until after puberty. Again, taking as an example the layers of cartilage which act as cushions between those important parts of the skull, the basi-occipital and basi-sphenoidal bones do not allow them to unite until after the twentieth year. This condition serves to make other changes that are equally if not more important. We should keep these things in mind for their bearing on the rightful exercise of a child's functions.

The muscular system develops simultaneously with the osseous, but neither of them make a harmonious and uninterrupted development. A child is more supple than an adult, not because he has more muscle but a relatively larger proportion of muscle to tendon. As a matter of fact, there is less of the elements that make the body weight, and the percentage of water is greater and the myosin less.

A few facts of relative proportion will serve to illustrate the anatomic and physiologic difference between childhood and adult life.

The circulatory and respiratory system, the changes in the heart are noteworthy. In the fetal stage it occupies nearly the entire thoracic cavity. At birth it is still relatively larger than in the adult life. Mathematically, the new-born heart is 0.89 per cent. of the body weight, while the adult heart is only 0.52 per cent.

The rapid and irregular strides made by the lungs at different periods of development make the compensation between the lungs and heart a little uncertain during the developing period. Also the relative difference between the heart and the arterial system at different periods of growth makes an uncertain and unreliable blood pressure through youth and adolescence.

The blood elements themselves are different in childhood from adult life, rich in the so-called young-form elements, while the over-ripe is only one-half as abundant as in maturity.

The changes in the nervous system from birth to maturity afford us many examples of the difference between the child and adult. At birth the central nervous system, as well as the peripheral, is almost entirely unmedullated. Hence, we find the fibers of the spinal cord, the medulla, corpus quadrigeminous and the pons varolii

mainly somatic. The motor nerves receive their attachments much earlier than the inhibitory centers are developed, hence the many objectless movements that characterize the unmeasured exercise of the young.

Thus maturity is gradual and full growth is only reached between puberty and adult life. It is our duty to guard and conserve every atom of energy through this period of unfolding and budding life, realizing that they are bundles of possibilities unsolidified, which begin at the beginning and end we know not where.

The study of biology teaches us that the higher the organism the slower the development, hence the necessity for a long period of protection and care. Take with this the many periods of stress and functional demands on the nervous system and we can realize the greater necessity for a wise and careful guardianship.

And who shall give this care and protection to the child who has been unfortunate in the selection of its parents? How much have we a right to expect from the state and how much is the state at liberty to interfere?

As citizens we have a right to expect common protection to our lives and property in return for a consideration the state exacts of us, but the state has a higher and more exalted motive in surrounding us with every care and protection, for we are its soul and body, its producer and consumer, its parent and offspring and, as every child born is a possible parent and citizen, it behooves the state to give it every protection and opportunity for a full development of all its best and highest capabilities, with a minimum facility for the development of the depraved side of humanity.

There is a wonderful significance in the fact that humanity continues its life on the earth by means of successive generations, and to conserve the nation's integrity one must protect and conserve the rising generation, and were it different how meager our advancement would be. It is only step by step of succeeding generations that the greatest heights of science, art and humanity are attained.

REGULATIONS OF CHILD LABOR.

Let us see what is being done by the state for the betterment of our successors. In speaking of the state, I refer to it in its specific rather than its general meaning, as the government of the United States has concerned itself little, if any, in the rising generation, while the states that have taken any action at all have regarded the subject from such different points of view one would think they were dealing with entirely different nations, with different environments and with entirely different objects to be attained.

Arkansas, Kansas, Georgia, Idaho, Oregon, North and South Carolina, New Mexico, Texas and Florida have not grappled with the subject at all, while about half as many states have only covered one phase of the subject.

The state of Washington does not allow small children to work in mines or females to act as public messengers. Utah protects children from working in mines only. Arizona protects her children against public exhibitions. New Hampshire has no law on child labor, but a very efficient compulsory education law. Alabama and Virginia have child labor laws pending. Fortunately in some of these states there are few manufacturing establishments.

Many of the other states have very efficient laws, others voluminous ones. Some states have legislated well on the labor question with little or no attention to compulsory education or provision for a child's time who is not allowed to work.

As early as 1874, in the Ten Hour Act, Massachusetts began to throw a safeguard around her children. In 1876 an act was passed making ten years the youngest age a child could be put to work in a factory. In 1883 the limit was raised to twelve years during school time, and in 1885 a law was passed prohibiting children working under twelve any time of the year. In 1888 the age limit was again raised to thirteen years.

These figures show the necessary changes from actual experience and have some bearing on the whole subject of the age at which children should be allowed to become wage earners. And yet, notwithstanding the fact that many of the states have enacted excellent laws on the subject of child labor, the application of them falls far short of the purpose for which they were intended. In many instances they only legalize the subject, protect the state and vicious parent, act as a sedative to public conscience and pervert their own purpose.

In all states having labor laws they take the age of the child as the standard of capability and the affidavit of the parents takes prestige over everything else in establishing this fact, which in many instances not only works physical detriment to the child but establishes in its innocent but honest mind its parents as liars; and, as the manufacturer is not required to be any better than the law, the applicant is accepted without investigation. With him it is business, not philanthropy. It requires but a slight stretch of the imagination to see this child at the juvenile court. One million seven hundred and fifty children under 15 years of age are wage earners in the United States at the present time, and this number has increased 100 per cent. in the last ten years.

Just one hundred years ago Sir Robert Peel directed the people of England's attention to the disastrous effect of child labor on the nation. He, with others, was startled to find they could no longer replenish the army from the manufacturing districts, the early factory labor had so dwarfed the rising generation.

Notwithstanding the vigor with which he and others attacked this plague, it took the best part of the following half century to consign it to oblivion. Germany, France, Austria and Russia soon followed England's example, and now "Free America" owns and controls the market in child slavery.

The result of this can not be different in this country from what it has been in others—a physically, mentally and morally weak and depraved generation, and I believe it eminently proper that a sentiment against this wholesale slaughter of childhood should emanate from a representative body of men such as this, who are devoting their lives to the care and improvement of the rising generation, and who are better prepared and more willing to cope with the subject than are any other body of citizens.

And what can we do? Elevate public sentiment and guide sentimental legislation. The state can better afford to support and educate a child from 7 to 20 years of age than it can to support paupers and discipline criminals from 20 to 50.

Not that I would deny any one the privilege of honest toil—far be it from me—for work is a civilizer, a developer of character and dignity, and endows the human race with an independence that nothing else will replace, and it is stated by men of keen observation and broad experience that no man in this country has ever risen to eminence, either in the medical or legal profession, who has not worked with his hands. It is not labor that makes or mars our characters, but the kind and environ-

ments during the developing period that prepares us for our future and greater tasks of life.

Factories aggregating a great number under unhygienic surroundings tend to minimize, while individual labor under good sanitary conditions tends to magnify the individual unit.

If any development occurs after a child is put to running a machine in a large factory, it is a one-sided one, making a genius or a freak, as circumstances may determine, depending on the part over-stimulated at the expense of many or all of the other faculties. Thus it is children come to have weak bodies and minds, not so much from heredity as from environment.

One may see how true this is (I quote from Oppenheim's "Development of Child") by the following report of the committee of the British Medical Association of 1883 in regard to the relative stature of boys between 11 and 22 in the population at large and at the industrial and reformatory schools. They found the tallest boys in proportion to their age in the public school. Below them came the boys in the so-called middle-class schools, and then those in the elementary schools and in the private military schools, and last of all the inmates of the industrial school, a difference of six inches existing between the first and last class.

This proportion is true at any period between the two mentioned ages. What has been found to be true of stature is also true of weight, a difference as great as twenty-five pounds existing between the first and last class; and what is true of body measure and weight is a strong indication of the mental state. Dwarfed bodies, as a rule, mean dwarfed minds and souls.

Thus, to break in on the nutrition and disturb the rhythm of development for one day means the marring of the body and harmony of a perfectly finished product. To conserve every atom of nutrition and force, protect every budding function, that we may deliver to posterity a perfect being becomes our highest and greatest aim in life.

How may we aid the state in adjusting this important matter? There are conditions which are familiar to all of us that should and must take prestige over all established state laws. As, for instance, the necessity of a child working to support its own life, to aid in the support of a helpless mother, or add to the maintenance of a young brother or sister, and I believe it is a conceded fact that there are no established rules or scales of weight, measurement, or mental development by which all children's ability to become wage earners can be established, as there are children that fulfill the requirements of the best established laws, yet by inheritance or previous environments they are physically and mentally unable to perform the duties required of the average child.

This is verified by a letter from Dr. James H. Dowie of New Holland, Georgia, who has had twenty years' experience with child labor in cotton mill life. Says the Doctor: "The children who are physically able for the duties do not succumb nearly so quick, if at all, to the factory labor. The wizen, wan and dejected ones so frequently seen in cotton mill towns are the results of over-taxation of the immature and lack of judicious application of efficient laws."

As it is not within the power of the medical profession to immediately change the present condition, we may improve it by lending our aid to the sanitary surroundings of the factories in which children are employed, see that at least 250 cubic feet of air space be allowed for each person employed from sunrise to sunset and that 400 cubic feet be allowed each person employed between the time the sun sets and rises, and that sufficient ventilation be arranged so that the entire air be changed every hour, with sufficient pure water to drink and an ample supply of sunshine, toilet facilities for both sexes employed, and to have such laws enacted as will provide for the protection, development and education of all children, with efficient administration and application of the law.

I would, therefore, recommend that each state have appointed a commission consisting of five members, at least two of whom shall be physicians, to have jurisdiction over all education and labor questions, and that said commission be appointed by the supreme judges of its state, and they in turn nominate or appoint inspectors, so that the question of child labor shall be forever removed from petty politics and vicious contract labor.

Original Articles.

THE DIAGNOSIS OF CUTANEOUS SYPHILIS.*

ISADORE DYER, PH.B., M.D.

Professor on Diseases of the Skin and Secretary New Orleans Polyclinic; Lecturer and Clinical Instructor on Diseases of the Skin, Medical Department Tulane University; Dermatologist to Charity Hospital, New Orleans; Editor New Orleans Medical and Surgical Journal, Etc.

NEW ORLEANS.

INTRODUCTION: ANACHRONISMS IN COMMON METHOD OF DIVIDING SYPHILIS INTO ARBITRARY GROUPS OF PRIMARY, SECONDARY AND TERTIARY.

The differential diagnosis of skin affections has always seemed a veritable *pons asinorum* to the practitioner, to whom all lesions look much alike and to whom the gross picture always seems present.

In the types of syphilis, however, exact lines of distinction characterize every set of lesions, and the experienced recognize these at once, often without even discussing the reasons why, the picture fixing the diagnosis on its own lines.

In current texts, now and latterly, so much of the traditional anachronisms have prevailed that it has seemed to the writer that some one, somewhere and somehow, should call a halt and at least utter a word against the further teaching of a dogma, which most of us feel is wrong and which as many of us would like to get away from.

With students of skin diseases in the undergraduate classes there is always most difficulty in fixing types; in syphilis this becomes additionally difficult when the very rules of diagnosis are as often excepted as found; so much so that the student is taught the opinion that syphilis is a "protean" disease, as if it were ever ready to change its type while you looked at it, when, as a matter of actual fact, no disease of the skin is as true to its types as syphilis nor more exact in its lack of confusion.

The "copper color" related as a part of the macular eruption of syphilis is a veritable mare's nest—the writer has never seen it—yet this type is a point so fixed in the minds of the writers of texts and in the field of vision of the student that on examination he always describes the roseola of syphilis as "copper colored." The induration of the chancre, the exact division of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

syphilis into a series of eruptions in fixed sequence, arranged according to a schedule of days, weeks, months and years, an easy rule of three, all these are beyond the experience of men who see syphilis, and these things should not be taught, for they are false teaching, and every day the men who do teach these things make excuses to themselves for doing so. Syphilis is certainly characterized more for its variants in types than for its obedience to rule. Our sole idea here is to throw the gauntlet to provoke a sort of discussion which will make more clear the definition of the types of cutaneous syphilis, according to some line of thought which is within the experience and observation, and not simply arbitrary, dogmatic, traditional or speculative.

In teaching cutaneous syphilis, for several years the writer has made the rule to look on its definition as determined by the lesions which presented, irrespective of antecedent history, irrespective of time or of the patient's record.

DEFINITION.

We have considered syphilis as a contagious and infectious disease due to a specific *causa morbi,* at present unknown, producing, among other constitutional and local symptoms, certain definite manifestations on the surface of the body, in the skin and deeper tissues.

DIAGNOSIS OF CUTANEOUS EVIDENCES.

Chancre.—The first evidence of syphilis is the chancre, which may show any time after infection, periods of time related being from four or five days to as many as 100 more days.

Location.—Irregular. At point of inoculation. On the genitals usually, but may be at any point exposed to venereal or accidental infection. Usual points of distribution are the penis, vulva, vagina, urethra, scrotum, thighs, pubis, lips, fauces, tongue; unusual, nose, fingers, neck, eyelids, cheeks, eyebrow (arch), etc.

Arrangement.—The chancre is usually a single lesion, but there is no reason why two points of inoculation at the same time might not each present a chancre after due incubation; we may note a double chancre of the upper eyelid, a chancre on each forefinger in a medical student as coming under the writer's observation.

Description of the Lesions: Types.—The chancre has various types. While described as a classic, the type made the rule, the Hunterian chancre, is the exception, and, as a matter of fact, is found oftener in its full classic form in the extragenital, accidental locations than in the common venereal location.

(*a*) *Hunterian Chancre.* 1. *Shape.*—A rounded ulcer, more or less deep, with central cavity and elevated borders.

2. *Consistency.*—Base and borders are indurated, the induration resembling cartilage in its consistency and hardness. The surface of the ulcer is more or less smooth, with thin discharge, depending on the cleanliness and general condition of the patient.

3. *Size.*—The size varies up to a silver half dollar (the larger lesions are more apt to be extragenital). This lesion is classic when found on the lips, tongue or at points where the thicker skin allows the cellular infiltration and induration.

Variant Types.—Much more usual is the excoriated lesion, found usually on the genitals, smooth, superficial and shiny, bleeding easily; slight border, thin parchment-like base, rolling between the fingers. This last point, however, we wish to say is not pathognomonic of the chancre, though the texts claim so; it may occur in any lesion of long standing on the genitals, mucous membranes of the foreskin and vulva particularly.

More usual still is the excoriated lesion, with irregular base, some cellular involvement, raw and tending to break down in parts.

Both of these types are small, seldom larger than a silver dime and neither sufficiently distinct as chancres to be diagnosed in all cases.

DIFFERENTIAL DIAGNOSIS.

Epithelioma.—Gradual development, deep central ulceration, little cellular inflammation outside of lesion, tendency to crust over a discharge which is thick and dirty. Microscope. On the genitals the epithelioma is almost always verrucose or nodose.

Lupus.—Presence of tubercles which ulcerate from time to time. Microscope.

Traumatic Ulcer.—History of injury, limitation of ulcer, lack of induration. On the genitals, however, there enter for diagnosis such conditions as herpes, chancroid, epithelioma and traumatism (hair cut, abrasion, etc.).

We must remember that the fear of syphilis in most patients brings them to the consultation and that the history is most times to be discounted by that fact. Again, as Taylor has often said, you can get any kind of a history from a patient if you go about it in the right way and if you ask him questions enough.

Herpes.—With the vesicles presenting the diagnosis is simple, but the patient may have been inoculated with syphilis when the herpes was produced, that is, if it followed the sexual act.

Postherpetic Ulcer.—This presents the same clinical picture as the excoriated chancre, and it can not be differentiated from it. It has the raw surface, indurated, parchment-like base, heals slowly, is slightly painful and only differs in one particular, *quid est,* the chancre is usually single, the herpetic ulcer more often presents in two or three points along the line of nerve distribution. I have seen postherpetic ulcers last for two months.

Chancroid.—The chancroid is differentiated on the points of development after starting, multiple lesions, beginning in a pustule, often seen as it is breaking, destruction of tissue, limitation of location to genital area; but when mixed with a chancre the diagnosis of the latter is practically impossible.

Traumatism.—The hair cut, abrasion, excoriation from friction, after a few days, or enough time to determine an ulcer, may not be distinguished from a simple excoriated chancre, which each then resembles. As a matter of actual fact, these are often the sites of the chancre, either inoculated at the time of the traumatism or in subsequent exposure.

THE IRREGULARITY OF SEQUENCE IN ERUPTIONS OF SYPHILIS.

The fact that any time from a few weeks to several months or years may elapse before general cutaneous evidences of syphilis appear, and that in many instances these never show, would tend to make the usual division of the skin sequences fallacious. Logically the term secondary should apply to lesions prior to those tertiary and logically these should not be concomitant.

Yet many cases have no secondary lesions, still they present tertiary lesions; others have both at the same time; still others have the so-called secondary lesions years after tertiary lesions have shown.

SYPHILIS IS A SELF-LIMITED DISEASE.

Depending on the resistance of the individual this means the restriction of the evidences of syphilis to simple types or the surrender of the individual to greater or less degree of malignancy.

These are to be determined by the powers of elimination of the individual, evidenced by the appearance of simple inflammatory lesions, macules, papules or by the failure to eliminate, evidenced by the lesions which are deposited in the skin and deeper tissues, at times in other organs as well, such lesions as tubercles and tumors (gummata). Not infrequently the lesion is a pustule, breaking down as it is eliminated, but with a limited area of destructive process.

If we classify the general lesions of syphilis, then, into groups of inflammation and of deposit we can study each of these according to its own type and each presents its points of distinction.

Examples only are needed to present the principles of diagnosis, as this paper is meant only to plead for a method free of the confusion which awaits the average physician, not the expert, and incidentally to evidence the desire to create a general opinion that syphilis is not so difficult of diagnosis in its cutaneous manifestations.

THE IDENTITY OF EACH LESION ON ITS OWN MERITS AND ITS DIFFERENTIAL DIAGNOSIS FROM OTHER LESIONS OF SIMILAR CHARACTERISTICS.

With this end in view, we shall take examples of the inflammation group of lesions of syphilis and present each with points of diagnosis; the deposit lesions to follow, and all this independent of any arbitrary relationship to the primary, secondary or tertiary distinctions.

LESIONS OF INFLAMMATORY GROUP IN SYPHILIS.

The macule of syphilis presents the following characteristics:

Size.—Usually small, as large as little finger nail, not necessarily uniform in size.

Form.—Irregular in outline, not rounded, a splotch on the skin.

Consistency.—Level with the skin, fading on pressure, but leaving slight discoloration behind. As the lesion disappears this discoloration sometimes stays for a time.

Color.—The lesion as it first shows is rose color, pink or yellow red, raw ham color. As it fades on pressure or in the natural course of the disease it leaves a yellowish color, "dirty-lace" color, often described as "copper colored," which color is only seen in the mulatto or light negro skin.

Arrangement.—Single lesion always discrete, not confluent. No grouping, really showing as an exanthem or rash.

Distribution and Location.—Found on flexor surfaces of thighs, belly, forearms, arms, back and chest (slightly usually), forehead, sides of scalp.

Differential Diagnosis.—The absence of subjective symptoms, the subacute character of the redness, the appearance gradually over a number of days exclude measles, scarlet fever, etc.

The absence of scales, the fixed size of lesions, which does not increase, once formed, exclude pityriasis rosea, tinea versicolor and seborrheic dermatitis.

The presence of the pediculi pubis and the blue, ashy gray color of the lesions over the belly and sides of chest exclude the maculæ ceruleæ of pediculosis pubis.

The Papular Lesions.—The papular lesion of syphilis is more highly organized than the macular and presents several types:

The flat papular syphilide, the circinate and lenticular papular syphilide have a common location and distribution on the flexor surfaces especially, the chest, arms and forearms, the forehead as the usual sites.

The circinate lesion is less numerous than the other two, more discrete and is not uniform in size.

In color each of these presents the raw-ham color. Except from seborrheic dermatitis the differentiation is clear. In this disease the scales are numerous, in syphilis unusual, in both the scales are greasy, but in the syphilide the base is less apt to be affected—it is usually firm—borders elevated in the circinate form, while in seborrheic dermatitis the base of the lesion under the scales is apt to be moist or even raw.

The acuminate, or rounded papular syphilide, is discrete, widely disseminated, very general and especially on the extensor surfaces of the arms, legs, shoulders, and is found on the face, in the "frame" of the face and on the forehead.

Smallpox clusters its papules, prurigo itches constantly and psoriasis spreads its lesions peripherally.

The miliary syphilide is unique in its type, having a clustered grouping on the extensor surfaces in numerous patches of lesions of uniform size, deep seated, small (miliary) and with a dull color, often not much different from the normal skin. These lesions occasionally vesiculate and would need to be differentiated from herpes zoster, if they were not so numerous, in many patches and bilateral and symmetrical.

Condyloma.—The condylomatous papular syphilide is characterized by the location on or near the mucous membranes or tender surfaces, as over the scrotum, thigh, the foreskin, vulvæ, anal folds and between the fingers and toes. Rarely the condylomata are seen on the neck or on the face, flat, excrescent, warty at times, but marked by a more or less smooth surface, constantly wet with a discharge.

On the tongue and in the buccal cavities the condyloma is flatter and marked by a white film.

The diagnosis from ordinary warts (acuminate) and from ringworm lesions, common in some of these locations, is easy. The flabby, soft consistency, together with the sticky discharge, makes the diagnosis.

In the mouth the soreness, rawness and crescentic contour are unmistakable.

The papillary syphilide is found in little elevations, like seeds of fine grain, in the palms, on the fingers and on the soles and toes. It may be picked out, leaving a slight depression, which disappears gradually with the scaling skin. The diagnosis is clear with the few lesions, bilateral and rather uniform in size.

LESIONS OF DEPOSIT.

A word only regarding the lesions of deposit. When syphilis has passed the period in its infective process where most of the element of toxicity is removed, there remain here and there certain traces of the virus, uneliminated, left in the tissues, either permanently encapsulated or ready to slough away on the slightest provocation.

Among the tissues or organs which may be involved is the skin. Here the syphilitic deposit has certain types, always readily recognizable.

The Tubercular Syphilide.—The tubercular syphilide as a single lesion may occur generally, in more or less close distribution, on the extensor surface, bilaterally. More often the tubercle occurs grouped in masses of lesions, found in particular sites of selection: the fore-

head, scalp, nose, scapular region, back, hands (palms especially), thighs, knee joint, just above or below, etc.

These lesions are either small as a pea, firm and rounded in the skin, staying for months, years even, as a fading and growing mass of tubercles, "bunched" together, without ulcerating or else only here and there breaking down.

The other type of the tubercular lesion of syphilis is serpiginous, ulcerating and scarring with pigmentation in the process. The horse-shoe, kidney-shaped, crescentiform clusters of lesions are typical of this lesion.

Perhaps no lesion of syphilis goes more undiagnosed than this one. The only diseases having any resemblance at all are tuberculosis cutis and leprosy. Lupus vulgaris differs in the color of the lesions, their consistency and the arrangement irregularly in groups of rapidly breaking lesions. Moreover, the tubercles of lupus are usually found in the face, seldom elsewhere. With leprosy the tubercles are always disseminated, single, little tendency to cluster, the arrangement being usually determined by the gradual evolution of the tubercle, which may develop from a pinhead-sized lesion to a lesion as large as a marble, hence lesions of all sizes are found between these two. The color, moreover, is *sui generis*, a dusky brown red.

The Gummatous Syphilide.—The gumma of syphilis is more properly not strictly cutaneous, but has its own diagnostic points. It is usually limited, but may be general. Sites of predilection in the order named: leg, forehead, scalp, nose, shoulders, buttocks. The distribution is usually at points of weaker circulation: On the leg, along the line of the tibia or in the middle third, etc. The arrangement is by single lesions, varying in size largely according to its distribution. The lesion itself may be superficial, crusted, with slight cellular inflammation about it; it may be nodular, gradual in evolution, finally sloughing as a whole, or it may be large, flat and only slightly elevated, here and there forming punched-out, small ulcers, afterwards causing the whole gummatous mass to slough, leaving the ulcer of syphilis with its single odor and characteristic configuration.

Sarcoma, mycosis fungoides, etc., are to be differentiated. Clinically the points of diagnosis are based on the fact that sarcoma begins in a nodular mass, growing in size and that it breaks down by excoriating and gradual ulceration. Mycosis fungoides begins with a granuloma, growing warty and increasing in size until it is many times larger than the initial lesion.

SOME CONCLUSIONS.

The above outline has been done as cursorily as possible and is not intended as an exhaustive diagnosis of syphiloderms.

If each type of syphilis, then, may carry its own points of recognition and definition, capable of diagnosis on these points, why not use such a method of diagnosis which precludes the speculative line of thought which only clouds or forbids an intelligent conception of syphilis?

DISCUSSION.

Dr. Henry G. Anthony, Chicago—The author states that he has never seen a copper color in the syphilitic roseola. The copper color does not occur in every case of roseola, but it may be observed in some cases. In these cases the eruption is first of a rosy color and within a few days becomes copper colored. That fact has been greatly exaggerated and is now exaggerated by the general practitioner, but to the dermatologist it is no longer a point of importance.

The Doctor mentioned that form of infection in which chancres will appear on different parts of the body at the same time. That is what the French call chancre à distance. I have observed a case in which the patient had at one time a chancre of the tongue, a chancre of the penis and a chancre of the finger. In connection with chancre à distance there are two points to which I wish to direct your attention: First, the literature of these cases shows that the chancre virus is always deposited in these different locations at one and the same time. The patient does not get a chancre of the tongue and ten days later have the virus deposited on the finger, and then ten days later still on the penis, but it is deposited at one and the same time in all the different locations. The next point in chancre à distance is that unless there is mixed infection the gland is enlarged only in connection with one of the chancres and not with the others.

I wish to direct attention to the differential diagnosis between a chancre and a gumma. A gumma situated on the penis will many times produce a lesion which can not be distinguished from a chancre. Leloir makes this distinction; he says that a chancre is an abrasion which takes on induration, and a gumma on the penis is an induration which becomes eroded or ulcerated. Kaposi makes the statement that there are cases in which a diagnosis can not be made from an examination of the lesion and one can only make a diagnosis by considering the history of the case and considering lesions on other portions of the body. Several cases of that kind have passed under my observation. A patient gives a clear history of syphilis, has a perforation of the palate resulting from an ulcerated gumma occurring five years before. He presents himself with a lesion of the penis which at first you would diagnose as a chancre. Knowing the literature of chancre redux, chancriform syphilome of Leloir, or gumma of the penis (these terms are all synonymous), the first diagnosis which would come into your mind would be a gumma and not a second infection of syphilis. You would only make the diagnosis second infection of syphilis when driven from the diagnosis gumma by the subsequent symptoms, such as enlargement of glands at the proper time, the appearance of the roseola, neuralgic pains and temperature which mark the onset of secondary syphilis. Strange to say, no attempt has ever been made to differentiate these lesions by microscopic study of their structure.

Dr. A. H. Ohmann-Dumesnil, St. Louis—The subject is very interesting to me in regard to the nomenclature, as well as some points raised by the author. Primary, secondary and tertiary is reeled off to students, but it is not true. I have seen a case where there were two large chancres, no secondary eruption, and then catarrh of the ear developed and an eruption appeared on the eyes. I made a diagnosis of gummata of the iris, and some ophthalmologist agreed with me. So far as a herpetic chancre is concerned, that diagnoses itself. It is an interesting fact that in herpes, a syphilitic chancre developing on herpetic lesions, the herpes on pressure will produce a drop of serum and after waiting a few moments will give another drop, but the herpetic lesions will have but one drop.

I do not know what the last speaker meant by chancroid form of syphiloderma. We have a chancroid form of syphiloderma developed on the first chancre, which is the chancre redux, and any one examining the case closely will find all the characteristics of chancre. Of course, one who is experienced will make no mistake, but those who are not experienced, how will you protect them? I have seen a pseudo-chancroid which had all the characteristics of a chancre, and the patient had to wait four months to be certain that it was not syphilitic.

Dr. Isadore Dyer, New Orleans, in closing the discussion, said: I have only a word to say and that is I still wish to insist regarding the evident incorrectness in the differentiation of the types of syphilis. As a teacher of dermatology and syphilis I find it exceedingly difficult to gather any idea of syphilis from the text-books. They are misleading in their definition of exact types, which do not exist in the clinic, which I have not seen after an experience of twelve years in the practice of syphilis and dermatology. I have never seen the copper color in the early syphilide; I have only seen it follow an

ulcerative lesion. I may not know what "copper color" is; if you speak of a raw-ham color, that means something to me, but I have never seen a copper color in a macular syphilide, nor has the student in my clinic seen it.

AN INTERESTING CASE OF LUPUS VULGARIS.*

R. R. CAMPBELL, M.D.

Professor of Skin and Venereal Diseases, Chicago Policlinic; Associate Dermatologist, Staff Cook County Hospital, etc.

CHICAGO.

The patient who furnished the subject of this short paper was referred to me by Dr. Henry Burwash of Chicago. The history of the case is as follows:

Mrs. M. W., aged 53, Canadian; married fifteen years; no children; was never pregnant; had never been robust, but enjoyed fairly good health; never had a blemish of any kind or character on the skin until the age of 48 when, three months after an operation for the removal of some polypoids from the nose, she noticed a small nodule on the left cheek. About this lesion soft papules continued to appear for three years, when ulceration commenced in the original nodule. The ulcerative process spread peripherally until two-thirds of the cheek had become involved in the destructive process, as attested by marked scarring and some ulceration at the time the patient came under my observation. There were also present a nodule on the right cheek and several nodules in the neck and throat, with marked enlargement of the sublingual and submaxillary glands on both sides. These enlarged glands had persisted for over four years, without any evidence or appearance of pus. One brother died of consumption twenty years ago, our patient having cared for him ten months previous to his death. Two aunts, on both the mother's and father's side of the family, died of consumption. The patient's mother and father, however, are still living and enjoying good health.

COMMENTS ON THE CASE.

The points of special interest in this case, to my mind, are:

1. The age at which the disease developed.
2. The enlarged lymphatic glands.
3. The possible sources of infection, namely, from her tubercular brother, or at the time of the operation on her nose.
4. The differential diagnosis between lupus vulgaris and tuberculosis verrucosa cutis.

Our ideas regarding lupus vulgaris have undergone radical changes during the past quarter of a century. We have passed through a heated controversy regarding the nature of the disease, and Kaposi and his followers, who contended that lupus vulgaris is not tuberculosis, are, I am convinced, ready to acknowledge that this question is no longer a live issue. Most of us were brought up in the belief that the disease invariably begins in childhood. We have lived to learn that there are exceptions to this rule. The disease may develop at any age of life. Our text-books of to-day are much less positive on this point than they were a few years ago. Elliott[1] has reported one case and cites five other cases of the disease which developed in adult life. We have become accustomed to looking on lupus vulgaris as true tuberculosis of the skin, and tuberculosis verrucosa cutis as tuberculosis by inoculation. This distinction is a convenience in teaching, but we, as specialists, must recognize the fact that it is far from being accurate. Lupus vulgaris may be produced by inoculation and it may be produced by a transformation of other forms of tuberculosis.

A few months ago a boy was presented to the Chicago Dermatological Society by Dr. Pardee with a large ulcer on the cheek, from the surface of which luxuriant granulations were growing. The members present agreed on the diagnosis of tuberculosis, but not of lupus. Of the various forms of tuberculosis which were suggested as a possible diagnosis, that of scrofuloderma was the one in which I concurred. Scrofuloderma, as Jadasohn[3] states, is a subcutaneous tubercular deposit, the skin covering which has been destroyed by ulceration, leaving a denuded surface from which fungous granulations spring up. In this case, after treatment with the *x*-rays, the granulations disappeared, leaving a scar. When the case was presented to the society a second time typical lupus nodules were present in the scar tissue. In my judgment it was a case of transformation of scrofuloderma into lupus vulgaris.

Fabry[3] states that he has observed this transformation of scrofuloderma into lupus vulgaris. He has also seen a tubercular gland suppurate, discharge, the fistula heal and lupus develop in the skin adjacent to the scar of the fistulous opening; where the fistula closes such cases may easily be mistaken for primary lupus vulgaris with secondary glandular enlargement.

He further states that he has seen tubercular dactylitis produce lupus as well as tuberculosis of the bones and joints. Crocker[4] says that Jadasohn reports a case in which lupus developed in a tattoo-mark, caused by wetting the India ink with tubercular saliva; also one in which a tubercular ulcer of the finger in a butcher, caused by inoculation, produced lupus at a point higher up on the extremity.

Dubois Havernith[5] says: "Inoculation by continuity of tissue is frequently observed at the mouth of fistulæ, occurring in connection with tuberculosis of the joints and bones and lymph glands which have suppurated and opened spontaneously or have been cut into by the surgeon."

In a large number of cases it will be found that the disease has originated in some wound (abrasion or scratches), or in some anterior disease, as erysipelas, eczema, a blister, an irritated pimple and the like, pointing clearly to inoculation. Lupus nodules occurring early in a vaccination scar are presumably the result of inoculation of tubercular virus present in the vaccine.

Havernith cites an instance in which a girl who slept with her sister, who was affected with lupus vulgaris of the left cheek, acquired a lupus of the right cheek, which she habitually laid against her sister's face.

These facts are cited simply to show that because the only explanation which we can offer as to the manner in which our patient contracted the disease, namely, at the time of her operation on the nose or by nursing a brother suffering from pulmonary tuberculosis, does not exclude lupus vulgaris as a diagnosis.

DIAGNOSIS.

Clinically, we concluded that our case was lupus and not tuberculosis verrucosa cutis for the following reasons:

1. The rapid development of the disease.
2. The fact that the lesions present were not the waxy-like lesions of tuberculosis verrucosa cutis.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

1. Journal of Cutaneous and Genito-Urinary Diseases, 1896, p. 476.
2. Berliner Klinische Wochenschrift, 1900.
3. Archiv. fur Dermatologie und Syphilis, vol. xxxix.
4. Diseases of the Skin, third edition, p. 774.
5. British Journal of Dermatology, 1891, p. 360.

3. Because the brown spots of beginning lupus were present.

There were no typical velvety, waxy nodules of lupus present at the time the case was under observation, but it is not uncommon to find them absent in typical cases when the patient first comes under observation. The lesions present were all such lesions as may be seen in lupus. We must endeavor to recognize and diagnose the atypical as well as the typical cases, and at the same time not lose sight of the fact that we have what may be termed border-line cases.

HISTOLOGY.

Histologically, the case showed the structure and the deep-seated location of lupus. As is well known, the lupus nodule is deep seated, while the lesion of tuberculosis verrucosa cutis is superficially located.

Stelwagon[6] shows an excellent cut of tuberculosis verrucosa cutis, taken from one of Bowen's cases, which shows the downward prolongation of the rete pegs and the superficial location of the disease, which was not the microscopic findings in our case.

By inoculation is, to my mind, the most frequent manner of contracting lupus vulgaris in adult life.

The enlargement of the lymphatic glands in connection with lupus may be due to surface infection, but, as Leloir has shown, it may also be due to the presence of tubercle bacilli in the gland. The non-inflammatory character of the enlarged glands in this case, and the length of time they had existed, rather impress me with the opinion that they were tuberculous. The lymphatic glands which were enlarged were situated on each side of the chin in the neck, indicating that absorption had occurred through the superficial facial lymphatics.

That tuberculosis of the skin is contagious in a greater or less degree there can hardly arise any doubt. In view of this fact it is well to follow the suggestions of Neumann,[7] who believes that inoculation of children and others by persons with tuberculous lesions on the skin or adjacent mucous membranes is more frequent than is generally recognized. In one place he observed four cases in one year of tuberculous lesions of the penis in children who had been circumcised. Tuberculous lesions of the upper air passages, as well as of the face and mouth, may inoculate others with tubercle bacilli by intimate contact, especially active and passive osculation. He urges scrupulous care in regard to disinfection of articles used by persons with any cutaneous tuberculous affection, scrofuloderma, etc., and regards cutaneous tuberculosis as, in fact, a more threatening source of infection than pulmonary tuberculosis, for the reason that its tuberculous nature is so often unrecognized. Dressings used by persons with tuberculous lesions of the nose, vulva, vagina or uterus, etc., scrofuloderma, miliary tuberculosis and lupus should be burned at once and attendants should frequently disinfect their hands.

414 Marquette Building.

DISCUSSION.

DR. J. H. DUNCAN, St. Louis—From the description of Dr. Campbell's case I could not help thinking there might be a mistake in the diagnosis. I could not make up my mind that it was a typical case of lupus vulgaris, but rather some other tubercular condition of the skin. I learn that there was a difference of opinion as to the character of the case when it was presented to the Chicago Dermatological Society.

DR. JOSEPH ZEISLER, Chicago—I should like to use this occasion to emphasize that dermatologists should be exact in their diagnosis of cases which fall under the generic term of tuberculosis of the skin, pathologically speaking. I long ago joined with those who look on lupus as an absolutely classical manifestation of tuberculosis of the skin. But with others, I recognize a great many other forms of tuberculosis of the skin, many of which have been mentioned in this paper and which are clinically totally different from lupus. Yet, we still see a great deal of slipshod use of the term tuberculosis of the skin, which, in the last ten or fifteen years, has become to many what we would call in German "eine Eselsbrücke" (*pons asinorum*). In other words, it is used by a great many to cover up their unfamiliarity with clinical dermatology when a distinct variety of cutaneous tuberculosis should be specified. Particularly is it necessary, it seems to me, to retain the term lupus for all those forms of tuberculosis which belong to the classical type we have all learned to recognize as lupus, a disease which begins in early life and is characterized by deep-seated, brownish nodules, which may retain their condition for many years. A diagnosis of lupus is often made not in harmony with this clinical picture. The fact Dr. Campbell has pointed out that his patient acquired her trouble at the age of 48, or something like that, would not necessarily confuse me. I have formerly believed and taught that lupus always begins before puberty, but that can not be maintained at the present time; we certainly see cases of true lupus which begin later in life. I would not question the Doctor's diagnosis on that account. I was somewhat surprised that Dr. Campbell found it necessary to differentiate his case from tuberculosis verrucosa cutis. To my mind tuberculosis verrucosa cutis is distinctly confined, as a rule, to the backs of the hands and fingers, and I could not gather from his description that there was that peculiar wart-like condition or small stalactite prolongations from the skin which I would consider necessary to make that diagnosis. In conclusion, I wish once more to urge the need of retaining the different varieties of tuberculosis of the skin under distinct clinical names rather than to make it too easy for us by grouping all of these cases under the generic term of tuberculosis.

DR. HENRY G. ANTHONY, Chicago—I agree with Dr. Zeisler that we must maintain very strictly our divisions, and that we must look on lupus as a distinct type to be separated from everything else. Further, I agree with him that it has heretofore been used in a loose manner very frequently.

I had an opportunity of seeing Dr. Campbell's case. It was shown before the Chicago Dermatological Society. Some of those present made a positive diagnosis of tuberculosis verrucosa cutis and disputed the diagnosis of lupus. I was interested in the histologic picture the case presented, I therefore obtained from Dr. Campbell some of the tissue and studied it with care, comparing it with a section from tuberculosis verrucosa cutis, and it corresponds with lupus in every way.

DR. R. R. CAMPBELL, Chicago—In answer to Dr. Duncan's criticism, I tried to clearly set forth that no claim was made that it was a typical case of lupus vulgaris, but that we should be able to recognize and diagnose atypical as well as typical cases; furthermore, that we must recognize that we have borderline cases.

Regarding the suggestion of Dr. Zeisler, I question if tuberculosis verrucosa cutis should come into consideration. It was brought up at the meeting of the Chicago Dermatological Society, and Dr. Zeisler himself at that time suggested that we must look for the cause of the infection, that while he concurred in the fact that it might be a case of lupus, and probably was, yet he would like to know where the infection came from, as it was unusual to find the disease beginning at that period of life. As to tuberculosis verrucosa cutis occurring only on the backs of the fingers, we have exceptions to that rule. I have in my practice now a case of tuberculosis verrucosa cutis of the fingers and over the patella, and several months ago I discharged as cured a case of tuberculosis verrucosa cutis of the buttocks, referred to me by Dr. J. B. Murphy of Chicago, to be treated with the *x*-ray. I think we should be cautious about laying too much stress on the classical seats of diseases.

6. Diseases of the Skin, p. 689.
7. Neumann: Wiener Klin. Rundschau, vol. xvii, No. 1.

THE STUDY OF PEDIATRICS:

IS IT WORTH THE ATTENTION IT GETS, AND DOES IT GET THE ATTENTION IT DESERVES?*

C. F. WAHRER, M.D.

FORT MADISON, IOWA.

The subject of my paper consists in two questions that seem antithetic to each other, and I ask these questions in the same spirit that evoked the old and trite saying, as true as it is old, "Whatever is worth doing at all is worth doing well." If the symptomatology, etiology and treatment of the diseases of early and adult life were precisely alike there would be no need for the special study of pediatrics; but they are not alike, as they differ often in their pathology, yea, even in their anatomy, to such an extent that good treatment for a given disease in an adult would be bad treatment for a child. Again, some diseases that in childhood are very severe and correspondingly fatal, in adult life are extremely mild or do not appear at all or at least are rare, and the converse is exactly true of others. So the reason for the Section on Diseases of Children, in which their ailments are especially studied, is clear enough.

Now, is the study of this class of diseases worth the attention it gets? Some say "No," because it would not pay a man, except in the very largest cities, to confine his practice to children exclusively; he could not make a living at it. Now, for sake of argument we admit that, and while doing so ask another question—a habit we acquired when a small boy—namely, "What per cent. of the general practitioner's work is among the children, namely, all his patients from birth till their eighteenth year of life?" And further, "How many times has he made his entry into a good family's practice because baby was sick?" I hazard the answer that by far his largest income is derived from that source, both directly and indirectly. Directly because there are more children than adults; not so much among the 400, but, thank our luck, among the 400,000; and secondly, because children are more frequently sick than adults, even were they of equal numbers.

Another reason that might be adduced is that most parents are more solicitous about their sick children than about themselves, and that physician who can successfully cope with children's diseases can most easily find the way to the mother's heart, which is the golden key that unlocks the door that gives you entry to the whole family. Parents will risk their lives, or all they have, when their children are in danger. A mother, especially, would rush into a burning house if she thought one of her children were in it, and she would not question for a moment concerning her own danger. Likewise when a child is sick, she will send for medical aid much sooner than if she herself were ailing. She will also readily detect the skill, or want of it, of the physician called, and if she is convinced of his inability in treating her baby, she will have very little confidence in him hereafter for any other member of the family no matter how skilful he may be in other branches of the medical art. It is very foolish, and worse than silly, even criminal, for some general practitioners to assert, as one frequently hears them do, that any old lady who has raised a family of children can do more for a baby than any doctor; that children do not need any medicine, anyway that they are very difficult to treat, because, lacking intelligence in direct ratio to their youth, they can not give you any information as to their subjective symptoms, and if old enough to give information, it is likely to be faulty and misleading, and a lot more such fallacies and twaddle. I should be ashamed of my profession and doubt my own conscience were I to make such admission to anyone, and even if I felt that way it would be all the greater an incentive to study the ailments of early life all the more for feeling the want of proper information on this most interesting and valuable part of a medical man's knowledge.

If, as one of our older authors has said, "The child is father of the man," I hold it is equally true that pediatrics is the mother of general medicine.

Because a small boy has not achieved greatness or distinction, and he is only a street gamin, or perchance, even a child of unknown parents, it is not considered as much honor to treat him as it would be later on to treat this same person after he is the judge, the colonel or the general, the governor, or his excellency the president, some distinguished literateur, statesman, prince or potentate. It is no sign, nor does it logically follow, as the day follows night, that the study of pediatrics is less dignified, less distinguished, than that of general medicine.

The man who recently gave an example of his bloodless reduction of congenital hip dislocation is a pediatrist from the nature of his work and its limitations, and yet he received more notoriety from both the professional and lay press than any dozen or more of the other members of the medical specialties, either at home or abroad. He has shown us that there is an honorable and useful field open in this department, and I desire to remark, there is yet much unexplored territory that awaits others who will take the pains to investigate, and their labors will not go unrewarded, neither financially nor otherwise.

As I do not intend to go at this proposition polemically, I will say in the affirmative, that the study of pediatrics is worth all the attention it gets and far more.

This assertion almost covers the answer to the second question, "Does it get the attention it deserves?" So I will prefix my answer to my remarks on this part and say at once that it does not get the attention it deserves. In the first place, it does not get its proper attention in the medical college where it is claimed to be taught, but is not—or at least if so, only exceptionally.

In very few medical schools, either abroad or in our own country, do they have a special chair for teaching diseases of children, but it is usually taught by an associate or adjunct professor to the chair of internal medicine, and probably one lecture a week or every two weeks is devoted to it, and what is worse, not always is this chair filled by some distinguished man, but by one who is cutting his eye teeth preparatory to masticating the bigger chunks to be bitten off later. Frequently the student is given to understand, if not directly told, that the subject is of minor importance, and he would better give his special attention to pathology, bacteriology, obstetrics and gynecology, where his especial attention is directed to tubes, ovaries, hysterectomies, appendices and other glittering promises of surgical paraphernalia, fame, wealth, success, where, like military heroes, he can "wade through slaughter to a throne."

Of course, these are all necessary, but of how much use are they to the average tyro in practice? That comes later, after the baby has had a convulsion, or midnight croup, and thus introduced him to the favorable notice of the family.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

When I studied pediatrics I was taught it by my professor of chemistry, toxicology, materia medica, therapeutics, hygiene, state medicine, diseases of women and children. See? All one man, but he was versatile! Yet I am still at a loss, that of the many subjects he was professor of which of these he taught me most, but I am sure it was not pediatrics. If I know anything about that I learned it later. I learned much of it right here in this Section, from the papers I hear read and discussed (and which I reread later in THE JOURNAL), which were written by many of the distinguished authors who think it not beneath them to cast their lot with us. Now, while I am talking about its teaching in our medical colleges, I wish to assert my opinion, that aside from having special books on diseases of children, it were well to learn this matter by comparison. For instance, when a given disease is discussed in a treatise on internal medicine, its etiology, clinical history, pathology, anatomy, diagnosis, prognosis and treatment, it would be well to remark of its behavior in childhood, where it is similar or dissimilar from its manifestation in adults, and by these means much good were done to rivet the attention of the student to this important branch of medicine. Some authors do this in part, but most of them do it in a half-hearted way. I am sure if it were done as I fancy it should be done it would save much separate study, much book buying and reading over and over again in ponderous tomes and voluminous cyclopedias, which often reminds one of threshing over an old straw stack for the sake of a few grains of good wheat one might find. It were far more profitable to go to the flour bin at once.

Again, I want to draw your attention to an expression now principally used as an echo of the past, namely, the term "family physician." When you analyze this expression you will easily find it relates mostly to the man who treats the children of the family. While in general practice it often becomes necessary to call in some specialist, one who truly has made special study of a particular class of ailments, yet the family physician gets to see, diagnose and treat these cases first. Whether it be a mastoid trouble, a middle-ear disease, a sigmoid sinus thrombosis, a laryngeal croup, where intubation or tracheotomy must be done, an appendicitis that must be operated on, a fractured skull elevated or resected, or what not—no matter, the family physician sees most of them first, and he should be capable to diagnose and treat, or know fully when his work and knowledge need be supplemented by the proper special assistance; this in itself is no small accomplishment. When this state of things comes to pass, that is, when all medical men learn more of pediatrics and give it more of the attention it so richly deserves, then

> The air so full of farewells to the dying,
> And mourning for the dead;
> The heart of Rachel, for her children crying,
> Will not be comforted.

will find less application than of old.

After the loss of one of his children the poet Longfellow said:

> There is no flock, however well attended,
> But some dead lamb is there.

And yet I think if we knew more of the ailments of our little ones there would not be quite as many dead lambs, and angels would have to be recruited from older candidates.

And now, not only to the Section of Pediatrics, but unto all departments in medicine do I quote:

> Ah, what would the world be to us,
> If the children were no more?
> We should dread the desert behind us,
> Worse than the dark before.
> What the leaves are to the forests,
> With light and air for food,
> Ere their sweet and tender juices
> Have been hardened into wood,
> That unto us are children;
> Through them we feel the glow,
> Of a brighter and sunnier climate
> Than reaches the trunks below.

To you, my fellow workers in this section of God's vineyard is dedicated this sentiment: "The study of pediatrics is worth all the attention it gets, and it does not get all the attention it deserves." "Go ye into all the world and preach this gospel."

1007 Fifth Street.

DISCUSSION.

DR. W. F. BOGGESS, Louisville, Ky.—That pediatrics is a subject that has been woefully neglected in the past we will all acknowledge, and it is undoubtedly true that it is a subject which appeals to all of us in the medical schools. If I can teach two facts each year to my medical students I feel that my labor has not been in vain. One of these is, that the diseases of children constitute an individual study. We have just heard of the wonderful disturbances of nutrition in children, and the differences in the development of the nervous system of children and adults. The future men and women will depend on the health of the children, and if we do not take care of our children along the special lines we need not expect future generations to be healthy. The other fact is that the students are to be impressed with the utmost optimistic views in the treatment of diseases of childhood. We have the most occult diseases to deal with, and the most profound disturbances to recognize, with but little help from the patient. We have unknown quantity as to the resistance and recuperative power. We know, nevertheless, that by proper treatment we can often bring back the most discouraging cases to perfect health and hardihood. The schools, I think, are waking up to the fact that we should no longer turn over this very important subject to an assistant, and that the subject is worthy of a full professorship—indeed, should have several professorships, for it is one we can not teach too thoroughly.

A CASE OF PROBABLE GUMMATA OF THE LIVER IN A CHILD OF SIX.*

MAURICE OSTHEIMER, A.B., M.D.

Instructor in Children's Diseases, University of Pennsylvania; Physician to the Children's Dispensary, University Hospital; Physician to the Medical Dispensary, St. Christopher's Hospital for Children.

PHILADELPHIA.

The case which I have the honor to report is that of a girl of 6, rather small and thin, but, according to her mother's account, always well except, temporarily, during attacks of measles and whooping cough. Her parents are both living, but are generally intoxicated; if only one be found, the other is probably "off on a spree." The father is a steady drinker and contracted syphilis about twenty years ago. Out of thirteen pregnancies, seven of which terminated by abortion, but two children are still living, a healthy man of 23 and this little girl. The others died between 3 and 10 years of age from various causes. No history of tuberculosis was obtainable.

The patient, who was not living with her mother, was first brought to the dispensary of the University Hospital, July 21, 1902. She had complained of pain in her right side two weeks before; this had been followed by slight fever, nausea, vomiting and jaundice. She was constipated and her passages

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

were clay colored, but there was no pruritus. During the four days of fever, her highest temperature was 100 F. As she had failed to improve, she was brought to the dispensary, where examination showed a small, thin child, greatly jaundiced, the conjunctivæ deeply icteric, with prominent superficial veins of the chest and abdomen. The liver was freely palpable, reaching nearly 4 cm. below the margin of the ribs in the median line. There was at this time no tenderness or ascites. The spleen, while slightly enlarged to percussion, was barely palpable. Heart and respiration were normal. There were no traces of the keratitic, iritic, bony or cutaneous lesions of hereditary syphilis. Nor had she Hutchinson teeth, as the second teeth had not yet appeared.

While her symptoms suggested acute catarrhal jaundice, the history, in spite of the absence of any other characteristic physical signs of congenital syphilis, pointed so decidedly to a probable syphilitic condition that protoiodid of mercury (gr. 1/12) and sodium phosphate (3 j) were given four times a day. On this she began to improve, the bowels became regular, nausea and vomiting ceased, and there were no more fever and much less jaundice when she was seen again, July 28.

Some days later, though this treatment was continued, swelling of the abdomen was noted. This gradually increased for about ten days, when she was admitted to the hospital (August 14). The fact was then elicited that treatment had been stopped over a week before admission. Examination now showed a very prominent abdomen, making the extremities seem much emaciated in comparison. There was no doubt of the presence of ascites, movable dulness in the horizontal position reaching to a circular area around the umbilicus, about 4 inches in diameter. There was pain in the right side of the abdomen, with evident tenderness on both sides. Careful examination showed excessive tenderness over the liver, in the midclavicular line, about midway between the umbilical line and the margin of the ribs, extending nearly to the edge of the ribs. On account of the ascites, the liver was not plainly palpable, while attempts to feel it produced great pain. No visible apex beat was found, and cardiac dulness seemed smaller than normal, probably from upward displacement of all the viscera due to the ascites. A faint systolic murmur was audible, heard best just above the apex, with marked accentuation of the second sound near the aortic cartilage. The lungs appeared normal. There was no edema of the face or extremities, no pleural effusion, nor any suspicion of cyanosis.

The ascites gradually diminished on milk diet, gray powder and potassium iodid (āā gr. ij, three times daily), with Basham's mixture and sodium sulphate (āā 3 ij, daily). Examination two days later showed that the liver, now palpable, was still somewhat enlarged, though not so greatly as at the first examination, over three weeks before. Its lower margin was felt 3 cm. below the edge of the ribs, and a somewhat tender, nodular area was now distinctly palpable, about the size of an acorn, midway between the umbilical line and the margin of the ribs, in the right midclavicular line, continuous with the surface of the liver. The spleen was not palpable, though still slightly enlarged to percussion. Urine analysis showed traces of albumin, together with a marked indican reaction. From 16 to 32 ounces of urine were passed daily, and the improvement continued, jaundice and ascites rapidly diminishing. As these had both disappeared by August 24, all medication except the antisyphilitic treatment was stopped, and her diet was increased. The nodular mass in the liver was no longer so plainly palpable, and the liver had decidedly diminished in size. Two days later she was out of bed for the first time, and left the hospital in excellent condition September 3. Her liver seemed of normal size at this time, reaching almost 2 cm. below the margin of the ribs in the median line. She was given specific treatment, to be continued during one week each month. This was carried out until Christmas, 1902. Since that time she has had no treatment and has kept perfectly well.

From the course of the disease it seems that this affection of the liver, undoubtedly syphilitic in nature, should be grouped among the manifestations of late hereditary syphilis (syphilis tarda). The family history shows the presence of syphilis; and the fact that early signs of congenital syphilis were not noticed in the child can probably be explained by the lack of attention which she received on account of the usual intoxicated condition of one or both of her parents. Some characteristic symptoms were probably present in early childhood or infancy, though they passed unperceived. The excellent results on antisyphilitic medication tend to prove that this hepatic condition was syphilitic in nature.

But few such cases have been published. In fact, syphilitic hepatitis, while common in infantile congenital syphilis, is rather rare among the manifestations of late hereditary syphilis. Outside of the case reported by Dr. D. L. Edsall,[1] which, as his resident physician, it was my privilege to study, I have been unable to find more than one other case of gummata of the liver in late childhood in the literature of the past twenty years, that of Barth.[2] Very few comprehensive articles on the manifestations of late hereditary syphilis are to be found at all, and reports of cases are rarer still. Fournier[3] devoted an entire volume to them, while Barthélemy,[4] in 1884, was able to collect but 30 cases of late congenital syphilis occurring in patients ranging from 2 to 34 years of age, confirmed postmortem. In but 6 of these patients were gummata of the liver the only lesions found at autopsy, while in 13 there was marked interstitial hepatitis beside the gummata. Hudel's extensive monograph on syphilitic hepatitis, quoted by Holt,[5] was unfortunately unattainable. In 1890 he was able to collect only 47 cases of late syphilis of the liver, including those of Barthélemy.

Edsall's case occurred in a girl of 14, whose only signs of congenital syphilis were deafness, ozena and scars from an ancient keratitis. There were dyspepsia, headache, dyspnea, loss of flesh, edema of the face and extremities, anasarca, double pleural effusion, ascites and two large, hard, nodular palpable gummata of the liver. She was sent into St. Christopher's Hospital for Children with the diagnosis of sarcoma of the liver. Her spleen was also somewhat enlarged. There was albuminuria, but no fever at any time. On mercurial inunctions and potassium iodid the masses disappeared in two months, yet the liver remained hypertrophied and hard. A year after discharge from the hospital examination showed a completely normal liver. A somewhat similar case, in a girl of 15, has been reported by Barth, with postmortem confirmation. Delbet[6] reports an interesting case of gummata of the liver in a child of 2½ years, with ascites and slight jaundice, on whom laparotomy was performed for a supposed malignant growth. Recovery followed.

The pathology of the late hepatic manifestations of hereditary syphilis has been discussed by Barthélemy, Fournier and Hudelo. Barthélemy finds the form in which there are only gummata very rare, while that containing gummata with diffuse interstitial hepatitis is more frequent. Fournier[3] considers diffuse interstitial hepatitis the most common form of late hereditary syphilitic hepatitis, cases of which have been reported by Engel,[7] Depasse[8] and Créquy. Fournier states that gummata, when present, are, as a rule, only found at autopsy. Therefore, a hypertrophied liver, cured on antisyphilitic treatment, may have contained gummata which, perhaps, were situated where they could not be palpated. Thus it is more correct to consider both forms together, the gummatous and the diffuse interstitial hepatitis. Rarely the hepatitis may be amyloid.

Fournier considers jaundice an unusual symptom. Henoch[10] considers both icterus and ascites rare with syphilitic hepatitis. Beside the irregular enlargement of the liver, the spleen is usually somewhat enlarged, and albuminuria points to some renal involvement. Baginsky[9] reports the case of a boy of 4 with keratitis, followed later by swelling of the left lobe of the liver with ascites, slight icterus and hematemesis. In most textbooks the subject of hepatic affections in hereditary syphilis receives but scant attention. Osler,[11] Holt and Gerhardt[12] mention the occurrence of gummata of the liver in late hereditary syphilis; Comby[13] notes the occurrence of diffuse interstitial hepatitis with gummata, ascites and pain.

The diagnosis is not difficult when other characteristic signs of hereditary syphilis are present. Yet, as Edsall states, these cases are generally mistaken for malignant growths of the liver. Fournier believes that many cases of gummata of the liver escape attention because they usually run a symptomless course. Edsall also refers to the possibility of calling the condition leukemia or splenic anemia. Henoch, in his large experience, has never seen a case of late hereditary syphilis. He believes that many of the cases described by Barthélemy were simply chronic interstitial hepatitis from some other cause. This is evidently not the case, however, as the existence of this condition has been proved by pathologic examination. Engel calls attention to the predominance of the female sex among the few cases of late syphilis of the liver reported, in all less than 50, including the cases both of diffuse interstitial and gummatous hepatitis, as manifestations of late hereditary syphilis.

It is, of course, possible in this case that the syphilitic affection may have been acquired and not congenital. But the family history is so decidedly typical and the possibility of the early symptoms having passed unperceived so perfectly probable that it seems unnecessary to search for further explanation. The presence of the distinctly palpable node on the surface of the liver also excludes simple hypertrophic cirrhosis, for which, besides, there was no known cause. Though such cases are rare, they probably occur more frequently than is commonly supposed, passing unperceived or being mistaken for malignant growths of the liver. From the standpoint both of diagnosis and treatment these cases are most important, since, even though syphilis only be suspected, specific treatment deserves a trial and may effect a cure.

My thanks are due to Dr. J. P. Crozer Griffith for the privilege of reporting this case. The patient was under treatment on his service last summer during his absence from the city.

225 South Twentieth street.

REFERENCES.

1. D. L. Edsall: Archives of Pediatrics, 1901, xviii, p. 425.
2. H. Barth: La France Médicale, 1882, ii, p. 605.
3. Alfred Fournier: "La Syphilis Hereditaire Tardive," 1886.
4. M. Barthélemy: Archives Générales de Médecine, 1884, xiii, p. 513.
5. L. E. Holt: "Diseases of Infancy and Childhood," 1897, p. 1055.
6. Delbet: Revue Mensuelle des Maladies de l'Enfance, 1893, ii, p. 33.
7. Hugo Engel: American Journal of Obstetrics, 1883, xvi, p. 97.
8. Depasse: Revue Mensuelle des Maladies de l'Enfance. 1886, iv, p. 360.
9. Adolph Baginsky: "Lehrbuch der Kinderkrankheiten," 1899, p. 906.
10. E. Henoch: "Verlesungen über Kinderkrankheiten," 1890, p. 113.
11. W. Osler: "Principles and Practice of Medicine," 1898, p. 244.
12. Gerhardt: Berliner klinische Wochenschrift, 1900, xxxvii, p. 1048.
13. Jules Comby: "Traité des Maladies de l'Enfance," 1899, p. 176.

DISCUSSION.

Dr. R. B. Gilbert, Louisville, Ky.—Late syphilis of the liver is certainly very rare; I can only recall two cases in my experience, and these were rather recent. The first of these cases was very much like the one reported in the paper. It occurred in a girl of 5 years, and the ascites was enormous and proved most rebellious to treatment. After some hesitation I tapped the child and took away a little over one gallon of fluid. After this medicine seemed to have some effect, but the fluid accumulated again very rapidly, necessitating another tapping in about ten days. After this she improved steadily, and under mercury and iodid of potassium was restored to full health. The other case was a female infant of 18 months, with an abdomen so enormously distended that breathing was greatly impeded. I drew off from this child over one quart of fluid with great relief to the little one. This was only a few days ago, but I expect a good result. The paper has greatly interested me because several clinicians criticised me severely in connection with my first case, and advised against any radical or heroic treatment.

Dr. C. F. Wahrer, Fort Madison, Iowa—I often wonder how much hereditary syphilis complicates many of the diseases of childhood or masquerades under the guise of some other disease. I have felt that when in doubt mercury or iodid of potassium, or both, should be given.

Some time ago I was called to a little girl of 4 years who was supposed to be in danger of dying. I examined the child and found a weakness of the heart, but none of the classical symptoms of any special variety of organic disease. The child had had none of the diseases usually causing disease of the heart, yet the heart muscle was weak and the innervation of the heart appeared to be disturbed. I privately inquired into the previous history of the patient, but obtained no information. I was subsequently called to see two other children in the same family who were similarly affected. Finally the mother came to me to be treated for syphilis, and then she told me that her husband had contracted syphilis some years before, and had been improperly treated. I then learned that two of her children had presented evidences of syphilis and had died very suddenly after birth. I accordingly put the whole family under treatment, and three years later the mother gave birth to a child, who now, at the age of 8 years, appears to be perfectly free from syphilitic taint. Since this medication the other children have had no more attacks of heart trouble.

IS THE REALIZATION OF REASONABLE IDEALS IN DENTAL EDUCATION NEAR AT HAND?*

CHAS. C. CHITTENDEN, D.D.S.
MADISON, WIS.

Reasonable ideals in dental education would seem to be defined by those standards as yet unattained and not yet in practical working, but which are admittedly possible and desirable in the estimation of the leading dental teachers, practitioners and examiners of this and foreign countries as expressed and promulgated by them personally and in the councils of the great national and international organizations. In no other country in the world is dentistry esteemed so truly a separate and distinct science and profession as in the United States of America.

Most of our schools are independent of and free from domination by the medical profession and medical schools, which is a condition not at all to be found in the schools of Europe, where our beloved profession is held as a mechanical art tacked onto a background of medical didactics.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee: Drs. M. L. Rhein, M. H. Fletcher and Wm. E. Walker.

Every enthusiastic lover of his profession probably has formed an ideal for himself, or for some one in whom he is interested, which should represent the summing up of his dream of educational perfection in dentistry, but the chief difficulty in the way of the general adoption of these ideals is, that they are as various as they are ideal. One man will urge that an academic degree is of main importance, preparatory to the study of dentistry at all, while another will insist that beyond the simplest of common school preparation the wisest educational prerequisite for dental college is found in a term of pupilage in the office of a successful practitioner where the study of text-books is a mere incident and the education is conducted on the principle carried out by the celebrated Mr. Squeers at Do-the-boys Hall, England, *i. e.*, teaching spelling as follows: "w-i-n win, d-e-r der, winder. Go and wash it."

And then there are all the intervening ideals that can be thought of, as wide in variation of detail and almost as numerous as the personnel composing the dental profession, and it will not be denied that there is fully as great a percentage of dreamers, cranks and would-be prophets and leaders among us as is to be found in any other calling. It is out of the multitude of counsel, based on actual experience and effort, that reasonable standards can be evolved. The educators and examiners have been each and all striving for wise standards, that will fill the educational ideals for some years to come, and also be practicable and attainable as a general fair minimum requirement by all educational institutions worthy the name. The dental literature for the past several years has overwhelmingly pointed to high school graduation and four years of special dental training as the minimum place where standards could be with safety set up and permanently established. The variations in standards for high school in different portions of our country are great. Indeed in some states having dental schools there is practically no established high school worthy the name. But like all other commodities schools accommodate their curriculum to the demand, and, at any rate, equivalents can be easily and fairly set up through the system of preliminary examination now in operation under the rules of the two national associations of faculties and examiners, so that the decision as to what is a reasonable requirement in high school graduation can be very easily attained. And even where there are elective high school courses to be had, it is but a matter of detail to elect and maintain a reasonable equivalent. The college course has been advanced for several years to three years for graduation, and the addition of the fourth year to the curriculum which is to be inaugurated in the present year in all our schools completes what may be properly denominated reasonable ideals in dental educational standards.

If all the schools composing the N. A. D. F. were departments of properly endowed universities, and thus relieved of the everlasting commercial handicap, there would be no question as to the immediate establishment of reasonable ideals. But the fact obtains that a large majority of them are practically struggling for existence and feel they can not be too particular in their standards.

Having fairly determined what should be demanded and established in standards the question arises, who shall establish and be responsible for the carrying out of these standards? The answer is, the colleges through their national associations and the examiners standing behind, protecting, insisting and encouraging by the official authority that is in them vested. This being accepted as the proper method, all obstacles that beset the path and intercept the attainment of the goal must be squarely faced, with the view to most directly overcome them or pass around them in the onward course. The men to be convinced and enlisted and the means, the employment of which will most likely and directly conduce to the ends sought, are important. What is the power that must be invoked?

For over forty years dental schools have been pursuing their steady growth in size of classes and in numbers without there having been set up a single fixed minimum educational requirement for beginning a school course that could be in any sense claimed to be an established prerequisite. The demand for skilled practitioners was so great during the period of phenomenal growth and development of this great country following the close of the Civil War that perhaps it was as well that this should have been so, but to-day the demand is not so much for mere artisans as for educated, scientific, professional—gentlemen, if you please—who shall be competent to take the helm and guide the destinies of a great profession that is more nearly an exact science than any other, except it be, perhaps, the law.

Attempts at the raising of requirements have been continuous, and the past five years have seen the establishment of two years' high school preparation, and the present year inaugurates the four year course. This advance up to date, in spite of the prediction of the pessimists and conservatists that putting up the bars would financially ruin the smaller schools, has been followed by an era of unprecedented prosperity to the schools, and when it has been honestly enforced the quality and character of the college output has been in the main materially improved.

The universities have been held back for years, hoping by slowly raising the educational requirements to enable the weaker schools to keep pace and so hold the national body together. It would seem that this has proved a mistaken policy, for the proceedings of the national association of colleges are filled with charges and trials, convictions and fines against school after school for the violation of the plain rules of the body as regards the receiving and giving standing to students taken into their classes, with no other earthly object apparent than to swell the income of the struggling institutions. This is, of course, human nature, but it is none the less scandalous, notorious and disreputable in the highest degree and should be branded with the condemnation of the profession at large.

A case in point of what is constantly going forward in the effort to swell classes at whatever risk (and the half of which is never brought to light) is that of an endowed university which was compelled to refuse admittance to its classes the present year to about thirty matriculants because they did not possess the prerequisite education for admission to the third year of high school, as required by the rules of the two national associations. These men applied elsewhere, and most of them, it is believed, are now enrolled in the classes of other schools belonging to the association.

Another instance is that where one school sought (and did in some degree succeed in its undertaking) to swell its own classes by sending out emissaries, cappers, or steerers, offering in wholesale lots to almost the entire classes of a competing school reduced tuition rates varying from $25 to $65 for the $115 advertised tuition fees.

Another instance of flagrant attempts on the part of schools in the full membership in the N. A. D. F. to

evade the rules is where one of them, by the admission of its dean, has taken into its freshman class for regular work a number of matriculants who had signally failed to pass the preliminary examination (set up by the national association as its minimum standard for admission to classes) before the duly accredited appointee of the state superintendent of public instruction, and then attempting to build up some sort of excuse for its conduct by not only attacking the educational fitness of the examiner, who, by the way, is the honored principal of a district school in a large and flourishing northern city, but also by attacking publicly his character as an honest man and public servant, and thus attempting to excuse itself for having these men in its classes at all, even under the name of "specials" and "in our preparatory classes, besides doing regular freshman work." And this school is evidently banking on being able to control enough "influoence" in the national association to cover up or else explain away its conduct or, at the most, escape with a "fine," as though payment of money could in any sense atone for the violation of the law of common honesty.

There is also the lamentable spectacle of schools posing as the very "ideal" of everything desirable and whose official heads are shocked and hurt at the mere suggestion that any one should presume to criticise them or question their reputability, that are constantly and persistently flooding the secular press of the country with paid pictorial advertisements of their classes, football teams, handsome, noted and extra-skilled teachers and instructors, exploiting the peculiar advantages of the institution and its professors over all competitors, all done in a style to put to the blush the common advertisers of the cheap "dental parlors" type.

Such things unchallenged and unrebuked certainly do not tend to the realization of ideals and most certainly do not offer incentives to enter our profession to the class of young men our profession most lacks. This is the sort of thing which has always stood in the way of the proper establishment and maintenance of ideal standards. It would seem if we are to establish ideals for practical use that the public stamp of condemnation should be put on such practices and the guilty institutions incontinently thrown out of the national organization and made a public example of.

It is futile for this body, composed of the membership of the "reputable" colleges of this country, to adopt for the government and conduct of its members certain rules and standards and methods of procedure based on high ideals of ethics and mutual protection, to be accepted by the profession at large as a criticism of the schools' reputability, and then devote a large part of its annual sessions to inventing excuses and apologies for flagrant and open violation of the letter or spirit, or both, of these standards and rules, thus giving to the outside world the very reasonable impression that the body is dominated by anything but the real spirit of building up ideals that their rules and standards would indicate. It is high time that the college association awaken to the realities of the situation. There is at this time, as a result of years of struggle and contention between schools and the examiners for the establishment of specific standards, accepted by the schools and made by the boards their measure of reputability—there is now, I say, a period of mutual accord and trust and peace between these bodies which should be the harbinger of better things to come. The schools are assured of protection by the boards from any infringement and violation by competing schools, made and provided that the college association will purge itself of the violators and enforce its own rules without fear or favor.

In order that ideals may be sooner and more surely established and maintained the boards of examiners, with all fairness and reasonable consideration for the interests of honest educational efforts, must, nevertheless, be mindful of their official oath to carry out not only the letter but also the spirit and intent of the law for the protection of the public. They must, in national association, stand squarely together on reasonable requirements and, more than all else, have the courage of their convictions in passing on the character of the colleges and their output, constantly having in mind that the goddess Justice does not close one eye and blink the other when on duty.

If the schools will rise to the occasion and set the pace the examiners will most assuredly help and sustain them in holding it steadily up. If N. A. D. F. will not purge itself and be honest in enforcing its rules there will be but one way to move the profession forward, to-wit, the better and honest schools will naturally unite themselves together and the examiners must join them in a newer and higher emprise on a surer and, it is to be hoped, better laid foundation.

DISCUSSION.

Dr. Eugene S. Talbot, Chicago—There is perhaps no one in the country so well posted on the management of dental colleges as the essayist. He is one of the foremost men who has been looking forward to the future of dentistry and has done a great deal in the way of legislation. He would have been here at this meeting but for the fact that the legislature is now in session and changes are being brought about in the state law in Wisconsin. He wished me to extend his thanks to the Association for its courtesy in having his paper read and regrets that he could not be present.

There is no doubt that there is a good deal of underhand work going on in some dental colleges. I know of three or four dental schools in which agents are sent out soliciting students. A percentage is paid these agents for procuring the students. There are many other glaring deficiencies in the methods of obtaining students. I was somewhat surprised that more was not said along these lines.

I understand it is the intention of the national board to bring this subject before their meeting for the purpose of discussion. I believe the time has arrived when the departments of dentistry connected with universities will have a large influence. Now that the universities have a method for the purpose of uniforming the education in all their departments and also for the purpose of raising the standard of qualification for admission to these different departments, the time is near at hand when the graduate of dentistry in this country will be on an equal standing with the graduates of other specialties.

Dr. M. H. Fletcher, Cincinnati—I do not know that I have much to say, except that I am interested in bringing about a higher standard of dental education. As a member of our State Board of Dental Examiners for five years, I have been greatly chagrined to know that our laws compel examiners to give such elementary questions. I would consider a first-course student in either dentistry or medicine below the standard if he could not pass such an examination. There is every reason, from my standpoint, for extreme effort in raising the standard, and no doubt such men as the essayist and those interested in bringing it about need the co-operation of all good men in this work. I sincerely trust that the day is not far distant when the standard of efficiency may be raised.

Dr. M. L. Rhein, New York—It goes without saying how much we are in sympathy with the elevation of the standard of qualifications for admission to a dental educational school. I feel personally that Dr. Chittenden made his paper a little weaker than he intended when he spoke of the smaller colleges being irretrievably hurt by the length of the course, because I feel very much on this subject as was expressed by Dr. Billings, the President of the Association, in his opening address,

that the time has come when the smaller educational institutions must go out of existence. There is no use for them at the present time. I would even say that I think the idea of proprietary educational institutions is a mistake. I think this Section should come out flat-footed on the question of men enjoying a salaried position due entirely to the income of the institution with which they are connected. That has invariably been one of the worst features connected with proprietary dental education in this country. If the efforts to raise the standard of dental education is a blow at this sort of institution, it is a blow that is well merited and with which, personally, I am in full sympathy, because the sooner they are eradicated and destroyed so much the better for the interests of the country at large. How much better it would be if there were fewer institutions where there was a distinctive salaried position of an amount to enable the proper teacher to be selected irrespective of the necessity of earning their living by the practice of their profession. It is impossible at the present day for the real professor of any branch in a dental institution to be engaged in the active practice of his calling. His attention to practical dentistry should be confined to the infirmary division of the institution with which he is connected. That is the idea we have to look forward to in dental education. It makes little difference to my mind how much we raise the standard, if we fail to accomplish the real results.

There is just one little point of difference that I have with Dr. Chittenden in his paper, that is, the words of criticism that he makes at institutions of character for keeping themselves advertised, as he says, in the eye of the public, advertising their superiority over the smaller institutions. I hardly believe, if I could talk this matter over with Dr. Chittenden, that he would see this in the light in which he appears to, judging from his paper. To my mind, it is one of the forms that is necessary to use to drive out of existence the inferior institution. It is impracticable, in my view, to compare any one of our great institutions with an advertising dental parlor; so, I think, Dr. Chittenden has made rather an unfortunate mistake in a comparison of this kind. These large institutions are constantly before the eyes of the public in the public print. A very necessary form of the education of the young men today is the athletic surroundings of the university. There are differences of opinion regarding their value, but at the present time they have the sympathy and the accord of the American people. I myself believe that they play an important part in the welfare of our educational institutions. I believe they do good, and can do harm. Devotion of time to them to the neglect of studies is the same evil which besets every young man in all surroundings of life. A great deal of the advertising of departments of universities is of such a nature as is not directly sought for by these universities. It is worked up by the individual parties, and I personally see no harm in it. I believe this is a sort of competition which will bring out better features from the opposite institutions.

MR. T. CONSTANT, Scarborough, York, England—I have so little knowledge of the condition of education in this country that I am hardly in a position to speak on the subject. At the same time, speaking generally on the question of education, a subject to which I have given some attention, I think the most necessary thing in considering the educational conditions of any kind is to insist on a very high standing of preliminary education. The time that is necessary to give to the application of technical knowledge, when the mind is very receptive, as in the case of medicine and surgery, and especially in dentistry, is so largely devoted to the requirements of special knowledge that one's general knowledge is liable to be neglected. I think, therefore, that prior to examinations of special studies, one's general education should be as complete as possible. I feel that the fewer educational centers we can have the better. The facilities for travel now are such that distances are not the consideration they used to be, so that one great objection to having centers of education is removed. I therefore think that great harm is done, and I believe from my little knowledge, particularly so in this country, by multiplication of centers of education. On the same lines I believe myself in the uniform standard of examinations. I think if all the states of America united and had one national standard in examinations to which it became necessary for every student to present himself before being licensed to practice it would be a good thing. He could then succeed in taking the ordinary university degrees. License to practice, I believe, should be determined by national examining centers.

DR. W. E. WALKER, New Orleans—I believe the idea of the formation of great universities with dental departments is the correct one, and that the working out of the plan as it is being done in Harvard is really what it ought to come to; that there should be the unification of preliminary requirements for all the different departments instead of having one for medicine and another for dentistry, the basal studies being taken alike by all, and capped by the special work according to the field a man intends to make his life work, though the fingers should have some training throughout.

The question of preliminary requirements is a very difficult one to handle. Because it was found that when the dean examined the students he was so influenced, not only by his desire for the college to grow, but by the forces brought to bear on him by other teachers, that he would sometimes admit students that ought not to be admitted, it was thought to overcome that by the requirement that the dean should no longer examine students for entrance, but that the state or county superintendent of education should have the matter in hand. The law does not specify whether it shall be the superintendent of the county in which the school is located or in which the student resides. The result is that there is a different standard. We find many boys coming from the country where the standards are low and where the county superintendent will allow himself to be influenced by personal feeling and give him a certificate which he would not have received had he come to the educational center to be examined by the superintendent of the county in which the school is located, where the standard would be higher. I have an instance in mind in which a student was examined and refused by the examiner of the county in which the school was located and went home and was passed by the superintendent of the county in which the student resided. There must, therefore, be some changes in that direction. Just how it is to be done I do not know. A national body to examine all applicants would probably work most satisfactorily.

DR. CHITTENDEN*—The only comments I would make in discussion of this paper on educational ideals is as to the object and intent of the paper itself. As you are all aware, I have most excellent opportunities officially to gather correct information concerning what is going on in the dental colleges, some of which is open to criticism and condemnation. It was my desire, in this unofficial way, to acquaint the profession at large with the irregularities, quibbles and sharp practices that are being used and which the schools themselves appear to have the idea are unknown and never to be known by the public. It has seemed to me there has been enough posing and not enough plain honesty of purpose. The paper only hints at a lot of abuses which have, to those watching closely, become offensive, both in practice and frequency of occurrence. It is time the profession at large is fully informed of the situation and given an opportunity to speak out, demanding reformation. The keynote to the condition referred to is, of course, commercialism. There is no question that if honesty could be placed before money interest in the conduct of all the schools for a single year, and standards put where they reasonably belong, that the commercial side of dental education would take care of itself, and financial interests involved be greatly benefited, and it is a great wonder that the educators cannot or will not see this fact. The intent of the paper in detail was to throw some flashlights in silhouette that would bring a quick, sharp understanding of the situation into view, and nothing said in it has been engendered by or intended to convey any sense of bitterness or unfairness to the schools themselves. I have reason to believe the National Association of Dental Faculties will be given an opportunity this summer to squarely meet this situation, and I most devoutly hope and pray, for their own and dental education's sake as well, that they may meet it squarely in the spirit of true professional honesty and singleness of purpose.

* Dr. Chittenden not being present, his paper was read by Dr. W. E. Walker, New Orleans, and these closing remarks by the author have been furnished subsequent to the session.

THE ABUSES AND USES OF VENESECTION IN THE PRACTICE OF MEDICINE.*

ROBERT REYBURN, A.M., M.D.
Dean and Professor of Hygiene and Preventive Medicine, Medical Department Howard University.
WASHINGTON, D. C.

Though for centuries venesection was considered one of the most valuable methods to be employed in the cure of disease, it has now fallen entirely out of use.

The present generation of physicians, indeed, has seen so little of the practice of blood letting as a therapeutic agent that it is hard for them to realize how universally it was used even as late as the middle of the last century.

At the time the writer commenced the study of medicine (about fifty years ago) the favorite text-book used by medical students was Watson's "Practice of Medicine." It was indeed a charming book, and one that for beauty of style and literary diction could not be surpassed. It was, however, in some respects a most discouraging book. Watson would give the most vivid pictures of the symptoms and progress of diseases and yet when it came to their treatment all diseases were apparently treated in nearly the same way. His favorite method for the curing of nearly every inflammatory disease was practically limited to the administration of calomel or other mercurials and the free use of bleeding and blistering.

As I read this book I used to ask myself: Is it possible that our means of treating the physical ills of our patients are limited to the use of the above three methods, and its seemed to me that if such was the case then the practice of medicine was a delusion and a failure.

Fortunately, about this time (1853) I procured a copy of J. Hughes Bennett's great work on clinical medicine. I received from that book a light and illumination on my studies in the science of medicine that I never had before.

Bennett was a great clinical teacher and reasoner, and while he used bloodletting in a moderate degree, yet he combined with it the literal use of nourishing diet and stimulants. Like the immortal Graves, he was far ahead of his time. Graves was the man who at a time when all the physicians of his time were bleeding and starving their fever patients, dared to feed those liberally under his care. Dr. Graves asked that when he died they should carve on his tombstone, "Here lies the man who fed fevers."

The picture given by Le Sage in his immortal book, "Gil Blas," of the character of Dr. Sangrado probably aided largely in calling attention to the absurdity and harmfulness of the free blood letting, so much used by the physicians of that day.

In Gil Blas there is one exquisite piece of satire that we must quote. During a time of great sickness and mortality the notary is sent for to make the will of a sick man. He immediately asks the question, who is the attending physician? On being informed that it was Dr. Sangrado, he at once says they must hurry and lose no time, for if they do not there will be no opportunity to make the will.

Physicians seemed in that day to regard the inflammations of an organ as a monster that had taken possession of the part and that could be destroyed by the abstraction of blood from the veins or by blistering and the administration of mercurials.

The more accurate knowledge of our day (though still incomplete) has shown us that most, if not all, of the phenomena manifested in the course of the acute inflammations are due to the efforts of the organism to defend itself from the inroads of micro-organisms or the toxins produced by them. We know now, also, that no inflammatory disease can be suddenly cut short by any method of treatment. What we can do, however, is to guide it to a favorable termination.

Admitting, therefore, the utter failure of venesection as a means of cutting short or of curing acute inflammations, the question then arises, were our ancestors in the practice of medicine entirely mistaken in their practice of this now forgotten remedial agent? We should remember that this method of practice was employed by many of the brightest lights of our profession. The physicians of former times were just as acute observers of diseases as those who practice medicine now.

Have we then not lost something of value to our science in our entire abandonment of the practice of venesection? Are there not cases even now that would be benefited by blood letting, and have we not gone from one extreme to another in utterly abjuring it?

Arthur Helps, the great English essayist, says that when a man attempts to avoid error on one side he is very apt to fall into the opposite error. The pendulum of truth is apt to vibrate from the error on this to that of the opposing side.

There are now a considerable number of the members of our profession who believe that while the idea of cutting short an acute inflammation by blood letting is an absurdity, yet in certain diseases venesection is a valuable therapeutic measure, and in some cases is absolutely necessary to preserve the life of the patient.

VENESECTION IN CEREBRAL ENGORGEMENT.

The class of cases benefited by the abstraction of blood are chiefly those in which there is an abnormal blood pressure in the body which endangers the rupture of a blood vessel in the brain or causes a stasis of blood in some vital organ. Let me give an illustrative case:

Mrs. G., aged 56, was placed under my care a few months ago, for the following symptoms: First, a feeling of numbness of the right side of body, involving both upper and lower right extremities, persistent headache, more marked on left side; the headache increased in severity; then she felt very giddy on attempting to walk; her speech then became affected and articulation imperfect. On examining her, I found her to be a stout plethoric woman who had always enjoyed good health, and weighing about 170 or 180 pounds.

She had always been accustomed to living on a farm, and had usually been working a good deal in the open air. For about a year before I saw her, she had changed her occupation to indoor work. She was in fact during that period employed in taking care of an invalid lady and had remained a great deal indoors, very rarely leaving the house. She generally had enjoyed her food and had usually eaten a liberal supply of meat and nourishing food, and no doubt had partaken of more nutriment than her system needed.

Here was a plain case of threatened cerebral apoplexy, and she became very much alarmed (and with reason) as to her condition. Here was a woman past the menopause and having not the relief that menstruation might have given to the overfilled blood vessels, a woman suffering from a hyperemia with threatened fatal results on account of the degeneration of the cerebral blood vessels which to a greater or lesser degree must be expected at her age. Now would any physician hesitate to bleed in such a case as the above? The proper treatment in such a case is to bleed freely from the arm,

* Read before the Medical Society of the District of Columbia, Feb. 26, 1903.

twelve or sixteen ounces of blood, and follow this by brisk purging with saline purgatives and low diet. Such a case can be brought (as was this one) from the jaws of death by the proper treatment such as outlined above.

BLOOD LETTING IN PNEUMONIA.

Another disease in which bleeding is sometimes necessary to prevent death is acute or croupous pneumonia. In its great fatality in our day acute pneumonia is a standing disgrace to the practice of medicine.

There can be no question that acute croupous pneumonia is worse treated and the percentage of mortality from it greater than it was thirty or forty years ago. This is admitted by all modern writers on the subject, and it will only be necessary here to give a few references to prove the above statement.

The nestor of American medicine, Dr. N. S. Davis,[1] says "the mortality in pneumonia has increased during the past forty-five years." The *Philadelphia Medical News* (March 6, 1897) says mortality from pneumonia has increased during the past fifty years. In New York City out of the 41,000 deaths occurring in 1896 5,383, or nearly one-eighth, died of pneumonia. The mortality from pneumonia in New York City hospital during the period beginning 1834 and ending 1843 was 25.4 per cent., during 1844 to 1853 25.7 per cent., 1854 to 1863 23.8 per cent., 1864 to 1870 27.7 per cent., 1877 to 1886 38.8 per cent., 1887 to 1895 34.7 per cent.

Dr. Putnam[2] of Boston says pneumonia mortality has increased 50 per cent. during the past thirty years. *American Medicine* (May 18, 1901, p. 277) says pneumonia is more fatal than tuberculosis. In New York City, from 1890 to 1900 there were 56,092 deaths from pneumonia and 50,490 during the same period from tuberculosis. In Chicago during the same period there were 25,228 deaths from pneumonia and 22,957 deaths from tuberculosis. The following extract is taken from THE JOURNAL of the American Medical Association (Jan. 24, 1903):

THE INCREASING PNEUMONIA MORTALITY.

Nearly three years ago we called attention to the fact that statistics showed that pneumonia was causing more deaths than tuberculosis. We believe that we were the first to call attention to this fact, but it is becoming generally recognized.

The circular issued by the Health Department of Chicago for the week ending Jan. 17, 1903, begins with the statement: "Since the census year 1900 pneumonia has claimed more than one-eighth of all the victims of the Grisly Reaper in Chicago; one-third more than consumption, and 46 per cent. more than all other contagious and infectious diseases combined, including diphtheria, erysipelas, influenza, measles, puerperal fever, scarlet fever, smallpox, typhoid fever and whooping cough, the total of which deaths was 4,489 as compared with a total of 6,562 deaths from pneumonia." This statement is a striking one and certainly confirms our earlier assertions as to the predominance of pneumonia over other infectious diseases as a cause of mortality.

American Medicine (Jan. 31, 1903) says, concerning the mortality in Chicago, that during the first 17 days of January, 1903, more than one-fifth of all deaths was due to pneumonia. The deaths from tuberculosis in Chicago in 1860 were 25.28 pere 10,000 (276 deaths in 109,206 population). In 1900 they were 15.30 per 10,000 (2,599 deaths in 1,698,575 population), a decrease of nearly 40 per cent. (39.1) of tuberculosis mortality in the 40 years. From pneumonia the 48 deaths in 1860 represent a rate of 4.40 per 10,000 of the population; in 1900 the 3,389 deaths represent a rate of 19.95 per 10,000, an increase of more than 350 per cent. (353.4) of pneumonia mortality. The whole country shows a decrease of 20.7 per cent. of deaths from tuberculosis and an increase of 7.4 per cent. of deaths from pneumonia during the forty years.

What is the cause of this increase of mortality among the patients suffering from pneumonia in our time? Probably one important factor in the increased fatality in the cases of pneumonia occurring in large cities is the class of patients who are treated in city hospitals.

Many of these patients are hard drinkers, and the mortality among such persons is always very large. Another factor that has been dwelt on and has undoubtedly swelled the average of mortality has been the advent of acute epidemic influenza (commonly called la grippe). Many other causes might be adduced to explain the failure of our art in curing this disease, and the interesting query comes up whether our change of treatment and abandonment of blood letting has not been a factor in producing this discouraging result.

Let me describe a class of cases of acute pneumonia in which blood letting is not only advisable, but absolutely necessary to save the life of your patient. We will suppose, for instance, the case of a young man in vigorous health, a hearty eater, full blooded and one who perhaps, while not an habitual drinker, yet loves the good things of this life, not wisely, but too well. Such a young man is attacked with acute pneumonia, and in three, four, five or six days perhaps, you will see crape on his door, and are shocked to hear that he is dead. What is the cause of such a young man's death? In the process of inflammation which occurs, perhaps one-third, one-half or even two-thirds of the lung tissue of your patient is filled up with a glutinous lymph which plugs up every air vesicle and thus preventing almost entirely the access of air in all the smaller bronchi. You cut into such a lung in the postmortem room and you find it solid. You drop it into water and it sinks like a piece of liver or other solid organ. Now what is the condition of that man's circulation? The heart, which perhaps beats normally at 65 or 70 is now beating 100, 110, or even 120, 140 or 150 per minute.

Your patient's face and lips are perhaps cyanosed, his respirations are 30, 40 or even 50 per minute. He lies quiet and says but little, for his breath is too precious to be wasted in words, but with imploring eyes he looks to you for help. In such a case bleed such a patient at once and you will probably save his life. What harm can you possibly do to such a patient by bleeding him? The loss of blood is nothing to him, he has too much of that in his body now for his present needs. In other words, here is an inflamed lung the aerating surface of which is diminished to one-half or one-third, or even one-fourth of its normal capacity. At the same time the heart is pumping the blood with greater force and frequency than in health into the semi-solid lung. How does this patient die? Simply because there is not sufficient oxygen brought to the lung to properly purify the impure venous blood and convert it into the life-giving arterial blood. The heart works harder and harder to perform the impossible task assigned to it, but finally gradually fails in power, and death speedily ensues.

Take in a case like this a pint or a pint and a half of blood from the arm and you accomplish two things, first you take away the surplus blood which is overfilling and engorging the blood vessels of the lung, and secondly you diminish the force and frequency of the heart's action, which is sending to the inflamed lung far more venous blood than it can purify.

1. THE JOURNAL A. M. A., June 6, 1896, p. 1113.
2. Charlotte N. C. Medical Journal, September, 1898, p. 299.

The objection may be made that your patient may be unable to spare such a large quntity of blood from the drain thereby made on his vitality; if so the remedy is easy. At the same time that you bleed him, or immediately thereafter, inject by hypodermoclysis under the skin of the thorax or abdomen just the same quantity of normal salt solution (1 to 1,000) as you took from your patient by bleeding.

BLEEDING IN PUERPERAL ECLAMPSIA.

The indisputable facts that puerperal eclampsia occurs most frequently in primipara and in young women in the prime of life would seem to indicate clearly that it must be caused by a toxemia resulting from deficient metabolism and the retention of effete and waste products in the body. What is the cause of this toxemia? How can it be remedied? We are strongly convinced that the cause is a very simple and obvious one, and that this disease is due to the nonassimilation of the large amount of meat and other nitrogenous foods consumed by the majority of pregnant women. After the initial stage of suffering from nausea and vomiting has passed to which many women are subject during the early months of pregnancy, the appetite is apt to become abnormally keen. Patients are encouraged to gratify this abnormal appetite by their friends, and even if the appetite should fail they are urged to eat largely, it being a popular superstition that it is necessary for them to do so in order to nourish properly themselves and their unborn offspring. Another most reprehensible practice is the prescribing by physicians of alcoholic drinks of various kinds at meal times for the purpose of stimulating the flagging appetites of pregnant women. Harm is done by this practice in two ways, first, by stimulating the appetites of these patients, inducing them to partake of more food than they require, and secondly, alcoholic drinks (beer, wine, etc.) diminish the metabolism and encourage the retention of effete matters in the body.

Two other factors entering into the causation of this disease are the neglect to take sufficient exercise in the open air and neglect to keep the skin in healthy condition by frequent bathing and brisk friction.

If the foregoing views are correct and the chief causes of puerperal eclampsia are improper diet and hygiene, the question arises, how can this disease be prevented?

It is my firm conviction, based on 47 years of continuous practice, that many of these cases can be prevented, and, of course, preventive treatment is far more important and more successful than the remedial. The following case is an illustration of preventive treatment:

Mrs. M. R., aged 22, is of healthy physique, and had always had execellent health. She engaged me Dec. 10, 1901, to attend her in her first confinement. She was at this time eight months pregnant. She was to go to Columbia Hospital for Women, which she entered Dec. 31, 1901. She complained of severe and continuous headaches, with sparks of fire before her eyes and some vertigo. Her urine was examined and showed the presence of albumin and tube-casts and a great deficiency in the amount of urea; it averaged only three to four grains per fluid ounce. She was immediately placed upon a rigorous diet, and not allowed to take more than one-third her usual allowance of food. Meat and stimulants were absolutely interdicted, and she was given thin soups and a small amount of milk and farinaceous food. For medication she was given broken doses of calomel, followed by mild saline cathartics so as to secure two or three loose movements of the bowels per day. She was also given a mixture of citrate of potash with a small proportion of potassium bromid. Under this treatment she gradually improved and the amount of urea excreted gradually increased, though it never came up to the normal amount. She was watched carefully, and, greatly to my relief, symptoms of labor set in Jan. 10, 1902. Her confinement and her convalescence were normal and uneventful.

The above preventive treatment, however, has a much wider field in the earlier months of uterogestation. The urine of every pregnant woman should be systematically examined at least once a month until the end of the term.

If albumin is found in the urine (especially if accompanied by deficient excretion of urea) it shows that the elimination of waste material is abnormally lessened; purgatives and diuretics should be given. Hydrotherapy with diminution of or total abstinence from nitrogenous food and alcohol, are also powerful adjuncts in the treatment of these patients.

But there may not be any opportunity for preventive treatment, for the patient may be already in a state of coma or in the throes of puerperal convulsions when we first see her. This is an emergency that will tax to the utmost the skill and self-reliance of the most accomplished physician. What shall we do? Shall we proceed to empty the uterus, bleed, give inhalations of chloroform or use morphia? In regard to the first treatment mentioned all authorities practically agree that if the convulsions develop during the labor, at full term, delivery should be accomplished either by version, the application of the forceps or other means as rapidly as possible. This rapid delivery of the child will very often arrest the convulsions, or if it does not do so entirely, will so mitigate them as to render the case comparatively easy of treatment.

This is not invariably the case, however, for one of the severest cases of puerperal eclampsia ever met in my experience was one in which the convulsions began after the labor had terminated satisfactorily. The labor had not been unusually severe for a primipara, but there was a smaller flow of blood from the uterus during and after the labor than is usual. The patient was a vigorous healthy woman, plethoric and with full tense pulse. The convulsions continued for 24 hours subsequent to the termination of labor, in spite of the free use of inhalations of chloroform, and the administration of chloral and morphia combined with bromids. The attending physician and myself, becoming almost desperate, finally determined to bleed her. By the dim light of a candle we bled her from the arm to the amount of 20 ounces, and there was almost instantaneous relief. The convulsions stopped at once and she made an uneventful recovery. We felt satisfied from the full and hard character of her pulse that the convulsions were continued by the blood pressure on the cerebral centers, and the result seemed to confirm this view of the case.

No one at the present day would wish to revive the old Sangrado system of indiscriminate bleeding for every disease, but it is the firm conviction of many physicians, of whom I am one, that we have been too hasty in abandoning the use of blood letting. The field of usefulness of bleeding, however, is very limited, and it is only in such cases as the one just described that we would recommend it.

That Annual Bath.—To illustrate the rôle that personal uncleanliness plays in disease among the lower classes, *American Medicine* tells the story of a mother who sought the aid of a physician for her sick child. A physical examination being necessary, the physician attempted to remove some of the child's clothing, but became lost and asked the mother to undress the child. She replied, "Aber, mein Gott, I have sewed it in for de Vinter."

A DIAGNOSTIC EXAMINATION OF ONE HUNDRED AND FIFTY CASES OF LEPROSY.

JONATHAN T. McDONALD, A.M., M.D.
Pathologist to the Hawaiian Territorial Board of Health; Secretary Hawaiian Territorial Medical Society; Consulting Physician to the Queen's Hospital, Etc.
HONOLULU.

Leprosy is a disease to which the average American physician gives but little thought or study; he is accustomed to regard it as a foreign malady, of interest to him only as a curiosity. This is a mistake; leprosy has existed for many years in various parts of the United States, but the only recognition it has thus far received has for the most part been by dermatologists in the centers of population.

The ordinary general practitioner, "the backbone of the profession," and to whom this paper is presented, is the man on whom rests the responsibility of keeping in mind the general features of the disease, and the possibility of some day encountering a case when least expected, as it is essentially a constitutional disease as much as is tuberculosis, and comes as fairly within his own domain.

With us in Hawaii the disease is on the decline; thus proving the wisdom of the policy of segregation established over thirty years ago. Our method of apprehending and dealing with leper suspects may be stated briefly as follows: The entire inhabited portion of the territory is divided into twenty-six government districts, in each of which a competent resident practitioner is selected and appointed by the Territorial Board of Health as government physician, with a small annual salary. In conjunction with his private practice he is to treat the indigent sick free of charge, supervise sanitation and vital statistics, return monthly reports on health conditions in his district, etc., and last, but not least, he is to be on the constant, vigilant outlook for lepers. In this latter duty there is placed at his disposal the active co-operation of the district deputy sheriff, who in many instances is the one who discovers the suspect and brings him to the attention of the physician. From these two officials, whose powers and duties in the matter are not optional, but mandatory, come most of the recruits for Molokai. A few of the patients, hidden away for years by friends, are already well advanced in the disease, but very many and perhaps the majority would "pass in a crowd" unnoticed. These are the ones whom the government physician has held under suspicion and silent observation perhaps for months, or even years, to study the progress and development of some slight and uncertain lesion regarded as of no importance by the patient himself, or perhaps by him entirely undiscovered.

Arriving at Honolulu, the suspect is placed in the leper receiving station, an enclosure of several acres containing cottages, wards, dispensary, etc., and situated in a quiet suburb some three or four miles from the business center of the city. He now passes under the care of the pathologist of the Territorial Board of Health, whose duty it is to supplement the work already begun by the government physician, in formulating the history of the case, making a critical study of all symptoms, recording the *status præsens* and demonstrating if possible the presence of the bacillus lepræ. After the arrivals have amounted to about twenty, the official examining board is called together in session at the station to make a final individual review of each case and pass on its disposition.

The following observations are based on an examination of a series of one hundred and fifty cases, mostly native Hawaiians, collected within the past two years and sent to Molokai; the diagnosis in each and every case having been either made or confirmed by a bacteriologic demonstration.

As a means of diagnosis first in importance stands the microscope. Although not regularly and scientifically demonstrated, on account of the universal failure both to obtain a pure culture and to infect any lower animal, yet it is now generally accepted the world over, that the disease is due to the Hansen bacillus, precisely as tuberculosis is due to its own specific germ. The discovery of the *Bacillus lepræ* in suspicious tissue is now considered just as legitimate diagnosis of leprosy as is that of the tubercular bacillus in the sputum of a suspected consumptive, confirmatory of tuberculosis.

The method employed is essentially that of my fellow townsman, Dr. L. F. Alvarez, described by him before the Berlin Leper Congress in 1897. A minute test snip of the suspected tissue is thoroughly triturated in a small mortar with a few drops of normal salt solution; a drop or two of this is placed on a cover glass, dried, fixed and stained with Ziehl's carbol fuchsin in precisely the same manner as with tubercular sputum, bearing in mind the single fact that the *B. lepræ* both takes and gives up its stain more readily than the *B. tuberculosis*, hence, in decolorizing, a very weak acid must be employed. Finally, contrast stain, mount and examine with a one-twelfth oil immersion and a good light. Slides thus made from snips of typical nodules usually show the bacilli in incredible numbers, or rather quantities, as I have frequently observed more than half the field occupied by the bright red aggregations of cell masses, great irregular blotches of solid bacilli in myriads, with small groups and individual elements intervening.

But, as has already been intimated, not all of the cases coming to the station show typical nodules. The majority present, it is true, in greater or less degree, one or more of the symptoms enumerated below, but frequently of so slight a nature as to render a positive diagnosis impossible without the aid of the microscope. In these cases we have to select our test snip from some locality on a given subject where experience has taught us we shall be most likely to find the bacillus. It may be that the best we have is an area no larger than a dime on arm, neck, back or thigh, which shows only a loss of pigment so faint as to be seen only in a favorable light. Slides made from here show a sorry contrast to the ones mentioned above which present a demonstration at first glance. We now anticipate a long and tedious search. With the mechanical stage we go back and forth, to and fro, by the half hour. Not that a leucodermic spot or two is of such grave import, as it is not; but the patient has also, it may be, an open sore on the bottom of his foot which he gravely tells you is from a cut on a sharp shell received a month or two ago while fishing, or there may be a slight atrophy in the palm of one hand; he is under suspicion. This impels one to presevere, when, perchance, one lonely red rod comes into the field; later two side by side; another long search and another single individual; and finally perhaps a group of from twenty to fifty; the diagnosis is no longer in doubt.

Writers of leprosy literature tell us that open ulcers and their discharges are teeming with bacilli; in this I have been greatly disappointed. Take, for instance, the common plantar pedis ulcer perhaps as large as a half

dollar and a half a centimeter in depth. I have so many times obtained negative results in smears from discharges or scrapings from its base that I have well-nigh abandoned their bacteriologic consideration. Another disappointment has been the mucus from the cartilaginous portion of the nasal septum. Even so high an authority as Koch has declared that the bacillus is to be found here early and constantly. After many faithful trials in every stage of the disease I have found them so seldom that I now attach but little importance to it as a means of diagnosis.

While the microscope is thus first in importance, it is in practice the last agent to be employed; it is only after all the various symptoms have been canvassed that an appeal to it is made as a court of last resort. What are the chief clinical features whose existence place the subject under suspicion? An attempt will now be made to present the more important ones in the order of frequency as we have found them in our series of cases.

The ancient division of leprosy into tubercular and anesthetic is unfortunate, as to terminology at least. The former, although used, of course, in its dermatologic sense, has long since been wholly appropriated by another entirely distinct disease, and its use in connection with leprosy ought to be abandoned. The latter term also is inapt, as in many well-marked cases of its type anesthesia is not a predominating symptom. There is but one leprosy; it shows in its manifestations a predilection for the skin and the nerves; that is all there is to the "three types, viz., tubercular, anesthetic and mixed" of authors.

First, then, in point of frequency, comes the symptom or rather group of symptoms which, for convenience, we class as maculæ, occurring in 89 per cent. of all our cases. Of these by far the most common are the leucodermic spots or areas which occur in all sizes and in all regions. They seem absolutely healthy to touch and feel; no elevation, no thickening, no inflammation; they seem to have lost a little of their pigment and that is all, unless, as rarely happens, they may be somewhat anesthetic. The patient, as a rule, knows but little of their origin or length of existence. A recent willing patient, an intelligent Hawaiian woman, a leper, anxious to go to Molokai to join her husband and her brother, detailed to me the symptoms of an erythema which occurred some four years ago with chilliness, slight fever and malaise; after these transitory symptoms had passed, the areas occupied by the redness, gradually and permanently lost a little of their pigment. It seems quite probable that such is the usual origin of the leucodermic spot. Taken in connection with other symptoms these spots and areas constitute a strong presumptive and confirmatory sign; taken alone, however, they are of very much less significance.

To the other and rarer lesions grouped as maculæ even less importance is to be attached. They all belong to the array of indefinite "might-be's" daily encountered in every skin clinic, suggesting syphilis, eczema or other ordinary dermatoses and not exclusively characteristic of leprosy. Repeated test snips with negative results have convinced me that, as a diagnostic sign, they are of much less value than is the leucodermic spot.

Next in frequency come the so-called tubercular lesions, the pathognomonic sign of skin leprosy. Under this head we group all patients who show the least trace of the true leprous nodule however slight, and our records show that it was found in 111 cases, or 74 per cent. In many of these it was so slight as to readily escape notice without careful search.

The histologic character of the lepra nodule in and beneath the skin is very suggestive of granulation tissue; in fact, Virchow coined a term, granuloma, to express it; the growth consists of proliferated connective tissue cells and leucocytes, with fibrous intercellular formations and newly formed capillary blood vessels. Ordinarily the nodule varies in size from that of a half pea to half a walnut, but it may be as small as a pin's head, or, on the other hand, of several inches in extent; it is irregularly circular or oval in shape, quite definitely circumscribed, with a well-rounded elevation, not particularly hard or resistant to feel, and in the lighter-skinned races with a tendency to brownish or coppery pigmentation. Its favorite region is the face, with a strong attraction for the lobule of the ear. I can not confirm the statement of authors who mention the elbows as a usual site; I have rarely found nodules in that region. Next to the face, the trunk may show them; less often the limbs. Instead of the nodule there is frequently found, as in the cheeks, for instance, quite an area of subcutaneous thickening, with perhaps slight elevation, the skin smooth, rather hard and firm to the touch, as though there were just beneath it a layer of thin leather. This is believed to be of the same nature as the typical nodule, differing from it only in manner of disposition. The facial disfigurements with the classic leonine expression pictured in the books as typical leprosy are nowadays seldom seen at the receiving station, but are more common at Molokai.

Another symptom of value is the falling of the eyebrows and lashes. Including all patients in which it appeared in any degree the records show 94 cases, or 63 per cent. While many of these presented but a thinning of the eyebrows in the outer half, those recorded as "entirely gone" and "nearly gone" number 31. It seems to be an idiosyncrasy of the disease, occurring without any appreciable change in the skin from which the hairs fall. In this connection it may be remarked that the disease has an apparent aversion to the hairy scalp, as I have not seen a single case thus affected.

We now come to an important group of symptoms more directly indicative of trophoneurotic leprosy as seen in atrophy of the palm and forearm with resultant retraction of the first row of phalanges, combined with contraction of the remaining phalanges, constituting the well-named "leper claw." Like all other symptoms, this one exists in every degree of severity. It may be so slight that the patient himself has not noticed that one palm is thinner than the other; or, in another case, while he is unable to entirely straighten two or three of his fingers, he has not observed that the forearm is somewhat smaller than its fellow of the other side. This group of symptoms constitutes 32 per cent. of all cases. Its usual manifestation, fortunately, is on one side only, but it is not rare to see both hands affected and to a marked degree, reducing the patient to the pitiable condition of almost total helplessness. In all these cases the ulnar nerve above the inner condyle will be felt enlarged and firm as a cord under the examining finger.

Next in order stands the plantar ulcer with a record of 26 per cent. Of variable size and depth, usually single, but sometimes multiple, it occurs most frequently on the ball of the foot, but also on the heel, and I have found it even on the bottom of a toe. As a clinical symptom it must be regarded as of great diagnostic value, as the lesion is very distinctive in its fully developed state and would hardly be produced in any other way. It might be of interest, in passing, to

state that with the enforced rest, the generous diet and local treatment, many of them entirely heal in a few weeks' stay at the station.

The text-books have brought into undue prominence the spontaneous amputation of fingers and toes from absorption of phalanges. It is not so common as is generally believed. We have grouped all cases which have shown even a tendency to this condition, as in the slight shortening of a phalanx, together with the very few in whom we have found parts of fingers or toes entirely gone, and our records show that these cases amount to only 16 per cent. of all patients. I recall but one case in which we found a tolerably healthy looking toe hanging by a short fibrous pedicle about three millimeters in diameter. Hence, while the symptom is a very characteristic and valuable one, it is not very common.

Occurring with the same frequency as the above, in 16 per cent. of all cases, is a condition of the hands and sometimes of the feet, recalling an old classic name of leprosy, *elephantiasis Græcorum*. Instead of atrophies and contractions, we now find the wrists, hands and fingers more or less enlarged, rather soft and flabby, with the skin smooth and always of a dusky purplish tint. Except the color, it suggests at first glance a well-marked edema, but lacks, on palpation, the tense or boggy feel of that condition. Another interesting point is that the fingers invariably gradually taper toward their ends, so that about the nails their size is entirely normal. Test snips from several of these enlarged hands and feet have failed to show the bacillus.

Another symptom of trophoneurotic leprosy is facial paralysis, which we found in 11 per cent. of our series, in nearly all of which the side of the face was entirely motionless and expressionless with the orbicularis palpebrarum greatly deficient in function.

Finally, as to the universally recognized symptom of anesthesia. I have frequently found large anesthetic areas of skin to all outward appearance entirely normal; while, on the other hand, I have as often found areas which we would suppose should be anesthetic, with sensibility unimpaired. With us its determination is attended with difficulties and uncertainties. Nearly all our cases are unwilling, unsympathetic patients. Many are overcome by fear and are as profoundly startled by the touch of the head of a pin as by a prick of its point, while the answers "Ae" and "Aole" (yes and no) are given with utter lack of thought, care or discrimination. It is certainly one of the most valuable symptoms, and is probably as frequent a one as authors have claimed it to be. Our own statistics on this point are so meager and worthless as to preclude mention.

These few objective symptoms, while by no means complete, comprise the leading characteristics of leprosy, constituting an efficient aid to its recognition. The more so in that in every leprous case we have a combination of two or more symptoms, and often as many as five or six of them illustrated on the same patient. Thus, we might have leucodermic macules here and there on the trunk, the eyebrows thinned, a palm slightly shrunken, an enlarged and tender ulnar nerve, anesthetic areas, and a shortened toe all in the same patient, who would even then not only fail to attract the attention of his associates, but might consider himself in very good health.

A brief summary of the above may be deduced as follows:

1. The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriologic demonstration of the disease.

2. Of clinical symptoms, maculæ, chiefly leucodermic spots are found in 89 per cent. of all cases.

3. The lepra nodule found in 74 per cent. is the one chief distinguishing lesion of skin leprosy.

4. Thinning or complete loss of eyebrows and lashes is present in 63 per cent.

5. Atrophic changes in hands and forearms with retraction and contraction of fingers and enlarged ulnar nerve in 32 per cent., a leading feature of nerve leprosy.

6. The plantar ulcer found in 26 per cent., usually on the ball of the foot.

7. Absorption of phalanges in 16 per cent., with occasional spontaneous amputation.

8. Elephantiasis of hands and feet in 16 per cent.

9. Facial paralysis in 11 per cent.

10. The entire body should be carefully tested for anesthetic areas.

11. Several of the above symptoms can be found in some slight degree at least in every leprous subject.

THE CHEMISTRY OF CEREBROSPINAL FLUIDS.

TORALD SOLLMANN, M.D.
From the Pharmacologic Laboratory of Western Reserve University.
CLEVELAND, OHIO.

During the last few years I have examined a number of cerebrospinal fluids from lumbar punctures. The analyses are of some interest, as they throw light on such disputed questions as the molecular concentration and the nature of the proteids. In other respects they may serve to enlarge somewhat the already existing knowledge of this fluid. The specimens were usually not analyzed until a day or two after they were drawn, but they were received and preserved in sterile flasks, kept very cold. The first four cases were furnished by Dr. C. J. Aldrich, from patients with febrile temperatures. The last fluid was given me by Dr. C. E. Briggs. I wish to take this opportunity of thanking these gentlemen for the material.

SUMMARY OF ANALYSES.

The results of the analyses are briefly as follows:

APPEARANCE.—Fluids I to IV, are perfectly clear and colorless, III containing a very small sediment; V (from a case of spina-bifida) is slightly pinkish from suspended blood, the corpuscles having a perfect outline. They soon subside and are removed by filtration. The fluid is clear and colorless II contained a delicate whitish membrane, which dissolved, for the most part, in 0.4 per cent. HCl.

SPECIFIC GRAVITY (taken with picnometer).—II = 1.0137; III = 1.0091; V = 1.0079.

REACTION.—Slightly alkaline in all cases.

DEPRESSION OF FREEZING POINT.—III = 0.541° C; IV = 0.535; V = 0.591.

COMPOSITION.—Total solids: III = 9.60 0/00; V = 13.25 0/00 Ash: III = 7.23 0/00; chlorids (as NaCl): III = 5.73 0/00; V = 6.0 0/00. Non-proteid organic matter (by difference): III = 1.64 0/00. Non-coagulable proteid: None in III or V. Coagulable proteid: I = 0.525 0/00; II = 1.16 0/00, globulins present; III = 0.726 0/00 globulin, no albumin present; V = 2.57 0/00 globulin, no albumin present. Reducing substance: Present in I and III (in III less than 0.3 0/00); absent in II (polarimeter, Moore's phenylhydrazin, Trommer's and fermentation tests).

COMPILATION OF ANALYSES.

I have searched through the literature (see bibliography) for other analyses and found about 30 recorded

of human cerebrospinal fluid, and a somewhat larger number for other mammals. Adding to these the fluids analyzed by me, I have compiled the following table, which, I think, gives a sufficient picture of the chemical data of this fluid.

	Specific Gravity.	Depression of Freezing Point.	Total Solids. Per cent.	Total Ash. Per cent.	Coagulable Proteid. Per cent.	Reducing Substance. Per cent.	Clorin as NaCl. Per cent.	Urea. Per cent.
Human.								
Number of analyses.	9	3	14	15	20		11	2
Extremes	1.006–1.0137	0.535–0.591	9.6–19.23	7.25–9 48	0.2–5.8	0.0–0.555	4.48–8 0	0 044–0 098
Mean	1.0079	0.541	10.75	8.5	0.9	. . .	6.6	0.071
Proportion of cases within 10 per cent. of the mean	6/9	3/3	9/14	13/15	5/20	. . .	7/11	. . .
Proportion of cases within 25 per cent. of the mean	8/9	3/3	12/14	15/15	8/20	. .	11/11	. . .
Dogs.								
Number of analyses.			8					
Extremes	. . . . .	. . .	13.91–20.24	. . .	. .	. . .	. . .	. . .
Mean	. . . . .	. . .	17.5	. . .	. . .	. . .	. . .	. . .
Calves.								
Number of analyses.	12	. .	12	12	12	. . .	. . .	. . .
Mean	1.0076	. . .	13.14	8.136	0.221	. . .	. . .	. . .
Horses.								
Number of analyses.	5	. . .	. . . .	5	13	. . .	. . .	. . .
Mean	1.0082	. . .	. . . .	8.15	1.01	. . .	. . .	. . .

DISCUSSION OF THE RESULTS.

Physical Factors.—The molecular concentration as determined by Beckmann's method was, in three of my specimens, that of normal serum. This result differs from that obtained by Zanier with Hamburger's blood corpuscle method. According to Zanier the cerebrospinal fluid of the ox is hyperisotonic to the blood serum. One c.c. of the fluid required the addition of 1.3 to 1.35 c.c. of water to produce laking, whilst serum required only 1.1 c.c. It must be remembered in this connection that Hamburger's method is only applicable when the solution to be investigated contains no molecules which can enter the corpuscles. I compared the results of this method with the freezing point in fluids IV and V. In Case 4 5 c.c. of the fluid required 4 c.c. of water to lake rabbit's blood (being therefore isotonic with a 1.1 per cent. solution of NaCl); 5 c.c. of fluid V required between 3.0 and 3.5 c.c. of water to lake human blood (isotonic with 0.98 per cent. NaCl). The determinations were made rather roughly and no comparison with serum was possible. Comparing them, however, with the depression of freezing point (IV, 0.535; V, 0.591) it is seen that the two methods do not yield analogous results. It would seem, further, that something in the cerebrospinal fluid protects the corpuscles against laking. In view of these results, Zanier's experiments need verification by the simultaneous employment of Beckmann's and Hamburger's methods.

The specific gravity varies within narrow limits for all animals and is always lower than that of serum, on account of the small proteid content. The reaction is always slightly alkaline. (According to E. Cavazzani the specific gravity and the alkalinity are somewhat greater in the morning than in the evening.)

The inorganic salts exist in about the same amount as in the serum, and consist mainly of chlorid. The average per cent. of this salt is that of serum. Foreign salts can pass from the circulation into the cerebrospinal fluid, as shown by A. and E. Cavazzani, for potassic iodid and ferrocyanid. This passage is, however, much slower than the excretion into other fluids. The salts can not be detected in the cerebrospinal fluid until after an hour, whilst they appear in a few minutes in the aqueous humor. When salts are injected into the subarachnoid space, their absorption is also very slow, requiring from 20 minutes to two hours. I had opportunity to convince myself of the presence of iodid in the cerebrospinal fluid of a child treated with KI.

Reducing Substance.—The constant occurrence and the nature of the reducing substance of cerebrospinal fluid was long a matter of discussion. Halliburton claimed that it did not reduce bismuth, and that it was pyrocatechin. These statements did not pass unchallenged. Nawrotzki, who gives also the literature of the subject, has finally settled the dispute. He finds no pyrocatechin, and shows that the substance gives all the tests of dextrose. This sugar is present in every freshly drawn specimen of the fluid, but disappears on standing. The statement of Comba, that it is always absent in meningitis lacks confirmation. Its absence in my fluid II is easily explained by the time which elapsed between the puncture and the examination.

Coagulable Proteid.—Halliburton ascertained that this is completely precipitated by $MgSO_4$, and is therefore globulin. The absence of albumin was also confirmed in the case of Thomson, Hill and Halliburton. It was also absent in the two fluids (III and IV) in which I tested for it. This normal absence of albumin in a fluid containing globulin is apparently a unique phenomenon. Panzer claims to have found albumin. It is possible that the presence of this proteid could be due to an admixture of inflammatory exudate, and that it might have a diagnostic value. Further observations are very desirable. The quantity of the proteid varies between rather wide limits, but 17/20 of the analyses show less than 2 per cent. Nawrotzki claims that a high per cent. of proteid is connected with fever. This claim needs further support. Halliburton affirmed the presence of a non-coagulable proteid. This has not been found by other investigators, and none was present in the fluids III and V in which I sought for it. Halliburton's results probably rested on an error of technic. The same author claims that fibrinogen is absent. The membrane in fluid II appears to show that fibrin may be formed, although the quantity of material did not permit positive identification.

Diastatic Ferment.—This may be present, although in less amount than in lymph or serum (E. Cavazzani). Panzer found none. Cavazzani also found an oxidizing ferment, which blues guaiac before boiling. Thomson, Hill and Halliburton found no cholin in their case.

BIBLIOGRAPHY.

E. Cavazzani: Centralbl. f. Physiol., vol. vi, p. 393, 1892. (Analyses of dogs.)

E. Cavazzani: Centralbl. f. Physiol., vol. x, p. 145, 1896. (Analysis of hydrocephalic child's.

E. Cavazzani: Centalbl. f. Physiol., vol. xiii, p. 345, 1899. (Technic of cerebrospinal fistula.)

A. and E. Cavazzani: Centralbl. f. Physiol., vol. vi, p. 533, 1892. (Elimination of ferrocyanid and iodid.)

C. Comba: Archiv f. Kinderheilk., vol. 28, 1899. Clinica Medica, 1899.

Gucrbet: Jour. de Pharm. et de Chim., vol. x, p. 59, 1899.

Halliburton: Text-book of Chemical Physiology; Journal of Physiology, vol. x, p. 232, 1889; Proc. Physiol. Soc., 1887, p. 14.

Johne: Z. f. Thiermed: Vol. i, p. 349, 1897. Ref. in Centralbl. f. Physiol., vol. xii, p. 337. (Analyses of horses.)

Nawrotzki: Zeitsch. f. Physiol. Chem., vol. xxiii, p. 532, 1897.

Panzer: Wien. Klin. Woch., 1899, p. 805. (Analyses of two hydrocephalic children's.)

Quincke: Archiv f. (Anat. u.) Physiol., 1872. (Analyses of dogs.)

Papers on lumbar puncture: Verh. d. X Congr. f. inn. Med., 1891; Berlin Klin. Woch., 1891, Nos. 38 and 39.

Rochefontaine: Gaz. Med., 1879, No. 21. (Analyses of dogs.)

Thomson, Hill and Halliburton: Proc. Royal Soc., vol. lxiv, p. 343, 1899; Brit. Med. Jour., Feb. 16, 1899.

Toison and Lenoble: C. R. Biol., 1891, p. 373. (Analyses of human.)

G. Zanier: Centralbl. f. Physiol., vol. x, p. 353, 1896.

The analyses of the following investigators are also included: Human Fluid: C. Schmidt, Yvon, Quincke, Ricken, Lassaigne, Müller.

CLINICAL OBSERVATIONS IN STOMACH SURGERY.*

A. J. OCHSNER, B.S., F.R.M.S., M.D.

Surgeon-in-Chief of Augustana Hospital and St. Mary's Hospital; Professor of Clinical Surgery in the Medical Department of the University of Illinois.

CHICAGO.

Surgery of the stomach is still in a developmental state. Many surgeons are making progress in this field, and although there can not as yet be many conclusions which can reasonably be expected to be permanent, still it seems worth the effort to exchange the points of clinical experience at this time.

It is, of course, out of the question to discuss this subject thoroughly in the time given to a paper in this Section, but I believe that it will be possible to present the features which seem of greatest practical importance as they have impressed themselves on me in my clinical observations.

Ultimately the greatest portion of stomach surgery must be done for the relief of gastric ulcer or one of its various sequelæ—hemorrhage, perforation, adhesions, cicatricial contraction with pyloric obstruction and its consequent gastric dilatation, hour-glass stomach and carcinoma. The wider my field of observation has become the more I am convinced that there is in this condition a great opportunity for surgical work of the highest value.

The operation for the relief of hemorrhage from a gastric ulcer, introduced by Mikulicz sixteen years ago, which has been practiced by many surgeons, but was brought to the general attention of the surgical profession especially by the clearness and force of Mayo Robson's writings, will become less and less indicated as the practitioners of internal medicine become convinced of the fact that these cases can be safely relieved by a simple operation performed in the interval between attacks.

The same condition will reduce the frequency with which the surgeon will be called on to operate for the relief of perforative gastric ulcer. The statistics of Wier and Foote and those of Tinker will serve to indicate the gravity of this operation, especially when compared with the statistics of Mayo, Finney and others, of operations performed in the interval.

In all cases of ulcer of the stomach which do not heal completely and permanently by internal treatment or in which the healing is followed by pyloric obstruction, it seems proper that surgical treatment be employed. There are three factors which aid greatly in bringing about this conclusion: 1. The diagnosis can now usually be made without difficulty because the attention of the profession has been sufficiently directed toward this condition to make its recognition probable. 2. The operative technic has been so thoroughly perfected that interval operations are accompanied by very little danger. 3. A sufficient number of cases have been observed for a number of years to make the permanency of cure an established fact.

Mayo established the principle of providing perfect drainage of the deformed stomach by making an anastomosis between the very lowest portion of this organ with the jejunum. This is the most important factor which has served to build up a satisfactory technic in this class of cases. Many surgeons operating on the stomach have not yet grasped this idea. This is true especially of the surgeons who have been unsuccessful in this class of work. It should be stated here that in making a posterior gastroenterostomy the surgeon will employ this principle in most cases, whether he does it intentionally or accidentally, but in the anterior operation he is just as certain not to do this, unless his attention is fixed on this end at the time of the operation.

In my own experience the persistent vomiting after gastroenterostomy—"vicious circle"—has been absent since I appreciated this principle and have applied it. The vomiting simply resulted from the fact that fluid could not help flowing into the stomach from the proximal end of the small intestine, because it had to flow down hill, the opening in the stomach not being in the lowest point of this organ. All that has been said and written concerning the cause of this pernicious vomiting, with the exception of what refers to this one condition, is, I believe, based on faulty observation, and all of the complicated operations which have been invented to prevent this vomiting are unnecessary, if the principle introduced by Mayo is properly appreciated and applied.

ELASTIC LIGATURE METHOD.

It is probably of little importance whether the anastomosis is made with ordinary sutures or with those aided by a mechanical splint, like the Mayo-Robson decalcified bone bobbin, or with the Murphy button. In all but thirteen of my cases I have used the Murphy button, in four the needle and thread and in nine the McGraw elastic ligature. All of the latter I have made during the present year, and have found the method exceedingly easy and satisfactory so far as the immediate results are concerned. None of the patients showed any shock. They were all able to sit up in bed on the day following the operation and all recovered. The time which has elapsed since these operations were performed is, however, too short to determine the ultimate result. The points of importance in this method are that as large an opening as desired can be obtained and that there can not possibly be either separation or leakage or infection from the intestinal or stomach contents.

In applying the method the following conditions must be borne in mind: 1. A round rubber cord 2 mm. in diameter, made of the best material, should be used. 2. A posterior row of Lembert sutures is applied. 3. A long, straight needle armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 c.m. away from the point of introduction. 4. While an assistant holds the intestine the surgeon stretches the rubber in the needle and when quite thin draws it rapidly through the intestine. 5. The same step is repeated through the stomach. 6. A strong silk ligature is placed across and underneath the rubber ligature between the latter and the point where the stomach and intestine come together. 7. A single tie is made in the rubber ligature after the latter has been drawn very tightly. 8. The silk ligature is passed around the ends of the rubber ligature where they cross and tied securely three times. 9. The ends of the latter are released and cut off, being held by the silk ligature. 10. The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied. 11. Care must be exercised to prevent tying the rubber ligature too far backward and thus getting behind the posterior row of Lembert sutures.

I am thus explicit in describing the steps of this operation because I find that only those who are thoroughly familiar with the method have used it, and apparently all with great satisfaction.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

It has been found that a gastroenterostomy opening made with a Murphy button will remain open and act perfectly in cases in which the pylorus is permanently occluded, but in cases in which it is only temporarily occluded because of an open ulcer with its resulting induration and edema, the gastroenterostomy opening contracts as soon as the pylorus again becomes normal or nearly so. Unfortunately, this closure of the gastroenterostomy opening is likely to be followed by a recurrence of the ulcer and the consequent obstruction of this orifice, which frequently necessitates a repetition of the operation.

This can be avoided by making an excision of the pylorus at the time of the primary operation or by closing the pylorus with a silver wire passed around the pyloric end of the stomach or the beginning of the duodenum two or three times, drawing it just tightly enough to occlude this orifice completely, but not sufficiently tight to cause pressure necrosis. This method has, however, not been tried sufficiently to secure its absolute establishment.

It is claimed that by making a large anastomotic opening by means of the McGraw elastic ligature one can secure a permanent opening under all conditions. My own cases are still too recent to be of value in confirming this claim. The results secured in cases of the class under consideration by the operation of gastroenterostomy properly performed are certainly very encouraging.

Recently Fowler has described an operation consisting in gastroenterostomy and enteroenterostomy between the portions of the jejunum at the proximal and distal side of the point at which the anastomosis was made with the stomach. Aside from this the intestine is occluded by means of a silver wire passed three times around its lumen between the point at which it is anastomosed with jejunum and the stomach, so that the bile and pancreatic fluid can be emptied into the small intestine, but not into the stomach. This operation has given very satisfactory results in the hands of its author, but in my experience the much simpler method of making an anastomosis between the lowest portion of the stomach and the jejunum has been so satisfactory that I have not found it necessary to make the more complicated operation.

PYLOROPLASTY.

Operations for the enlargement of a contracted pylorus have not been very satisfactory, principally because the obstruction was not fully relieved by the operation usually employed—the Heinecke-Mikulicz or some modification of this—on account of the pouch-like deformity which is present in most of these cases, necessitating the elevation of the food to the level of the pylorus before it can be emptied into the duodenum even after the plastic operation has been made on the contracted pylorus.

One year ago Finney published a method which seems to promise well, but it has not attained sufficient age to have stood the practical test of time. I have employed this method but once, making use of the McGraw elastic ligature instead of making the horse-shoe shaped incision.

Theoretically this is a good operation and practically it can be performed with great ease. It will be interesting to observe the permanent results in the cases which have been operated on by this method during the past year.

In many cases a very moderate pyloric obstruction will give rise to most distressing symptoms because it is accompanied not only with a pouch-like deformity of the greater curvature of the stomach, but because at the same time gastroptosis is present. Thus the normal drainage of the stomach is interfered with mechanically in three ways: 1. By the constriction of the pylorus. 2. By the deformity. 3. By the malposition of the organ.

In simple enteroptosis a number of authors claim great benefit to the patient from various operations intended to elevate the organ. Most of these methods interfere seriously with the mobility of the organ and are painful, for a time at least.

This is not the case with the method described and practiced by Beyea, and that devised independently by Bier. These methods are very similar and virtually consist in shortening the gastrohepatic and gastrophrenic ligaments by means of several rows of fine silk sutures.

Experience seems to show that this method gives permanent relief in simple gastroptosis, the pain disappearing quickly and permanently, and the patient gaining rapidly in weight and strength. Whether this method is applicable to cases such as I have described remains to be seen by experience.

I have operated on but two of these cases by a method similar to those mentioned above, but which at the same time fixed the stomach to the abdominal wall. The results were so unsatisfactory, although in each case I could note some improvement, that I did not repeat the operation.

Since studying the methods described by Beyea and Bier, it seems plain that the interference with the mobility of the stomach prevented the complete recovery of my patients, and that with better technic the results would have been better.

OBSTRUCTION OF PYLORUS DUE TO CARCINOMA.

In carcinoma of the pylorus there is never any indication for performing a complicated operation similar to that described by Fowler in connection with gastroenterostomy, because the pylorus is permanently obstructed at the time of the operation, and this obstruction becomes more complete as time progresses.

In cases in which the tumor is sufficiently circumscribed to make its removal practicable, there is again no occasion for performing any operation except an anastomosis between the remnant of the stomach and the jejunum. It is, however, important to select a point sufficiently distant from the point at which the duodenum passes through the mesocolon to avoid all tension. The operation is very simple if performed after a definite plan.

The duodenum is clamped double after tearing a small opening through the folds of the omenta above and below. It is then severed between these clamps. A circular silk suture is applied to the end of the duodenum, and while this is tied the crushed end is inverted into the lumen of the intestine. A few sutures will serve to cover this circular purse-string suture and complete the closure of the intestine. Then the greater and lesser omentum are caught successively, always between two pairs of forceps, care being taken not to injure the pancreas behind the duodenum to the right and the vessels supplying the colon below.

In this manner any desired portion of the stomach or the entire organ can be removed without causing any considerable amount of shock or the loss of much blood. When a safe point has been reached beyond the growth, two pairs of clamp forceps are again applied and the same steps repeated that were described in connection with the duodenum. Instead of applying a purse-string suture, however, it is best to apply a simple glover's stitch, grasping the stomach wall to either side of the

clamp forceps, and passing loosely across the latter. When the entire row of sutures has been applied, the forceps are loosened and the suture drawn tightly. This serves to insert the crushed end of the stomach into its lumen. Then a second row of continuous Lembert sutures is applied over this row, leaving the stomach in the form of a closed sac. An anastomosis is now made between the remaining portion of the stomach and the duodenum, preferably by means of the Murphy button. At this point it is of the greatest importance, first, to choose the lowest point of the stomach; second, to select a portion of the jejunum which is sufficiently free to prevent all tension.

Of course, in cases in which it is not possible to remove the entire tumor, it is much better for the patient if only a gastroenterostomy is made to give temporary relief from the pyloric obstruction.

It should be stated here that occasionally a carcinoma will be found which is apparently perfectly movable, but which is found later to have invaded the pancreas, the latter organ being attached to and moving with the stomach.

GASTRECTOMY.

Complete gastrectomy, although it is now a recognized operation, must always remain rare, because cases in which the disease is sufficiently advanced to require this operation are usually so far advanced that the operation is useless. When indicated, the steps which have just been described are simply to be carried further until the entire organ has been removed. Here again, it is of the utmost importance to unite the esophagus to a loop of the jejunum, sufficiently loose to prevent tension.

I have never removed the entire stomach, but in two cases of partial gastrectomy so small a portion of the cardiac end of the stomach could be preserved that I virtually had an opportunity to test this method. It is very simple, and I believe it must be ordinarily, at least temporarily, successful in cases in which it would be indicated.

In all of these operations there are a few points of great practical value, concerning the preparation of the patient and the after-treatment, which are not generally appreciated and which are consequently worthy of mention in this paper.

Many of these patients entered the hospital in an extremely emaciated condition, because almost always milk is the only food which has been given for a considerable period of time. The stomach contains a quantity of residual decomposing material and the milk which is taken is at once changed into a similar decaying substance, from which it is, of course, impossible to secure any nutrition, even from the portion which may pass the pyloric obstruction into the intestine. If the stomach is carefully irrigated with warm normal salt solution through a large-sized stomach tube before food is given, every three to six hours, the conditions for obtaining some benefit from the food will be greatly improved. In most cases the use of an ounce of one of the various concentrated liquid predigested foods in the market, given in three ounces of normal salt solution after making gastric lavage every three to six hours, will be followed by rapid improvement in strength. In this manner the absorption from the stomach of products of decomposition will be prevented, and for this the absorption of at least a small amount of concentrated food will be substituted. It is best at first to spray the pharynx with a 4 per cent. solution of cocain and to permit the patient to swallow a little of this rather than to wait for five minutes before introducing the stomach tube. This will prevent unnecessary gagging and discomfort of the patient.

It is well to introduce through the stomach tube into the stomach once a day, or less frequently, after the lavage, two ounces of castor oil or olive oil and then to withdraw the tube. Unless the pylorus has been entirely occluded the oil will find its way into the intestine and will aid the nutrition of the patient.

It is well to place these patients on nutrient enemata at the same time. One ounce of one of the liquid predigested foods in the market, dissolved in three ounces of normal salt solution and introduced through a soft rubber catheter which has been inserted a distance of two to three inches, seems to be of the greatest value.

In case the patient is nauseated after the operation, gastric lavage should again be employed at once. If the patient has been accustomed to the use of the stomach tube before the operation, it is, of course, a great advantage to him after the operation.

It is important to use only a small amount of water in making gastric lavage after the operation for fear of disturbing the healing of the wound in the stomach. We introduce but half a pint at a time. Neglecting this precaution caused the death of one of my patients.

Rectal feeding should be continued for two weeks after the operation, but small amounts of predigested liquid nourishment may be given every three hours by mouth after the fourth or fifth day in most cases.

I have reviewed the histories of the cases on which I have made stomach operations at the Augustana Hospital, and find that in seven cases gastrostomies were made for the relief of obstruction of the esophagus; one of these was made for the purpose of dilating a benign stricture, one for the purpose of feeding a patient who had been starved to a mere skeleton because of the presence of a diverticulum which had completely occluded the esophagus. The former case recovered, the latter died of exhaustion. She was in an almost hopeless condition when she entered the hospital. Of the five remaining cases operated on for obstruction of the esophagus due to carcinoma, three recovered and two died of exhaustion, being in a hopelessly starved condition when admitted.

Two cases operated on for perforation of the stomach, one due to ulcer, the other due to gunshot wound, both died from diffuse peritonitis which was present at the time of admission. In each case the perforation had existed for eighteen hours and the abdominal cavity was full of food and a thin cloudy fluid.

There were nine pylorectomies and incomplete gastrectomies with three deaths, one from shock two hours after the operation, one from overdistension of the small remnant of the stomach with fluid during gastric lavage after the patient had been normal for four days. The lavage was ordered because the patient was slightly nauseated and the nurse misunderstood the order in regard to the quantity to be used at a time. The third case died as a result of loosening of a Murphy button on the seventh day. The patient was badly nourished, and it is likely that union was retarded.

In the first of these three cases a gastroenterostomy should have been made, because the patient's condition was greatly reduced on account of the complete obstruction of the pylorus by the carcinoma, but the tumor seemed so completely confined to the stomach that it seemed as though its removal might result in a permanent cure. In the second case, the death was plainly due to an accident, which could have been avoided. In the third case I believe that my technic was at fault.

There were seventeen gastroenterostomies for the relief of non-malignant obstruction of the pylorus. Of these sixteen recovered and one died. The latter was a patient 74 years of age, greatly reduced in strength, with an almost complete cicatricial obstruction of the pylorus. Her death was due to exhaustion.

There were also twenty-one gastroenterostomies for the relief of pyloric obstruction due to carcinoma in cases in which a complete excision of the tumor was not possible. Of these twenty recovered and one died from exhaustion. The patient was greatly reduced on account of an almost complete obstruction of the pylorus. He was 65 years of age. The autopsy showed perfect healing of the anastomosis and there was no peritonitis.

During the same time I have operated on a number of cases at two other hospitals, but I have not had the necessary time to review the histories of these cases, and consequently this paper was based on the observations made in the study of this series of fifty-six cases.

Regarding the immediate results, I would say that the cases of obstruction due to carcinoma experienced great relief, many of them being not only freed from pain and nausea and vomiting, but gaining very greatly in strength, and almost all expressed their great appreciation of the benefits of the operation. The ultimate results in these cases will be reported later.

In the non-malignant cases I think that there has been great benefit in almost every case. The ultimate results will also be reported later.

It is likely that a larger experience will modify many of the opinions expressed in this paper, and it is not intended that it should carry great weight.

710 Sedgwick Street.

DISCUSSION

ON PAPERS OF DRS. KNOTT, NILES AND OCHSNER.*

DR. A. H. ANDREWS, Chicago—It must be admitted that the American surgeons have been backward and that they are following in the steps of the Germans in developing gastric surgery. But, of course, we all know that the world recognizes the excellent pioneer work of the American surgeons in intestinal surgery. The evolution of gastric surgery will take over a large number of men, who formerly treated the cases medically, into the surgical domain. We used to accept those cases when they were sent to us by the interne for operation, which was very rarely. Now we assume that the pathology, symptomatology, etiology and indications for operation belong to our field. There is no more reason why a gastric ulcer should be classed as medical than there is why the same condition on the leg or on the tongue should be considered a medical disease. Dr. Dunsmoor expressed his surprise and disapproval that so many surgeons were willing to enter on operative work in the lower abdomen, and were so much afraid of the work above the umbilicus. I remember reading the statement by Dr. Willoughby Furness that the proximity of the solar plexus made surgery in the upper abdomen more dangerous from the standpoint of shock. Now this false conservatism or timidity deters operators in this field, but when you consider the anatomy you will find that it is easier to repair the stomach walls than it is to do the same in one of the small intestines. It is a fertile field for the operator. What are the indications for operative interference in stomach disease? The indications are not simply existence of chronic stomach disease, whose nature we can not determine. I think the trend of modern surgery is in this direction: when we have a case of chronic stomach trouble we operate for diagnosis. How many times a dyspeptic patient will be operated on, say for hemorrhoids, then sent to some specialist, who will remove an ovary; then you may send for some one who will anchor a floating kidney; then for some one, who in despair will remove the appendix; and after all this the patient comes back to you as bad as ever. But if the patient had been sent to a surgeon who would have performed a gastroenterostomy in the first instance, you would have cured the case. Dr. Ochsner spoke of a number of cases in which he had operated for pure gastric pain. Probably he now performs a gastroenterostomy on all cases of obscure gastric pain and cures a large proportion of them. Now, I think we must all recognize that the chain of disorders, beginning with ulcer and ending in stenosis or carcinoma, we have the same indication for early operation that we have in other abdominal conditions. There is frequently the case of the gastric ulcer, running over a period of pain, vomiting and hemorrhage, and later producing carcinomatous degeneration of the healthy tissue. Dr. Bevan has reported a case of pylorectomy for the removal of pyloric carcinoma, which commenced in ulcer of the stomach. Dr. Niles traced in his paper the history of a carcinoma of the pyloric end of the stomach, beginning, as you will find nearly every one of them, in gastric ulcer. Surgery must recognize the clinical continuity of these factors ending in carcinoma, and must operate more often in the ulcer stage without waiting for perforation, hematemesis or malignant obstruction.

DR. WILLIAM J. MAYO, Rochester, Minn.—The surgery of gastric ulcer at this time is really the surgery of its complications. This is shown by the first two papers that were read to-day in regard to stomach adhesions, pyloric obstruction, hemorrhage and perforation. It is not the gastric ulcer which we have been operating for; it is the complications of the gastric ulcer. We must keep this very clearly in mind. What are we going to do with the cases we see before the complications arise? This is a part of the subject which must be cleared up. The ulcers which produce the complications are usually in the pyloric end of the gastric cavity. The pyloric part of the stomach is the muscular part, and it is on this side that we not only get the gastric ulcer, but at least 60 per cent. of all the gastric cancers, and it is altogether probable that many have their origin in ulcer. We can not usually excise these ulcers, as they are often multiple. I have searched for a bleeding ulcer half an hour and been unable to find it, although the patient had a severe hemorrhage three or four days before the operation. The pyloric obstruction is a complication of gastric ulcer, but the ulcer is there long before you get the obstruction; so that operations on the pylorus can not cure the condition, because the ulcer does not depend on obstruction, and in many of the cases the ulcer is beyond the pylorus in the duodenum, and after plastic operations, which are intended to cure the ulcer by enlarging the pylorus, the food must still pass through the ulcerated area before it reaches the bowel.

Gastroenterostomy is the most satisfactory operation for ulcer, as it drains the stomach at a point to the left of the ulcerated portion, and if the pylorus be obstructed the cure will be permanent; but if the pylorus be open, as soon as the ulcer heals the spasm relaxes and the food passes down through the pylorus again and the fistula contracts, and relapse may occur. In such cases resection of the pyloric end of the stomach or the ulcer bearing area will be best, as recommended by Rodman.

Just a word in regard to cancer. Our only reasonably satisfactory operations for this condition have been extirpation. The operation for pyloric growth usually is not difficult, and by removing all of the lesser curvature the pylorus and the body of the stomach to the left gastroepiploic vessel, all of the lymphatics will be removed and the remaining portion of the stomach may be expected to remain free, as it is isolated from the pyloric end by reason of a separate vascular and lymphatic arrangement. In 27 resections of the stomach for cancer, 5 died from the operation, one died later from another cause; but of the 21 that recovered, the average length of life was over a year, one living over three years and two alive and well over two years.

DR. CARL WAGNER, Chicago—Three cases of so-called inoperable carcinomatas, which have occurred in my practice, come to my mind. The most important one afflicted a woman aged 53. She was emaciated to a skeleton and had a tumor of the size of a fist in the stomach region, which first appeared about a half year previous, growing steadily since. The pa-

* The papers of Drs. Knott and Niles appeared in THE JOURNAL of May 23.

tient presented all the symptoms of carcinoma of the stomach, such as the presence of lactic acid, absence of muriatic acid, emaciation, vomiting and pains. Several surgeons were consulted, who all concurred in the diagnosis of inoperable carcinoma of the pyloric end of the stomach. The patient had another tumor in the inguinal region, below the Poupart ligament, also the size of a fist, which was diagnosed as a lipoma, and, of course, not brought into any connection with the tumor visible in the stomach region. When she came under my care I also was of the opinion that I was confronted with inoperable neoplasm of the stomach, and took therapeutic measures accordingly, until one day I recollected a case of my former experience, where I found, with an exploratory laparotomy, a fatty tumor, originating in the ligamentum teres, hepatis suspensorium and overlying parts of liver, stomach, gall bladder and part of ascending and transverse colon, which caused a condition similar to that presented in the present case. Thus I resorted to an exploratory laparotomy also in this case.

The tumor, which the operation exposed, consisted mainly of omentum, which had converted part of the stomach, colon transversum, liver, gall bladder and the corresponding parietal peritoneum, through exudates and adhesions, into one solid, unique mass. It could be removed very readily, in spite of a few difficulties, and careful examination showed otherwise absolute normal conditions of the organs involved. There were no signs of old ulcer cicatrices in the stomach in spite of the fact that such could have been suspected to exist on account of pains, which the patient stated she had suffered during nineteen years previous to the first appearance of the tumor. This latter misled the physicians to conceive the theory of ulcer, cicatrix and subsequent carcinoma, just as in the book.

I closed the abdomen, somewhat disappointed at not having found any explanation for the development of the inflammatory condition of such grave bearing on the whole organism. However, when I proceeded to extirpate the alleged lipoma, which, as above stated, was located at the region of the fossa ovalis femoralis, everything became clear to me. After freeing it from its covering, it unfolded itself just like a lipoma arborescence, such as we find in the knee joint, and with a pedicle as thin as a lead pencil entering into the femoral canal in the peritoneal cavity. On traction it proved to be in connection with the omentum and represented an elongated end-piece of it, which had slipped through the femoral ring in the form of a femoral hernia out of the abdominal cavity, and developed outside of the femoral ring into this large tumor.

The weight of this extra abdominal tumor caused, with every motion, especially when walking, a pulling, jerking sensation at the insertion point of the large omentum, namely, at the large curvature of the stomach, and thus produced intense pains. In the good old German style, hot plates, hot poultices and all kinds of other counter-irritants were applied frequently to the stomach region, during years, with the result that in time local peritonitis, with adhesions and exudate masses, developed. Seven years have elapsed since the operation and the woman is still enjoying very good health. Consequently, the alleged inoperable carcinoma of the stomach, which had reduced the patient to skin and bones, and, undoubtedly, would have terminated her miserable existence within a few weeks on account of marasmus, was no carcinoma at all.

This case serves as an excuse for a plea for greater frequency of exploratory laparotomy in such so-called absolutely hopeless cases of inoperable carcinoma of the stomach.

DR. WILLIAM L. RODMAN, Philadelphia—There is no more important subject at the present time than gastric surgery. Here in America we have been a little slow in moving along in this direction. I think that Dr. Mayo admirably summed up the situation when he said that the surgery of the stomach is principally the surgery of the complications of ulcer rather than the first ulcer itself. I think we should always keep in mind that it is the complications resulting from gastric ulcer that require operations on the stomach. Therefore, as he says, the real question is as to what to do with the gastric ulcers, if they can be diagnosticated sufficiently early to render excision possible. There is no doubt that we will come very early to the excision of the ulcers before complications take place. It has already been done in an increasing number of cases year by year, and I feel that in time the treatment of gastric ulcer will be partial gastrectomy, and that the mortality will not be more than 5 or 10 per cent. Taking all the early operations done during the past fifteen years, it has not been more than 15 per cent., and surely at the present time it should not be more than one-half of that.

I would like to call attention to one point that Dr. Knott did not refer to in his paper. These adhesions between the anterior wall of the stomach and the abdominal parieties, which would seem to be easy and safe to break up during the operation for gastric ulcer, do not always prove so. Thus, Hoffmeister has said that adhesions should always be picked apart very carefully, having in mind not only the possibility, but the probability of tearing into the wall of the stomach itself.

On one point I would rather differ from Dr. Niles. He speaks of the inadvisability of excision in a majority of instances because of the fact that multiple ulcers may exist. That is true undoubtedly in many instances, but it does not occur sufficiently often to deter one from doing a partial gastrectomy if there is a well-marked tumor, and it may occur even in benign as well as malignant disease. Even if the small ulcer is overlooked, no harm is done. We must remember always, as Dr. Niles and Dr. Murphy and Dr. Ochsner have said, that there always is a marked tendency to the development of benign disease in the stomach, when there has been chronic disease. Some go so far as to make the statement that at least 50 per cent. of all gastric ulcers go on and develop into carcinoma, and we must all admit that a great number do, and it is for this reason that partial gastrectomy, which is not much more dangerous than gastrojejunostomy, is of much more value. I also wish to say with Dr. Ochsner, that we owe a great deal to Dr. Mayo in perfecting anterior gastrojejunostomy. There is no doubt that the anterior operation will closely rival the posterior method, and there is no more reason why the vicious circle should occur when the anterior operation is done, than when the posterior is performed. Personally, I have always employed the latter operation. It seems to me to be the most anatomic, and the majority of writers prefer it to the anterior. The anterior operation is of so much advantage early in the breaking up of these adhesions, that if it can be done without the vicious circle (and I believe it can), it will certainly be used far more in the future than it has in the past. I have no doubt that it is very important that the lowest point on the wall of the stomach be selected, where drainage can be easily established, and in that manner I am sure that the vicious circle will be avoided. I believe that with the operation as performed by Dr. Mayo, or by Dr. Van Hocker, there will be in a certain number of cases the vicious circle, but these cases must be subsequently met by entire anastomosis.

DR. A. H. CORDIER, Kansas City, Mo.—If we could locate the position of the ulcer, on first thought it would seem advisable to excise it, but when we take into consideration the pathologic changes, the difficulty of locating the ulcer at the time of the operation, the inability to define its limit, the numerous vascular adhesions to surrounding organs and the slowness with which scar tissue heals, this idea is then dispelled and some other procedure suggests itself that would be equally efficient and less dangerous. This operation I believe to be preferably gastroenterostomy. I have performed a number of these operations. The majority of them have been performed in the anterior wall of the stomach. In none of my cases have I had any trouble from the so-called vicious circle. It is very essential that the opening in the stomach should be at the most dependent point. This feature of the operation I called attention to some eight years ago. Many of these cases at the time of the operation have been erroneously diagnosed as malignant, and even during the operation the indurated mass surrounding the side of the ulcer has been misleading.

When you take into consideration the fact that there frequently exists attachments to the pancreas, the liver and other structures, and that there is an indurated mass with inflammatory and secreticial changes, you can easily understand that one might be lead into believing the condition to be malignant. Hence, many of these cases have been permitted to go on and die as malignant. Cases have recovered from an anastomosis between the stomach and the intestines. That has been so in two or three of my cases. Even at the time of the operation I have made the diagnosis of malignancy. I do not approve of the partial removal of the stomach in malignant cases, as very few, if any, of these cases are permanently cured by such procedure, beside, the operation is one attended with a high mortality, and the patient's condition is not more comfortable during the time that they live than if an anastomosis had been made between the stomach and the intestines. These patients are in a condition, as a rule, that will not tolerate prolonged operative procedures, hence the operation must be quickly performed in order to keep down the mortality.

I would give my preference to the use of the Murphy button in these cases, owing to the time in which it can be done and the fact that the great majority of them recover by this procedure.

Dr. Arthur Dean Bevan, Chicago—I feel that it is unfortunate that this subject has been divided up between two sections. I call attention to the fact that in the Section on Obstetrics and Diseases of Women a paper has been read on the subject of "Gastric Ulcer and Its Complications." I should like, and I think it proper, Mr. Chairman, to call attention to the fact that another Section in the Association is infringing on the rights of this Section, and that a paper is being read over there that properly belongs to the Section on Surgery and Anatomy. In the second place, I call attention to the fact that the very important work of obstetrics has been largely omitted by that Section, and on this account I give notice that I shall, at the proper time, make a motion that the delegates of the Section on Surgery and Anatomy be instructed to call the attention of the House of Delegates to this point, and to ask them to notify the Section on Obstetrics and Diseases of Women of this fact, call their attention to the fact that they are infringing on the work of the Section on Surgery and Anatomy, and to instruct them in the future to limit their work to the very important work of obstetrics and the surgical work on the genital organs of women.

Dr. Van Buren Knott, Sioux City, Iowa—The general trend of your remarks seemed to be in accord with the policy urged in my paper; in other words, that the surgery of the stomach is on the increase, and that many cases had been in the past improperly treated or not treated at all, which, in the light of recent knowledge, could have been relieved by surgical methods. While we in the United States have been in the past accused of being behind the advanced position secured by Germany in gastric surgery, we will no longer be liable to such criticism, as in this country as good work is being done in this direction as is done anywhere. With the increased experience gained by the larger volume of work done, our ability to better treat these cases will increase and will be made manifest by better results. The securing of better results will encourage more men to take up this work, and more exact diagnoses will follow, and with the diagnosis will be found the treatment.

Dr. H. D. Niles, Salt Lake City—My reason for preferring gastrojejunostomy in the treatment of ulcers of the stomach is that the ulcer will get well, no matter what stage it may have reached, if the part is put at rest. In other words, if you rest the ulcer it will be naturally inclined to heal of itself. Moreover, when you remove the ulcers that you see by excision you are sure to leave two or three there that you can not see, and which in time are pretty sure to do damage. Gastroenterostomy removes all those ulcers which you see, but there still remains those which you do not see. We know that there is a pathology in the upper half of the abdomen, in and about the stomach, that produces many deaths, and we have been discussing these different measures for treatment, while many of our patients go on to death. We know that there is one radical way to reason, and if each of us will be positive in his conviction that there is only one kind of treatment that is based on surgical conception, I am sure that the mortality following gastric pathology or the treatment of gastric pathology will be much less. It is time for this gastric pathology to be removed, not only from the domain of medicine, but from obstetrics and gynecology, and the treatment of the future will certainly follow the paths of surgery for the removal of the pathology in the upper half of the abdomen.

Dr. A. J. Ochsner, Chicago—The statistics concerning my own experience which I gave in my paper and the discussion of Dr. Cordier would seem to leave the impression that pylorectomy is an operation which will be likely to be abandoned more and more. The facts of the case are, however, precisely the opposite for the following reasons: Up to the present time these cases have come under our care at a time when the complete removal of the carcinoma of the pylorus was exceedingly improbable, which is shown by the fact that out of 79 cases on which we attempted to operate, 23 were cases in which no operation at all was possible. However, we find that the stomach, with its thick walls and with its distribution of lymphatics, which Dr. Mayo has described, is an organ of which the complete removal is not at all impossible and the statistics of Mikulicz, Czerny, Kocher, Mayo and others would confirm this.

The reason why the mortality has been large in my own cases is that in two cases a fatal blunder was made; in the third case a gastroenterostomy should have been made, in order to make it possible to build up the patient who was virtually starved and a pylorectomy should have been made later. Eliminate these blunders and the mortality would not have been high. Another reason why the mortality has been high, is because we have not approached this operation in a sensible way. If we will apply two pair of forceps to the duodenum as far as possible beyond the tumor and still sufficiently close to the latter to avoid injuring the common duct, we can cause a compression which will prevent any danger of hemorrhage from this point and which will facilitate the closing of the duodenum. We then apply another pair of forceps to prevent hemorrhage from the gastrohepatic omentum. The gastrocolic omentum is grasped in the same way. After these forceps have been applied a section is made of the duodenum between the first two pair of forceps which are left in place. If the malignant growth is confined to the tissues of the stomach the operation can be accomplished with great facility. A point to be borne in mind is, that the gastrohepatic omentum is to be removed. Therefore, we place successive pairs of forceps up to a point beyond the distribution of the lymphatics which communicate with the pyloric end of the stomach. There can be no hemorrhage because the blood supply comes from vessels caught by these forceps.

In doing this operation we must be careful not to injure the pancreas or to go too close to the transverse colon. If we bear these points in mind we can accomplish the operation safely in a short time. The pyloric end of the duodenum can be closed best by placing a simple purse-string suture about the duodenum. There can be no hemorrhage because this suture compresses all of the vessels. Then you take the lowest point you can select in the remaining portion of the stomach and attach it to the jejunum, leaving a sufficient portion free beyond the point at which the duodenum crosses the mesocolon to prevent all tension.

I think that with early operation and with these steps in view we should in the future have, not 5 or 10 per cent., but a very large proportion of permanent cures.

No Damages to Eddyites.—The interesting situation is reported from Des Moines, Ia., of an Eddyite suing for damages inflicted by falling into an unprotected hole. The *Chicago Clinic* says that the Solomon who presided over the case brought the litigant to testify that there is no disease, pain or ache. He instructed the jury that the defendant could not be held for negligence in the production of things that, according to the testimony of the plaintiff, did not and could not exist. The jury decided against the Eddyite.

RESULTS IN RADIOTHERAPY.*

H. R. VARNEY, M.D.
DETROIT.

Radiotherapy is, perhaps, the most important therapeutic agent in the history of dermatology. Its possibilities are at present far beyond human conception, as its influence on heretofore incurable diseases is now beyond experiment and is recognized and applied by some of the most careful investigators in the profession.

We are to-day obtaining more perfect results in many rebellious deforming skin affections than have ever been obtained by any other therapeutic appliance. The field which has awakened the most widespread interest, and gained the confidence of the profession, has been its influence on cancer.

The purpose of this paper is to assist in outlining its field of usefulness by giving a full report of my first fifty cases of cancer, personally treated by the rays, with clinical observations and management. As there is no standard of technic to guide the operator, such reports, coming at this time from different operators, from different parts of the country, should be of great value.

Electricity, we all know, has been in the hands of the quack for some years. We must now seek to prevent the abuse of this new, wonderful therapeutic agent, the *x*-ray, in recognizing and accepting the work only of earnest and conscientious men in this line, and by co-operation in exchanging reports of our work.

When we hear a statement coming from surgeon or general practitioner that the radiotherapist is still at sea regarding the true field of this therapeutic agent and results obtained, we feel now that we are able to prove to the contrary. Until now, however, merely an extension of time has been asked to determine whether or not the results are merely temporary.

In reporting these first 50 cases of cancer, it is only fair to the treatment to state that out of this number 38 were absolutely grave, inoperable, recurrent cases, so conceded by reputable surgeons, 13 were sarcoma, 6 lymph-sarcoma, and 7 osteo-sarcoma; 37 carcinoma, 19 of which were epithelioma. The results of these cases can be summed up, briefly, as follows: With the exception of 8 cases which are still under treatment, one year has elapsed since the rest were discharged, those living to date being constantly under observation or in communication.

Cases ending fatally	10
Cases discharged unimproved, treatment discontinued	5
Cases referred for operation	4
Cases improved and still under treatment	8
Cases referred to other operators	4
Cases discharged, clinically cured	19

The ages of the patients ranged from 18 to 84; 19 females; 31 males.

CARCINOMA.

In summarizing the clinical results, many conclusions may be deducted, if cases are classified, as:

First, carcinoma, or deep seated. Of this group 13 were of the breast, 1 uterine and vaginal, 1 intestinal, and 2 rectal.

All the breast cases, except one, were recurrent, either in the old scar or the remaining breast. They were considered hopelessly inoperable. Complete disappearance of the growth occurred with the rays alone in 3 cases, and combined with the rays and knife, 2 cases; partial disappearance or reduction of growth in 5, and no perceptible reduction in 3. Pain completely relieved in 6; temporarily relieved in 3; no pain, 4. Clinically cured and discharged, 5; in 2 of which a slight recurrence has appeared, after one year, and this again subsided after another short course of treatment. Ending fatally, 3; unimproved, 1; referred to other operators, 2; still under treatment, 1.

While I can from this group of cases report only 5 clinically cured—2 of which after one year have had slight recurrence—yet even this very small percentage in a class of hopeless cases, to me is most encouraging.

Conclusions drawn from this group of carcinoma of the breast, so treated, are, first, relief from pain: in a large percentage of cases when beginning treatment, patients are often requiring increased doses of morphin, when, after but few irradiations, pain is relieved in the most severe cases, and opiates no longer required, demonstrating a most powerful therapeutic action, an action influencing deep seated and superficial pain alike, and the afflicted patient thereby spends the last few days or months in comfort, compared to the untold suffering heretofore experienced with such growths.

Secondly, in an, as yet, uncertain number of cases the growth or cancer mass diminishes in size and disappears, the patient gains in flesh, feels perfectly healthy and is discharged clinically cured.

Third, malignant conditions of the breast, pathologically the same, do not react the same to the rays. More light must be thrown on the etiology of cancer and much, I think, depends on the resistance of the normal cell structure.

Fourth, metastasis occurs in a large percentage of these cases, whether neglected, operated on or irradiated. Cases in this group have been under ray treatment for six months and more, with no metastasis taking place as far as can be clinically ascertained.

Fifth, combined operation with the rays, in cases that would otherwise be considered inoperable, offers encouraging ground for work. I have in this group one case clinically cured to report. Treatment of two weeks' irradiation before operation and continued treatment as soon as the wound is solid enough to permit. In these cases large open surfaces can be safely left to granulate, and be rapidly healed with a soft scar that offers more resistance than does the complete closing of the wound with great tension on the integument, limiting the motion of the arm, which often exists in a complete Halstead operation.

Toxemia may occur, though I have found it the exception with most of my cases. Its occurrence depends on the resisting power of the patient, the age, the extent of the area irradiated, etc., etc. After few treatments this group of patients will complain of slight headache, chills, slight temperature, and, in some of the mixed infections, it is possible to cause a sudden decline and, if treatment is continued, death may be hastened by the systematic toxemia. On discontinuing treatment the patient, in from twenty-four to forty-eight hours, will gain strength, and treatment may be renewed. It is in this class of cases that metastasis may be hastened, because of the low vitality or normal cell resistance and great overloading of the excretory system. Symptoms such as just enumerated have been observed in non-malignant conditions, such as mixed tubercular infection, scleroderma, etc.

I believe in this group of carcinoma, or breast cancer, we should still continue an impartial study, limiting our cases to those inoperable, and after operation as prophylactic. We can not as yet encourage a patient with a

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localized malignant growth, which is operable, to waste, perhaps, valuable time in trying to effect a cure with the rays. However, there are cases coming to us, as radiotherapists, with such localized operable conditions who will never submit to the surgeon's knife. Such cases have existed before the rays, and to such cases the treatment offers both experiment and hope.

In carcinoma that have been previously operated on and microscopic examination of the growth made, after a series of ray treatment distinct and characteristic changes are seen to have taken place, due to ray treatment only. Such specimens have been submitted to the pathologist, with no history of the treatment given, and he has reported an unusual condition, marked degenerative changes in the cancer cell were apparent, with an obliterating endarteritis present. There were also changes resembling active repair going on in the edges of the growths, with enormous increase in fibrous connective tissue.

In just this field much is hoped for in some pathologic growths. It is possible to change the character of the growths and render them less malignant, and through radiography assist the pathologist in discovering some yet obscure field of research as to the cause of cancer.

SARCOMA.

In this group of cases there were 13; 7 were osteo-sarcomata; 6 lympho-sarcomata; 11 were males; 2 females. They ranged in age from 18 to 68.

In 9 the growths were located in the neck, or on the jaw; 1 on the sternum; 2, the orbit; 1, the ribs. Without exception, all were inoperable, grave, recurrent cases.

Three discontinued treatment, 2 are still being treated, 1 was referred to another operator, and 6 ended fatally. One was discharged, clinically cured, but after four months a rapid recurrence took place with metastasis and death.

In all of the cases reduction of the growth occurred. Large osteo-sarcomatous tumors diminished, each week careful measurements being made.

Relief from pain, also, resulted in every case where metastasis had not taken place, or in cases where post-mortem showed that the growth treated was only secondary to extensive involvement of the bodies of the vertebræ.

From this group of cases so treated, we have given great relief from pain, caused reduction of growth. One case is still under treatment, involving the orbit and jaw. It has been twice operated on; it was referred to me with a slight recurrence in the roof of the mouth, on side of the nose and orbit, with enlargement of glands of the neck. This recurrence has been set back, and the glands have been emptied four different times. The patient goes about, doing light work, in practical comfort.

With the treatment in this group of cases, I feel that a lengthening of the days of the patient and giving him comparative comfort, have been accomplished. My experience with these cases has led me to the conclusion that a combination of the rays and some assisting serum, perhaps Coley's, or, if operable, an early operation combined with these will produce the best results.

EPITHELIOMA.

In this superficial carcinoma we can claim much in advance, with treatment and results over those of the past. In the 37 cases of this carcinoma, 19 are of the rodent ulcer type; all males excepting 2, and ranging in age from 38 to 84. A large percentage occurred in the face and neck. Of this group, 1 ended fatally, 4 improved, but were unable to continue treatment, 2 were referred for operation, and 12 were clinically cured.

This percentage can be equaled or excelled in this variety of carcinoma by many present, and in a large number of cases we must admit that superficial epithelioma has been, and is still being cured by long tested methods of treatment; yet the results obtained by a combination of the ray treatment, with curette or mild arsenical paste, far surpass those of any other known treatment. With a curette, I removed the elevated hardened borders of the lesions, as they will not react readily to the ray. This is a great saving of time to both patient and operator. But there are cases located about the eye, where the ray alone must be depended on, and in such cases this treatment is, without exception, the best therapeutic agent. It is painless in its action, and not only does it eradicate the disease, but so nearly perfect are its healing powers, that the disfiguring scar is more nearly the color of the normal skin, making the scar less apparent.

In treating this disease with the ray, I believe it is necessary to give the longest exposures that can safely be given, to gain the promptest and best results, for it seems possible, with mild treatment, to stimulate growth, and, if long continued, to cause the disease.

Epithelioma about the eye can be safely treated without permanent injury to sight. Conjunctivitis may result, but my experience has been that it readily subsides.

The most obstinate variety of this disease has been that involving the lip, and in many cases after reaching the burning point with the ray I have turned the cases over to the surgeon for complete removal. None of these cases have recurred, and eighteen months have elapsed since some have been discharged. Therefore, with the deep-seated variety of the lip, I think a few weeks' treatment with the ray preceding operation, the most advisable. As has been our past experience, with other treatment, epithelioma of the mucous membrane and that merely of the skin are two far different conditions.

Good results with the ray alone have been obtained in only the superficial variety of the lip. Thus far this treatment of the epithelioma has more to offer by way of effecting a permanent cure than any other known to me.

LUPUS.

My observations in lupus, here reported, will be of 12 cases, covering a period of time from November, 1900, to Jan. 1, 1903. My first case was reported Feb. 6, 1901 *(Medical News)*, treated and cured by the ray alone.

While my experience has been the same in this disease as that of other operators, I report these cases especially to show the permanency of the results, as some have been discharged more than two years.

Of the 12 cases, 5 were males, 7 females; ranging in age from 14 to 74. Six were located in the cheeks; 2 the ears and auditory canal; 1 each on the nose, temple and hand. They had existed from one to twenty-one years.

Of this group, two are still under treatment, one of whom has large areas of the skull bare, and, while much improved, can never be completely cured. The general health of the other case will not permit continuous treatment. Ten of the number have been discharged, clinically cured; no other treatment than the rays being given.

From six months to two years and a half have elapsed since cases were discharged, with recurrence in but

one case. This, under treatment, healed so rapidly that the scar was not properly nourished, therefore the lesion broke out again, but responded readily after but few treatments. All cases are still living and under observation. Eleven of these cases were lupus vulgaris; one erythematosus.

I am, in a measure, warranted in passing final judgment as to the permanence of the cure of this group of cases, in which 93 per cent. occurred in the first two years' work, and, from the far-reaching, slow, natural, healing effect and the beautiful appearance of the scar, which, as a rule, more closely resembles the normal skin than any other scar, certainly this treatment offers more satisfactory results than all other forms of treatment.

ACNE.

In applying the rays to this disease, it has been only in cases of the indurated pustular form, in blonde individuals, which had resulted in disfigurement and pitting of the worst type, that were rebellious to all other treatment.

In this class of cases I have had most gratifying results. There has been not only a freedom from scarring of the new lesions, but if the treatment is carried to the production of an erythema and stiffening of the skin, the peeling which follows will aid in the removal of pits and scars from old lesions. If properly given, this treatment, in my opinion, far surpasses any other in chronic forms of acne. There has been no recurrence in these cases, and no damaging change in the skin structure and, after the desired result has been obtained, I have simply given the patient instructions regarding diet and exercise.

HYPERTRICHOSIS.

Early in my work I experimented with two cases in treating this disease, and have long since discontinued to so treat others, because of the length of time required to safely remove the hair without disfiguring the face; and a recurrence in both cases. While a great deal was gained in using this treatment, as the second growth was only about one-third of the first and was much stunted and bleached (both were brunettes), and the second series of treatments practically removed all hairs, still the danger to the patient and the time it consumes tends to discourage its use along this line.

KELOIDS AND OTHER BENIGN GROWTHS.

In keloids and other benign growths I will cite only one, that of keloid recurring after three operations for its removal, in the scar and stitch holes. After the last operation the incision was held together with oxid of zinc adhesive plaster. Yet, in one week, after apparently perfect healing of the incision, keloids rapidly developed, widening the scar, which was highly colored. Gradually erythema was produced by the ray and keloids were completely carried away, and after erythema had subsided scar became color of the surrounding skin. More than one year has elapsed since case was discharged, and there has been no recurrence.

In this variety of growths, and also verruca, both hard and soft, I have yet to treat a case that has not been as gratifying in its result as the one whose history I have just given.

ECZEMA.

The few cases I have treated have been chronic infiltrated forms of this disease, located on the hands, and the results have been thus far most encouraging. Mild irradiations produce quick reaction of a stimulating nature, then, if treatment is discontinued, infiltration is rapidly reduced. This variety of cases, treated with a combination of the rays and other local applications produces better results than with the ray alone.

SYCOSIS.

My results with sycosis of the most rebellious type, with multiple follicular abscesses, that has baffled all other treatment before the action of the rays was known, have been far beyond my expectations. After but few irradiations abscesses promptly disappear, inflammation subsides, hair falls out and a perfectly smooth, normal skin appears where so long the chronic inflammation had existed. In a few weeks a new growth of hair is seen, with no return of the disease. Parasitic and non-parasitic sycosis is affected alike

The rapid cell proliferation, produced by the ray, led me to believe it might be used to prevent the ugly pitting which follows smallpox. The cases selected were severe ones, during an epidemic in our city, and irradiations were given as soon as possible after their discharge from the hospital, before all inflammation about the affected area had subsided. The patients were all females. In producing a gradual erythema, epithelial cells rapidly filled the forming pit, and soon they were heaped above the normal skin. With mild irradiations for a period of three weeks, until erythema subsided and peeling took place the characteristic scar was rendered so nearly like the normal skin that it would be difficult to discover any trace of the disease.

SCLERODERMA.

Another interesting disease treated by the rays was of scleroderma, and the only one in my experience so far. It occurred in my hospital work.

CASE 1.—A young man, 22 years of age, of Irish descent, general health always good. His barber discovered that the skin of his face had no elasticity, and a general examination was made.

The same hardened condition was found to exist on neck, arms, chest and abdomen.

When he was admitted to the hospital the patient could not smile or turn his head. The case excited the interest of nearly every member of the staff.

Treatment, as first outlined, was inunctions of olive oil, tonics, and thyroid extract. These were given for weeks, with apparently no improvement.

Ray treatment was then suggested. The arms were first irradiated and after few treatments the thickened and hardened skin began to separate from connective tissues. New locations would be tried, with the same results, though there was a slight tendency toward recurrence in location first treated, yet never to the extent of the first condition. After a series of three irradiations of same locations, the patient was sent to a warmer climate and resumed work. If any recurrence appeared it was very slight, and remains so to date.

In this case marked malaise could be produced by exposing large areas to the rays to such a degree that the patient would be confined to his bed, but after a discontinuance of the treatment for three days would again be active and treatment was resumed.

NON-DERMATOLOGIC.

In the general hospital work the ray treatment is becoming of great value, a most powerful general tissue stimulant, for all forms of retarded healing, sloughing flaps after amputation, varicose ulcers, painful bone conditions, painful adhesions after abdominal operations, etc., etc. Old chronic ulcers that have existed for years can be assisted to rapid healing with no other treatment and but few irradiations.

TUBERCULAR GLANDS OF NECK AND OTHER LYMPHATIC ENLARGEMENTS.

There were five cases of tubercular glandular enlargement of the neck which occurred in cases with distinct tubercular history. Three were absolutely inoperable, because of the extent of the glands involved, and two had recurred after operation.

CASE 2.—The first was a male, 21 years of age. He had been operated on five times in five years. The glands enlarged in February of each year. He was referred to me by the surgeon under whose care he had been. At this time glands had developed in the wound of the last operation before healing had taken place, with other enlarged glands on both sides of the neck; two were discharging sinuses, and there were ugly scars from previous operations. After a few weeks' treatment with the ray, the glands emptied completely, wounds healed promptly, sinuses closed and scars of five different operations were almost completely carried away and bleached the color of the normal skin. The patient has passed his critical season; this year (the first time in five years) absolutely free from any recurrence.

CASE 3.—Another operable case was that of a female, aged 24, suffered with a discharging gland, also an ugly scar, attached to the hyoid bone and made more conspicuous by the motion in swallowing. After six irradiations, a strap of adhesive plaster was placed over the gland and sinus to prevent motion and opening of the sinus. Healing took place in six days. Six months have elapsed since this treatment was given, and there is, as yet, no sign of recurrence.

In the other operable cases, after ten days' treatment the glands were completely reduced.

In the two inoperable cases, the necks have diminished about two-thirds in size and, as they have caused no further trouble and both patients are at work, they do not see the importance of further treatment, so it has been discontinued.

My experience with these cases has been as gratifying as with any disease yet treated. If such glandular enlargements can be slowly emptied in nature's own way, radiotherapy may have the preference over operative interference, removing some of the glands, thereby throwing more work on the remaining ones, which are more liable to become enlarged.

TUBERCULAR JOINTS.

CASE 4.—There are two cases under this head which I would like to report. One, tuberculosis of the knee joint, with tubercular history and other tubercular complications. The condition had existed for four years. There was thickening and induration of the joint, distinct rice bodies in a small amount of fluid could be felt. Patient was able to get about for only a short time, when the leg would give out completely.

With intermittent periods of a week, irradiation was continued through five months, when patient was discharged clinically cured; deposits were all carried away, except slight thickening; pain and tenderness completely relieved, and the patient was able to get about all day without discomfort. He had had everything in the way of treatment, except resection.

CASE 5.—The other case was one of tuberculosis following an injury to the bones of the hand. Large areas of dead bones could be felt with probe, and there were four discharging sinuses. With irradiation, sinuses all healed, pain and tenderness disappeared and there was fairly good motion. Patient was constantly watched by his surgeon, who was ready to scrape the bone, but this was not necessary.

Dr. John B. Murphy of Chicago reports similar cases, with good results, in tubercular granuloma, or Pott's disease.

One other result in radiotherapy and a condition which has caused probably all of us more or less anxiety is dermatitis or burn.

In many of the rapidly recurrent cases of cancer the best results are obtained by powerful stimulation, even burning if necessary. A year ago I was giving such cases only one short exposure a day, while now I give two shorter treatments daily for a week or ten days. In treating such a patient it is necessary, in fact most important, that he be told at the start what to expect, so that he may be prepared when the dermatitis appears and not be frightened into giving up the treatment and consulting another physician who is not familiar with the action of the ray. The news of a terrible burn soon spreads, and injures your reputation as an operator, when, in reality, the result obtained is the desired one. This case, I am happy to state, was not one of my own, but was referred to me for diagnosis.

The patient was a male, 74 years of age; general health, good; no history of cancer in family, but gave history of blood poison, resulting from the prick of a rose-thorn, on the hand. After acute symptoms of poison subsided, the wound refused to heal, though a similar lesion on the leg healed promptly. He was advised by a surgeon to have the rays applied to the ulcer, then about the size of a half dollar. Long exposures were given, and after the fourth, dermatitis appeared, and lasted a month, with slight improvement in the ulcer. Treatment was resumed, and after the eighth exposure dermatitis again occurred. The hand was greatly swollen, and very painful, with a gradual increase in the size of the lesion and increased pain.

The patient was first brought to me Dec. 14, 1902. The hand was then photographed. The ulcer had no appearance of epithelioma. It looked most healthy, with bright, shelving edges. There were areas of bone and tendon exposed. The condition of the skin about the ulcer was that of dermatitis, broken and parched in appearance. A static production of the ray ten inches from the ulcer produced almost instant irritation. Amputation was advised, and the patient made a good recovery.

Microscopic sections were taken from different areas of the ulcer. These revealed squamous epithelioma, with most unusual increase in the fibrous tissue which the pathologist attributed to the action of the rays and the condition, to him, was a new one.

I deem this case idiosyncratic to the rays. The mildest medication caused instant burning.

There was no sugar in the urine, and from previous history, clinically, it was not an epithelioma.

In conclusion, conditions demanding a long series of treatment with the rays, overstimulation invariably occurs if periods of vacation are not given. It develops in the old and paralytic more quickly than in the middle aged or young. The most gratifying results may be obtained in radiotherapy by the operator who carefully studies his apparatus, the tube he is using and the effect of the ray on his patient; yet, on the other hand, if he neglects this strict attention to every detail, or leaves his work to an inexperienced assistant, disappointment and failure will be the outcome.

DISCUSSION.

DR. C. E. SKINNER, New Haven, Conn.—Dr. Varney's paper and the conclusions he deduces from a clinical experience which accords very closely with all who have been using the *x*-ray in these conditions are very valuable. There is no point on which I saw occasion to disagree with him, but he did not mention the effect of the *x*-ray on the healing process in fresh operation wounds. As a rule the *x*-ray is considered stimulating to fresh wounds, but occasionally we get cases where the action would appear to tend toward retardation of the healing process. Two such have come to my notice. One was an amputation of the breast for fibrosarcoma, where we also removed the axillary glands which were involved. The rays were applied immediately after the operation, and after about

four applications the tissues took on a dark appearance resembling gangrene. The rays were immediately suspended and not applied again for two weeks. Meanwhile the clots which had formed under the flaps did not absorb, and it was necessary to take out some stitches and remove them. It took this case three weeks to heal when it should have healed in ten days. Another significant case was related to me by Dr. M. M. Johnson, Hartford, Conn., who had a patient with a carcinoma of the breast, which he rayed for three weeks previous to operation. At the time of operation he observed that blood did not spurt from the arteries as it ordinarily does, but merely flowed, as when a vein is cut. All these facts are significant of the conclusion that the *x*-ray exercises an influence on the circulatory function whereby the blood supply is lessened, and whether or not we are sometimes going to get into trouble with gangrene when we ray freshly-cut surfaces I think is a problem worth bearing in mind.

I would like to contribute a little to the therapy of the *x*-ray by exhibiting some photographs of a case of ichthyosis, occurring on a boy aged 15. When he was two weeks old ichthyosis began to appear and has been present ever since, the areas affected having increased. The case came to the clinic of the Yale Medical School and was exhibited before the New Haven Medical Society by Professor McDonald, the dermatologist of the institution. My assistant in radiotherapy, Mr. William W. Herrick, New Haven, was present at the meeting and saw the case. It occurred to him at once that if the *x*-ray could influence malignant epithelioma, would it not also be capable of influencing benign epithelioma. Professor McDonald consented to the trial being made and Mr. Herrick rayed one hand while Dr. McDonald treated the other hand with green soap. This treatment was begun about ten weeks ago. Mr. Herrick will report the case in full later on. The credit for the conception of the idea that the *x*-ray might be of benefit in this case and for the work actually performed belongs to him. But he has courteously permitted me to bring the case to your notice at this time.

The photographs show the conditions before and after treatment. The layers of scales on the hands and feet were half an inch thick. The right hand was rayed, the left hand treated with green soap. The back of the right hand is now perfectly normal, the scales have entirely disappeared from the backs of the fingers and the greater part of the inside of the hand. In the left hand, treated with green soap, no change has taken place except that a small portion of the scales here and there has come off. Another noticeable fact is that where the scales came off of the right hand, treated with the rays, no irritation followed, the skin appeared pink and normal and soft. Where the scales came off from the left hand, by the action of the green soap, the skin underneath was white and presented the appearance of maceration. Immediately after the sloughing of the scales on the left hand the skin which was exposed thereby would harden and crack, and the hand is now rigid. He can not use it because of the pain excited by stretching the hardened cracking integument, while the right hand is perfectly pliable and flexible. Although this case at the present time is more a curiosity than a demonstration, yet the results are significant from a therapeutic standpoint and give ground for the hope that something of use to the sufferers from ichthyosis may be gained in the future from *x*-ray therapy. I will say in closing that this is the first time within the memory of the patient that any portion of his body which was affected by the disease has become free from the characteristic epithelial accumulations.

DR. JOSEPH ZEISLER, Chicago—This subject was up for discussion a year ago, and without doubt it has been discussed since again and again. I have put myself on record with my personal experiences in radiotherapy in a paper which I read last September before the American Dermatological Association. We are living in a period when we may expect every few months from various observers comprehensive papers such as Dr. Varney's, showing the effect of the rays in all sorts of conditions. Whoever works with the rays will continually develop a justifiable enthusiasm which will prompt him to publish his reports, and I look on the report of Dr. Varney in that light. On the whole I agree with everything he has said, and shall be the last to doubt the results he has reached. I was rather surprised to hear Dr. Varney suggest the removal of the hard edges of an epithelioma with the curette first and the use of the rays afterward. It seems to me this would antagonize the principle of radiotherapeutic measures and would turn patients from the treatment by rays, because they do not care to have a cutting operation done. The fact is, any epithelioma on the surface can be removed by the rays alone without any other measures, if the proper method is pursued. It is by no means a tedious affair. In my experience, which covers perhaps thirty cases of epithelioma of the skin, 13 to 14 applications were always sufficient to remove our epithelioma.

In regard to the cases of acne I would suggest to the Doctor that if he will extend his field of work to all sorts of acne he will be as much surprised at the result as in the indurated variety. The treatment by radiotherapy of all forms of acne has come to be my first choice. The results can not be compared to any other treatment, and it makes the internal treatment of acne almost superfluous.

I quite agree with Dr. Varney as to the difficulties in cases of hypertrichosis. At the same time I have had positive success with several cases, which have now remained free of hair for over a year. No one should undertake to remove hair with the promise that its removal would be permanent. It will return, but by repeated exposures, frequently before the new growth has started up you can keep the capillary blood vessels in a state of paresis, such as is responsible for the loss of hair.

In this connection I would point out one feature we want in future publications of this kind—not to discredit Dr. Varney's contribution but to ward off similar papers in the future. What we want from now on are reports on *x*-ray treatment after the observation of the respective cases for a year or two. Sometimes we have marvelous effects in psoriasis. I can clear any patch up in three applications, but in a few weeks the psoriasis returns. We want to know under what conditions this treatment offers permanent results. That it offers temporary results we know, but it seems to me that from now on we should only report results which allow us to look back for a period of several years.

DR. L. DUNCAN BULKLEY, New York—I wish to say that I am foolishly enthusiastic about some results I have obtained with this method. A patient in the skin hospital had her foot so affected that it was scraped a dozen times under ether, scraped down to the bone, and it would heal up for a month or two. Everybody who had seen her had tried everything they knew of for her relief, but she was crying with pain, and sometimes she used several grains of morphin, the pain was so great. A dozen or so applications of the *x*-ray cleared up everything entirely from her feet so that she could at once be up and around the clinic. It was a marvel to me. It exceeded anything I could have imagined.

I think it is interesting to mention our methods as to time, as to distance, as to the revolutions of the machine, and give some idea of the strength we use. This would help us all. I burn some few cases mildly. An epithelioma is better to be burned mildly than not. As to scraping, I think it is desirable, as it saves several applications of the ray.

DR. R. R. CAMPBELL, Chicago—Dr. Zeisler asks for data that have existed some months, and I think I can supply this as regards one disease. I believe I was one of the first to use the *x*-ray in the treatment of acne and reported some 15 cases in THE JOURNAL of the American Medical Association. Some of these cases have now gone on for almost two years without recurrence of the acne. In all of these cases all treatment other than exposure to the *x*-ray had been absolutely thrown aside and the action of the *x*-ray depended on entirely for the results obtained as reported in that article.

There is one disease in which I believe it is imperative to burn, at least in my experience it has appeared so. In three cases of tuberculosis verrucosa cutis which I have treated with the *x*-ray I could not get a semblance of a result after re-

peated exposures until I made it a point to burn. After the burn had been obtained the disappearance of the disease was very prompt. In cases of acne, of lupus, of hypertrichosis, I have not found it necessary to burn, nor have I yet produced in any patient a burn in which my efforts were not bent particularly in that direction and in which the burn was sought. As Dr. Varney has said, we must recognize the idiosyncrasies which exist in different people. This is the rule regarding the *x*-ray as well as any other therapeutic agent we may use.

In cases of epithelioma treated with the *x*-ray, which have been operated on—I am speaking of cases of epithelioma which fall into the hands of the dermatologist who finds it necessary to resort to surgical procedures—the time to institute the treatment by the *x*-ray is not after the tissue has hardened, but within two or three days after the operation has been performed. I think that is not only the case in epithelioma, but it is the case in all malignant diseases. In cases of deeper and malignant troubles, however, I question very much the ultimate efficacy of the *x*-ray. We do get temporary results. But it is a question in my mind as to whether or not we promote a metastasis, and when reaction does take place the growth goes on with a rapidity that has been unknown to us after any other procedure.

DR. G. P. EDWARDS, Nashville, Tenn.—One point touched on by Dr. Bulkley I wish to emphasize particularly, that is a more accurate technic of *x*-ray therapy. It is the custom of most of us to use our cheaper non-regulating tubes for treating these skin lesions, because they are cheaper and are not so easily destroyed. I think this is a mistake. I think we should know exactly the condition of our tube and what it is doing. In this work we should be able to maintain the same degree of exhaustion for the same class of cases. The variety of effects we are getting in these cases is not so much due to the idiosyncrasy of the case as to the idiosyncrasy of the operator in using tubes of different degrees of exhaustion. It has been my privilege to study this particular point, so when I do get a result I know how I got it.

DR. A. H. OHMANN-DUMESNIL, St. Louis—The important point in radiotherapeutics is technic, also the proper lamp glass, whether hard or soft. I have had a very unfortunate experience in the effects of radiotherapy. A young lady of Memphis, Tenn., was treated by Dr. Lassar of Berlin, and when I saw her she had an *x*-ray burn nearly healed, but with a very thin scar all over the face. She came to me to be relieved of the scar. I have seen a case where the foot had not been covered by lead in which there was an affection of the metatarsal bones. Those are cases I think it is well to speak of with this idea only, not to declaim against *x*-ray therapy, but as a reminder to all to be careful in their technic in every detail in order to avoid such consequences, which are difficult to ameliorate or make completely well, some of them requiring months and months. The case of injury to the metatarsal bones has been of nearly nine months' duration, and the man can not walk with ease yet. This is not encouraging to the use of *x*-ray therapy. You may say it shows great negligence on the part of the operator, but he should not have been negligent, and this part of the technic should not be forgotten.

DR. J. H. DUNCAN, St. Louis—I have had considerable experience with the *x*-ray treatment in my dermatologic work, and have had my share of success, not only in new growths, but in ordinary skin lesions. The longer I use the ray the more careful I am in the selection of my cases, and I am afraid if we are not careful before long the dermatologist will be relegated to the *x*-ray specialist, and the real diagnostician, the scientific dermatologist, will have to take a back seat. I hope, then, that we will not attempt to treat all of the skin lesions we come in contact with by the ray, but select our cases and rather use the *x*-ray as an adjunct to other treatment. While we know, for example, that the *x*-ray may relieve permanently a new growth, realizing the length of time it may take to produce that result, I am of the opinion that curettement with the application of a plaster, or some kind of operation, then the healing of the wound by the *x*-ray would not only facilitate matters, but would probably make a more permanent cure. I was, and am, to a large extent, enthusiastic in this matter. I have had success in cases of acne, infiltrated thickened chronic eczemas, hypertrichosis, etc. My experience with the ray has been most gratifying in breast lesions and in the treatment of epithelioma or cancer of the lip. I have had experience in the treatment of a small affair no one has mentioned, but it was a most annoying affection. It was a case of verruca, 30 or 40 warts on the back of the hand. The result in that case was satisfactory. Of course, we would not use the ray for one or two warts, but the entire back of the hand was covered with verruca.

We can all give our experiences in these things, but let us not get too enthusiastic about the *x*-ray to the exclusion of other old and well-tried remedies.

DR. J. B. GUTHRIE, New Orleans—There is a little point in *x*-ray technic that I worked out and subsequently found mentioned, but no details given, in Williams' work. The feature of the method I refer to consists in the simultaneous use of two or more *x*-ray tubes connected to the same generating source, coil or static machine, as the case may be. I have found this procedure of especial value in the treatment of cutaneous lesions when, as is often the case, they are widely disseminated or located on opposite sides of the face, rendering treatment by a single exposure impossible. Where two tubes are run at the same time two exposures of the same patient are rendered unnecessary, for all of the diseased area receives treatment at the same time.

I have a tube stand with arms of the usual double-jointed type with two arms instead of one. Each of these arms carries a tube which is connected to the proper terminal of the machine. If we call the tubes A and B, the connections are as follows: The cathode of tube A is connected to the cathode of the generator, and the anode of tube B is connected to the anode of the generator. The anode of tube A is then connected with the cathode of tube B by a piece of flexible wire. This puts the tubes in series, and connected in this way each tube takes the current it needs and allows the excess to pass on to its fellow. It is not essential that both tubes be of the same vacuum, although the tubes operate best when this is the case. A high tube and a low one will both glow provided that the aggregate resistance of the tubes does not exceed the sparking capacity of the generator. It is necessary to use a spreader that is long enough to prevent sparking across from one wire to another. When only one of the tubes is to be used the other is short-circuited by connecting both wires leading to it to one terminal. It is sometimes desirable to have a high tube and a low one on the stand. Then when one tube is in use the other swings out of the way.

The device I have described has been very useful to me, and I consider it a time-saver. I have never utilized it to treat more than one patient at a time, but this is possible. It is most useful in skin work for the reasons I have named. I mention it with the hope that some of the members of this Section will find use for it also.

DR. J. N. ROUSSEL, New Orleans—I want to suggest the use of oxygen in the treatment of parasitic skin diseases by the *x*-ray. In my experience oxygen in spray, which we might obtain either by means of a bag of oxygen or the static breeze, accelerates the action of the ray materially in the treatment of ringworm and sycoses.

DR. H. R. VARNEY, Detroit—In reply to Dr. Skinner's inquiry as to the action on the normal tissue, I would state that as far as I have been able to determine it is a specific cell stimulant, producing a stimulation that is characteristic in itself, an inflammation that exists for days and weeks, and even months.

In answer to Dr. Zeisler regarding the scraping of the hard epithelial border, I do that in cases where they wish to gain time. I hope I have not appeared too enthusiastic; Dr. Zeisler's criticism is a timely one. In my paper I have reported only one case that has occurred in my work since the first of January. I have been operating for two and a half years and have given about ten thousand exposures.

I believe I mentioned verruca in my paper. I have had some very interesting cases in that line with very gratifying

results. They, of course, sometimes disappear like magic with no treatment, yet are troublesome in certain localities. The multiple tube I have never used, but can readily see that in acne and other conditions we would gain time with it.

Dr. Bulkley's suggestion for more knowledge regarding technic in this line of work would be of great value to us all if it could be given with some definite rule; but as operators, we all know that there is no definite dosage in giving the ray, as no two tubes produce the same ray; no two patients react the same to the ray; nor does the disease under treatment. Therefore, each operator must, to be successful, establish his own technic, by carefully studying his apparatus, the tube he is using, the patient under treatment and the disease being treated.

CLAMP FORCEPS FOR REMOVAL OF NASOPHARYNGEAL TUMORS.*

E. FLETCHER INGALS, M.D.
CHICAGO.

The report of the following case is made to illustrate the advantage of having a suitable clamp to aid in the removal of nasopharyngeal tumors by the galvano-cautery and to call attention to an instrument which I believe will be found advantageous in very many cases. It would also aid in the removal of some growths by the cold-wire snare.

The patient, E. J., a young man 22 years of age, had been troubled with partial occlusion of the nares and the necessity for frequently clearing the throat for about five years. Latterly, there had been complete occlusion of the left naris, but the right was permeable a part of the time. There had also been frequent bleeding of the nose. The patient's personal and hereditary history gave no clew to the cause of the trouble. The thoracic signs were normal. On examination of the nares I found the right side three-fourths closed by swelling of the inferior turbinated body; the left side was free at its upper and front part, but was completely closed posteriorly by a growth in the nasopharynx.

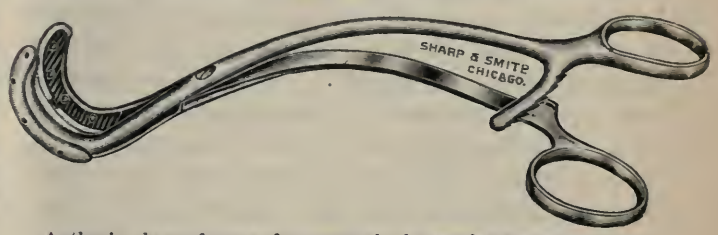
On rhinoscopic examination, I discovered a fibrous tumor with a broad base attached to the vault and posterior part of the nasopharynx, measuring about 1½ inches in length, and about ¾ of an inch in its other diameters. This growth three-fourths filled the nasopharynx. Its surface was smooth and marked by several enlarged blood vessels. It was hard to the touch and firmly attached, with but a slight groove at the lower part between the tumor and the pharyngeal wall, so that a wire could not be made to hold.

The left naris and the nasopharynx were anesthetized as thoroughly as possible with cocain and through the left naris I passed into the nasopharynx and brought out at the mouth, a No. 5 soft male catheter, both ends of which were then held to the left. A similar catheter of different color was next passed through the same naris in like manner and both of its ends were held to the right. The two ends of a long No. 20 platinum wire were then introduced into the ends of the catheters that came out of the mouth and passed back until they came to the turn in the nasopharynx. The catheters were then drawn out through the nostril until the ends that protruded from the mouth were out about four inches nearer to the lips. This caused the wire to make the turn in the nasopharynx, after which both ends were easily pushed in until they came out of the catheter through the nostril. I then passed the clamp-forceps through the mouth, into the nasopharynx and crowding upward and backward grasped the tumor firmly and locked the clamp on its base. Next the loop of wire protruding from the ends of the catheters out of the mouth was carried under the handles of the forceps and drawn back into the mouth so that it must of necessity slide up behind the blades. The catheters were then removed, the wires being carefully held so they could not become crossed in the naris. Next, these wires were slipped through the tubes of a galvano-cautery ecraseur and the electrode and wires were made fast to the handle. The loop was now made tight on the tumor by turning the rachet on the handle.

I then told the patient that as we burned off the tumor it would necessarily cause pain, but I wished him to stand it as long as he could, and that I would cut off the current the instant he requested it. With this understanding, the current was turned on, the loop heated and allowed to burn into the tumor for about three seconds when at the patient's signal the current was cut off. He was allowed to rest for a minute or two and then the current was again turned on in the same way, the rachet being tightened in the meantime. Thus I proceeded burning into the base of the tumor about a sixteenth of an inch at a time until it was completely cut off, without very great discomfort to the patient and without hemorrhage.

In this case the clamp was of signal service because it would have been impossible to engage the tumor in the galvano-cautery loop without it. I believe that the instrument will greatly facilitate the removal of many of these tumors and will make the operation more thorough, even when they might be removed without it, for with it the tumor can be secured at once and the loop of the snare, when carried under the handles and drawn back into the mouth, must necessarily engage the base of the tumor.

The nasopharyngeal clamp forceps has the general form of Loewenberg's nasopharyngeal forceps. The blades, however, are longer and much more curved. The



Author's clamp forceps for removal of nasopharyngeal tumors.

curved portion, which is two inches in length, is so shaped as to accurately fit the vault of the pharynx in the ordinary adult; each blade is protected at the back and outer side by a piece of ivory, so that a short circuit will not be made when the galvano-cautery snare is applied, and the roughened faces of the blades are each provided with four short sharp spikes to prevent slipping. When the instrument was first made the curve was not so great as at present and the blades were not provided with the spikes. I found that it did not accurately fit the vault of the pharynx, and furthermore, that it would slip when the tumor was grasped. The present form appears to meet the conditions perfectly. The handles are provided with an arrangement for locking, similar to that used with many other forceps.

34 Washington Street.

* Read at the American Laryngological Association, Washington, D. C., May, 1903.

Sudden Blindness After Paraffin Injection.—Dr. Lee Maidment Hurd reported to the Section on Laryngology and Rhinology of the New York Academy of Medicine on May 27 a case in which there had been instant loss of vision following a paraffin injection for nasal deformity. The patient was a man of thirty-three years without any history of syphilis, whom he had given, some months previously, two or three injections of paraffin with the object of improving a nasal deformity. The man returned requesting another injection, and while this was being given he became blind. Ophthalmoscopic examination revealed the typical appearance produced by embolism of the central artery of the retina. While the possibility of this accident being a mere coincidence was freely admitted, the opinion seemed to prevail that it was directly connected with the paraffin injection. The blindness is permanent.

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LECITHIN AND ITS THERAPEUTIC USE.

Although lecithin is a constant constituent of all kinds of cells, and therefore an ingredient of all foods, the manner in which it is absorbed and utilized is unknown. Its constancy in the cells, both of animals and plants, and the large amounts that exist in the central nervous system, are sufficient evidence that it must play some important part in life processes, but what these are is little more than surmised. On the other hand, its composition, although very complex, is well understood. Shorn of technicalities it is a fat which has had one of the three fatty acid groups replaced by phosphoric acid, to which is attached a nitrogenous body, cholin. It is the presence of this last group that makes the substance of particular interest, for the body cholin, although not very toxic itself, is easily converted into an extremely poisonous substance, neurin. It may also be oxidized into a very poisonous body isomeric with muscarin. The changes that lecithin undergoes when taken into the alimentary tract are far from clear. That it is absorbed in the same manner as other fatty bodies is possible, but, on the other hand, the presence of the cholin-phosphoric-acid group may cause it to behave in an entirely different way. In other words, it is not known whether the lecithin that is found in the tissues comes directly from the food, or is built up by the cells where it is found.

As to its functions, the nature of its composition suggests that it is not merely a source of energy, as are the fats, but rather that it plays an important rôle of some kind. For this idea speaks also the fact that it is most abundant in the brain and in egg yolk. The significant fact that the substances that act as anesthetics are those in which lecithin and fat are soluble, as chloroform and ether, led Hardy to build up his theory of the importance of lecithin in the conductivity of nerve impulse. When the lecithin is dissolved by the anesthetic, or at least has its physical condition altered, the nerve fibers can no longer transmit impulses; when the anesthetic has been eliminated the lecithin returns to its ordinary conditions and nerve function is restored. In another direction its importance has been shown by Kyes. He found that red blood corpuscles contained something that acted in the same way in causing hemolysis as did the important and mysterious "complement," and later it developed that this active constituent of the red corpuscles was lecithin. The greatest importance of this observation lies perhaps in this, that we have at last a definite body of known chemical nature and structure that plays a part in the reactions of immunity. And this, we may say, comprises practically all we know of the functions of lecithin.

It is quite possible that there are some harmful conditions brought about by lecithin through the toxicity of the nitrogenous bodies that it yields on decomposition. Nesbitt has demonstrated that cholin, and probably neurin, are produced in the intestinal canal during the fermentative processes of intestinal obstruction in animals fed on yolks of eggs. Therefore, it may well be that the lecithin of food is an important source of the poisons that are responsible for intestinal autointoxication; for there are few substances more poisonous than neurin, and 0.5 gram of the cholin is a fatal dose per kilogram of rabbit. When nervous tissue is destroyed lecithin is decomposed to a marked degree, as Mott has shown, and it is possible that with great nervous exhaustion there may be some intoxication with cholin and neurin derived in this way. A resemblance between the symptoms of neurin poisoning and those of the intoxication of fatigue has been observed by some.

With such a fragmentary knowledge as this of the metabolism and uses of lecithin it is evident that the recent development of therapeutic administration of lecithin is not altogether the result of applied science. Rather, the use of lecithin is suggested by the facts at hand, and the rest is empiricism. The greater part of the experimental work has been done by the French, and numerous reports can be found in the Comptes Rendus de la Societé de Biologie of the past year or more. They generally state that young animals fed with lecithin greatly outweigh the control animals; also, that animals infected with tuberculosis and given lecithin, either by mouth or subcutaneously, live longer than the controls. As yet there seem to be too few clinical observations to warrant the drawing of conclusions. The use of glycero-phosphates, which has long been tried, is, of course, based on the presence of this radical in the lecithin of the nervous system. A great many preparations of lecithin are being placed on the market, and we desire to call attention to the following points: First, that there are a number of different sorts of lecithin, depending either on the kind of fatty acid radical that enters into the molecule, or, as W. Koch has shown, on the nitrogenous complex which varies in different lecithins. (Koch has proposed the name *licithan* for the group.) Therefore, if one's observations are to be valuable it is well to know at least the source of the lecithin employed. Secondly, that in such foods as calves' brains and yolk of egg we have a rich supply of lecithin in a natural condition. Walther has found lecithin in the chyle of the dog, so it is probable that some at least is absorbed, but there is no evidence that the methods used for extraction increase its absorbability. Undoubtedly a good way to administer lecithin, if not the best, would be by modifying the dietary. And, lastly, that the ingestion of considerable quantities of lecithin or of

foods rich in lecithin may not be entirely without danger, since at least during intestinal putrefaction, if not under ordinary conditions, highly toxic material may be formed from it.

TOXICITY AND IDIOSYNCRASY.

Nothing is more disconcerting for a physician than to have a remedy that he has given in perfect confidence of its harmlessness produce annoying symptoms or perhaps serious toxic effects. Needless to say there are cases of this kind being constantly reported, however, and only a previous knowledge of the special susceptibility of the patient will absolutely protect the physician from such occurrences in his practice. It is well known, of course, that this idiosyncrasy for certain drugs is often a family trait and, consequently, when certain substances, as quinin, for instance, are prescribed it is advisable to ask if the patient knows of any bad effects that have occurred in near relatives. The number of drugs that may produce untoward and unintended complicating symptoms is growing with the enlargement of the materia medica, and especially with the increased use of synthetic products. Some of the recently reported incidents of this kind, as they may be gathered from Squibb's Ephemeris[1] for the present year, are worth noting. Antipyrin is one of the drugs that is well known to produce unpleasant symptoms. Most of the cases reported, however, are of European origin and serve mainly to show how much larger doses of the drug are employed with comparative impunity than are usually considered advisable with us. Simon and Mahu of Paris report a case of toxic hemoglobinuria, following the administration of antipyrin, but as the young girl had been given 9 grams, nearly 140 grains of antipyrin, in four hours, this is not so surprising. Doses as high as 60 to 90 grains during the day are not unusual on the Continent, however. Professors Curschmann and Zweifel of Leipsic, thoroughly conservative authorities, administer from 2 to 4 grams, 30 to 60 grains of antipyrin in twenty-four hours and obtain with this more satisfactory results in the treatment of the fever of puerperal septicemia than with any other remedy. They not infrequently see the cutaneous rashes peculiar to antipyrin administration in certain patients, but they do not consider these a contraindication to the continuance of the drug.

Certain of the newer synthetic products have come under the suspicion of occasionally producing unfortunate symptoms during the past year. Several reports of this character in regard to heroin have been made. Dr. Campbell of Liverpool, who had been in the habit of using heroin hydrochlorate in doses of one-sixth of a grain with great satisfaction in the treatment of laryngeal cough, recently had an alarming experience with a twelfth of a grain dose. It has been found that heroin may produce a habit for which the name heroinomania has been coined, so that recent suggestions for its use in the treatment of morphinomania will have to be taken with great caution. Aspirin, a new salicylic compound for rheumatism, has given, on one or two occasions, unexpected symptoms of collapse. Trional and sulphonal continue to be reported occasionally as causes of severe prostration and serious anemia when their use has been continued for a considerable period without intermission. Some very interesting cases of poisoning from the use of excessive quantities (in each case a whole nut) of nutmeg are reported. The substance was employed in places so distant from each other as England and Australia for the purpose of producing abortion. Nutmeg is well known as a sedative, especially in Germany, and is often used as a mild hypnotic, being liberally dusted over night drinks for this purpose. There seems to be a widespread tradition as to its power as an abortifacient somewhat resembling that current in many parts of Europe with regard to the effect of phosphorus for the same purpose. The symptoms of nutmeg poisoning are those of a narcotic, though collapse, with muttering delirium, clammy extremities, almost imperceptible pulse and somewhat dilated pupils that react feebly to light are reported. The domestic use of nutmeg as an emmenagogue and as a hypnotic may occasionally, in susceptible persons, give some of these symptoms without more serious effects. Gangrene, especially of fingers and toes, continues to be reported as the result of applications of carbolic acid, notwithstanding the many warnings in this matter. Even such dilute solutions as 3 to 5 per cent. may produce gangrene if applied as a wet dressing. It is conceded now that this effect is due to a special susceptibility of the patient, rather than to the toxic effect of the drug. It has been noted that this susceptibility is occasionally a matter of heredity and that the physician about to employ carbolic acid in minor surgery can sometimes save himself from unexpected results by questioning the patient as to his heredity in the matter. Patients whose vasomotor apparatus is already in a disturbed condition, who have what is known as dermographia, or who suffer from Raynaud's disease, or Weir Mitchell's disease, even in mild form, must be guarded more carefully than others against the effects of carbolic acid applied locally. Progress in neurology in recent years shows that these affections are much commoner than used to be thought. It is said also that turpentine produces its undesirable dermatitic effects much more readily on patients who are suffering from one of these peripheral vasomotor disturbances that have just been mentioned.

It was thought for a time that lysol, the saponified product of coal tar with certain affinities to phenol, might prove a less dangerous substitute for carbolic acid. The poisoning cases reported, however, are more frequent than before. Complications from its local application are not common, but taken internally the drug can be quite as fatal as carbolic acid. Acetanilid has, of course, achieved a bad eminence in the matter of

1. An Ephemeris of Materia Medica, Pharmacy, Therapeutics and Collateral Information, vol. vii, No. 1, E. R. Squibb & Sons, Brooklyn, 1903.

producing untoward effects. Its action in the headache powders so commonly used has brought it more and more to the notice of the physician of late years as a dangerous drug. A number of cases have been reported, however, in which its use locally as a dusting powder has been followed by rather serious symptoms. It usually produces its evil effects when used on abraded surfaces in children or the aged. When employed for the relief of the burning pain of so-called scalding in children it has several times produced affections resembling morbus cæruleus. Pyrogallol, when used locally in skin affections, still continues to be a reported source of toxic symptoms in susceptible individuals.

"SCIENCE, FALSELY SO-CALLED."

In these days of general information, when few subjects are too recondite to be of interest to the general public, it is only natural that popular magazines should take up striking discoveries and utilize them in a more or less sensational way. It is unfortunate, however, when such articles do not convey correct impressions or approximately correct impressions of facts. There is no limit to human belief, and a certain amount of appearance of scientific accuracy goes a long way in carrying on to acceptance grossly inaccurate statements. A correspondent in the *Popular Science Monthly*, a journal which popularizes science in a legitimate way, wrote to ask in regard to certain magazine articles by one Carl Snyder, as to whether they were reliable or not. These articles are of the class of which we speak, very attractively written, with vivid descriptions of alleged scientific truths. We say "alleged" because among a certain amount of facts there are so many inaccuracies that we can not call them scientific truths. This was the view of the editor of the *Popular Science Monthly*, whose answer to the query was in part as follows:

> Mr. Snyder appears not to have had a scientific training; his articles are sensational and inaccurate. This somewhat sweeping condemnation is easily justified. Let us consider the last article by Mr. Snyder that has come to our attention, "The Mechanism of the Brain," in *Harper's Monthly* for May. It is a potpourri of truth, half-truth and falsehood concerning chemistry, physics, anatomy, physiology and psychology. Thus we are told:
>
> > Or, supposing that this special colloid can not be fixed upon as the seat of the highest powers of man, they might be thrown upon that extraordinary and rather hypothetical ether, of which physicists talk so much and know so little.
>
> Within half a column Mr. Snyder passes easily from ether to electricity:
>
> > As there is no nerve action without the evident presence of electricity, it seems probable that nerve action, thought and consciousness, and what in our present ignorance we call electricity, are one and the same.
>
> Physicists may not know all that they would like to know about the ether and electricity, but they know enough not to write nonsense about them.

As an example of a misstatement of facts, the editor of the *Popular Science Monthly* refers to Mr. Snyder's statement as to the great weights of the brains of Byron and Turgenieff, which he gives as authoritatively verified. It can be definitely said that the weight of Byron's brain was unknown, and this is also true in the case of Turgenieff. With such apocryphal data interspersed in the article as alleged facts its value can be estimated. They vitiate the whole thing. Another queer statement quoted is that individuals may measure the size of their own brains and can find the directions how to do so in any good encyclopedia or by applying to the distinguished Professor Wilder of Cornell. In regard to this the editor remarks that, apart from such indications as are given by the size of the hat, the only feasible direction would be for the interested person to commit suicide and let Professor Wilder take the brain weight afterward. As a distinguished social diagnostician has remarked in one of his recent articles, one can not make estimates of capacity from any outside measurements.

While the above criticisms state very clearly some of the defects of the articles mentioned, we could add still others, such, for example, as Mr. Snyder's statement that the brain of the savage and idiot is rather smooth, while that of the highly-developed man or woman is grooved and folded in an extraordinary way. The average reader would certainly get the impression that only highly developed people have convolutions. One would infer that the author had either never seen the brain of an idiot or savage or else he is exceedingly careless in his statements on the subject. Another point for criticism is his allegation that there are only insensible gradations from the ape to the highest type of man. The fact is that there is a tremendous gap and the missing links, for they probably have existed, have not yet been found, and what have been reported as such are very inadequate to complete the chain. The field of scientific research is an indefinite one, and we have only touched on the borders of it here and there. There are ways of making the interested public aware of some of the advances that have been made without the exaggerated or incorrect statements that are so often indulged in. It would be better for popularizers to give out imaginary accounts embodying scientific facts after the fashion of Mr. Wells or more recently of Professor Newcomb than to lay down so-called truths which have so far no known basis. A little knowledge is a dangerous thing, especially if it is incorrect, and, furthermore, what we want in popularized sciences is less assumption and more logically demonstrated and established facts. The cultivation of a moderate amount of scientific skepticism would be an excellent thing for many readers of the statements of popular vulgarizers, for, with the public as with the individual, as was said by a philosopher, "It is better not to know so much than to know so many things that ain't so."

A PATRIOT PHYSICIAN OF THE REVOLUTION.

The *American Monthly Magazine*, the organ of a patriotic society, the Daughters of the American Revolution, in its April issue gives a complete account of Dr. Lyman Hall, one of the signers of the Declaration of Independence. THE JOURNAL has in the past noted the

fact that nearly 9 per cent. of the members of the Continental Congress that settled the question of our independence were medical men of the day, but this does not yet seem to be generally known. Such a man as Rush was sufficiently prominent in medicine and in the early statesmanship of the country to be remembered in both, but Dr. Hall, like Drs. Thornton, Bartlett and Wolcott, is seldom mentioned in his medical professional relations and in connection with his part in establishing the liberties of this country.

The account given of Dr. Hall shows him to have been a very striking character in his way. A native of Connecticut and a graduate of Yale College, he commenced active life as a minister and had a pastoral charge for a short time. He, however, gave up the ministry and taught school, finally taking up the study of medicine. After his second marriage, in 1757, he removed to South Carolina and later to Georgia, where he became one of the most prominent practitioners of the colony. He was also one of the most strenuous advocates of the colonial cause against Great Britain and carried his own county when the rest of the province was non-committal or not active in the cause. In fact, it was probably largely due to his influence that later the colony of Georgia joined the federation and he was one of the delegates appointed to the Continental Congress, to which he had already been elected by his own district. He was three times elected to this body and obliged to abandon his large and lucrative practice and his property, which fell into the hands of the enemy, was confiscated or destroyed. In fact he was obliged to go back to the north on account of the occupancy of the territory by the British forces, but returned a little before the close of the war. He was appointed governor of the province. After his retirement from the executive chair he became one of the judges of the Supreme Court for the county, and shortly after died, on the ninth anniversary of the surrender of Cornwallis at Yorktown, in his sixty-seventh year.

While Dr. Hall never bore arms nor was connected with the army during the Revolution, as sometimes erroneously stated, his service to his country during those critical times places him high in the ranks of those who were the founders of the republic. He was preeminently a physician, though in his versatile career he followed all three of the learned professions. We are glad to notice this biography of one who, while prominent in other ways, worthily fulfilled the function of our honorable profession for the larger portion of his active life, and his memory should be kept green by his medical brethren for all time.

THE MISSOURI AND KANSAS FLOODS.

The floods now occurring in the great Missouri Valley, which are unprecedented for the region and probably as financially disastrous as the reports have stated, have an important sanitary bearing. While the immediate loss of life has probably been somewhat exaggerated, the ultimate effects may be much more serious than at present anticipated. Few people who have not seen the effects of a flood in a thickly populated section can conceive of the unsanitary conditions that are produced. Aside from the breaking up of homes and rendering them uninhabitable, the exposure and the mental effects on the victims, conditions are left that it will take considerable time to relieve, conditions that are seriously threatening the health and general welfare of the community. The choked-up sewers and the consequent impaired drainage after such a flood in any particular community, together with the amount of decomposing matter in every way out of place, require the close attention of the sanitary authorities and their most active efforts. Add to this the lessened resources of the community to meet the conditions and the problem is certainly a serious one. The derangement and destruction of the food supply of so large an area as thus involved is an important matter as regards its bearings on the health. We trust that the authorities, not only local but state, have a full appreciation of the demands that will be legitimately made on them in the immediate future and probably for some time thereafter. It will probably require a considerable period to bring back the flooded sections into their normal sanitary conditions.

THE CHRISTIAN HOSPITAL SWINDLE.

We publish elsewhere the report of the medicolegal committee of the Chicago (Cook County) Medical Society in regard to the so-called Christian Hospital of Chicago, mention of which was made in our editorial columns two weeks ago.[1] Our mail has been flooded daily with circulars of this institution from our readers, but we have avoided saying more than we did in our editorial above mentioned, for the reason that this investigation was going on. During the time of its existence we showed up the old St. Luke's Hospital at Niles, Mich., and it is unnecessary to more than refer to what we published in the past to corroborate the findings of the Chicago Medical Society's committee. This committee is to be congratulated on the result of its work so far, and while it is of special local interest, considering that local men are being used, it is also of interest to the whole profession. One of the most discouraging things in connection with this institution and its predecessors and like enterprises, is the fact that physicians can be so easily swindled. If this were not true, then such schemes would not be paying ones. It would be interesting at this time to know how many of those who bought the old St. Luke's diplomas have them still hanging in their offices. We believe that few of the readers of THE JOURNAL will be found among the list, and we sincerely hope none of them have been so foolish as to invest in this later scheme.

Medical News.

ARKANSAS.

New Graduates.—At the twenty-fourth annual commencement of the medical department of Arkansas University, Little Rock, a class of 12 had degrees conferred on them by Governor Jeff Davis. Hon. W. M. Kavanaugh delivered the address to the class.

1. See THE JOURNAL, May 23, p. 1443.

The New Arkansas Law.—The law regulating the practice of medicine and surgery became effective May 18, and in accord with its provisions the governor has appointed regular, homeopathic and osteopathic boards of examiners. Those from the regular school are as follows: Dr. Charles R. Shinault, Helena, first district; Dr. Oscar E. Jones, Newport, second district; Dr. George V. Poyner, Green Forest, third district; Dr. M. L. Norwood, Lockesburg, fourth district; Dr. Joseph P. Runyan, Little Rock, fifth district; Dr. William Crutcher, Pine Bluff, sixth district, and Dr. Adam Guthrie, Prescott, seventh district. At the first meeting of the board, May 25, Dr. Shinault was elected president, Dr. Runyan secretary, and Dr. Norwood, treasurer. The bond of the treasurer was fixed at $1,000.

CALIFORNIA.

Names Staff.—Dr. Frank K. Ainsworth, chief surgeon of the Southern Pacific Railway, has appointed Dr. Horace G. Cates assistant surgeon of the system, with headquarters at Los Angeles; Dr. George L. Hutchinson, assistant to Dr. Cates; Dr. Ernest A. Bryant, Los Angeles, local consulting surgeon, and Dr. Ernest M. Keys, local surgeon at Alameda.

More San Francisco Graduates.—Cooper Medical College on April 28, graduated a class of 45. Dr. David Starr Jordan, president of Stanford University, delivered the address.——The College of Physicians and Surgeons held its commencement exercises May 21. Dr. Winslow Anderson, dean, conferred degrees on a class of 28, and Prof. Robert E. O'Connell, delivered the address.

Committee to Investigate Tuberculosis.—At the last session of the Medical Society of the State of California, the following committee was appointed to investigate the prevalence of tuberculosis in the state, and to make such recommendations to the society at its next meeting as it may deem appropriate: Drs. F. M. Pottenger, Los Angeles, chairman; George L. Cole, Los Angeles; John C. King, Banning; George H. Evans, San Francisco, and Edward von Adelung, Oakland, secretary.

Personal.—Dr. David C. Barber has succeeded Orville R. Witherbee as superintendent of the Los Angeles County Hospital.——Drs. J. Hamilton Todd, Arthur L. Cunningham and Samuel H. Buteau, have been made members of the Oakland Board of Health.——Dr. Martin Regensburger, San Francisco, has been elected president, and Dr. Frank K. Ainsworth, San Francisco, has been appointed a member of the State Board of Health.——Dr. Frank H. Payne, Berkley, is critically ill with typhoid fever.——Dr. Edwin von Adelung, Oakland, has been reappointed health officer.——Colton's new board of health has elected the following officers: Dr. Joseph A. Champion, president, and Dr. F. H. Pritchard, secretary.——Dr. Samuel G. Huff, San Bernardino, county physician for five years, has resigned.

ILLINOIS.

Pana Board of Health Organized.—The board of health met May 20 and elected Dr. Roscoe C. Danford, president, and Dr. Frederick J. Eberspacher, secretary.

Change at Dunning.—Dr. John R. Neely, general superintendent of the Cook County Institutions, Dunning, has resigned on account of ill health and has been succeeded by Dr. Vaclav. H. Podstata, formerly assistant at the Illinois Eastern Hospital for the Insane, Kankakee.

Addition to County Hospital.—The hospital committee of the Cook County Board has decided to erect a special building for contagious diseases to accommodate 150 patients, and a building for the care of children, to accommodate 130. These buildings are estimated to cost $125,000.

Chicago.

Personal.—Dr. G. Morgan Clarke sailed for Germany, May 26.——Dr. G. Paull Marquis has been made assistant surgeon-general of the state, with the rank of lieutenant colonel, vice Dr. Charles Adams, transferred at his own request to the First Infantry as major and surgeon.——Dr. Charles Adams and wife have left for New York and sail for Liverpool June 10.

A Large Class Graduated.—On May 26, the largest class ever graduated from the medical department of the University of Illinois received diplomas from the president of the University, Dr. Andrew S. Draper, who also made the address to the class. Of the 230 graduates, 25 were women. At the annual banquet more than 600 alumni were present.

Faculty Changes.—Dr. Charles S. Bacon has been elected professor of obstetrics; Dr. Andrew McDermid, associate professor of obstetrics; Dr. Frank B. Earle has been transferred from the chair of obstetrics to that of pediatrics, which he shares with Dr. W. S. Christopher, and clinical pediatrics; Dr. Maximilian Kuznik has been made adjunct professor of anatomy, and Dr. D. Lee Shaw, professor of clinical anatomy in the medical department of the University of Illinois.

May Mortality.—The total deaths during May were 2,675; 47 more than the previous month and 546 more than for May, 1902. This is equivalent to an annual death rate of 16.69 per 1,000. Pneumonia caused 646 deaths, nearly twice the number of deaths during May, 1902, from this cause; consumption, 264; violence, 175; heart diseases, 193; nervous diseases, 151; nephritis, 147, and acute intestinal diseases, 113.

Smallpox in May.—During the month 45 cases of smallpox were discovered and removed to the isolation hospital. Of these 39 never had been vaccinated; 6 had old, imperfect marks, said to be from vaccination in childhood, and 15 were unvaccinated children under 6 years of age. There were 7 deaths, and 35 cases remain in the hospital, at the close of the month, as against 47 May 31, 1902, during which month there were 57 cases removed to the hospital.

MARYLAND.

Personal.—Dr. Christian R. Scheller, Hagerstown, has been reappointed health officer of Washington County.

Hospital Still Needs Funds.—Ten thousand dollars are still needed for the Cambridge United Charities Hospital, the cornerstone of which was laid May 26. Mr. John E. Hurst of Baltimore has been its principal benefactor, giving $15,000.

Baltimore.

Bonds All Sold.—All the new $75,000 5 per cent. bonds issued by the University of Maryland have been sold. A new pathologic building will be erected this summer.

The Week's Mortality.—The death-rate last week was only at the rate of 12.34 per 1,000 for whites, and 14.44 for both colors. Pneumonia deaths fell to 16, those from consumption to 25. One case of smallpox was reported.

Bahama Expedition Under Way.—The expedition for scientific survey of the Bahama Islands, under the auspices of the Geographical Society of Baltimore sailed June 1. Dr. Clement A. Penrose is vice-director and surgeon and chief of the medical staff, with J. A. E. Eyster, H. P. Cole, E. B. Beasley, and T. H. Coffin of Johns Hopkins Medical School as assistants.

Bequests.—The will of Miss Louisa Catherine Belt leaves $1,000 to Dr. William Travis Howard, "in grateful appreciation of his friendship," and $5,000 in reversionary bequest to the Hospital for the Relief of Crippled and Deformed Children to endow a bed in memory of her brother. The chief portion of the estate goes to her nephew, Dr. Henry Belt, New York.

Hospital Wins Suit.—The suit against the University Hospital for $30,000 damages for alleged breach of contract for treatment of a patient was decided in favor of the hospital authorities. The patient was scalded by a hot-water bag. Testimony showed that the regents of the university, against whom the suit had been brought, had nothing to do with the hospital, it being the property of the medical faculty.

Women Graduate.—The Woman's Medical College held its twenty-first annual commencement, May 30. Of the three candidates two received degrees. Dr. Eugene F. Cordell of the board of trustees conferred the degrees. The following were elected officers of the Alumni Association: President, Dr. Hattie Frist-Emmart; vice-president, Dr. Mary A. Waters; secretary Dr. Mary N. Browne, and treasurer, Dr. Jennie N. Browne.

Resignations Recalled.—At a meeting of the Medical and Chirurgical Faculty of Maryland, May 22, the resignations from the State Medical Examining Board of the four members, Drs. J. McPherson Scott, W. W. Wiley, Franklin B. Smith, and E. McE. VanNess, were withdrawn. This was done in response to a resolution of the faculty expressing confidence in the board and asking the withdrawal of the resignations. Thus was tided over what seemed to be a crisis in the affairs of the board, and the Maryland profession is to be congratulated on retaining the services of these gentlemen.

Personal.—Dr. William Osler sailed for England, May 29, with his family. He will be gone until October 1.——Drs. James Bordley, Jr., Harry E. Peterman and C. E. Holly sailed for Europe May 30.——Dr. James Bordley, Jr., has resigned the chair of ophthalmology and otology in the Woman's Medical College.——Dr. Charles E. Simon has gone to Nova Scotia for the summer.——Dr. Alexander H. Saxton has been appointed medical examiner for the state of the Royal Arcanum, to succeed the late Dr. M. B. Billingslea.

Johns Hopkins Commencement.—The Johns Hopkins Medical School graduated 49 students, 6 of whom are women. Of these 19 are from the west, 14 from the north and east, 7 from the south, 8 from Baltimore, and 1 from Canada. Selden Irwin Rainforth of Cincinnati takes first honors. The 13 hospital positions, awarded to the students standing highest, will be held by the following: Selden Irwin Rainforth, Frank Hosford Watson, Robert Talbott Miller, Jr., Charles Whittier Young, Clinton Ethelbert Brush, Jr., Victor Hugo Bassett, Arthur Douglass Hirschfelder, John Timothy Geraghty, Alexander Raymond Stevens, Lewis Clyde Bixler, Willis Bean Moulton, Catherine Hutchinson Travis, Henry D. Long.

MASSACHUSETTS.

Munificent Gift to Stillman Infirmary.—In addition to his original gift of $150,000 James Stillman of New York has given $50,000 to be used in the erection of a ward for the treatment of Harvard students, ill with contagious diseases, entirely apart from the main infirmary building.

Vital Statistics.—Boston's death rate for the week ended May 30 again showed a decrease, reaching 16.28 per 1,000 per annum. Pneumonia as a cause of death dropped to 20. Twenty-six children under 1 year died and 42 under 5 years. As this was the seventh week of continuous drought it indicates the comparative healthfulness of such periods in a modern, clean city. Of infectious diseases there were reported: diphtheria, 40 cases, with 6 deaths; scarlet fever, 40 cases, with 1 death; typhoid fever, 26 cases, with 5 deaths; measles, 37 cases, with 2 deaths, and tuberculosis, 21 cases, with 29 deaths.

The Shattuck Lecture.—The Shattuck lecture before the Massachusetts Medical Society this year will be given by Dr. Theobald Smith on "Malaria," on June 9. Besides the usual list of excellent papers to be presented before the sessions of the society on June 9 and 10, there will be, by vote of the councilors, a discussion of the subject of "Privileged Communications," by Dr. David W. Cheever and by Walter Soren, Esq., and F. J. Stimson, Esq. It is hoped by many that this may be the beginning of a change in the laws of Massachusetts. The annual discourse this year is by Dr. Herbert L. Burrell, Boston.

MICHIGAN.

New Battle Creek Sanitarium Dedicated.—On May 31, in the presence of an audience of 20,000, the new sanitarium at Battle Creek was formally dedicated.

Diplomas Awarded.—At the seventh annual commencement exercises of the Saginaw Valley Medical College, Saginaw, May 14, a class of 34 was graduated.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during April, at 8 places; whooping cough at 54 places; diphtheria at 56 places; typhoid fever at 78 places; scarlet fever at 138 places; measles at 148 places; smallpox at 152 places, and consumption at 187 places. Meningitis was reported present at 1 place more; whooping cough at 3 places more; diphtheria at 6 places less; typhoid fever at 16 places more; scarlet fever at 9 places less; measles at 28 places more; smallpox at 17 places less, and consumption at 2 places less in April than in the preceding month.

Comparative Morbidity.—For the month of April, compared with the average for April in the 10 years, 1893-1902, smallpox, whooping cough, typhoid fever and diphtheria were more than usually prevalent; and consumption, intermittent fever, erysipelas, remittent fever and meningitis were less than usually prevalent. The diseases which usually cause the most sickness in Michigan at this time of the year were slightly less prevalent than usual in the April just passed. Possibly this lessened prevalence was due to the higher than average temperature, and the less than average amount of ozone present during the preceding month.

April Mortality of Michigan.—The total number of deaths was 2,745, or a decrease of 289 from the preceding month. The death rate was lower than for the preceding month, being 13.5 per 1,000 population. The mortality was also less than for April, 1902. Important causes of death were as follows: tuberculosis, 227; typhoid fever, 37; diphtheria and croup, 41; scarlet fever, 16; measles, 22; whooping cough, 39; pneumonia, 309; diarrheal diseases, under 2 years, 36; influenza, 91; cancer, 123; accidents and violence, 136, and smallpox, 3. Comparing April with the preceding month there was a decrease in mortality from other forms of tuberculosis, typhoid fever, scarlet fever and measles, and a very marked decrease from pneumonia and influenza.

NEW YORK.

Personal.—Dr. Harvey R. Gaylord of the state cancer laboratory is convalescing from typhoid fever.——Dr. Earl P. Lothrop has returned from the south.

State Hospital Report.—The thirty-second annual report of the Buffalo State Hospital for the year ended Sept. 30, 1902, shows that the population of the hospital is: men, 1,059; women, 1,237. Of those discharged 87 were recovered. 70 improved, 148 unimproved, 150 died, and 19 inebriates. The percentage of recoveries to number of new admissions, 23.45: the percentage to average population, 4.79, and the percentage to number discharged, 18.35.

Fighting Mosquitoes on Long Island.—A new motive for the extermination of mosquitoes has come to light. The manager of William C. Whitney's racing stable is undertaking a crusade against mosquitoes in that vicinity, because he declares "a thoroughbred horse is all nerves and a few mosquitoes can put it out of racing condition." He is endeavoring to secure the cooperation of state, city and borough authorities, pointing out that millions of people seek rest and recreation on Coney Island beach, while just back of this spot are extensive mosquito breeding marshes. It was insisted that mosquitoes did not breed on ground that was wholly covered once or twice a day, with sea water, but in brackish water and stagnant pools of so-called fresh water.

New York City.

Uniforms for Hospital Employes.—Superintendent Mabon has ordered that all employes in Bellevue and the other city hospitals shall wear distinctive uniforms.

Explosion of a Physician's Automobile.—Dr. Silas C. Blaisdell, Brooklyn, had a narrow escape from injury. He had just alighted from his automobile at his door when the automobile exploded.

Ambulance Surgeon Hurt.—Dr. E. P. Warren, an ambulance surgeon of Bellevue Hospital, was severely, though probably not dangerously, hurt, by an electric car colliding with the ambulance, and pinning the vehicle against a pillar of the elevated railroad. The ambulance driver was less severely injured, but the horse was killed and the ambulance completely demolished.

Health Department Campaigns.—The health department has received an extra appropriation of $10,000. Part is to be used in the campaign against mosquitoes and malaria; part is to assist "the typhoid section" in inspecting the water reservoirs, testing clams and oysters, and inspecting milk supplies for possible typhoid infection, and part is to be used in securing the compilation of birth certificates in order to facilitate the work of looking after the milk supplied to young infants.

PENNSYLVANIA.

Philadelphia.

Additional Milk Inspectors Needed.—By request of Dr. Martin, director of the department of health, the mayor will ask councils to provide four additional milk inspectors; this will double the present force.

Bequests.—By the will of the late Dr. Spencer Morris, Morgantown, W. Va., a prize of $1,000 is provided annually for the student in the University of Pennsylvania who passes the best examination for the degree of M.D. A bequest of $12,500 is also given to the Medico-Chirurgical College.

In Memory of Dr. Morton.—Resolutions adopted by the board of managers of the Pennsylvania Hospital in memory of Dr. Thomas G. Morton, recite that his connection with the hospital began as resident physician in 1857, and that he served as attending surgeon from 1864 until his death—thirty-nine years.

Typhoid and Smallpox.—Typhoid fever has not abated, there being, for the week ended May 30, 264 new cases and 27 deaths, as compared with 262 new cases and 31 deaths the previous week. Smallpox seems on the increase, there being for the same period 41 new cases and 7 deaths, as compared with 18 new cases and 4 deaths the previous week.

Jewish Hospital Association.—The thirty-eighth annual meeting of the Jewish Hospital Association on May 31 marked the twenty-fifth anniversary of the presidency of William B. Hackenburg. The growth of the institution has been notable; buildings recently added are a home for incurables, one for private patients, one for nurses and an operating building.

College of Physicians to Move.—The College of Physicians will move to a lot purchased for $80,000 at Chestnut and

Twenty-second streets. It is the purpose to push the construction of a handsome building on this new site. According to a census of the physicians of the city this site is geographically very near the medical center, and is sufficiently large (130x180 feet) for a modern building adapted to the needs of this time-honored and great institution.

Jefferson Commencement.—At the seventy-eighth annual commencement of the Jefferson Medical College, held May 28, 166 received degrees. Prof. J. von Mikulicz-Radecki of Breslau was present, and had conferred on him the degree of doctor of laws, Dr. William W. Keen acting for the faculty and Hon. William Potter for the board of trustees, in bestowing the degree. Hampton L. Carson, attorney-general of Pennsylvania, delivered the annual address to the graduates.

GENERAL.

Studies Leper Immorality Problem.—The Hawaiian Board of Health asked its superintendent of the leper settlement to investigate the conditions of immorality condemned by the U. S. commissioners on their visit last fall. He recommends that divorces be secured for those in the settlement who have wives or husbands outside and that they be allowed to marry persons within the leper colony. A number would marry who are now prevented by marriage ties with those outside.

Home for Incurables Report.—In the four months ended Dec. 31, 1902, the Honolulu Home for Incurables at Kaimuki received 34 patients. These comprised Hawaiians, Europeans, Japanese, Chinese, South Sea Islanders, Porto Ricans and negroes, and the cost of their keep per day per patient was about $1.45. In the same period there were 6 deaths in the hospital, and the average number of patients for that time was 18. The home has an endowment fund of $65,000, and the running expenses for the time covered in the report amounted to $2,803.45.

CANADA.

Union at Trinity.—Convocation for the conferring of degrees in medicine was held at Trinity University, Toronto, May 28. Provost Macklem, vice-chancellor, who presided, stated that the union of Trinity Medical College and Trinity University was now complete.

Personal.—Dr. Mikulicz, the eminent German surgeon, was the guest, last week, of Dr. Francis J. Shepherd, Montreal, and during his stay in that city performed an operation for umbilical hernia at the General Hospital before a large number of Montreal physicians and the graduating class in medicine of McGill University.——Dr. Edmund G. Weir, late house surgeon of the Toronto General Hospital, has just been successful in passing the double qualification in London, England, of M.R.C.S. and L.R.C.P.——Dr. George A. Hetherington, superintendent of the New Brunswick Asylum for the Insane, has gone to Boston on two months' leave of absence suffering from nephritis. In his absence Dr. A. Emery will discharge the duties of superintendent, and in the event of Dr. Hetherington being incapacitated from resuming his duties, will likely be appointed his successor.

Ontario Board of Health Meets.—At the regular quarterly meeting in Toronto last week, the annual report of Dr. Bryce, the medical health officer, stated that the outbreak of smallpox in Galt, which originated in a case coming from Cleveland, had totaled 142 cases, with 11 deaths. For 21 years isolation and vaccination had been the chief weapons used in combating smallpox; and in view of the fact that there is now a bill before the Ontario legislature seeking to do away with compulsory vaccination in Ontario, Dr. Bryce considered that the statistics of those years should receive wide circulation. From 1882 to 1900 there were 135 outbreaks, 1,085 cases and 170 deaths. In 1901 there were 199 outbreaks, 2,500 cases and 12 deaths. In 1902 there were 1,800 cases. No case had yet been heard of which was officially recognized as having been taken from Ontario into a neighboring state, all going to show the efficacy of vaccination. At a later session the board took up the subject of vaccination and the bill before the legislature seeking to abolish compulsory vaccination in the province. One member expressed his belief that not more than three members of the legislature would be found to support this bill. Dr. Bryce stated that during the four months of 1903 there had been 350 deaths from scarlet fever.

FOREIGN.

Plague in Chili is reported to have come in a cargo of rice from India; 8 cases and 5 deaths have occurred at Iquique.

The Mazatlan Plague.—One new case of plague appeared recently at Mazatlan, Mexico, which was brought from Siqueiros. Quarantine was established and the great alarm caused has been allayed by the vigorous measures adopted to prevent spread.

Amputation Without Consent.—A man sued the city of Dresden for damages because his leg had been amputated without his consent in the public hospital. He claimed $6000 or a yearly pension of $300; "pain money" $50, and "mutilation money" $1,200. The court awarded him $175 and no appeal was taken by either party.

The Miners' Disease.—The epidemic among the miners of Westphalia is so serious that some mines have had to be closed and the special commission appointed by the German government to investigate recommends severe measures to stamp the disease out. They think some years will be required. The identity of the disease is not decided; it is caused by a parasite.

Railroad Hygiene.—The administration of the railroads in Prussia has created the office of confidential physician to the service, with headquarters in Berlin. He will superintend the details of the application of the principles of hygiene to the cars, stations, homes of employes, etc., preparations for aid in case of accident, etc., and will make arrangements with sanatoria for reception of employes. His duties will also include the keeping of statistics in regard to diseases, accidents and deaths in the service.

Love Potions in the Twentieth Century.—A woman at Spandau, near Berlin, was sentenced to three months' imprisonment for selling a love potion to women anxious to retain the affections of their husbands. It was found to be a mixture of linseed oil, menthol and extract of cantharides. The accused appealed the case and summoned as witnesses the women who had been her customers. The latter unanimously testified that there had been no fraud, as the potion had accomplished its purpose. The accused was acquitted.

One Victory for the Physicians in the Contract Practice Troubles.—Our German exchanges announce that, thanks to the united stand of the profession and the aid afforded by the Leipsic Verband, the sick benefit society at Mühlhausen has been obliged to conform to the wishes of its medical officers and grant their demands for more suitable remuneration. After the resignation of the medical officers and the inability of the society to secure any new physicians to take their places, the complaints of the members were so urgent that the authorities were appealed to. The latter gave the society to a certain date to provide at least six medical attendants, and when this date had passed, proceeded to reappoint the physicians who had previously resigned, acceding to their demands.

Collective Blunder Inquiry.—The *Munich Med. Wochft.* states that the official organ of the German charlatans has organized a collective inquiry to collect information in regard to blunders and barbarity on the part of qualified physicians. It appeals to have all instances of the kind known to have occurred within the last two or three years communicated to it, the editor assuming all responsibility and guaranteeing the writers against all unpleasantness. The appeal announces that "not a small proportion but the majority of physicians commit blunders." The charlatans have also banded together and proclaim a "boycott" against five of the Berlin dailies which have not upheld them, the "boycott" to go into effect next October unless the papers change their tone in the meanwhile in this respect.

LONDON LETTER.

Mr. Hutchinson's Leprosy Investigation.

Before a crowded audience at the Polyclinic Mr. Jonathan Hutchinson reported the results of his recent tour in India. Lord George Hamilton, the Secretary of State for India, presided and stated that the Indian government took a very close and personal interest in the subject. He was very glad that leprosy had diminished in India. Twelve years ago a special commission was appointed to examine the questions of the causation and prevention of leprosy, but their report was not accepted as conclusive. Mr. Hutchinson said that he went to India with a perfectly open mind, but with a strong conviction that the fish theory was the only one to explain the prevalence and disappearance of leprosy. The special commission were on the whole unfavorable to that theory because there were a certain number of lepers in asylums who denied that they had ever eaten fish. During the last ten years there had been a decided advance in general opinion as to the causation of the

disease. On all sides it was stated that leprosy disappeared before advancing civilization and improved hygiene, but it was hardly worthy of the science of the twentieth century to conceal its ignorance under such generalities. Leprosy had receded under many conditions of advancing civilization, but this was not invariably true, as, for instance in the West Indian Islands, Spain, Portugal and Cape Colony. That the disease had nothing to do with personal cleanliness, house accommodation, or an abundant supply of food was made clear by a thousand facts. The one factor was the use of badly-preserved fish, of which he exhibited dried specimens. Leprosy was scattered all over India, and there was no place to which the fish hypothesis could not be applied. Mr. Hutchinson repeated the arguments which have recently been given in THE JOURNAL. He advocated the abolition of the salt tax as an immense boon to the community and a means of prevention of leprosy by facilitating the proper curing of fish.

Insurance Against Appendicitis.

The popular dread of appendicitis, which has now become the best-known surgical disease to the public, has resulted in a novel form of insurance. An insurance company offers to issue policies at the rate of $1.25 per annum for every $500 and to issue policies up to $2,500. By the policy the owner is guaranteed all the medical, surgical and nursing expenses up to the amount insured by an attack of appendicitis. The company points out that this premium may be largely increased in the near future as the risk of such a policy can be only indefinitely estimated.

The "Hendon Disease."

In the town of Lincoln an outbreak has for a second time occurred, apparently similar to the scarlet fever outbreak which took place in Marylebone (a London borough) and is known as the "Hendon disease." That outbreak occurred in 1885 and was investigated by Mr. Power and Prof. Klein, who concluded that several cows at a dairy at Hendon suffering from a peculiar vesicular eruption on the teats and on the body, but not noticeably ill, were the source of infection. Since then several similar outbreaks have been reported and traced to the same cause. In the recent Lincoln outbreak the medical officer of health has traced all the cases to one dairy in the town. All the affected persons had partaken of milk from it and the cows were suffering from a vesicular eruption on the teats and other parts. The symptoms in man are as follows: On the first day sore throat, vomiting and sometimes diarrhea, followed in many cases by a scarlatiniform rash two days later, with desquamation about a week later. Most of the patients fell ill on the same day, but none of the cases were serious and no deaths have been reported. Of 40 cases notified 14 occurred in one household. In the corresponding outbreak a year ago over 100 persons were affected. That appears to have been a more severe one, for there were 4 deaths. All the patients drank milk from one dairy. In the Marylebone outbreak a streptococcus was obtained from the vesicles on the cows. It was cultivated, and in calves produced a disease in many ways analogous to scarlet fever in man, especially in renal affection.

Vital Statistics of London.

For the week ending May 16 there were 2,615 births and 1,278 deaths. The annual death rate per 1,000, which had been 16.8, 17.3 and 15.7 in the preceding three weeks, further fell last week to 14.4. There were as many as 59 deaths from violence, of which 12 were cases of suicide, and the remaining 47 were attributed to accident or negligence. Seven of these were due to vehicles in the street, 9 to drowning, one to an anesthetic and 7 (of infants) to suffocation in bed.

Correspondence.

The Christian Hospital Swindle.

CHICAGO, June 3, 1903.

To the Editor:—The Medicolegal Committee of the Chicago Medical Society wish to make the following statement to the profession of the United States:

On Sunday, May 17, Dr. J. B. Murphy brought the Christian Hospital of Chicago to our attention. Dr. Murphy had returned from Washington that morning. In his mail he had found a letter dated May 12, offering him the presidency of the Christian Hospital. This letter was written on a letter head bearing his name as president. In the same mail were a large number of letters from physicians of the far west and southwest, some of which were dated as early as the 12th, calling his attention to the hospital and enclosing various advertising items bearing his name as president. In the main the accompanying letters are very considerate in tone, occasionally one was abusive.

On Monday the committee consulted their attorney, Mr. A. E. Dacy, of Pam, Calhoun & Glennon. They then saw Mr. Deneen, States Attorney for Cook County, and Inspector Stuart of the postoffice department. Dr. Murphy was very anxious to ask for an injunction restraining the Christian Hospital from using his name. The authorities insisted that such a course would make it impossible for them to get information. Dr. Murphy consented to wait until our committee was ready. On yesterday, June 2, Inspector Ketcham had Drs. A. C. Probert and N. E. Wood, styling himself N. News Wood, arrested for improper use of the mail. To-day, June 3, Dr. Murphy has secured an injunction in the Superior Court of Cook County, prohibiting the use of his name by the Christian Hospital or by the officers thereof.

The history of St. Luke's Hospital, of Niles, Mich., is known to most readers of THE JOURNAL. That corporation was owned by Drs. Granville and Probert. The committee has in its possession proof that Probert has served a term in the Wisconsin penitentiary. Granville has indulged in various whimsicalities. The Chicago *Record Herald* for 1899 contains a telegram from New Carlisle, Ind., announcing his arrest for bigamy, specifying five wives. It will be remembered that they made unwarranted use of the name of Dr. N. Senn of this city. In their dental department they used the name of Dr. E. C. Kinsman of Cambridge, Mass. That this was without authority is shown by affidavits, copies of which are in our possession. In 1901 Michigan became uncomfortable for this institution, and this brings us to our present story. In 1893 the Secretary of State incorporated the "Chicago Store" for general merchandise purposes. In 1901 this charter was purchased by Drs. Wood and others and the name and purpose changed so as to allow of a hospital and dispensary. In 1903 the name was changed to "The Christian Hospital." It will be noticed that when St. Lukes faded in Michigan in 1901 this one appeared here.

The reading matter and the general business policy of the institutions are identical. Nearly every name found on the Christian Hospital staff was a member of the St. Luke's staff or has appeared in some connection with St. Lukes in the past. In this connection read articles in THE JOURNAL[1] and in the *Dental Digest* exposing St. Lukes. Even the most obtuse can see that the guiding spirit of the two institutions is the same.

The postal authorities have letters from at least six physicians stating that they purchased certificates by reason of Dr. Murphy's name. We ask every man who has purchased a certificate with this understanding to do his duty as a physician and as a citizen by writing Inspector Ketcham. We have not gotten hold of any certificate as yet. Will not those physicians who have certificates send them to the Medicolegal Committee of the Chicago Medical Society?

We wish to thank Dr. Murphy for his patience in spite of a good deal of misunderstanding and some abuse; to thank Mr. Deneen and Mr. Blair, of the State Attorney's office, and Inspector Ketcham as representing the postoffice authorities.

We will keep the profession posted as to later developments. In the meanwhile we must have their co-operation.

W. A. EVANS.
HAROLD N. MOYER.
C. S. BACON.

Priority in Enterorrhaphy Methods.

ST. LOUIS, June 1, 1903.

To the Editor:—In the May 30 issue of THE JOURNAL appears a most excellent article by Dr. O. Beverly Campbell, under the title "The Single Cuff Method of Circular Enterorraphy. A New Method." My object in writing is to call attention to the fact that the method is not new, al-

1. THE JOURNAL A. M. A., Sept. 7, 1901, p. 648, and Nov. 16, 1901, p. 1329.

though I consider just as much credit due Dr. Campbell for his extensive experiments and for his logical conclusions as though he had been the first to publish the method.

Die Beitræge zur klinischen Chirurgie, Bd. XIV (1895), 1-136, contains an article by R. von Frey, entitled "Ueber Technik der Darmnaht," in which he advances as original the operative procedure which Dr. Campbell has made the basis of such good work. Von Frey operated on ten dogs, of which number nine survived; while his microscopic specimens show the condition of the line of union at different periods up to two and one-half months. In a hasty survey of the literature on intestinal surgery I note that two textbook authors at least give von Frey credit for the method (both Frenchmen and very recent writers), though it would seem that his work has not become very generally known, so it is easy to see how Dr. Campbell could have overlooked it. The works to which I just referred are "La Suture Intestinale," par Terrier et Boudouin, and "Chirurgie de l' Intestin," par Jænnal, 2me edition.

As far as Dr. Campbell is concerned the method is original with him in a sense, since he evidently worked independently of any knowledge of von Frey's earlier experiments. Further, when Campbell's article reaches those who are familiar with von Frey's writings, they will be forced at least to admit that the American has done more than the German toward proving the truth of this surgical principle (as far as practice is concerned at least), since the latter worked on ten dogs alone, while the former performed 75 such experiments, to say nothing of two tests on the human subject.

WILLARD BARTLETT.

Marriages.

A. B. HOWATT, M.D., to Miss Mabel Lewis, both of Chicago, May 21.

ANDERSON MANSFIELD HOLMES, M.D., to Miss Azile Swann, both of Denver, April 25.

ALLEN MASON THOMAS, M.D., to Mrs. Anna O'Neil Miner, both of New York City, June 2.

THOMAS F. SPINK, M.D., Washington, Ind., to Mrs. Juliet B. Brown, at Louisville, Ky., April 30.

MORTON RAYMOND GIBBONS, M.D., San Francisco, to Miss Mary Spayd Stubbs of Chicago, May 12.

CHARLES S. VALCOUR, M.D., Nashua, N. H., to Miss Florence G. Doherty of Manchester, N. H., May 23.

WILLIAM KING CAMPBELL, M.D., Long Branch City, N. J., to Miss Lutie Hathaway of Long Branch, N. J., May 12.

Deaths.

Florence W. Hunt, M.D. Woman's Medical College, Chicago, 1884, whose death was noted in last week's issue, died May 27, after an abdominal section made at St. Mary's Hospital, Milwaukee. She was 45 years of age, was prominent in medical affairs for many years; was resident physician at the Cook County Insane Hospital during its stormiest days; was a member of the State Board of Health, and a member of the attending staff of St. Joseph's, and Cook County hospitals. Her illness was supposed to be appendicitis, but at the time of operation a more serious condition was disclosed. She was one of the founders and most active members of the Chicago Medical Women's Club.

George P. Cassidy, M.D. Miami Medical College, Cincinnati, 1885, died at his home in Shawneetown, Ill., May 15, from pneumonia, aged 43. He was one of the leading physicians of Shawneetown and Gallatin County. He founded the Gallatin County Medical Society, and also was a member of the Illinois State Medical Society and American Medical Association. He was a delegate to the state Medical Society, and had just returned from Chicago, where he had a chill and developed pneumonia, from which he died nine days later.

William C. Eichelberger, M.D. Rush Medical College, Chicago, 1870, a specialist on the eye and ear; a member of the American Medical Association, Vigo County (Ind.) Medical Society, of which he was once president, and the Wabash Æsculapian Society; who practiced for many years in Terre Haute, Ind., died at a sanitarium in Jackson, Tenn., after a long illness, May 18, aged 62. At a meeting of the Vigo County Medical Society, May 23, resolutions in honor of Dr. Eichelberger were adopted.

Thomas McCann, M.D. Bellevue Hospital Medical College, New York, 1886, surgeon of the Pennsylvania and Allegheny Valley railroads; surgeon to the West Pennsylvania Hospital, Pittsburg; consulting surgeon to St. Johns Hospital, Allegheny; professor of practical surgery, Western Pennsylvania Medical College; one of the most skilled surgeons of Western Pennsylvania, died at his home in East End, Pittsburg, May 9, from kidney disease, after an illness of two year's duration, aged 40.

Evan Hadley, M.D. Medical College of Indiana, Indianapolis, 1870, a member of the American Medical Association; for many years a member, and in 1888 president, of the Marion County Medical Society; for 30 years a physician of Indianapolis, died at his home in Mooresville, Ind., May 13, from organic heart disease, after a prolonged illness, aged 58. The Indianapolis Medical Society and the faculty of Dr. Hadley's alma mater adopted resolutions setting forth his excellences and deploring his loss.

Alice M. Potter, M.D. University of Buffalo, 1897, of Ithaca, N. Y., after heroic work and self-sacrifice in the recent typhoid fever epidemic, was attacked by the disease, with complications of appendicitis, endocarditis and pericarditis. Despite operation for appendicitis, she died at her home in Ithaca, May 2, aged 33. The physicians of the city, at a special meeting held May 2, adopted resolutions setting forth their appreciation of Dr. Potter's services and their loss by her death.

Edward Charles Wendt, M.D. University of Strassbourg, 1877; College of Physicians and Surgeons, New York, 1880; a member of the editorial staff of the *Medical Record* for several years, and an authority on sanitation and public health, committed suicide while temporarily insane from illness, by shooting himself, May 25, aged 45. He was residing in Paris at the time, and had been making exhaustive studies of the methods of sanitation in Europe.

George Pierce Andrews, M.D. College of Physicians and Surgeons, New York, 1862, one of the founders of Detroit Medical College, the Detroit Academy of Medicine and the Michigan State Medical Society, and until 1881 professor of theory and practice of medicine in the Detroit Medical College, died May 9 at his home in Honolulu, H. I., where he had lived for 13 years, after an illness of four days, aged 65.

Octavius A. White, M.D. Medical College of the State of South Carolina, Charleston, 1848, famous during the Civil War as a yellow fever expert, for many years a resident of New York City; a member of the New York Academy of Medicine, died at his home in New York from Bright's disease, May 25, after an illness of several weeks, aged 77.

James Clark Channell, M.D. University of Pennsylvania, Philadelphia, 1871, a member of the American Medical Association; a veteran of the Civil War; a member of the York County (Pa.) Medical Society, died at his home in Wrightsville, May 19, from pneumonia, after an illness of one week, aged 59.

John Perrier, M.D. McGill University, Montreal, 1868, professor of theory and practice of medicine; Cleveland College of Physicians and Surgeons, died from typhoid fever May 10, at his home in Cleveland, after an illness of four months, aged 60. He was a member of the American Medical Association.

Rufus Osgood Mason, M.D. College of Physicians and Surgeons, New York City, 1859, acting assistant surgeon in the Navy throughout the Civil War; a member of the New York Academy of Medicine and the Society for Psychological Research, died at his home in New York City, May 11, aged 72.

Dallas Bernhardt, M.D. College of Physicians and Surgeons, Baltimore, 1885, a member of the Huntingdon County (Pa.) Medical Society, died at his home in Three Springs, March 30, aged 46. The society, at its meeting May 14, adopted memorial resolutions regarding Dr. Bernhardt's death.

Wilson Cornelius Marden, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1896, of Pittsfield, Me., died at Mercy Hospital, Prescott, Ariz., from pulmonary tuberculosis, May 1, after an illness of four months, aged 36. He was a member of the American Medical Association.

Clinton Henry Lubbock, M.D. University of the State of Missouri, Columbia, 1880, died at his home in Alameda, Cal., from paresis, after an illness of several months, May 20, aged 42.

He served four years as member and one term as president of the local board of health.

Charles William Doyle, M.D. University of Aberdeen, Scotland, 1875, prominent alike as a citizen, physician and writer, author of "The Taming of the Jungle," died suddenly from apoplexy, at his home in Santa Cruz, Cal., May 1, aged 53.

James Melvin Sims, M.D. Marion-Sims Medical College, St. Louis, 1899, formerly of Galena, Mo., a member of the American Medical Association, died at his home in Marion, Ill., May 16, from tuberculosis, after a long illness, aged 33.

Samuel G. Dearborn, M.D. Dartmouth Medical College, Hanover, N. H., 1850, a surgeon in the Civil War, and some-time member of the New Hampshire legislature, died suddenly at his home in Nashua, May 8, aged 76.

Frank Daniel, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1902, died at his home in Moultrie, Ga., May 6, from injuries received in a collision between a motor car and a logging train, a few hours before.

Stuart Bates, M.D. Toronto (Ont.) University Medical Faculty, 1888, a member of the American Medical Association, died at his home in Virginia, Minn., May 6, from accidental poisoning by laudanum, aged 38.

Thomas Carroll Rich., M.D. Maryland University School of Medicine, Baltimore, 1869, died at Williamsport, Pa., aged 59. He was a member of the state medical society and of the American Medical Association.

Alfred Hasbrouck, M.D. College of Physicians and Surgeons, New York, 1848, for more than half a century a practitioner of Poughkeepsie, N. Y., died at his home in that city, May 9, after a short illness, aged 82.

Louis Knorr, M.D. Oglethorpe Medical College, Savannah, Ga., 1860, formerly professor of chemistry in Savannah Medical College, died suddenly, May 12, at his home in Savannah, from apoplexy, aged 78.

John W. Kirkpatrick, M.D. Rush Medical College, Chicago, 1888, president of the Eastern Iowa Medical Society, died suddenly in his office at Wyoming, Iowa, May 13, from heart disease, aged 40.

Harris Lee Paige, M.D. Jefferson Medical College, Philadelphia, 1896, formerly of New Britain, Conn., was found dead in his office in Dover, Del., April 30. His death was due to apoplexy.

Andrew Jay, M.D. Medical College of Alabama, Mobile, 1872, member of the legislature from Conecuh County, Ala., died suddenly from heart disease at his home in Evergreen, May 8, aged 52.

Hans J. Englund, M.D. Bennett Medical College, Chicago, 1888; Rush Medical College, 1895, died May 5, from pneumonia, after an illness of eight days, at his home in Cambridge, Minn., aged 46.

Joshua Chitwood, M.D. Miami Medical College, Cincinnati, 1858, a surgeon during the Civil War, died May 13, at his home in Connersville, Ind., from Bright's disease, after a long illness, aged 65.

Samuel Bridgland, M.D. Queen's University, Kingston, Ont., 1870, of Bracebridge, Ont., a member of the Ontario legislature, died, May 6, from Bright's disease, after a long illness, aged 56.

Warner F. H. O'Keefe, M.D. New York Homeopathic Medical College and Hospital, 1875, died, May 20, from Bright's disease, after an illness of two years, at his home in Pittsburg, Pa.

Howard Vance, M.D. Kentucky School of Medicine, Louisville, 1884, formerly of Ava and Le Roy, N. Y., died in Yonkers, N. Y., April 30, after an illness of four months, aged 40.

Stephen E. Rice, M.D. University of Pennsylvania, Philadelphia, 1893, died at his home in Memphis, May 6, from the effects of a self-inflicted gunshot wound of the head.

Ephraim L. Acker, M.D. University of Pennsylvania, Philadelphia, 1852, member of congress in 1870, died at his home in Allentown, Pa., May 12, after a long illness, aged 76.

Charles C. Sparklin, M.D. Rush Medical College, Chicago, 1861, died suddenly from heart disease at Goshen, Ind., where he had practiced for more than 40 years, May 5, aged 62.

Hiram J. Hartley, M.D., one of the oldest practitioners of Vigo County, Ind., died at his home near Spring Hill, May 1, from cancer, after a protracted illness, aged 79.

John Reid, M.D., 1877, health officer of Chicago after the great fire of 1871, died in London, England, May 14, from acute bronchitis, after a short illness, aged 80.

Walter Byron Sherman, M.D. Cleveland Medical College, 1870, died at his home in Eagle Cliff, Cuyahoga County, Ohio, May 19, aged 72.

Abram M. McAlpine, M.D. Columbus Medical College, 1877, of Peoria, was found dead from chronic alcoholism, April 27, aged 45.

John H. Shelton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, died at his home in Tower Hill, May 13, aged 68.

George C. Synon, M.D. Rush Medical College, Chicago, 1880, died at his home in Chicago, May 21, from paralysis, aged 45.

Oliver C. Evans, M.D. Pulte Medical College, Cincinnati, 1878, died at his home in Joplin, Mo., May 5, aged 58.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

ELIGIBILTY FOR MEMBERSHIP.

WHITE CASTLE, LA., May 29, 1903.

To the Editor:—Please answer the following question through THE JOURNAL: Is a homeopathic graduate, who claims he does not practice "sectarian medicine," and who is a "legally qualified and registered physician" eligible for membership in the county society, state association and American Medical Association?

WHYTE GLENDOWER OWEN.

ANS.—Each affiliated state society regulates membership in its own territory.

Medical Organization.

Reorganization Work in Arkansas.

The Arkansas State Medical Association met at Jonesboro, April 30 and May 1 and 2. The new order of things was in evidence on every hand. The actual membership had increased during the year from 190 to 697, and the increase in enthusiasm and zeal was even greater. This spirit was especially manifest in the officers and council, made up in the main from the younger members.

The program was an excellent and extensive one, and there was ample time for a full and free discussion of every paper, as the house of delegates relieved the scientific body of the consideration of all business and ethical matters. As the house of delegates was a comparatively small body, containing only about fifty members, business affairs received prompt and satisfactory attention. It was especially pleasing to find how easy it was to arrange the work of the house of delegates so as to permit the delegates to attend and take part in most of the scientific work of the general meetings.

Added interest was given to this session by the fact that an effective medical examining law had been passed by the general assembly that had just adjourned, and it was the duty of this first house of delegates to nominate members from which the governor would select the first Arkansas State Medical Examining Board. A law was also secured during the year, abolishing the system of "drumming" for practice at Hot Springs, and imposing heavy penalties on such solicitors, and all who employ them. This practice had grown to such proportions in recent years as to be a standing reproach to the profession. To the unity growing out of new methods of organization was given the credit for the enactment of all of this legislation, and it gave members some idea of what it would be possible for the profession to accomplish, when the organization was as complete as it could be made.

The council had proven so efficient that little change was made in its personnel for the coming year. It met and organized before the final adjournment of the session, the following being a list of its officers and members: E. T. Dibrell, Little Rock, chairman; Montague Fink, Helena, secretary; G. A. Warren, Imboden; M. M. Inman, Quitman; Vernon McCammon, Arkansas City; Morgan Smith, El Dorado; J. S. Coon, Nashville; C. T. Drennen, Hot Springs; J. B. Bolton, Eureka Springs, and H. D. Woods, Fayettesville.

The officers elect of the association are: President, Leonidas Kirby, Harrison; vice-presidents, J. L. Burns, Jonesboro; J. C. Cleveland, Bald Knob; J. C. Wallis, Arkadelphia; Secretary, J. P. Runyan, Little Rock; treasurer, R. C. Thompson, Pine Bluff.

Societies.

COMING MEETINGS.

Medical Society of Delaware, Dover, June 9.
Massachusetts Medical Society, Boston, June 9-10.
Michigan State Medical Society, Detroit, June 11-12.
Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

Smith County (Texas) Medical Society.—At the meeting in Tyler, May 12, the following officers were elected: Dr. William S. Lacey, Troupe, president; Dr. Charles A. Smith, Tyler, vice-president, and Dr. Albert Woldert, Tyler, secretary and treasurer (re-elected).

Arundel Medical Society.—At the annual meeting in Annapolis the following officers were elected: President, Dr. H. Baldwin Gantt, Waterbury; recording secretary; Dr. B. R. Davidson, Davidsonville; corresponding secretary, Dr. Charles B. Henkel, Annapolis, and Treasurer, Dr. Frank H. Thompson, Annapolis.

Gallia County (Ohio) Medical Society.—At the May meeting the following officers were elected: President, Dr. Theodore L. Chadbourne; vice-president, Dr. Ella G. Lupton; secretary, Dr. Harry S. Allen; treasurer, Dr. S. W. Williams, and censors, Drs. Charles G. Parker, James T. Hanson, and John B. Alcorn, all of Gallipolis.

Jefferson Medical College Alumni Association.—At the annual banquet, held May 27, Dr. Thomas D. Davis of Pittsburg, president, acted as toastmaster. Charles Emory Smith, Daniel Baugh, Dr. James C. Wilson, and Dr. S. Weir Mitchell responded to toasts. The following officers were elected for the ensuing year: President, Dr. W. Joseph Hearn, Philadelphia; a vice-president from each of the states, and one representing the Philippines; corresponding secretary, Dr. Charles S. Barnes, Philadelphia; recording secretary, Dr. Frank C. Hammond, Philadelphia; treasurer, Dr. William M. Sweet, Philadelphia, and chairman of executive committee, Dr. James T. Rugh, Philadelphia.

Chickasaw (I. T.) Medical Association.—The seventh semi-annual meeting was held in Tishomingo, I. T., May 13, the president, Dr. James W. Gilbert, Roff, in the chair. The association was reorganized under the new constitution and by-laws as recommended by the American Medical Association. The following officers were elected for the ensuing year: Dr. Herbert P. Wilson, Wynnewood, president; Dr. John D. Batson, Marietta, first vice-president; Dr. F. P. Bates, Durwood, second vice-president, and Dr. J. W. Shelton, Wynnewood, secretary and treasurer. Dr. James W. Gilbert, Roff, was elected delegate to the Indian Territory Medical Association, which met at South McAlester, June 2 and 3. The eighth semi-annual meeting will be held in Ada, I. T., in November.

New York State Medical Association—First District Branch.—The nineteenth annual meeting was held, May 26, at Watertown. There were about sixty physicians present, among whom were the following: B. C. Cheeseman, Andrew J. Dick, Charles C. Kimball, J. O. Stranahan, J. N. Bassett, Edgar H. Douglas, Parker Syms, president of the Fifth District Branch of the New York State Medical Association; Dr. Frederick Holme Wiggin, president of the state association, and others. Hon. James F. Pappa, mayor of the town of Watertown, gave an address of welcome. A good program of scientific papers was carried out. Eleven new members were elected, and the following officers for the ensuing year: President, J. Orley Stranahan, Rome; vice-president, Dr. John N. Bassett, Canton, and secretary and treasurer, Dr. Edgar H. Douglas, Little Falls.

University of Maryland School of Medicine Alumni Association.—At the annual meeting and banquet, May 18, the following officers were elected: President, Dr. Henry D. Fry, Washington, D. C.; vice-presidents, Drs. George E. H. Harmon, U. S. Navy; George R. Graham and Jonah E. Gichner, Baltimore; recording secretary, Dr. Charles E. Sadtler, Baltimore; corresponding secretary, Dr. J. Fussell Martenet, Baltimore; treasurer, Dr. G. Lane Taneyhill, Baltimore, and executive committee: Drs. John I. Pennington, W. F. Skillman, J. M. Hundley, W. E. Wiegand and H. H. Biedler. The following committee to make arrangements for the centennial celebration to take place in 1907, was appointed: Drs. G. Lane Taneyhill, Eugene F. Cordell, J. Fussell Martenet, B. Merrill Hopkinson, Wilmer Brinton, John T. King, C. E. Sadtler, James H. Jarrett, John I. Pennington, Wilbur F. Skillman. The banquet hall was decorated with the university colors, and president John T. King acted as toastmaster. Toasts were responded to by Drs. George H. Hocking, John I. Pennington, J. Holmes Smith, Hon. John P. Poe, of the School of Law, C. J. Grieves, D.D.S. of the Faculty of Dentistry, and Mr. A. L. Wilkinson, president of the graduating class. There were 141 subscribers to the banquet.

AMERICAN SURGICAL ASSOCIATION.

Annual Session, held in Washington, D. C., May 12 to 14, 1903.

The President, Dr. Maurice H. Richardson, Boston, in the Chair.

President's Address.

DR. MAURICE H. RICHARDSON, Boston, in his presidential address, spoke of the great opportunities exploratory operation offered for the study of internal diseases, especially in their earliest stages, in many instances being the only method which afforded an opportunity for exact observation. He said: "The surgeon, then, in his opportunities for observation and study, has contributed vastly to our knowledge of internal disease, especially in its early stages. His explorations demonstrate truth and control opinions; they perfect observations, and, in showing the value of deductions, teach their weight; they prove the interdependence of symptoms on lesions, and of lesions on symptoms; they demonstrate the fallacy of some inferences and the truth of others. Accumulated experience will show these things so clearly that in time the diagnosis of the clinician will approach the accuracy of scientific demonstration. In therapeutics surgery has shown what surgery can do and what it can not do, as well as what medicine can and can not do. Surgery will show still more clearly its own limitations, as well as the limitations of clinical medicine. Working together it seems not impossible that in the near future there will be no borderland between them. It will then have been demonstrated that internal diseases, even some of those now regarded as hopeless, will, by surgical or by medical therapeutics, or by both, be delegated to that class of brilliant achievement to which now belong appendicitis, gallstones, and internal hemorrhage."

Papers on Toilet of the Peritoneum.

DR. GEORGE R. FOWLER, Brooklyn, read a paper entitled "The Toilet of the Peritoneum in Appendicitis," in which he laid especial stress on the importance of avoiding infecting any areas that were not infected. When drainage is instituted, it should be by glass or smooth rubber tubes.

IN STOMACH SURGERY.

DR. ALBERT VANDER VEER, Albany, read a paper entitled "Operations on the Stomach, with Special Reference to the Toilet of the Peritoneum." The author felt that much of the success in the treatment of this line of cases was due to the care exercised in the toilet of the peritoneum. The abdominal contents should be handled as little as possible; traumatism should be avoided, as should also soiling the peritoneum by secretions from the mucous surfaces, which are fertile sources of infection. The importance of drainage was emphasized especially in operation on the region of the posterior wall of the stomach.

IN TUBERCULAR PERITONITIS.

DR. A. J. OCHSNER, Chicago, read a paper entitled "Toilet of the Peritoneum in Tubercular Peritonitis," in which he gave a careful résumé of the literature on the subject and his personal experience, and recommended early operation if the case was seen while the infection was still within a confined area, but if the diagnosis had not been made until late, and the patient was very weak and the infection general, he felt it was better to wait a few days until the condition becomes a little more favorable for operation.

IN PHLEBITIS.

DR. ARPAD J. GERSTER, New York, read a paper entitled "Septic Phlebitis of the Roots of the Portal Vein and Pylephlebitis, Together with Some Remarks on the So-called Peritoneal Sepsis," in which he went fully into the literature on the subject and reported four cases, giving the important diagnostic and prognostic points, and stating that while he believed the prognosis was very bad, it was not invariably hopeless, but that early diagnosis and prompt operation are the only safeguards.

DRS. R. H. HARTE, Philadelphia, and S. H. WEEKS, Portland, Me., also read papers on the toilet of the Peritoneum.

AFTER GUNSHOT WOUNDS.

DR. GEORGE TULLY VAUGHAN, Washington, D. C., read a paper entitled "Toilet of the Peritoneum in Gunshot Wounds of the Stomach and Intestines," in which he emphasized the necessity for drainage and thorough cleansing of the abdominal contents in all cases.

IN DIFFUSE PERITONITIS.

DR. JOSEPH BLAKE, New York, read a paper entitled "The Treatment of the Peritoneum in Spreading and Diffuse Peritonitis," in which he divided the purulent forms of peritonitis into three classes: 1. Cases in which there is a localized collection of pus with limiting adhesions: 2. Cases with spreading peritonitis, in which there is no limitation of the process by adhesions or gravitation, but in which the limits are ascertainable. 3. Cases of general peritonitis, in which no parts of the peritoneum, possibly excepting the lesser sac, can be demonstrated as free from the invasion. The treatment which has given the best results in his experience is as follows: 1. Early operation. 2. Lavage of the peritoneum with large quantities of saline solution. 3. Closing of the peritoneal cavity without drainage, unless the latter is absolutely indicated by the presence of non-absorbable amounts of necrotic material. Appended to the paper was the report of a large number of cases.

DISCUSSION.

DR. JOHN C. MUNRO, Boston, discussed Dr. Gerster's paper, and said he considered the chill a very important symptom, although a very irregular one. In his opinion the sensorium is not clouded, the appetite is ravenous, although there may be tremendous emaciation, and in many cases jaundice is present. He believes that if cases could be gotten early enough they could often be satisfactorily treated. The subphrenic abscesses are more apt to be secondary, following liver abscesses, although they may come from retroperitoneal lymphangitis.

Operations for Trigeminal Neuralgia.

DR. ROBERT ABBE, New York, read a paper on a simplified and improved operation for trigeminal neuralgia, by intracranial neurectomy, with interposition of rubber tissue, and without resection of the gasserian ganglion. After having operated for many years by the usual intracranial method, with one death from shock, he had adopted a modified method in eight cases during the past seven years, which he regarded as a distinct improvement. Satisfied from study of the nerves removed extensively anterior to the base of the skull, that the disease is, in almost all cases, an inflammation of the nerves affected in the bony channels adjacent to the antrum and teeth, he regards the temporary cure by nerve resection within the skull as proving that ganglion resection is uncalled for. The recurrence being unquestionably due to reunion, he prevents that by interposing a small piece of sterile rubber tissue between the ganglion and the outlets of the second and third branches, which are all he ever resects. This method has, in eight cases, given the same excellent results as in ganglion resection.

Experiments on rubber tissue showed that it always remains sterile and is never changed in texture. Therefore it remains as a permanent barrier to reunion. The complete operation consists in: Ligation of the external carotid in the neck; a straight incision from just behind the middle of the zygomatic arch; upward and slightly forward in the temporal fossa; splitting the temporal muscle and scraping it widely from the bone; enlarging to one and a half inches a small trephine opening, and lifting the brain and dura mater from the middle fossa; exposing and resecting a half inch of the second and third branches in front of the gasserian ganglion; spreading a rubber tissue strip an inch and a half long over the openings and pressing it down on the bone till all bleeding stops; letting the ganglion settle down on the tissue and closing the wound.

DISCUSSION.

DR. GEORGE R. FOWLER, Brooklyn, commented on the uncertainty of the author's method, reporting a case in which it worked very well, and another one where it did not work at all, although he was able to explain the cause of the failure in the latter case. He did not think one could depend entirely on the ligature of the external carotid as a means of preliminary hemostasis.

DR. GEORGE E. BREWER, New York, mentioned a case in which he had employed the methods with satisfactory results. His experience in ligature of the external carotid has been that the hemorrhage is venous, and hard to control, seeming to come in most cases from a tributary of the cavernous sinus.

DR. ABBE claimed to have satisfied himself that the disease was in the nerve and not in the ganglion. He referred to the existence of spots of inflammation along the nerve sheath, which he thought were probably the original sites of the neuralgia, from which the disease worked its way back to the ganglion, if not into it.

Ulcer of the Bladder.

DR. GEORGE E. ARMSTRONG, Montreal, Canada, read a paper entitled "Single Ulcer of the Urinary Bladder, Non-tuberculous and Non-Malignant, with Report of Cases," in which he reported the case of a man 21 years of age, without venereal history and of temperate habits, in whom the attack came on suddenly without known cause, accompanied by the following symptoms: 1. Pain at the end of the penis about the corona and on the dorsum, just before micturition and generally so severe as to necessitate the administration of morphia. 2. Frequent micturition, and 3, loss of expulsive power. The patient died eight months after the onset, operation having been performed in the meantime, and the autopsy showed acute miliary tuberculosis of both lungs, the left adrenal, spleen, left ureter, kidneys and bladder. The second case occurred in a boy 12 years of age and was cured by injections of silver nitrate. He went fully into the literature on the subject and stated that he believed the three chief causes of single ulcer of the bladder to be infection, thrombosis and syphilis. The chief symptoms are pain, frequency of micturition and presence of small quantities of blood in the urine. The prognosis is good, if recognized early, and he believed operation gave as good chances of relief as for ulcer in the stomach.

DISCUSSION.

DR. WILLIAM L. ESTES, Bethlehem, Pa., added another case to those reported in the paper. The case was one of a man fifty years old, who was operated on with the idea that he had septic peritonitis, but his condition was found to be due to an ulcer of the bladder resembling very closely an ulcer of the stomach. The patient made a good recovery.

DR. H. R. WHARTON, Philadelphia, narrated a case of enchondroma of the spinal column, which developed a year after a strain while lifting. The tumor was excised and the patient recovered.

(*To be continued.*)

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 12 to 14, 1903.

The President, Dr. Joseph E. Janvrin, in the Chair.

(*Continued from page 1531.*)

Repetition of Cesarean Section on the Same Patient.

DR. CHARLES M. GREEN, Boston, after a brief summary of the experience of the Boston Lying-In Hospital with repeated cesarean sections, raised the question whether it is justifiable in performing cesarean section for either an absolute or an

elective indication to remove normal organs, or to resort to other procedures with a view to preventing subsequent pregnancy and the risk of a repeated section. The writer sought to answer this question in the negative, and invited discussion of his views.

Of 9 repeated sections, all performed on a relative indication, 4 were done, one each, by four members of the staff, and 5 by the author; 2 were done after labor had been in progress for nine hours each, and 7 at an elected date before labor began. One patient had her first section without the hospital; 6 had their first and second, and 1 her first, second and third sections within the hospital. In one case there were no adhesions; in 7 cases there were more or less adhesions; the duration of operation was from 39 1/3 minutes to one hour and 24 minutes. In the case that died of shock the duration was 48 minutes. In one case the utero-abdominal adhesions were so extensive that the fetus was delivered without opening the peritoneal cavity, and the time of operation was 38 minutes. The 9 infants were discharged well; and of the 9 mothers, 1 died, a maternal mortality of 11 per cent.

These results were not reported as unique or remarkable, because repeated sections have resulted favorably in other clinics, but they are reported in the hope of influencing opinion that the time has come when the society should withhold its approval of the doctrine that women should be sterilized at their first cesarean section, in order that they may not be subjected to the risks of a repeated section.

Surgical Treatment of Early Diagnosed Cancer of the Uterus, More Especially by Hysterectomy.

The president, Dr. Joseph E. Janvrin, New York, delivered the annual address. After paying fitting tributes to Drs. John Byrne, T. Gaillard Thomas and Edward W. Jenks, he pointed out the conditions in which vaginal and abdominal hysterectomy held out good hopes for a radical cure; also the conditions in which the operation held out some prospects of a radical cure, and certainly a prolongation of life with a more comfortable existence than could possibly be hoped for if hysterectomy was not resorted to.

He took up the development of cancer in and from the cervix. His own observations as to the extension of epithelioma beginning in the cervix are as follows: (1) Up and into the cervical canal; (2) up and into the uterine body; (3) to the tissues surrounding the cervix, the parametrium especially; (4) downward on the vaginal mucosa, and after a certain time through the mucosa into the wall itself.

The author, after quoting freely the statistics of other writers, both European and American, regarding cancer of the uterus, stated that his own statistics up to Jan. 1, 1899, were as follows: Abdominal and vagino-abdominal hysterectomy: 12 cases, 2 cured, more than eight years having elapsed since operation; 6 recurrences; 4 deaths from operation, 2 from shock, 1 from septicemia and 1 from uremia. Percentage of cures, 16.6. Vaginal hysterectomies: 38 cases, 10 permanently cured; 15 recurrences; 4 deaths from operation; 10 lost sight of after a few months; percentage of cures, 26.3. Total number of cases, 50; 12 cured; general percentage of cures, 24.

He believes that vaginal hysterectomy, with removal of as much parametrium as is possible by this method, and also the removal of the upper half inch or more of the vagina, will accomplish just as much as any other method, and, at the same time, carried with it the least danger as an operation *per se*, for it is extremely rare that a patient succumbs to this operation. It was by following out this rule that the statistics of his own cases up to January, 1899, have been so favorable. During the past four years he has extended the field of operation for the purpose of removing a highly offensive local condition, and in that way making a longer lease of life more comfortable to the patient and less offensive to herself and to her friends.

Carcinoma of the Cervix Uteri.

DR. THADDEUS A. REAMY, Cincinnati, stated that spontaneous recovery from carcinoma does not occur. Unequivocal recovery lasting from ten to twenty-five years of two cases following removal of the diseased and adjacent tissues proves the curability of carcinoma of the cervix and also its local origin. He reported 6 cases of carcinoma of the cervix uteri. No. 1, operated on eighteen years ago, is in good health. No. 2 has gone nine years and No. 3 fifteen years without recurrence; Nos. 4 and 6 twelve years, and No. 5 eighteen years.

Primary Carcinoma of the Vulva.

DR. REUBEN PETERSON, Ann Arbor, Mich., reported four cases of primary carcinoma of the vulva. He presented a résumé of the literature of the subject, and the conclusions drawn therefrom. He spoke of the advisability of removing the inguinal glands. If carcinoma of the vulva is seen and treated early enough, good results can be obtained.

Renal Decapsulation for Puerperal Eclampsia.

DR. GEO. M. EDEBOHLS, New York, read a paper on this subject. This operation for puerperal eclampsia of renal origin is the logical outcome of the encouraging results following the author's operation in cases of chronic Bright's disease. The author said he has successfully performed bilateral renal decapsulation for puerperal eclampsia on a primipara two days after a forced delivery. The convulsions began before labor and continued until the time of operation, the patient having a convulsion while under chloroform on the operating table. This operation, performed Feb. 17, 1903, is believed to represent the first instance of renal decapsulation, or, for that matter, of any operation on the kidney or kidneys ever undertaken for the cure of puerperal convulsions. The favorable results, both immediate and remote, in this case, full details of which are given in the paper, at once assign a place to renal decapsulation as one of the resources at the command of the profession in the treatment of puerperal eclampsia. He said a woman who is suffering from uremic convulsions is entitled to the positive benefits of decapsulation, whether pregnant, in labor or in the puerperium.

Should the Uterus Be Removed when the Ovaries and Tubes Are Removed in Cases of Double Pyosalpinx when Operating Either Through the Abdomen or the Vagina?

This topic was discussed in a series of papers.

DR. ANDREW F. CURRIER, New York, stated that if this is proposed as a matter of routine he would reply emphatically no. If it is proposed as an expedient, when the uterus itself is diseased extensively, he would say yes. It may also be removed if it has been greatly injured in the extrication of the appendages, or if it should seem to be required as a means of controlling troublesome hemorrhage. To remove the uterus in a young woman may possibly produce an unfavorable mental effect as a consequence, near or remote. To remove the uterus of a woman near, at or past the menopause, might add an element of risk to the operation. To remove the uterus might weaken the pelvic floor and introduce an element of danger from enterocele. To remove the organ unnecessarily is bad morally, for it tends to establish the impression of the unimportance of the organ, and that it may be unhesitatingly extirpated by any one who has the requisite skill. To remove the uterus on the ground that it may possibly be the seat of malignant disease in the future is assuming more than the clinical history teaches in the great majority of cases, and is, moreover, a reproach to surgery, making it destructive instead of conservative.

DR. PHILANDER A. HARRIS, Paterson, N. J., stated that when suppuration has become well established in both tubes their exsection is the only operation which can be relied on to effect a cure. By exsection is meant the removal of the lumen of the tube to the uterine mucosa. Less radical operations, as hemisection and disinfection of the ampulla and larger portions of the tube, probing and washing of the tube and amputation of distal portions of pus tubes, are incomplete operations, and are proportionately unsuccessful in that they leave behind a diseased sinus, which not only continues to exist, but is productive of discomfort and other ill consequences to a greater or less extent. In bilateral exsection of double pyosalpinx, sufficient ovarian stroma may be left to influence and continue menstruation in at least 95 per cent. of any large class of cases operated on. The ovaries frequently participate in suppuration, which they derive from pus tubes. But in them suppuration is more easily terminated, and exsection is not advised excepting for extensive abscess of the ovary at the time the tubes are exsected, or a belief or knowledge that the sup-

puration in the ovary is tubercular in character. Simple excision of double pyosalpinx affords the maximum degree of relief, with a minimum of mutilation, and interference with the functions of the pelvic organs. The complaints arising from the existence of endometritis often cease after simple exsection of double pyosalpinx. If the symptoms of endometritis continue and greatly harass the patient, the uterus may be removed by vaginal section. The price of removal of the uterus in every case of double pyosalpinx may be partly estimated by the following results: (1) Loss of menstruation in every instance. (2) Partial or complete extinction of the sexual quality in a large proportion of the cases, together with incomplete physical capacity for sexual participation. (3) Injury to the nervous system of the patient, arising from her knowledge and appreciation that she has been prematurely and possibly unnecessarily deprived of these and other qualities which render her physically and, to a certain extent, morally inferior to other women.

DR. I. S. STONE, Washington, D. C., stated that no organ should be removed unless it is absolutely necessary. In a large majority of cases the pus found in diseased adnexa is sterile. It follows that the chief element of danger from sepsis is eliminated, and the uterus is not the seat of dangerous microbic infection. The exception to the above rule may be found in puerperal infections. When purulent adnexa are removed the uterine cornua should be excised, and the uterus permanently sealed, and thus made a barrier against further infection and also to permit effective treatment addressed to the uterine cavity, if necessary. Hysterectomy requires additional time, causes further traumatism and necessitates changes in the anatomic relations of the vagina, bladder, etc. If necessary to drain the pelvis by way of the vagina the usual route through the cul-de-sac posterior to the uterus answered every purpose; finally, a number of women object to panhysterectomy, and, besides, the question of its effect on the mental status of the patient is *sub judice*.

DR. MATTHEW D. MANN, Buffalo, N. Y., said that the almost sole cause of pus tubes is gonorrhea, though there may be a mixed infection. The uterus is usually infected and may make trouble afterward, and be the cause of spreading the infection. The uterus is no longer of any use. Menstruation does not always stop after the removal of the tubes and ovaries, and if it remains, it might become excessive and cause trouble. The uterus might become the seat of cancerous disease. In acute infection the removal of the uterus affords the best means of securing drainage. The results by the vaginal route, where the uterus is always removed, warrant its removal by the abdominal route. The woman's sexual life is unaffected by the removal of the uterus. The additional time taken for its removal is more than counterbalanced by the securing of good drainage.

DR. CHARLES P. NOBLE, Philadelphia, said that of hysterectomy for circumscribed pus limited to the uterine appendages, that is, pyosalpinx or abscess of the ovary, he has had 58 cases, 1 death, a mortality of 1.7 per cent. Of hysterectomy for intraperitoneal abscess, in addition to pus in the uterine appendages, he has had 6 cases, 4 deaths, a mortality of 66 per cent. Of appendages removed for circumscribed pus contained in the tube or ovary, that is, pyosalpinx or abscess of the ovary, 76 cases, 7 deaths, a mortality of 9.2 per cent. Of appendages removed for circumscribed pus contained in a tube or ovary since Jan. 1, 1895, 36 cases, 2 deaths, a mortality of 5.5 per cent. Of appendages removed for intraperitoneal abscess in addition to pus in ovary and tube, 22 cases, 5 deaths, a mortality of 22.7 per cent. Incision and drainage for pelvic suppuration, 58 cases, 1 death, a mortality of 1.7 per cent.

Uretero-Cystotomy.

DR. J. WESLEY BOVÉE, Washington, D. C., read this paper, narrating the history of the operation, pointing out the indications, diagnosis, routes and methods of operation, complications, technic, after-treatment, and detailing histories of cases.

Occurrence of Gallstones in Insane Women.

DR. WALTER P. MANTON, Detroit, stated that cholelithiasis is of frequent occurrence among insane women, but that symptoms are usually wanting, so that statistics must be obtained solely from autopsy findings. From his experience at the Eastern Michigan Asylum, he finds that gallstones are present in rather more than 26 per cent. of the patients dying at that institution in whom the abdominal contents was examined. The paper was intended only as a small contribution to the knowledge of the subject and as preliminary to more extensive study of gallstones in insane women at some future time.

A Method of Sterilization.

DR. PHILANDER A. HARRIS of Paterson, N. J., read a paper on "Excision of the Proximal Ends of the Fallopian Tubes at Their Origin in the Uterus, the Operation of Choice, for the Extremely Rare Cases Wherein Sterility is Desirable." The object of this operation is to take the place of the Porro operation, the bilateral removal of the ovaries, or to take the place of bilateral excision of healthy tubes. Menstruation would not be sacrificed. Every advantage arising from retention of the ovaries would be preserved to the individual, excepting the single item of impregnation. Tubes thus disconnected from the uterus would probably remain immune from future gonorrheal infection of the endometrium. A patient thus sterilized can doubtless be cured of her sterility by implantation of the tubes through the uterine cornua to the uterine cavity. While there are doubtless cases which are characterized by certain conditions of the body, mind or nervous system, calling for the voluntary production of sterility, there must necessarily be a very limited field for the employment of this operation. If a case is to be surgically sterilized, it should be effected in such manner that the patient and her friends may feel that she can be restored to fertility should the pathologic factors of her case so abate or disappear as to render impregnation and pregnancy permissible. No attempt was made by the author to present the indications for an operation which would produce sterility for temporary purposes, although such instances are believed to be within the range of possibility, and if so, emphasized the advantage of doing the primary operation in the manner proposed.

Personal Experience in Operations on Diabetic Patients.

DR. CHARLES P. NOBLE, Philadelphia, stated that of the 7 patients operated on by him, 6 made good recoveries and 1 died of diabetic coma. In the 6 remaining cases the healing of the wounds and the general progress of the patients toward recovery were not different from that in patients not the subject of glycosuria.

In looking up the literature of the subject he has been able to add to his own list 62 cases of operations on diabetics, on those organs of the body which are the special field of the gynecologist and abdominal surgeon, making a total of 69 cases.

The contraindication to operation was strongest in those patients suffering markedly from the constitutional symptoms of diabetes—poor nutrition, wasting, intense thirst and morbid appetite.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Sixth Session, held in Washington, D. C., May 12 to 14, 1903.

The President, Dr. W. W. Keen, Philadelphia, in the Chair.

(*Continued from page 1525.*)

The subject of the Wednesday meeting was "The Medical and Surgical Aspects of the Diseases of the Gall Bladder and Bile Ducts."

The Diagnosis of Affections of the Gall Bladder and Bile Ducts.

DR. JOHN H. MUSSER, Philadelphia, pleaded for the early recognition of the primary inflammation of the gall bladder and ducts. In his opinion, there would be very little seen of the secondary stages if the early ones were recognized. He laid great stress on laboratory methods of diagnosis, and referred to the presence of leucocytes in these conditions. Among other things with which gall-bladder disease is confused, he mentioned cholelithiasis, congestion of the liver, perforation of the intestinal tract, subdiaphragmatic abscess, pleurisy, pneumonia, pancreatic disease, syphilis of the liver, simple abscess of the liver and primary cancer of the gall bladder. In his opinion there is still much to be learned about hepatic function, and one must rely very largely on the urine.

The Differential Diagnosis.

Dr. George E. Brewer, New York, claimed that much of the information obtained in reference to this disease has been due to the conditions found at the time of operation. He divided the subject into (1) calculus disease, (2) inflammatory disease, and (3) new growths, and called especial attention to the pain in impacted gallstone. The presence of the gall bladder near the median line, as well as its congenital absence, was referred to, and the cause of the pain in gall-bladder disease was believed to be due to inflammatory conditions, although it may be due to pressure and spasm. The most characteristic symptom of cholelithiasis was considered to be the pain, while the most conspicuous symptoms of stone in the common duct were mentioned as jaundice, pain and fever. In the author's opinion, inflammation of the gall bladder is present in most cases coming under the surgeon's hands, but a tumor of the gall bladder was rarely found. The three chief symptoms of obstruction were given as (1) pain, (2) tumor and (3) jaundice, and the fact that gallstones are rarely found in young persons, say under 20, was alluded to.

The Etiology and Pathology of Gallstone.

Dr. C. A. Herter, New York, considered the chief constituents of gallstones to be cholesterin and bilirubin. He showed a table giving the results in the formation of cholesterin after injections into the gall bladder. After mentioning that cholesterin is increased in pneumonia, he stated that the quantity of this substance in the blood was very little in relation to the quantity in the bile. As to bacteria in gallstones, reference was made to the work of Welch, who found the *Streptococcus pyogenes*, or the colon bacillus, while a bacterial nidus was found in one-half of the stones. In reference to the artificial production of stone the principal obstacle to its accomplishment was believed to be the flow of bile. Inflammation of the gall bladder superinduced by ascites and unaccompanied by any infection, is not itself sufficient to give rise to a very marked increase in the percentage of cholesterin in the bile. The author stated that gallstones may be produced experimentally by the introduction of bacteria, although he felt there was considerable evidence that we are going a little too far in assuming that all cases of gallstone are due to bacteria and nothing else.

Stomach Complications.

Prof. C. A. Ewald, Berlin, read a paper on "The Diseases of the Gall Bladder and Bile Ducts, with Especial Reference to Diseases of the Stomach and Intestines," in which he stated that gallstones arise from a catarrhal condition of the mucosa, often occurring in members of the same family, showing a predisposition. He raised a question as to gallstones causing pain, stating that the colic may be due to contractions or inflammations, with or without stone. He looked on the pain as being a very variable factor, and as sometimes originating from the transverse colon. The importance of chemical and microscopic examinations of the gastric contents was spoken of, and the statement made that hyperchlorhydria was frequently present and disappeared with the attack. He stated that gall-bladder colic was variable, irregular and frequently occurred at night, and called attention to the similarity between gastric crises and gallstone colic. The importance of differentiation between gall-bladder colic and acute pancreatic disease was briefly alluded to, and it was claimed that a tumor of the gall bladder was more frequently absent than present. The stones may perforate into the colon, and the contents of the intestines may be vomited, while infection of the bile passages from carcinoma occurs fairly frequently. The author believes that 95 per cent. of all cases of carcinoma are complicated with cholelithiasis. He made the statement that carcinoma is more frequent in women than in men, the percentage being about four to one, and called attention to the fact that it was unknown why stone should sometimes cause ulceration and at other times carcinoma. In his opinion carcinoma of the biliary passages is less frequent in women than in men, and expressed himself as being in favor of medical treatment in gall-bladder cases being employed first. He advised the ordinary known remedies during an attack of acute inflammation, but where they were unusually severe he recommended prompt operation, as well as in recurrent attack. The possible fatal result of a parenchymatous hemorrhage was alluded to, and also the unfortunate results which sometimes follow operation.

A Study of 534 Operations on the Gall Bladder and Bile Ducts.

Dr. William J. Mayo, Rochester, Minn., commenced his paper with the statement that in Nature's defense against infection within the abdominal cavity there are three weak situations, the fallopian tube, the appendix and the gall bladder, of which the first to gain an accepted surgical position was the infective lesions of the tube. While he considered that the appendix had reached an assured place in surgery, he considered that the gall bladder had been slow to receive that attention from the medical public which its importance deserved. He compared the similarity between the appendix and the gall bladder, and explained why perforation and sudden death are less frequent in diseases of the gall bladder than the appendix. He showed the relative preponderance of the two conditions according to the age of life of the patient, and also the relative frequency of operations on the appendix, gall bladder, ovaries and tubes and stomach. The 534 operations on the gall bladder and bile passages which formed the basis of this paper were performed on 518 patients, with 19 deaths, a mortality of 3.5 per cent. Of the total number, 510 were for gallstone disease, with a mortality of 3 per cent. Considering stones in the gall bladder as uncomplicated, there were 208 cases with 2 deaths, a mortality of less than 1 per cent. While, in his opinion, the colic is the standard of measure in the diagnosis of gallstones, yet it is but a small part of the clinical picture, and is readily diagnosticated. While it is known that the large majority of adults with gallstones never suffer, it is equally true that these stones only slumber, with the possibility of a painful awakening. The ideal operation, which is complete closure of the gall-bladder incision, has been successful in many of these cases of slumbering stone, while the hope of the patient that the stones will pass down and out through the common duct frequently materializes; usually, according to the author, there were more behind, and he has never operated on a patient who has passed calculi without finding more in the gall bladder. Commenting on the safety of operations on the common duct, he claimed that the mortality depended more on the condition of the patient than any difficulties in the technic, and gave Dr. Robson the credit for the great improvement in the technic. Eighteen times has he met with chronic pancreatitis in connection with gallstone disease, and in four of them cholecyst-duodenostomy was successfully performed, while in the remaining twelve no special treatment was adopted. The average stay in the hospital was slightly less than three weeks, the attempt being to remove all of the stones at the primary operation. Malignant disease of the gall bladder and bile duct was met twenty-four times, in some of which the exact origin could not be determined. As the presence of gallstones only occurred in 15 per cent. of secondary cancers of the gall bladder, and in over 80 per cent. of primary cancers, it was concluded that they were the chief etiologic factors in the production of malignant disease.

Surgical Treatment of Obstruction of the Common Bile Duct by Stone or Tumor.

Prof. Hans Kehr, Halberstadt, looked on the pressure of bile as the chief factor in forcing stones through the duct. He did not think one could determine at the time of the colic whether the stones were large or small, nor whether they passed through the ductus choledochus or not. Acute obstructions of the duct are rare, and sometimes a spontaneous cure may result, but he attached but little importance to the passage of a stone, because there were probably others. If pancreatic trouble be associated with stone in the gall bladder he advised treating this at the same time, but was not in favor of breaking up the stone, as all the broken parts might not pass through. He believed that drainage was more quickly performed than suturing, and felt that in colotomy,

with sutures, many stones were left behind. In his opinion the success of the operation depended on the pathologic conditions present. He urged the use of a free abdominal incision, and a generous quantity of gauze packing, believing they played a most important part in the results obtained. While he believed that the treatment of obstruction of the ductus choledochus properly belonged to internal medicine, he advised against waiting more than three months before operating. He did not think an incision into the hepatic duct was very often necessary, but attached great importance to the after-treatment following operation.

DISCUSSION.

DR. FRANK BILLINGS, Chicago, commented on the fact that surgeons had, in the greater part of the operations done in the last few years, so enlightened us in the diagnosis of these conditions that it can be much more readily made than formerly, but in spite of this, considered it was absolutely impossible to make a rational diagnosis in many cases. The most prominent symptom referred to by present writers is pain, usually in the region of the gall-bladder apparatus, not always severe, nor always colicky in character. Points of tenderness may be present without any pain, especially in cases whose abdominal walls are not too thick. Within one year two patients have called on the author, both of whom had been operated on for cystic gallstones without the stones having been found, the condition in each case being that of gastric crises, due to locomotor ataxia. The fact that cases of appendicitis were often operated on for gallstone, and that floating kidney and inflamed appendix may refer pain to the gall-bladder region, was briefly noted, and the statement made that in one sense gallstones are harmless, and do not present symptoms sufficient to make a diagnosis until there is infection of the gall-bladder region. In the Doctor's opinion, by the time we are able to make a diagnosis of gallstone the case is no longer a medical disease, but a surgical one. He emphasized very strongly the fact that if once a diagnosis is made and one can elicit the information that gallstones have repeatedly occurred in the past, an operation is indicated and should be performed at once. However, he was in favor beforehand of trying to get rid of the infection by proper food, drink, respiratory exercise, and in the case of women by adjustment of the dress, but if these failed he urged operation at once.

DR. GEORGE DOCK, Ann Arbor, Mich., commented on the fact that nothing but carelessness or ignorance in many cases prevented patients from being sent to the surgeon, and he believed this was largely due to their not knowing the beneficial results to be obtained by surgical treatment. Cases of gallstone disease resemble appendicitis and renal colic, but a careful examination will in most cases clear up the diagnosis satisfactorily. In his opinion, more has been learned from the surgeon than from the pathologist in these cases, largely owing to the fact that many of them do not come to autopsy at all, so that the pathologist does not have an opportunity of studying them.

DR. HENRY SEWALL, after stating that the bile is a continuous secretion, with rhythmic accelerations due to contraction of the larger bile ducts, said it would be interesting to consider how the bile got into the gall bladder during the intervals between its outpourings into the intestine, which he proceeded briefly to explain. He said it was granted on all sides that the dangers of gallstone disease depend on bacterial invasion of the gall bladder and gall ducts, and that the formation of gallstones may presuppose such invasion. Commenting on the entrance of germs from the intestine, the sphincter muscle of the duct must form a useful barrier, but germs must be constantly penetrating the common duct, and once in the duct they must find ready access to the gall bladder, except for the possible filtering power of the Heisterian valve in the cystic duct. He supposed it was well known that all factors restricting the free outflowing of bile (dress, habits of eating, etc.) predisposed to gallstones, and also if the bile, when secreted by the liver, is already infected, it can not serve as a cleansing fluid. In his opinion, a prominent or principal use of the gall bladder is to serve as a flush tank for the common and cystic duct, and it maybe suspected that atrophy or extirpation of the gall bladder might predispose to cholangitis.

DR. E. G. JANEWAY, New York, urged that the character of the food taken should be under the control of the physician.

PROF. B. S. A. MOYNIHAN, Leeds, England, stated that although operations on the common duct used to be considered extremely serious, they were not losing at the present time more than 3 or 4 per cent., and he attributed this improvement to the kind of incision which is being used, through which one is able to see the gall bladder and pull out through the wound about one-third of the liver. He expressed considerable satisfaction from this little detail in the operation, and claimed to be able to operate on the common duct in twenty to thirty minutes. One is being driven often and oftener to an inspection of the gall bladder, making it necessary to employ an incision which would permit of this.

(*To be continued.*)

FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held at Madrid, Spain, April 23-30, 1903.

(*Continued from page 1525.*)

Section on Medicine.

The second session was completely monopolized by long communications from physicians belonging to the Latin races, dealing largely with diseases endemic in Southern Europe, and the discussions were carried into the other sessions. Maragliano, Genoa, Italy, the honorary president of the section, called attention to the fact that the congress was losing its true character as an international gathering for the rapid and concise interchange of views, but his words were without effect. Drs. Espina and Castellino, Naples, reviewed the current opinions in regard to the "Pathogenesis of Cardiac Arrhythmia."

Several of the papers presented in the third session have already been mentioned. Dr. Sanudo, Madrid, discussed the subject of the "Diagnosis of Myocarditis," but presented no new ideas.

Radiography in Biliary Lithiasis.

Drs. Gasteln and Yogue, Madrid, reported that they had radiographed a large number of cases, subsequently submitting their findings to the control of operation or autopsy. They found that radiography does not permit of differentiation between stones in the gall bladder and dense pericystic adhesions or hydatid cysts. Thus it fails just where its aid is most needed.

Rheumatism.

Dr. Ibanez, Valencia, asserted that rheumatism is not of microbic nature, but due to faulty metabolism with accumulation of uric acid. All the forms of rheumatism and gout are manifestations of the same disease.

In the fourth session Dr. Francos, Saragossa, reviewed the present standpoint with regard to pleurisies.

Salocreol.

Dr. Guezda, Berlin, said that the new drug was a synthesis of the various phenols of creosote and salicylic acids to form an ester. In von Leyden's clinic it has proven of great value in the treatment of rheumatic joints, of scrofulous glands and of the adenopathies of measles and scarlatinal anginas. It is applied with a brush or rubbed in as the degree of tenderness of the parts dictates, and thus applied appears in the urine in a few hours. Its chief value is in reducing or abolishing the tendency to suppuration of the acute and chronic glandular swellings, and has established its efficacy as the best drug in erysipelas.

Therapeutic Action of Air Baths and Sun Baths.

Dr. Singer, Berlin, described the physiologic action of this treatment, which is both tonic and sedative. It is applicable in a large number of conditions, but chiefly in neurasthenia.

Dr. Mariani, Madrid, spoke on the "Curability of Tuberculosis," and Dr. Iglesias on what he called "Madrid Fever." Dr. Mariani also discussed "Hysteria as an Agent in the Production of Aortic Lesions."

He further called attention to the value of "Blood Enemas in Chlorosis." He stated that he had experimented for 20

years in the treatment of anemias by this method. It is ineffectual in symptomatic anemias, but in chloranemias of the most advanced type, which have resisted every other form of treatment, it gives invariably good results. The blood of a sheep, aseptically secured, fresh each day, and defibrinated, is injected in amounts of 300 c.c. There are never any toxic or intestinal disturbances, but the enemas are followed by a rapid improvement in all the symptoms, paralleled by the tendency to normal of the blood count. Moreover, the cure is lasting. The manner of absorption of the blood is still unexplained.

Rectal Injections of Antistreptococcus Serum.

Sir Dyce Duckworth, London, described a typical case of acute infectious endocarditis, with fever, chills, petechial rash and joint symptoms, which yielded to this form of treatment after every other method had proven fruitless.

Etiology of Acute Rheumatism.

This communication by Drs. Poynton and Paine, London, will be reviewed later.

Dr. Larand, Carlsbad, emphasized its great importance. He is inclined to accept the conclusions presented. Dr. Singer, Vienna, stated that the so-called diplococcus referred to was identical with a streptococcus which he had isolated two years ago, but had found that it was not specific. Dr. Blumenthal, Berlin, said that agglutination and immunization occurred only with the specific form of streptococcus originally employed, and not with others. There was no one streptococcus of rheumatism.

Dr. Moragas, Madrid, discussed the treatment of hemoptysis.

Mucomembranous Colitis and Appendicitis.

Dr. F. Bernard, Plombières, has collected 1,100 cases of mucomembranous colitis, of which 76, or 6.9 per cent., presented unmistakable evidence of appendicitis, while many others had probable symptoms. In 12 cases removal of the appendix was followed by cure of the colitis. Ordinarily, the syndrome of appendicitis is present, but not marked, and the symptom-complex might be characterized as "appendicism." Pathologically it is reasonable to assume that the mucosa of the appendix participates in the disease present in the cecum and colon; the coexistence of enterolithiasis is also probably an etiologic factor in the appendicitis.

Pseudo Uremia in Urinary Lithiasis.

Dr. Galland Gleize, Vittel, said that he had observed cases of "gravel" of long standing, in which there occurred, with more or less suddenness, attacks which in many points simulated a true uremia. Examination of the urine, however, gave no support to the theory of a nephritis. The attacks were marked by a predominance of gastrointestinal symptoms; they usually lasted much longer than is customary in uremic attacks and terminated abruptly. The termination was marked by an abundant elimination of sand and calculi. He concludes that the phenomenon is simply a form of nephritic colic of gastrointestinal type.

Dr. Melcior, Levida, recommended the treatment of cholera with quinin.

At the conclusion of the session telegrams expressing gratitude were sent to the men who have contributed so much to the elucidation of the etiology of malarial infection, Laveran, Baccelli, Manson, Grassi, Koch and Ross.

(To be continued.)

PHILADELPHIA ACADEMY OF SURGERY.

Special Meeting, held May 11, 1903.

The president, Dr. Richard H. Harte, in the Chair.

Mayo on Stomach Surgery.

DR. WILLIAM J. MAYO, Rochester, Minn., read a paper entitled "A Review of 303 Operations on the Stomach and First Portion of the Duodenum," 286 of which were taken from the records of St. Mary's Hospital, Rochester, Minn., and 17 from the Minnesota State Hospital for the Insane at Rochester and St. Peter. The average age was 42, 42 per cent. being males and 58 per cent. females. There were 26 cases of duodenal ulcer with two deaths. Lesions in the first portion of the duodenum can not be easily differentiated from lesions in the stomach which are due to the same causes.

He divided lesions in the first portion of the duodenum into two groups, first, those caused by ulcer; and, second, those associated with the gall-bladder disease. Of the ulcers limited to the duodenum, there was 1 acute perforating, 2 chronic perforating, 5 active and 3 cicatricial contractions with obstructive symptoms. Two deaths occurred, one from pneumonia and the other from exhaustion following gastroenterostomy.

DISEASES OF THE STOMACH CLASSIFIED.

Dr. Mayo divided the gastric affection into two classes:

1. Gastric ulcer and associated causes of serious disturbance.
2. Cancer of the stomach.

Out of the 303 cases reported in this paper 277 involved the stomach, with 28 deaths, or 10.1 per cent.; 168 of these cases were in the benign group with 11 deaths. These cases included all the non-malignant obstructions or conditions calling for operation for gastric pain, with or without acute exacerbation. In the majority of the cases the perverted stomach secretion seemed to be the most important cause, which is shown by the almost constant association of excessive secretions with gastric ulcer. Also in that part of the duodenum not protected by alkaline juices the same ulcers have occurred after jejunostomy has been performed for the purpose of drainage. Drainage to relieve the excessive amount of secretion and thus produce healing of the ulcer is of great importance.

GASTRIC ULCER CLASSIFIED.

The following classification of gastric ulcer was made:

1. Round ulcer: (*a*) acute; (*b*) chronic. They have the definite feature that there is but little thickening about the base of the ulcer.
2. Mucous erosions, a condition which must be accepted with caution.
3. Chronic ulcer with thickened base and usually irregular in form.
4. Benign obstruction without regard to cause, although usually of benign origin.

The last two classes are the ones which most frequently call for operation, chronic ulcer being usually found in adults and is more frequent in females. Spasm of the pylorus was thought to be one of the most important causes of the retention of excessive gastric secretion.

There were 109 cases of cancer of the stomach, with 17 deaths, or 15.6 per cent. Late diagnosis and cachexia make the report of this group rather discouraging; most of the operations were of a palliative character. Early exploratory incision in suspected cases was recommended, and all the vascular and lymphatic connections with the diseased area should be removed. He then gave a full description of the method he employed in doing the operation.

Difficulty of Diagnosis.

DR. ALBERT VANDER VEER, Albany, referred to the difficulty of diagnosing conditions in the lower third of the stomach and the upper third of the duodenum. He felt that many of the cases were left too long solely under the treatment of the medical man, and when the clinical history and examination of the patient do not reveal clearly the conditions present he recommended exploratory operation.

Murphy Button Versus Suture.

MR. B. G. A. MOYNIHAN, Leeds, England, felt that the operation of pyloroplasty could be practically abandoned, he having done the operation three times, and in only one of the three cases did it prove satisfactory. He did not feel that the operation was in any particular as satisfactory as the operation of gastroenterostomy, stating that he had operated on seventy-five cases by the latter method with only one death. He stated that he had not used the Murphy button in the last sixty-five cases, as he believed the simple suture was preferable, but stated that in the employment of the Murphy button in the first of his cases, he had noticed that it destroyed a considerable portion of the mucous membrane around the union, which he considered of very great importance, and which he

had been doing in all his operations. By the method which he has employed the section of the stomach and the section of the jejunum where the anastomosis is to be made are each grasped in a pair of forceps and brought outside of the abdomen, and the continuous suture applied. Malignant disease of the stomach he believed came principally through the lymphatic system, and in the operation therefor, he believed that first the greater curvature and then the lesser curvature should be removed. Duodenal ulcer he believed to be rarely primary. Gastric ulcer is so frequently multiple that he did not believe excision thereof to be practicable, as future trouble may result from a remaining undiscovered ulcer.

Importance of Early Treatment.

DR. J. B. MURPHY, Chicago, said the great majority of all cases of carcinoma occur in the pyloric end of the stomach, and as the first set of glands to become involved by gravity are the lymphatic glands, any operation which is expected to produce permanent results must look to the removal of these glands, early operation being imperative. About 10 per cent. of all cases of gastric carcinoma occur in the cardiac end and are practically unamenable to treatment. The surgeon usually sees the cases of gastric disease numerically in the following order: (1) gastric carcinoma; (2) gastric ulcer; (3) pyloric stenosis, and (4) pyloric retention. As the gastric carcinoma is usually a sequence of the other conditions, he felt that in order to obtain the best results by operative treatment, the order in which these cases were seen should be the reverse. He believed that in order for the operation of pylorectomy to attain the best possible results, it was necessary that it should be done early. He referred to the fact that the cases of gastroptosis are treated erroneously by the medical man by washing out the stomach and reducing the amount of food, on the theory that the condition is due to a weakening of the wall of the stomach, whereas, as has been definitely demonstrated by Dr. Mayo, it is due to a mechanical condition at the pylorus. He felt that the all-important factor in the operation was to secure permanent drainage of the most dependent portion of the stomach, and the only operation which had been used a sufficient length of time to justify the statement that it was the best he felt was gastroenterostomy. He felt that if pyloroplasty was going to be of benefit to the patients it must be done early, in order to avoid ulceration and changes in the gastric secretions which are apt to lead on to malignant disease. He also expressed the opinion that so soon as it became demonstrated to the physician that surgical operations were safe and afforded great relief, the cases would be sent to the surgeon much earlier.

DR. J. M. T. FINNEY, Baltimore, believed that the main question was thorough drainage, and any method that would produce this result he felt would be satisfactory. He advocated early exploratory operation under cocain.

PROF. VON MIKULICZ-RADECKI, Breslau, Germany, spoke in German on the subject.

On motion a unanimous vote of thanks was tendered those who had spoken.

AMERICAN PROCTOLOGIC SOCIETY.

Fifth Annual Meeting, held in New Orleans, May 5 and 6, 1903.

The President, Dr. S. T. Earle, Baltimore, in the Chair.

After the transaction of preliminary business, President Earle delivered an able address on "The Qualifications for Membership in the American Protologic Society."

The papers presented at this meeting were of unusual interest.

X-Ray Therapy in Ano-Rectal Diseases.

DR. J. RAWSON PENNINGTON dwelt in this paper on the importance and efficiency of this agent in the treatment of pruritis ani where the cause is local.

The society asked Dr. Pennington to continue his searches in *x*-ray therapy in rectal diseases.

Tubercular Ulceration of the Rectum and Anus.

DR. L. H. ADLER, Philadelphia, stated that tuberculosis is now recognized as the cause of a number of conditions about the anus and rectum, the pathology of which was formerly obscure. The disease may be a primary process, but in the majority of instances it is secondary to similar changes in other organs. It may involve any portion of the rectum or the skin about the same; its most frequent site, in the author's experience, however, is at the mucocutaneous junction. The affection is always due to the tubercle bacillus. Any plan of treatment, to be of benefit, must, in a large measure, be directed to the general constitutional condition; and for this purpose, pure air, forced feeding and all the hygienic and medicinal measures should be adopted as are employed in general tuberculosis. The local treatment has for its main objects the destruction of the tubercle bacilli and the establishment of a healthy reparative process. The Paquelin or the galvano-cautery, chemical caustics, such as chlorid of zinc, nitric acid and acid nitrate of mercury, the curette and the *x*-ray, have been employed for these purposes and with varying results.

DR. LEON STRAUS, St. Louis, reported cases of primary tuberculosis of the rectum.

Atony of the Rectum and Anal Sphincters; Its Etiology, Pathology, Diagnosis and Treatment.

DR. WILLIAM BODENHAMER, New York, said the condition is most commonly met in delicate women of a lax muscular fiber, and in those whose sedentary occupations lead to a lack of regularity of function. The first desideratum in treatment is a regular habit respecting a daily evacuation of the rectum. "This may be aided and often attained by simple means, such as the injection of half a pint of cold water into the rectum at the regular time of going to stool; cold being tonic, stimulant and astringent and acts somewhat similarly to nux vomica by exciting the sensibility and contractility of the organ; but it should be discontinued as soon as the object of its use has been attained. In the more obstinate cases, however, the chief remedies should be nux vomica, alone or combined with some other ingredients, together with the employment of rectal injections composed of powerful astringents and tonic substances, with the intention of inducing contraction, corrugation and condensation of the relaxed and weak muscular fibers of the rectum, by which they become shorter and firmer, and thus aid in diminishing the morbid organ to its normal dimensions and tone."

Obstipation.

DR. JOHN L. JELKS, Memphis, Tenn., read a paper entitled "Obstipation, Its Causes, Effects, Diagnosis and Treatment." He stated: "Obstipation is the term used by proctologists to denote mechanical obstruction of the bowel, and is preferred to the generic term of which obstipation is one variety." He classed the causative factors as follows: 1, Extravisceral; 2, perivisceral; 3, visceral; 4, intravisceral. One of the chief facts which the author wished to forcibly express is that other factors may and do cause obstipation or obstructive constipation, and a careful discrimination should be made before an operation is performed on a supposed obstructing rectal valve.

DR. B. MERRILL RICKETTS, Cincinnati, exhibited an instrument, and Dr. George T. Cooke, Indianapolis, discussed the subject of "Hemorrhoids." These elicited considerable discussion, and Dr. Ricketts was instructed to make further report on the use of the angiotribe in the treatment of hemorrhoids. The discussion disclosed the approval of various methods of treatment of hemorrhoids, but showed that none of them are ideal.

The Treatment of Anal and Rectal Diseases Without General Anesthesia.

DR. WILLIAM L. DICKINSON, Saginaw, Mich., said: "The treatment of anal and rectal diseases has been so long associated with that of general anesthesia that when a patient presents himself and we have made an examination we unconsciously begin to solve the mental problem of how he will take the anesthetic and the number of days he will be confined to the house after the operation. The time-honored treatment of anal fissure by dilation, under chloroform, was both effective and speedy, but we can accomplish the same results in a little longer time by the use of cocain or eucain. Superficial fistulæ, ischio-rectal abscesses, external hemorrhoids and many cases

of internal hemorrhoids can be operated on under filtration just as well as under general anesthesia. We owe it to our patients and also to ourselves to keep patients from going to the irregular practitioner, for, as regular, educated physicians, we ought to be able to cope with all diseases of the rectum, in an intelligent manner, and thus give entire satisfaction to our patients. Our students should be taught that the greater number of our patients seek our advice and aid for ailments that respond readily to office treatment that can be given without general anesthesia."

Molluscum of the Rectum.

Probably the most interesting paper of the meeting was that of a report on "A Unique Case; Molluscum Fibrosum of the Rectum in a Patient, the Subject of the Typical Skin Lesion," by Dr. A. Bennett Cooke, Nashville. He stated: "The feature of the case which justifies the adjective 'unique' is not the skin disease nor the occurrence of the multiple fibroid tumors in the rectum, but rather the association of the two conditions in the same individual and the further fact that the mucous and cutaneous tumors are identical in structure." He described the patient as emaciated, sallow, nervous and despondent; at least a dozen calls to the stool in twenty-four hours; sphincters relaxed and perianal integument excoriated from the irritating discharges; anal canal patulous, in spite of numerous successive abrasions. The proctoscope revealed the rectum almost completely filled with polypoid tumors, many of them ulcerated and bathed in a muco-purulent blood-stained secretion of exceedingly offensive odor. The growths began in the lowest rectal chamber, varying in size from a bird shot to an almond; the largest were uniformly pedunculated, those intermediate in size had sessile attachments, and the smallest appeared as mere elevations under the mucous membrane, well bedded. It was found that the lesions extended well into the sigmoid colon, smaller in size, and were attended by less inflammation of the mucosa. Beginning below the tumors were removed by torsion with the forceps and by biting them off with a curette against the sharp end of the proctoscope. The hemorrhoid was rather free, so that it was possible to remove only a small number at a sitting. The operation was repeated from time to time during a period of three weeks, when the bowel, as high as could be seen, was clear of all but the smallest tumors. Sixty of the growths were removed; no anesthetic was employed."

Dr. Cooke appended a report from the *Pathologist*, which demonstrated the identity of the skin and rectal lesions. The production was considered a valuable contribution to proctologic literature.

Election of Officers.

The society elected the following officers for the ensuing year: President, Dr. William M. Beach, Pittsburg; vice-president, Dr. Leon Straus, St. Louis; secretary-treasurer, Dr. A. Bennett Cooke, Nashville.

The next meeting will be in Atlantic City, June 7 and 8, 1904.

AMERICAN ACADEMY OF MEDICINE.

Twenty-eighth Annual Meeting, held in Washington, D. C., May 11 and 12, 1903.

(*Continued from page 1529.*)

The President, Dr. Charles McIntire, Easton, Pa., in the Chair.

Gonorrhea as a Social Danger.

The scientific session was opened on the second day by a paper with this title by Dr. Prince A. Morrow, New York. A distinction should be recognized between cases in which the disease is contracted through voluntary exposure to contagion under immoral conditions and those in which contagion is conveyed through innocent relations. Modern acquisitions to knowledge, especially of gonorrhea in women, have established on a scientific basis the magnified importance of gonorrhea as a social peril. The extent and degree of this danger, Dr. Morrow claims, are not sufficiently appreciated by the profession.

The paper considered the principal modes in which gonorrhea of the innocent may be manifest as a result of marital infection, and detailed the remedies, emphasizing the protective duty devolving on the physician.

The paper was discussed by Drs. Gerrish, Benedict, Bulkley and Risley.

Electives in Anatomy.

The "Symposium On Required and Elective Studies in the Medical Course" was then opened by Dr. F. H. Gerrish, Portland. A knowledge of the structure of the entire body is fundamentally important, the author stated, for the medical man, even if his work is in a limited field, for he can not be the best kind of a specialist unless he is an all-round practitioner at the start, and it is injudicious to encourage the undergraduate to undertake additional anatomic work. Electives, he claimed, are appropriate for those who have attained the doctorate, and wish to broaden and deepen their knowledge in particular lines.

The Teaching of Pathology in the Medical Curriculum.

DR. WILLIAM H. WELCH, Baltimore, in this paper, considered the period in the medical course for teaching pathology; the apportionment of laboratory work and didactic teaching; recitations and conferences; the extent to which various branches of pathologic teaching may be combined in single course; the character of examinations, and the methods adopted at the Johns Hopkins University. The student should have a good training in microscopic anatomy and histology and a training in physiology in order to enable him to take up with any profit the study of pathology, and he should keep in touch with pathology during the remaining years of his course.

It has been found advantageous to separate the more immediate and direct practical applications of pathology to clinical medicine from the course in the second year and to transmit it to the third and fourth years of the course. The plan is to begin with bacteriology and keep it in close relation with histology or pathology. Didactic lectures are not dispensed with, but go in as they are needed in connection with the course. Disturbance of circulation, disturbance of normal heat, etc., which do not admit of demonstration very readily, are taken up in their proper connection in a series of lectures in connection with the diseases of circulation.

Regarding the matter of electives, Dr. Welch regards the statement of Dr. Bowditch as the most comprehensive; the first essential being to fix on a minimum in the subject which must be taught, that is, every student must have this minimum knowledge of pathology. The difficulty comes in determining the minimum. That, however, is the plan in operation in Johns Hopkins University. The amount of teaching has been lessened and courses established which are elective in pathologic anatomy, histology and the different departments. Dr. Welch is therefore very much in favor of endorsing the system of electives so far as is possible along the lines elaborated by Dr. Bowditch, so far as he knows them: Determining the minimum requirement in a given subject and then supplying special courses along the different lines, the advantage of this being the well-recognized advantage of optional interchange and also the distinct advantage of taking up one aspect with very great thoroughness, none of which is opposed to Dr. Gerrish's conception that, after all, the main purpose of the medical school is to train medical practitioners. This plan Dr. Welch regards as really conducive to that end.

Internal Medicine: To What Extent Required or Elective in the Medical Course?

DR. SHERMAN G. BONNEY, Denver, gave a few general fundamental considerations relative to the present professional and educational status and discussed some of the recent advances in the methods and character of medical instruction. He gave the definition and scope of the elective system in American medical colleges and the objection to its too general application. The relation of internal medicine to the elective system of instruction is regarded as unique and distinctive.

Required and Elective Dermatology.

DR. L. DUNCAN BULKLEY, New York, in this paper, said that diseases of the skin are notoriously among those about which the least is known by the general medical profession. While many of the colleges have special instructors in this branch, it has not hitherto been taught so as to efficiently inform grad-

uating students. Proper knowledge of dermatology is often most important in general practice, especially in the case of syphilis and the exanthemata, while many of the ordinary diseases of the skin are exceedingly important in their bearing on the health and usefulness of the patient. In order to properly understand the subject of dermatology, which is essentially a clinical branch, Dr. Bulkley claims that there should also be a good knowledge of microscopy and bacteriology. Those contemplating special practice in dermatology should be encouraged to take special courses as electives during the last two years.

A Theory and a Condition as Illustrated by Ophthalmology.

DR. EDWARD JACKSON, Denver, read this paper. He stated that the time-honored theory of one course of undergraduate study, with gradual development years after graduation toward special from general practice, does not now meet the requirements of ophthalmology. Special training should begin in the course preparatory to medicine to attain the best practical results, and a certain part of ophthalmology should enter into the training of every medical student. Certain other things, however, should be taught early in their student career to those who expect to practice ophthalmology. A wise recognition of electives in the medical curriculum may prevent the complete separation of certain specialties from the general practice of medicine and surgery.

DISCUSSION.

DR. BOWDITCH agreed with Dr. Gerrish that the general practitioner has not yet gone by, stating that he would be with us for many years. He also believes with Dr. Gerrish that the elective system affords the best means for training general practitioners. In the Harvard Medical School all the required instruction is condensed into three years.

DR. EDWARD JACKSON spoke of the educational value of the electives. He believes that whether a man is in general practice or in any line of practice, his first object as a practitioner of medicine should be that of original investigation.

How the Modern Physician Can Influence in Decreasing the Birth Rate.

DR. ROLAND G. CURTIN, Philadelphia, in this paper, pointed out that this decrease could be brought about, first, by increasing the expenses of the family in high charges, expensive nursing and extensive outfits; and second, by discouraging advice.

The New Officers.

The following officers were elected: President, Dr. John B. Roberts, Philadelphia; vice-presidents, Drs. T. D. Davis, Pittsburgh, Pa.; James H. McBride, Pasadena, Cal.; J. T. Searcy, Tuscaloosa, Ala.; S. A. Knopf, New York; secretary, Dr. Charles McIntire, Easton, Pa.; treasurer, Dr. E. M. Green, Easton, Pa.; assistant secretary, Dr. Alex R. Craig, Columbia, Pa.

Atlantic City was named as the next place of meeting.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Diabetes.

A. Robin, according to an abstract in the *Courier of Med.*, recommends in the treatment of diabetes, that grains 15 (1.00) each of antipyrin and sodium bicarbonate be taken one hour before dinner and supper. The amount of sugar excreted daily will, under this treatment, rapidly be reduced to 50 per cent. of its original amount. This treatment should be continued for three days, when it should be replaced by the bihydrochlorid of quinin in ten-grain doses (.60) on rising, which should be repeated for six days, alternating with the following:

℞. Sodii arsenatis ..... gr. 3/4 | 05
Aq. destil. ..... ʒi 30 |

M. Sig.: One teaspoonful before each meal.

Lithia carbonate may also be given in three-grain (.20) doses three times a day before lunch, or sodium citrate in two and a half grain (.15) doses before each meal. Sodium tartrate may be ordered instead of the above salts, in doses of grains six (.40) each.

In cases where nerve sedatives are indicated give the following:

℞. Ext. bellad. ..... gr. 3/40 | 005
Ext. opii ..... gr. 1/6 | 01
Ext. valerianæ ..... gr. iiss | 15

M. Ft. pilula No. i. Sig.: Three to ten such pills daily.

Coryza.

Dr. G. Bjorkman, in *Merck's Archives*, recommends the following combinations in the treatment of coryza in the early stages:

℞. Quin. muriatis
Camphoræ, āā ..... gr. 1/4 | 015
Ext. belladon. rad. flu..... gtt. 1/8 | 008

M. Ft. capsulæ No. i. Sig.: One such capsule every fifteen minutes until relieved; or:

℞. Ext. suprarenalis aq. ..... gr. xv-xlv 1.-3 |
Aq. destil. steril. ..... ʒiiss 10 |

M. Sig.: To be applied to the nasal mucous membranes several times a day with a brush; or:

℞. Menthol ..... gr. xxx 2 |
Spts. chloroformi ..... ʒss 15 |

M. Sig.: Twelve drops to be dropped into the palms of the hands and rubbed until most of the chloroform has evaporated. The hands should then be formed into a mask and the vapors inhaled for five or ten minutes, every half hour; or:

℞. Ext. hamamelidis aq. ..... ʒi 30 |
Sol. acidi borici (1 per cent.)..... ʒi 30 |

Sig: A small amount added to a teaspoonful of water to be snuffed into the nose repeatedly; or:

℞. Zinci sozoiodol ..... gr. xxx 2 |
Menthol ..... gr. ivss | 25
Sacch. lact. ..... ʒi 30 |

M. Sig.: To be insufflated into each naris several times a day.

The Dose of Codein.

According to Fraenkel, in *Munch. Med. Woch.*, the dose of codein should be larger than the dose ordinarily given in order to obtain the full physiologic effect of that preparation. It is twenty times less powerful than morphin. It should be given in doses ranging from 2/3 gr. (.04) to 3/4 gr. (.05), repeated three or four times a day. The single maximum dose may reach grain 1½ (.09) and the maximum daily dose 4½ grains (.28). In administering it to children the following daily dose may be allowed: Age four years, gr. 1/6 (.01); age six years, gr. 1/3 (.02); age eight years, gr. 2/3 (.04); age twelve years, gr. 1¼ (.075).

Scabies.

The following ointment, which is similar to that formerly employed by Kaposi, is recommended in the treatment of scabies:

℞. Naphthol ..... ʒiv 15 |
Saponis viridis ..... ʒiss 45 |
Pulv. cretæ..... gr. xl 2 | 65
Adipis ..... ʒviii 240 |

M. Ft. unguentum. Sig.: Apply locally, dust with starch powder and wrap in a linen cloth.

The following combination is recommended by Local Handbook of Ther.:

℞. Naphthol
Sulphuris precip., āā..... ʒi 30 |
Adipis ..... ʒviii 240 |

M. Sig.: Apply locally after scrubbing the parts well with soap and water.

Constipation.

Gant, in the *N. Y. Med. Jour.*, states that he has discarded drugs entirely in the treatment of constipation, and by employing the following outline of treatment his results are

positive in all cases: Massage is essential in the cure of constipation, attention being directed not only to the large intestines but to the liver, small intestine and rectum. It improves the circulation, loosens any adhesions present and increases peristalsis. Faradism is of great value, applying the positive pole over the spine or within the rectum and moving the negative over the abdomen and liver.

Enematas of warm soapsuds are sometimes necessary to relieve an overloaded colon. The patient is given the following instructions:

1. Go to stool at the same hour each day and make a strong effort to move the bowels, whether successful or not.
2. Correct errors in diet; be regular about the meals and masticate the food thoroughly.
3. Eat sufficient fruit and drink an abundance of water, especially on rising.
4. Take a cold bath every morning, to be followed by thorough friction.
5. Regular indulgence in outdoor exercise and gymnastics, paying special attention to those movements which tend to develop the abdominal muscles.
6. Change from a sedentary to a more active occupation if it is deemed necessary.

Seborrhea.

Seborrhea, according to Shoemaker in *Med. Bul.*, requires constitutional as well as local treatment. If gastrointestinal disturbances are present the bowels must be kept properly active and bitter tonics administered. Iron should be given when anemia or chlorosis is present. Seborrhea is most frequent on the scalp; however, the hair should not be cut short but some bland oil should be applied to remove the crusts. The use of tobacco must be avoided and oatmeal, fish, pastry and fried foods cut from the articles of diet. The patient may eat baked potatoes, eggs, beefsteak, lamb chops, baked or stewed fruits and roast beef once a day. He should eat no supper.

The following should be given internally:

℞. Podophyllotoxin
Ext. belladonnæ
Ext. nucis vom., āā ..... gr. 1/10 | 006
Ext. taraxaci ..... gr. i | 06
Pepsini puri ..... gr. ss | 03

M. Ft. pil. No. i. Sig.: One such pill four times a day.

The following ointment should be applied locally after the crusts have been removed:

℞. Chloralis hydratis. ..... gr. xv-xxx | 1.-2
Olei eucalypti ..... m. v | 30
Magnesii carb.
Zinci carb., āā ..... ʒss | 2
Ung. aq. rosæ ..... ʒi | 30

M. Ft. unguentum. Sig.: Apply locally.

According to the author the chloral is soothing, antipruritic, and aids in contracting the follicles.

Sedative in Neurasthenia.

The following combination, recommended by Lewis in *Amer. Med.*, is of service in quieting the nervous symptoms of neurasthenics:

℞. Potassii bromidi ..... ʒiv | 15
Tinct. ferri chloridi ..... ʒiii | 12
Glycerini ..... ʒii | 8
Aq. q. s. ad ..... ʒiv | 120

M. Sig.: One teaspoonful to be taken in half a glass of water and repeated as often as necessary in order to decrease the pains and produce sleep.

Migraine.

In order to lessen the suffering from an acute attack of migraine the first essential, according to the *Med. News*, is absolute rest in a darkened room. Heat should be applied locally to the feet and a mustard poultice to the back of the neck, and the head well wrapped in a shawl. Tea and coffee should be avoided, and if the patient has a tendency to a gouty diathesis colchicum should be given, or if rheumatic the salicylates or aspirin, alternating with sodium bromid. The eyes should be examined and the teeth cared for. If an attack occurs during menstruation a sitz bath should be taken and the following given internally:

℞. Spts. chloroformi
Spts. ammon. arom.
Tinct. card. co., āā ..... ʒii | 8
Liq. ammon. acet. q. s. ad ..... ʒiii | 90

M. Sig.: Two teaspoonfuls and repeat in two hours if necessary.

Citrophen, according to the author, acts admirably in some of these cases.

When nausea and vomiting are present the following mixture is suggested:

℞. Tinct. zingiberis ..... ʒi | 4
Tinct. capsici ..... m. xxxvi | 2 | 40
Syr. zingiberis ..... ʒiv | 15
Aq. menth. pip. q. s. ad ..... ʒiii | 90

M. Sig.: Two teaspoonfuls and repeat as necessary.

In the gouty form the following is valuable to give relief:

℞. Antipyrini ..... ʒi | 4
Sod. salicylatis ..... ʒiss | 6
Aq. cinnamomi q. s. ad ..... ʒii | 60

M. One teaspoonful every hour until relieved.

Or, according to Merck, the following:

℞. Quin. valerinatis ..... gr. xv | 1
Ext. colchici
Ext. digitalis, āā ..... gr. iv | 25
Ext. aconiti ..... gr. ii | 12

M. Ft. pil. No. x. Sig.: One at noon and night.

If neuralgic in character the following is recommended:

℞. Antipyrini
Butyl-chloral hydratis, āā ..... ʒii | 8
Syr. zingiberis ..... ʒii | 60
Aquæ ..... ʒi | 30

M. Sig.: One teaspoonful every two to four hours.

Decubitus.

The following in *Merck's Archives* is recommended by Bjorkman in the treatment of bedsores: The points of pressure should be properly protected by pads and air cushions. Absolute cleanliness is imperative. The sheets should be removed frequently and aired once or twice a day; remnants from meals should never be permitted to remain in the bed. When dejecta come in contact with the patient, the parts should be thoroughly cleansed antiseptically and astringent lotions applied. The following lotion serves well as a preventive measure:

℞. Aq. hamamel. dest.
Spts. vini, āā ..... ʒiii | 90

Sig.: Apply locally.

The author recommends light massage as a stimulant to the sluggish circulation. If sloughing should occur one of the following combinations may be used:

℞. Nosophen ..... ʒi | 4
Lanolini ..... ʒi | 30

M. Ft. ung. Sig.: Apply locally; or:

℞. Potass. sozoiodol ..... ʒiiss | 10
Lanolini
Liq. petrolati, āā ..... ʒiss | 45

M. Ft. ung. Sig.: Apply locally.

Medicolegal.

Rules for Weighing Expert Testimony.—The Supreme Court of Nebraska, in Modern Brotherhood of America vs. Cummings, holds not erroneous an instruction in which the jury were told that in weighing expert testimony the same test was to be applied in weighing other testimony, and which continued as follows: "In weighing expert testimony, it is important that you should consider whether the fact on which the opinion of the witness is given has been satisfactorily proven—whether the expert is in any way biased and prejudiced, as shown by the evidence. You should also consider what experience, skill and learning in his profession the expert is shown to have. In weighing expert testimony offered for the purpose of contradicting the testimony of other witnesses who have positively stated facts claimed by them to have been within their personal knowledge, you should not fail to dis-

tinguish between those inferences or conclusions of the expert which are shown to be only probable and generally true, and which have their exceptions, and those other inferences and conclusions, if any, which are necessary and invariable, and which have no exceptions. You should also consider whether the opinion of the expert is speculative, theoretical, and states only the belief of the witness, while yet some different opinion, conclusion or inference may be drawn from the same facts." As to the question of whether the arm of the party by whom the action was brought was broken or not, which was in dispute, the jury were told that it was not for the expert to determine, but was alone for them to determine from all the testimony in the case.

Hastening Death by Inflicting Wound on Diseased Person.—Briefly summed up, the Court of Criminal Appeals of Texas says that the physicians' testimony in Gardner vs. State, a homicide case, showed that the deceased was in the last stages of Bright's disease; his elbow broken by a pistol shot; chloroform administered for the purpose of surgical operation; the kidneys, paralyzed by means of the chloroform, and failing to perform their functions, threw uric acid back on the system by poisoning the blood, thereby causing death. The physicians also testified, in this connection, that this was the proper treatment under the peculiar circumstances, and that the operation was a necessity. Whether the life of the deceased could have been saved by some other means than the operation, or whether there was negligence in this connection or improper treatment in not investigating the condition of the deceased's kidneys prior to the operation, does not seem to have entered into the testimony. The accused, who fired the shot, asked an instruction to the effect that if the deceased was shot, but the wound thereby inflicted was not necessarily fatal, and the wounded party was suffering from or afflicted with a disease not connected with or superinduced by the shot, and died therefrom, then the accused should be acquitted altogether of any grade of homicide. This charge was refused, and the court holds that it was properly so. It holds that if the deceased was suffering from a disease or a wound, and the accused's shot hastened the death of the deceased, he would be guilty of homicide. If the deceased would have shortly died from Bright's disease, and it was an incurable malady, yet if the accused's shot assisted in bringing about the death, he would be guilty of the homicide. An accused can not speculate as to how long his victim may live with an incurable malady when he inflicts a shot or a wound that hastens the death or the action of the fatal disease.

What Physician May Recover When Own Child Injured.—The Court of Civil Appeals of Texas says, in St. Louis Southwestern Railway Company of Texas vs. Gregory, that physical or mental pain suffered by an infant, by reason of personal injury or wrong inflicted by the negligence of another, is not an element of damages which the parent is entitled to recover, but the right to recover damages for such pain is personally of the infant. If, however, the pain which the child suffers is such as to incapacitate him for services to his parent, the latter will be entitled to recover damages, not for the pain, but as compensation for the loss of services caused by the pain to the child. Though an infant be injured, there is no right to recover by the parent therefore, unless the injury be such as to cause loss of services, or require, at the hands of the parent, some expense or outlay that otherwise would not have been made necessary. Medical services, and all necessary expenses of the care and treatment of a child whose injury or sickness is caused by the negligent or wrongful act of another, are elements of damages arising from such negligence. It is not necessary that the parent engage a stranger to administer medical treatment to the child, if the parent himself is a physician competent to perform such medical services. If he performs such services, he is entitled to recover from the wrongdoer a reasonable compensation therefore, for such wrongdoer has made it necessary because of his wrongful act. But the recovery by the parent should not exceed the value of the services performed. He can not recover for the loss of patronage as a practicing physician while detained at home on account of the sickness of either his wife or child. Such damages are too remote. Nor is the anxiety and mental anguish suffered by him and his wife, or either of them, by reason of the child's sickness, proper elements of damages.

Power to Quarantine—Requiring Notice by Physician.—The Supreme Court of Iowa says, in the case of State vs. Kirby, that it is unquestionably true that the preservation of the public health is of paramount importance to the state at large, as well as to local communities, and that the state, in the exercise of its police powers, may confer on the state and local boards of health whatever powers are deemed necessary for the preservation of the general health of a community or of the state. It may, perhaps, be conceded that, even in the absence of express statutory authority so to do, the authorities of a local community would have inherent or implied power to adopt such rules and regulations as were reasonably necessary for the preservation of the public health of such community; but, whenever the state has expressly conferred such power, it must be exercised as provided in the grant. The policy of the law of this, as well as most of the other states, has been to confer great power on those boards; and it may be conceded, so far as the exercise of those powers is concerned, a liberal construction should be given to the rules and regulations adopted by such board. But they must not unreasonably interfere with the liberty, property and business of the citizen. And whether such regulations are reasonable, impartial and consistent with the state policy is a question for the court. While the law seeks the welfare of the greater number, and says that individual liberty and property must yield for the time being thereto, it has prescribed the preliminary steps necessary to deprive the citizen of these constitutional rights, and it is but just and in accord with settled legal principles that the courts require a strict adherence to the statute in matters of this kind. Chapter 59 of the Acts of the Twenty-fourth General Assembly provided that, "upon written notice given by any physician that smallpox . . . exists in any place, it shall be the duty of the mayor . . . to establish quarantine." Section 2568 of the Iowa Code says that "the quarantine authorized . . . in case of infectious or contagious diseases may be declared or terminated by the mayor . . . upon written notice given by any practicing physician of the existence of such disease." The local rules under which the local board of health acted in this case in undertaking to quarantine the party charged with disobeying its order were adopted in 1894, and the court thinks did require a written notice as provided by the statute; but whether this was so or not the statute required it when the rules were adopted, and, what was of more importance, it was required when the attempt was made to quarantine this party. No such written notice, however, had been given by any physician; and the court thinks the board was, for this reason, without authority to restrain the party. It is not necessary for the preservation of the public health, the court says, that the mayor be allowed to shut a person up in his own house, or in a pesthouse, on the mere suggestion of any one who may be unduly alarmed over appearances. Every town now has a competent physician for its health officer, and, in case of his temporary absence or inability to act, other competent physicians may easily be obtained for an examination and the written report required by the statute. The suggestion that this party had consented to this quarantine leads the court to further say this, that he might have waived a formal notice thereof might be conceded, but surely it would not be contended that he could be convicted of a violation of the quarantine statute simply because he had agreed to remain secluded from his fellows for a given length of time. Had he done this, he might be guilty of a breach of contract, but nothing more.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal.

May 23.

1 The Third and Final Report of a Case of Presystolic Mitral Murmur, Complicating Pregnancy, Etc., with Exhibition of Specimen, Showing Triple Valvular Lesion, viz., Mitral Stenosis, Tricuspid Stenosis and Aortic Stenosis. James Tyson.

2 *The Present Treatment of Puerperal Septic Infection. Edward P. Davis.
3 *Decreasing Fecundity: Its Causes and Results. Scott P. Child.
4 Malnutrition. Theodore J. Elterich.
5 *A Fatal Case of Anthracosis, with Autopsy. Thomas S. Githens.
6 The Local Use of Cocain in the Nose. W. G. B. Harland.

2. **Puerperal Septic Infection.**—Davis insists on the importance of prophylaxis, asepsis during obstetric cases, following every possible precaution. Among the methods of treatment which have proven of value he includes thorough cleansing of the uterus and vagina; cauterization of ulcers with carbolic acid and iodin; sponging out the vagina with cotton dipped in a 1 per cent. lysol solution or mercury bichlorid, 1 in 4000, and thorough exploration of the uterus with a blunt-edged curette to bring away necrosed material, but avoiding wounding of the tissue; the use of prolonged irrigations with lysol or creolin, 1 per cent., or normal salt solution at about 100 F. or more. If bleeding is exhausting it is well to pack the uterus moderately with gauze containing 10 per cent. of iodoform. No mercury bichlorid should be introduced within the uterus under any circumstances. The vagina should be lightly tamponed with dry bichlorid gauze left there for forty-eight hours, followed by thorough irrigation of the uterus and vagina with 1 per cent. lysol solution. No further douching should be practiced. Other measures mentioned as of decided value are applications of cold to the abdomen over the uterus with counter-irritation by turpentine stupes, prompt emptying of the intestines, the use of tonics and stimulating drugs, especially strychnia and ergot, liberal feeding, good nursing, the use of normal salt solution, either by the bowel or hypodermically, etc. He objects to hysterectomy in pelvic or abdominal abscess, and thinks it justifiable only where the infected placenta can not be removed. Such cases are of the rarest occurrence. If, on opening the abdomen, the fallopian tubes are found distended with pus, their removal is justifiable. The methods which must at present be considered as experimental are the use of streptococcic serum, the use of nucleids to produce increased leucocytosis, Credé's silver ointment applications, injection of formalin as recently recommended, hysterectomy and the ligating and dissecting out of the infected and thrombosed veins. He believes in hysterectomy during labor in infected cases, and mentions cases where recovery followed Porro's operation. Among the injurious methods he includes drugs to reduce temperature, too much anxiety to stimulate the heart by the use of digitalis, etc., the tendency to check purgation which Nature sets up, and repeated intrauterine manipulations. He advises the poor and those of little means to go to hospitals for confinement, where private rooms at prices available should be provided.

3. **Decreasing Fecundity.**—Child reviews the statistics, accepting apparently the prevalent opinions as to the actual decrease of fecundity of American women, and attributes it to the social customs, prevention of conception and gonorrhea and syphilis, especially the former, which he thinks is an important cause. He also mentions criminal abortion, which he seems to consider frequent.

5. **Anthracosis.**—Githens reports a case in which a diagnosis of tuberculosis was made, but the lungs showed pronounced anthracosis without the presence of any tuberculosis. Chemically, the pigment was about one-fifth of the lungs by weight, and 6.23 per cent. of the pigment was ash. This seemed to indicate that the anthracosis was due to hard coal and that the patient had worked as a miner before taking up his later occupation as barber. The points of interest were the youthfulness of the patient, the history of syphilitic infection five years previously and that the anthracosis was the direct cause of death. He remarks on the paucity of literature of the condition. With the exception of one article by Osler in 1875, he finds no mention of the disease in the United States, and he can learn of no cases from physicians in coal-mining districts.

Medical Record, New York.

May 23.

7 *Some Unusual Cases of Appendicitis. Robert F. Weir.
8 *On a Case of Complete Fibrous Obstruction (Congenital?) of Both Superior and Inferior Venæ Cavæ in a Young Man of Eighteen Years—First Recorded Case. Alfred Meyer.
9 *Total Respiratory Failure from Ether—Artificial Respiration for Over Four Hours; Recovery. H. H. Everett.

7. **Appendicitis.**—Several unusual cases of appendicitis are described by Weir, including one of internal intestinal strangulation from an elongated inflamed appendix with a clubbed termination attached to the side of the lower lumbar vertebræ; one of strangulated hernia with gangrenous appendix; one of tumor of the cecal wall following removal of the appendix; one of very short appendix, one-half inch long, which was productive of several sharp attacks. When it was found its lumen was nearly obliterated and its walls very much thickened and sclerosed. It was at first taken to be merely a remnant of the appendix, but close examination showed it to be complete. There was also a case of appendicitis with general peritonitis operated on, with also repeated venous infusions of normal salt solution and recovery. Weir follows the suggestion of Crile to limit the amount to 1000 or 1250 c.c. and add 10 to 15 minims of a 1-1000 solution of adrenalin chlorid, and also 5 per cent. of sterilized glucose or .03 per cent. sodium saccharate. The results have been excellent. Lastly, he reports a case of cancer of the appendix which was operated on, and the patient has remained well for over three years. He remarks that with the exception of this case and that of the short appendix, all occurred within the last year.

8. **Obstruction of the Venae Cavae.**—In the case reported by Meyer, both the superior and inferior venæ cavæ were obliterated and the entire return venous circulation was provided for by the dilated vena azygos major. He reviews the literature of such cases to a certain extent and holds that the cause of the obstruction here was obscure, with no evidence of specific disease.

9. **Ether Asphyxia.**—In the case reported by Everett the patient was being operated on for appendicitis in which gangrene and adhesions were found. Respiration finally ceased, and for four hours artificial respiration and adrenalin chlorid, strychnia, etc., were employed. The patient made a good recovery, which Everett attributes largely to the adrenalin.

Medical News, New York.

May 23.

10 *Fracture of the Spine: Three Cases. Howard J. Williams.
11 Rheumatic Tonsillitis in Children. John Stewart.
12 *Notes on Blood Pressure in Man. (Continued.) S. S. Goldwater.
13 The Circulation in Puerperal Eclampsia. Douglas H. Stewart.
14 Some Interesting Phenomena of Specific Immune Sera. Arthur P. Hitchens.

10. **Fracture of the Spine.**—Three cases of fracture of the spine, one including gunshot wound, are reported by Williams. He attributes the fatal result in one of his cases of fracture of the lumbar vertebræ to drainage after treatment, and holds that drainage in such a wound is not only useless, but attended with danger. In two of his cases he thinks that he might possibly have succeeded in myelorrhaphy according to the method of Stewart and Harte, but the wound would have had to be lower in the cord. He thinks that hereafter we will operate earlier in cases of spinal fracture and oftener in severer cases, knowing that even if the cord is completely crushed the destroyed zone may be removed and the ends approximated. Keen's rule, that after an accident, if the knee-jerk is absent and remains so, operation is contraindicated, should hold good no longer. Absence of deep reflexes should be the most urgent reason to perform exploration.

12. **Blood Pressure.**—Goldwater, in this portion of his article, discusses the influence of posture, which has the effect of producing a lessening of pressure to an average of 15 mm.; muscular exertion, which causes a rise, and baths, which have little effect on a healthy person, according to his experience, though cold baths decrease the heart's frequency and strengthen its force. A rising blood pressure thus produced should be contraindicated in cases of threatening hemorrhage. Other things which alter the blood pressure are massage and perspiration, the former increasing, the latter reducing. Local pressure alterations produced by aneurism are also noted by arteriosclerosis, which may be accompanied with extremely low as well as extremely high tension, according to the condition of the heart, whether weakened or not, and by nephritis where the

value of the tonometer is most apparent. Often the high tension may be the first indication of renal complications. The effects of the nitrites are also mentioned and observations reported in two cases. The fall seemed to be slight, the patients being dispensary patients and not entirely under control. Better results might be obtained in lowering the tension by these drugs in hospital practice. It can not be maintained that as yet any material result has been achieved by the study of the relations between blood pressure and valvular disease. The tension is high in proportion to the degree of compensation hypertrophy and low in uncompensated lesions. The depression of the blood pressure in mental disorders is remarked on, and also the pressure during fever. One distinct service that he mentions which the blood-pressure apparatus has done is to prove that arterial tension may be exceedingly low during the early stage of high fever, when the pulse is full and bounding; relaxation of the arterial walls is, no doubt, the cause. The suggestion is made whether having in the future better control of the circulatory apparatus during this period might not be of some value. In convalescence the clinician must not be surprised to see abnormalities.

Boston Medical and Surgical Journal.

May 21.

15 *A Study of 534 Operations upon the Gall Bladder and Bile Passages, with Tabulated Report of 547 Operated Cases. William J. Mayo.
16 *The Germicidal Action of Alcohol. Charles Harrington and Harold Walker.
17 Report of Five Cases of Fracture of the Hip in Children. H. M. Chase, Jr.
18 A Glass Urethral Irrigator. David D. Scannell.

15. **Gall-Bladder Operation.**—In 534 operations on 519 patients operated on by Mayo there were 19 deaths, or a mortality of 3.5 per cent.; 510 were for gallstone disease, with a mortality of 3 per cent. In uncomplicated cases there was less than 1 per cent. mortality, but in complicated cases, including stone in the ducts, infections with and without stone, and malignant disease the mortality rose to 5 per cent. This is significant and indicates the importance of early operation. Mayo calls attention to the possibilities of even latent gallstone disease, and remarks that operation in uncomplicated cases is very simple. Cholecystostomy not only effectually cures the condition, but by permanently elevating the fundus brings the cystic duct to the bottom of the cavity and furnishes better drainage for the future. The "ideal" operation for closure of the gall-bladder incision has been successful in cases where slumbering gallstones were accidentally found during operation, but is not suited to cases that have symptoms and infection. He has not found that gallstones recur after treatment. Cholecystectomy, he thinks, will perhaps be the operation of the future, and it can be employed with almost equal safety with cholecystostomy.

16. **The Germicidal Action of Alcohol.**—The results of a series of experiments are reported by Harrington and Walker, who offer the following conclusions:

1. Against dry bacteria, absolute alcohol and ordinary commercial alcohol are wholly devoid of bactericidal power, even with twenty-four hours' direct contact, and other preparations of alcohol containing more than 70 per cent., by volume, are weak in this regard, according to their content of alcohol—the stronger in alcohol, the weaker in action.

2. Against the commoner, non-sporing, pathogenic bacteria in a moist condition, any strength of alcohol above 40 per cent., by volume, is effective within five minutes, and certain preparations within one minute.

3. Alcohol of less than 40 per cent. strength is too slow in action or too uncertain in results against pathogenic bacteria, whether moist or dry.

4. The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria, such as the pus organisms, in the dry state, are those containing from 60 to 70 per cent., by volume, which strengths are equally efficient against the same organisms in a moist condition.

5. Unless the bacterial envelope contains a certain amount of moisture, it is impervious to strong alcohol; but dried bacteria, when brought into contact with dilute alcohol containing from 30 to 60 per cent. of water by volume, will absorb the necessary amount of water therefrom very quickly, and then the alcohol itself can reach the cell protoplasm and destroy it.

6. The stronger preparations of alcohol possess no advantage over 60 to 70 per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin.

7. Provided the skin bacteria in the deeper parts can be brought into contact with disinfectants, alcohol of 60 to 70 per cent. strength may be depended on usually, but not always, to destroy them within five minutes.

American Medicine, Philadelphia.

May 23.

19 *Congenital Dislocation of the Hip: Report of a Bloodless Reposition, Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment. (Concluded.) H. Augustus Wilson, J. Torrance Rugh and W. M. L. Coplin.
20 *Acute Leukemia. John B. Nichols.
21 *Retrocecal Appendicitis with Retroperitoneal Pelvic Abscess. A. Ernest Gallant.
22 Fracture of the Ischiopubic Ramus and Rupture of the Bladder; Recovery After Operation. Lindsay Peters.
23 Anomalies of Respiration in High Altitudes. W. A. Briggs.
24 A Rapid Method for Hardening and Embedding Tissues. B. Meade Bolton and D. L. Harris.

19. **Congenital Dislocation of the Hip.**—The article by Wilson, Rugh and Coplin gives the report of the one fatal case of bloodless operation for restoration of congenital hip-joint dislocation. The child was evidently of low vitality and the recent changes in the lungs and kidneys which were found were probably due to the anesthetic. The details of the postmortem are given in full.

20. **Acute Leukemia.**—This article, which is a portion of a paper awarded honorable mention in a prize competition in the District of Columbia, covers the subject of acute leukemia, reporting a case at length in which a peculiar coccus was found in the blood, but which did not appear to be capable of producing leukemia in animal inoculations.

21. **Retrocecal Appendicitis.**—Gallant reports three cases, the only ones in which he has found the abscess located in the pelvis behind the peritoneum. It has usually an acute onset and the abscess is usually readily recognized in its later stage by vaginal or rectal examination.

New York Medical Journal.

May 23.

25 *In the Hemisphere of X-Ray Activity. J. Rudis-Jicinsky.
26 *The Ureteral Pelvis. Byron Robinson.
27 *Eclampsia—Its Prevention and Treatment. Edward A. Ayers.
28 *Atony of the Duodenum Diagnosticated and Corroborated by Operation. Mark I. Knapp.
29 *A Few Differential Diagnoses in Connection with the Exanthemata. William L. Somerset.

25. **The X-ray.**—One of the principal points made by Rudis-Jicinsky seems to be the greater effect of the *x*-rays in their sphere of greatest activity perpendicular to the anode. He illustrates it, showing the shading out of action, as the rays impinge less perpendicularly from the anode plate. He uses a protection of screen, shield, mask and lead box, with diaphragms for precluding the diffuse rays. This gives not only safe protection, but a very good opportunity to treat any lesion directly with the best radiation from the anode focus point, at the correct standard distance, through a speculum, or, if necessary, over the whole area with the lymphatic glands in surrounding infected tissues.

26. **The Ureteral Pelvis.**—Robinson's article is an elaborate anatomic description of the ureteral pelvis with its variations and relations to vessels, nerves, lymphatics, etc.

27. **Eclampsia.**—Ayers insists on the importance of prevention of eclampsia by proper diet and attention to the bowels. Keeping the bowels empty not only sustains the eliminative function, but permits the uterus to occupy the abdominal space with less interference with the work of the kidneys, ureter and heart. He also advises the patient to take a measure once a week of the entire urine passed in twenty-four hours, and having learned the normal amount, to inform the physician when any variation occurs. He holds that the increased abdominal pressure from the growing uterus has much to do with the development of eclampsia, and in all cases investigates this point. If the lower limbs or vulva are edematous or cyanosed he tries to keep the bowels empty and have the patient follow the rule of short periods of time on the feet and long periods of rest on the back and side. As regards the urine, he suggests the rule that whenever the amount excreted or the urea eliminated falls below the normal, or albuminuria or casts appear, treat the patient by diet, laxatives and diuretics to restore the functions to normal. If moderate effort does not succeed, exercise, diet, with active bowel and kidney stimulation, will sometimes cause death of the fetus, excite premature labor, or greatly weaken the mother. These strenuous results may not be called for. If there is headache, eye disturbances, furred tongue, cold, clammy skin and irritable pulse, we should not feel limited in the extent to

which we carry preventive measures. The indications for the induction of labor should be determined by a specialist. He suggests that it might be well to try the administration of thyroid extract when other methods fail. As regards the treatment of eclampsia, we must try to eliminate the toxins promptly and see whether we can do it without interfering with pregnancy. Many cases of eclampsia are the result of a very temporary condition of the emunctories. If, before the conditions have produced much cerebral hyperemia and asphyxiation of the blood, free catharsis can be secured, they may entirely cease and, by proper attention to warnings, a second attack be prevented. If the fetus has not been killed by the convulsions, the pregnancy may go to term. If it has killed the fetus, then labor can be induced in a gentle way after the toxic condition has been removed. Ayers condemns the plan of first attacking the convulsions and immediate emptying of the uterus. He thinks this gives the ideal results less chance to occur. We should not dull the nervous system with narcotics to lessen the response to elimination unless we add immediate delivery and perhaps blood letting. If the mind is clear and the effect of convulsions are marked he would give saline cathartics by the mouth and a high saline solution by the bowel. If the patient is highly nervous, with restlessness, tossing and mental activity, he favors the administration of 20 to 30 grains of chloral per rectum to relieve the nervous tension, not to produce narcosis. Nitroglycerin, 1/50 of a grain, should be given at the start and repeated as needed. If free catharsis is secured and the secretion of urine is not suppressed, and the convulsions lessen in an hour or two, he would not touch the uterus or further administer narcotics, but would use oxygen and hypodermoclysis with saline infusion. If following this treatment the attack ceases, eliminative treatment should be continued with lessening severity for one or two days, the diet being reduced to milk alone. The urine should be examined to see if the kidneys are acting normally. If not, labor should be induced by the bougie. The saline solution, he says, is one of the most valuable agents we have in obstetric work, particularly in hemorrhage, though in eclamptic cases its use requires more care. During convulsions the heart is laboring violently to empty its blood into the aorta and pulmonary artery, but is largely prevented by the respiratory spasm. By directly injecting into the vein at this time the strain is added to. He thinks as many cases in eclampsia die from exhaustion of the heart as from coma. For control of convulsions, when needed, he believes in the use of chloral by rectal injection, but its greatest danger is its effect on the heart. Veratrum viride is of value in cases showing a high tension. He would not be surprised to see it supplanted in the future by thyroid extract, which is a vasomotor depressant as well as a nervous stimulant, and this last action would seem perhaps to contraindicate it in eclampsia. However, he would not advise the use of any particular anticonvulsive as a routine measure, as no disease calls for more special selection than eclampsia. When labor is going to continue whether we check convulsions or not, it is best to hasten delivery. If the mental condition is active, the nervous system irritable, it is best to employ chloroform narcosis and dilate with judicious rapidity. He has had 46 cases of eclampsia with four deaths, and he thinks he has prevented a fatal termination in fully a score of cases. In all he has used nitroglycerin, chloral, chloroform and veratrum viride variously according to indications; dry and moist hot packs; saline infusion and injection; and various methods of cervical dilatation. In conclusion, he emphasizes two things: 1. That we can prevent the great majority of cases by careful application of the knowledge we possess; and 2, that in the treatment of cases each must be a law unto itself.

28. **Atony of the Duodenum.**—Knapp reports a case which he diagnosed as atony of the duodenum as against cancer, which was the other opinion given. There was a resistance at the left of the umbilicus running somewhat downward which he attributed to infiltration due to recurring attacks of pain in the abdomen, spasm and bowel distension. His reason for not diagnosing cancer was the intermittent character of the attacks, as in cancer, when the symptoms begin, they are continuous and not readily relieved by enemas, etc. The outcome of the case is given in the printed reports of the Presbyterian Hospital of New York for January, 1902. Operation revealed induration and thickening of the walls of the jejunum nearly obliterating its lumen, to which Knapp attributes the atony of the duodenum.

29. **Exanthemata.**—Somerset reports cases illustrating the difficulties of diagnosis and the differentiation of various exanthematous conditions. He remarks that the eruption of German measles is essentially macular, and only resembles that of scarlatina by confluence. Ordinarily the resemblance is rather to that of measles, but the crescentic arrangement is absent. It differs further from measles in giving a leucocytosis. With more profuse eruption, the resemblance is rather to scarlatina. Mild scarlatina and German measles may resemble each other very closely, but the strawberry tongue is never present in rötheln. The post-cervical glands are often enlarged, but by no means invariably so; conjunctivitis is exceptional; the temperature, pulse and clinical condition will not match the rash in scarlatinal proportion, and the eruption is apt to be patchy. German measles is more apt to be mistaken for scarlatina than scarlatina for German measles. He also reports a case of variola closely resembling varicella, and remarks that variola may abort and present itself in forms so divergent from the type that it deserves to be called varioloid or some other name, were it not that the contagion is as virulent in this case as in the most severe. The last case he reports is one of either quinin or ptomain poisoning resembling scarlatina.

St. Louis Medical Review.

May 23.

30 *The Healing of Granulating Surfaces by Application of Cobalt-aurate Animal Membrane. Warren B. Outten.

30. **Cobalt-Aurate Animal Membrane.**—Outten recommends for granulating surfaces the application of fine gold-beater's skin soaked in a solution of cobalt chlorid, 1 ounce; gold chlorid, 1 dram, and distilled water, 10 ounces. Over this is poured 2 ounces of pure oil of cassia, which is also a germicide. He finds that the skin thus prepared is an excellent application to granulating surfaces. Before applying it the membrane is put in alcohol and allowed to stay there from three-quarters to one hour, and then in water from 98 to 100 F., to remove the excess of oil and alcohol. A few punctures are made through it after it is dried, and it is then applied to the granulating surfaces, and covered with sterile gauze. Another piece of membrane is applied on top of the gauze and over this a layer of sterilized cotton. No dressing which he has used on granulating surfaces is, according to Outten, equal to this.

Cincinnati Lancet-Clinic.

May 23.

31 *Sciatica. G. L. Bailey.
32 Tuberculosis—Sanitation. H. H. Speers.
33 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

31. **Sciatica.**—The use of the hot-air bath with massage offers, according to Bailey, a simple and reasonably certain means of relief in all cases of sciatica not due to pressure or general disease, and the course of the malady can be materially shortened by the use of this treatment.

American Journal of Insanity, Baltimore.

April.

34 *A Contribution to the Study of the Blood in Manic-Depressive Insanity. Jessie Weston Fisher.
35 The Hallucinatory Delirium of Acute Alcoholism. Charles S. Walker.
36 *The Progress of Psychiatry in 1902—Great Britain. A. R. Urquhart.
37 *Puerperal Insanity. Robert Jones.
38 The Care of the Insane. Charles G. Wagner.
39 *Tent Life for the Insane. O. J. Wilsey.
40 A Graded and Systematized Plan of Outdoor Exercise for the Demented Insane. Chester L. Carlisle.
41 *The Final Chapter in the History of an Extensive Injury to the Head. H. P. Frost.

34. **The Blood in Mania and Melancholia.**—Fischer, who has investigated the blood in the so-called manic-depressive insanity of Kraepelin in the Connecticut Asylum, sums up her results in the following statements:

1. There are no pathognomonic blood changes in cases of maniacal phases of manic-depressive insanity. 2. Anemia is not a caus-

ative factor nor always an accompaniment of this psychosis. 3. The hemoglobin and red cells are frequently, if not always, increased during an attack of excitement. 4. A leucocytosis is an almost constant accompaniment and, I believe, a result of psychomotor activity. 5. That an increase in weight accompanies mental improvement.

36. **Psychiatry in Great Britain.**—Urquhart's contribution points out a number of advances in the practical side of psychiatry in Great Britain and notices also certain scientific studies, especially those of Mott in regard to the repair and decay of the nervous system and syphilis as a cause of insanity. There has also been good work done on phthisis and asylum dysentery, and nursing education has advanced. There has been better effort toward the organization of research and the same movement here manifest toward the treatment of incipient insanity in general hospitals has been in evidence in the British Isles. The legal treatment of insanity has been modified and the recognition of partial insanity demanding partial punishment is a notable fact. The works of Dr. Mercier, his psychology and his text-book on insanity are mentioned as the more important book contributions of the year.

37. **Puerperal Insanity.**—Jones recognizes a distinct form of insanity under this head, presenting marked delirium with wildness and hallucinatory delusions with religious and erotic features, which recognition, however, he admits is not in agreement with some high authorities. This is more particularly the insanity of parturition and the period immediately succeeding it. The insanities of lactation and pregnancy have no distinctive characteristics. In the type recognized, excitement is more common than depression, suicidal and infanticidal tendencies are frequent, heredity is marked in about 50 per cent., and while the disorder is usually considered among the curable types, it not seldom ends in terminal dementia. He considers the pathology of the condition, mentioning the possibilities of reflex processes of the crises of child-birth and also the absorption of toxins taken into the maternal circulation and irritating the nervous system. He favors asylum treatment for these cases, good nutrition, and the usual sanitary treatment of the puerperal condition.

39. **Tent-Life for the Insane.**—Wilsey reports an early experience in the Binghamton State Hospital in 1885, when patients were thus treated for certain periods with good results. The cause, however, was the crowding of the asylum rather than any therapeutic intent.

41. **Extensive Brain Injury.**—The case here reported by Frost was first reported by Rutherford in 1857. The man suffered a serious injury to the brain, destroying a large portion of the frontal and parietal bones, with apparent recovery. He was again reported in 1873, and was then in vigorous health; still again by Gray in 1876 and in 1888 by Bergtold under the title "Remote Effects in a Case of Extensive Injury of the Skull." At this time he was showing some physical and mental symptoms, unsteadiness of gait and some paresis of the facial muscles, atrophy in different parts of the trunk and limbs, and while free from delusions and hallucinations, was irritable and emotional. Thirteen years after this was written, in 1901, the patient was admitted to the Buffalo State Hospital for the Insane in a childish, irritable condition and somewhat demented, with paralysis, exaggerated reflexes, unequal pupils, etc. He died two years after entering the hospital, the cause of death being general debility due to his paralysis. The autopsy showed a large deficiency of bone on the right side extending from the external orbital process in front to the anterior margin of the occipital bone behind, and from the middle line above to within an inch of the external auditory meatus. The scalp and dura over this area were firmly adherent. The entire right hemisphere of the brain was markedly flattened and atrophied, the gyri presenting a shrunken or atrophied appearance with gaping sulci between. Microscopic examination showed a marked defect in the white matter with a much less advanced condition in the cortical gray. The theory is advanced that the direct pressure and loss of the protection of the cranial bones had the effect of interfering with the blood supply to the parts, and as the scar tissue contracted, the late symptoms of brain injury appeared. The article is fully illustrated.

American Gynecology, New York.

April.

42 *A Study of the Degenerations and Complications of Fibroid Tumors of the Uterus from the Standpoint of the Treatment of These Growths. Charles P. Noble.
43 Complete Nephro-ureterectomy. J. Wesley Bovée.
44 *Accidental Perforation of the Uterus. Abram Brothers.
45 *Gonorrheal Puerperal Fever. Fred J. Taussig.
46 Congenital Absence of the Uterus. W. A. Newman Dorland.

42. **Uterine Fibroids.**—Noble discusses the subject and points out the dangers of these growths, holding that one-third of the women having fibroids will die if not subjected to operation, while the mortality of myomectomy and hysterectomy is only 2 to 10 per cent. It is a fair conclusion that resort to early operation will affect a saving of 25 to 30 per cent. from the mortality in addition to a still greater saving in the morbidity.

44. **Accidental Perforation of the Uterus.**—Uterine perforation is a much more common accident, according to Brothers, than generally believed. The majority of cases never see the light of day because of the fear of criminal prosecution. It is rare, he thinks, for the condition to terminate fatally and the small mortality can be reduced to less than 1 per cent. if properly treated. He reports his own personal experience with it and reviews published cases. The proper course, he holds, is that when the uterus is perforated by the sound or curette to stop any manipulation of the interior of the uterus, especially uterine irrigations. If the curetting or sounding was preliminary to an intraperitoneal operation, this may be carried out, and the injury repaired with suture, but if no intraperitoneal operation was originally projected the patient can ordinarily be safely put to bed with an ice-bag over the hypogastrium and given morphin or opiates. If the uterus has been injured and the operator has irrigated the uterine interior, there may be a mild local peritonitis, requiring the same method of treatment as above, or a septic peritonitis may call for immediate hysterectomy with drainage through the vagina, or lastly, there may be a localized abscess in the pelvic connective tissue or pelvic peritoneum which may require to be attacked from above or below. Operation in most of these cases will be of the nature of an exploratory laparotomy, and the exact line of work be determined on when the abdominal cavity is opened. When the uterus has been injured and the intestine has been dragged through the wound and strangulated, laparotomy must be done as early as possible, resection of the intestine be performed if necessary, and the uterus repaired or removed as indicated. Even this condition is not necessarily fatal. Miquel has reported five recoveries in eight operations.

45. **Gonorrheal Puerperal Fever.**—The essential points regarding gonorrheal puerperal fever are stated by Taussig as follows: The gonococcus is the etiologic factor in about one-sixth of all cases of puerperal infection, and though almost invariably secondary to the gonorrheal process elsewhere, must be classified under the head of puerperal fever. The gonococcus may gain access to the uterine cavity without any internal examination being made, but more frequently it is brought about by digital examination and operative manipulations, particularly intrauterine, in delivery, etc. The infection shows itself at the sixth or eighth day postpartum by rigors, a temperature of 103 and severe abdominal pains. The fever is usually of short duration and the further course of the disease is mild, but liable to become chronic. Where the temperature begins to rise as early as the sixth day and continues to rise up to 103 or 104, it is still not necessarily caused by mixed infection, but may be due to the gonococcus alone. The diagnosis is based on the rather late onset, the slow, regular pulse, the moderate and steady elevation of temperature, the profuse purulent, glairy discharge, and, above all, the presence of gonococci in the lochia. Prophylaxis is of more benefit than treatment. All pregnant women having gonorrhea should be delivered without internal examination as far as possible. The treatment should be limited to one or two uterine douches, frequent vaginal irrigations and prolonged rest in bed.

American Journal of Obstetrics, New York.

May.

47 A Method of Determining the Internal Dimensions, Configuration and Inclination of the Female Pelvis. Hugo Ehrenfest.
48 *The Rational Treatment of Puerperal Infection. H. G. Wetherill.
49 Puerperal Hematoma; With Report of a Case and Remarks Concerning It. H. R. Coston.
50 Cystic Bladder Mistaken for an Ovarian Cyst. Enrique Fortun.
51 The Treatment of Gonorrhea of the Uterus. George W. Newton.
52 Septicemia with Uncommon Symptoms. John Van Rensselaer.
53 *Pruritus Vulvæ and Allied Conditions. Edward A. Balloch.
54 *The Reason Why Lactation Can Not Be Prolonged Under Existing Circumstances. Jennie G. Drennan.
55 The Uterine Incision in Cesarean Section. Churchill Carmalt.
56 The Surgical Treatment of Uterine Fibroma. Brooks H. Wells.

48. **Puerperal Infection.**—The treatment here advocated by Wetherill consists in rest in bed, no purges, no food by the mouth, lavage if nausea and vomiting occur, rectal feeding with stimulating and predigested foods in small amounts every four to six hours, and salt solution by the rectum, hypodermoclysis or intravenous injection as required. Once a day a cleansing rectal enema. Strychnia or other stimulants hypodermically. For local treatment he believes in the alcohol method of Carossa, using a special double-current drainage tube, which he illustrates, packing the vagina with gauze and having the nurse instructed to inject into the tube at short intervals from two to four ounces of 50 per cent. alcohol, thus flushing and cleansing the uterine cavity and retarding septic diffusion throughout the lymphatics. He leaves the tube and gauze *in situ* for from three days to two weeks, keeping them free from obstruction by a good piston syringe. The results of this treatment, he claims, are excellent. Regarding surgical measures in puerperal sepsis, he adds that his experience with the various methods teaches him to never operate during the acute stage except as a last resort, and then always with the worst possible prognosis.

53. **Pruritus Vulvae.**—Balloch describes the condition and reports a case which terminated in kraurosis, and was operated on by resection. He believes that the success of excision in kraurosis makes it advisable in simple pruritus after a reasonable trial of the ordinary remedies.

54. **Lactation.**—Drennan holds that normal lactation could be kept up for much longer periods than is customary at the present time if only men and women lived in a natural manner and avoided sexual excitement during the function.

Annals of Otology, Rhinology and Laryngology, St. Louis.

March.

57 *Peritonsillar Abscesses. Frederick C. Cobb.
58 Report of a Case of Large Cerebral Abscess Occurring During the Course of an Acute Suppuration of the Middle Ear; Operation; Recovery. J. F. Barnhill.
59 Pachydermia and Carcinoma, with Remarks on the Development and the Microscopic Diagnosis of Carcinoma. B. Fraenkel.
60 *Laryngeal Paralysis as a Primary Symptom of Tabes Dorsalis; With Report of Cases. Lorenzo B. Lockard.
61 *The Treatment of Recurrent Mastoiditis. Edward B. Dench.
62 *The Treatment of Abscess of the Septum, with Special Reference to the Prevention of Subsequent Deformities. C. G. Coakley.
63 *The Removal of the Stapes for the Relief of Auditory Vertigo. Eugene A. Crockett.
64 *A Brief Consideration of Prognosis in Chronic Suppurative Otitis, Based on the Results of a Year's Treatment of Such Cases. Thomas J. Harris.
65 Otosclerosis or Spongifying of the Capsule of the Labyrinth. George E. Shambaugh.
66 Angioma of Nasal Septum. Irving E. Kimball.
67 The Etiology, Pathology and Symptomatology of Acute Suppuration of the Middle Ear. Edward B. Dench.
68 Complications of Acute Middle-Ear Suppuration. James B. Clemens.
69 The Etiology, Pathology and Symptomatology of Chronic Purulent Otitis Media. M. D. Lederman.
70 Complications of Chronic Suppuration of the Middle Ear. Robert Lewis, Jr.
71 The Treatment of Chronic Suppuration of the Middle Ear. James F. McKernon.
72 The Preferable Route to the Accessory Cavities of the Nose in the Treatment of Chronic and Obstinate Suppurations. L. Picque and J. Toubert.
73 Treatment of Acute Suppuration of the Middle Ear. Wendell C. Phillips.

57. **Peritonsillar Abscess.**—The title of this paper, the author says, should perhaps have been "the location of pus in peritonsillar abscess," as that is the point to which he directs special attention. He finds three locations claimed as possible situations: 1. The pharyngomaxillary fossa; 2, the supratonsillar fossa; 3, the loose connective tissue underneath the mucous membrane surrounding tonsil or fossa. From his discussion of the anatomic conditions he concludes that the real site of the abscess is in the areolar tissue. The practical points of incision are given by him as follows: An upward and backward one, using a straight knife for anterior-superior cases; while for postero-superior an outward incision between posterior pillar and tonsil, with a right-angled knife, is advised.

60. **Laryngeal Paralysis in Tabes.**—Lockard concludes that laryngeal paralysis is present as a complication in about 15 per cent. of all cases of tabes and may precede all other symptoms from six months to three years. It is always limited to the posticus muscle and is usually, if not always, unilateral. It usually remains limited to this muscle for years or during life. This primary paralysis is fairly common, but owing to the lack of subjective symptoms the true percentage can not be ascertained. When the cause of abductor paralysis can not be correctly ascertained tabes should be thought of. It is frequently of great diagnostic importance, drawing attention to the general condition and sometimes reveals an unsuspected ataxia. Wherever the diagnosis of tabes is doubtful, a laryngeal examination should be made, whether or not there be subjective laryngeal symptoms. He reports cases.

61. **Recurrent Mastoiditis.**—Within the last few months Dench has operated on nine cases in which a previous mastoid operation had been performed and persistent sinusitis or recurrent inflammation occurred. In every case the exposure revealed dead bone in the tympanic vault and other anomalies in the walls. It is his practice in these cases to perform the ordinary Stacke-Schwartze operation, and he believes that we should not be content with relieving the immediate acute symptoms by doing a simple mastoid operation in acute mastoiditis. Wherever he finds that the patient has had an aural discharge previous to an acute attack he immediately does the radical operation.

62. **Septal Abscess.**—Coakley employs the Simpson tampon in cases of septal abscess to keep the two layers of the muco-perichondrium in close juxtaposition during healing and at the same time to help bear the weight of the superimposed soft parts until the newly-formed connective tissue is of sufficient density to support them unaided. At the end of a week some form of hollow nasal splint may be substituted for the Simpson tampons to prevent the continuation of mouth breathing.

63. **Auditory Vertigo.**—Crockett advises in the severe form of auditory vertigo, after ordinary treatment has proved futile, the removal of the stapes, and reports cases. His technic is as follows: A flap is made of practically the whole posterior quadrant of the membrane, putting the knife in behind the umbo and carrying it upward close to the posterior edge of the malleus, then across posteriorly and down the posterior superior wall. This flap is then turned downward. The incudostapedial articulation is then cut, if possible, from behind forward. The long process of the incus is then seized with a Sexton forceps and the ossicle removed by traction. The stapedius tendon is then cut and a blunt-pointed hook passed between the crura and the stapes and the stapes removed by traction a little upward and outward. The operation is very painful and generally an anesthetic is advisable. In both cases which he reports total deafness resulted. There was also an increase of tinnitus, which he attributes to hemorrhage in the internal ear, but the ultimate results were good. He advises also always to explain the fact that total deafness may be the result of the operation, though the tinnitus may be ultimately relieved.

64. **Prognosis in Chronic Suppurative Otitis.**—From his study of the subject, Harris offers the following deductions:

1. Chronic otorrhea in a large percentage of cases is amenable to suitable medical treatment. 2. In addition to proper attention of a general character and to the naso-pharynx, peroxid of hydrogen, with or without formalin solution, gives the best results, all minor operative procedures of course first being attended to when necessary. 3. The results of such treatment are in a good number of cases permanent. 4. The risk of an uncured otorrhea with good drainage is relatively very small (1/2 or 2/3 of fatalities). 5. Medical treatment failing, after a suitable interval of time, the danger of fatal complications in absence of all symptoms should be laid before the patient and the promise of relief by operation

stated. 6. Where there is no good reason to the contrary, such as intracranial or mastoid complications, the intratympanic method by ossiculectomy should be preferred, (*a*) because its results as regards the cure are equally good; (*b*) the risk of loss of hearing is vastly less; (*c*) the danger of unpleasant sequiæ, such as facial palsy, is avoided, and (*d*) the possibility of prolonged after-treatment is obviated. 7. The radical operation is not without risk of life. 8. Where ossiculectomy fails or mastoid or other symptoms exist pointing to extension of the disease into the bone, the radical operation then becomes the suitable and valuable method of relief. 9. The protecting and assisting power of nature is never to be lost sight of.

Archives of Ophthalmology, New Rochelle, N. Y.

May.

74 *The Proper Division and Fixation of the Skin Flaps in the Operation for Cicatricial Ectropium to Prevent Re-eversion. F. C. Hotz.
75 Chronic Empyema of the Ethmoidal and Frontal Sinuses, with Exophthalmos; Operation; Death from Meningitis; Autopsy. Arnold Knapp.
76 Y-Shaped Rupture of the Choroid in the Macula Region with Retention of Good Vision. J. J. Mills.
77 A Contribution to the Pathology of Anomalies of the Vessels and the Formation of Stripes in the Retina. Rudolf Schilling.
78 The Antiseptic Tattooing of the Cornea. L. DeWecker.
79 On the Histology of Bullous Keratitis in Glaucomatous Eyes. G. E. de Schweinitz and E. A. Shumway.
80 A Test for Central Color-Perception. Percy Fridenberg.

74. **Cicatricial Ectropium.**—Hotz reports a method of preventing the after-contraction of the lids in the operation for cicatricial ectropium. He avoids traction of the shortened flap on the lid border by dividing the wound area into two sections, one representing the surface of the lid and the other section the wound surface beyond the lid, covering each section with a separate skin flap, anchoring the flap and covering the lid surface so securely that the contraction of the other flap can have no effect on it. In the case of cicatricial ectropium of the upper lid he anchors the lid flap to the tarsus, and in the lower lid to the tarso-orbital fascia. The technic is described in detail.

International Medical Magazine, New York.

May.

81 *Membranous Croup and Diphtheria. J. A. Ellegood.
82 *A Provisional Pathology of Graves' Disease. Edward Blake.
83 *The Physiologic Basis of Manual Therapy and the Rôle of the Vasomotor Mechanism. John P. Arnold.
84 Adrenalin Chlorid in Pulmonary Hemorrhage and Epistaxis. Edward A. Robinson.

81. **Membranous Croup and Diphtheria.**—From a careful consideration of the subject Ellegood concludes that there is no such disease as true membranous croup; that pseudo-membranous inflammation of the mucous membrane of croupous or diphtheritic type, whether or not followed by paralysis, is always caused by the Klebs-Loeffler bacillus in some phase of its existence. This bacillus is a facultative saprophyte. The virulent and the non-virulent types are of the same genus of micro-organisms, and the non-virulent type is the same organism undergoing a kind of saprophytic state of existence which is interpolated in the life history of the parasitic bacillus. The degree of toxicity manifested depends on certain unknown vital conditions of the micro-organism, and on the anatomic character of the part attacked, the degree of immunity possessed and the effect on the germs and its toxins of associated bacilli. Isolated cases of diphtheria, or those which do not give rise to infection, are as frequent as the cases of membranous inflammation of the larynx in which the membrane is confined to that organ without giving rise to infection or to the constitutional symptoms of diphtheria. The failure to find the specific bacillus in a small proportion of cases is due to faulty technic, the late stage in the disease at which the bacteriologic examination was made, unknown morphologic conditions of the micro-organisms, to the development of peculiar or unusual relations to staining reagents, to autolysis, or to the action of other bacteria. Antitoxin when administered early in uncomplicated cases is an almost unfailing remedy, and is useful in all cases. He holds that the occurrence of the bacillus in healthy persons should be carefully investigated, as they are as dangerous as diseased ones.

82. **Exophthalmic Goiter.**—The pathology of Graves' disease offered by Blake is that it is a sort of petrified terror. He thinks there are a number of agencies that can produce this condition, such as staphylotoxin, streptotoxin, intestinal poisons, malarial plasmodium, septic products and probably vitiated respired air, and possibly other causes. He considers the success of iodids and fluorids in this disease as due to their antitoxic and germicidal products. The real aim of treatment should be to attack its cause. He has witnessed cases of the disease which recovered rapidly after removal of colonies of staphylococci and streptococci from the buccal and pelvic cavities.

83. **Manual Therapy.**—The basis of manual therapy, according to Arnold, can be looked for in the vasomotor mechanism. This should be thoroughly understood by the physician.

Therapeutic Gazette, Detroit, Mich.

May 15.

85 *A Preliminary Note on Some Experiments to Determine Whether Alcohol Does Good in Infections by Increasing the Bacteriolytic Power of the Blood. H. A. Hare.
86 Treatment of Conjunctivitis, Corneal Opacities and Syphilitic Iritis. Edward Jackson.
87 *The Preparation of Patients for Anesthesia. John G. Clark.
88 *The Choice of an Anesthetic. Gwilym G. Davis.
89 *The Methods of Administration of Anesthetics. Edward Martin.
90 *Potassium Iodid in Migraine. J. R. Clemens.
91 On the Therapeutic Value of the Nuclein Compounds. James Burnet.

85. **Alcohol.**—This experimental investigation by Hare leads to the conclusion that alcohol seems to have the power of increasing the bacteria-destroying action of the blood in infectious diseases, and while the experiments thus made are too few to determine the question and are also somewhat contradictory, they indicate, so far as they go, that this effect is produced, to some extent at least, by an increase in complement.

87. **Anesthesia.**—The preparation of the patient for the anesthetic is the subject of Clark's paper, which points out the pulmonary conditions contraindicating anesthesia, among the first of which he includes bad colds. The patient suffering from coryza runs the risk of pneumonia, and this is a serious contraindication to anesthesia. A cold is almost invariably made worse by an anesthetic. In chronic bronchitis, however, the anesthetic may even improve matters. The stimulation of the ethereal irritating vapor apparently assists in overcoming the chronic bronchial inflammation. Pulmonary tuberculosis, if localized with sufficient lung space still for respiration, is not, as a rule, rendered worse. Chronic emphysema is always a serious contraindication. In heart troubles the danger is not from profound anesthesia, but rather from the early stages of its administration. The stage of excitement should be avoided as much as possible by giving ether or chloroform very slowly, so that the passage between consciousness and deep anesthesia is very gradual. As a rule, therefore, cardiac lesions are not contraindications, unless there is a serious failure in compensation. Next in importance he insists on careful examination of the urine. Renal insufficiency with a small trace of albumin is much more significant of danger than a considerable amount of albumin with an approximately normal quantity of urine. He has found that ether rarely produces serious kidney lesions if the anesthesia has been in skilled hands. The chief indication, admitting the contraindications mentioned, is to directly evacuate the alimentary tract and to cleanse the blood of the by-products that are to be excreted by the kidneys, so that in the one or two days following the operation the patient's excretory apparatus may undertake unhindered the elimination of the nitrogenous and waste products arising from the ether intoxication and from the increased metabolism incident to any operation or infection. He advises the use of an increased amount of fluids up to two hours before the operation, so as to increase the watery constituents of the blood and dilute the irritant products, and gives calomel in .5 gr. doses every half hour until two grains are taken, followed by an enema three hours before the operation. Bromids, morphin, etc., to prevent nausea have not been satisfactory. The other minor details, such as the removal of false teeth, the abstinence from food for six hours, are well known.

88. **The Choice of an Anesthetic.**—Davis holds that ether is generally to be used unless it is contraindicated, but he has seen fatal results, and emphasizes that it also requires the exercise of care and precaution in its use. He would prefer Willy Meyer's anesthol to chloroform, but ether is less depressing and, therefore, is to be used in preference to either

wherever shock is liable to be a prominent factor. In very old persons the tendency to bronchitis makes chloroform the more desirable, and also in lung troubles and in alcoholics. In certain operations on the brain, mouth or throat, chloroform or anesthol is to be preferred. In genitourinary work he would prefer ether. The preceding administration of nitrous oxid has much to recommend it as rendering anesthesia easier and more satisfactory. Nitrous oxid gas is familiar to every one. Bromid of ethyl is hardly a safe anesthetic, and he does not recommend it. Kelene or ethyl chlorid is considered by Ware of New York as about midway in safety between nitrous oxid and ether. In conclusion he calls attention to the primary anesthesia which can be obtained with ether, and which will be found in many cases for short operations perfectly satisfactory, and yet not have the uncomfortable after-effects of full anesthesia.

89. Anesthesia.—Martin would use nitrous oxid for brief operations, ethyl chlorid for fast work to some extent, though its safety is still a matter of question. Ether is the best and safest anesthetic for major surgical procedures. Chloroform can be used in brain surgery and in patients suffering from inflammatory lesions of the air passages. It has been clearly shown that its irritating effect on the kidneys has been greater than that of ether.

90. Potassium Iodid in Migraine.—Clemens has been lately prescribing potassium iodid to the exclusion of all other drugs in migraine headache, and the results have been so remarkable that he offers his experience to the profession. The reasons which induced him to give it were the similarity between migraine and cerebral syphilis and the raised arterial tension. He gives 5 to 10 grains of potassium iodid three times daily and finds that after two or three weeks the headache is completely eradicated. He has not met a case that was not absolutely cured. He notes as a significant point in treatment that the headache can be recalled by simply discontinuing the drug for a few days.

Medical Examiner and Practitioner, New York.

May.

92 The Diagnosis and Treatment of Uterine Displacements. William M. Polk.
93 Concerning Wandering Spleen. Heinrich Stern.
94 Various Types of Open or Compound Fractures of the Members. Thomas H. Manley.
95 A Résumé of the Most Potent Factors of Disease and Death in the World's History, with a Review of Modern Prophylaxis. W. H. Irvine.
96 Fallacies of Sugar and Albumin Tests. M. E. Chartier.

Medical Sentinel, Portland, Ore.

May.

97 Report of a Case of Interutero-Placentary Hemorrhage. H. A. Castle.
98 Needle Holders and Needles—A Needle Holder with Normal Curve Jaws; Curved Needles with Round Shaft. R. C. Coffey.
99 Report of a Case of Tubal Pregnancy Treated Through Vagina. T. F. Smith.
100 Foreign Bodies in the Appendix. Ernest Hall.

California State Journal of Medicine, San Francisco.

April-May.

101 Correction of an Imperfect Operation. George B. Somers.
102 Tropical Diseases in California. Wm. W. Kerr.
103 How Far Shall the State Restrict Individual Action of the Sick, Especially the Tuberculous? Norman Bridge.
104 Intra-abdominal Shortening of the Round Ligaments for Retrodisplaced Uteri. J. Henry Barbat.
105 Puerperal Eclampsia. H. M. Pond.

Southern California Practitioner, Los Angeles.

May.

106 The Bible of the Anesthetist. F. D. Bullard.
107 The Importance of Early Diagnosis and Treatment in Diseases and Injuries of the Eye. W. Edward Hibbard.
108 The American Italy. Charles E. Nammack.

New Yorker Medicinische Monatschrift.

March.

109 Ueber Gewebswiderstande bei Carcinomen mit starker Zellproliferation. F. Maass.—Tissue Resistance in Carcinoma, with Excessive Cell-Proliferation.
110 Ueber die Einrichtung von medicinischen Privatbibliotheken. W. Mueller.—On the Arrangement of Private Medical Libraries.

Albany Medical Annals.

May.

111 Recent Studies Regarding the Morphology of the Diphtheria Bacillus. Arthur T. Laird.
112 Chronic Hydrocephalus, with Report of a Case Associated with Gigantism. George G. Lempe.
113 Hip-joint Deformities. Charles E. Davis.
114 Report of a Case of Enlarged Prostate. Douglas C. Moriarta.

Kingston Medical Quarterly.

April.

115 Sawdust and Fish Life. A. P. Knight.

Nashville Journal of Medicine and Surgery.

April.

116 Abortion. G. W. Moody.
117 A Simple Operation for the Cure of Hydrocele. Jas. K. Blackburn.

Medical Summary, Philadelphia.

May.

118 A Young Surgical Case. Frank R. Brunner.
119 Remarks About Tonics. W. R. D. Blackwood.
120 Membranous Croup. M. G. Price.
121 Typhoid Fever. A. J. Shore.
122 The Treatment of Nervous Insomnia. S. Warren Reichard.
123 One Way of Treating Peritonitis. Wm. H. Vail.
124 Physician and Patient. C. E. Boynton.
125 Physiologic Metaphors. J. L. Wolfe.
126 Selection of Food According to the Purposes to Be Accomplished. J. J. Caldwell.
127 Appendicitis. L. A. Kelly.

Vermont Medical Monthly, Burlington.

April 25.

128 Artificial Infant Feeding. Godfrey R. Pisek.
129 The Relative Importance of Heredity, Susceptibility and Contagion in the Development of Tuberculosis. Charles S. Caverly.
130 The Logic of the Open Air Treatment of Tuberculosis. C. W. Peck.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

April 30.

131 *The Surgical Treatment of Pruritus Vulvæ, with the Report of a Case Cured by Resection of the Genitocrural Ilioinguinal, Inferior Pudendal and Superficial Perineal Nerves. Barton C. Hirst.
132 Sudden Death. William S. Wadsworth.
133 Some Biological Differences between the Natural and the Artificial Feeding of Infants. David L. Edsall.
134 Milk as a Carrier of Infection. Samuel M. Hamill.

131. This article appeared elsewhere. See THE JOURNAL of May 30, ¶18, p. 1535.

Alabama Medical Journal, Birmingham.

May.

135 Annual Message of the President of the Medical Association of the State of Alabama. Glenn Andrews.
136 Monitor's Address. C. H. Franklin.
137 Report of the Senior Vice-President. M. B. Cameron.
138 The Operative Relief for Albuminuria. George S. Brown.

Medical Herald, St. Joseph, Mo.

May.

139 Eye Troubles in General Practice. George Park.
140 Hydrocephalus, or Tumor of the Brain. W. R. Brock.
141 The Need of National Leprosaria. A. L. Belt.
142 The Psychological Factor in Medicine and Its Application to Nervous Diseases. John Punton.
143 Report of Cases: 1, Sarcoma of the Pelvic Fascia; 2, Malignant Tumors of the Fundus of the Uterus Associated with Myoma; 3, Three Cases of Ileus. O. Beverly Campbell.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 16.

1 *On the Physiologic Action of the Kenyah Dart Poison and Its Active Principle Antiarin. C. G. Seligmann.
2 *Drug Eruptions. George Pernet.
3 Datura Poisoning in the Federated Malay States. John D. Gimlette.
4 *Experimental Hemoglobinuria in a Case of Black Water Fever. Patrick Manson. Reported by W. G. Ross and Geo. C. Low.
5 Hodgkin's Disease and Arsenical Poisoning. Walter Broadbent.
6 Case of Severe Belladonna Poisoning. George R. Livingstone.
7 Case of Chlorodyne Poisoning, with Recovery. K. R. Dalal.
8 Case of Acute Alcoholic Poisoning in a Child Aged 4 Years; Treatment by Saline Injection; Recovery. Frederick C. Forster.
9 Cases of Angioma of Synovial Membranes and of Muscle. Frederick Eve.

1. Antiarin.—Seligman has investigated the action and active principle of the Kenyah dart poisoning of Borneo and its active principle, antiarin, and finds that it acts on the ventricle of the heart as a poison of the digitalis group. This has been noted by all previous observers. It also causes paralysis of the central nervous system and temporary chronic spasm of the

voluntary muscles. In mammals or birds the gastro-intestinal symptoms are usually added to the above effects, though certain birds, however, are comparatively immune. His preparation of antiarin, a crystalline glucoside, lacked the convulsive effect of the crude substance, Kiliani's antiarin investigated by Hedbom, though as a cardiac toxin it was fully as active.

2. **Drug Eruptions.**—The drug eruptions noted by Pernet are erythematous, urticarial, papular and desquamating rashes produced by belladonna, arsenic, iodoform, copaiba, quinin and salicin, digitalis, etc. Borax has been said to cause psoriasis. He questions this statement, but admits that it is possible. Chloral hydrate deserves special notice. The eruptions produced are usually erythematous in type. He also mentions the erythema following chloroform and ether and the antitoxin rashes. The diagnosis is noted at length. Erythema multiforme, he remarks, has been closely imitated by drug rashes. In the arsenic beer poisoning epidemic in England recently, many of the cases closely resembled this type. When psoriasis, lichen planus or syphilides are simulated the duration of the corroborative symptoms should be taken into account. Headache, for example, would suggest antipyrin. If copaiba is suspected, a gonorrheal discharge will be of assistance. In localized dermatitis he suggests our looking out for the pediculus pubis and the application of mercurial ointment. The vesicular and bullous lesions are at times mixed up with erythematous and papular ones, indicating severer action of the drug. Salipyrin has produced something in this line. The author remarks that bullous eruptions are greatly aggravated by potassium iodid given internally. Arsenic may give rise to zoster. The iodid of potassium eruptions are more commonly pustular, but vesicles and bullæ are sometimes seen. Of the pustular eruptions those of bromid and iodid origin are the more notable, but arsenic, salicylic acid, etc., have occasionally produced them. The distinctive characteristics of the bromid and iodid rashes are noted. Furuncular complications sometimes occur from the use of these drugs, and gangrene has been produced by arsenic, quinin and also after orthoform locally applied. (The author does not mention the carbolic acid gangrene in this connection.) Pigmentation is a matter of interest and importance and has lately been prominently brought before the medical profession by the Manchester arsenical epidemic. The argyria produced by the nitrate of silver formerly used for epilepsy is a notable instance of this type. Keratosis or hyperkeratosis is seen in arsenical poisoning. Tumor-like lesions may occur in bromic or iodid eruptions. The condition of the nails and hair should be noted in connection with arsenical and quinin intoxication. He suggests as regards etiology that the gastrointestinal condition may be of importance. The nervous system can not be neglected, though its influence has been overrated. There is a great difference in individuals, though raising the question of idiosyncrasy, he says, "burkes the question of causation." In the treatment the first thing to do is to stop the offending remedy. A certain amount of diarrhea in these cases should not be interfered with. It is important not to push drugs which, instead of ameliorating morbid skin conditions, do exactly the contrary. In bromid eruptions arsenic is of assistance. The prognosis is favorable as a rule, though hopeless in the nitrate of silver cases. These, however, are rare nowadays.

4. **Experimental Hemoglobinuria.**—Manson reports the case of a young man who believed that the administration of quinin produced blackwater fever, and was perfectly willing to have the effect demonstrated. The observation was made and a mild case of blackwater fever produced. The case is one more proof that in some individuals, under certain unknown conditions, quinin produces hemoglobinuria.

The Lancet, London.

May 16.

10 Combined Congenital Defects and Organic Disease of the Heart. Thomas Oliver.
11 *The Uses of Paraffin in Plastic Surgery. Stephen Paget.
12 Abdominal Hysterectomy for Myoma by Doyen's Procedures. Walter G. Spencer.
13 A Case of Acute Bullous Eruption Affecting a Butcher. Arthur S. Morley and G. H. Ransome.
14 *A Case of Bullet Wound of the Brain, with Partial Motor Paresis and Hemianopsia. N. Bishop Harman and A. A. Bradburne.
15 Case of a Man Blind from Congenital Cataract Who Acquired Sight After an Operation When He Was 30 Years of Age. A. Maitland Ramsay.
16 Some Observations on the Blood Gases in Diabetes. A. P. Beddard, M. S. Pembrey and E. I. Spriggs.
17 Surgical Emergencies in General Practice. George A. Clarkson.
18 Cessation of Respiration During Anesthesia; Recovery After One and a Quarter Hours. David Lamb.
19 *Note upon the Use of Pilocarpin in the Treatment of Pneumonia. E. Curtin.

11. **Paraffin Prothesis.**—Paget first reviews the history of this method, giving full credit to Gersuny as its originator, and describes the technic, preferring the heating point for paraffin between 108 and 115 degrees F. in ordinary cases, but where it has to stand heavy and immediate pressure the higher heating point is desirable. All paraffin shrinks, but this is slight and may be practically ignored. He has done 43 cases of nose remodeling without accident, with no death, no embolism, no sloughing of the skin and no wandering of paraffin into the eyelids. The results were permanent in some cases, improvement in some is only partial, others fairly good, and in still others but slight. Some cases that seem hopeless do very well, and others that look easy are found difficult. While the chief causes of shrunken noses are injury, inherited and acquired syphilis, there is a set of cases where it is due to abscess in the nose in childhood and others where there is no history at all. The skin in these cases must be loose and not cicatricial. That is the most important thing in results. If it is fairly loose, soft and healthy, and it can be picked up between the finger and thumb, one can be sure of doing good, but there is danger of failure and disappointment if it is tight and hidebound or cicatrized and fastened by adhesions. He mentions in conclusion the use of paraffin for the holding up of the prolapsed bowel or uterus. He would not advise it in uterine cases if the pessary will make the patient comfortable, for there is a slight risk of embolism. The general procedure is much the same in both, only that in the uterus the prolapse may need a large quantity of paraffin and care should be taken to avoid the bladder or rectum. The bulk of the paraffin should be put under the mucous membrane of the posterior vaginal wall and at the sides of the vagina. In the cases he operated on for this purpose his success astonished him. It should not be used, however, in cases during the child-bearing period, as it prevents this function.

14. **Brain Injury.**—Harman and Bradburne report the case of a man shot through the head in the Boer war, giving diagrams showing the exact course of the bullet, which passed from the anterior portion of the parietal down to near the external occipital protuberance, the wound being clean both in entrance and exit. The patient had a transient motor paresis and hemianopsia. The former was nearly recovered from while the latter seemed to be permanent. One point of importance is specially mentioned, the rim of blindness found along the left side of the left field, indicating the existence of a defect in the area held to be supplied by nerve fibers connected with the right uninjured hemisphere. This can be accounted for either according to the Charcot hypothesis of a double decussation of the optic nerve and its connections, one at the chiasma and another in the hemisphere, or the supposition of an injury also to the right hemisphere. The latter is the theory that is favored. The general conclusion from the case is that the central area of the visual field has its cortical connection toward the apex of the cuneus, and supports the view that the perceptive center for vision is situated in the occipital and cuneate regions rather than in the more anterior angular gyrus. The case gives no information as regards the psychic visual center.

19. **Pilocarpin in Pneumonia.**—Several cases are reported in which pilocarpin injected in doses of 1/10 of a grain hypodermically caused almost immediate arrest of the unpleasant symptoms of pneumonia, also diminished pleuritic pain, etc. From his limited experience Curtin concludes that pilocarpin will have a leading place in the treatment of pneumonia, relieving the pain and breathing and sometimes also hastening resolution by exciting glandular secretion. Its administration in most cases is followed by an immediate rise of temperature of ½ to 1½ degrees. One-tenth of a grain dose hypoderm-

ically does not cause profuse perspiration, and but rarely fails to reduce the temperature within an hour or two. It also cleans the tongue and stimulates the flow of saliva. He has not noticed its repeated administration attended by any undesirable results. As a precaution he emphasizes the importance of keeping the patient warm, especially the feet.

Australasian Medical Gazette, Sydney.

April 20.

20 The Physiology of Voluntary Movements. George E. Rennie.
21 The Causes and Prevention of Death from Chloroform. W. B. Vance.
22 Ether Anesthesia in Children. R. B. Wade.
23 Post-Operative Suppression of Urine. William S. Byrne.
24 A Simplified Method of Accurately Estimating Degrees of Leucocytosis. F. Guy Griffiths.
25 A Case of Crossed Hemiplegia and Convulsions in an Infant Six Weeks Old. H. G. Holmes.

Journal of Tropical Medicine, London.

May 1.

26 Tropical Hygiene. W. J. Simpson.
27 *Experimental Hemoglobinuria in a Case of Blackwater Fever. W. G. Ross and George C. Low.
28 Filaria Loa. A. T. Ozzard.
29 Notes on a Case of Ulcerating Granuloma of the Pudenda. W. Renner.
30 Treatment of Beri-beri with Arsenic at the District Hospital, Kuala Lumpur, Selangor. A. J. McClosky.

27. See Paragraph 4 above. The authors here suggest that the antecedents of the case seem to indicate that the hemoglobinuric idiosyncrasy may have been due to neglect of the use of quinin in the earlier stages of what may be a special form of malarial infection, and consequent development of an intense and peculiar cachexia.

Annales Pasteur, Paris.

Last indexed page 408.

31 (XVII, 1.) Nouvelles recherches sur l'arsenic de l'organisme. G. Bertrand.
32 New Lactose Yeasts. P. Mazé.—Qelques nouvelles races de levures de lactose.
33 Influence de la configuration stéréochimique des glucosides sur l'activité des diastases hydrolitiques. H. Pottevin.
34 Etudes sur l'hemolyse. H. Landau.
35 Antimalaria Campaign in Algiers. E. Sergent.
36 Méthode d'hydrolyse des protoplasmides. A. Etard.
37 (No. 2.) Epithélioses infectieuses et epithéliomes. A. Borrel.
38 Encouraging Report of Serum Treatment of Sheep Pox. Ibid.—Etude exp. de la clavelée. Filtration du virus; seroclavelization; serothérapie.
39 *De la fixation de la toxine tétanique par le cérébrum. Besredka.
40 Recherches sur les "propriétés antitétaniques" des centres nerveux. de l'animal immunisé. K. Dmitrievsky.
41 (No. 3.) Sur le mode d'action des antitoxines sur les toxines. J. Bordet.
42 Sur les hemolysines cellulaires. C. Levaditi.
43 Sur la flore microbienne thermophile du canal intestinale de l'homme. Tsiklinsky.
44 Study of South American Horse Disease. Elmassian.—Sur le mal de caderas.
45 Le Bacillus subtilis comme cause de la panophthalmie chez l'homme. W. Silberschmidt (Zurich).
46 Sur un nouveau streptothrix—St. polychromagène. H. Vallée (Alfort).
47 Rabies Virus in Local Lesion in Child. D. Pace (Naples).—Sur l'existence du virus rabique dans le siège de la morsure d'un enfant mort de la rage.
48 Le rabies dans l'Afrique du Sud. A. Loir.
49 Colorabilité des bacilles de Koch dans les sputa incorporés à diverses substances. J. Sabrazès (Bordeaux).

39. **Fixation of Tetanus Toxin by Brain Substance.**—Even after the brain substance was thoroughly saturated with the tetanus toxin in Besredka's experiments, it completely recuperated and regained its primary integrity on addition of antitoxin. The tetanus toxin, therefore, does not form a stable combination with the brain substance, as it can be thus readily dislodged.

L'Obstetrique, Paris.

Last indexed xxxix, page 1011.

50 (VII, 6.) *Fate of Prematurely Born Infants. C. Maygrier.—Deux statistiques hospitalières de prématurés (Lariboisière 1895-98, and Charité 1898-1901.)
51 *Lactation During Pathologic Conditions. P. Budin and M. Perret.—De l'allaitement pendant les suites de couches pathologiques.
52 Des paralysies faciales spontanés du nouveau-né. O. Macé.
53 (VIII, 1.) La mortalité infantile de zéro à 1 an. P. Budin.
54 Infection puerpérale et hystérectomies. O. Macé. Critical review.
55 (No. 2.) Des assurances sur décès des enfants. P. Budin. See abstract, p. 1110.
56 Rapport sur l'unification de la nomenclature obstétricale. P. Bar.
57 Measurements of Fetal Head. Vallois.—Note sur les diamètres de la tête fetale à terme.

50. **Fate of Prematurely-Born Infants.**—Maygrier has found that 45 out of 48 infants born soon after the sixth month and weighing less than 2.500 gm., followed to date are alive and well. The mortality was 19.4 per cent. out of 597 such births at Lariboisière Hospital and 10.12 per cent. in 316 at the Charité.

51. **Lactation During Disease.**—Budin describes 19 cases of grippe, uterine, puerperal or other infection occurring in women nursing new-born infants. The breasts were washed with a weak solution of sublimate and then with boiled water before the child was nursed, and he was kept entirely away from the mother during the intervals between nursing. No unfavorable results were noted in any instance.

Revue de Gynecologie, Paris.

Last indexed page 408.

58 (VII, 1.) *Sur l'utilisation de la leucocytose dans le diagnostique de certaines affections génitales de la femme. L. Bérard and A. Descos (Lyons).
59 *Phimosis du cervix par cloisonnement transversal incomplet de l'extrémité supérieur du vagin. Dysmenorrhée mécanique d'origine vaginale. C. Viannay (Lyons).
60 *Intravesical Segregation of Urine from Each Ureter. G. Luys.—De la méthode de séparation de l'urine des deux reins dans la vessie.
61 *Ibid. F. Cathelin and F. Legueu.—Resultats cliniques de la séparation endovésicale des urines avec le diviseur gradué.
62 (No. 2.) *Condition of Adnexa in Case of Uterine Fibromata. C. Daniel.—De l'état des annexes dans les fibromes utérins. (Commenced in No. 1.)
63 Etude clinique et anatomo-pathologique de la cholecystite calculeuse. V. Cornil and E. Schwartz.
64 *Enterectomie aseptique. Enterorrhaphie circulaire rapide par la suture; instrumentation et technique opératoire. E. Vidal (Périgueux).

58. **Diagnostic Value of Leucocyte Count.**—The findings were so constant in 25 cases of gynecologic affections in which the blood count was carefully studied that Bérard and Descos affirm with great positiveness that it is possible to determine by the leucocyte count whether or not there is suppuration and whether the germs are virulent or not. In affections in the female genital sphere when the leucocytes number 12,000 to 13,000 or more, with decided increase in the polynuclear cells—80 to 85 per hundred—some suppurative lesion exists or is forming, as, for instance, an infected hematocele. The pus is virulent. Intervention should be postponed if possible. If operation is necessary it should be by the vaginal route, and strenuous efforts made to prevent sowing the germs on the peritoneum. When the leucocytes number 10,000 or under, either there is no pus or it is scarcely at all virulent, and operation can be undertaken with the peritoneum walled off from the field with tampons and sponges. In case of profound infection, the leucocytosis indicates the moment for surgical intervention. While awaiting it the general condition should be improved, by injections of serum, fixation abscesses, etc., until the acute phase is past and the leucocyte count shows that the virulence is becoming attenuated. This is especially necessary in case of streptococcus infection. If the leucocyte count drops from 25,000 to 12,000 or thereabouts, the germs have lost their virulence or else the reaction on the part of the organism is so decided that the surgeon can operate without fear. Of course when there are other clinical symptoms of severe infection and the leucocyte count remains constantly low, the prognosis is grave as this signifies that the cellular defenses are unable to cope with the virulence of the infection.

59. **Vaginal Mechanical Dysmenorrhea.**—Menstruation proceeded normally for two years in the case described, but after an attack of scarlet fever it was always painful. Examination disclosed a stricture in the vagina just below the cervix, nearly obliterating its lumen.

60 and 61. **Segregation of Urine in Bladder.**—Luys' instrument has been used in 85 cases and Cathelin's in 83. Both give satisfactory results according to the writers, and are described in detail with 10 and 11 cuts and a colored plate.

62. **Condition of Adnexa in Case of Uterine Fibromata.**—Daniel concludes from anatomic study of 205 cases and analysis of 136 published, that the tubo-ovarian apparatus is pathologic in fully 59 per cent. of all cases of uterine fibromata, if not macroscopically, at least microscopically and histologically. There are evidences of inflammation in about half this number,

but in the others the influence of the fibroma is manifested in circulatory disturbances secondary to the action of the pelvic varicocele or to mechanical irritation of the peritoneum by the tumor or in the general influence of the neoplastic diathesis. Neoplastic affections in the uterus are, therefore, reflected in the adnexa as well as the inflammatory. In some cases the symptoms from the annexes are the first to suggest the tumor formation.

64. **Aseptic Enterectomy and Suture.**—Vidal thinks that he has solved the problem of opening the intestine late in the operation, with solid union of the two serous surfaces during the suture, and a firm support for the suture which does not have to be left in the intestine. After clamping and ligating, he resects the intestine and brings the two ligated stumps together. He inserts in each stump, close to the end, an instrument he has devised which folds together flat until it looks something like an ordinary buttonhook. The curved end is worked through a small buttonhole in the intestine close to the ligated stump. The instrument is then opened and the two half circles form a solid ring, which is pressed against the ligated end, stretching the lumen. A second, similar instrument is introduced into the other stump to correspond. The two stumps are thus stretched as if on hoops, and by pressing these two hoops together, the stumps are approximated and can be conveniently sutured. The ligature is tied in a special knot, which is untied by pulling on the end projecting through the buttonhole. Each hoop is then folded again into the flat semicircle and removed through the buttonhole, which is sutured. The loose end of the previously ligated stump spreads out into a narrow curtain inside the intestine after the ligature is removed. These curtains slough off but serve at first to protect the suture. The article is profusely illustrated.

Archiv f. d. gesamt. Physiologie (Pflueger's), Bonn.

Last indexed page 409.

65 (93, 7-8.) Electro-physiologic Notes. O. Langendorff.—Elekt.-phys. Mitteilungen.
66 Nourishment of Heart with Diluted Blood. Ibid.—Ueber den angeblichen Unfähigkeit des lackfarbenen Blutes den Herzmuskel zu ernähren.
67 *Alcohol as Protection Against Toxic Albuminoids. W. N. Clemm (Darmstadt).—Weingeist als Schutzmittel gegen giftige Eiweisskörper.
68 Zur Physiologie des Tetanus. I. Ueber die Muskeltöne bei elektrische Tetanisirung des ausgeschaltenen Frosch-Gastrocnemius. W. Brünings.
69 Embryologic Study of Bird's Egg. F. Tangl.—Zur Energetik der Ontogenese. I. Die Entwicklungsarbeit im Vogelei.
70 (9-10.) New Apparatus for Blood Count. W. Brünings (Zurich).—Neuer App. f. Blutkörperchenzählung.
71 Psychologie und Medicin. E. Storch (Breslau).
72 Alkohol und Muskel-Kraft. L. Schyder (Berne).
73 (11-12.) Zur Physiologie des Labyrinthes. VII. Die Erzeugung von Schallbildern in die Camera acustica. J. R. Ewald (Strasburg).
74 Experimental Photography of Fundus of Eye. W. Nikoloew (Kazan).
75 Albumin in Organic Fluids. J. Joachim.—Eiweissvertheilung in menschlichen und thierischen Körperflüssigkeiten.
76 Nochmals über Protoplasma und Enzym. T. Bokorny (Munich).
77 Nerves in Ringer's Solution. H. Rietschel.—Berichtigung, etc.—"Ueber verminderte Leitungsgeschwindigkeit des in R.'schen Lösung überlebenden Nerven.

67. **Alcohol as Protection in Disease.**—Clemm reviews a number of established facts showing the efficacy of large doses of alcohol in preventing injury from snake bites, etc., and the strange absence of alcoholic intoxication in these circumstances. He quotes Nothnagel's advice to treat incipient grippe with brandy. Runge has also advised large amounts of alcoholic drinks in puerperal fever. Brehmer advocated alcohol in febrile tuberculosis and Mircoli has recently argued in favor of its "sero-antitoxicity," and commended it as a valuable adjuvant in treatment of tuberculosis as mentioned in these columns. The efficacy of alcohol in these varied conditions may be explained by several hypotheses. It may precipitate the toxic substances in the blood and render them harmless, or it may influence the nerve centers until they cease to feel the influence of the toxins, or the molecular structure of the latter may be altered and the toxicity thus diminished. There is also a possibility that the osmotic tension may be altered by the alcohol and greater bactericidal power conferred on the more concentrated blood. In febrile affections, therefore, the value of alcohol is not so much to whip up the heart as to keep toxins away from the heart. The use of large doses of alcohol is apparently justified in diseases in which the pathogenic germs generate a toxic albuminoid. Study of the composition of the bacterial toxins generated in various diseases may suggest other valuable hints for treatment.

Berliner klin. Wochenschrift.

78 (No. 17.) Disturbances in Awaking. H. Pfister.—Ueber Störungen des Erwachens.
79 Das Verhalten des antitryptischen Vermögens des Blutserums bei der croupösen Pneumonie. M. Ascoli and C. Bezzola (Pavia).
80 *Ueber acute transitorische Aphasie. M. Rothmann. (Commenced in No. 16.)
81 (No. 18.) Elimination of Glycuronic Acid. M. Blal and F. O. Huber.—Zur Frage der Glucuronsäureausscheidung.
82 Peritonitis tuberculosa traumatica mit Ileus. R. Lucke. One case.
83 *Ueber Struma puerperalis. Malade (Treptow).
84 *Ueber die Polymyositis. H. Oppenheim (Berlin). (Commenced in No. 17.)
85 Die Prophylaxie in der Psychiatrie. A. Cramer (Göttingen).

80. **Transient Aphasia.**—Rothmann describes 3 cases of acute transient aphasia which emphasize the varieties of causes that may induce it. In one case the total aphasia appeared with an apoplectic attack. The subject had been exposed to the summer sun at noon, but as the disturbances did not occur until several hours later they were probably due to toxic substances evolved in the interim. There was total unconsciousness at first, the right hemisphere then rapidly recuperated and all symptoms vanished except the aphasia, which lasted for an hour. The second patient was a young physician who has since become a noted pioneer in the study of the brain. The factors in his case were overstudy, exposure to the sun, a fall from a horse and an unusually hearty meal. Pure motor aphasia was followed by agraphia and paraphasia, with complete recovery in less than an hour. In the third case total motor aphasia with right hemiplegia developed suddenly during convalescence from pneumonia and vanished completely in less than half an hour. The next day the aphasia returned with almost total right hemiplegia, both persisting for months. The capacity to sing was retained and nearly normal speech was regained in time by means of exercises conducted in singing tones. The heart was apparently intact in this case and the trouble was evidently due to embolism in the left hemisphere. The thrombosis probably originated in the pulmonary veins. This experience suggests caution in assuming that transient aphasia is of merely functional nature. It may be the result of toxic action from substances generated by external influences, emotions, traumatisms, overexertion, etc., as well as from embolism.

83. **Puerperal Struma.**—Malade has witnessed three cases in which the thyroid gland swelled in multiparæ during parturition. In one instance it was the direct or indirect cause of fatal anemia of the brain.

84. **Polymyositis.**—Oppenheim's five cases of polymyositis demonstrate that the mucosæ are affected as an essential feature of the affection. The mucosæ of cheek, tongue, palate, and conjunctiva are liable to be involved. The redness, swelling, pain, difficulty in swallowing and hoarseness were supplemented in some of the cases by multiple small ulcerations on the mucosæ. In one instance submucous hemorrhages left an Addisonian pigmentation. In another there was double iritis as well as conjunctivitis. He urges study of this form by ophthalmologists who may encounter abortive forms. Oppenheim proposes the name dermatomucomyositis for this affection and calls attention to a possible connection with syringomyelia. In one case the affection in a boy of 8 gradually assumed more the aspect of syringomyelia, and now, four years later, the clinical picture resembles more the latter. Others have reported very discouraging results from treatment, but energetic diaphoresis has accomplished wonders in his hands. He first applies hot air and then wraps in blankets, giving hot drinks and aspirin. The patient is thus sweated for an hour every second day at least, alternating with thermomassage and later simple massage, gymnastics and electricity. Improvement was soon marked under this régime, and complete recovery followed, although the last traces of the affection did not vanish in 2 cases until after a winter in the south.

Centralblatt f. Innere Med., Leipsic.

86 (No. 9.) *Seasickness. C. Binz (Bonn.)—Ueber die Seekrankheit.
87 (No. 10.) Ueber die spinale Metamerie in Bezug auf die Lokalisation der Amyotrophien. A. Bauer.
88 (No. 11.) *Cryoscopy in Liver Affections. L. Ferrannini.—Die Kryoskopie des Urins und Ascites bei Erkrankungen der Leber.
89 (No. 12.) Nature of Circulatory Disturbances in Collapse in Acute Infectious Diseases. K. v. Stejskal (Vienna).—Unt. über die Natur der Kreislaufsstörungen im Kollaps bei acut. Inf.krankheiten.
90 (No. 13.) Study of Urobilin in Human Stomach. A. Meinel.—Ueber das Vorkommen und die Bildung von Urobilin im menschlichen Magen.
91 (No. 14.) Stagnation Hemorrhage During Epileptic Seizure. Z. Bychowsky (Warsaw).—Zur Kasuistik der Stauungsblutungen während eines epilept. Anfalls.
92 (No. 15.) Cardiotoxic Serum. L. Ferrannini.—Ueber ein für das Herz giftiges Serum. See abstract p. 1546.
93 (No. 16.) *Proportion of Urea in Transudates and Exudates. H. Ulrici (Halle).—Ueber den Harnstoffgehalt von Transsudaten und Exsudaten.
94 (No. 17.) *Transient Amaurosis in Lead Poisoning, Uremia and Eclampsia. J. Pal (Vienna).—Zur Pathogenese der akuten transitorischen Amaurose bei Bleikolik, Urämie und Eklampsie.
95 (No. 18.) Zur Genese der Urobilinurie. A. Meinel (Wiesbaden).

86. Seasickness Due to Anemia of the Brain.—Binz learned that a person taking a certain patent medicine vaunted as a preventive of seasickness, slept while under its influence and did not lose her ruddy coloring, and escaped her usual attack of seasickness. He analyzed the medicine and found it merely a mixture of chloral hydrate, of which 1 gm. was taken in three doses. The absence of pallor induced him to experiment on rabbits and he found that the blood in the ears and surface of the brain ebbs and flows synchronously. These and other facts which he details suggested to him that the cause of seasickness is merely anemia of the brain, to which the pallor testifies. It is a familiar fact that anemia of the brain induces nausea and vomiting, while chloral dilates the cerebral vessels and thus prevents anemia and hence might protect against seasickness. He does not attempt to explain why the rocking of the ship induces anemia of the brain, but is convinced that it does so. The retching and vomiting induced by this anemia in the brain call the abdominal muscles into play, and this in turn drives the blood back to the head and the symptoms are arrested for the time being. The stomach has only a passive rôle in seasickness and is incited to vomiting by the brain, regardless of whether it is full or empty. Everything that tends to promote and increase the flow of blood to the brain has a prophylactic, relieving or curative action in this affection. The brain should be nourished with strengthening food and the blood supply favored by the horizontal position and medicinally by drugs that dilate the blood vessels in the brain. Chloral hydrate, potassium bromid, amyl nitrite and antipyrin might be tentatively tried.

88. Cryoscopy in Liver Affections.—Ferrannini states that the freezing-point in 4 cases of atrophic venous cirrhosis ranged from —.55 to —.75 C.

93. Urea in Transudates and Exudates.—Ulrici found an average of .485 per cent. of urea in pericarditic effusions and .019 per cent. in pleuritic effusions.

94. Transient Amaurosis in Uremia, Eclampsia and Lead Poisoning.—The transient amaurosis sometimes observed in these different affections is due to the vascular tension common to all three. It vanishes as the tension becomes relaxed.

Deutsches Archiv f. Klin. Medicin, Leipsic.

Last indexed page 744.

96 (LXXV, 3-5.) *Genesis of Pulmonary Phthisis and Variability of Formation Designated "Tubercle." E. Aufrecht (Magdeburg).—Die Genese der Lungenphthise und die Verschiedenheit der mit dem Namen "Tuberkel" bezeichneten Gebilde.
97 Unusual Forms of Pneumonia. F. Galdi (Naples).—Pneumonia desquamativa obliterans. One Case. Pneumonia bei Stauung im kleinen Kreislauf und bei acuter Endocarditis. One case.
98 *Experimental Research on Heat Production.—Ueber Wärmeproduction, Wärmeregulation und Fieber. C. Hirsch.—Zur Methodik der thermo-elektrischen Temperaturmessung. Ibid. and O. Müller.—Beiträge zur Wärmetopographie des Warmblüters. Ibid.—Zur Wärmetopographie des curarisirten Kaninchens nach Wärmestich. C. Hirsch and F. Rolly.
99 Arrested Development of Limbs After Articular Rheumatism in Childhood. G. Hoppe Seyler (Kiel).—Ueber Entwicklungshemmung der Extremitäten nach Gelenksrheumatismus im Kindesalter.
100 Beitrag zur Kenntniss der primären malignen Tumoren der Pleura. C. Gutmann.
101 Beiträge zur Chemie des Sputums. F. Wanner.
102 Ueber alimentäre Albuminurie. Inouye (Rostock).
103 Study of Albuminoids Precipitated by Acetic Acid in Urine. Matsumoto.—Ueber die durch Essigsäure ausfällbare Eiweissubstanz in pathologischen Harnen. Beitrag zur Lehre der sogen. Nucleoalbuminurie und Globinurie.
104 *Influence of Pulmonary Tuberculosis on Length of Life and Working Capacity and Value of Sanatorium Treatment. E. Stadler (Marburg).—Einfluss der Lungentub. auf Lebensdauer und Erwerbsfähigkeit und der Werth der Volks heilstättenbehandlung.
105 Studien zur Bakteriologie der Lungen und Bronchioabteilungen. Beitrag zur Lehre von der Mischinfection bei Lungentuberculose. H. Kerschensteiner (Munich).
106 Ueber die colorimetrische Bestimmung des Eisens. Schwenkenbecher.
107 Zwei Fälle von chron. lymphat. Leukamie. H. Zinkeisen.
108 (No. 6.) Experimental Amyloid Degeneration. C. Tarchetti. Untersuchungen über exp. amyloide Entartung.
109 Early Diagnosis of Typhoid. E. Adler (Prague).—Zur Frühdiagnose des Typhus abd. durch die Milz-punction nebst einem Anhang über die Gruber-Widal'sche Blutserumreaction.
110 Chromic Acid Intoxication. R. Rössle (Kiel).—Locale Wirkungen der Chromsäure. Fall von acuter Chromsäurevergiftung.

96. Genesis of Pulmonary Tuberculosis.—Aufrecht is convinced that the germs enter the system by way of the tonsils. The passage of the bacilli into the blood is explained by the permeability of the intact vessel wall for tubercle bacilli from swollen and adherent lymph glands. This permeability is now established beyond question, and solves the problem of the migration of the germs from tuberculous glands in neck and mediastinum. He regards scrofula as the main factor in the predisposition to tuberculosis, and defines the essence of scrofula as a congenital or acquired enhanced permeability of the vessel walls for the elements of the blood and the bacteria circulating in it. The apex offers the most favorable point for the settling of bacilli that have found their way into the pulmonary arteries or veins on account of its defective circulation and also the stress of mechanical action. Sedentary occupations render the circulation in the apices still more defective than naturally. The apex also suffers from traction of muscles during exercise. Violent coughing causes a backward stagnation of air in the apices as they are covered only by soft parts, which do not participate in expelling the air. These factors may have injured the apex before the arrival of the bacteria. As they proliferate in some small blood vessel in the apex they make the walls thicker by their own bulk and disturb the blood supply in the parts irrigated by the vessel. The result is a little patch of necrosis in which the bacilli settle and the caseous tubercle is the result. It is the product of the combined action of the necrosis and of the bacilli. The area involved may heal after the necrotic caseous patch has been thrown off or transformed into a fibrous nodule. Healing is hindered by the irritation of the lung tissue from the presence of the caseous patch as a foreign element in the confined space. This irritation induces infiltration, and as this develops and spreads, pulmonary phthisis is established. The cavity is due to the breaking down of the infiltrated tissue, and treatment should aim to prevent or arrest these secondary pneumonic processes, with specific treatment to exterminate the primary bacterial agents.

98. Heat Production.—The results of the comprehensive research conducted by Hirsch, Müller and Rolly, at Leipsic, demonstrate that the glands, and especially the liver, have a larger share in the production of heat than has hitherto been credited to them. Among the phenomena that favor this view is the rapid disappearance of glycogen in the liver and the suspension of glycosuria during fever in a diabetic. There are evidently two parallel processes in the production of heat, 1, a specific destruction of albumin modified by the action of toxins, and 2, a central irritation or stimulation in the sense of the hyperthermia induced by puncture of a heat center.

104. Duration of Life and Working Capacity in Pulmonary Tuberculosis.—Stadler has collected statistics which show that tuberculous subjects live on an average at least six to seven years after infection. The course of the disease does not seem to be modified by injurious professional conditions, and hence a change of occupation is not imperative. Some degree of working capacity continues on an average until after the fifth

year in about half of those affected. In his experience at the Marburg polyclinic, out of each 100 of the patients engaged in indoor work 23 were tuberculous; 22 in each 100 with out-of-door occupations, and 29 in each 100 of those engaged in trades with much dust, smoke, soot or vitiated air, except the stonecutters, of whom fully 50 per cent. of 151 were tuberculous. His statistics include 1,504 men and 851 women. Of this number 670, that is 382 men and 288 women, have been followed for a number of years. The course of tuberculosis was more prolonged in the women and in subjects engaged in indoor work, who are usually in better circumstances. Comparing these 670 cases with Weicker's 1,395 cases of pulmonary tuberculosis treated in the sanatoria, the results show that sanatorium treatment as at present conducted has prolonged by three years the working capacity of tuberculous subjects in the first or second stage of the disease in about a fifth to a fourth of the entire number. After the third or fourth year the mortality and loss of working capacity do not show the influence of the sanatorium treatment.

Mitteilungen a. d. Grenzgebieten d. M. u. Chir., Jena.

111 (II, 2.) *Functional Tests of Kidneys. J. Israel.—Ueber funkt. Nierendiagnostik.
112 *Ibid. L. Casper and P. F. Richter.—Was leistet die funkt. Nierendiagnostik? Reply to above.
113 *Phloridzin Test. J. Israel.—Ueber die Leistungsfähigkeit der Phloridzinmethode. Reply to above.
114 *Ueber Arthropathia psoriatica. C. Adrian (Strasburg).
115 Fistulæ in Course of Inflammation of Cecum. R. Mühsam.—Die im Verlaufe der Blinddarmentzündung auftretenden Fisteln.
116 *Ueber Pylorusstenose im Säuglingsalter. W. Freund (Breslau).

111 to 113. **Functional Kidney Tests.**—Israel warns against trusting too implicitly to the phloridzin and other functional tests which may impart a false sense of diagnostic security. The variations in the freezing-point and the phloridzin test frequently contradict each other, and repeated tests on the same person may give different results at different times. Rovsing ventured to remove a kidney in a case in which the phloridzin test was negative on both sides, and Israel has also done this twice, with complete success in all. The lack of any elimination of sugar does not necessarily indicate the loss of the physiologic functions in all cases. The freezing-point is not always invariable even in health, and has a wide range in varying circumstances in the same person.

114. **Psoriatic Arthropathy.**—Adrian applies this term to a multiple joint affection complicated with psoriasis and distinguished by its chronic course, the lack of influence of the salicylates and the frequent deformities and destruction of the joints which it may entail early. He has found records of 81 cases in the literature, and describes another personally observed. The patients were mostly males, usually between 40 and 45, affected with generalized psoriasis. No predisposing factor could be discovered in the histories except in a few isolated instances in which a central or reflex trophoneurosis might be incriminated. There was no evidence of an infectious character, except, possibly, the occurrence of exacerbations occasionally during the protracted course of the disease. No connection could be discovered between it and gout, gonorrhea or syphilis. Treatment should combat both the arthropathy and psoriasis and baths are beneficial for both. The mild forms with merely arthralgia are generally curable, but in the graver forms the prognosis is bad.

116. **Stenosis of Pylorus in Infants.**—Freund has been able to collect 10 cases of this condition in infants in which an operation was performed, with 7 permanent successes. Knöpfelmacher has published a case in which he discovered hyperchlorhydria with the stenosis and all symptoms permanently disappeared as soon as the child was put on whole milk. In others on record improvement was likewise obtained on change of diet. Freund has observed 6 cases, all breast nurslings. Case 1 was operated on, but soon succumbed, and the autopsy disclosed that the antecolic gastrojejunostomy and enteroanastomosis had been surgically successful, but ulcerations were found in the jejunum, the source of the fatal hemorrhages. In Case 2 the Günzburg reaction was always positive, and so soon as the child was taken from the breast and put on whole milk all disturbances ceased. In 2 of the children the stenosis proved rebellious to all internal measures and the children died. Another rapidly recovered when put on whole milk after cream had been removed, and in another the symptoms of stenosis vanished on administration of a tablespoonful of Carlsbad water before each meal. One of the children developed the stenosis while still under observation after birth, and it was unmistakably primary. Freund's experience indicates, therefore, that the stenosis is generally and most probably spastic. Carlsbad water should be given first and then whole milk, omitting the fat if necessary. If the weight still falls gastroenterostomy should be done without delay to allow the favorable moment to pass.

Wiener Klin. Wochenschrift, Vienna.

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117 (XVI, 13.) *Topical-Diagnostic Significance of Tickling Reflex in Brain Affections. A. Pick (Prague).—Zur topischdiagnostischen Bedeutung des Kitzelreflexes bei cerebralen Affectionen.
118 *Zur Aetiologie der progressiven Paralyse. E. Raimann.
119 *Kasuistischer Beitrag zur operativen Behandlung der eitrigen Meningitis. H. Haberer.
120 Suppurative Thrombophlebitis from Carious Tooth. N. Damianos.—Eitrige Thrombophlebitis der Sinus cavernosi infolge von Zahnkaries.
121 Abscesses of Nasal Septum. E. Fuchsig.—Zur Aetiologie und Pathologie der Abszesse der Nasenscheidewand.
122 (No. 14.) *Die spastische Obstipation. G. Singer.
123 *Ein weiterer Beitrag zur Autointoxikationstheorie bei Hyperemesis gravidarum. E. Dirmoser.
124 Pankreastumor mit Duodenalstenose und schweren Ikterus. G. Lotheissen.
125 Determination of Total Purin in Urine. W. Hall (Manchester).—Zur klinischen Bestimmung des Gesamtgehaltes von Purin im Harn mittels Purinometer.
126 (No. 15.) *Moser's Scharlach-Streptokokkenserum. D. Pospischill.
127 Changes in Blood After Injection of Serum. F. Hamburger and E. Moro.—Ueber die biologisch nachweisbaren Veränderungen des menschlichen Blutes nach der Seruminjektion.
128 *Treatment of Relapsing Fever. J. Karlinski (Cajnica, Bosnia).—Zur Therapie des Rückfallfiebers.
129 (No. 16.) *Early Diagnosis of Pleuritis Diaphragmatica. R. R. v. Stenitzer (H. Lorenz's Service, Vienna).—Zur Frühdiagnose der Pleuritis diaphr.
130 Reliability of Thermophor Apparatus for Keeping Food Warm. F. Schardinger.—Ueber die Zulässigkeit des Warmhaltens von zum Genuss bestimmten Nahrungsmitteln mittelst Wärme speichernder Apparate, sog. Thermophore.
131 *Ueber retrograde Inkarzeration des Darmes. A. Lange.
132 Plastic Reproduction of Stools in Gastrointestinal Affections. H. Roeder.—Die Einführung plastischer Lehrmittel in die Klinik der Magendarmkrankheiten.

117. **Tickling Reflex in Cerebral Affections.**—Pick describes a case in which a focus of softening corresponded with the hemiplegia observed and was also probably connected with the absence of the tickling plantar and axillary reflex on the side opposite to the focus. The latter was located in the frontal plane characterized by the corp. subthalam. The fibers involved were those connecting the thalamus and lenticular nucleus and these ganglia are the ones to which are referred the involuntary mimic movements and involuntary laughing. It is, therefore, logical to associate their degeneration with the absence of the tickling reflex. Pick thinks that this reflex has not heretofore been accorded the importance it deserves. Bleuler has reported a case in which symptoms of a cerebral lesion were accompanied by absence of the tickling reflex on the right side, and the left internal capsule was found diffusely degenerated. Bechterew also observed the absence of the tickling reflex in a cerebral affection, but without autopsy.

118. **Etiology of Progressive Paralysis.**—Raimann has been investigating this subject at v. Wagner's clinic, Vienna, along the lines suggested by Bruce and Robertson, that is, the theory that autointoxication from the digestive tract is the principal etiologic factor, and that the colon bacillus is involved in it to a large extent. Raimann's results were negative in so far as the agglutination reaction can be accepted as a test of the participation of the colon bacillus in the process.

119. **Operative Treatment of Suppurative Meningitis.**—Haberer describes a case of leptomeningitis involving the entire hemisphere of the brain in a woman of 36. The symptoms indicated a circumscribed process, secondary to a phlegmon of the temporal region, and, after first trephining, the skull and dura were opened up, but as far as the eye could reach there was the same suppurative inflammation. Each intervention was followed by marked abatement of the symptoms. The im-

provement in the general condition continued for two days after the last, but then the patient rapidly sank. The operations were performed by v. Eiselsberg and he is convinced that if he had been less cautious and had opened up the dura at first into sound tissue, it is possible that the patient might have recovered. He believes that the lesion was circumscribed at the time of the trephining and might have responded favorably to more thorough evacuation of the pus. Lumbar puncture after trephining was negative.

122. **Spastic Obstipation.**—Singer distinguishes between symptomatic and idiopathic spastic obstipation and defines the symptomatology of the latter and outlines the treatment. Purgatives and laxatives, even cascara, should be strictly forbidden, he states. The continuous use of saline purgatives is liable to increase the tendency to spasm, and especially courses of mineral waters. Mechanical procedures, massage and electricity are also contraindicated. Oil enemata are useful if taken warm enough. More permanent benefit can be derived from measures addressed to the nervous foundation of the trouble, particularly from hydrotherapy. The application of moist heat has proved very beneficial in his experience, a combination of a moist abdominal bandage and thermophore appliance. Hot cataplasms and sitz baths also have a favorable effect, but the sovereign remedy is belladonna, which he orders in the form of suppositories. His experience has been that the internal sphincter is usually the seat of the spasmodic contraction. For several years he has used English bougies, introduced into the rectum, when the constriction was in this region. He inserts the bougie in the knee-elbow position, sometimes preceding it with cocain or belladonna in case of very sensitive patients. It is occasionally impossible to pass it beyond the internal sphincter at first, but by leaving it for a time in contact with the sphincter it can then be readily passed through. Conical bougies meet with less resistance. The reaction is felt by the patient at first as a painful contraction and the bougie is held tight. In a few minutes the contraction subsides and the bougie can be twisted around. He begins with a small caliber and increases the size gradually. The results of this method of treatment have been so fine that he urgently recommends it to others for suitable cases. In a few instances he has found that the constriction vanished in the rectum but appeared higher up in the intestines. Generally the procedure, alone or associated with other measures, rapidly abolished the spasmodic contraction and induced defecation. Little can be anticipated from dietetic measures in spastic obstipation. On the other hand, change of scene, rest cures, relief from mental stress or worry and other means of reducing the nervous irritability will prove invaluable factors in the cure. Many persons who are constipated at home have no trouble in this respect when traveling. He states that in diagnosing the aspect of the stools is very important, especially the ribbon-like or grooved pencil-like forms. He has frequently noted blood in the stools, and in one case of enterospasm with kidney stone one of the attacks ended with the evacuation of a large amount of fresh and coagulated blood. There may also be strips of mucus. The contraction of the internal sphincter is the chief differentiating feature.

123. **Autointoxication as Cause of Uncontrollable Vomiting of Pregnancy.**—Dirmoser has long proclaimed this theory of the etiology and now reports a case in which a toxin was derived from the contents of the intestines so powerful that it killed the laboratory animals in three hours. Spontaneous premature delivery occurred at the height of the attack and the placenta was examined for a possible toxin, but animals inoculated with an extract of the placenta showed no signs of intoxication and remained as lively as before. The absence of a toxin in the placenta speaks against a fetal origin for the cause.

126. **Moser's Scarlet Fever Serum.**—This article describes the results of serum treatment at the Franz Josef Hospital at Vienna, and the writer joins the chorus of those who report marked benefit from its use. He reports the details of the 26 cases and emphasizes the mild course of streptococcus sepsis occurring two weeks after the injection, terminating in recovery. Out of 13 children considered moribund when received, 5 recovered after serum treatment, and 9 out of 12 with dubious to bad prognosis. The immediate results of the serum were always decline of temperature, diminished frequency of pulse and respiration, subsidence of delirium, tranquil sleep, the periphery grew warm and cyanosis disappeared. During the further course the necrotic patches became red, the fetor vanished partially or entirely and the children lost their very sick aspect. Even in the fatal cases there was always marked improvement after the injections.

128. **Saline Infusion in Treatment of Relapsing Fever.**—Karlinski noted that the addition of salt to a serum which agglutinated cultures of the parasite of relapsing fever immeasurably enhanced the agglutinating power. This suggested that salt might have a favorable effect on the course of the disease, and he reports the clinical application of this suggestion with results which apparently confirm the correctness of the assumption. In the epidemic of 890 cases he observed only 160 with but one attack, while 490 had two, 140 three, and 92 four. In his 5 cases treated by subcutaneous injection of 1,200 c.c. of a 1 per cent. saline solution in the course of forty-five minutes, none had a second attack, although the first had been very severe. He thinks it is possible that salt introduced into the system in some other way might prove equally effective.

129. **Early Diagnosis of Pleuritis Diaphragmatica.**—The character of the pains, the disturbance in the action of the diaphragm and a peculiar backward and energetic contraction of the upper portion of the abdominal rectus on one side, during inspiration, bringing into prominence the attachment of the muscle to the costal cartilage and the ensiform process, are the chief signs of this form of pleuritis, with distressing cough and considerable dyspnea. Stenitzer relates a case in which early differentiation of a serofibrinous pleuritis diaphragmatica was possible, and prompt treatment soon resulted in a cure free from complications. The pains are intense; they are located in the lower part of the thorax and radiate into the epigastrium, hypochondrium, etc., and especially into the sacrum and shoulder on the same side. The pain in the shoulder may be the first sign to suggest inflammation in the diaphragm. Mussy's "diaphragm point" was sensitive to pressure and also the phrenic nerve in the neck, in the 2 cases described. The high position of the diaphragm on the affected side was also striking, as likewise the abnormal excursions, the absence of transposition of the base of the lung during respiration, and also of Litten's diaphragm sign. Singultus has been frequently observed, but did not occur in Stenitzer's experience, except agonal in the one purulent fibrinous case.

131. **Retrograde Incarceration of Intestine.**—Langer reports a case which he qualifies as the first clinical case on record of "retrograde incarceration" of the intestine in which the mesentery of the intervening portion lay free in the abdominal cavity. Maydl has expressly denied the possibility of such an occurrence. The intra-abdominal complication induces local meteorism but no peristaltic movements in the region involved, and only an operation will reveal the two loops in the hernia. The intervening portion must be removed with the incarcerated loops as its blood supply will be impaired.

Medizinskoe Obozryenie, Moscow.

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133 (LVIII, 16.) Simultaneous Erysipelas and Scarlet Fever. One Case. P. K. Haller.—Sovmyestnoe tetchenie rozhi i skarlatini.

134 Case of True Variola After Varicella and Vaccination. K. Fleroff.—Slutchai zabolyevanie naturalnoi ospoi poslye vyetrenoi i poslye vacciny.

135 *Tuberculous Intestinal Stenosis. A. V. Nikolski.—O bugortchatkovom suzhenii kishek.

136 Sho takoe "sarcome angioplastique Malassez i Monod"? G. V. Vlassof.—Study of path. anatomy of three cases.

137 (No. 17.) *Twenty-one Cases of Operation for Extrauterine Pregnancy. A. Eberlin.—21 slutchai operatzii pri vnyematotchnoi beremennosti.

138 Hypertrophy of Breasts During Pregnancy. One case. A. P. Kokhanoff.—Slutchai tchrezmyernova uvelitcheniya grudei pri berem.

139 Threatening Phlegmon of Throat Cured by Antistreptococcus Serum. A. Ivanoff.—Pervitchnaya phlegmona gortani lyetchennaya antistrept. syvorotkoi.

140 Reflex Affections Originating in Upper Air Passages. T. Stephanovski.—K kasuistikye zabolyevanii, proiskhodyashtchikh reflektorno iz verkhnikh vozdukhonosnykh putei.

141 *Affections of Upper Air Passages of Malarial Origin. L. Sverzhevski.—Zabolyevaniya verkhnikh dykhatelnykh putei malaryicnova proiskhozhdeniya.

142 Study of the Refraction of the Blood. P. S. Usoff.—O refraktzii krevi.

143 (No. 18.) *Non-Malignant Tumors of Intestines in Children. B. A. Egiz.—O dobrokatchestvennykh opukholyakh kishetchnika u dyetei.

144 Case of Resection of Brachial Plexus. N. V. Sinyushin.—Slutchai resektzii pletchevova spletenlya.

145 Study of Pathologic Anatomy of Case of "Frosted Liver" and Obliterating Inflammation of Pericardium and Pleura. V. S. Dyelitzki.—Slutchai tak naz. glazurnoi petchenl i chlit. vospaleniya okoloserdiya i plevry.

135. **Tuberculous Intestinal Stenosis.**—Nikolski reports a case personally observed and concludes from a study of the literature that this affection may cause gradually developing or suddenly acute symptoms or may run an entirely latent course. The clinical picture is that of dyspepsia or chronic diarrhea. It is most frequent between 20 and 40 and is usually secondary and located in the lower part of the ileum. Surgical intervention is the only treatment and should be prompt, with careful search for multiple strictures.

137. **Twenty-one Operated Cases of Extrauterine Pregnancy.**—Eberlin's patients all recovered. Laparotomy was done 15 times, colpotomy posterior twice, and incision of the posterior vault 4 times. The pregnancy was abdominal in one case, interstitial in another and tubal in 15, with hematocele in 4. The adnexa were removed on one side in 12 and on both sides in 2; uterus and adnexa in 1. He thinks that immediate laparotomy is required when the patient shows symptoms of what he calls "volcanic abortion," but when the volcano is merely smouldering, a favorable moment may be waited for, while a hematocele may be compared to an extinct volcano, the débris of which can be readily removed through an incision in the posterior vaginal vault.

141. **Malarial Affections of Air Passages.**—Coryza, cough, bronchitis and pleuritis have been observed in malarial districts, evidently due exclusively to the infection, as they were cured by quinin and were rebellious to other measures, including the usual expectorants. In the 4 cases described the first patient was a man of 46 with a severe, dry, spasmodic cough and malarial parasites in the blood, with a tendency to dyspnea and a sensation of oppression in the chest. The second patient complained of coryza, cough and fever, all the symptoms vanishing under quinin. The third patient presented symptoms of sudden pleuritis, vanishing with equal suddenness on exhibition of quinin. In the fourth patient the parenchyma of the lung was involved. These affections are observed most frequently in comparatively young persons residing in or recently arrived from malarial districts. The malarial coryza is distinguished by the marked variations in the morbid symptoms in the course of a single day. The nasal mucosa is red, dry and tender, or the symptoms may be those of hay fever. The cough is like a "nervous cough." The bronchitis may be catarrhal or "dry," the cough resembling that of pertussis. The diagnosis of the malarial origin is not difficult if the possibility occurs to the physician, and the rapid cure under quinin confirms it. Sverzhenski does not attribute these malarial manifestations to local toxic action but to the intermediation of the nervous system.

143. **Non-Malignant Intestinal Tumors in Children.**—Egiz reports a case of fibro-leiomyoma removed from the small intestine of a girl of 11. The tumor was rooted in the mucous membrane of the intestine and was the size of a mandarin orange. It developed without causing symptoms of constriction or occlusion and manifested its presence by giving rise to antiperistaltic movements, pains in the abdomen and vomiting two or three times a week for six months. There was occasional constipation, no fever, no tenderness. Nothing was found to explain the pains on an exploratory laparotomy, but as the antiperistaltic movements, pains and vomiting increased in intensity, minute palpation revealed a small tumor in the left side. A second laparotomy showed that the tumor originated in the mucosa of the small intestine, and it was easily removed. The little patient died four days later from septic peritonitis and the autopsy disclosed that there must have been invagination at the time the tumor was removed as a linear wound was found in the intestine a short distance above, evidently inflicted when the intestine was incised. Egiz reviews the literature on the subject of non-malignant growths in children's intestines, which may be of several varieties. In regard to polyps he states that in only 30, that is .01 per cent. of the 300,260 children admitted to the Olga Children's Hospital at Moscow, have polyps been found. No cases of benign tumors in the intestines in children have been reported in Russia, but he has found 6 cases mentioned in German literature. Pochhammer published the case of two brothers, one 15, the other 6 years of age, who recovered after ablation of an adenoma in the rectum of each. Clutton's patient was a child of 8 with a dermoid cyst in the sigmoid flexure. Hüter observed a case of adenoma in the submucous tissue of the ileo-cecal valve. The patient was a girl of 10, who died with symptoms of gastrointestinal catarrh. Buchwald has published a case of two large cysts in the mucosa of the small intestine which caused complete occlusion. The patient was a boy of 6 who died the day after the laparotomy. The largest diameters of the cysts were 17 and 10 cm. and the course of the case indicated that they must have been congenital.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology Chicago Post-Graduate Medical School. Volume V. Obstetrics. Edited by Reuben Peterson, A.B., M.D., Professor of Obstetrics and Gynecology University of Michigan. April. 1903. Cloth. Pp. 204. Price, $1.25 net. Chicago: The Year-Book Publishers.

A COMPLETE LIST OF THE DRUG STORES IN THE DISTRICT OF COLUMBIA. Arranged in Systematic Order for the Use of Traveling Men. By Fred T. Hafelfinger, 1110 Fourteenth St., N.W., Washington, D. C. Compiled from the Directory of 1903. Paper. Pp. 8. Price, $0.25.

THE ERRORS OF ACCOMMODATION AND REFRACTION OF THE EYE AND THEIR TREATMENT. A Handbook for Students. By Ernest Clarke, Fellow of the Royal College of Surgeons of England. Cloth. Pp. 225. Price, $1.75 net. New York: William Wood & Co. 1903.

THE REFRACTION OF THE EYE AND THE ANOMALIES OF THE OCULAR MUSCLES. By Kenneth Campbell, M.B., Edin., F.R.C.S. Eng., Surgeon to the Western Ophthalmic Hospital. Cloth. Pp. 214. Price, $1.75 net. New York: Wm. Wood & Co. 1903.

THE PRACTICAL DETAILS OF CATARACT EXTRACTION. By H. Herbert, F.R.C.S. Eng., Major, I.M.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College. Cloth. Pp. 109. Price, $1.25 net. New York: Wm. Wood & Co. 1903.

THE PHYSICIANS OF THE DISTRICT OF COLUMBIA. Arranged in Systematic Order for Detail Men. By Fred T. Hafelfinger, 1110 Fourteenth St., N.W., Washington, D. C. Compiled from the Directory of 1903. Paper. Pp. 21. Price, $1.00.

AMBULANCE WORK AND NURSING. A Handbook on First Aid to the Injured, with a Section on Nursing, etc. Profusely Illustrated. Cloth. Pp. 304. Price, $3.50 net. Chicago: W. T. Keener & Co.

HOW TO KEEP WELL. An Explanation of Modern Methods of Preventing Disease. By Floyd M. Crandall, M.D. Cloth. Pp. 511. Price, $1.50 net. New York: Doubleday, Page & Co. 1903.

New Patents.

Patents of interest to physicians, May 5 and 12:

727069. Atomizer. Carl Bomeisler, New York City.
726889. Artificial foot. George F. Ehrle, Milwaukee, Wis.
727344. Covered suppository and making same. David Genese, Baltimore.
727145. Sterilizing and packaging surgical absorbent dressing. Robert W. Johnson, New Brunswick, N. J.
727383. Joint for artificial limbs. Edward Koeber, Chicago.
727159. Catamenial bandage. Samuel P. Langdon, Philadelphia.
727467. Invalid bed. Walter C. Sennett, Portland, Me.
727570. Means for separating air from liquid in carbonating or other apparatus. Charles L. Bastian, Chicago.
728160. Hypodermic syringe. Thos. A. Chappell, Bronwood, Ga.
728091. Apparatus for forming tablets, etc. Emil Dubring, Berlin, Germany.
727949. Bed pan. Lena M. Hoffman, Philadelphia.
728112. Cabinet for eye-testing devices. John M. Johnston, Chicago.
727645. Dose indicator for medicine bottles. Norman S. Lea, Charleston, S. C.
728175. Dilating nozzle. Gustav Otto, Jersey City, N. J.
728003. Massage cup. Charles Pfanschmidt and J. Siefert, Chicago.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the two weeks ending May 23, 1903:

Ashburn, James K., contract surgeon, is granted leave of absence for one month from about May 1, 1903.

Barney, Charles N., first lieut. and asst.-surgeon, will proceed to Ft. Schuyler for duty.

Hartnett, Eugene H., first lieut. and asst.-surgeon, on his relief from duty at Ft. Columbus, will proceed to Key West Barracks, to relieve First Lieut. Charles N. Barney.

Lippincott, Henry, colonel and assistant surgeon-general, is granted leave of absence, to commence about June 1 for one month, with permission to apply for an extension of two months and fifteen days.

Pettyjohn, contract surgeon, is relieved from duty in the Department of the Columbia, and will proceed to his home, Augusta, Ga., for annulment of contract.

Reagles, James, contract surgeon, is relieved from duty at Ft. Snelling, and will proceed to Ft. Keogh for duty.

Roberts, D. M., contract surgeon, is granted leave of absence for one month from May 15, with permission to apply for an extension of two months.

Wall, Francis M., contract surgeon, is relieved from duty at Ft. Thomas, and will proceed to Columbus Barracks for duty, to relieve Contract Surgeon Harper Peddicord, who will proceed to Vancouver Barracks and report to the commanding general, Department of the Columbia, for assignment to duty in Alaska.

Wilcox, Timothy E., lieutenant-colonel and deputy surgeon-general, chief surgeon Department of the Columbia, will proceed to such posts of that department in Alaska as may be necessary on business pertaining to the sanitary and medical inspection thereof.

Bloombergh, Horace D., first lieut. and asst.-surgeon, is granted an extension of leave for one month.

Miller, J. E., contract surgeon, is granted leave for twenty-three days.

Pinkston, Omar W., contract surgeon, now at Kansas City, Mo., is relieved from further duty in the division of the Philippines and will proceed to Madison Barracks for duty.

Pease, F. D., contract surgeon, is granted an extension of leave to include June 30.

Rafter, John A., contract surgeon, is relieved from duty at Madison Barracks, to take effect on the arrival at that post of Contract Surgeon Omar W. Pinkston, and will then proceed to his home, West Winfield, N. Y., for annulment of contract.

Shepard, John L., first lieut. and asst.-surgeon, is relieved from further duty at Ft. Apache and will proceed to San Francisco, Cal., and report for assignment to duty at the U. S. General Hospital, Presidio.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending May 13:

Surgeon F. W. Wieber, granted sick leave for two months.

P. A. Surgeon L. Morris, ordered to the *Minneapolis*.

Asst.-Surgeon R. H. Michels, ordered to the Asiatic Station.

Asst.-Surgeon E. M. Brown, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Hospital, Newport, R. I.

Asst.-Surgeon J. H. Holloway, ordered to the *Baltimore*.

Dr. A. J. Geiger, appointed asst.-surgeon, from May 6.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 21, 1903:

Assistant Surgeon-General G. T. Vaughan, detailed to represent the service at the meeting of the Association of Military Surgeons at Boston, May 20-21.

P. A. Surgeon J. C. Perry, to report at Washington, D. C.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence on account of sickness, for fourteen days from April 24.

Asst.-Surgeon R. L. Wilson, granted leave of absence for seven days from April 28, under provisions of Paragraph 191 of the regulations.

Asst.-Surgeon A. J. McLaughlin, granted leave of absence for two months from May 1.

Asst.-Surgeon W. K. Ward, granted leave of absence for three days from May 14, under provisions of Paragraph 191 of the regulations.

A. A. Surgeon C. B. Ford, granted leave of absence for fourteen days from June 3.

A. A. Surgeon A. C. Fraser, granted leave of absence for forty-five days, on account of sickness, from April 27.

A. A. Surgeon W. H. Marsh, granted leave of absence for seventeen days from May 8.

A. A. Surgeon W. O. Wetmore, granted extension of leave of absence for fourteen days from May 15.

A. A. Surgeon W. M. Wightman, granted leave of absence for three weeks from June 7.

A. A. Surgeon W. W. W. Wilson, granted leave of absence for fourteen days from May 14.

Pharmacist W. F. Schlaar, granted leave of absence for three days from May 10, under provisions of Paragraph 210 of the regulations.

BOARDS CONVENED.

Board convened at San Francisco, for physical examination of an officer of the Revenue Cutter Service. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Board convened at Washington, D. C., May 25, for the physical examination of candidates for cadetship in the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened at Washington, D. C., June 15, for examination of candidates for admission as assistant surgeon in the service. Detail for the board: Assistant Surgeon-General G. T. Vaughan, Chairman; Surgeon C. T. Peckham; P. A. Surgeon H. S. Mathewson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 23, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 3-16, 13 cases.

California: May 3-10, Los Angeles, 1 case; San Francisco, 4 cases.

Florida: May 8-16, Chipley, 9 cases; Jacksonville, 7 cases; Pensacola, 5 cases.

Georgia: Atlanta, May 6-20, 4 cases, 1 death.

Illinois: Belleville, May 11-18, 9 cases; Chicago, May 8-16, 8 cases, 1 death; Galesburg, May 8-16, 3 cases.

Indiana: Eliwood, May 10-17, 7 cases; Evansville, May 1-16, 6 cases; Indianapolis, May 8-16, 6 cases, 1 death; Kokomo, May 8-16, 1 case.

Iowa: Des Moines, May 8-16, 1 case.

Louisiana: New Orleans, May 8-16, 7 cases, 1 death.

Maryland: Baltimore, May 8-16, 7 cases.

Massachusetts: Lawrence, May 2-9, 1 case, 1 death (doubtful).

Michigan: May 8-16, Detroit, 33 cases; Grand Rapids, 2 cases; Port Huron, 1 case.

Minnesota: Winona, May 8-16, 2 cases.

Missouri: St. Louis, May 3-17, 17 cases.

Nebraska: Omaha, May 8-16, 1 case.

New Hampshire: May 8-16, Manchester, 1 case; Nashua, 1 case.

New York: Elmira, May 8-16, 1 case; Rochester, May 7-14, 2 cases.

Ohio: Ashtabula, May 8-16, 1 case, imported from Toledo; Dayton, May 2-16, 6 cases; Toledo, April 18-May 16, 31 cases, 1 death.

Pennsylvania: Pittsburg, May 2-16, 48 cases, 7 deaths; Philadelphia, May 8-16, 35 cases, 1 death.

South Carolina: Charleston, May 2-16, 1 case; Georgetown, May 20, 1 case.

Tennessee: Memphis, May 8-16, 3 cases.

Utah: Salt Lake City, May 8-16, 5 cases, 1 imported.

Washington, Tacoma, May 4-11, 2 cases.

Wisconsin: Milwaukee, May 8-16, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, March 21-April 4, 11 cases, 2 deaths.

SMALLPOX—FOREIGN.

Austria: Prague, April 18-May 2, 11 cases.

Belgium: Antwerp, April 18-May 2, 6 cases; Brussels, April 25-May 2, 4 deaths.

Brazil: Rio de Janiero, April 19-26, 2 deaths.

British Guiana: Demerara, April 25, present and spreading rapidly.

Canada: Quebec, March 2-9, 2 cases.

China: Hongkong, March 26-April 3, 4 cases, 1 death.

Colombia: Bocas del Toro, April 28-May 5, 1 death.

France: Paris, May 1-8, 1 death.

Great Britain: Birmingham: April 25-May 2, 5 cases; Bristol, April 25-May 2, 3 cases; Dublin, April 30-May 7, 23 cases, 3 deaths; Leeds, April 25-May 2, 14 cases; Liverpool, April 25-May 2, 69 cases, 4 deaths; Manchester, April 18-May 2, 17 cases; Newcastle-on-Tyne, April 25-May 2, 1 case; Nottingham, April 18-May 2, 2 cases; Sheffield, April 18-May 2, 6 cases, 2 deaths; Sunderland, April 25-May 2, 1 case.

India: Bombay, April 14-21, 73 deaths.

Italy: Milan, March 1-31, 1 case; Palermo, April 25-May 2, 1 death.

Japan: Kobe, March 27-April 11, 3 cases.

Mexico: City of Mexico, April 26-May 3, 7 cases, 10 deaths.

Russia: Moscow, April 18-25, 5 cases, 1 death; Odessa, April 19-May 2, 4 cases, 1 death; St. Petersburg, April 4-25, 58 cases, 12 deaths; Warsaw, April 11-18, 3 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 12-26, 34 deaths.

Colombia: Panama, May 7-14, 3 cases, 1 death.

Mexico: City of Mexico, April 26-May 3, 1 death; Tampico, May 8-16, 1 case, 1 death; Vera Cruz, May 2-16, 11 cases, 5 deaths.

CHOLERA—INSULAR.

Philippine Islands: Manila, March 21-28, 1 case, 1 death. Provinces, March 21-28, 164 cases, 93 deaths; not previously reported, 14 cases, 14 deaths; March 28-April 4, 201 cases, 141 deaths; not previously reported, 521 cases, 261 deaths; April 4-11, 64 cases, 35 deaths; not previously reported, 547 cases, 291 deaths.

CHOLERA.

Straits Settlements: Singapore, March 21-April 4, 13 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 10, 1 death.

Philippine Islands: Manila, March 21-28, 6 deaths; March 28-April 4, 6 cases, 6 deaths.

PLAGUE—FOREIGN.

Australia: Brisbane, Feb. 1-28, 5 cases, 2 deaths.

Brazil: Rio de Janeiro, April 12-26, 1 death.

China: Hongkong, March 27-April 3, 28 cases, 24 deaths.

India: Bombay, April 14-21, 1,320 deaths; Karachi, April 4-19, 372 cases, 340 deaths.

Mexico: Mazatlan, May 14, 1 case.

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Address.

THE MODERN CONCEPTION OF ECZEMA.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON CUTANEOUS MEDICINE AND SURGERY AT THE FIFTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, AT NEW ORLEANS, MAY 5 TO 8, 1903.

J. A. FORDYCE, M.D.
NEW YORK.

In comparing the views of modern dermatologists as to the types of inflammation of the skin which should be classed as eczemas, one is met with the most discordant opinions. Hebra undoubtedly accomplished a great service for dermatology in simplifying its nomenclature. His enormous clinical experience and power of observation enabled him to recognize that conditions which had before his time been called distinct diseases were in reality but different stages or phases of the same affection.

The modern tendency seems to be to break away from the extreme view of Hebra that all superficial catarrhal inflammations of the skin caused by irritants are eczemas. We are told that when the cause is known or apparent the inflammation is a dermatitis; when it can not be ascertained it is an eczema. If every one reacted in the same manner to irritants or if the effect always ceased with the removal of the cause the foregoing statements might appear less artificial. We know, however, that certain individuals are extremely susceptible to chemical, thermal or other irritants, while others show little or no reaction, even when they are applied in a more concentrated form or after prolonged exposure to them.

It is evident, therefore, that individual reaction, susceptibility or idiosyncrasy play an important rôle in the evolution of such inflammations.

Furthermore, a dermatitis from an external irritant may spread marginally, develop secondary patches or become generalized after the local irritant is removed. We can not, therefore, accept unreservedly the arbitrary definition that a dermatitis is the result of an external irritant, while an eczema is produced by some mysterious disturbance of metabolism.

It is often convenient, however, for purposes of instruction, to call an inflammation of the skin a dermatitis when its etiology is evident and it is sharply localized to the part where the irritant is applied. The more carefully we study our cases of superficial inflammation of the skin even when the cause is not at first apparent, the more convinced we become that the great majority of such cases are produced by the local action of some irritant which may be of chemical or microbic nature.

In either the so-called dermatitis, of which the cause is apparent, or in eczema, where we can not determine the etiologic factors, the clinical picture may be the same.

In both we have a superficial inflammation which is characterized by changes in the epidermis and papillary portion of the derma.

The intercellular edema, the parakeratosis, the vesicle-formation with resulting crusting and scaling, are common changes in both conditions. Why, then, should we employ such an artificial distinction as that used by many modern dermatologists, and say that here is a dermatitis because the involved skin has been subjected to a known irritant, and there an eczema because no local source of irritation can be found?

All the phenomena of inflammation can be experimentally produced by chemical or thermal agents under suitable conditions. The vascular dilatation, serous exudation, the migration of leucocytes with resulting changes in the epidermis and corium are found in a dermatitis from external irritants as well as in a so-called eczema of which the cause is not so evident.

If our clinical and pathologic pictures are the same, it would appear unscientific and unwise to insist on such artificial distinctions, except possibly as a clinical guide in the prophylaxis and treatment of such conditions. If we observe simply the objective features of a dermatitis without regard to its localization or its possible relationship to its bearer's occupation, it is difficult or impossible to say in what manner it differs from a so-called idiopathic inflammation of the skin.

A dermatitis excited by poison ivy may differ in no essential regard from an acute vesicular eczema of unknown origin.

We have all seen recurring vesicular inflammations of the skin in individuals who had at one time been the subjects of poisoning with this plant.

Are such eruptions due to the retention in the skin of the chemical poison of the rhus toxicodendron, to a new infection from the plant, or are they so-called idiopathic eczemas in a vulnerable patient?

In some cases we can with almost absolute certainty exclude a new infection from the plant, but the reaction of the skin in both cases may be exactly the same. It does not always, therefore, appear practicable to classify catarrhal inflammations of the skin from a strictly etiologic point of view. If we admit that catarrhal inflammations of the skin from local irritants differ in no essential feature from other catarrhal inflammations of the skin in which the etiology is not clear, we have a good reason for assuming that all such conditions may have a local cause; or at least we may

say that there is as good reason for supposing that they are all local as for the other assumption that some may be constitutional.

We can not deny the possibility that eczema may be caused by some internal condition such as an infection from the gastro-intestinal canal or some disturbance in metabolism. It is unfortunately not possible to prove or disprove such a proposition. The view which is so widely held that eczema is a manifestation of the uric acid diathesis is equally vague and unsatisfactory.

All such general conditions which have been invoked to explain the occurrence of eczema may act as contributing factors in preparing the skin for the direct action of a micro-organism or its toxic products. This view is a rational one in the light of our knowledge regarding the pathogenesis of catarrhal inflammations of the skin of which the cause is known. The vessels of the papillary region react to irritants in the epidermis by dilatation and the outpouring of serum and leucocytes. The serum with its contained leucocytes is attracted to the irritating substance producing the phenomena to which we give the name of dermatitis or eczema. If the cause be a chemical or non-microbic one the dermatitis may cease with its removal.

If primarily microbic or if an infection be superadded the eruption may spread marginally or infect outlying or distant areas of the skin. It does not seem wise, therefore, to attempt to differentiate too sharply the so-called external types of eczema from the ones of which the cause is not at first apparent, for they may have identical clinical and histological features.

The wider our clinical experiences the more liable are we to find deviations from the typical varieties of eczema. We not infrequently see inflammations spreading from the scalp to the ears, face and upper portions of the body where no antecedent seborrheic dermatitis of the scalp existed. The scalp in individuals of uncleanly habits affords an excellent habitat for micro-organisms which, under favorable conditions, excite a spreading dermatitis. All eczemas which originate in the scalp are therefore not necessarily of the seborrheic type described by Unna. On the other hand, seborrheic dermatitis may originate on parts of the body far removed from the scalp and apparently independent of this source of infection.

In a general way we may divide and subdivide inflammations of the skin according to their etiology, site, clinical forms, etc., but we are constantly meeting with cases which are atypical in all of these respects.

The less definite our experience and knowledge, the more inclined are we to overestimate the importance of general conditions and neglect the causes which are apparent.

It is easy to say that eczemas are produced or modified by gouty states, indigestion or some indefinite general disturbance, but the more closely we study our cases in the light of modern knowledge as to possible sources of infection the fewer cases are met with which can not be better explained by some local toxic or microbic irritant. The majority of modern dermatologists admit that parasitic eczemas are met with which can not be differentiated from those of unknown causation. It would not seem possible in all cases or even in the majority of our skin inflammations to say that we can differentiate either by clinical or histologic features those caused by external irritants from the rarer forms in which the etiologic factor is not evident.

Admitting as we must, that the real cause in most of such inflammations is a local one, we should not overlook the importance of general conditions as contributing influences.

Patients suffering with nephritis or glycosuria, as we all know, are easily infected with pyogenic or other organisms. Alterations in the body fluids or tissues in these conditions render them favorable culture media for micro-organisms, consequently we are more apt to meet with erysipelas, boils or carbuncles in such individuals than in healthy ones. For the same reason chronic gastro-intestinal toxemia, anemia or gouty states may render the individual more vulnerable to the agent or agents which excite eczema.

We might with almost as good reason attribute erysipelas, furunculosis or other local infections to nephritis and glycosuria as to say that eczema is only due to such general causes as imperfect metabolism, gout or other morbid conditions.

In other words, if we claim for eczema a cause that must have its seat in the skin, the tissues are prepared for its action by a lowering of their resisting power.

This may be brought about, as we know from a consideration of other infectious processes, by purely local changes, or by some alteration in the fluids of the body.

Following inflammation of the epidermis and papillary body there is a remarkable increase in the irritability of the skin, which manifests itself by itching and other paresthesias. If irritants are applied to such an inflamed surface the morbid processes may be heightened and new centers of infection arise.

The development of such outlying patches have been explained by reflex irritation of the vasomotor centers.

For this and other reasons the nervous system has been supposed to play an active rôle in the evolution of eczema, and all causes which weaken the neuro-vascular tone are believed to render the individual more vulnerable.

Kromayer[1] attributes such importance to the irritability of the skin that he defines eczema as an atypical inflammation which is both the result and cause of an abnormal excitability of this organ.

Crocker,[2] because of the symmetrical outbreak of the disease and the involvement of definite vasomotor areas, is inclined to the belief that the nervous system is concerned in certain of its manifestations.

The symmetry of an eruption is by no means positive proof of the influence of the nervous system or of the constitutional origin of the malady. Scabies is a symmetrical affection, as are also certain eruptions from the local action of drugs or chemical irritants. A dermatitis excited by iodoform or arnica in a susceptible subject may rapidly spread and become symmetrical. It has been assumed in such cases that the outbreak on distant parts of the body is due to absorption and dissemination of the drug through the blood stream or through irritation of the vasomotor centers.

The latter hypothesis has been controverted by Csillag,[3] who has shown by experiments that when an irritant like arnica is limited to a certain spot its action is confined there. If a dermatitis appears on other parts of the body it is due to the accidental transference of the drug to that region.

The conclusions drawn from clinical observation are by no means free from errors, as witness the thousand and one causes which have been invoked to explain the affection in question, and which are largely the reflection of the views regarding pathologic problems prevalent at the time.

Eczemas follow or are associated with some general condition, therefore they are directly due to such a state;

they appear after a depressing mental emotion or shock, consequently the nervous system is concerned in their etiology. Such loose methods of reasoning lead us nowhere and serve only to confuse the problem. We have no experimental methods which can be employed to prove or deny such hypotheses, so that little progress is made by their elaboration.

Clearer ideas regarding the pathogenesis of eczema have been obtained by investigating the types of eruption which are now included in the eczema group. We have in this way gained a fairly well-defined clinical conception of seborrheic eczema and various forms of infectious dermatitis produced by staphylococcus and streptococcus inoculation.

In our search for a local cause in eczema we should by no means minimize the importance of all conditions, both general and local, which favor infection. In hospital and dispensary practice, where less attention is paid to cleanliness, infectious forms of dermatitis are more frequently met with. Among well-to-do patients metabolic disturbances may deserve more attention.

It is perhaps also well to bear in mind the manner in which different individuals react to irritants. After the ingestion of the iodids one person may develop an erythema or urticaria, another a pustular or bullous eruption, a third cutaneous or subcutaneous nodules. Rashes of similar or identical appearance may be called forth by a great variety of drugs.

Brocq,[4] from a consideration of these phenomena, has classified eruptions like urticaria, the erythemata, prurigo, lichen planus and vesicular eczema, as pure cutaneous reactions. His conception of such dermatoses is that they have no precise etiology but may be evoked by a variety of external or internal irritants.

The individual reaction or idiosyncrasy may, therefore, be added to the other general conditions which favor the development of an eruption or determine its type. It is impossible with our present knowledge to frame a single hypothesis which will explain in a satisfactory way the clinical group of inflammations that we are accustomed to class as eczema. The difficulty is further increased by the divergence of opinion as to what constitutes the disease. In Brocq's conception of eczema as a pure cutaneous reaction, he considers only the vesicular type. We have, however, forms of cutaneous catarrh, in which the vesicle does not appear, but where we find under the microscope the same vascular and epithelial changes which exist in certain stages of vesicular eczema. The agent which provokes the outpouring of serum may in one case have such a slight chemiotactic influence as only to give rise to an epithelial edema which stops short of vesicle formation.

The serotactic power of the irritant, on the other hand, may be so intense as to elevate large areas of the stratum corneum. Between these two extremes all grades of epithelial edema may be found, producing slight redness with scaling, vesiculation or large oozing surfaces. The same irritant acting on different individuals may give rise to a vesicular eruption, a scaling erythema or a most intense eczema madidans. It does not seem logical, therefore, to limit our definition of the affection, either from a clinical or histologic standpoint, to a purely vesicular eruption. The nature of the irritant as well as the resisting power of the tissues determines the gross appearance of the eruption.

Brocq's contention that true vesicular eczema should be classed with urticaria, the lichens, etc., as a pure cutaneous reaction, is rather a one-sided view of the question. The nature of the irritant is certainly of equal importance, though we may not be able to maintain with Unna that eczema is a distinct morbid entity always due to a specific agent.

LICHENIFICATION OF THE SKIN.

Little or no attention has been given by dermatologists in this country or England to the endeavors made by Vidal, Brocq and Jacquet and other members of the modern French school to differentiate the condition described by them as lichen simplex, lichenification or *névrodermite* from chronic eczema on the one hand, or lichen planus on the other.

Brocq in numerous contributions to periodical literature and in his article on the lichens[5] contends in a forcible way for the recognition of an independent dermatosis which is met with about the joints, back of the neck, inner aspect of the thighs, and other parts of the body. The condition in question occurs in neurotic subjects and first manifests itself as an obstinate pruritus. Under the influence of scratching the skin becomes altered in color, slightly thickened with deepening of its normal lines and the seat of numerous closely aggregated flat papules of a dull red color.

The papules are less well defined than those of lichen planus and have neither their polygonal outline nor their central umbilication.

Transitional forms are met with which are somewhat difficult to differentiate, but the two eruptions have quite characteristic features which enable them to be recognized by the expert diagnostician.

Névrodermite or lichenification is distinguished from chronic eczema by its peculiar manner of evolution and the absence of vesiculation or crusts. It is always preceded by localized itching and preserves an absolute dryness throughout its course. It is chronic, rebellious to treatment, and tends to relapse.

Lichenification may develop about a patch of chronic eczema, a lichen planus or other dermatoses and thus obscure the underlying condition. The clinical description of the affection with the details of diagnosis are fully considered in Brocq's[5] article and strongly support his contention that the dermatosis deserves a distinct place in dermatologic nomenclature. It is at least descriptive of a clinical condition which can in a certain number of cases be distinguished from lichen planus and chronic circumscribed eczema. In doubtful eruptions an examination of the oral mucous membrane will sometimes determine the diagnosis, for in this region lichen planus presents quite characteristic changes.

The writer has recently had under his care two cases of chronic thickening of the skin with hypertrophy of the horny layer involving the entire cutaneous surface. In both cases intense pruritus was present. Over the extensor surfaces of the joints, the gluteal folds and elsewhere the skin presented typical lichenification. No moist lesions were present in either case, nor was there any development of lichen papules. The histologic changes consisted of a chronic inflammation of the derma with a moderate acanthosis and marked hypertrophy of the stratum corneum.

The conditions described could neither be called chronic eczema nor lichen planus, but corresponded in all details with Brocq's generalized *névrodermite*.

STREPTOGENETIC AND STAPHYLOGENETIC DERMATITIS.

There is little doubt, in the light of modern clinical and bacteriologic research that many types of catarrhal inflammation of the skin which were formerly called

idiopathic eczemas, are in reality due to the local action of the streptococcus and staphylococcus either alone or in combination. The forms of dermatitis which develop on surfaces irritated by purulent discharges from the nose, ears, etc., the spreading dermatitis from chronic leg ulcers, long-standing localized patches of so-called eczema, traumatisms, professional dermatoses, improperly cleansed scalps in infants and adults, are only to be interpreted as infections.

We are largely indebted to the painstaking work of Sabouraud in the bacteriology of post-impetiginous eruptions for the proof of this position, clinical confirmation of which is afforded by daily observation.

Engman[6] has added to our knowledge of these infectious forms of dermatitis by a careful study of a series of cases as well as by experimental inoculations. His observations, which cover a period of several years, recall to all of us some of the types which he has so well described.

In the skin service of the city hospital with which the writer has been connected for many years, such types of infectious dermatitis are more frequently met with than symmetrical vesicular eczemas. It is not unusual to see rapidly spreading scaling and moist dermatitis after local pustular lesions or traumatisms which yield to antiparasitic applications. Eczema madidans can be simulated exactly by streptococcus infection, as was recently illustrated by a personal case. In an elderly man impetiginous lesions appeared over the leg which rapidly became diffuse and destroyed the entire horny layer, leaving a raw surface from which a constant flow of serum took place. The discharge conveyed to other parts of the body reproduced bullous lesions which quickly led to surface erosions with serous discharge.

A paste containing a small amount of ammoniated mercury healed the condition within a week.

The variations in the clinical types of these affections depend, in Engman's opinion, on the chemiotactic power of the organisms and the depth of the accidental inoculation. A toxin whose serotactic power is very great gives rise to an impetigo vesicle, while one less active produces a parakeratosis, widening of the lymph channels in the epidermis, acanthosis, etc., i. e., the epithelial changes of eczema.

The rôle of the streptococcus as a causative agent in impetiginous and bullous affections of the skin and as a secondary complicating factor in many forms of eczema and dermatitis, is assuming more and more importance. Its etiologic relationship in some types of pemphigus has been proven, and it is not unlikely that pemphigus vulgaris may be shown to be an affection of streptogenetic origin.

The writer has recently observed a fatal case of bullous eruption which followed a crushing injury of a finger, in which these organisms were found in the blood and skin lesions. Bullæ were disseminated over the entire cutaneous surface and the clinical picture was one of pemphigus vulgaris.

Krzystalowicz[7] has demonstrated the presence of streptococci in the bullæ as well as the erythematous lesions of a chronic affection of the skin which presented the objective features and course of a pemphigus.

We can not, of course, claim that all cases of pemphigus have a uniform etiology, but we know that forms of bullous dermatitis indistinguishable from that affection are due to the implantation and growth of the streptococcus. A vast amount of bacteriologic research is yet needed to elucidate many of the disputed questions in microbic skin affections.

After we have eliminated from the old group of affections comprised under the name of eczema the so-called infectious eczematoid dermatitis, post impetiginous catarrhs of the skin, seborrheic dermatitis and the class of eruptions called *névrodermites,* we have left acute vesicular eczema often manifesting itself as a symmetrical eruption.

The bacteriologic investigations that have been made in the last few years show that the primary vesicle in cases of this kind, to which it is proposed to restrict the name eczema, is almost invariably sterile, so that although it is conceded by almost everyone that the development of pyogenetic and other microbes on an eczematous surface modifies the pre-existing inflammation, their primary influence in exciting an acute vesicular eczema has only been admitted by a few dermatologists. It would seem because of the amicrobic nature of the primary vesicle that we must admit with the advocates of a constitutional origin for eczema, that such a type exists. We are not, however, forced to accept this view by the failure to detect organisms in the typical lesion of the disease, for the investigations of Bender, Bockhart and v. Gerlach[8] have harmonized in a striking manner the conflicting views which have prevailed.

As a result of numerous experiments with the filtered products of bouillon cultures of staphylococcus aureus and albus typical eruptions of vesicular eczema were produced by these investigators, the early lesions of which were found to be sterile. Staphylococci alone gave rise to miliary pustules or other purulent skin affections, but in combination with the filtered chemical products in bouillon cultures eczematous lesions resulted.

Eczema is not, in their opinion, due to the direct action of these germs, but to the toxin which they secrete.

It is this toxin which is slowly generated from the staphylococci usually present in the skin follicles and which under favorable conditions permeates the perifollicular tissues that produces the phenomena which are called eczema.

The constitutional causes of the disease are the contributing factors which favor the reaction in the skin; the real cause is probably the chemical products of the staphylococci.

REFERENCES.

1. Kromayer: Was ist Eczem? Halle, 1892.
2. Diseases of the Skin, Third Edition, 1903.
3. Is there a reflex eczema? Arch. f. Derm. u. Syph., 63, 1902, p. 213.
4. Conception générale des Dermatoses, La Presse Med., 1902, Nos. 2 and 4. L'Eczema considéré comme une réaction cutanée, Ann. de Dermat. et de Syph., Tome iv, 1903, 177.
5. La Pratique Dermatologique, Tome iii, p. 199.
6. An Infectious Form of an Eczematoid Dermatitis, American Med., vol. iv, 1902, 77, 769-773.
7. Ueber chronische streptogene Hautaffection, Monatsheft f. prak. Derm., Band xxxvi, 1903, p. 165.
8. Experimentelle Untersuchungen über die Aetiologie des Ekzems, Monatsheft f. Prakt. Derm., Bd. xxxiii, 1901.

DISCUSSION.

Dr. Joseph Zeisler, Chicago—I have long held that it is most unfortunate to try to base our conception of any skin disease on etiologic factors alone. The moment we attempt to classify skin diseases on an etiologic basis we must stumble. It would be easy to adduce numerous illustrations to this proposition. Take urticaria; what would become of that rather clearly defined clinical entity if we undertake to divide it as to local causes, intestinal, neurotic causes, and so on? In a great many diseases, like lichen planus or pemphigus, the etiology is almost unknown; therefore, it seems that it would be unwise to separate the various types of what we recognize clinically as eczema according to the different causation. Perhaps in the future we shall have the experiments of Bockhardt, Bender and others confirmed to

the effect that eczema is, after all, in the majority of cases, a parasitic trouble. That parasites form the exciting cause I have little doubt, and nine years ago, before the American Dermatological Association, I attempted to show the probable parasitic nature of eczema, and I am happy to find now that Dr. Fordyce brings out views in conformity with that theory.

DR. L. DUNCAN BULKLEY, New York—Although identified more especially with the internal or constitutional origin of eczema, I recognize fully the local and often microbic element in certain cases. In my lectures I frequently present cases with the diagnosis of parasitic eczema; such are seen especially on the lower extremities, also on the hands and elsewhere, presenting sharply defined outlines. These are often quickly checked by an ointment with powdered rhubarb, 4 or 5 per cent. We also see constantly the seborrheic eczema of Unna, often starting on the scalp and thence affecting other portions, and, with many others, I am inclined to believe it due to the monococcus of Unna or a diplococcus. These we see yield to resorcin and sulphur used in proper combinations. Other impetiginous forms of eczema we all recognize to be influenced by the invasion of staphylococci.

But, after excluding all cases which could come under these or other heads, there are a vast number of cases of eczema where, both from the clinical features and microscopic findings, no parasitic cause can reasonably be claimed; time and again have the vesicles of eczema been examined and found sterile.

Occasionally I take these patients and, for the sake of demonstration at the clinic, give them absolutely no local treatment, or only that which had been ineffectually used previously, and placing them on a rigid diet treat them only with constitutional means. This includes, of course, a most searching study of their functions, analysis of the urine, etc., and such hygienic and medicinal measures as are indicated. Again and again have I seen eczema, which had existed or recurred for years, yield to these measures and patients become freed from eruption with little or no local treatment, certainly none that was antiparasitic. You can not convince me that these are parasitic eczemas, although the claim might be made that the parasite no longer flourished because the soil was unsuitable.

It must be granted that as yet we know very little of the actual constitutional causes of eczema, why one person is affected, and another, under somewhat similar conditions, escapes; the same is true of many other diseases. But the clinical evidence in many directions is often very striking. I have seen many cases occur after mental or nervous shock or strain; also frequently after a series of dinners or after drinking, and all have seen it recur after digestive disorders.

We all know how the skin can be affected by internal causes, as when the eating of mushrooms, strawberries, shellfish, etc., is followed by urticaria. We know as yet very little as to the autointoxication which can arise from the digestive tract, but clinically it is an everyday observation that such may occur, and the vasomotor disturbance which produces an urticaria may increase and cause bullæ to appear, and there is no suggestion of a local parasitic influence. Why may not the lesions of eczema develop from similar causes? I grant that there is much in the constitutional causation of eczema which we can not understand, but I still can not, from a clinical basis, I can not from anything I read or hear, believe that eczema has anything as its ultimate foundation other than a disturbance of the system. I regard this paper, however, as a valuable addition to the study of the subject, and want to thank Dr. Fordyce for presenting it.

DR. A. H. OHMANN-DUMESNIL, St. Louis—To my mind a good deal of the question hinges on the conception of what eczema is. There are so many mistaken ideas now put in print that any person reading them carefully is inclined to look on eczema as a bête noir of dermatology. What is it? Is it a symptom or a disease, or is it a complex of symptoms or the symptom of some internal trouble? There is no doubt there are cases which have no bacterial origin. I have had cases of what is called vesicular eczema, which were entirely protected from all atmospheric influences, where the contents of the vesicles were completely sterile so far as bacteria were concerned. Again, in others you may find bacteria present, anaërobic bacteria. We have here a confusion of terms applicable to what may be regarded as clinical symptoms. The idea is to separate them. We have an interminable discussion taking place on certain questions depending on a confusion of terms. We must agree on the terms of the proposition to be discussed. We must have a positive definition of what eczema is, clinically, bacteriologically and etiologically. We are told that cases of eczema are treated simply by giving a purgative and the case is cured. In fact, eczema, as a gentleman from Chicago said, can be cured by a dose of calomel. It may be, but we could not consider it a case of eczema; it would be more like a dermatitis. So the whole question depends on a definition of terms. Let us recognize what the condition is pathologically and we can discuss more justly the conditions which arise, the different modifications which are present and those means which will produce the most beneficial results.

DR. JAY F. SCHAMBERG, Philadelphia—Staphylococci and streptococci are so commonly found on the cutaneous and mucous surfaces that they may be practically regarded as belonging to the normal flora of these regions. The mere finding of these bacteria in certain lesions of the skin does not necessarily indicate an etiologic relationship. The vesicles of eczema are in the beginning amicrobic; the same is true of the vesicles of smallpox and chickenpox. Indeed, even the pus of early variolous pustules is often sterile as far as the ordinary pyogenic germs are concerned. The late pustules of chickenpox and smallpox, however, nearly always contain streptococci and staphylococci from infection from the skin. There appears to me to be considerable parallelism between this secondary infection and that seen in eczema.

The essayist urges with much force that sharp lines of division can not be drawn between dermatitis and eczema. Typical examples of each condition may be trenchantly separated. In a severe dermatitis resulting from the action of the solar rays we have a very distinct and different picture from a recurrent vesicular eczema of the fingers. But, as the Chairman has pointed out, there are border-line cases in which the clinical features appear to merge into each other and which defy all efforts at differentiation.

The view that eczema is a disease of microbic origin is rather out of harmony with many clinical facts. The skin is an important organ and may, in common with some of the viscera, undergo catarrhal inflammation. Various drugs and toxins in the circulating blood may produce different forms of dermatitis; if the border line between dermatitis and eczema is a shadowy one, why are such agents not capable of directly evoking an eczema? It appears to me that changes in cell metabolism brought about by autointoxication through the bowels and kidneys are capable of eliciting eczemas, without invoking the superadded action of germs in the skin. That various bacteria may complicate and modify the eczematous process must be, I think, generally admitted. Dr. Fordyce's admirable paper offers much food for reflective thought.

DR. JOHN FORDYCE, New York—My reason for writing such a paper was to combat the views which, perhaps, generally prevail among the profession that eczema is necessarily due to constitutional causes. While not wishing to minimize the importance of such general conditions in favoring the development of eczema, I desire to emphasize the rôle played by local causes in exciting the reaction in the epidermis and papillary body to which we generally attach the name of eczema. It seems rational to suppose that such inflammatory changes are due to a local irritant of a microbic or chemical nature, which through its chemotactic power excites an outpouring of leucocytes and serum.

We have almost as good reason for supposing that eczema is caused by a local agent as that acne has such a cause. In both our best results are obtained by the judicious use of local remedies.

Women inspectors of immigration have been tried in New York City and discontinued as being unsatisfactory.

Original Articles.

MERCURIAL TREATMENT OF SYPHILIS.

A FURTHER CONTRIBUTION TO THE STUDY OF MERCURIAL INJECTIONS.*

M. L. HEIDINGSFELD, M.D.
CINCINNATI.

In the light of our present knowledge, success in the treatment of syphilis (at least in its earlier stages), is in direct proportion to the amount of mercury which the infected system can readily assimilate, without insult and injury. This knowledge, though purely empirical, has been so clearly and conclusively established, by centuries of observation and study, that it has become one of the most evident and acceptable of medical facts and so complete and successful have been the achievements of mercury in this direction that the experiments with serum therapy and the efforts to substitute other measures have been entirely devoid of practical results and have gained for themselves simply scientific interest.

Any shortcomings in its therapeutic powers must be imputed, in very large measure, to technical imperfections in its administration, and whatever definite progress syphilitic therapy has made has been along the lines of improved technical administration. That the administration of mercury has not been devoid of technical imperfections is clearly evident, not only from the various methods which have been employed for its successful administrations: through the skin, lungs, blood and lymph circulation and intestinal tract, but also because it has been used in innumerable simple and combined forms. It is equally evident that the technical imperfections, whatever their nature, were not of a character to impair the unqualified power and efficacy of mercury against the disease, but induced minor disturbances, purely secondary in nature, such as inconvenient or difficult administration, inaccurate dosage, and injury or insult to the organ, skin, lungs or intestinal tract against which it was particularly directed. The older forms, both inunctions and intestinal administration, have proven to be eminently reliable and efficacious, as far as checking the ravages of the disease is concerned. When failure has attended either of these forms of administration, non-success could usually be attributed to such causes as too excessive or too prolonged treatment or some grave form of complication. Efforts, therefore, to substitute methods and preparations were instituted more for the purpose of overcoming objections in technic than to achieve any great advance in efficacious action.

The oldest method, that of inunction, is objectionable because it is decidedly uncleanly, not only because a dirty ointment is rubbed freely over the body and frequent bathing is precluded, but because it soils the underclothing and bed clothes. It courts comment and publicity, predisposes an artificial dermatitis, is contraindicated in hairy individuals, and without the aid of an attendant is applied with some difficulty. Many of these objections are obviated by the wearing of mercurialized cloth (Blaschko[1]), or sacks filled with the remedy (Welander[2]), but neither of these methods have been demonstrated to be sufficiently active or reliable to merit special consideration; moreover, mercury being a volatile substance, these various methods are essentially an inhalation method of treatment, and as such are strongly contraindicated in hemoptysis and phthisis, which is also a serious objection to vaporization treatment (calomel fumes, etc.) in every form.

The internal treatment predisposes gastrointestinal disturbance, which is often sufficient to distress the patient, impair digestion, induce loss of weight, and thereby exert debilitating influences of considerable moment to the infected patient. The substitution of a long list of mercurial remedies for the pill mass, gray powder, bichlorid and calomel, in the form of biniodid, protoiodid, tannate of mercury, etc., and a more carefully regulated dosage, has been for the purpose of circumventing these objections, but has been attended with only partial success; moreover, whatever mercury is assimilated by internal treatment is carried directly to the liver, on which it not only exerts a deleterious influence but is in turn subjected to the altering, filtrating and eliminating action of the liver. Both inunctions and internal administrations are inaccurate methods, and it is impossible to determine how much or how little mercury is being assimilated in any given case. This is particularly true in internal treatment, when gastrointestinal symptoms supervene, a goodly portion of the mercury being prematurely carried away by the free discharges. Inspissated gelatin-coated pills or too strongly compressed tablets may not be assimilated and pass through the intestinal tract in unchanged form. Both the inunction and the internal method of treatment permit the patient to indefinitely continue, renew or discontinue treatment in accordance with his own volition, and thereby remove him from the regulating attention and vigilance of his physician which, in a disease prone to exacerbations, recurrences and grave complications, and accompanied by manifestations which are oftentimes overlooked or mistaken for other forms of affection, is a matter of most serious importance.

Most of these objections are entirely obviated by the injection method of treatment, and when Hunter and Hill[3] in 1856, Hebra[4] in 1864, and Scarenzio[5] in 1865, instituted mercurial injections, a new era in syphilitic therapy was marked. These investigations, on account of their severe painful character, were short lived and would have doubtless remained obscure had not Lewin[6] aroused new and well-sustained interest by his investigations in 1868, which were promptly confirmed by Sigmund[7] and Zeissl.[8] The injection method, though free from the many objections of the other methods, has not been entirely devoid of imperfections. Many of the attempts to employ this method have been short lived, and have gained for themselves a vast amount of unfavorable criticism. The innumerable forms of mercury which have been employed for injection purposes, metallic, bichlorid, calomel, yellow oxid, salicylate, sozoiodol, foramid, succinimid, bicyanid, glycocol, aspargin, alamin, thymolo-aceticum, and every form of combination, albuminates, peptonate, benzoates, suspensions in mucilage, oil of vaselin, paraffin, olive oil, lanolin, oil of sweet almonds, etc., bear abundant evidence that these imperfections not only exist but that their solution lies in an improved technic.

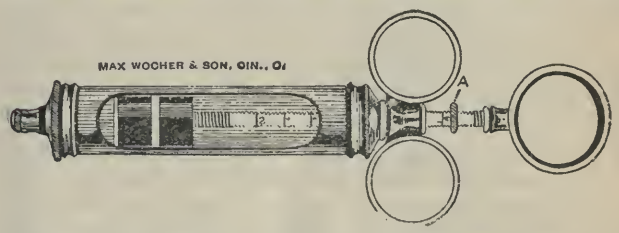
Time and space will not permit a careful consideration of the various causes of the non-success of the various preparations and methods which have been employed for injections; it will suffice to state that the most potent factors in their unsuccessful administrations have been too small and too oft-repeated dosage, which is too expensive and too time-consuming for the average patient; too severe and painful reaction, even

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

to the degree of abscess formation; unstable character and difficult preparation of the remedy; danger of embolism and other grave forms of complication following its administration. A preparation which obviates these objections more successfully, I believe, than others has been the oleum cinereum, or gray oil after the formula of Lang.[9] In a preliminary report read before the Ohio State Medical Society and published in THE JOURNAL[10] of the American Medical Association, the marked advantages of this preparation in modified form, consisting of 3 to 4 parts of mercury to 1 part of lanolin, with just sufficient liquid albolene to render the preparation thin enough for injection purposes, were demonstrated from a series of 2,000 injections covering 240 cases of syphilis in clinical and private practice. Although intolerance was manifested in about 10 per cent. of the cases and the preparation did not possess the full desired degree of stability, I was so favorably impressed with its general excellence that I have continued to use it, as far as practical, to the exclusion of every other form of treatment. Subsequent study and experience has led me to make a few additional modifications, which have obviated the few remaining objections, and have placed it in such a perfected state that I am firmly impressed that it bids fair to ultimately supplant all other forms of treatment.

These changes, and the causes which prompted their consummation, are as follows: In the 2,000 or more injections which were made with the original formula, although Lesser's[11] precaution to remove the syringe from the needle after its deep insertion, in order to test for hemorrhage, had not been observed, not the slightest symptom of embolism, in the form of syncope, cough, pain in the chest, dyspnea, etc., as first observed by Lesser[12] (1 case), and subsequently Lesser[13] (2 cases), Quincke[14] (7 cases), Lindstrom[15] (2 cases), Oedmansson[16] (12 cases), Blaschko[17] (3 cases), Möller[18] (28 cases), and innumerable others was ever noted. Inasmuch as the frequency of embolism, following injections, varies considerably with the experience of different investigators, Möller,[18] for example, has observed it 28 times in 3,835 injections, Neisser[19] once in 800, Epstein[20] 7 times in 8,292, and Harttung[21] but once in 8,000 injections, it can be seriously questioned on the one hand how carefully the symptoms have been observed and interpreted, and on the other how inadvertently overlooked. These facts did not inspire me with such confidence as to not take prompt cognizance of a symptom of such grave nature, however slight in character, and when J. S., aged 29 years, infected himself with syphilis in January, 1902, and underwent a course of mercurial injections in February and March and a second course in July and August, presented himself on Nov. 7, 1902, seven days after he had received the twelfth injection of the third course of injections, instituted Sept. 23, 1902, with a well-marked left-sided facial paralysis, my fears for an untoward result were momentarily, at least, realized. My fear was intensified at this juncture by Dr. Gilbert Bailey, who reported to me that E. P. M., whom I had seen with him in consultation, Oct. 29, 1901, relative to a very grave infection of syphilis which baffled all ordinary measures and whom a course of injections, at that time very materially benefited and for whom he had just administered a subsequent course of injections, had been suddenly seized with a paraplegia of the lower extremities while en route to New York. One physician out of three who had seen the case in consultation in New York City ascribed the paraplegia to the injections, the remaining two, however, dissented from this opinion. Although the symptoms manifested in neither case could be attributed to the injection, the first was a Bell's paralysis, due to a severe cold from which the patient was at that time suffering, as clearly demonstrated by means of immediate tests, and its very brief and uneventful course; the possibility of such an occurrence prompted me to eliminate as much of the danger as circumstances would permit.

The danger of embolism was all the more forcibly impressed on me at this time by some work in paraffin prosthesis which I was pursuing after the method of Gersuny,[22] and particularly by reports of embolism by Pfannenstiel[22] and others, in their experience with paraffin prosthesis. The mineral nature and exceedingly stable character of paraffin and its closely allied product, liquid albolene, which, by reason of its more fluid character, predisposes all the more strongly to embolism when injected subcutaneously, would impart not only antagonistic properties to any area where it would, perchance, find an unfavorable lodgement, but its future disintegration, absorption, elimination and removal would be definitely precluded, according to the interesting and carefully conducted experiments of Juckoff,[24] Hans Meyer,[25] et al., and the lesion would become more or less permanent in character. My prosthetic experiments also demonstrated that paraffin was more or less of a local irritant, and I attributed what little reaction my former mercurial injections induced, which was



sufficient in about 10 per cent. of the cases treated, to warrant a change to some other form of treatment, in large measure directly to the liquid albolene.

I therefore determined to make the injections without incorporating liquid albolene, which has been accomplished, with every indication of complete success, for the past six months, according to the following formula and technic:

℞. Hydrargyri bidistill.*
Lanolin (Liebreich), āā..... 120
Conteratur usque ad perfectissimum extinctionem hydrargyri

Sig.: Inject one to three minims (deep gluteal or subcutaneous interscapular) twice weekly.

This preparation has the consistency of ordinary lanolin, and should be gently heated to about 100 F. before it is drawn into the open glass barrel of a hypodermic syringe. Great care should be exercised to carefully exclude all the air from the properly filled barrel; the syringe is then adjusted and armed with a 7/8 inch 22 gauge needle, the retaining screw (Fig. 1, A) run down, by which successive 1 to 3 minim doses are measured off for subsequent injections. If the preparation in the syringe is maintained at a temperature of 80 to 90 F. an ordinary 20 minim glass barrel syringe can be employed, otherwise an extra heavy syringe—an ordinary dental obtunding syringe (Fig. 1) answers admirably—should be used in order to withstand the pressure.

* Bidistilled mercury, same as dentists employ for the manufacture of amalgams, should be used, which can be readily incorporated into an equal amount, by weight, of lanolin, in a few moments, by rubbing them togethed in a clean mortar, under ordinary aseptic precautions.

This preparation possesses perfect stability at all ordinary temperatures and insures the greatest degree of tolerance; although the remedy has been used, as far as practical, to the exclusion of every other form of treatment, and a thousand injections have, approximately, already been made, there has been relatively little localized reaction and induration and the patients take such little note of subjective pain or distress that they generally can not remember whether the last injection was made in the right or left buttock. A change to some other form of treatment has not been indicated in a single instance. Its semi-solid character (at 50 F. it can be expressed from the syringe in the form of a molded filament) minimizes the little danger that exists from embolism, and it is of such a nature that its complete absorption and elimination is ultimately assured.

The injection should be preferably made deep into the buttocks, perpendicularly to the surface of the skin, at its most prominent aspect, at three to four-day intervals, until 12 to 15 injections have been administered. The initial dose should contain about 1 minim, which can be gradually increased to 2 or even 3 minims (1 to 2 grains or more of metallic mercury to each injection). By this method relatively ten times more mercury is administered with each injection than with regulation 15 to 20 minims of the 1 per cent. bichlorid, foramid or succinimid solutions, and practically twice as much as the regulation injections of calomel, salicylate, thymoloacetate and yellow oxid injections.

In women the injections can be made interscapular, subcutaneously, and, though they are well tolerated, they are usually attended by a slight degree of reaction, owing to their more superficial deposition.

There is no plugging of the needles from the use of this preparation, which is an objection which has been raised against the use of insoluble injections (Bayet[26]). My personal experience impresses me that there is no indication for a progressive decreased dose or gradually prolonged intervals between injections, as urged by Ullmann,[27] Lang,[28] et al., in order to prevent accumulative effects and consequent unfavorable action in ptyalism, mercurial nephritis and allied complications. Mercurial stomatitis was avoided by exercising good care of the teeth, as far as practical; but when it did ensue, in a few instances, as it is frequently wont to occur, especially in clinical practice, its course was scarcely more severe or intractable than when it results from other forms of treatment.

In recent infections the injections were instituted with the appearance of the roseola, in accordance with the well-sustained views of Düring,[29] Taylor[30] and Watrezewski[31]: three courses of injections of 15 each are administered at four-month intervals the first year, two at six-month intervals the second year, one the third and one every two or three years thereafter.

Although the clinical results following the use of this preparation have been uniformly good, and the cases without exception showed prompt and marked improvement, not only in point of rapid amelioration of symptoms, but also in appetite, color and activity, followed by a state of well being that persists for many months after treatment is suspended, the good effects derived from this method do not differ materially, I believe, from those of other methods of treatment. It is simply the assimilated mercury which is effective in all cases and when non-success attends its administration it is due to such causes as faulty assimilation or its deleterious influences on the important organs or the system at large. In the injection treatment mercury is placed where it will do the greatest amount of good with the least deleterious effect, and the other natural advantages, in the way of cleanliness, control of patient, accurate dosage, should justly render it the ideal and popular method of treatment. The obstacles which have heretofore defeated this realization, intolerance, small and oft-repeated dosage, instability, difficult preparation and administration and distressing complications, no longer attain in this new form of treatment.

22 West Seventh street.

BIBLIOGRAPHY.

1. Blaschko: Berlin Klin. Woch., 46, November, 1868.
2. Welander: Archiv f. Dermatologie u. Syph., xivi.
3. Chas. Hunter and Barclay Hill: London Lancet, 1856.
4. Hebra: Zeissl. Lehrbuch d. Constitut. Syph., Erlanger, 1864.
5. Scarenzio: Annali Universali, 602, 1865.
6. Lewin: Annal. d. Charite, xiv, 1868.
7. Sigmund: Wien. Med. Woch., 1870.
8. Zeissl: Lehrbuch d. Syph., 1870, p. 376
9. Lang: Lehrbuch d. Syph., 1890.
10. Heidingsfeld: JOURNAL A. M. A., Sept. 13, 1902.
11. Lesser: Deut. Med. Woch., 1894, 39.
12. Ibid., Viertelj. Zeitschr. f. Derm u. Syph., 1888, p. 909.
13. Ibid., Verhand. d. Deut. Derm. Gesell., 1889, p. 314.
14. Quincke: Berlin Klin. Woch., 1890, p. 401.
15. Lindstrom (Med. Rundsch): Abstr. Archiv d. Derm. u. Syph., 1890, p. 735.
16. Oedmansson: Nord. Med. Archiv., 1891, Bd. xxiii.
17. Blaschko: Deut. Med. Woch., 1892, p. 965.
18. Möller: Archiv f. Derm. u. Syph., 37, p. 395, 1897.
19. Neisser: Archiv f. Derm. u. Syph., p. 336, 1899.
20. Ebstein: Allgem. Med. Central. Zeit., 1897. Nos. 49 u. 50.
21. Harttungg: Deut. Med. Woch., 1894, p. 601.
22. Gersuny: Zeitsch. f. Heitkinde, 1900, 1, No. 9.
23. Pfannenstiel: Centralb. f. Gyn., 1902, No. 2.
24. Juckoff: Archiv f. exper. Path., xxxii, p. 124.
25. Meyer: Münch. Med. Woch., 1901, No. 11.
26. Bayet: Jour. des Malad. Cutan. et Syph., 1895.
27. Ullmann: Wien. Med. Blatter, 1889.
28. Lang: Wien. Med. Wochenschr., 1889.
29. During: Monatssch. f. Prak. Derm., ix, p. 490.
30. Taylor: Medical News, December, 1889.
31. Watrezewski: Archiv f. Derm. u. Syph., xivi, p. 21.

DISCUSSION.

DR. A. H. OHMANN-DUMESNIL, St. Louis—I am very much interested in the hypodermic treatment of syphilis because nowadays I confine almost my entire treatment to that method. I have better control of the patient and the dose of mercury he receives and the regularity with which it is received. I have been in the habit of using a solution of bicyanid of mercury and have never seen any untoward symptoms from its use. In over fifty thousand injections I have never seen a purulent complication. That is easily understood as the bicyanid of mercury is antiseptic. There is no particular pain, although when the solution is strong there may be pain lasting an hour or so, then it disappears. I think it is a good sign of lack of pain in the subjective symptoms when the patient comes back regularly for his injections. I put the patient through a course of from twenty to forty days, then give him a rest of fifteen or twenty days, then give him another course. With that method I have had the pleasure of seeing very good results. In some cases that were old, where there was a right hemiplegia, the paralysis disappears entirely, instead of having paralysis caused by the injections. Cases of syphilitic insanity give way in four or five weeks. In alcoholics and patients with homicidal impulses these symptoms disappear, and I have had patients under observation for five or six years who still remain clear in intellect and with no other symptoms manifest. Judging from these results the hypodermic method of treating syphilis seems to be successful—no untoward symptoms, good final symptoms and progressive improvement. I hardly think any other method could do as well. I agree with the reader that mercurial inunctions are dirty and not always adapted to the case. In Germany you can make these inunctions, the patient will go through his course, and in Hot Springs, Ark., you give him 25 packets, one to be rubbed in daily, and he takes a hot bath to eliminate the mercury, but you see him later on with rheumatism. You would not dare to predict a complete cure from a few injections, but they will predict cures from a few inunctions, which is not true, and if you read the reports they all publish you will find a number of relapses occur, and the treatment is begun again.

DR. J. B. KESSLER, Iowa City, Ia.—This is an ideal treatment, I should judge, but in practicing in a mixed district, country as well as city, the injection treatment would be impracticable in a large number of cases. With inunctions, protoiodid or bichlorid internally, the disease does not yield as readily as by injections. So in city practice, in properly selected cases or in rebellious cases I should judge the injection treatment would be desirable.

DR. H. G. ANTHONY, Chicago—I never employ hypodermic medication as a routine method of treatment. It should only be employed in exceptional cases which will not yield to other methods of treatment or else in conditions which are dangerous to life. Under other circumstances it is my opinion that other methods should be employed. Ever since hypodermic medication has been used the profession has been endeavoring to find some new compound of mercury which was superior to any other. Whether the one the Doctor advocates to-day is better than those which have preceded we can only determine by actual experience, but we do know that of all the compounds of mercury used up to the present time none is so powerful as calomel, and therefore in severe symptoms of syphilis it is best of all to use. It should be used in only a few doses; if two or three doses do not have the effect there is no use in carrying the method farther.

As to the technic, the Doctor plunges his needle perpendicularly to the skin. It has been shown by Möller that with hypodermics of any oil thrown into the gluteal region of the cadaver and carried deeply one injection out of three enters a vein, and that is where there is danger from embolism. In their efforts to avoid an abscess they invented the method of carrying the mercury deep into the tissues, and in doing that the point of the syringe enters the vein and produces an embolus. We can never tell when we will strike a case in which there is an idiosyncrasy to these poisons, where there will be intoxication. This is seen in various cases, where it was necessary to incise the injection and curette the part to remove the mercury and its poisonous effects. Should that become necessary it would be better to have the mercury deposited subcutaneously, and that can be readily done by using a long needle and depositing the mercury at least two inches from the entrance of the point of the needle. That is as good as carrying the mercury deeply.

DR. JOSEPH ZEISLER, Chicago—I do not feel like allowing this subject to pass without saying a word or two regarding the undue authoritative attitude which the reader of the paper assumes when he says he has used this method to the exclusion of all others, and hopes we will adopt the method. The fact is, there is absolutely no method of treating syphilis on record which will surely promise the avoidance of a relapse, and that would be the only criterion, in my opinion, for a method we should be willing to adopt. We use mercury to-day for the treatment of syphilis, unfortunately, I would say, because I am not in love with mercury as a remedy; I look on it as a very poisonous substance which we use for want of anything better. We use it in a symptomatic way; all we can accomplish is the removal of symptoms. If Dr. Heidingsfeld will undertake to treat a patient with hypodermic injections of this gray oil for years I admire his tenacity and the nerve of his patient. Besides, we know that we can not surely cure syphilis with any one method, and it will not do to say one method is better than others; we know that many physicians treat syphilis successfully with internal administration of mercury only, or with injections of the bichlorid, or inunctions, which are not to be forgotten; and we have no right to put one method before another; the selection of this or that method is a matter of personal like and dislike.

I want to call attention to some defects in the Doctor's technic. In using mercurial injections I would never employ a metallic syringe. Mine are made of hard rubber, except the needle, which must be of steel. My needles are twice as long as these. I do not think the Doctor should urge his instrument and technic too strongly on those acquainted with the injection treatment of syphilis.

DR. LUDWIG WEISS, New York—As regards the choice between ointment or subcutaneous treatment of syphilis, I maintain that inunction is the dirtiest but the best method, and the fact that it is somewhat unclean ought not to deter us from using it. Whether or not absorption takes place by pressing the mercury globules into the skin—globules of mercury have been found in the follicles—is a moot question. I always use inunctions unless compelled, by other indications which forbid their use, to employ some other method. It is true that the injection method is clean; it is true that we can gauge our dosage and make it much surer, at the same time we store up mercury in the system the action of which sometimes we are not able to stop. It happened to me in one case, where the patient had a most vigorous elimination of mercury through the salivary glands, as much as three pints a day. The patient died later of brain syphilis and exhaustion. If the patient had been on the injection treatment the stored up mercury would have increased and made uncontrollable this terrible salivation. He was taking inunctions, however, and I stopped the treatment immediately, and so could stop the salivation. There is an advantage in using inunctions, inasmuch as you can stop the treatment and absorption of mercury. In conclusion I will say that by the use of soluble mercurial preparations, like the bichlorid, we need not be afraid of embolism. I would always prefer to use the inunction method, but in using the injection method would recommend the soluble preparations.

DR. M. L. HIEDINGSFELD, Cincinnati—Most of the objections which have been raised in this discussion, in regard to this method of treatment, have been carefully considered and, I believe, fully answered in the body of the paper. I have studiously avoided giving this preparation the preference over any other preparation of mercury, or this form of treatment over any other form of treatment, except on purely empirical grounds, clearly evident to any casual student of medicine. Whether these preferences hold or not must be determined, not by blind skepticism, but also by empiricism, gained from clinical experience. So many preparations and methods of treatment have already been tried and found wanting that a certain amount of skepticism relative to every new form of treatment is readily pardonable, and our preference is naturally for that form which has served us best. If the injection treatment has served best in rebellious and exceptional cases, it seems to me that there can be no valid reason for not using it in every case, unless it be that it distresses sorely or is poorly tolerated. If it is mercury, and mercury only, which is the effective agent in the treatment of syphilis, I can not concur with Dr. Anthony that its salt, calomel, is more powerful, unless it can be proven that it is more easily assimilated, or can be administered in relatively larger dosage. The danger of embolism is, I believe, as I have endeavored to show in the paper, a very much overrated proposition. Möller's investigations and Lesser's views have been disparagingly criticised, notably by Harttung.* My personal experience of over 3,000 injections, without a single well-defined instance, speaks for itself. Dr. Ziesler's objections to the use of a glass metallic syringe are apparently not well sustained. There is but little metallic substance that is not protected by glass or the leather washers in the syringe for the mercury to attack. The most exposed area is the necessarily metallic needles, and if the Doctor is consistent he should not use injections at all. The greatest harm which could result from this action would be the gradual erosion of the syringe; the preparation, I believe, does not materially suffer.

In the preparation and presentation of this paper I have endeavored to carefully observe a conscientious conservatism in all its details, and I trust to the clinical empiricism of the future as to whether conservatism or fervent enthusiasm were the dominating features.

* Arch. f. Derm. u. Syph., xl, p. 91.

Rapid Transit Vibratory Massage.—The *New York Medical Journal* has found a bright side to the terrible jolting on the rough tracks for our municipal street railway systems. It recommends traveling for the purpose of securing the involuntary vibratory gymnastics, which are a fad in some quarters.

REPORT OF A CASE OF FIBROMA MOLLUSCUM.*

HENRY G. ANTHONY, M.D.
PROFESSOR OF SKIN AND VENEREAL DISEASES, CHICAGO POLICLINIC.
CHICAGO.

NARRATION OF CASE.

The patient to whom I wish to direct your attention is a young lady, 25 years old, whose parents are living and healthy. She has several brothers and one sister, who are also in perfect health. No member of her family has had skin lesions similar to hers. There is no family predisposition to tuberculosis, carcinoma, malformations, developmental defects, nevi or insanity. Syphilis may be excluded. Her parents are well-to-do. She has always enjoyed the comforts of a good home, and has never been exposed to the inclemencies of weather. She has never done hard work. Her time has been spent in school and in travel. She has never had a severe illness, excepting spinal curvature, which necessitated the use of a spinal brace from the age of 10 to 16 years. She menstruated when 16 years of age and has been regular.

PRESENT CONDITION.—The patient consulted me because of seborrhea of the scalp, which has recently caused considerable loss of hair, and also because of an eruption of the skin which has been present ten years. The eruption does not produce itching or other subjective symptoms; it is annoying simply because of its cosmetic effect. It does not appear in crops; it is a steady, continuous development, constantly increasing, never disappearing, but the increase is very gradual. It is imperceptible from month to month. It can only be noticed by comparing her present condition with her condition as it was several years ago.

On examination we find that there are two kinds of lesions present: spots of pigmentation and tumors.

PIGMENTATION.—The spots of pigmentation are lentigo-like, of a yellowish color, some being of such a light shade of color as to be scarcely perceptible, while others are like freckles, or the pigmentation of senile atrophy of the skin. The disease began ten years ago with the appearance of these pigmentary lesions. They are found scattered here and there over the chest, abdomen, back, arms, upper part of the forearms, thighs and upper part of the legs. They do not coalesce or follow the course of nerves. They occur sometimes in groups of six to ten, and sometimes they show no tendency to grouping. The individual spots are oval or rectangular in form. They are from pinhead to split-pea size, and somewhat larger. They are somewhat darker in the center than on the periphery.

The skin of the feet and lower part of the legs, the hands and lower part of the forearms is normal. The neck is thickly set with split-pea size pigmentations of a bronze color. The skin of the face is of a light bronze color, which, fortunately, is not mottled, hence it is not very noticeable.

The patient and the members of her family are very positive that this pigmentation of the face has been present since birth, and that only the freckle-like lesions are a later development. They believe that the skin of the face is of a darker hue simply because the patient is a brunette.

That it differs from the normal skin may be shown by the contrast of color when the back of the hand is placed near the cheek.

THE TUMORS.—These lesions commenced to appear seven years ago, and three years after spots of pigmentation were first discovered. They begin as flat plates of induration, of a doughy or pasty consistency, situated in the derma. They are oval or rectangular in form, with a long diameter of from one-half to one centimeter. The color of the integument covering the plates is sometimes normal, in which case they can best be detected by palpation. Sometimes it is of a pinkish or rosy hue. Sometimes the skin is slightly elevated, and sometimes there is no elevation. Sometimes plates develop beneath a spot of pigmentation, and again they do not.

Later, the central portion of the plates softens and becomes slightly elevated, presenting a pseudo-vesicular lesion surmounting the disk. In still older lesions this central softening increases, the pseudo-vesicular lesion becomes elevated one-half to one centimeter, and even more, forming a gelatinous teat-like tumor, the apex of which presents an opaque, mother-of-pearl appearance, resembling collodion or the umbilical cord, while the base of the tumors is covered with normal integument. Some appear as if they were about to rupture, a method of involution which has never been observed, nor have any of them disappeared, leaving scars.

The largest of these tumors (Fig. 2) is situated in the popliteal space of the left leg. It is the size of a hazelnut.

One is quite convinced that, if incised, a jelly-like contents may be squeezed out, but such is not the case. They simply bleed profusely. There are about 100 of these tumors scattered irregularly over the entire body. A few are beginning to appear on the face; on the extremities they are situated mostly on the flexor aspect. There is one on one foot and another on a finger.

By placing a finger on one of these nipple-like tumors it may easily be pressed downward into the skin, conveying a sensation as if the integument is pierced by a hole; the wall of this hole is firm and formed by the peripheral portion of the tumor, which has not yet undergone softening. This peculiarity was also observed in Taylor's case. When released, the tumor springs back to its normal position.

On the back are three sessile fibroma molluscum, and one plaque of pigmentation larger than the lentigines. It is about two inches long and one inch wide. There is another similar plaque on one thigh. (See Fig. 2.)

On the anterior surface of the chest there are two or three punctate, bright red, elevated, telangiectases, angioma simplex of Virchow, angioma senilis of Dubreuihl.

The mental condition of the patient is normal. The mucous membrane of the mouth is normal. The finger nails and toe nails and hair are normal. The urine is normal. All visceral organs are normal. The pulse and temperature are normal.

The thyroid gland is not enlarged, and there are no enlarged lymphatic glands. None of the stigmata of hereditary syphilis are present. There are no tumors about the eyes, and no pterygium.

POSSIBILITIES OF DIAGNOSIS.

We must consider the possibility of this being two distinct and separate diseases in the individual, one of which is a pigmentary disease and the other multiple tumors, and we must also study the case with the possibility in view that this is a single disease, producing both pigmentation and tumors.

Xeroderma pigmentosum requires no serious consideration where there are present lentigo-like pigmentations of long standing, without telangiectasis, atrophy and epitheliomata.

Lipomatosis subepidermalis universalis of Kromeyer,[1] might be considered in connection with the tumors alone.

Kromeyer, you will remember, observed a girl of 10 years of age, who, since infancy, had had lesions on the body, which the mother called blisters. The lesions looked like the bullæ of pemphigus, but were firmer. After incision, fat tissue was squeezed out and microscopical examination of excised tissue showed that the lesions were fatty tumors, situated in the derma.

In Kromeyer's case there was a greater resemblance to bullæ than in my case, and pigmentation was not present.

Inasmuch as Osler[2] has stated that pigmentation of the skin is a common event in splenic anemia, and as there is one case on record of fibroma molluscum in which splenic anemia came into consideration, the case of Webster,[3] the clinician should carefully consider this possibility of diagnosis in all cases where the pigmenta-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

tion is accompanied by enlarged spleen and chronic anemia.

Osler describes the pigmentation of this form of anemia as being of a steel-gray color, like in argyria, and he states that it is possibly produced by arsenic.

Arsenical melanoderma could be excluded in my case, because of the fact that part of the pigmentation, that



Fig. 1.—The lesions on the arm.

of the face, was present at birth and also because of the fact that the patient took no medicine before the freckle-like eruption appeared, when the patient was 15 years old.

Colloid degeneration of the skin differs from our case in the fact that the tumors in that disease are waxy and not so large, so soft or so disseminate, and pigmentation is not present.

Addison's disease should be carefully considered as a possibility of diagnosis, as there are several cases on record in which cutaneous tumors were present, and also because it is possible that the statement of the patient and her family that the bronze pigmentation of the face was present at birth might be incorrect, and there are a few cases on record of freckle-like pigmentation occurring in Addison's disease.

The patient had what was diagnosed as curvature of the spine in youth. Why is it not possible that this was tuberculosis of the spinal column, or Potts' disease, and that we now have tuberculosis of the suprarenals? Examination of the spine shows no deformity or thickening of the bone. The disease has lasted ten years, and there are only two cases of Addison's disease on record which lasted that length of time.

Levin[4] says that the mucous membrane of the mouth is pigmented in 22 per cent. of the cases of Addison's disease. Those parts of the body in which we would

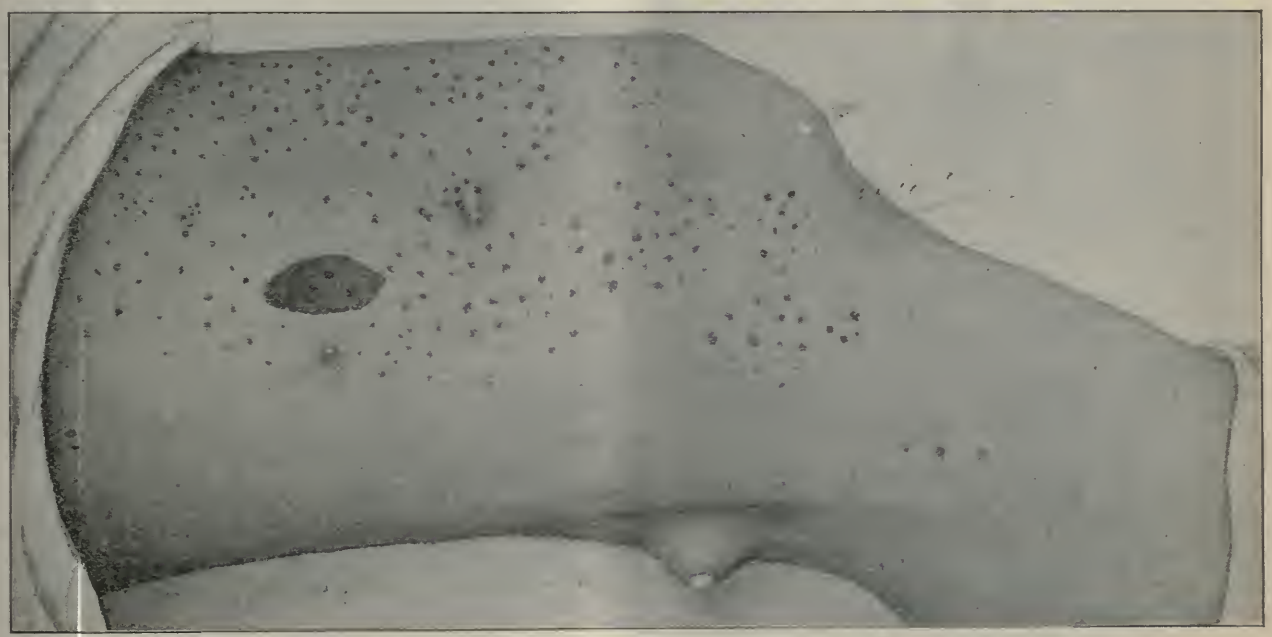


Fig. 2.—The lesions on the leg.

especially expect to find pigmentation, such as the axillary region and nipples, are not especially involved.

Fibroma molluscum is the only other diagnosis which requires serious consideration, and it is also the only diagnosis which is sufficient to explain both the pigmentation and the tumors.

Pigmentation has frequently been observed in this disease. The tumors which we have described are not

the ordinary pedunculated and sessile tumors of fibroma molluscum, but they resemble in many particulars the tumors present in Taylor's case.[5]

Microscopic examination confirms this clinical diagnosis. A spot of pigmentation and also pseudo-vesicular tumor were removed from the arm with a cutaneous punch. The specimens were hardened in Zenker's fluid, passed through Gram's solution, successive strengths of alcohol, imbedded in celloidin, and the sections stained by various methods.

The Pigmentary Lesion.—The stratum corneum is thickened, especially around the follicles. This thickening is not due to an increase in the number of layers of the horny layer of the skin, but to the fact that the individual cells of this layer are less compressed than normal. They are more hexagonal in form than in any other case of fibroma molluscum I have examined. This peculiarity of the stratum corneum is present in all parts of the pigmentary specimen, and also in the tumor specimen. Sections taken from the peripheral portion of the pigmentary lesion show the pigment irregularly scattered through the rete Malpighii, being present in abundance in some parts of a section and almost absent in other parts. It is located especially in the deeper layers of the rete and, in general, resembles the pigmentation of the negro. In the peripheral sections we note some tendency to the downward prolongation and dumb-bell shape of the rete pegs mentioned by Unna in describing pigmentary nevi, certain sarcomas and xeroderma pigmentosum.

On cutting the central portion of the pigmentary lesion, we are surprised to discover a microscopical-sized molluscum, the presence of which we did not clinically suspect. It is located around a sebaceous gland. It does not differ in structure from the tumor present in our tumor specimen. The epidermis over it shows far less pigment than sections taken from the periphery of the specimen.

The Tumor.—The mucous layer, especially over the central portion of the tumor, shows pressure atrophy.

Stained with polychrome methylene blue or by Van Gieson's method and examined with the lower power of the microscope, the tumor mass appears to be composed of a gelatinous or colloid mass, showing some fibrous structure in the peripheral portion of the tumor, but absolutely structureless in the central portion, until the diaphragm of the microscope is closed, when it may be seen that it is nowhere devoid of structure.

The gelatinous mass is thickly studded with strongly refracting nuclei of connective tissue cells. Mast cells are not present in this tumor. We have observed them in some cases of fibroma molluscum, always located on the border of the central gelatinous mass. We can not concur in the opinion of Unna that fibroma molluscum is made up of misplaced epithelium cells. It is my opinion that the entire tumor is composed of a myxofibrous connective tissue of embryonic type, the individual cells of which are occasionally round, but usually are spindle-shaped or else show various modifications of the spindle-shape, and that the nuclei which show such great power of refraction are the nuclei of these spindle-shaped embryonic connective tissue cells.

It is extremely difficult to obtain good preparations of the individual cell. The technic which proved most satisfactory in my hands is the following: A thin section is stained with hematoxylin and eosin. The collodion is dissolved out of it. It is shaken in a test tube for one-half hour. This tears the specimen. A minute fragment of the specimen is selected, teased with needles, and mounted in glycerin, or the specimen may be stained with polychrome methylene blue, in which case I decolorize in wood alcohol rather than in 33 per cent. tannic acid, which is employed by Unna.

I agree with those authorities who believe that fibroma molluscum is a developmental defect. Their point of origin has been the subject of much discussion since von Recklinghausen advanced the theory that they develop from nerve sheaths. I concur in the opinion of Crocker, who says that they may originate anywhere in the derma or subdermal tissue.

For some unassignable cause, the embryonic connective tissue cells which are spindle-shaped and have elongated nuclei, retain these characteristics in certain locations, and in extrauterine life these deposits of embryonic connective tissue develop, forming the tumors which we clinically call fibroma molluscum.

Being a developmental defect, we are not surprised that fibroma molluscum should exist in families, though this is by no means as common as some writers would have us believe, nor are we surprised that it should sometimes be accompanied by other developmental defects, such as asymmetrical development of the face, as in the case of Danlos,[6] or generalized ichthyosis, enlarged thyroid and nervousness, possibly Basedow's disease, as in the case of Hallopeau,[7] or fibroid tumors of visceral organs, or mental defect, as in a number of cases, or that accompanying the general pigmentation, the skin of the neck should present the appearance of xeroderma pigmentosum, as in the case of Brigidi,[8] or that there should be present patches, one-half of which were telangiectases and the other half pigmentation, as in Crocker's case.

I believe that telangiectases occur in association with fibroma molluscum far more frequently than is generally believed.

CENTRAL SOFTENING OF FIBROMA MOLLUSCUM.

The point of greatest interest in connection with the tumors of this case is the central softening which was present in the older tumors. Reasoning *a priori*, one would suppose that the central softening was due to degeneration analogous to that which may be observed in uterine fibroids; such is, however, not the case. I can find no difference in the histologic structure of those tumors which clinically show central softening from those which do not show central softening.

I believe central softening is due to location and the manner of growth. Where the tumor is superficially located and tends to spread laterally, as it increases in size, central softening will occur, while where situated more deeply and showing less tendency to lateral development, it will assume the ordinary forms of sessile and pedunculated or subcutaneous fibroma molluscum.

THE PIGMENTATIONS OF FIBROMA MOLLUSCUM.

In my opinion, pigmentation is just as much a part of fibroma molluscum as is tumor formation.

Stelwagon[9] is almost the only author of a text-book who describes these pigmentations. He says: "Other lesions sometimes associated are brownish pigmented stains, sometimes freckle-like, small or large areas, and occasionally more or less defined discolorations. While, as Wickham states, some authors touch on this feature, present in many cases, by others it is entirely ignored. In Wickham's eight generalized cases such pigmentary conditions were present in all."

Brocq[10] says that these pigmentations are nevi and that they are usually present in association with the tumors of fibroma molluscum.

Besnier[11] says the tumors are nevi, but makes no mention of the pigmentations.

There have been a good many cases reported in which pigmentations were present.

The pigmentations are of two kinds—large plaques and lentigines. The large plaques are the more common. They have a distinct outline. They are dollar to hand size, and even larger, and present various shades of yellow and brown color. Sometimes there is but a single patch present, and sometimes the patches are quite numerous. The back is their favorite seat of location.

Why abnormal pigmentation should be present in some cases of fibroma molluscum and not in others is not known.

The histology of pigmentations occurring in association with developmental defects has not been sufficiently studied. Even in the latest reported cases of xeroderma pigmentosum and fibroma molluscum, the microscopic findings of the pigmented areas are not recorded.

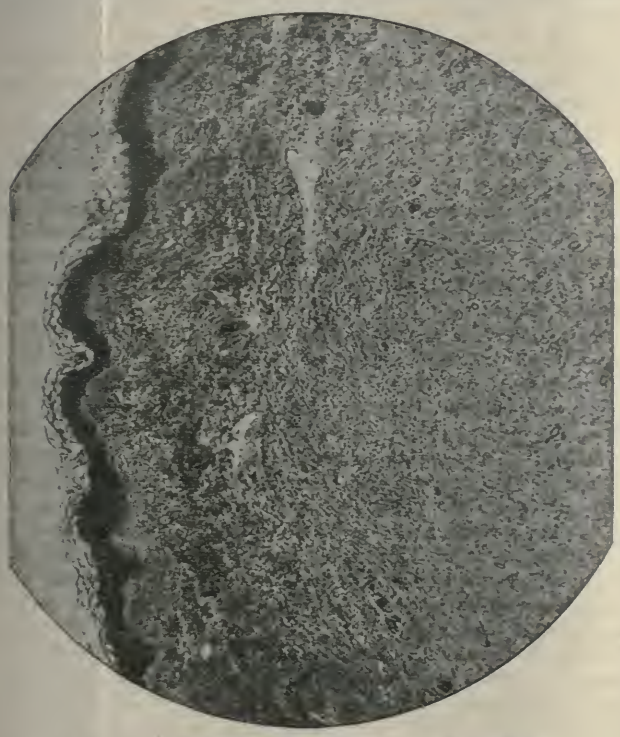


Fig. 3.—Tissue under low power of microscope.

Duhring[12] says: "While, in the white race, pigmentation of the skin is due mainly to the deposit of pigmentation in the mucous layer, the connective tissue of the corium probably plays the principal part in its production. This observation is particularly noticeable in pathologic conditions."

Fibroma molluscum, as is well known, is a common malformation in the colored race. I have observed the large plaque variety of pigmentation on the backs of negroes on several occasions. They stand out prominently from the general pigmented surface, because of a different shade of color. The freckle-like form I have only seen in the white race; it is rare, and when present is usually associated with large plaques and is apt to have an extensive distribution.

Severe and wasting diseases sometimes precipitate the development of both the tumors and the pigmentations; in fact, patients often state that the first evidence of disease was observed after an illness. Careful questioning, however, usually elicits the fact that there were some lesions present since infancy.

I am convinced that some cases of this character have been reported as cases of Addison's disease associated with tumors, and where no disease of the suprarenal capsules was found on postmortem, arsenic has usually been assigned as the cause of the pigmentation. That

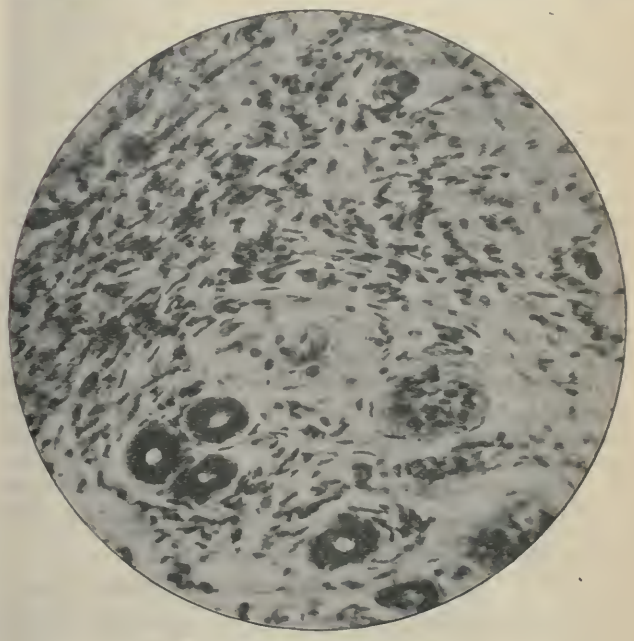


Fig. 4.—Same. High power.

there could possibly be any relationship between the pigmentation and the tumors is not mentioned in the report of any one of these cases. When once observed, the diagnosis of the pigmentation of fibroma molluscum is not a matter of difficulty. Had my case been seen

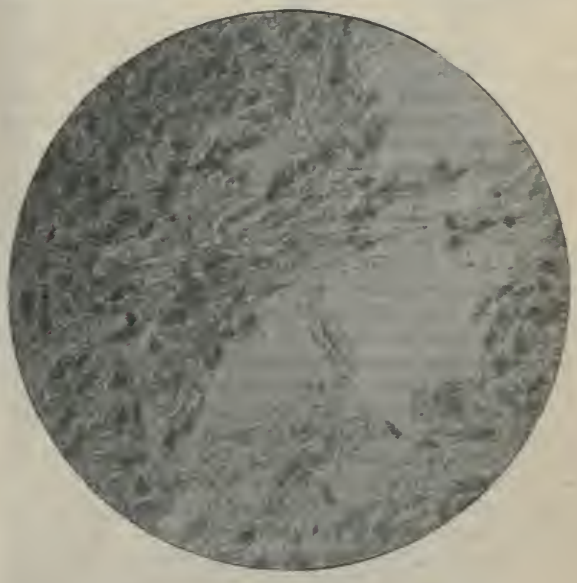


Fig. 5.—Teased specimen of tissue.

in infancy, at which time there were no lesions present excepting a light bronze color of the face, contracting with the color of the general integument, we undertake to say that there are but few clinicians who would have diagnosed beginning fibroma molluscum, and yet this diffuse light pigmentation of the face is, in my opinion, one of the characteristics of this condition, worthy of especial attention, as I have seen it in other cases.

Cases may be observed in which tumors are present without pigmentations. Cases may be observed in which both tumors and pigmentations are present, and I believe cases may be observed in which pigmentations are present without tumors.

A few years ago I observed a lady who presented a peculiar pigmentation of the face. It was diffuse, of a light yellow shade of color, very noticeable, limited to the face and neck. I learned that she had always had this color and that her sister was afflicted in the same way. I examined both of these women, but found no evidence of fibroma molluscum in either of them; nevertheless, that was the only diagnosis I could offer.

Crocker[13] says: "Sangster showed a young man to the Dermatological Society, in 1893, who had extensive freckles and pigment patches of a square inch in size all over the body, buttocks and thighs, nearly to the knees. The face was free. It began in the first or second year of life. A brother had the same, and his mother, who died of cancer, was similarly pigmented on the upper part of the chest."

With such a family history and typical pigmentations, I would not hesitate to make the diagnosis fibroma molluscum without tumor formation.

BIBLIOGRAPHY.

1. Kromeyer: Allgemeine Path. und Ther. der Hautkrankheiten, p. 186.
2. Osler: Transactions of the Association of American Physicians, 1902, vol. xvii, p. 443.
3. Webster: Journal A. M. A., vol. xl, p. 887.
4. Levin: Charite Annales, 1892.
5. Taylor: Journal of Cutaneous and Genito-Urinary Diseases, 1887.
6. Danlos: Annales de Dermatologie et Syphilographie, 1900, p. 394.
7. Hallopeau: Annales de Dermatologie et Syphilographie, 1902, p. 613.
8. Brigide: Monatshefte f. Dermatologie, 1894, p. 190.
9. Stelwagon: Diseases of the Skin, p. 656.
10. Brocq: Traitement des Maladies de la Peau, p. 542.
11. Besnier and Doyen: Pathologie et Traitement des Maladies de la Peau, p. 315.
12. Duhring: Cutaneous Medicine, vol. I.
13. Crocker: Diseases of the Skin, Third Edition, p. 660.

DISCUSSION.

Dr. M. L. Heidingsfeld, Cincinnati—Dr. Anthony's instructive paper appeals to my particular interest, because I have had occasion to report some clinical data and the results of a pathologic study of a typical case in the *American Journal of Dermatology*, July, 1900. This case also showed, in addition to hundreds of large and small sessile and pedunculated excrescences, a large number of pigmentations which closely resembled ordinary lentigines. Small areas of leucoderma were also in evidence. I endeavored to determine in the pathologic investigation the exact nature and the origin of these peculiar growths, whether or not they were derived from pre-existing connective tissue (Rokitansky) fat, (Virchow) or hair follicles (Fagge). No special technic was employed in order to attempt to confirm von Recklinghausen's opinion that they are neurofibromata and are derived from medullated nerve fibers. My efforts were particularly directed to determine whether or not these forms of growth could be distinctly classed with the fibromata or connective tissue tumors. Connective tissue reduplication in the form of tumor formation is one of the rarest conditions encountered in dermatology, which is remarkable when we consider with what frequency and facility the other elements of the skin, glands, epidermis, fat, etc., reduplicate themselves. There is only one distinct form which can be readily classed with the true fibroconnective tissue tumors, and that is true keloid. False keloid, because it shows no tendency to enlarge or progress beyond a certain point, can scarcely be classed with the fibroconnective tissue tumors. The cells of the molluscum fibromata contained irregularly or oval-shaped nuclei, uniformly distributed in an almost homogeneous intracellular substance, which is faintly fibrillated, but the fibrils can not be traced to any distance, as in the case of the ordinary forms of fibroconnective tissue, and even embryonic connective tissue. Although the cells are somewhat spindle-shaped, there is no marked progressive change towards elongated connective tissue-like spindles, and nowhere is there any evidence of a distinct connective tissue formation, which is an important link, when we try to class these growths with the embryonic connective tissue group. There are many minor distinguishing features which also serve to distinguish these growths from each other and place them in separate classes. In other respects my findings conform to those of Dr. Anthony. Hair follicles were present, but showed no cystic dilatation and no hypertrophy, but rather pressure atrophy. Mast cells were abundantly present, particularly at the periphery of the growth in the surrounding connective tissue.

Dr. L. Duncan Bulkley, New York—In regard to therapeutic measures in these cases of molluscum, we know nothing to do for them as a rule but excision. I have a man under my care who must have had many thousands of these little tumors. I have been using on some of these little tumors a high-frequency electric current with a carbon electrode. The effect of this is to inflame them and cause a superficial slough; under this many of them have shrunken down and are disappearing. As far as I know this is a new method of treating multiple fibroma. In the three or four weeks I have been applying this method many of the tumors have shrunken and disappeared. I merely suggest it, but would like to have those who have static machines try it.

Dr. John A. Fordyce, New York—I find among the photographs which I brought to the meeting one which is almost a counterpart of Dr. Anthony's. I have seen two cases of molluscum fibrosum with pigmentation of the skin of the type he describes. Minor grades of pigmentation in connection with the affection are not so uncommon. The development of the two conditions are probably closely related.

Dr. Henry G. Anthony, Chicago—In answer to Dr. Heidingsfeld, I excluded xeroderma pigmentosum. There is no leucoderma in this case; I did not mention it because I was not trying to embrace everything known regarding fibroma molluscum. The histology of fibroma molluscum has long been a subject of discussion and a great many men have worked along the line of trying to determine what relation it has to the nerves. They have not paid sufficient attention to the histologic structure of the cells. When I had separated the individual cells so that I could see them I concluded they were embryonic connective tissue cells; they resembled that more than anything else. I took my specimen to a general pathologist and asked, "Do you think those are embryonic connective tissues?" He said, "Certainly! where did you get them?" Then I consulted another man without telling him where I obtained the tissue, and asked him what it was. He said the same thing. The idea I have in mind is this: We know that the cells of the embryo are first round and then they become spindle-shaped with a marked nucleus, and under normal conditions these embryonic cells are transformed into connective tissue cells in the latter part of intrauterine life. For some reason, possibly the presence of the toxins of the chronic infectious diseases, this change does not properly proceed in certain locations, scattered here and there over the surface of the body. Then the individual is born with deposits of embryonic connective cells, the presence of which is not suspected until the system is subjected to a severe strain, such as puberty, as in my case; then these hidden deposits of embryonic connective tissue grow and produce the tumors which we call fibroma molluscum. Supposing the strain which caused these deposits of embryonic connective tissue to develop should be tuberculosis of the apex of the lung, when the diagnosis which has always been made up to this time has been tuberculosis of the lung, pigmentations of Addison's disease, from tuberculosis of the suprarenal capsule and "tumors which the dermatologist calls fibroma molluscum." In other words, the clinician does not realize that there is a relationship between the tumors and the pigmentation. As I have shown, any pathologic condition of the derma may cause a hypertrophy of pigment in the epidermis, hence were concealed deposits of embryonic connective tissue cells present in the derma they could easily produce a case in

which pigmentation would be present without tumor formation.

The case Dr. Fordyce shows closely resembles mine and the fact that pigmentation was also present in his case should convince every one that I am right in stating that it is an essential part of fibroma molluscum.

THE TREATMENT OF LEPROSY.

DISCUSSION ON THE PAPER READ AT NEW ORLEANS BY A. H. OHMANN-DUMESNIL, ST. LOUIS.*

DR. JAY F. SCHAMBERG, Philadelphia—Some of those present will doubtless remember the reports published by Dr. Dyer a few years ago on the results of antivenomous serum in the treatment of leprosy. I had occasion, three or four years ago, to use in the Municipal Hospital of Philadelphia some antivenene, obtained from Dr. Calmette of Lille, France. The leprous patient received 9 injections of this serum, each injection being followed by a febrile reaction. At the end of the ninth injection the temperature rose to a considerable degree and the patient passed through a long febrile course which was recognized as a typical typhoid fever, which disease was prevailing to an alarming extent in Philadelphia at the time. The development of typhoid fever was, of course, a pure coincidence. The leprous manifestations were not influenced by the serum nor by the typhoid fever, and the fever itself was not in any way modified by the chronic infectious disease from which the patient was suffering.

DR. J. H. DUNCAN, St. Louis—We do not see much of leprosy in St. Louis. About two years ago I had a patient living in one of the Gulf cities. I exhibited the case to our Willan Dermatological Society. Examination was made of sections from the nodules by Dr. Engman, and it was pronounced leprosy. One case of leprosy from St. Louis had been to Unna and returned after two or three years apparently cured; there were no lesions and the patient seemed well, as our cases of syphilis seem well. I was not prepared to treat leprosy, and at the suggestion of Dr. Engman I referred this lady to Unna, and she went. That is over two years ago, and she has written me probably three letters, each letter stating that she is improving, the disease is disappearing, but the Doctor tells her she must stay a year or two longer. A few months ago her brother came to me with letters and pictures from her, photographs of the condition of parts of the body taken when she went to Unna and of the same parts taken eighteen months after she went there, and the change in the appearance of the part to me, who am not very familiar with leprosy, was most marked. She wrote most glowing letters about the disappearance of the lesions.

Dr Dumesnil speaks of a cure. I do not know what he means, but the case which came back from Unna three years ago is to all appearances well. I am told he still takes internal medicine.

DR. M. P. VANDEBHORCK, Minneapolis—I have had some experience with leprosy in Minneapolis. We have in Minnesota on record some 78 or 79 cases, mostly among Norwegians. In the treatment of those under my care I use local applications of chrysarobin, and I have seen nodules disappear in a day or two by being covered with chrysarobin paste. We have gotten good results from chaulmoogra oil; it always improves them. I had one patient who had lost one eye and had ulcers all over the body, the nodules being very pronounced. At the time he came under my care he weighed 120 pounds; he was taken to the City Hospital and isolated. We put him on chaulmoogra oil, with good food and hygiene, and later on he weighed from 190 to 200 pounds, and kept in good health ten years, until he died from an attack of pneumonia. None of these cases has been cured; relapses would come after the medicine was stopped, and sometimes the symptoms were graver than before. We have no ideal treatment for it; there is no cure we know of, but we all hope much from serum therapy. Our health officer has been watching the cases throughout the state, and with improved hygienic conditions is getting good results. The first case I mentioned came under my care in the fall of 1888, and I had him under close observation for ten years. He died in good condition so far as the leprosy was concerned. Others have died from tuberculosis.

DR. J. N. ROUSSEL, New Orleans—I would like to report a case in a man treated with chlorate of potash. The man was 50 years old. He had had the disease two or three years. The foreleg and feet were very much tumefied from about the middle third of the foreleg, with many ulcers present. The hands were also badly involved with tubercles and ulcers. The disease was of the tubercular type, and, strange to say, one side (the right side) was always worse than the other. He had lost the power of sensation entirely. I could apply the cautery to him without pain. After two months' use of the chlorate of potash the tumefaction began to disappear, sensation began to return, the ulcers all healed, and to-day, after about a year, he seems to be apparently well. He has no ulcerations, feels well, sensation is normal, and in every respect he is apparently well.

DR. JOHN A. FORDYCE, New York—In the class of infectious granulomata to which leprosy belongs it is not unusual to see the tumors disappear by spontaneous involution. We see it in syphilis. I have had a good many lepers under observation in the hospital, and under better hygienic conditions and chaulmoogra oil the tumors disappear, but they usually come back again, while the patient's general condition grows worse. I have personal knowledge of one case in which a cure has resulted. This patient, a well-to-do woman, was under the care of Dr. Morrow of New York. She showed the pigmentary lesions of anesthetic leprosy. The Doctor informs me that he saw her within the last year and that all the skin lesions and the anesthesia had disappeared. She had had no recurrence after eight or ten years. That is the only case in which I have personal knowledge of a cure. I think in the anesthetic type the prognosis is much more favorable and a certain number of cases do get well, but they are usually badly deformed. In this particular case there seemed to be an absolute cure with little evidence of the disease having been present.

DR. A. H. OHMANN-DUMESNIL, in closing the discussion, said: Of course, we can all detail apparent cures. For instance, in the case of a woman from Mexico, a case of tuberculo-anesthetic leprosy, sensation was entirely gone all over the body. Under heavy doses of ichthyol internally, four grams three times a day, she had a well-pronounced ichthyolic fetor; in two weeks the tumors disappeared, and if I passed a fine hair over her neck she felt it. Unfortunately, she did not live long; in the St. Louis cyclone she fell dead of fright. I have been very unfortunate in not being able to follow cases for years. I have seen a cured (?) case of Unna's. In this pyrogallic acid was used for the tubercular lesions, and he gave her internal treatment with ichthyol. She improved some until she arrived in St. Louis, when she gradually got worse and worse and suddenly disappeared. So far as the cure is concerned, I found in these cases when I went deeply into the tissues I could find microbic changes indicative of the lepra process or the bacillus of Hansen. Until everything gives reactions and permits us to see that the tissues are all normal and the absence of specific bacteria is demonstrated, we can not say a case is cured. I am doubtful of the cure of a case of leprosy up to the present because we have had no opportunity of proving the matter definitely. Another thing, there is a question as to whether a supposed cure of leprosy is placed under conditions which will prevent a relapse. Is the patient so placed that there is no possibility of environment favoring a relapse? If the patient can be segregated for a number of years we can argue from that basis, but if other conditions are permitted to work, if there is the possibility of the original potential condition, it is difficult in order to secure proof of a cure to eliminate all the factors which may be potential in the development of the disease.

*The paper appeared in THE JOURNAL, May 16, 1903.

The Degenerate Thermometer.—Some physicians have been testing thermometers in common use in hospitals, and find them to vary in some cases as much as two and one-half degrees. In connection with the advertisements of cheap thermometers and of thermometers given as premiums, the warning is timely.

NOTES ON THE TREATMENT OF LICHEN PLANUS.*

JOSEPH ZEISLER, M.D.
Professor of Skin and Venereal Diseases, Northwestern University.
CHICAGO.

Intelligent treatment should be based, whenever possible, on a clear conception of the causes of disease. Etiology is bound to constitute, for many years to come, the most fruitful field for the student of dermatology, for at the present time it is but fair to confess that the essential nature of some of the most common diseases of the skin is very far from being clear to us. I need only refer to eczema, acne, psoriasis and pemphigus. Individual cases of these may admit of a satisfactory explanation; taken in their totality, we know precious little about their cause.

The same holds true of lichen planus. The most complete treatises of the day are of a remarkable unanimity in admitting our ignorance as to its etiology. In preparing this paper I have carefully studied my private case records for the past sixteen years. I have found notes of 71 instances of lichen planus out of a total of about 7,000 cutaneous affections. This proportion is considerably in excess of that given by the statistics of the American Dermatological Association, which show a relative frequency of only about 0.3 per cent. But it is a well-known fact that lichen planus occurs decidedly more often among the better classes, while being comparatively rare in dispensary and hospital practice.

Of my 71 patients, 44 were males and 27 females. The majority of them were between 30 and 50 years old. The youngest was 15 and the oldest 65 years old.

In many cases absolutely no tangible cause could be detected. Taking my male cases together it would be easy to recognize them as belonging to a class of strenuous workers. Three were hard-working physicians; two were medical students in their last year at school; several were merchants with intense business activity; one a banker; one a clergyman; one a capitalist, the manager of several large estates and enormously active in public affairs; one a lawyer. Of my female patients, several offered a rather distinct clew as to the origin of their trouble. One could easily trace the appearance of the eruption to the severe shock caused by the loss of a beloved grown-up daughter; in two cases abortion seemed to be the starting point. In one case, a young lady of 19, with a very generalized eruption, it seemed to be complicated by a pulmonary trouble and general exhaustion. In a few instances intense social activity seemed the only explanation. Many of my patients were in what appeared to be perfect physical health.

The relationship to syphilis was suggested in a very remarkable case occurring in a physician who consulted me about eight years ago with a classical outbreak of polygonal lichen papules, the diagnosis being confirmed also by another colleague of much experience. This patient presented the peculiar phenomenon of multiple enlargement of the lymphatic glands, so that the question of syphilis was seriously considered; but with the absence of any primary lesion or any other concomitant symptoms that diagnosis was discarded for the time being. The patient's general physique, particularly his respiratory organs, being somewhat weak, general tuberculosis was thought of, and he was advised to spend a few months in the South, while taking the prescribed treatment for his lichen. He returned from there entirely free of the previous eruption, but now had an unmistakable palmar syphilide, the diagnosis of which again I was supported in by the colleague referred to. In the course of events the diagnosis of syphilis was borne out by further symptoms. The question has often occurred to me whether the original lichen eruption was not probably an unusual manifestation of syphilis, which disease, as is well known, is the most perfect imitator of many other cutaneous lesions.

As may be gathered from the foregoing remarks, the indications for the causal treatment of the skin eruptions in my cases were few. My therapeutic efforts during the first years of my practice were strongly influenced by the tradition of the Vienna school, which has always maintained the almost specific efficacy of arsenic in lichen planus. Many excellent results I could record with this drug; in some cases a good deal of anxiety was the result of it; in a few utter failure. Besnier, who rather severely criticises the employment of arsenic as a specific, says very tersely: "We do not treat lichen; we treat the persons affected by it." But this epigram could be used with equal force in a great many cutaneous diseases.

My attitude at the present moment is to the effect that in generalized eruptions of lichen planus I would always resort to arsenic as the remedy of choice; while in the more localized or milder forms of the disease I would rather employ milder forms of treatment. The systematic and persistent use of arsenic taxes the patience of the physician and the endurance of his client at times to a degree bordering on heroism. To find, instead of improvement, that the eruption may for weeks become intensified and the pruritus almost unbearable, is certainly discouraging to both parties. Yet I must declare that some of the most brilliant and enduring results in the treatment of the disease have been achieved after just such exasperating conditions. I need not dwell in detail on the form of administering arsenic. As it is difficult to see patients daily for the purpose of hypodermic medication, I have, as a rule, used either the well-known Asiatic pills in a somewhat modified form, or Fowler's solution, which acts equally well. My present plan is usually to begin with small doses, say an average of two drops three times a day, and to increase each dose daily by one-quarter of a drop up to the point of tolerance, but rarely exceeding 15 drops three times daily; then a return in the same proportion gradually to the small dose, and repeating this course several times if necessary.

The occasional failures mentioned above, the production of arsenical keratosis on the palms and soles in some instances and at times distinct intolerance on the part of the patient, have caused me long ago to abandon arsenic as the only or the principal remedy for lichen planus. Chiefly induced by the advice of French observers, notably Brocq and Jacquet, I have in the past eight years given a prominent part in the management of these cases to hydrotherapy, after the following fashion: My patients are instructed to take, preferably during the forenoon, a tepid bath, in which they remain quietly ten to fifteen minutes, when, by means of a hose attached to the mixer they start to irrigate the region of the spinal column, beginning at the nape of the neck, with first lukewarm and gradually quite cold water, winding up with a general sponging, and finally a half hour's rest in their bath robe. My patients are unanimous in praising the wholesome, invigorating effect of this procedure, and many have insisted on continuing it long after they are perfectly cured. One of my patients who, 13 years ago, had an exceedingly severe at-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

tack of lichen planus and who then was cured by vigorous arsenical treatment, recently presented himself, after that long interval, with a rather mild recurrence of his old trouble. He implored me to spare him the severe annoyance produced by his former treatment and I gladly consented. A course of baths as described and a free use of lithia tablets accomplished within six weeks a perfect recovery.

My experience with mercurial preparations is somewhat limited. In several instances where arsenic seemed to disagree, or where it aggravated the eruption, I have switched off rather abruptly to the protoiodid of mercury in quarter-grain doses, and have seen some decided results from it.

I usually make it a rule to use alkaline diuretics as an adjuvant to other treatments, and, as previously mentioned, even as an independent and principal medication.

General tonics and restoratives, as, for instance, cod-liver oil and malt preparations, were occasionally employed.

As regards local treatment, I have for years made use of Unna's well-known ointment, containing 4 per cent. carbolic acid and 0.2 per cent. of bichlorid of mercury. I have never used it, as he has, alone, but only as an adjunct to other methods.

Whoever has seen much of the hypertrophic or corneous forms of lichen planus will agree with me that these forms have heretofore resisted all efforts, even in cases where simultaneous generalized eruptions of lichen planus were easily managed. In some such rebellious cases I have formerly resorted to the most energetic local applications, as, for instance, pyrogallic acid, chrysarobin, and even the vigorous use of the curette, followed by caustic applications. These forms I now invariably treat by exposures to *x*-rays, and I have now notes of five cases in which large patches of that kind yielded to as few as four to six exposures to a fairly strong light for ten to fifteen minutes at intervals of three to four days. We are gradually getting to expect all sorts of wonders from the *x*-rays. Their efficacy in hypertrophic lichen planus seems to me very noteworthy indeed.

DISCUSSION.

DR. WILLIAM L. BAUM, Chicago—Recently, in making some examinations as to the cause of symptomatic pruritis, I have had occasion to do considerable work in the analysis of the urine in patients suffering from various skin lesions which are supposed to be associated with irritation or malnutrition of the nerve centers, one of these being a case of lichen planus. The urine, which was apparently normal in all of these cases, was deficient in urea. In other words, urine which had a specific gravity of 1020 had only 0.8 per cent. of urea and at the same time a corresponding increase in the phosphates. By paying considerable attention to increased elimination, especially of the portal and renal circulation, it was found much easier to relieve these cases. I might call attention to the fact that this case had reacted very unfavorably to the internal administration of arsenic, and I had given as high as half a grain hypodermically, which had been borne poorly. With increased elimination the patient seemed to bear the larger doses of arsenic much better and made a rapid recovery. I would suggest that it might be well in all cases to examine closely into the matter of elimination.

DR. JAY F. SCHAMBERG, Philadelphia—I agree with Dr. Zeisler as to the influence of mercury in lichen planus. I remember a few patients with this disease of several months' duration who did not improve under the ordinary arsenical treatment, but in whom the use of mercury in similar dosage to that employed by Dr. Zeisler was followed by prompt and gratifying cure.

DR. A. H. OHMANN-DUMESNIL, St. Louis—I have had good results from the use of arsenious acid in some cases of lichen planus. I prefer arsenious acid to Fowler's solution, which I find produces a factitious zona. A patient whom I treated with it once told me: "I have shingles, Doctor." I discontinued Fowler's solution, put him on arsenious acid and he went on without further trouble. Instead of using protoiodid I use bichlorid of mercury. I suppose it makes little difference provided you have the mercurial effect, but I prefer the protoiodid.

DR. M. L. HEIDINGSFELD, Cincinnati—Has Dr. Zeisler ever tried the hypodermic injection of arsenic, in any of its various forms, and with what results, in the treatment of lichen planus? I have had cases which were refractory to the internal treatment, both where the Asiatic pill and Fowler's solution were administered, the eruption either failing to yield or the patient being distressed by the remedy, that yielded promptly and completely to injections of sodium cacodylate or sodium arsenate. My preference is for twenty-five minim injections of a 5 per cent. solution of sodium arsenate.

DR. J. H. DUNCAN, St. Louis—In my early experience in dermatology I used the arsenical treatment in lichen planus, but of late years have used almost exclusively the mercurial treatment, and am satisfied that the cure has been more rapid. I have used the bichlorid. At the same time I endeavor to build my patients up. All my cases without exception have been very much impaired in health, especially the nervous system involved.

DR. J. B. SHELLMIRE, Dallas, Texas—Some four years ago I treated a case of syphilitic stricture of the rectum that had an aggravated case of lichen planus. After using arsenic without effect I saw a report by Dr. T. A. Lusk on lichen planus in syphilitics treated by protoiodid of mercury. I put the patient on this treatment and the result was remarkable. Later on I saw a discussion where Lusk's paper was mentioned, and the conclusion was that protoiodid of mercury was as good in cases of lichen planus which were not syphilitic as in the syphilitic ones. Those who have spoken to-day corroborate that conclusion.

DR. JOSEPH ZEISLER, Chicago—I did not go into the etiology any more than by way of reference. I would have been interested to hear from those who have seen many instances of lichen planus if they had ever been in a position of doubt concerning the eruption being a pure lichen or of a syphilitic nature.

In answer to Dr. Heidingsfeld, I have spoken of the hypodermic method and explained why I did not give it a permanent place in my treatment. It would necessitate the patient's visit every day, which is not convenient. Further, in my opinion, we could not expect the same results from arsenic used hypodermically as from other forms of arsenical treatment unless we increased the dose gradually, which is not practical.

DR. M. L. HEIDINGSFELD, Cincinnati—I missed hearing the first part of the paper and therefore failed to note what was said relative to hypodermic injections. I do not find it necessary to give the injections oftener than once every two or three days, but in case I did I would not allow it to stand in my way for the welfare of the patient. There is one reason which should appeal strongly in favor of the hypodermic method over other methods of administration. The hypodermic route avoids the filtrating, altering and eliminating action of the liver, which exerts this function, as we are learning to believe, against just such toxic substances. Its relative greater efficacy could be readily explained on this ground, and its deleterious action on the internal viscera is likewise avoided.

Syphilis Visceralis as a Surgical Affection.—Trinkler advises in the Russian specialist journal that an exploratory laparotomy is far better in dubious cases than to postpone intervention until after the effect of mercurial treatment is ascertained, as otherwise the proper moment for the operation may have passed. He advises surgery for syphilitic affections of the liver when the trouble is a single gumma or the tying-off of a lobe by adhesions. He illustrates by cases the benefits of prompt exploratory laparotomy and the dangers of delay. In two of the cases he describes appendicitis had originated in luetic alterations due in one instance to hereditary and in the other to acquired syphilis.

THE PATHOLOGY OF SUMMER DIARRHEAS OF CHILDREN.*

G. W. BOOT, M.D.
EVANSTON, ILL.

The following classification of diarrheas of children, while not perfect, will give some idea of the relation of the summer diarrheas of children to other diarrheas:

1. Mucous disease.
2. Diarrheas of indigestion.
3. Diarrheas due to food infection.
   - A. The result of preformed poisons, e. g., tyrotoxicon, etc.
   - B. Diarrheas due to bacterial or other infection in which the medium of infection is the food, and in which the poisons causing the diarrhea are elaborated within the body.
     - *a*. Tuberculosis of the intestine.
     - *b*. Typhoid fever.
     - *c*. Amebic dysentery.
     - *d*. Cholera.
     - *e*. Entero-colitis due to Shiga's bacillus.
     - *f*. Miscellaneous infections.

Mucous disease, tuberculosis, typhoid fever, amebic dysentery and cholera do not fall within the class of diseases under discussion, so will be dismissed at once.

Diarrheas of indigestion are more common in summer because improper feeding is more easily accomplished in summer than in winter. Many cases where diarrhea is due to indigestion are also cases where diarrhea is due equally to food infection. Cases of pure diarrheas of indigestion are comparatively rare and have, as a rule, very little to show in pathologic changes. Indigestion may cause an acute catarrhal inflammation of the stomach. It is less apt to cause a catarrhal enteritis. If improper feeding is continued there may result a chronic gastritis or a chronic enteritis. This state of things is seen in some cases of rickets.

Diarrheas due to food infection are by far the most frequent class of diarrheas of children, and because of the greater ease of infection in summer and the greater rapidity with which infection multiplies in warm weather, they are the forms of diarrhea usually considered under the name summer diarrhea.

We sometimes see cases of diarrhea where the disease is due wholly to ingestion of toxic substances already formed in the food as a result of bacterial growth, and without infection of the patient. Such cases are rare and are cases of poisoning pure and simple. The lesions are those of an irritant poison.

More common are cases where the preformed poison is the predominating element, although the bacteria that caused the toxins are not destroyed. Such cases are the fulminating cases that are taken suddenly with severe diarrhea and great prostration. The term cholera infantum is probably best applied to this class of cases. These cases run an acute course and the patient is often dead before there has been time for any marked lesion to develop. There is apt to be very little apparent on postmortem examination. There is often some congestion of the intestinal mucosa with punctate hemorrhages. There may be an increased amount of mucus present in the intestine. The intestine is apt to be nearly empty. The tissues of the whole body may show the results of the abstraction of the large amount of water that has resulted from the numerous watery stools. The kidneys may show acute parenchymatous degeneration.

In cases of longer duration the lesions are more marked. This class merges by imperceptible degrees into the next class where diarrhea is due chiefly to bacterial infection of the intestinal contents and intestinal walls. Some of these cases are, no doubt, cases of blood infection; such are typhoid fever cases. While typhoid is not strictly a summer disease it is nearly related to the class of diseases under consideration. The known facts that typhoid in children is less apt to be accompanied by intestinal ulceration and that it runs a shorter course, while, at the same time, it is not apt to end fatally, would explain why typhoid could be easily mistaken for one of the other forms of diarrhea. This similarity is not to be wondered at when one considers the very close similarity of the colon bacillus, the typhoid bacillus and the bacillus of Shiga.

Streptococcus infection seems to be an occasional cause of diarrhea in children. It does not seem to be a very common cause, most of the cases reported having been cases where the diarrhea was but a part of a general septicemia.[1] Such cases have been accompanied by such changes as interstitial gastritis, enteritis, colitis, hyaline degeneration of the mesenteric glands, hemorrhage into the spleen, parenchymatous degeneration of the epithelium of the convoluted tubules, hyperemia of the lungs, degeneration of the alveolar and bronchial epithelium, small celled infiltration of the interstitial substance of the lungs, parenchymatous degeneration of the pancreas, etc. Streptococci are often present in small numbers where the infection is evidently due to some other cause.

Maggiore considered it highly probable that dysentery in adults was due to a *Bacillus coli communis* of intensified virulence and this conception was shared by Laveran, Arnaud, Escherich, Celli and Fiocca.[2] Ciechanowski and Nowak concluded that a virulent *Bacterium coli commune* or a similar germ caused dysentery.[3] Escherich[4] quotes Dana as finding the *Bacterium coli* as the cause of infantile dysentery. He found it in pure cultures in the stools. Of 15 cases of infantile diarrhea (between 6 months and 6 years) in his clinic, Escherich had 7 fatal cases. The disease was evidently contagious. The contagion was carried to his own 13-month-old daughter. Escherich believed the *Bacterium coli* was the cause of these cases of infantile colitis. Celli and Fiocca[2] isolated a bacillus from cases of dysentery and produced dysentery in cats with it. Later Celli and Valenti[5] concluded that their *Bacterium coli dysentericum* was identical with the bacillus of Shiga. They found it to be the cause of dysentery in Italy (Rome).

It seems highly probable that the *Bacillus coli communis* is at times the cause of diarrheas in children, but it seems much more probable that a bacillus of the same group, though a distinct species, is the specific cause of most cases of summer diarrheas. This germ is the bacillus of Shiga, which first came into prominence through the investigations of Shiga into the cause of epidemic dysentery in Japan. It is probable that the same bacillus has been previously described by Celli and Fiocca and by Celli and Valenti. Flexner isolated it from a case of dysentery in Manila, and Kruse in Germany found it also in cases of dysentery. The most convincing proof that it is the cause of summer diarrhea of children comes from Duval and Bassett,[6] who report that they isolated it from 42 cases of summer diarrhea of infants in the United States. They did not find this bacillus in the stools of healthy infants nor in the stools of infants that had simple diarrheas. The blood of infants that had summer diarrhea caused agglutination of

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Shiga's bacillus, and blood of other infants did not cause such agglutination. The proof that bacillary dysentery of adults and summer diarrheas of children are often due to the same bacillus or to varieties of the same bacillus is apparently complete.

The bacillus of Shiga is said to resemble the *Bacillus typhosus,* consisting of short rods with rounded ends, usually occurring single, but sometimes in pairs. No flagella were found by Shiga.[7] No spores have been found. It grows at room temperature, but better at body temperature. In the fastigium of the disease the slimy, bloody stools gave almost a pure culture. When the stools became purulent the colon bacillus and streptococci became more numerous. It was never found in the stools of healthy persons. Serum from patients with dysentery caused agglutination of the bacillus. Serum from other patients did not cause such agglutination. A culture injected intraperitoneally into guinea-pigs[8] caused enlargement of inguinal and axillary glands, exudation of fluid into the peritoneal cavity, exudation over the spleen, liver and intestines and ecchymoses into the intestinal walls.

Shiga found the bacillus in the rectal walls, in the walls of the ascending colon and in the mesenteric lymph glands, as well as in the intestinal contents. He inoculated himself with a dead culture and concluded, as a result of his experiments, that the poisons of the bacillus were more virulent to the human body than those of typhoid or cholera. The changes caused by the bacillus were most marked in the large intestine. The lower part of the ileum was more markedly affected than any other part of the small intestine. The stomach usually escaped. This localization of the disease process coincides closely with that of summer diarrheas of children.

In summer diarrheas of children there may be some gastritis, but it is rarely well marked. There may be some points of extravasated blood, but as a rule the stomach is free from change. The upper part of the small intestine is also usually free from change, but as we pass toward the ileocecal valve the changes appear. In the mildest cases there is but a moderate congestion. In more severe cases there are points of hemorrhage into the intestinal wall. In cases still a little more severe there are found localized areas of necrosis of the mucosa and submucosa and if the patient has lived long enough there is ulceration. The mucosa is infiltrated with round cells. Bacilli are found in the tissues of the mucosa and submucosa, rarely deeper. In some cases there is a necrosis of the mucous membrane as a whole and a transformation of it into a whitish, leather-like substance which shows no sign of nuclear staining. This layer is sharply differentiated from the inflammatory zone underneath.[9]

In cases of less severity the intestinal glands may be found in a state of cystic dilatation. Small hemorrhages are characteristic of this form of infection. In the more chronic cases there is a marked infiltration of the intestinal walls, so that they are thickened and stiffer than normal while at the same time their lumen is narrowed.

The mesenteric lymph glands usually show some changes, being enlarged as a rule. The kidneys are apt to show parenchymatous degeneration. Other organs show changes at times, but these are inconstant.

BIBLIOGRAPHY.

1. Fischl: Zeitschrift f. Heilkunde, xv, 1894.
2. Flexner: Johns Hopkins Hospital Bulletin, 115, October, 1900, p. 232.
3. Ciechanowski and Nowak: Centralbl. f. Bakt. u. Parasit., 1898, Bd. xxiii, p. 493, et seq.
4. Escherich: Centralbl. f. Bakt. u. Parasit., 1898, Bd. xxvi, p. 386.
5. Celli and Valenti: Centralbl. f. Bakt. u. Parasit., 1899, Bd. xxv, p. 487.
6. Duval and Bassett: American Medicine, Sept. 13, 1902, p. 417.
7. Shiga: Centralbl. f. Bakt. u. Parasit., 1898, Bd. xxiv, p. 824.
8. Flexner: Centralbl. f. Bakt. u. Parasit., 1900, Bd. xxviii, p. 626, et seq.
9. Escherich: Centralbl. f. Bakt. u. Parasit., 1899, Bd. xxvi, p. 386, et seq.

EVERY-DAY PROBLEMS IN INFANT FEEDING.*

HENRY ENOS TULEY, M.D.

Professor of Obstetrics, Medical Department Kentucky University; ex-Secretary and Chairman Section on Diseases of Children, American Medical Association.

LOUISVILLE, KY.

The every-day problems in infant feeding are many and complex, requiring careful study and observation of the individual infant. The necessity for a close watching of the feeding of infants, both while at the breast and when artificially fed, can not be too strongly emphasized.

While, as a general rule, it may be stated the ideal food is a healthy breast milk, this is not always the case, for not infrequently a mother has an abundant supply but secretes a milk which is unsuited to the needs of her own baby. These cases, however, are the exception, and it is infrequent that we find an unsuitable breast milk which can not be changed by suitable remedial measures, hence I can not refrain from saying a word against the unnatural mother who refuses to nurse her infant from purely selfish reasons, that she may have more time for society or pleasure. No physician should be a party to this or encourage it in any way, unless it can be plainly shown by most careful examination that the milk is unsuited and beyond remedial measures. The few cases I have seen during the past year, where the necessity for weaning has arisen early from unsurmountable reasons, have been enough to impress on me the unwisdom of voluntarily surrendering a good breast milk supply for the uncertainties of artificial feeding.

The mother of one of these children began to menstruate four weeks after her delivery. Immediately her baby, which was doing well previously, began vomiting and purging. The second month, with a similar occurrence, I was called to see the child in an exactly similar attack, and an examination of the breast milk showed it to be heavily loaded with colostrum corpuscles. The child was ill for several days, was weaned and has until the past two months been a constant care and anxiety, because of the difficulty in finding a suitable food for it.

During the first week a newborn baby frequently exhibits a temperature of 101, 102 or 103, which will be reduced on the advent of the mother's milk or after an artificial feeding. I have recently dismissed a case which showed a temperature of 104 on the fourth day. The mother, a multipara, had large, pendulous breasts, but the secretion of milk was very slow; not until the fifth day were the breasts at all full, and were at no time tense or engorged. A feeding of modified cow's milk, from two to four drams, after each nursing reduced the temperature to normal in two days. This condition, known as "starvation temperature" or "inanition fever" (Holt), is not generally recognized, and the recital of this case alone should be an incentive to have the temperature of all newborn babies taken at

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least twice daily during the first week after birth. In the presence of a temperature an artificial feeding of a modified cow's milk is indicated; it can do no harm even if there be another cause present for the rise, but it will generally be sufficient to cause a satisfactory and permanent reduction.

There may be an ample supply of a good milk, but the absence of a serviceable nipple may prevent the child's obtaining it. I have often seen this, and it is now my routine practice to make as early an examination of the breasts and nipples of a pregnant woman as possible, especially in primipara, in order to give instructions in the massage of flat and depressed nipples. By massage and training a very serviceable nipple can be made from an unpromising one if the treatment is begun early enough. The wearing of tight corsets or clothing should be advised against during pregnancy, but especially in the presence of flat or depressed nipples. A careful inquiry should also be made of multipara in regard to their lactation history, as having a bearing on the possibility of nursing the new baby.

An infant's progress may be watched by noting its weight, the presence or absence of vomiting, the stools, the time and amount of crying, but the most important, perhaps, all else being equal, is the weight. A newborn baby loses in weight during the first week, but by the end of the second week, or sooner, it should have regained its birth weight, and after this it should gain not less than four ounces a week.

A stationary weight or a loss after the second week; vomiting, not simply a slight regurgitation; colic; continuous crying; diarrhea, with green, mucous movements containing curds, should be an indication for a close investigation of the breast milk, the frequency and time of nursing and the daily routine of the baby's life.

I have had very satisfactory results from the employment of Holt's milk test for the clinical examination of breast milk, and have had good results in modifying breast milk to meet indications as shown by this test taken in connection with the symptoms presented by the child.

A high percentage of proteids is evidenced by colic, crying, with a doubling up of the legs, tense abdomen, green, mucous stools containing curds. This very often occurs while the mother is lying-in, but as soon as she gets up and is enabled to take the proper exercise, the increased proportion of proteids is generally decreased. Should this relatively high percentage of proteids with low percentage of fat persist, and the plentiful supply keep up, much help can be had from pumping or milking out the fore milk from the breast, the child being allowed to nurse only the middle milk and strippings. Taking the child from the breast before it has finished nursing and giving it a small quantity of barley water, previously dextrinized, from a bottle, will often relieve the colic, lessen the diarrhea and make the curds smaller.

Too much fat, which I have met but a few times, causes vomiting and diarrhea, with few or no curds in the movements. If too much fat is present there may be found in the stools small round masses which resemble curds very much, but are smooth and soft and not so white as curds.

A too small milk supply calls for active treatment. It is evidenced by a stationary weight or a loss in the weight of the infant; crying within a few minutes after leaving the breast and sucking vigorously on its fists after nursing. If the deficiency in supply is the only fault, it may frequently be increased by such galactogogues as nutrolactis or somatose, free drinking of milk, cocoa or chocolate and the cereal gruels. Alcoholic beverages are to be avoided, as they encourage the secretion of a milk with a deficiency in its life-giving properties and an increase in the watery element. If this does not correct the difficulty, the child should be put on a modified cow's milk, of suitable formula, in addition to the nursing, giving at first one or two drams to an infant of four weeks immediately after a breast feeding, gradually increasing the amount as indicated. This will generally suffice to obtain a satisfactory report as to its weight.

Holt's plan of having weekly reports sent on specially printed cards is to be commended. This report, which includes the babies' weight, stools, sleep, etc., enables him to watch the progress of those babies under his care and to put the proper interpretation on abnormal movements, restlessness or no gain or a loss in weight. In this way many babies could be saved perhaps serious attacks of bowel or digestive trouble by an early notification of abnormalities. Mothers are too prone to attribute digestive disturbances to teething, which, if promptly attended to, might prove of little moment; neglected, they might result seriously or fatally.

With a good milk supply, regularity of nursing, infrequent or no night nursing, a child will generally do well; a good supply with a disregard of these requisites will result, perhaps, in serious digestive derangements. Should a combined breast and artificial feeding be necessary, the one or two night feedings should be breast milk, if for no other reason than the convenience to the parents. The only objection to this is the possibility of the mother falling asleep and allowing the child to lie with the nipple in its mouth for several hours at a time.

A condition which may give rise to serious digestive disturbances is nursing from a cracked or fissured nipple. The milk is mixed with blood drawn from the crack, which results in an indigestion, vomiting, etc. Indeed, a fissured nipple may be so intractable as to prevent maternal nursing entirely.

We would advise against maternal nursing in a tuberculous mother, or one the subject of a serious puerperal infection. A suppurating mastitis is not a contraindication to nursing, as it is an exception for the abscess to invade a milk duct. Regular nursing is an assistance rather than a detriment.

The problems, then, to be met in the supervision of breast feeding would be: 1. The increase of a too small supply. 2. Changing the character of the milk, (*a*) decreasing the proteids, (*b*) increasing the fat, (*c*) decreasing the fat. 3. To make serviceable nipples out of flat and depressed ones. 4. To supply an artificial or adjuvant food in case of a good but too small supply from the breast. 5. To continue nursing during a suppurating mastitis and retain the integrity of the gland after a subsidence of the inflammation.

The every-day problems of an entire artificial feeding are even more difficult of solution than those of breast feeding. It is not possible to have a set rule for guidance in all cases. Cow's milk for most cases is unquestionably best, but we frequently meet with cases in which no formula nor any method of home modification can be made to agree with the child.

It is my opinion that none of the artificial foods are suited for long administration to an infant. Sooner or later cow's milk must be given in some form to prevent the nutritional disorders which are certain to follow their long and exclusive administration.

In the choice of artificial foods, and no one food or one dilution or combination will agree with every child, those should be selected with which it is possible to combine milk in some proportion. Condensed milk in combination with some of the milk foods or a small percentage of cream can frequently be borne when other foods or combinations have failed. Without some such combination the results from an exclusive condensed milk feeding will be far from satisfactory. Condensed milk has much to commend it; it is one of the best foods for the poor and ignorant, is generally within their means, is easily kept sterile and is easily prepared. Its chief advantage lies in the small percentage of fat when the milk is diluted according to directions sufficiently to bring the percentage of proteids within the limits of digestion. Its long continuance results in such nutritional disorders as scorbutus and rachitis, and when the necessity arises for giving another milk it is difficult to change because of the taste acquired for the over-sweet condensed milk.

If a cow's milk is to be used, and it should be tried whenever possible, it is necessary for the physician to master the problems of percentage feeding and adopt some method of calculation of the prescription. There are a number of these by which very satisfactory results can be obtained at home.

He should be perfectly familiar with the supply of milk, its analysis, place and mode of production and process of handling, modification at home, care afterward, care of bottles and vessels used in the modification.

Minute and careful written instructions should be given regarding the feeding of an infant, and these should not be diverged from at all. Like the treatment of typhoid fever in a child, eternal vigilance is the price of success. Trust nothing to nature unaided.

111 West Kentucky Street.

INFANT FEEDING.*

ALEXANDER McALISTER, M.D.
CAMDEN, N. J.

Both our common humanity and our public economy demand that all preventable infantile mortality be speedily prevented. That many deaths are preventable by the successful employment of known methods of feeding is clearly proven. According to a noted English statistician the present mortality among infants of his country is as high as it was fifty years ago. This is probably too gloomy an aspect to take of the subject to do justice to the facts in the case. That this statement does not apply to the American people may at least afford a measure of personal gratification; but the demands of a still too large infant mortality on our profession are none the less urgent and perennial. These demands are made on the entire profession rather than on the pediatric specialist, for, while the latter stands forth more and more conspicuously the leader in thought and action, it is on the rank and file of the army, the general practitioners, that the hardest fighting inevitably falls.

It has been observed that the general practitioner, regarded from the view point of his labors, is the great pediatric specialist of his day, yet that in point of his knowledge, as a rule, he fails to deserve that distinction.

In the selection of a subject the writer chose "Infant Feeding" because of its important bearing on infant mortality. It is not the purpose to cover the subject, or even to take up in detail one or more phases of this subject, but rather to dwell on a few of the most salient points of the present interest with reference to recent progress and changes in the artificial feeding of infants.

It is interesting to note the growth of sentiment against artificial feeding, except as a final resort. The importance of allowing infants at least part breast feeding whenever this is possible, is now being emphasized more than ever. We are waking up to the fact that there is much erroneous belief in regard to the inability of mothers to suckle their offspring. These are capital evidences of progress. The beneficent influences of proper feeding on the infant, child and adult are a well-spring of life, and conversely, the pernicious effects of improper feeding on the tender little being as long as life continues are a relentless and irremediable source of disease. Such being the case, how befitting that at each annual convention much time is devoted to the consideration of this subject.

Progress in infant feeding heretofore has been lamentably slow, at times almost inconceivable, yet none the less positive and commendable. Unfortunately we learn much simply to be unlearned again by tedious deductions and eliminations. The importance we attached to artificial foods twenty years ago and that attached to condensed milk ten years ago are familiar examples.

The failure to rate morbidity second only to mortality in the estimation of food values in the feeding of infants is fruitful of incalculable evils. The laity judges of food value by two time-honored standards, one being negative and the other positive. The first is that the infant does not die, or conversely, "that it lives"; and the second that the infant thrives, or as commonly stated. "that it grows fat." The latter is always based on very superficial observation, and forms the kernel of the higher valued testimonials which manufacturers utilize in exploiting the virtues of artificial foods.

How easy the task for medical men to commit the same errors of judgment, adipose tissue being peculiarly deceptive in artificially fed infants. The mere fact that the infant lives and is growing fat easily makes an increasing morbidity which fatally exposes the infant to the first attack of one of the acute maladies.

The writer is not one to lay the death of every infant to the charge of the food employed in its behalf. The method of feeding may be alone at fault. Both over-feeding and under-feeding have their train of pernicious results properly classed as food disorders. These are frequently more or less obscure and generally but vaguely definable. Sterilized or pasteurized cow's milk and the various artificial foods of the market are fruitful sources of such results of improper food and faulty methods of feeding.

On the other hand, it must be admitted that many an apparently thrifty infant's death is in reality attributable to deeply-rooted results of improper nutrition.

This strictly modern subject of morbidity is receiving increasing attention. We have come to the time when methods to reduce mortality and methods to reduce morbidity must be considered side by side and conjointly. The American Pediatric Society did a noble work simply in calling specific attention of the medical world to this important subject about four years ago in a general inquiry into the prevalency of scurvy and rickets in artificially fed infants.

The tendency of to-day is to return to Nature's beneficent provisions and methods and to have more regard for the specific needs of the individual infant. We have learned to recognize in cow's milk Nature's abundant

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substitute for mother's milk. We want simplicity in food and method of preparation rather than complexity and artificiality.

We are ready to abandon wholesaling and turn our best attention to individualization. Wholesale sterilization or pasteurization is not much advocated in this, the twentieth century. Laboratory milk is not so much heard of now in the foreground of pediatric teachings. Sterilized or pasteurized milk is first class in specific instances and to meet special indications, but falls short of being the best at our command for all infants and all conditions.

The relative value of recognized methods of feeding infants as esteemed by leading pediatric specialists at home and abroad, in the writer's estimation, may be summed up in the following order:

1. Exclusive breast nursing.
2. Mixed feeding, the infant having the advantage of more or less breast milk daily whenever and so long as this is possible.
3. Cow's milk modified in the home, water, lime water or a simple demulcent being employed as a diluent.
4. Dispensary and commercially pasteurized milk.
5. Boiled top milk variously diluted to suit the infant's needs.
6. Whole cow's milk modified by admixture of one of the artificial foods.
7. Condensed milk and the several cereal and milk foods.

582 Federal Street.

INFANT DIGESTIVE DISTURBANCES.*

A. C. COTTON, A.M., M.D.
CHICAGO.

Infancy and childhood are the periods of life in which digestive disorders are most prevalent and fatal. In children of all ages a transient form may occur at any season, with a decided predilection, however, for the heated term. In midwinter occasional attacks of more or less severe, although usually transient, diarrhea without fatal tendency are seen. It is in the three summer months that enteric disorders, with diarrhea as a common symptom, are most fatal. This clinical fact is so well recognized, indeed, that the term summer diarrhea has gained a prominent place in the nosology of early life.

The mortality among infants and children during the summer months from digestive disorders exceeds that from all other diseases during the same period. Comparative statistics show that the greatest susceptibility to summer diarrhea is found between the ages of 6 to 18 months, during which time the death rate from this cause is manifold that seen at any other age. The well-known mother's dread of the second summer is a clinical recognition of this fact.

The death rate seems to divide this subject into two classes, viz., early infancy and late infancy. It is a common clinical observation that the persistency of digestive disturbance, due to the introduction of an irritant, diminishes with the age of the child after two years. So that with increasing age there is a steady diminution in the severity of diarrheal disorders and a corresponding decrease in mortality from this cause.

The first class includes infants during the milk-feeding period up to about the middle of the second year, while the second includes infants from 18 to 36 months. After the latter age, severe attacks of diarrhea are so infrequent as rarely to require the attendance of a physician.

In these disorders the onset is sometimes sudden, ushered in by a convulsion, vomiting and diarrhea. There is usually high temperature, thirst and nausea which make the infant clutch at food, but push it quickly aside as soon as a few mouthfuls have been swallowed. Restlessness is nearly always present. The stools may change suddenly, or there may be an interval of two or three days of preceding departure from the normal in frequency and character. There may be a great deal of colicky pain.

The infant, while apparently in perfect health, may develop vomiting, the matter ejected being at first the contents of the stomach little changed, highly acid, or densely curdled, to be followed soon, however, by a watery mucoid and sometimes by bile-stained fluid, less acid or even alkaline in reaction. Diarrhea frequently accompanies and invariably follows the onset of the disturbance. The first dejections may be nearly normal, but quickly change, showing evidence of fermentation and later of putrefaction, finally becoming serous. The odor of the stool varies from the normal acid to intensely fecal and later to a sickening, musty smell. The infant, apparently well nourished and playful, quickly shows signs of systemic disturbance in fretful, peevish irritability and restlessness, with head rocking, anxious facies, persistent whining cry, pyrexia, dry mouth, softened, flabby tissues and atonic musculature. The depressed fontanelle, sunken, lusterless eyes, sharply defined temporals, drawn features, with the intense thirst give evidence of the great drain of fluids. The abdomen, at first tympanitic, may soon become flabby and depressed, and the extremities may be cold, although the rectal temperature shows from 103 to 106 degrees. Convulsions may usher in the attack, follow the initial vomiting by a few hours, appear only at the final stage or occasionally may not develop. Within twenty-four hours from the onset, and frequently earlier, the algid stage is reached, with pallor and cold superficies, although the internal temperature may be high. The restlessness changes to a sopor accompanied by hyperesthesia and irritability when disturbed, but rapidly subsides into semi-coma, with shallow breathing, collapsed veins, pulseless radials, half-closed, filmy eyes and terminates in death by convulsion or asthenia.

This picture presents symptoms of acute poisoning from the gastro-enteric tract, occurring in a state of apparent perfect health, with fatal termination in from 24 to 48 hours. Although the well-nourished infant is not exempt from this form of acute intoxication, it occurs with so much greater frequency among those who show evidence of malnutrition that the latter condition may well be considered a predisposing cause.

Fortunately, cholera infantum, as just presented, with its almost invariable fatal termination, is by no means common. As to its frequency, it is extremely interesting to note the varying opinions of the most competent observers. One eminent observer of wide experience in diseases of children, stated recently in a public address that he had seen only three cases of undoubted cholera infantum. Other writers of equal eminence speak of its occurrence as more common and claim occasional success for certain therapeutic measures adopted in certain cases. These widely different opinions as to the frequency and fatality of cholera infantum may be reconciled only on the ground that we

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

have no common standard for the diagnosis of this grave disorder. The prevailing opinion seems to be that so-called cholera infantum is extremely rare and almost invariably fatal, and against which no therapeutic procedure has thus far proved efficient.

So far as antemortem clinical evidence goes, cholera infantum may be considered an intense form of acute gastroenteritis or a dyspeptic diarrhea plus some unknown intoxication.

Clinically, the line can not be sharply drawn between some cases of dyspeptic diarrhea and cholera infantum. It is within every clinician's experience that occasional cases presenting all the symptoms of so-called cholera infantum, from the sudden onset of vomiting to the serous diarrhea, seem to yield to treatment and ultimately recover. Who shall say that these were not cases of cholera infantum? Is there not a tendency to restrict that diagnosis to fatal cases only? Symptomatically the differentiation between the various forms of "summer complaint" can not be made. That bacteriology promises an early solution to some of these questions is believed by many, and the attention of the profession is turned with renewed interest to the special work of Booker, Flexner, Duval, Bassett and others in their investigation along this line.

The commonest form of summer diarrhea is so evidently the result of acute indigestion that some writers have classified it separately as the dyspeptic variety. This classification seems justifiable when we recall the frequent history of the ingestion of substances known to be inimical to normal digestion. In many other cases which give no record of dietetic error we are led to conclude by analogy of onset, symptoms and progress that perverted or disturbed digestion from causes not apparent may be responsible for a large proportion of summer diarrheas. It is the common experience of every physician to meet cases of sudden onset of vomiting and diarrhea, with temperature varying from slight elevation to a high degree of pyrexia, with or without *history* of improper feeding in which relief with absolute recovery follows the exhibition of one or more doses of castor oil and the withdrawal of food for 24 hours.

The diagnosis of diarrhea due to acute indigestion seems in the majority of cases to meet all the pathologic and therapeutic requirements. Unfortunately, however, in many instances, the simple treatment outlined above is not applied, or if applied, fails to secure the desired results, and the case develops a most obstinate form of gastrointestinal disturbance. There is continuation of pyrexia, with colicky pains, more or less flatulence, frequent dejections of foul, acid, greenish stools of varying consistency. The vomiting may cease, but the diarrhea persists with increasing tenesmus, the stools becoming mucoid, bloody or serous, and either fetid or odorless. From the common onset the resultant disorder may be named according to the area apparently most involved, as gastroenteritis, enterocolitis, ileocolitis or colitis with or without proctitis. It is amply in evidence that obstinate enteritis with or without anatomic change in the mucosa of the gut, or even membranous or ulcerative colitis, may be the last expression of an acute attack of indigestion in the infant.

The systemic disturbance which seems to be an expression of intoxication from the stomach and bowels varies widely as the disorder locates with greater or less intensity on this or that portion of the digestive tract. The early cessation of vomiting is frequently accompanied by the subsidence of pyrexia, with improvement in the general muscular tone. Apparently systemic disturbance diminishes proportionately with the distance from the stomach at which the burden of the disorder seems to fall. Thus, in most obstinate cases of colitis with extensive lesions of the mucosa, nutrition is frequently maintained to a remarkable degree, the child showing but little evidence of systemic intoxication, whereas a much less obstinate disorder of the small intestine may cause prostration with symptoms of general infection. In other words, the more active the digestive area involved the more profound the constitutional disturbance and the greater the tendency to prostration and collapse.

Of the complications of summer diarrhea, the most common in young infants is stomatitis from simple catarrhal to the obstinate ulcerative variety. It becomes serious as it interferes with the ingestion of food and increases the restlessness and discomfort. Its persistency adds to the gravity of the prognosis. This complication is most often seen where the gastric disturbance is marked, and its improvement is usually in direct ratio with the improvement in stomach digestion.

Cough and rapid respiration, so frequently seen in acute or subacute gastroenteric disorders, is usually indicative of broncho-pneumonia, which may or may not yield marked physical signs. That it selects the most dependent portion of the lung adds to this infection the dangers of mechanical hypostasis.

The quite frequent occurrence of albuminuria in patients with summer diarrhea has led some observers to attribute the convulsions to uremia and the occasional so-called idiopathic edema to nephritis. The conclusions, however, are rarely confirmed by the postmortem findings. Functional cardiovascular conditions with the anemia rapidly induced by the colliquative discharges appear a rational explanation for many of the cerebral phenomena and the edemas of dependent parts.

Lesions of the integument, from mere dryness or ordinary intertrigo to the various forms of urticaria, furunculosis and local necrosis, are met with most frequently in the subacute and chronic diarrheal disorders. Whatever the local treatment applied they yield only to the improved nutrition of convalescence.

A prolonged digestive disturbance rarely leaves the infant free from evidences of retarded development, which in many instances is never fully compensated. The picture of a two-year-old set back to the plane of a yearling, both as to digestive and motor functions, is a familiar one, and the attempt to adapt his hygiene to age instead of to condition is a common error.

Perhaps the most important effect of severe summer complaint on the survivors is the feeble resistance to infection from lowered vitality, so that the danger from intercurrent diseases is manifold. The special hygiene for these little convalescents is a subject too frequently dismissed with the doctor at the conclusion of the enteric disorder.

It is safe to say that the fatalities of summer diarrheas are seen very rarely among the exclusively breast-fed infants. They may starve to death from insufficient or impoverished breast milk, or dying from inherited dyscrasiæ they may show some of the symptoms of chronic indigestion. They may exhibit symptoms of acute or subacute digestive disturbance as a result of palpable errors in hygiene or they may be destroyed by some overwhelming intoxication, presumably due to sudden changes in the constitution of the breast milk, resultant from physical or mental disturbance in the nurse. In none of these instances is the symptom

diarrhea essentially a summer diarrhea. Moreover, it is a common observation that the diarrheas of the exclusively breast-fed are usually tractable, regardless of season, in otherwise healthy infants, by the application of the well-known principles of hygiene.

The startling mortality from digestive disorders is confined almost entirely to bottle-fed babies. This fact is so generally established that when pronounced diarrheal symptoms appear in an infant at the breast the first interrogations are directed towards the possibility of the ingestion of other material than breast milk. A careful study of the infant's hygiene, with examination of the dejecta after colonic flushings, frequently disproves the statement that the child's diet included nothing but breast milk. Statistics show that in the fatal cases of summer diarrhea less than 3 per cent. were exclusively breast fed. No clinical phase of this subject begins to rival in importance this one fact, that summer diarrhea, with rare exceptions, means practically summer artificial feeding.

In view of our knowledge of summer diarrhea the question of feeding, then, is of paramount importance. A neglect to use every means to secure for the infant natural food can not be atoned for by the most energetic therapy yet devised. Many of the obstacles to natural feeding are insuperable or even formidable only so long as the lay mind is asleep to the fact that his physician knows how to prevent fatal digestive disorders in the infant. When the responsibility for the consignment of a baby to a method of feeding that diminishes his chances of living two-fold more than inoculation with smallpox virus is fully brought home to the physician the difficulties of breast feeding will become proportionately insignificant. The fact that some governments and municipalities now require on the infant's death certificate a statement as to the method of feeding shows an awakening to the importance of this matter. How long before the same line of inquiry shall require an explanation as to why the infant was subjected to the manifold dangers of artificial feeding?

It has long been claimed, partly from inference and latterly as a result of milk examinations, that breast milk is not constant in its composition, but varies normally, not only in the total amount of solids, but also in their relative percentages. The admirable work of many milk analysts, especially that of the Adriances, shows some of these variations in solids during the entire period of lactation in quite a large number of recorded cases. So far as I can learn, however, no extensive record has been kept as to the influences of season on the various constituents of the mammary secretion. From my own observation I am confident that careful work will show diminution in the solids of high caloric value during the hottest weather.

A fact which admits of no discussion is this, that dietetic changes to meet the varying thermic conditions of climate and season are essential to normal metabolism in older children. Under what age this physiologic law is inoperative the most exacting artificial percentage feeders have neglected to state. Beginning with as low solids in their synthetic imitation of mother's milk as will sustain life, the rule is to increase gradually all the solids until an approximation of breast milk percentage is attained—the advancing age of the infant requiring a daily increase in the total quantity ingested. Whether from May to September or from October to January, whether in Florida or in Manitoba, the artificial emulsion must be pushed with increasing age. The sweltering infant's cry of thirst is inexorably met with the bottled emulsion of higher proteids and hydrocarbons until the overtaxed digestion suddenly fails. Fermentation and putrefaction follow with acute intoxication and much speculation as to the etiologic rôle played by the organism of Shiga.

Under such dietary regimen of unnatural foods, unnaturally administered, we cease to wonder at the high death rate of bottle-fed babies in hot weather.

When a tithe of the work that has been expended to cheat the babe and mother out of their mutual rights by the substitution of artificial methods of feeding, shall have been devoted to the problem of lactation, its physiology and its pathology, then will the morbidity and mortality of the suckling cease to be the opprobrium of the medical profession and the Shiga bacillus, with its pathogenic congeners, may be relegated to the background.

SUGGESTIONS FOR REDUCING THE PREVALENCE OF SUMMER DIARRHEA IN INFANTS.*

J. ROSS SNYDER, A.B., M.D.
Physician to Children of the Outdoor Poor for Society of United Charities.
BIRMINGHAM, ALA.

Summer diarrhea is caused by the entrance into the system, usually through some food medium, of a virulent poison, which is the product of micro-organisms.

The symptoms in a given number of cases of summer diarrhea will vary enough to enable one to recognize, aside from degrees, several forms of the disorder.

The nature of the infection—whether it was poisonous products already formed outside the body or whether it was bacteria as such that entered the gastro-intestinal tract—has been offered in explanation of this variation in symptoms. But since, thus far, there has been no single form of bacteria separated as being specifically responsible, it is possible that the nature of the organism itself has something to do with shaping symptoms.

However, what uncertainty exists as to the cause of the several forms of the disease does not make less absolute the conviction in the minds of bacteriologists that summer diarrhea is the result of bacterial infection and that whatever other factors are concerned are not causes *per se*, but are only conditions most favorable to the development of the bacteria and to the production of their poisons.

It was by accepting this view that Kerley[1] was able to prove so brilliantly the curable nature of the disease.

But summer diarrhea is better than curable—it is preventable. If a child is fed on a food containing neither poison nor organisms capable of producing poison that child will not be poisoned!

We witness, however, an annual recurrence of this disorder and in such prevalence as to show that we have thus far accomplished but little in the way of prevention. This unsatisfactory result is easily accountable.

First, because there is a large percentage of practitioners still believing that heat and humidity alone and without the presence of a single bacterium are capable of producing the disease.[2] This view precludes any acceptance of its preventable nature. Consequently, a large

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

1. Kerley: "Treatment of Summer Diarrhea in Infants." New York Medical News, Aug. 4, 1900.

2. Editorial: "Summer Diarrheas in Children." THE JOURNAL A. M. A., July 4, 1902.

percentage of the medical body has shown no inclination to co-operate with those especially interested in carrying out prophylactic measures.

Beside, there is involved in the subject of prophylaxis itself a complexity and a multiplicity of questions that have been discouraging to the accomplishment of appreciable results. Once we undertake to force the right of every child to receive nothing but a clean unpoisoned food we find ourselves entangled "in embarrassing questions of home sanitation and of personal hygiene and in graver questions of state medicine and of public charities."

Another factor, which has offset any results in the way of general prophylaxis, is found in the increase in the number of children being artificially fed. The artificial foods are the ones most likely to be contaminated and the artificially-fed infant offers the least resistance to bacterial poisoning.

Realizing, then, the main difficulties confronting us, can we overcome them?

Since the whole question, complex as it may seem, resolves itself into one of education, it seems to the writer that these disorders ought no longer to be accepted as inevitable.

The persistent pushing of the infectious nature of summer diarrhea at every available opportunity by every member of the profession who believes in it, and especially by every member of this Section who believes in it, will soon have the profession at large educated up to the point of acceptance. Let the bacterial origin of the disease be taught in our schools, stressed in our societies and our journals, and there will soon be found as few retaining the old ideas relative to the cause of summer diarrhea as there are now still holding to the old ideas of the cause of puerperal septicemia.

MODE OF ENTRANCE OF BACTERIA.

The food of the ordinary infant is milk. Unfortunately milk is one of the happiest of media for bacteria. Breast milk is not infrequently contaminated through careless and uncleanly habits of the mother. Therefore, we find that summer diarrheas are not confined entirely to bottle-fed babies. But owing to carelessness in dairy methods, in its transportation and in its handling, cow's milk is much more apt to be contaminated with enough of adventitious matter to make it swarm with microorganisms. Notwithstanding, I meet doctors prescribing milk formulæ who do not even take the trouble to ascertain the name of the dairy furnishing the milk from which their formulæ are to be made. In a community above the average in the intelligence of its medical men, I find the utmost indifference as regards the milk supply. To a large body of the profession milk is milk. Our duty here is clear, namely, to teach these men that some milk is milk and that some milk is—poison!

PERSONAL INSPECTIONS OF DAIRIES.

The result of this teaching will be more general inspections and investigations of dairies by physicians. The physician, who possesses any degree of progressiveness or any regard for the welfare of his patients, will come to appreciate the advantage of being able to recommend dairies which are reasonably certain to supply clean milk. This is a commercial age, and dairymen, without being necessarily dishonest, are governed by commercial motives. There can be no greater stimulus for getting dairymen to exercise care and thought in an endeavor to supply an uncontaminated milk of good quality than the knowledge that what they give will be known and that their prices and patronage will be governed somewhat by the quality of milk furnished.

MILK COMMISSIONS.

Even should there exist among medical men a widespread desire to raise the milk standard, except for those physicians living in towns where the milk is furnished directly to the consumer by the dairyman, the visiting of dairies and the inspection of conditions thereon would be found to be impossible. In large cities milk is furnished by dealers after it has been collected from many farms and from varying distances. For the individual physician to inspect the source of such a supply is clearly impractical. This difficulty has already been partly met in some few cities by the establishment of what are known as milk commissions.

The objects, methods and personnel of such a commission, briefly stated, are about as follows:

The commission assumes the responsibility of ascertaining and of recommending dairies and dealers which can be depended on to furnish clean milk. On request, any dairyman or dealer is furnished with explicit instructions as to how he may bring his dairy or depot and its product up to the requirements of the standard set by the commission. Should he become a candidate for the certificate of recommendation furnished by the commission, his farm in the one case or his milk depot with its source of supply in the other, is inspected and the certificate granted or refused, according to the findings. Any certified dairy is open to as many inspections and without previous notice, as the commission may see fit to make. The commission withholds the right to withdraw any certificate issued.

Beside members, whose duties are purely executive or clerical, the commission is usually composed of four experts: (1) A veterinarian, who examines the cattle and all matters pertaining to their health, care and management; (2) a physician, who examines all persons connected with the dairy in relation to their habits of cleanliness as well as for transmissible diseases; (3) a bacteriologist, who examines the milk to test the efficiency of the measures in force for excluding bacteria, and (4) a chemist, who examines the milk as to its composition and for adulteration.[3]

WHERE MILK COMMISSIONS HAVE FAILED.

These commissions have accomplished enough to prove their practicability and to encourage those interested to further endeavor, but their results have not been in proportion to the unselfish efforts that have been expended. This disappointing feature is due to a lack of appreciation and of co-operation on the part of the general profession. The men interested in such commissions are too often regarded as enthusiastic cranks possessed of a hobby! They even fail to gain the undivided support of those directly concerned with the question of infant feeding. A partial canvass by the writer of the nurseries and babies' hospitals in one of the cities having a milk commission, resulted in the finding that not a few of these institutions were employing milk other than that recommended by the commission.

I believe this failure of the profession at large to take early advantage of the benefits offered by the milk commission to be due in part to the sectional workings of the medical societies of large cities. It is only the most energetic and progressive man in such societies who is

3. For fuller description of milk commissions see reprint from seventeenth annual report of Bureau of Animal Industry (1900), entitled "Market Milk: A Plan for Its Improvement," by R. A. Pearson, M.S. I have made free use of Mr. Pearson's description in this article.

acquainted with the advances being made in sections other than the one in which he finds himself peculiarly interested. I would suggest, then, to the pediatric sections of these societies that in order to gain a fuller appreciation of what they have done toward solving the milk problem they must not only invite an acceptance, but they must force it. Send men capable of presenting the subject clearly into the other sections to beg for cooperation. Let the milk commission itself send to every physician in its radius a statement of its methods and objects, and let this be accompanied by a circular letter asking the physician addressed to further its purposes by his encouragement.

If the commissions already existing can gain the cooperation to which they are entitled they will be able to prove such signal service to their communities that they will be emulated over the entire country and springing up around such commissions will be found the coveted model dairies.

STERILIZATION AND PASTEURIZATION.

Several methods of killing the bacteria in milk have been suggested. But aside from any objectionable features resulting from the continued use of a milk that has undergone sterilization or pasteurization, such processes are uncertain and have the additional objection of being compromises with filth. A milk coming from the dairy free of disgusting and poisonous contamination ought to be as much more acceptable to the mind of the physician as it is to the digestive apparatus of the infant.

CONTAMINATION IN THE HOME.

Foul milk does not always denote an illy conducted dairy. From my opportunities of observation I have come to believe that milk is subjected to almost as many contaminating influences after delivery as it might have been in its source. In the homes of the well-to-do this happens by giving the care of the milk into the hands of ignorant servants. The physician should guard against this by advising the mother of the necessity for her personal supervision. But this condition is more applicable to the homes of the poor, and more especially to the homes of the city poor.

SUMMER DIARRHEA IN THE TENEMENTS.

The habitat by choice of summer diarrhea is the tenement house. It is here that every condition is favorable, and it is here that we are forced to compromise with conditions as they exist. But, than what has been done, can we do nothing more energetic, more practical and more benevolent to save the child of the tenement? We can not reach into such places from behind our desks in the dispensaries. We can not reach into such places by taking the mothers and their sick babies for a day's excursion on the river or into the country. These have been tried, and each year brings back the same anxious train of dirty mothers with their sick and dirtier babies. The dispensaries and hospital boats are worthy institutions deserving of support, but they are not enough.

PAMPHLET EDUCATION OF THE POOR.

I know of no better way to carry the light of hygiene and sanitation into the tenements than to carry it there.

If the boards of health were to compile a set of practical, explicitly worded and easily intelligible rules for the care of infants during the hot season; if these were to be printed in the four common languages of tenement, Yiddish, French, German and English, and published in pamphlet form; if a pamphlet of this kind were to be given a wide distribution in the homes of the poor, I believe much could be accomplished in the way of hygienic education and of prophylaxis.

As the poor possesses an inquisitive mind, so far as it is practical, reasons should accompany the rules embodied in such a pamphlet.

The question of distribution may offer some perplexity. Last year an admirable set of rules for the management of infants in summer was published by the board of health in one of our cities.[4] I was not made acquainted with the plan of distribution here, but from an announcement in the secular press I judged that those who did not apply for them were not furnished with these printed rules. If this was its extent the distribution could not have been very successful, either in its breadth or in its results. The idea may have been to enhance the value of the pamphlet by putting its owner to some slight inconvenience in securing it. But I believe the same effect may be obtained in a better way.

If such pamphlets were carried into the homes of the poor, and if each mother into whose hand a pamphlet is placed were given to understand that at a subsequent time a physician would visit her home to see if the measures advised were being observed, I believe more appreciable results would follow.

From the medical schools in these cities on which the tenement evil has engrafted itself a corps of students from the upper classes might be organized to carry on this work. Many of the students would be glad to accept an opportunity of thus profitably employing the summer months and of an early identification with their profession. As a further inducement, such students as would enlist should be given credit and mention by their schools for any written observations on their work. If the ranks are still unfilled the post-graduate schools could supply enough men to make up the deficiency.

Such a corps of workers should be under the direction of the hospital dispensaries and clinics. To make the project a success there should be an agreement and an understanding as to the division of the work.

After the distribution of the printed rules the corps of outdoor workers should be allowed the privilege of treating cases of summer diarrhea among the children of the poor of which they may become advised. The first treatment might be given at the dispensary and the case then followed into its home by the assistant on the corps of outdoor workers to see if the measures advised at the dispensary are being carried out and to give any additional treatment that seems necessary.

I realize that this is but an illy defined and roughly outlined plan, but it is only offered as a suggestion in the hope that it may be given further thought and consideration.

BOTTLE FEEDING.

Among the conditions hindering the reduction in the number of victims to summer diarrhea I have alluded to the increased number of infants being artificially fed. This condition I believe is not to hold.

At the last meeting of this Section the opinion was freely expressed by some of the attendants that endeavors to perfect milk modification had not only proven disappointing, but had resulted in an actual curse. If this opinion does not prevail its influence at least has been felt.

Milk modifiers have begun to show moderation in their claims; the confident tone of their papers heretofore is somewhat less characteristic. They have begun to spend

4. "Rules for the Management of Infants During the Summer Months," compiled by the Obstetrical Society and approved by the Philadelphia Board of Health, 1902.

more time in seeking for a necessity to justify the substitution of prepared food for breast milk.

That such a necessity does not exist as often as those who have been eager to demonstrate their ability to rival Nature would have had us believe, was impressed on me by a paper read before this Section last year.[5] Anyone likewise impressed and to the point of trying the measures therein advised, I believe, is now ready to assert that breast milk in a great many cases can be conserved, its quality improved and its supply increased, and that the number of bottle-fed infants can be reduced.

[This Symposium on Infant Feeding and Digestive Disturbances will be concluded next week by the papers of Drs. Davis, Brush, Parke and Mastin and the discussion on the nine papers.]

FRUIT VESSELS, MOSQUITOES AND YELLOW FEVER.*

EDMOND SOUCHON, M.D.
PRESIDENT OF THE LOUISIANA STATE BOARD OF HEALTH.
NEW ORLEANS.

The subjects which are about to engage our attention have been under investigation for many months. They comprise the following points: 1. The scarcity of *Stegomyia fasciata* on non-infected fruit vessels from ports quarantined against yellow fever. 2. The scarcity of cases of yellow fever on fruit vessels from ports quarantined against yellow fever. 3. The impunity of intercourse with fruit vessels at the city wharf before the holds are fumigated. 4. The *Stegomyia fasciata* on non-infected fruit vessels from ports quarantined against yellow fever are not infected. 5. The improbability of stegomyia on infected fruit vessels becoming infected before arriving at the quarantine station. 6. The impossibility of mosquitoes on infected fruit vessls to carry yellow fever to the city before the arrival of the vessel at the city wharf. 7. The cases of yellow fever found on fruit vessels were infected ashore.

I.—SCARCITY OF STEGOMYIA FASCIATA ON FRUIT VESSELS FROM PORTS QUARANTINED AGAINST YELLOW FEVER.

During the quarantine season of 1902 fruit vessels plying between New Orleans and the fruit ports of Central America carried marine medical inspectors, who were instructed to capture on each vessel a few mosquitoes on every trip, in order to determine the kind of mosquitoes found on board of these vessels. There were 12 fruit vessels carrying marine medical inspectors, and they made during the quarantine season about 180 trips in round figures.

The marine medical inspectors captured 208 mosquitoes on board of the vessels during that period.

The mosquitoes were sent to the Division of Entomology in Washington, and were examined by the director of the division, Mr. L. O. Howard. It is to his courtesy and kindness that we are indebted for the valuable information that follows. The report below was received from Mr. Howard Dec. 8, 1902:

The first examination of your mosquitoes has been completed and the result follows:

Port Barrios, ashore in houses, 3 specimens of *Stegomyia fasciata*, 84 in houses.

Port Limon, on board vessels, 2 specimens of *S. fasciata*, 62 other specimens.

On board vessels, mail route. P. Barrios P. Cortez, 1 specimen of *S. fasciata*, 48 other specimens.

Havana, on board of vessels, 10 specimens of *S. fasciata*, 61 other specimens.

Bocas Del Toro, ashore in houses, 21 specimens of *S. fasciata*, 2 specimens of others.

Belize, ashore in houses, 15 specimens of *S. fasciata*, 10 other specimens.

Cuba, ashore (no locality given) 2 specimens of *S. fasciata*, 3 specimens of anopheles.

Port Limon, in houses, 9 specimens of *S. fasciata*, 32 other specimens.

Bluefields, in houses, 4 specimens of *S. fasciata*, 49 other specimens.

Bluefields, on board of vessels, 2 specimens of *S. fasciata*, 93 other specimens.

Livingston, ashore in houses, 24 specimens of *S. fasciata*, 6 other specimens.

Port Cortez, ashore in houses, 42 specimens of *S. fasciata*, 7 other specimens.

Directing our attention specially to the mosquitoes captured on board of the fruit vessels we find that on the vessels on the mail routes comprising Port Barrios, Port Cortez and Belize 49 mosquitoes were caught, of which 1 was stegomyia and the other 48 of another kind; that the vessels from Port Limon furnished 64 mosquitoes, of which 2 were stegomyia and the 62 others of another kind; that the vessels from Bluefields furnished 95 mosquitoes, 2 of which were stegomyia and the 93 others of another kind. In résumé, 208 mosquitoes were caught on board of the fruit vessels, of which only 5 were stegomyia, that is, less than 2.5 per cent.

This number, 208, is remarkably small considering the number of vessels, of inspectors and of round trips; that is because mosquitoes are not present on all vessels and are in no great numbers when present, and therefore not very easy to find and capture. The percentage of stegomyia is remarkably small because the stegomyia is especially a house mosquito. We will see further that in the houses the percentage of stegomyia is 40 per cent.

The percentage of stegomyia found on fruit vessels is as follows: Port Limon, 3 per cent.; Bluefields, 2⅛ per cent.; Barrios, 2 per cent.; Cortez, 2 per cent.; Belize, 2 per cent.

It would be important to determine the percentage of the males among the 208 stegomyiæ caught on fruit vessels. Mr. Howard's attention was called to the fact too late to ascertain this positively, as his assistant had thrown the mosquitoes away after the first examination, but Mr. Howard states in his letter that the females were enormously in the majority.

The fruit vessels plying between Havana and New Orleans during the quarantine season of 1902 furnished 71 mosquitoes, of which 10 were stegomyia and the others of another kind, i. e., 16 per cent.

II.—SCARCITY OF CASES OF YELLOW FEVER ON FRUIT VESSELS FROM FRUIT PORTS QUARANTINED AGAINST YELLOW FEVER.

It was about fifteen years ago, in 1886, that the importation of fruit from the tropical ports to New Orleans really began. The main regulation was that no vessel should have any communication with the shore. During that time an average of seven vessels a year were engaged in that trade. Each vessel made an average of two trips monthly during the quarantine season; that is, during six months. There were, therefore, eighty-four trips per year, and during the fifteen years 1,260 trips or vessels. During these fifteen years five fruit vessels arrived at the Mississippi River Quarantine Station with yellow fever on board *during the quarantine season*. They were:

1887—City of Dallas, from Belize, July 6, one case.
1888—Foxhall, from Limon, August 14, one case.
1889—City of Dallas, from Livingston, October 1, one case.
1897—Jarl, from Bocas, October 27, one case at Quarantine and two in the city.
1900—Adler, from Limon, August 26, one case.

All these ports had yellow fever in those years. The percentage of vessels with yellow fever on board is about one-third of 1 per cent.

5. "The Improvement of Breast Milk and Prolongation of Lactation," Thomas S. Southworth, New York. THE JOURNAL A. M. A., Aug. 2, 1902.

* Read before the Louisiana State Medical Society, New Orleans, April 28-30, 1903.

The records show that of the five cases two were passengers, the case of 1887 from Belize and the one of 1889 from Livingston; therefore, they came from ashore. One case, the case of 1900, from Limon, was the captain of the vessel, who is permitted to go ashore to enter and clear his vessel. The fourth case, that from Bocas, occurred in 1897, when there was yellow fever in New Orleans and in Bocas, and the quarantine regulations relaxed on that account. The last case, that of 1888, from Limon, was one of the crew, and is the only one that can not be traced to infection ashore. However, it is our belief that the man violated the quarantine regulations and did go ashore.

III.—IMPUNITY OF INTERCOURSE WITH NON-INFECTED FRUIT VESSELS AT THE CITY WHARF BEFORE THE FUMIGATION OF HOLDS.

From 1886 until 1895, both years included, not a case of yellow fever originated in New Orleans, and yet, during these ten years nearly 1,000 fruit vessels came to the wharfs; some 50 laborers were permitted to freely board each fruit vessel for a time of about five hours, which is required to unload a fruit vessel. These laborers, of course, came in contact with the bunches of bananas and many went into the holds of the vessels. It is only after all this exposure that the holds of the fruit vessels were fumigated.

IV.—THE STEGOMYIA FASCIATA ON NON-INFECTED FRUIT VESSELS ARE NOT INFECTED.

It would be most important to determine whether or not stegomyias on fruit vessels are infected. The only proper way would be to experiment with them after the Reed method. However, that they are not infected is proven by the foregoing facts: 1. That in 15 years there was really but one case of yellow fever stopped at the quarantine station during the quarantine season that could not be traced directly to the shore. 2. That in spite of the free intercourse of laborers with the fruit vessels before fumigation, above mentioned, not one case of yellow fever originated in New Orleans in ten years. In other words, during these ten years nearly 50,000 laborers came in contact for five hours with mosquitoes before the fumigation of the holds and yet not a case of yellow fever occurred in New Orleans. This was because the mosquitoes were not infected.

We should also bear in mind that during these ten years a large number of these vessels came from ports infected, especially Limon, from which come more vessels than from any other port.

EPIDEMICS OF YELLOW FEVER IN THE CENTRAL AMERICAN FRUIT PORTS, AS SHOWN FROM ANNUAL REPORTS, QUARANTINE REPORTS AND BOARD OF HEALTH MINUTES.

Belize—
1860—Epidemic.
1869—Epidemic.
1874—One case reported.
1886—Epidemic.
1887—A number of cases reported. (See Dr. Wunderlich's report, Board of Health Minutes, Sept. 22, 1887.)
1890—Prevalent as early as March. (Minutes March 17, April 15, July 10.)
1891—Reported in July. (Minutes July 16.)

Livingston—
1887—Reported. (Minutes Sept. 22.)
1889—Reported. (Minutes July 16.)
1892—In April. (Minutes April 25.)

Port Cortez—
1870—One case from Port Cortez brought to Quarantine on S. S. *Agnes*. (Board of Health Reports, 1888-1889.)
1892—Prevails. (Minutes May 12.)

Ruatan—
1888—Prevalent in July. (Minutes July 19.)

Port Limon—
1888—The S. S. *Foxhall* brought one case to Quarantine in August. (Quarantine Records.)
1889—The S. S. *Phœnix* brought one case in February to Quarantine. (Quarantine Records.)
1890—Prevailing in April. (Minutes April 15, July 10.)
1893—Reported in May. (Minutes of June 6.)
1897—Reported in August. (Minutes of August 12 and 26.)
1898—Reported in June.
1899—Reported in August.
1900—Reported in April.
1901—Reported in July.
1902—Reported in April.

Bocas del Toro—
1893—Dr. d'Estrampes reported died of yellow fever.
1897—Reported in August. (Minutes August 12 and 26.)
1900—Reported in July.
1901—Reported in June.

V.—IMPROBABILITY OF STEGOMYIA ON INFECTED FRUIT VESSELS BECOMING INFECTED BEFORE ARRIVAL AT THE QUARANTINE STATION.

As to the agency of the *Stegomyia fasciata* on board of infected fruit vessels, it is reasonable to conclude that although it is greater than on non-infected vessels, since there is a case on board which they may bite, become infected and transmit the disease, yet this agency is truly very little considering: 1. That the percentage is small, 2½ per cent. 2. That the females must be impregnated before they will bite. 3. That the males are in a very small number on board. 4. That the females must bite the patient within the first three days. 5. That they can not infect a human being until twelve days thereafter. 6. That the female, after one biting, does not appear to bite a second time till about five or seven days have elapsed. 7. That mosquitoes do not breed in bilge water nor in sea water. 8. That the bitten subject must be a non-immune. 9. That the cases on record are all primary cases, nothing indicating that they were secondary cases.

Such small percentage of 2½ per cent. of the stegomyia can not be said to be entitled to much consideration. Dr. Havard says, in the Journal of the Sanitary Department of Havana, Cuba, 1902:

> During the epidemic of yellow fever in 1900 in Havana, none of the many non-immune nurses and employes of the Las Animas Yellow Fever Hospital contracted the disease, although at that time the mosquitoes were common and no particular care was taken to protect patients from the bites. This immunity was explained when after a thorough fumigation, all the dead mosquitoes were examined by Dr. Guiteras and an exceedingly small proportion of them found to be stegomyia.

VI.—IMPOSSIBILITY OF MOSQUITOES ON INFECTED FRUIT VESSELS TO CARRY YELLOW FEVER TO THE CITY.

It is impossible for any mosquito on an infected fruit vessel to carry yellow fever in the city because fruit vessels are not more than six days in transit before reaching the quarantine station, and that all suspected and infected vessels specially go there through a thorough disinfection, which destroys all the mosquitoes by sulphur fumes before the twelve days have expired.

VII.—THE CASES OF YELLOW FEVER FOUND ON FRUIT VESSELS WERE INFECTED ASHORE.

This is proven by the fact that almost all the known cases had had communication with the shore, with one exception, and I do believe that one had violated the quarantine regulations and had gone ashore.

These views are confirmed when we see the great percentage of stegomyia in the houses, 40 per cent., without mentioning the possible agency of fomites.

Reed and Carroll, in their article on the Prevention of Yellow Fever in the *Medical Record*, Oct. 26, 1901, say: "The possibility of infected mosquitoes reaching a vessel either by flight or by means of lighters may be considered as highly improbable." They say also further: "In our opinion, however, the chances of infection of a vessel by contaminated mosquitoes coming aboard from a house or a ship in close proximity are very slight."

The remarks which follow show plainly the influence of communication with the shore in causing infection.

A list of mosquitoes caught in the houses at the fruit ports quarantined against yellow fever:

	Total Mosq.	Stegomyia.	Other Kinds.
Belize	25	15	10
Livingston	30	24	6
Port Cortez	49	42	7
Port Barrios	87	3	84
Bluefields	53	4	49
Port Limon	41	9	32
Bocas del Toro	23	21	10

Altogether there were 308 mosquitoes caught in houses, of which 118 were stegomyia, i. e., 40 per cent.

The ports where houses furnished the greatest number of stegomyias rank as follows:

Belize, 60 per cent.; Livingston, 80 per cent.; Port Cortez, 86 per cent.; Port Barrios, 3 1-3 per cent.; Bluefields, 7½ per cent.; Port Limon, 22 per cent.; Bocas del Toro, 91 1-3 per cent.

This table of the percentage of stegomyia caught on shore in the houses confirms also the conclusion that infection of fruit vessels at quarantined ports is contracted ashore, in the houses, and that the immunity of the fruit vessels is due to the fact that they are not granted the privilege of the shore during the quarantine season.

The following is the list of the species of mosquitoes found at the Mississippi River Quarantine Station:

Anopheles maculipennis Meign	4 specimens.
Anopheles crucians, Weid	2 specimens.
Culex perturbans, Walker	4 specimens.
Culex sollicitans, Walker	22 specimens.
Culex pipiens, Linne	2 specimens.
Stegomyia fasciata, Fabr	3 specimens.

The percentage of the *Stegomyia fasciata* is about 9 per cent.

During the same fifteen years of fruit traffic 1,343 vessels plying between New Orleans and the West Indies, Central American and Mexican ports, arrived at the quarantine station. The vessels belonged to the Harrison Line and to the Leyland Line of regular steamers, whose agents kindly furnished the figures.

Besides these it is estimated that about 250 irregular vessels arrived also at the quarantine station, making a total of 1,600 vessels in round figures. Of these, 29 were stopped during the quarantine season with yellow fever on board at the Mississippi River Quarantine Station. Of course, no measures were taken then against mosquitoes in the case of these vessels, nor of the fruit vessels, but the crews of fruit vessels were not permitted to go ashore, whereas on other vessels they were.

It is remarkable that the vessels which took measures to prevent communication of the crew with the shore presented so few cases, whereas those which took no such measures presented comparatively so many, 29 cases in 1,600 vessels.

APPENDIX.

COMPLEMENTARY REMARKS REGARDING THE TRANSPORTATION OF MOSQUITOES BY VESSELS.

The observations of the marine medical inspectors during the last quarantine season regarding the presence of mosquitoes on board of fruit vessels have confirmed the statements made by me in the article published in the *New York Medical Record,* July 5, 1902, "The Transportation of Mosquitoes by Vessels," i. e., that some vessels had no mosquitoes; that most of them had mosquitoes on board, but that after the second day out they disappeared, specially if there was a strong wind blowing; that in the protected parts of the vessel mosquitoes have been found many times; that mosquitoes may be carried from the home port to the fruit ports.

One hundred and eleven reports were received during the last quarantine season. They are as follows:

	Reports.	Yeas.	Nays.
Belize, Pt. Barrios and Pt. Cortez Route	12	9	3
Port Cortez	9	18	1
Bluefields	18	8	10
Port Limon	42	18	24
Bocas del Toro	16	2	14
Havana	26	25	1

Total percentage of yeas is about 55 per cent., distributed as follows:

	Per Cent.		Per Cent.
Belize	71	Port Limon	42
Port Cortez	88	Bocas del Toro	12
Bluefields	42	Havana	96

REMARKS CONCERNING THE TRANSPORTATION OF MOSQUITOES IN BAGGAGE.

With the assistance of Dr. S. G. Gill, the shipping inspector of the Louisiana State Board of Health, I carried on some experiments on these lines. The results confirmed the conclusions of Dr. Grubbs (see Yellow Fever Institutes, March, 1902) that without water or moisture mosquitoes in baggage will not live more than three to five days in the summer months.

REMARKS CONCERNING THE SCARCITY OF MOSQUITOES IN BAGGAGE.

Surgeon Havard of the U. S. Army, in a letter to the *New York Medical Record,* cites the experience of Dr. L. S. Harvey, U. S. A., who reported that he accidentally carried mosquitoes in his chest from Baracoa, Cuba, to Washington. There is thus afforded positive evidence that mosquitoes are transported in baggage, yet this occurrence must be truly rare.

In a letter to the writer, Dr. John N. Thomas, the efficient resident physician of the Mississippi River Quarantine Station, says: "At your suggestion I have personally experimented five times to determine the liability of mosquitoes being caught and held in baggage while packing same in rooms where mosquitoes were numerous, and I have not found any mosquitoes in such baggage when unpacked. I believe that this factor is one of such extreme improbability that we may safely leave it out of account."

Regarding the transportation of mosquitoes in baggage, Reed and Carroll say (*Medical Record,* Oct. 26, 1901): "The fear that has been entertained that infected insects may be imported in boxes or trunks, we believe to be absolutely groundless, and this for the simple reason, as shown by numerous observations made by us, that mosquitoes, when deprived of water, die within a few days."

From Kentucky.—The *Louisville Monthly Journal of Medicine and Surgery* says: The American Medical Association concluded a most successful meeting on May 8 from both a scientific and business standpoint. The House of Delegates is a hard-worked body—partly because of its size—thus delaying business. With the reapportionment of the state associations on the basis of one delegate to each 1,000 members and the already decreased representation of the sections, one to each—the work should be dispatched with more ease and at less sacrifice on the delegates; certainly not more than three hours a day should be required. The arrangement for section work is much better than ever before. Nothing interferes with it—the orations are at night and no General Meetings in the morning. In consequence of this all of the sections showed an increased attendance over previous sessions. The election on the last morning showed the futility of trying to eliminate the political element from these meetings, but demonstrated the wisdom of removing it from the floor of a General Meeting. It also demonstrated that it is more difficult for a few politicians to control the vote of the house.

THE WEIGHT WAVE OF MENSTRUATION.

A PRELIMINARY NOTE.

WM. T. BELFIELD, M.D.
CHICAGO.

The record of the daily weight of four healthy, unmarried women between 22 and 29 years of age, and of average menstrual regularity, during a total of twenty-three menstrual periods, discloses a phenomenon which I have termed the weight wave of menstruation. This comprises the following features:

1. During several days, especially the first, preceding the menstrual flow, there occurs a progressive increase in the weight of a healthy young woman, often comprising—especially in winter—from two and one-half to five pounds, which may be from 1½ to 5 per cent. of her usual weight. The climax of this gain is immediately followed by the rapid loss of a large part, perhaps half, of this increase in weight (often within eight to sixteen hours) and then a more gradual loss of the remainder, extending over several days (Fig. 1).

2. The menstrual flow begins during the rapid loss of weight mentioned, the appearance of the blood often, though not always, following immediately on the crest of the wave. The flow continues with the less rapid loss of weight during the next few days, terminating about when the woman's weight regains its pre-menstrual level (Figs. 1 and 2).

3. The pre-menstrual gain in weight is due, not to increased ingestion of food, but to diminished excretion, especially of water. The rapid loss of weight following the crest of the wave is due, not to abstinence from food (nor, of course, to the trifling loss of menstrual blood), but to rapid excretion, notably of carbon dioxid and water. Thus I have seen a woman lose two and one-half pounds in weight during the five hours following the appearance of the menstrual flow, though neither urine nor feces had been voided during that period, and though the subject had had no exercise other than that incidental to clerical office work. (Her loss of weight during the same period, between menstruations, averaged less than one-half pound.)

4. The appearance of the menstrual blood does not always coincide with the beginning of loss in weight; the flow may begin before or, more often, after the loss of weight becomes distinct (Fig. 2).

5. After the weight has sunk to its pre-menstrual level, there may occur another crescendo and diminuendo movement, lasting several days, but less pronounced and typical than the menstrual wave. Hereafter the weight shows no constant variation until there occurs a sudden, transient loss, which is the frequent forerunner of the next menstrual wave.

6. A girl of 14 and a woman of 23, both of irregular menstrual habit, exhibited the menstrual weight wave on several occasions when the flow was nearly or quite lacking.

7. A woman of 59, who had not menstruated for twelve years, showed no weight wave characteristic of the menstrual period in young women.

8. For two days preceding the climax in weight there is often marked torpidity of the bowels and scantiness of urine; while, with the decline in weight, excretion

FIG. 1

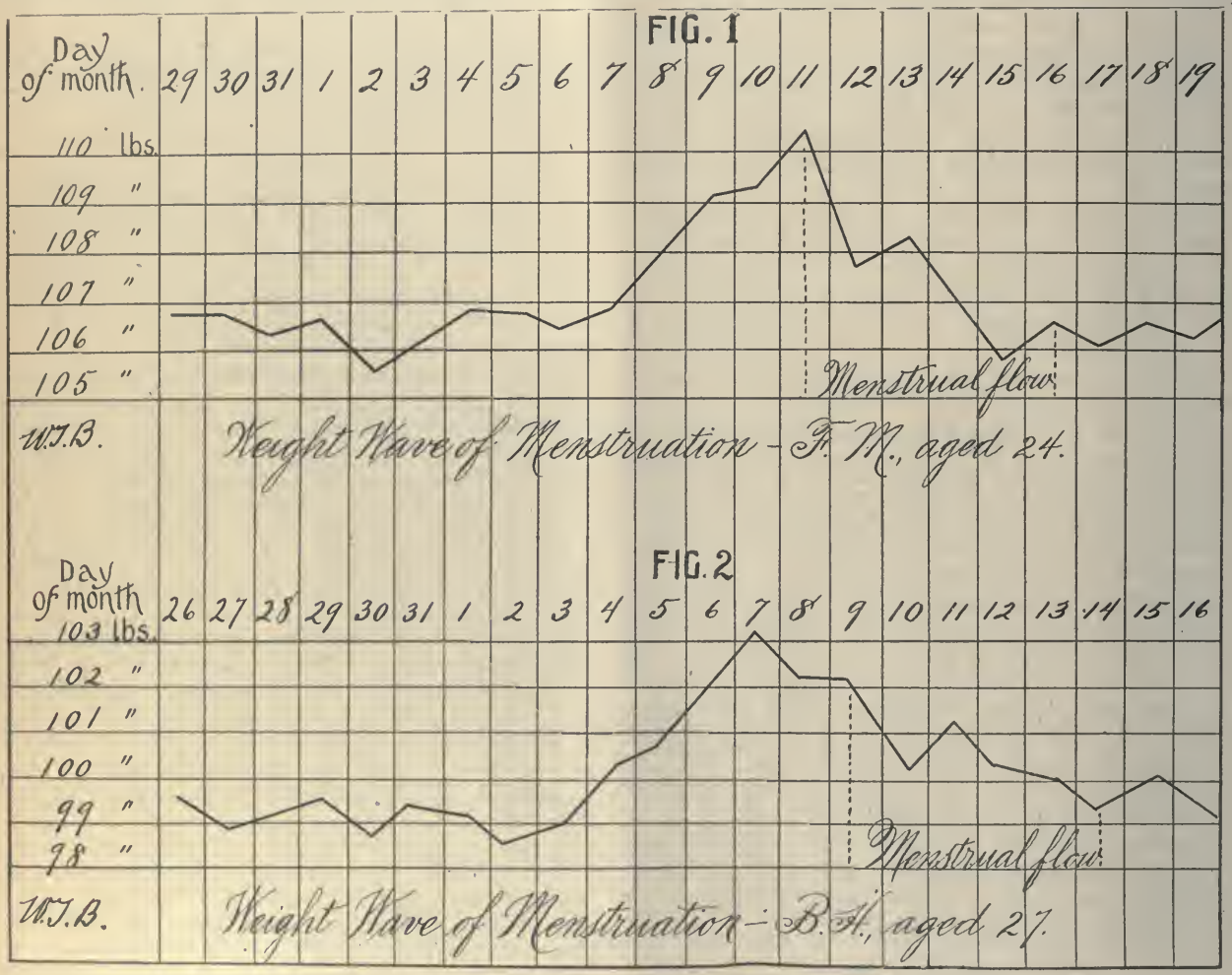


FIG. 2

by bowels and kidneys, as well as by skin and lungs, is notably increased.

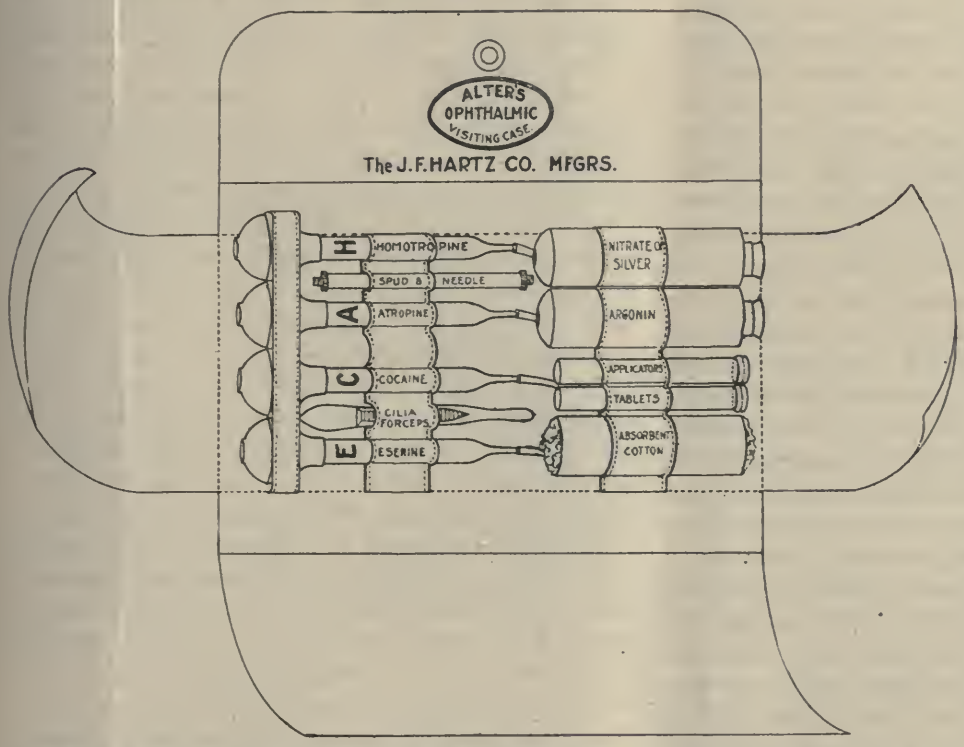
9. The temperature curve is not constant; there is usually a rise of about 1 F. during the increase in weight and a sudden fall after the crest of the weight wave is passed.

New Instruments.

A NEW OPHTHALMIC VISITING CASE.

FRANCIS W. ALTER, M.D.
TOLEDO, OHIO.

This little visiting case which I present to the profession and which is herein portrayed is of especial interest to oculists; it can, of course, be used by the physician in general work in connection with his ophthalmic cases.



As will be seen by the cut, it contains all the essentials commonly used in the treatment of eye cases, each dropper being marked in a manner indicating its contents.

The case contains cocain, atropin, eserin, homatropin, two bottles of silver nitrate in different strengths, a phial for toothpicks and a reservoir for cotton, beside a bottle intended to hold a relaxing tablet, a spud and a pair of epilating forceps, a pocket in the side of the case for prescription blanks, cards, etc. While the case is primarily intended as a visiting case it serves all purposes for office work.

338 Summit Street.

A POCKET STERILIZER AND INSTRUMENT CASE.

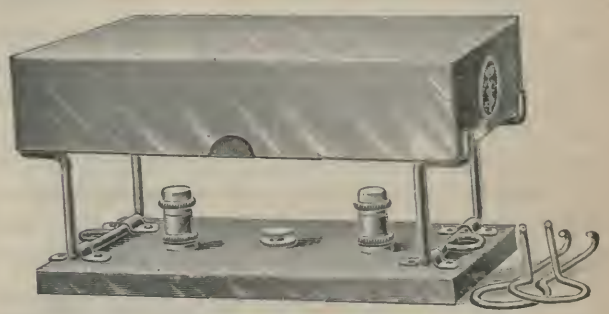
W. P. HERRICK, M.A., M.D.
NEW YORK.

The object in devising this case was to do for minor and emergency surgery what the compressed tablet has done for minor and emergency medicine. When closed and packed the case measures 7x3, ½x1½ inches or 17.5x8.5x4 cm., thus being easily portable in the breast pocket or emergency bag.

A telescope cover (see cut) gives an extra sterilized tray for instruments after boiling. The box itself being the boiling tray, both of these are manipulated, when hot, by the handles, the boiling tray by holes in its upper edge on either end, the cover by its edges, and the instrument tray proper by its wire handles. Thus we have a sterile field, with three trays, produced in one boiling.

As an instrument case, the instruments are packed in the instrument tray, held in place to prevent rattling or damage by spring crossbars caught in perforations of the tray on either side. This I believe is a new feature and thus the instruments are easily placed in the tray, the spring clips holding them, whether more or less are carried, as individual selection dictates. The instruments are all of standard size, a considerable convenience in operating not possessed by many pocket instrument cases. This selection approximates the usual hospital routine as follows: dissecting forceps, probe, small curved scissors and Kocker clamp; scalpel, artery clamp, Abbe needle holder, spool of silk and needles carried in a small needle box which also holds the sodium carbonate for boiling; Volkman spoon, director with aneurism needle handle and curved bistoury. If needed, the Kocker clamp and Abbe needle holder may be used with the artery clamp for hemostasis, thus giving three clamps, and for blunt extraction the aneurism needle and tray handles may be used. For minor and emergency surgery the above should be amply sufficient.

The essential part of the sterilizer is the double wick alcohol lamp, measuring 6½x 3½x½ inches, or 16 5x8.25x1.2 cm., having a capacity of about 80 c.c., a little less than three fluid ounces of alcohol, and thus can burn several hours steadily. When the boiling tray is half full of cold water, the usual amount, the boiling time is ten minutes. This will not be found excessive, however, as after lighting the lamp the preparation of the patient and sterilization of the hands will fully occupy it. With hot water the time is, of course, reduced proportionately, or the boiling tray may be placed on a gas stove or range, as is an ordinary sterilizer, should this be desirable. The wicks are covered by screw caps, as is the filler and vent when not in use, and folding legs support the boiling tray, which is kept from being knocked off in any way by the holders.



There are many other convenient surgical uses to which this case can be put, as in catheterization, or in clinic dressings; having continuously boiling water at your hand the instruments may be dipped as one passes from case to case, while with slight modifications of size or shape it would be all sufficient for many other surgical manipulations or operations of several of the specialties. Its cost will not exceed $6.75, exclusive of instruments, which is no more, I believe, than any first-class ordinary metal pocket case would cost.

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IONS AND ELECTRONS.

Among the new words emerging from the laboratories of physics and chemistry which are finding their way into articles on medical subjects are "ion" and "electron." The word "ion" is already well launched medically; the word "electron," though but seldom met with as yet in contributions to the medical press, is destined to occupy, sooner or later, a very prominent place in medical writing. It seems worth while, therefore, to try to make the meanings of these words clear in order that those of our readers not quite at home with them may have less difficulty in understanding the articles in which they may chance to be used.

Bearing firmly in mind the conceptions of atoms and molecules gained in our chemical studies of the past, it is not difficult to pass on to the idea which the term *ion* has been adopted to express. After the establishment of the molecular theory, chemists soon made observations which led them to believe that they had to deal with particles which, on the one hand, were different from molecules and, on the other hand, possessed properties not pertaining ordinarily to atoms. It had been known for a long time that aqueous solutions of some chemical substances (e. g., sodium chlorid, hydrochloric acid, potassium hydrate) will conduct electricity, while those of others (e. g., sugar) will not. The substances, aqueous solutions of which will conduct, are called electrolytes. They are altered by the passage of the current, decomposing on electrolysis into certain constituents which become separated, one going to one electrode, the other to the other. Faraday showed that when a current of electricity acted on solutions of different salts, equivalent quantities of the metals are deposited by the same current in the same time. All inorganic salts are electrolytes, as are acids and bases. The hydrogen of acids always becomes separated at the negative electrode, as do the metals of salts, while the rest of the acid-molecule or salt-molecule becomes separated at the positive electrode. It was thought, at first, that the passage of the electric current determined the decomposition of the dissolved substance, though Clausius (1857) assumed that some of the molecules of an electrolyte are dissociated into their ions (kation and anion), and that these move independently of one another. The part of the dissolved substance that goes to the negative electrode was called the *kation*, while the part that goes to the positive electrode was called the *anion*.

The Dutch chemist, van t' Hoff, a little more than fifteen years ago, drew attention to the relation between dilute aqueous solutions and gases. Pursuing his studies further, he was able, in 1895, to apply Avogadro's law for gases to solutions and to make it almost certain that solutions having the same osmotic pressure, at the same temperature, contain the same number of molecules. But just as certain vapors, like ammonium chlorid, exert a greater pressure than would be expected according to Avogadro's law, so van t' Hoff found that certain substances in aqueous solution similarly "disobeyed" the law; these "irregular" substances are all electrolytes, non-electrolytes are "regular."

An explanation of the exceptions to Avogadro's law for gases like ammonium chlorid had been found in the suggestion that some of the molecules break up into a molecule of ammonia and one of hydrochloric acid; such a dissociation would cause an abnormally large gas pressure. Then came the epoch-marking paper of the Swedish physicist, Svante Arrhenius, in which the theory was advanced that in solutions of electrolytes the abnormally high osmotic pressure is due, not to a breaking down of molecules into smaller molecules as in the case of ammonium chlorid vapor, but to the dissociation of molecules into *ions*, each ion being an atom, or a group of atoms, charged with electricity. Thus, according to Arrhenius, in dilute aqueous solutions potassium chlorid is dissociated into potassium ions (kations) and chlorin ions (anions). The ion is entirely different from a molecule or a neutral atom; it carries an electric charge. The degree of dissociation in a solution can be quantitatively measured by establishing its electrical conductibility. In a concentrated solution of potassium chlorid there is but little dissociation; the substance is present in the water chiefly as KCl molecules and there are but few ions. In a very dilute solution the dissociation is great; there are few KCl molecules present, but an enormous number of ions. Dry copper sulphate is white or about colorless, for its molecules are colorless; dissolve it in water and the solution is blue, for copper ions are blue. Sugar does not become dissociated (ionized) when it is dissolved in water; hence solutions of sugar do not conduct electricity.

Again, when a substance is dissolved in water, the freezing point of the solvent is lowered. Certain substances had been found by Raoult to cause abnormally great depressions of the freezing point, and it turned out that they were the same substances which yield abnormally high osmotic pressures. The theory of Arrhenius of electrolytic dissociations explains these abnormalities wholly satisfactorily, as well as certain other abnormalities of the lowering of vapor tension of solvents, which need not be gone into here.

The development of the ionic theory has made many old facts turn new faces to us. The vast majority of chemical reactions prove to be reactions between ions, not between molecules. When HCl is neutralized with NaOH, the molecules are first dissociated into their ions

and the reaction consists in the union of the hydroxyl ion of the base with the hydrogen ion of the acid to form water, the sodium and chlorin ions remaining as ions in a dilute solution of sodium chlorid. The effect of salt solutions on the heart muscle seems to be due entirely to the action of the sodium ion, the chlorin ion being inert.

But chemists and physicists had still a step further to go, and the step has turned out to be a great leap. Investigators began to ask "What is the explanation of the electric charge on an atom which makes an ion so different from a neutral atom or a molecule?" Illumination came in an unexpected way. Years ago Sir William Crookes suggested that the kathode rays in vacuum tubes represent matter in a "fourth state," neither solid, liquid or gaseous. He was smiled at and almost jeered at for a while, but it seems he was right. The researches of J. J. Thomson and others have shown that the matter thrown off as kathode rays, and causing x-rays or phosphorescence where they strike, consists of fragments much smaller than atoms, of ultra-atomic corpuscles of which the chemist's atoms seem to be composed. The lightest atom hitherto known is the atom of hydrogen, but the atom of hydrogen weighs 1,870 times as much as one of these corpuscles. Moreover, no matter what their source is, these ultimate corpuscles appear to be identical. The name *electron* had been given to the electric charge on an ion by Dr. Johnstone Stoney; it is now believed by many that the difference between an ion and a neutral atom lies in the presence or absence on the atom of one of these ultimate corpuscles of Thomson, so that the name *electron* is now applied to the corpuscle. To some of the wonderful properties of these extremely minute electrons we expect to call attention in a subsequent number.

THE TRYPANOSOMA DISEASES.

That some controversy has taken place concerning the priority of the discovery of the trypanosome as a pathogenic blood-infesting organism in man, denotes a well-grounded suspicion that this flagellate protozoön and the disease it produces, trypanosomiasis, may in the course of time occupy an important position among the infectious diseases common to man and the lower animals. In veterinary science the trypanosome has long been known as a potent agent of disease causing ravages of great economic consequence among cattle, horses and other domestic animals. In different countries the disease has received names more or less colloquial, and it does not appear to be definitely settled which of these may be due to identical or different trypanosomes. The nagana of Central Africa and the Transvaal is believed by Laveran and Mesnil[1] to be caused by the same organism as the mal de caderas of South America, although this requires further study for confirmation.[2] Koch, Nocard and others have expressed the belief that the trypanosomes of nagana and surra, the designation the disease has received in the Orient, are also identical. Theiler has recently reported a new trypanosome affecting cattle of the Transvaal which, unlike that of nagana, is non-pathogenic for other mammals; it also possesses differences of size and structure.[3] The discovery by Dutton of trypanosomiasis in man in the instance of an English government official and the report by Manson[4] and Maxwell-Adams[5] of other similar cases furnishes a forcible illustration of the valuable information to be derived from a study of tropical diseases.[6]

It is generally believed that in animals the disease is communicated by the bites of insects, nagana being widely known as the tsetse-fly disease; in dourine, the trypanosoma disease of cattle in Algeria, the adjacent European countries and Turkey, coitus furnishes the means of transmission of the disease from one animal to another and the first lesions appear on the genitals. The case of human trypanosomiasis reported by Manson, a woman and one of the European colony of the Congo region, experienced the first symptoms two or three days after an insect bite on the foot. Trypanosomiasis in animals is characterized by common symptoms, notwithstanding variations in the genus of the protozoa. A profound anemia, edema of the dependent parts, progressive paralysis and disturbances of vision are accompanied by remittent or intermittent fever. Horses and other equines in which the disease has been produced experimentally have died in from a week to a few months; in the Argentine Republic a chronic form of trypanosomiasis has been known under a distinct name, "baacy-poy." The organisms have not been found in the blood of animals ill from baacy-poy, yet such blood injected into healthy animals produces the acute form or mal de caderas. In Manson's case referred to above there was a periodic apyrexia of seven days interrupting a fever lasting three days; accompanying the fever an erythematous eruption developed on the face and trunk.

At the recent session in New Orleans, F. G. Novy demonstrated before the Section on Pathology and Physiology pure cultures of the common trypanosome of rats which had been grown on rabbits' blood serum mixed with agar. The growth occurs in the water of condensation and not on the surface of the medium, as in the case of bacterial growths. The experimental cultivation of an animal parasite on artificial media as a pure culture has not been heretofore accomplished, and great credit is due Novy and his assistant, W. J. McNeal, for the introduction of technical methods affording greater opportunities of studying these parasites.

The points of similarity between trypanosomiasis and malaria in the occurrence of protozoan parasites in the blood producing a destruction of the red corpuscles suggest the application of similar methods of cultivation to the plasmodium. The results of careful, thorough

1. Annales de l'Institut Pasteur, 1902, xvi, 26.
2. See the report by Elmassian and Migone. ibid, 1903, April, 245.
3. Compt. Rend. de l'Acad. des Sciences, 1902, cxxxiv, 512.
4. Brit. Med. Journ., 1903, i, 720.
5. ibid, p. 721.
6. THE JOURNAL A. M. A., xl, 784.

study of an epidemic among rats at Ann Arbor and the discovery of allied parasites in man through researches in tropical diseases, it may be seen from the foregoing, are closely related developments of science and we may confidently expect that the next step, dealing with the prevention of the disease, will soon be taken. It matters little whether horses or rats be first successfully immunized, although the former accomplishment would confer a great benefit, since in horses trypanosomiasis is invariably fatal; the importance of immunization against diseases caused by trypanosoma, in its possible application to similar therapeutic measures in malaria, is at once evident. There are also other possibilities connected with studies of the evolution and development of the parasite, since light may be thrown on the etiology of other infectious maladies, the protozoan character of which has been suspected.

PRESENT STATUS OF TYPHOID FEVER.

The Widal test has narrowed the bounds of typhoid fever very slightly in one direction, but has greatly extended them in many others. Certain febrile affections that run a symptomatic course, absolutely impossible of differentiation from typhoid fever by any clinical observation, however expert, which occur in epidemic form, have rose spots and a continued fever of self-limited duration, and with a tendency to hemorrhage from mucous membrane and enlargement of the spleen, with well-marked liability to relapses that repeat the previous stages of the disease—in a word, exhibit all of the group of symptoms supposedly pathognomonic of typhoid fever now known to be due not to the bacillus of Eberth, but to certain of the bacilli of the colon group. It is agreed that these are not true typhoid, but paratyphoid fever. How wide the limits of this new affection may be is not yet definitely known, but it is generally conceded not to be very common. Its true distribution remains to be decided by actual observation rather than by theoretic considerations. For instance, the very interesting question is now on the tapis whether in certain parts of the south, owing to climatic influences, paratyphoid fever may not be much more frequent than elsewhere, since certain recent observations point in this direction, and because the south has always presented some anomalous types of continued fever not easily reconcilable with the ordinarily accepted type of typhoid fever.

On the other hand, the Widal test has demonstrated with absolute assurance that a number of affections hitherto called by other names are really cases of typhoid. There is scarcely a part of the country that did not have a special continued fever, supposed to be characteristic to itself alone. This was often given a special name, such as mountain fever in the west, so-called camp fever in the east, typho-malarial fever in the south. According to the Widal test, mountain fever is undoubtedly true typhoid. The assumption of a typho-malarial fever in the south, supposed to be an intermediate between typhoid and malaria, has been abandoned. The so-called camp fevers of lumber regions and of military encampments are no longer considered independent entities. Obscure malaria at the north is now acknowledged to be, in most cases, sporadic typhoid fever. The country places, according to the statistics of the last United States census, are not spared any more than are the cities, so that all practitioners must be constantly on the look out for it. It is especially at the extremes of life that, according to the revelations of the Widal test, typhoid fever has proven to be much more common than was hitherto suspected. Even advanced age is no protection against the invasion of the typhoid bacillus, in spite of the atrophy of the lymphatic structures of the intestine, through which the bacillus usually finds its port of entry. A patient's age is no longer considered a diagnostic element for the exclusion of typhoid fever, since typhoid without intestinal lesions is not uncommon, and the Widal test has proven its occurrence even after 70. At the other extreme of life, even nursing infants may contract the disease from infected water given them between nursings.[1] In cities where typhoid fever rages with special virulence, continued fever in children is as likely to be typhoid as in their adult relatives.

In any part of the country and in patients of any age it is safest for the practitioner to assume, in case of doubt, that a continued fever is typhoid until it is proved to be something else. When continued fever presents anomalous symptoms that apparently preclude the diagnosis of typhoid fever, it should be remembered that the occurrence of other typhoid cases in the neighborhood make the best possible pathognomonic indication in doubtful cases. The epidemiologic rule that when an epidemic exists cases should be considered to come under this head until they can be absolutely proved to be something else, remains the most helpful aid for safe diagnosis. The frank immediate declaration of the existence of typhoid constitutes the best safeguard against the spread of the disease and at once arouses interest as to its possible source, thus initiating effective prophylaxis.

THE FOURTH OF JULY TETANUS EPIDEMIC.

In a short time we shall witness the annual slaughter of the innocents. On the morning of July 5 there will be few communities that will not find recorded in the local paper an account of the sacrifice of some life to the celebration of the day before. The bursting cannon, the premature explosion, the burning building, the bulleted cartridge that was supposed to be a blank, will each claim its quota of victims, not to mention the lost eyes and fingers, the burns and injuries beyond number. Were this all, the record would be bad enough, but after the excitement is over, the glory of the day half forgotten, there will begin to appear scatteringly and, therefore, less prominently, accounts of the children who have succumbed after hours or days of suffering to the tetanus-infected blank cartridge wound.

1. Typhoid Fever in Children. Medical News, April 11, p. 711.

This annual tetanus epidemic is as certain as the Fourth itself, and in the large cities like New York and Chicago it amounts to about one-third of the total annual death rate from tetanus. In Chicago there are usually fifteen to thirty deaths from blank cartridge tetanus each year, while the entire number of deaths from tetanus each year is about fifty. Although there are plenty of other wounds received at this time each year, still the blank cartridge causes nearly all the tetanus infections. It is rare, indeed, that the lacerations from the exploding giant cracker are followed by tetanus. That this is not due to any infectious nature of the blank cartridge itself has been abundantly shown; repeated examinations have demonstrated that they are free from virulent tetanus germs. There can be no doubt that their danger lies in the nature of the wound they produce, and the circumstances under which the wound is received. Street dirt is a favorite habitat of the tetanus bacilli or their spores, and the hand that receives the wound is usually well covered with dirt at the time of the accident. The wad carries this dirt, with its contained organisms, deep into the hand, where the ideal anaërobic conditions exist, even excelling those of the famous nail wound of the foot. In proportion to the number of wounds received there can be no doubt that the blank cartridge wounds are far more deadly than the nail wounds, for they are certainly less common, yet they cause about as many deaths.

We should not forget that most of these deaths are preventable if the blank cartridge wounds are properly treated as soon as they are received. It is a sad fact that the greater number of cases of Fourth of July tetanus occurs in boys who have gone to some physician, not infrequently in a dispensary, who, instead of giving the wound the thorough treatment that it deserves, has superficially cleaned and dressed it. The responsibility here lies with the physician who first sees the wound. A thorough surgical treatment of blank cartridge wounds, supplemented by prophylactic injection of tetanus antitoxin when possible, would save many lives every year.

To accomplish the extinction of Fourth of July tetanus two things are necessary. The first is the enforcement of proper regulations of the sale of firearms and ammunition to minors. In cities where adequate precautions are taken, as in Washington, Fourth of July tetanus is practically absent. After this comes the education of the laity to an appreciation of the danger of this particular sort of injury, and in this the daily paper has a mission that, in a number of instances, it is making a commendable endeavor to perform. If the boy and his parent understand that an extremely large proportion of blank cartridge wounds cause lockjaw they will not be satisfied with anything less than the most thorough treatment, for the ordinary individual has a proper appreciation of the seriousness of this disease.

ANOTHER VICTIM TO PLAGUE INVESTIGATION.

From Berlin comes the news that another investigator has fallen victim to accidental infection with plague, on which he was working. This involuntary martyrdom shows the extreme virulence of the plague bacillus. From dispatches in the daily press it appears that the German government has stopped further investigation in this disease because of the danger of its dissemination. Such curtailment of the freedom of investigation will probably not meet with the approval of the scientific world, in spite of occasional victims to accidental plague. Plague is so destructive a disease that science will not remain content until this disease is fully under control and eventually eradicated. To this end continued investigation is necessary; and investigation can be so safeguarded in specially isolated institutes that all danger of the dissemination of the disease is removed. In such institutes competent men should be encouraged to delve and work by adequate emolument. The investigators should live in the institutes while working with plague, and we feel sure that there will be no lack of competent men who are willing to go on and assume all danger attending the work.

VERY ADVANCED THERAPEUTICS.

A rather curious medical assemblage, judging from newspaper accounts, has lately occurred in Connecticut. The Eclectic Medical Association of that state, which has just finished its session, was the occasion for some rather remarkable medical utterances. In the first place, the president's address, as reported, was peculiar, particularly when he had something to say about the smallpox epidemic or pandemic, which has existed in this country in a mild way for the last two or three years. He took a very cheerful view, indeed, stating—if he is quoted correctly—that smallpox is in reality something to be wished for instead of feared, and giving as his reasons that when it is prevalent we have fewer deaths from it than other diseases, and when it is really malignant we have fewer deaths from other causes. He consequently condemned vaccination, claiming that its use prepares the victim for either another disease or an early grave. There was evidently an attempt at something ultra-scientific at the meeting, as one of the speakers brought out some points which we have never seen mentioned before, and which seem worthy of comment. This speaker remarked that so much had been accomplished with argon in cancerous and other similar troubles that he had been led to experiment also with other newly discovered gases, helium, neon and krypton, and had obtained results far surpassing anything obtained from the *x*-ray or Finsen light treatment. We did not suppose that these substances had yet been isolated in sufficient quantities to be used to any great extent therapeutically, certainly not in tangible doses. If it had been a homeopath of the high dilution order we could imagine that he might see the possible effects of these substances even as they exist unisolated in the atmosphere and elsewhere.

BLOOD CULTURES IN PNEUMONIA.

The application to the study of pneumonia of modern methods of blood cultures is yielding interesting and important results. The most recent and also the most

extensive work in this field is that of Rosenow,[1] who reports finding the pneumococcus in the cultures of the blood of pneumonics during life in 77 of 83 cases. In the 6 cases in which the cultures remained sterile there were good reasons to expect this outcome, because the cultures were made after the temperature had returned to normal; and the conclusion seems to be warranted that when the proper technical methods are used the pneumococcus may be recovered from the blood in all cases of typical pneumonia. This being the case, pneumococcemia in pneumonia can not be regarded as having an unfavorable prognostic significance, as concluded by earlier investigators, who obtained positive results in a much smaller percentage of cases. In obscure cases of pneumococcus infection blood cultures may be of positive diagnostic value. The results of blood cultures in pneumonia also tend to throw new light on the pathogenesis of the disease and its complications. Certainly the occurrence of pneumococci in the blood in practically every case of pneumonia constitutes a satisfactory explanation of many of the secondary pneumococcus localizations in this disease—the endocarditis, the arthritis, the meningitis. Perhaps the question now should read: Why are not these complications more frequent? What is the mechanism that leads to endocarditis in one case and not in so many others? Then again, this pneumococcemia revives the question as to the fundamental nature of pneumonia: Is it a general infection with a local manifestation, or is it a local disease with a secondary bacteriemia? This question can not be answered from the facts at hand. Some light would be obtained, however, if opportunity were presented to examine the blood bacteriologically at the very beginning of the attack, before any local signs are manifest.

Medical News.

ILLINOIS.

Sanitarium Incorporated.—Dr. Sanger Brown and others have incorporated the Kenilworth Sanitarium, with a capital stock of $25,000.

Gift for Neely.—At an informal reception at the Cook County Institution, Dunning, May 30, the employes of the institution presented Dr. John R. Neely, the retiring general superintendent, with a diamond stud.

New Contagious Ward.—The plans for the new $75,000 hospital for contagious diseases, to be erected in the grounds of Cook County Hospital, were submitted to the county commissioners, June 6. The building is to be four stories high, fireproof, and will accommodate 116 patients.

Personal.—Dr. William E. Shasted, Pittsfield, has returned from a trip abroad, and has resumed practice.——Dr. Philip F. Gillette, assistant physician at the Illinois Northern Hospital for the Insane, Elgin, has resigned, and has been succeeded by Dr. Joseph M. Kearney, late assistant at Cook County Hospital for the Insane.

Chicago.

Christopher Resigns.—Dr. Walter S. Christopher has resigned as professor of pediatrics in the medical department of the University of Illinois, College of Physicians and Surgeons.

Tuberculosis Sanitarium Dedicated.—St. Anne's sanitarium for the treatment of consumptives at West Division street and North 48th avenue was formally dedicated by Bishop Muldoon, May 31.

To Fight Smallpox.—The finance committee of the city council has recommended an emergency appropriation of $10,000 to be used in combating smallpox. There are now 39 patients at the isolation hospital.

1. Medicine, 1903, p. 435.

Fugitive Physician Found.—Dr. Gustaf Adolph Walther, who came to Chicago apparently well qualified, but who soon began to display questionable methods in practice, and who disappeared about eight months ago while under indictment for assaulting a young girl, has been located at Tegucigalpa, Honduras.

Premature Celebration Tetanus.—"Fourth-of-July lockjaw" has begun early this year. During the last five weeks, according to the health department bulletin, seven deaths from tetanus due to firearms, toy pistols and explosions have been reported. There were only twelve all told from similar causes up to the end of July last year and only four in 1901, when the mayor's proclamation was rigorously enforced and the number was reduced from twenty-four in 1900.

Suits.—Dr. Chalmers Prentice has sued the Geneva Optical Company for $12,000, alleged to be due on a contract for the payment of royalties on the sale of retinoscopes.——Mrs. Joel Connor, in a suit filed May 29 against the Chicago Lying-in Hospital and Dispensary, claims that her boarding house business has been damaged to the extent of $10,000 by the proximity of the hospital.——Dr. Moses Furlong and William Higgins have been sued for $25,000 by a German girl, who alleges that she was anesthetized and forced to undergo an operation, the result of which has been a permanent injury to her health.

Drop in Deaths.—The drop in the death rate—amounting to a little more than 21 per cent. less than that of the previous week, to 9.8 per cent. less than the average June death rate of the previous ten years, and to 5.7 per cent. less than that of the corresponding week of 1902—is warrant, says the department of health, for the hope that the murderous mortality of the last five months may be counterbalanced by a minimum rate during the remainder of the year. The 461 deaths reported for the week ended June 6 are 120, or more than one-fourth fewer than those of the previous week, and the rate—12.73 per 1,000 of population—is the lowest for any week since that of Nov. 1, 1902, when the rate was 12.56 per 1,000. There were 31 fewer deaths under 1 year, and 31 fewer over 60 years of age, while the deaths between 1 and 5 years remained the same as the preceding week. Pneumonia shows a reduction of 51 deaths; bronchitis, 5; nervous diseases, 12; heart diseases and violence, 11 each; cancer, 9; convulsions, 7; typhoid fever, 4; influenza, 3; measles and whooping cough, 2 each. The pneumonia deaths are the lowest since the week ended Nov. 29, 1902, and the typhoid deaths the fewest since the week of July 5, 1902—the beginning of the epidemic.

The Hospital Question.—It was announced last week in the daily press that only one hospital in Chicago was operating under a license from the city, and that the others found it impossible to comply with the requirements governing the location of such institutions. In order to secure a license, a hospital must have the "consent of the person or persons who may be the owners or agents of the entire frontage of the four sides of the block in which such building is to be located and the entire frontage of the block on the opposite side of the street on which the building faces." In consequence of the prohibitory nature of this section of the building ordinance, and to test its validity, the commissioner of health requested the city prosecutor to institute proceedings against 46 hospitals which have persistently violated the ordinance in this especial regard. The city council, at its meeting, June 8, passed an ordinance which prohibits the establishment of hospitals for the treatment of the insane, inebriates, drug victims, epileptics, or for contagious diseases, unless a majority of the frontage in the block and the opposite sides of the streets facing the block is obtained. A motion to include maternities in the ordinance was lost. When such hospitals are to be more than two stories high the building must be of fireproof construction. Amendments were referred to the committee on health prohibiting the establishment of such hospitals within 200 feet of a school building, and also to prohibit the use of a hospital for more than one class of patients, and providing breathing space around hospitals to be constructed: Where there are less than twenty beds, fifteen feet on each side of the hospital must be vacant; from twenty to fifty beds, twenty-five feet; more than fifty beds, fifty feet.

MARYLAND.

Scarlet Fever Closes School.—The colored public school at Towson has been closed on account of the prevalence of scarlet fever.

Personal.—Dr. P. F. O'Neil, Baltimore, has been appointed assistant to Dr. James M. Spear, secretary of the Cumberland City Board of Health, and has taken charge of the Emergency Hospital there.——Dr. James A. Stevens, Oxford, has been elected state medical examiner by the Medical and Chirurgical Faculty of Maryland, vice Dr. Charles F. Davidson, Easton, who declined re-election.

Baltimore.

May Vital Statistics.—During May 753 deaths and 678 births were reported. Scarlet fever was the most prevalent of epidemic diseases. Pulmonary tuberculosis caused 100 deaths, and pneumonia 74.

Dinner to Osler.—Ex-resident and associate physicians of the Johns Hopkins Hospital gave a dinner to Dr. William Osler, May 15, and presented him with the "Dictionary of National Biography," in 65 volumes.

Personal.—Dr. C. M. Franklin of the Sheppard and Enoch Pratt Hospital has been elected professor of psychiatry in the Woman's Medical College.——Dr. H. Barton Jacobs sailed for Liverpool, June 3.——Dr. William Lee Howard is visiting the psychopathic hospitals in Italy and France.

MASSACHUSETTS.

Boston.

New Roxbury Hospital.—The new Deaconess Hospital in West Roxbury will be 84 by 66 feet and three stories in height, of red brick and terra cotta and is to cost $105,000. It is to be one of a group of buildings to be built later on.

Personal.—Dr. Charles C. Foster of Cambridge, formerly surgeon-major of the Fifth Infantry, has been appointed medical director of the Second Brigade, M. V. M., made vacant by the retirement of Lieutenant-Colonel William H. Devine.

Better Classification of Insane.—At the recent meeting the State Board of Insanity devoted most of its attention to the great need of better classification of the insane of the state and the city. Drs. Jelly, Ayer, Adams, Copp, Howard, Page, Lane, and others, each spoke most earnestly on the great value of separating the curable from the incurable and the mild from the severe cases, as can not be done in the present extremely crowded condition of all the institutions.

A Better Report.—Not for two years and six months has the local death rate touched as low a point as for the week ended June 6, namely, 14.94 per 1,000 per annum. The decrease is general and in no special class or disease—17 deaths occurred from pneumonia, 2 from whooping cough, 10 from heart disease, and 4 from bronchitis. There were reported 31 cases of diphtheria, with 4 deaths; scarlet fever 41 cases, with 3 deaths; typhoid fever 9 cases, with 2 deaths; measles 42 cases, with 2 deaths, and tuberculosis 10 cases and 25 deaths.

NEW YORK.

Taxation of County Medical Societies.—The tax commissioners are to begin suits to test the constitutionality of the law passed by the last legislature exempting from taxation the property of county medical societies.

Buffalo.

Personal.—Dr. Harry Meade has returned from Europe.——Dr. Clawes of the Cancer Laboratory has sailed for Europe, and Dr. Burt C. Johnson is soon expected home from Europe.

New York City.

Columbia Appointments.—Dr. C. A. Herter has been appointed to the chair of pharmacology and therapeutics, Dr. Joseph A. Blake lecturer in surgery, and Drs. Forbes Hawkes and C. A. McWilliams instructors in surgery at the College of Physicians and Surgeons of Columbia University, New York.

No Fees for Health Board Physicians.—The health commissioner having heard that physicians and employes of the health department accepted gifts and fees, issued an order forbidding any physician in the employ of the department to accept a fee for professional services, or for signing certificates or affidavits to insurance blanks from persons with whom he had been brought in contact by reason of his official connection with the department.

Notification of Diseases.—The health department is considering the advisability of greatly extending the present list of reportable diseases. The most important proposed addition to the group of disease in which notification is compulsory, is puerperal septicemia. It is thought that this will serve as a restraint on the midwives. In the other group are those diseases in which notification is compulsory only in the case of institutions, though private physicians are requested to report them for the purpose of accumulating valuable statistical information. This list will probably include influenza, lobar pneumonia, broncho-pneumonia, infectious diseases of the gastro-intestinal canal and parasitic skin diseases. The board disclaims any intention of exercising sanitary surveillance over these diseases in the event of their being made reportable.

PENNSYLVANIA.

Endows Bed.—The will of the late Hannah B. Fry leaves $5,000 to St. Timothy's Hospital, Roxborough, for the endowment of a free bed.

New Buildings.—The new building of the State Insane Hospital, Harrisburg, costing $40,000 will soon be ready for occupancy. The four additional new buildings are soon to be erected at a cost of more than $250,000.

Personal.—Dr. Thomas C. Fitzsimmons of Wilkesbarre has been appointed a member of the commission of the Eastern Pennsylvania State Institution for the Feeble Minded and Epileptic.——At the recent meeting of the G. A. R. of Pennsylvania, Dr. Alfred Smith, Beaver Falls, was made medical director.

Philadelphia.

Increase in Typhoid.—For the week ended June 6, 315 new cases of typhoid fever were reported, an increase of 51 over the previous week.

Board of Education Appointments.—Dr. Charles S. Turnbull has been appointed a member of the board of education, to fill the vacancy made by the death of Dr. Thomas G. Morton. Dr. T. J. Buchanan has also been appointed a member of the board.

Early Phthisis Sanatoria.—Director Martin has a plan for establishing, for the summer, sanatoria in Fairmount Park where children of the tenement districts and persons in the early stages of phthisis may be cared for. It is the purpose to enlist charitable organizations in the work, the department exercising general supervision over these field hospitals, and furnishing certain supplies. The Red Cross Society offers to supply 25 nurses.

President Honored.—At the thirty-eighth annual meeting of the Jewish Hospital Association, held May 31, a portrait of William B. Hackenberg, for twenty-five years the president of the association, was presented to the institution. Dr. Solomon Solis-Cohen made the presentation address. The president pointed out that while the income for the year had been $61,192 the expenditures exceeded this amount by $5,026. Legacies and endowments of $67,127 had been received.

Sanatorium Opened.—The twenty-seventh annual opening of the Red Bank Sanatorium on the Delaware River, a short distance below Philadelphia, took place June 6. Fifteen hundred children of the poor were delightfully cared for on the opening day by this life-saving charity. From the opening until August 31, holidays and Sundays excepted, free excursion boats hourly carry passengers to this river resort. Sick children are freely cared for in the hospital on the grounds and are provided with food and delicacies.

Pure Food Crusade.—B. F. Warren, commissioner of the dairy and food department, has begun an active crusade against adulterated products. Warrants have been served for a score or more of prominent dealers, charging them with selling adulterated lard, and an equal number of warrants have been sworn out for other dealers. Analysis of the so-called lard shows that it consists largely of cotton-seed oil and tallow stearin. A large corps of agents are now canvassing the city, with instructions to prosecute to the fullest extent any violations of the pure food law.

Physical Fitness of Teachers.—The hygiene committee of the board of education has adopted a rule requiring all candidates for teaching positions in the public schools to furnish certificates of physical fitness. The applicant must answer questions as to recent illness, association with cases of phthisis, whether disease of throat, eye or ear exists, and as to the use of narcotics and alcoholic liquors. In addition, a reputable physician must certify whether the applicant has phthisis, leprosy, contagious disease of the skin or mucous membrane, defect of hearing, an irremediable defect of vision, etc.

The Index Medicus.—The College of Physicians recently adopted the following resolutions:

WHEREAS, Through the generosity of the Carnegie Institution, which has pledged $10,000 a year for three years, the *Index Medicus* has been revived; and

WHEREAS, The index is valuable to the profession, not only of America, but of the whole world, and its permanent establishment is of the utmost importance to the profession at large; and

WHEREAS, If the profession does not support this publication by a generous subscription it can not be expected that the Carnegie

Institution will continue to defray nearly the entire expense of its publication; therefore,

Resolved, That the College of Physicians requests each fellow, if within his power, to subscribe for at least one copy.

Against Impure Milk.—Dr. A. C. Abbott, chief city bacteriologist, who entered on his duties as chief of the bureau of health, June 1, has begun a campaign against impure milk. Additional inspectors are to be provided. The condition of milk shops are being investigated, and a number of dealers have been ordered to cleanse their places or to close up. It is the purpose to reduce the high infant mortality that commonly prevails during the summer months. A conference of the mayor, Dr. Martin, director of the department of health, Dr. Abbott, and the state veterinarian will perhaps result in a request to the State Board of Health to act in conjunction with the local authorities in regulating dairymen in the handling and marketing of milk.

GENERAL.

Cholera Decreasing.—The recrudescence of cholera in the Philippines is subsiding.

The new board of health of Hawaii organized for work and held its first meeting May 13. President Cooper and Dr. W. H. Mays are the two physicians on the board, the other four are lay members.

Panama Canal Construction.—There are 45 physicians employed to care for the 1,500 laborers and foremen and 160 civil engineers who are now in the pay of the United States, working on the canal at the isthmus. The daily expense of the construction amounts to about $5,000, according to the Chicago *Post*.

Non-Lepers Prefer Life of Ease.—Inmates of the leper colony, Molokai, Hawaii, who are free from leprosy, are unwilling to leave. Some of these went there to care for relatives who have since died. They are not furnished food but live on the hospitality of the lepers. Their removal is attended with difficulty, according to reports by the territorial board of health. A re-examination of all within the colony is ordered by the board to determine who are free from the disease. None, however, wants to leave, because of the easy life and the supply of clothing and food at public expense in a delightful climate, which they now enjoy.

International Hygiene Congress.—The following Committee of Organization for the United States for the Eleventh International Congress of Hygiene and Demography, to be held in Brussels, Sept. 2 to 8, 1903, has been appointed, at the request of the Belgian government, by the Department of State: Drs. E. A. de Schweinitz and A. B. Richardson, Columbian University, Washington, D. C.; Dr. John Marshall, University of Pennsylvania; Dr. Harrington, professor of hygiene, Harvard University. The committee desires to secure the co-operation of all in this country who are engaged in hygienic work, both in attendance at the meeting in Brussels, and in sending papers to the congress. The congress will be divided into two sections, hygiene and demography. The subjects which will be considered are the relation of bacteria and parasites to hygiene, the hygiene of foods, the treatment and prevention of communicable diseases, etc. The important subject of the communicability of tuberculosis will be discussed in its various phases by prominent men. The fee for membership is 25 francs, which may be sent Secretary-General M. le Dr. Felix Pulzeys, Rue Forgeur l. à Liège, Belgium. Those proposing to attend or send papers will please notify Dr. E. A. de Schweinitz, Washington, D. C.

CANADA.

Large Donations to Cottage Hospital Fund.—On May 17 the Lady Minto Cottage Hospital Fund received $51,000, the following four gentlemen of Toronto each contributing $10,000: Senator George A. Cox, Mr. D. D. Mann, Mr. William McKenzie and Mr. Chester D. Massey.

Isolation of Scarlet Fever Patients in Ontario.—Three months ago the Ontario Board of Health, at their regular quarterly meeting, decided that all patients suffering from scarlet fever must be isolated and removed to buildings or tents specially prepared for them. This stringent measure was deemed advisable owing to the very high death rate which has now prevailed in Ontario for some months from this disease. Several benevolent societies have taken the matter up, as they consider that any regulation which takes a child away from its mother and removes it to a tent, especially in the dead of winter, is inhuman.

FOREIGN.

Yellow fever has broken out at Progresso, Mexico, on the Gulf Coast.

Official Warning Against an Anti-Morphin Remedy.—The Berlin chief of police has issued an official warning against "Nicolicin," a remedy advertised to cure morphin addiction. He states that the principal ingredient is morphin, with a little salicylic acid, and it is thus unsuited to the purpose for which it is sold.

Physicians in Spanish Congress.—The recent elections resulted in the election of four physicians to the lower house and seven to the upper house of the Spanish parliament. Dr. Cortezo, editor of the *Siglo Medico* and president of the Internal Medical Press Association, was appointed vice-president of the upper house.

Norwegian Medical Study Trip.—An attractive program is announced for the trip in August to the various health resorts in or near Norway. The party will gather at Hankö, August 7 and disband the 21st. The total expenses of the trip will be at most less than $50. Dr. S. Meyer, St. Kongensgade 71, Copenhagen, has charge of the trip.

Plague Investigation Stopped.—Because of the death from plague of Dr. Milan Sachs, who was experimenting with the germs at the Berlin Hospital, the government has ordered further experiments to cease, fearing the danger to the public from the handling of the deadly germs. The investigations were conducted in an isolated laboratory and no outsider was allowed to approach.

Consultations for Economic Questions.—The Leipsic "Verband" has organized an information bureau for consultations in regard to all matters affecting the material interests of members of the profession in Germany. A leading legal authority has been appointed consultant. It is especially designed to aid physicians in entering on contract practice or altering their contracts. Advice is free to members of the "Verband" and to local societies which may apply.

Collective Cancer Inquiry in Hungary.—Dollinger of Budapest has undertaken a collective inquiry as to the number of cases of cancer in treatment, October 15, 1903. The step was taken at the request of the government and question blanks have been sent to all the physicians in the country. They are urged to take note of tumors in the animals in contact with the cancer subjects, dogs, cats, cows and horses. The fate of persons previously operated on for the removal of malignant neoplasms is also to form part of the study.

Campaign Against Alcoholism.—An important step has been taken in this line by the German ministers of agriculture, commerce, of the interior and of public instruction, who have signed a joint appeal to the local authorities throughout Prussia urging the establishment of comfortable reading rooms, assembly halls, etc., where workingmen may gather without the necessity or the temptation to buy spirituous liquors. Drinking fountains should be erected and abundant opportunities provided for procuring temperance drinks in the public places and populous streets, and the public should be instructed in regard to the dangers of alcohol on every suitable occasion. The local authorities are requested to report the results in 1905.

Sclavo's Anti-Anthrax Serum Wins the Riberi Prize.—The Turin Academy of Medicine has awarded the Riberi prize of $4,000 to Professor Sclavo for his successful anti-anthrax serum, as the best work accomplished in the medical field during the five years since the prize was last awarded. In a recent communication on the subject Sclavo stated that 293 persons have been treated for malignant pustule with anti-anthrax serum, including a case recently reported by Sanfelice, in which the serum of dogs immunized against anthrax was used. Sclavo announces that a rise of temperature after the injection is a most valuable sign, as it indicates a favorable prognosis as a rule. When the serum is used local treatment is unnecessary, and if administered in time the lesion heals and the edema is spontaneously absorbed. He has found the best method to be a single large dose, slowly injecting 40 to 50 c.c. at three or four points in the forearm or back of the hand. This serum treatment has found a cordial welcome in Argentina, where it has been applied in 130 cases, reducing the mortality to zero except in the moribund cases. Competition for the Riberi prize is open to the world, as previously announced in these columns, but preference is given to a work that tends to improve hygienic conditions in Italy.

The Outlook for the Physician.—Dr. Hofmann, Dillenburg, in a letter to the *Deutsche Med. Wochft.* discusses the outlook

for the profession and thinks that the aim of the physician should be to be assured of a comfortable income while reducing the single fee to the lowest possible figure. He thinks that the experience of the duchy of Nassau should prove instructive. It was early appreciated that the health of the populace was a most important public matter and, therefore, all the physicians in the country were supported by the state at a comparatively high salary for those days. The duchy was divided into "medical districts," each with its physician, although the inhabitants were not restricted to employ the nearest. The state paid one-half the income allowed him, and the other half and more if possible he was to make by his practice. The single fee was established by law at fifteen cents for a call in his district, and ten cents for office consultation. The arrangement was considered highly satisfactory for all parties and the profession enjoyed great prestige. In 1866 the duchy lost its political independence and the medical officials their state support, but the medical districts were maintained by the population which paid the physicians a stipend equal to twelve cents per capita on an average, for which he in return treated the poor gratis. The old fee has been retained in some of the districts, but in others it has been increased to a maximum of twenty-four cents under this régime. The physician's fee at all times was the same, irrespective of the distance from his residence. Hofmann thinks that some such arrangement outside of the large cities would solve many problems.

Annual Meeting of German Central Committee for Erection of Sanatoria.—The general interest that has been aroused in Germany in regard to the sanatorium treatment of tuberculosis was well illustrated by this recent meeting. The committee has now 1,300 members, including 83 physicians, 6 government ministers, 24 insurance companies, 159 government employes, 344 merchants and manufacturers and 39 business houses with 4 boards of trade. The principal address was by von Leyden, who reported most gratifying results from the movement. In the 74 sanatoria at present in operation 30,000 patients were treated during the year, and 80 per cent. are so much improved that they can be called practically cured. He stated that the mortality has diminished from 30.95 per 10,000 in 1875, to 19.50 in 1901. He expatiated on the marked improvement that has followed the organized effort to care for the families when the bread winner is sent to the sanatorium. Gobel stated that the number of persons to whom insurance was paid on account of tuberculosis has increased from 11 to 13 per cent. since 1898, but, on the other hand, the number of pensions paid for non-tuberculous affections has diminished by 4 per cent. The ravages of tuberculosis are shown by the fact that out of every 1,000 indemnities paid, 549 were on account of tuberculosis at the age of 20 to 24; 509 from 26 to 29, and 429 from 30 to 34. These figures were for men. The corresponding ones for women are 425, 343 and 258. Each patient has cost the national insurance societies 355 marks, about $90, the daily expense being about $1 (4 marks, 69 pfennigs). The length of the average sanatorium course was 79 days. During the last four years the proportion of those dismissed practically cured has increased from 27 to 31 per cent. Other speakers urged the necessity of isolation of consumptives and of preventive and curative treatment of tuberculosis in children who are more often affected than hitherto deemed possible. Pütter advocated that prophylaxis should be along the three lines of education of the tuberculous subject, his isolation as far as possible from the rest of his family in his home and free formalin disinfection.

LONDON LETTER.

Chloroform in the Preparation of Vaccine.

At the Royal Society Dr. Alan B. Green described a method of using chloroform for the elimination of extraneous organisms from vaccine lymph. Sterile air is passed through chloroform and becomes saturated with it. It is then passed through the vaccine emulsion which has been prepared by triturating one part of vaccine pulp with three parts by weight of distilled water. It is essential that no liquid chloroform be allowed to pass into the vaccine since its presence is strongly inimical to the potency of the vaccine. The vaccine is quickly saturated with chloroform, the excess after saturation escaping automatically. The germicidal action is very rapid, emulsions with as many as 100,000 organisms per platinum loop become free from them in six hours. After elimination of extraneous bacteria in this way the chloroform in the emulsion is evaporated by passing through it a stream of sterile air. Only the non-spore-bearing bacteria are killed by this procedure; but in some thousands of vaccines examined in the government lymph laboratories the only spore-bearing organisms found were non-pathogenic. Dr. Green thinks that this method will prove valuable when there is an urgent demand for a rapid supply of vaccine lymph, such as may occur during smallpox epidemics; vaccinations from the lymph so prepared have given excellent results.

The Wounded in Naval Warfare.

At the Royal United Service Institution Dr. Phillip Randall, formerly a naval surgeon, read an important paper on "The Disposal of the Wounded in Naval Warfare." He pointed out that although attempts had recently been made to call attention to the subject there was almost complete absence of it in the works of all the leading authorities on naval warfare. Medical officers viewed with forboding the prospect of being called on to deal with a large number of serious injuries. The conditions of naval warfare have greatly changed since the British navy was engaged in great wars. The sick berth of the present day has gained light and air, but its situation in all modern ships was untenable in warfare. A return to the cockpit principle had been decided on officially for some time, but beyond the selection of a site nothing had been done to make the place suitable. The number of wounded that would have to be dealt with after an engagement should be determined as approximately as possible. After giving figures of some of the battles of the last great wars Dr. Randall said that the working average of 7 per cent. of the complement, as the number of wounded to be expected in each ship, was the irreducible minimum. He then considered the condition of the ship after action, the accommodation provided in naval hospitals on land and the probable distances from such hospitals at which naval action might occur. The one conclusion was that in the fighting line afloat as in that ashore all treatment of the wounded beyond "first-aid" would be impracticable, and further, that after-treatment on board would be practically impossible. The adoption of the principle of hospital ships for fleets would be quite practicable and would go a long way to meet the needs of the situation. Every fleet should have one or more hospital ships attached to it. These would cruise with the fleets, and having first received all cases of serious injury from the ships would accompany them to the verge of safety when they went into action. Each hospital ship should be provided with as many large and roomy boats as it could carry. By means of these endeavors would be made to keep close communication with the fighting line, seizing on every opportunity to collect and transfer to the hospital ship as many wounded as possible.

Correspondence.

The Transmission of Yellow Fever.

HAVANA, CUBA, May 28, 1903.

To the Editor:—Dr. James Carroll, U. S. A., in the paper which he published under the above title in THE JOURNAL, May 23, does me the honor of arguing at great length on my statement that the yellow fever Army board of which he was a member had tacitly denied my rights of priority. I was thus referring to many items of the mosquito theory which the said board had presented to the public as so many new discoveries of their own, ignoring the circumstance that although I had not always been in a position to demonstrate my assertions experimentally, I had included those same items in my theory of yellow fever transmission. Dr. Carroll has indeed now changed the tacit denial into an explicit one, without, however, refuting any of the evidence on which my former statement had been founded. (See my paper in *Medicine*, Detroit, March, 1903, pp. 178 and 179.) I agree with him, however, in thinking that rather than to enter into any controversy it is better to leave the decision to those who will take the pains of reading our respective publications, including, however, one which Dr. Carroll has forgotten, namely, my paper on "Two Different Ways in Which Yellow Fever May Be Transmitted by Mosquitoes," which was published in THE JOURNAL, Nov. 23, 1901. In this paper I have clearly shown that the Army board has never seriously investigated my direct inoculation with recently contaminated mosquitoes. When I had asked them to do so they excused themselves, alleging that they had too few non-immunes at their disposal. This investigation, if favorable to their presumption, would

have been the only justification for their attitude of persistent denial that any of my positive results deserve to be taken into consideration. They took the ground that the yellow fever germ must be a parasite of the same nature as the malaria parasite, and that the same rules must be applicable to both. That they were quite mistaken in this last inference I have recently proved in a paper on "Probable Nature and Life Cycle of the Yellow Fever Germ" (see *Revista de Medicina Tropical* of Havana, English text), in which I have demonstrated that although it must be admitted that both germs appear to be protozoa of similar nature and life cycle, yet there is this essential difference between them, that while the malaria germ has the human subject for its permanent host and the anopheles for its intermediate host, the reverse happens with the yellow fever germ whose permanent host is the stegomyia and its intermediate one the human subject. A difference which leaves out of the question such analogies as the Army board has attempted to establish between the two cases.

The phase of development of the parasitic germ which takes place in the body of the mosquito host must consequently be considered as quite different in the two diseases. In yellow fever the interval of time which elapses between the bite of the fresh stegomyia on the infecting patient and the moment when the insect is able to reproduce the disease, in its complete forms, must be supposed to represent the number of days required by the embryo parasites to reach their adult development after they have been sucked up with the blood of the yellow fever patient; but not, as happens with the malaria parasite in the body of the anopheles, the time required for the sexual reproduction of the parasite and for the accumulation of the newly-hatched embryos in the salivary glands of the insect, as the Army board had assumed.

I feel bound, before closing this article, to answer several charges which Dr. Carroll has brought against me. One is, in substance, that availing himself of my present position I have shirked the opportunity of testing my own method of direct inoculation with recently contaminated mosquitoes by obtaining an order forbidding further experiments with mosquitoes having ten or more days of contamination, and only allowing the handling of contaminated mosquitoes to persons well acquainted with the dangers, etc. (See *Medicine, loc cit.*) How Dr. Carroll manages to reconcile his conclusions with these premises I fail to understand, specially if he remembers that there have been only a few imported cases of yellow fever during the last year, and none has originated on the island.

Another charge is that my claims of priority should have been accompanied by unmistakable evidence, in print, as proof that the facts have been demonstrated and duly reported. I have never claimed that I had demonstrated the facts, but I have proved by unmistakable evidence, in print, that I had foretold the results which the Army board afterwards confirmed, giving them as original discoveries of their own.

My table of 104 inoculated persons with recently contaminated mosquitoes (so far as I could judge, operating as I did with insects which were not bred from the larvæ), was handed to the Publication Committee of the Third Pan-American Congress, together with the paper which I read at that congress. Seeing that the publication of the transactions was delayed, I gave a copy of those same tables to Dr. Coronado, who published them in a volume which he dedicated to me and in which were included several reprints from the *Revista de la Asociacion Médica Farmaceutica*. I am sending a copy of this book and also of my paper on "Probable Nature," etc., to THE JOURNAL.

Dr Carroll somewhat sarcastically refers to my humane feeling in having refrained from proving my theory, in my own series of inoculations, for fear of producing a severe attack on persons who had relied on my assurance that no risks would be incurred through my procedure; but he seems to doubt my sincerity because he once saw me apply a fully contaminated mosquito to a non-immune. He, however, carefully silences the circumstance that this non-immune had been informed of the risk that he was incurring, that he had accepted that risk in view of a certain compensation, and that I was induced to perform the experiment believing that it entailed a lesser risk than letting Dr. Calda's assertion go unchallenged when he declared that this same man had been rendered immune through the injection of a secret preparation for the efficacy of which he was trying to obtain our support.

The only part of Dr. Carroll's criticism to which I must plead guilty is the confusion arising from my descriptions of my case No. 3. The second statement to which he refers was made from memory at a time when I had mislaid my original notes. I found them again, however, last year, and ascertained that the experiment had been really made under the conditions which I took the first opportunity of publishing, as a footnote, in the *Revista Médica Farmaceutica*, February, 1902, page 369.

With these explanations I trust that Dr. Carroll and the readers of THE JOURNAL will be satisfied. Dr. Carroll, on the other hand, does not give his reasons for reducing to eight days the minimum space of time required for the contamination of the stegomyia while the Army board has fixed that limit at from 10 to 12 days; nor does he present any reasonable grounds for his belief that, *cæteris paribus*, the simultaneous bites of several contaminated mosquitoes should not be expected to produce more severe effects than that of only one of those insects. The Army board, at any rate, is not responsible for these innovations of Dr. Carroll any more than for the charges which he has brought against me.

Apart from such secondary questions, as claims of priority must be acknowledged to be, I must reassert once more my keen appreciation of the invaluable work which the yellow fever Army board has achieved, and I gladly recognize that all the arguments on which my recent paper on the life cycle of the yellow fever germ are entirely founded on the findings of that board. I also beg to express my deepest sympathy in the untimely death of its accomplished and enthusiastic chairman, Dr. Reed, and in that of Dr. Lazear, who was probably the first American convert to the mosquito theory and died a martyr to his scientific zeal in the course of its investigation.

CARLOS J. FINLAY, M.D.
Chief Sanitary Officer of Cuba.

HAVANA, CUBA, May 30, 1903.

To the Editor:—Being the only other survivor of the Army yellow fever board which demonstrated beyond further doubt the transmission of that disease by the mosquito *Stegomyia fasciata*, I may be permitted to record a few facts in connection with said investigation, and in refutation of the openly-made or implied assertions by my learned colleague and late coworker, Dr. James Carroll, Washington, D. C., published in THE JOURNAL, May 23, 1903.

The omission of my name in the early part of the article referred to, where mention is made of Drs. Reed and Lazear, loses its importance before my eyes, when, on continuing the reading of the text, I find it directed principally in a fruitless endeavor to assail Dr. Finlay's right to the honor of the discovery of the only known way by which yellow fever is transmitted.

Aside from this attack on Dr. Finlay's claims, all that appears in Dr. Carroll's paper has been published before in the various articles presented by the Army board by Drs. Guiteras, Gorgas, Ross and myself. (*Revista de Medicina y Cirugia*, Habana, Agosto, 1901.)

Before going further I desire emphatically to affirm: That I was present when the question of following out Dr. Finlay's mosquito theory was brought up by the Army yellow fever board, as it was my right and duty to be, and as it is recorded in our Preliminary Note (reprint from the proceedings of the twenty-eighth annual meeting of the American Public Health Association, October, 1900). That, at that time, neither Drs. Reed, Carroll nor myself believed in said theory, the only one of us inclined to consider it favorably being my friend and classmate, Dr. Jesse W. Lazear. That the work in the lines of Finlay's theory was undertaken as a matter of course, from the fact that a thorough investigation into the etiology of yellow fever was expected of our board, and not because as a body the board thought any too well of it. That of us all, Dr. Lazear was the only one at the time prepared to initiate

the work in this direction, he being thoroughly familiar with the anatomy and biology of the culex and conversant with the technic required; he had already bred numerous varieties in his laboratory at Camp Columbia, and had been sending specimens to Dr. Howard, entomologist, Department of Agriculture, Washington, for aid in identifying the different species. That Dr. Lazear was the member of the board, Dr. Reed being absent in Washington, who produced our first two cases by the bites of mosquitoes, in the persons of Dr. Carroll, who, being an unbeliever, allowed him to apply one mosquito on August 27, and an American soldier, who was bitten by the same insect, and three others, Aug. 31, 1900. That Dr. Lazear, not content with this, and not in ignorance, for he had suggested to me what the origin of Carroll's and the soldier's infection was, deliberately allowed himself to be bitten by a mosquito while in one of the wards of the yellow fever hospital (Las Animas) September 13, at a time when Carroll and the soldier were convalescing from their attacks. I am convinced that this mosquito produced the infection which caused his death Sept. 25, 1900.

Major Reed was summoned from Washington and the investigation was then undertaken exclusively on the mosquito theory.

These are the facts which I deem necessary to make known for the present.

No one can regret more than I the circumstances which may have led Dr. Finlay to regard the stand taken by the Army yellow fever board as a "tacit denial of his rights to priority"; but his false interpretation of our writings could have never induced me to demean the achievements of this "grand old man." Neither the Army board, Dr. Carroll, or anyone can deprive Dr. Finlay of the glory of his discovery. What matters it, and what wonder is it, that he could not impart to the near-sighted all that he knew, when we consider that he lacked the necessary technical training and the material means which were so bountifully placed at our disposal for the demonstration? If he did not indeed convince us at the time that the mosquito was the only means of propagating the disease, are we not convinced of it to-day? And is it not the same mosquito to which he pointed?

Had we followed out his suggestions for clearing the city of yellow fever (*New York Medical Record*, May 27, 1899), and which were later put into practice with but little variation by Major Gorgas, the date of our liberation from the scourge would have been anticipated by three years.

Dr. Carroll says:

> It is too late, after facts have been proved and recorded by others, to claim priority unless one can point to unmistakable evidence in print as proof that the facts have been demonstrated and duly reported.

According to this, Dr. Finlay undoubtedly is entitled to priority; he demonstrated to himself and reported long ago the true facts of a fundamental principle, which the Army board, by its superior advantages, demonstrated more convincingly to the world. ARISTIDES AGRAMONTE, M.D.

The Library of the El Paso County Medical Society.

DENVER, June 1, 1903.

To the Editor:—There are but few cities in the United States with a population of less than 25,000 that can boast of a medical library. I was, therefore, agreeably surprised to find one in a recent visit to Colorado Springs. It is housed in a separate alcove in the Corbin Library of the Colorado College. It contains over one thousand books, all arranged in alphabetical order by authors under the following classification: 1, Anatomy; 2, biographies; 3, chemistry; 4, dentistry; 5, gynecology; 6, hygiene; 7, history; 8, materia medica; 9, medical diagnosis; 10, medical jurisprudence; 11, medicine; 12, miscellaneous; 13, obstetrics; 14, pathology; 15, periodicals and reprints; 16, physiology; 17, reference books; 18, reports; 19, surgery; 20, veterinary. All medical journals are arranged alphabetically by titles. Reprints are filed in cases under an approximate classification by subjects. A card catalogue arranged by subjects is placed in the alcove, and an author's catalogue is placed in the card catalogue in the general librarian's office. The system of classification adopted by this library is unique in that all the subjects are arranged alphabetically. I find it very admirable for a small library. It looks odd at first to find dentistry flanked by chemistry and gynecology, and physiology between periodicals and reference works, but it certainly has its advantages. Once one knows that everything is arranged alphabetically he can easily find what he wants.

All this was surprising enough, but I noticed a neatly bound pamphlet dangling on a ribbon, across which I read the words, "Catalogue of the Library of the El Paso County Medical Society."

All the work, the arrangement, classification and cataloging was done, not by a hired librarian, but by a committee composed of busy practitioners, Drs. R. K. Hutchings, W. H. Swan, F. L. Dennis and H. W. Hoagland. This committee has done a noble work which the profession of Colorado Springs will come to appreciate more and more as years go by.

The library contains a few old books of interest to the lover of *curiosa*. John Friend's Emmenologia, 1752; Sydenham's works, 1740, and N. Robinson's "A New Method of Treating Consumption." There will be not a few who will be anxious to find out something about this "new method," now two hundred years old. I will therefore transcribe the full title of the book, which reads as follows:

> A new method of treating consumption, wherein all the decays incident to human bodies are mechanically accounted for. With some consideration touching the difference between consumption and other decays that naturally attend old age. To which are added arguments in defense of the possibility of curing ulcers of the lungs; as also reasons for demonstrating that the irregular discharges of all the evacuations in consumption arise from the resistance of the heart not decaying in a simple proportion to the resistance of other parts.

From the title one can gather hints as to the curious contents of the book. By the way, there is another book by the same Johnson on which I would like to spend a few hours, namely:

> A treatise on the virtues of a crust of bread, eat early in a morning fast, to which are added some particular remarks concerning the great cures accomplished by the saliva, or fasting spittle as when externally applied, or when internally given, in the scurvy, gravel, stone, rheumatism and diverse other diseases arising from obstruction.

Well, "the virtue of a crust of bread eat early in a morning fast" is an experiment with the effects of which legions are fully acquainted. But of "spittle" applied externally I have heard it used only in cases of violent emergencies and under provoking circumstances. C. D. SPIVAK, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

DO NEGROES RECOVER FROM PHTHISIS?

ATLANTA, GA., June 2, 1903.

To the Editor:—I see in THE JOURNAL (May 30, p. 1520) that Dr. Francis Crosson of New Mexico is desirious of information on tuberculosis among negroes. After fifteen years of large experience with tuberculosis among the negroes on the farm and in the towns, I can not recall a single case in which treatment made the slightest impression. Not only were all the cases fatal, but the negro succumbs most readily to the infection, and so rapid is the progress of the disease that death soon claims the victim. The peculiar hue of the negro's skin is almost an infallible characteristic of the disease. JOHN E. ASHCROFT.

CHATTANOOGA, TENN., June 2, 1903.

To the Editor:—In response to the request of Dr. Crosson of Albuquerque, New Mexico, I observe as follows: From a very extensive professional knowledge of the negro, both in public hospital work and in private practice, and covering a third of a century, I have come to the conclusion that the colored race, as we meet it in the south, is specially susceptible to the inroads of tuberculosis, primarily, and succumbs to this great white plague very rapidly. Indeed, I regard tuberculosis as one among the greatest of the foes of the African under civilization in the United States; and if one of this race ever recovered under my own observation, after contracting consumption, I certainly do not remember it now. With the profession generally in this southern section of our common country, it is a sentiment that when a negro becomes visibly affected with pulmonary phthisis his doom is already practically sealed, and there is a very short period expected to intervene between the

victim and his taking off as soon as a diagnosis becomes readily appreciable.

E. A. COBLEIGH.

MOBILE, ALA. June 3, 1903.

To the Editor:—Some years ago, while assistant superintendent of the Alabama Insane Hospital at Tuscaloosa, I availed myself of the excellent opportunity there offered of studying the relative frequency and curability of tuberculosis in the white and colored races, from both a clinical and pathologic standpoint. The results of my observations were published in the *New York Medical Journal*, Feb. 23, 1895, and may be epitomized as follows: The mortality from tuberculosis is greater in the negro race than in the white. The disease runs a more rapidly fatal course in the negro. General miliary tuberculosis is many times more frequent in the negro. Instances of arrest or cure of tubercular disease are comparatively rare in the negro. Nevertheless, recovery from tuberculosis is not unknown in negroes; I have known two cases.

E. D. BONDURANT.

AGRICULTURAL COLLEGE, MISS., June 5, 1903.

To the Editor:—In answer to Francis Crosson's inquiry, I will say that I have known only one case to recover in a practice of 28 years. It is an almost unknown occurrence, and there are many dying in this country from tuberculosis. Tuberculosis with the negro before they were freed was almost unknown. Then they were fed well, clothed well, housed comfortably, made to keep regular hours, and when one was taken sick the very best nursing and medical attention was given him. The kind friends of the negro in the north who are anxious to help him with their money could do him no greater service than to provide a fund to be used in securing him good nursing and first-class medical attention when he is sick. They have one habit that I am not sure they had when slaves, viz., sleeping with their head covered; that adds much to cause this succumbing to tuberculosis.

W. H. BARR, M.D.

Marriages.

B. F. WALKER, M.D., Laton, Cal., at Winchester, Ill., May 26.

L. MAE JAMES, M.D., to JOHN J. HOUTON, M.D., both of Detroit, Mich., June 2.

A. C. ECKE, M.D., Chicago, to Miss Sadie Beaman of Fond du Lac, Wis., May 31.

CHARLES EDWARD TERRY, M.D., to Miss Marion Stuart, at Annapolis, Md., May 29.

FRED CLIFTON HONNOLD, M.D., Riverside, Ill., to Miss Aimee Coulter of Chicago, June 10.

DAVID M. MCFALL, M.D., Mattoon, Ill., to Miss Fannie Johnson of Quincy, Mass., June 3.

ROWLAND MCFARLAND, M.D., to Miss Maude Elena La Fergey, both of Daggett, Cal., April 14.

MARION RUSSELL THOMAS, M.D., Savannah, Ga., to Miss Ethel Ray Butler of Baltimore, June 9.

CLAUDE ALLEN THOMPSON, M.D., to Miss Harriett Pauline Shoenfelt, both of Muskogee, I. T., May 24.

ARTHUR G. KESSLER, M.D., Lyons, Cook County, Ill., to Miss Mary L. Barnum, at Waukegan, Ill., May 20.

Deaths.

Timothy Barnard Chisholm, M.D. Atlanta (Ga.) Medical College, 1861, acting assistant surgeon in the Confederate service; for many years county physician and coroner; a member of the Medical Association of Georgia and of the Georgia Medical Society of Savannah, died at his home in that city, May 7, after an illness of three days, aged 63.

John Newton Dexter Shinkel, M.D. Rush Medical College, Chicago, 1885, a member of the American Medical Association, Mississippi State Medical Association, Mississippi State Board of Health, Tri-State Medical Association; vice-president International Association of Railway Surgeons, 1899-1890; died suddenly at his home in Friar Point, Miss., May 26.

John B. Burdett, M.D. College of Physicians, New York, 1856, for several years president of the Hudson County (N. J.) Medical Society and once president of the Hudson County Pathological Society, died at his home in Jersey City, May 21, from Bright's disease, after an illness of three years, aged 69.

Andrew Louden Chapman, M.D. St. Louis Medical College, 1857, died from heart disease, May 15, at his home in Kansas City, Mo., after a long illness, aged 77. He was at one time the editor and publisher of the *New Medical Era and Sanitarium*. He retired from active practice in 1882.

Eliphalet L. Patee, M.D. Starling Medical College, Columbus, Ohio, 1852, surgeon during the Civil War; surgeon-general of Kansas, 1892-1894, member of the Association of Military Surgeons of the United States, died recently at his home in Manhattan, Kan.

Philip H. Keyser, M.D. Chicago Homeopathic Medical College, 1893; Colorado School of Medicine, Boulder, 1902, a member of the American Medical Association, was found dead at his home in Boulder, May 24, aged 31. Autopsy revealed no cause.

William O. Davies, M.D. captain and assistant surgeon U. S. V., a graduate of the University of Pennsylvania, died at his home in Philadelphia, May 26, after a long illness contracted during his service in the Philippine Islands, aged 36.

Dwight Scott Chamberlain, M.D. New York University, 1862, surgeon during the Civil War, but since 1868 engaged in the law and banking business, died at his home in Lyons, N. Y., May 11, from typhoid fever, after a long illness, aged 64.

Hiram Henry Bingham, M.D. College of Homeopathic Medicine and Surgery of the University of Minnesota, 1896, of Herman, Minn., died in Minneapolis, May 8, from tuberculosis of the intestines, after an illness of two years, aged 28.

Charles F. Hamlin, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1892, a member of the American Medical Association, died at his home in Medway, Mass., May 16, from pneumonia, after an illness of two weeks, aged 34.

Albert N. Robert, M.D. Bellevue Hospital Medical College, New York, 1897, died suddenly from heart disease on the train while returning from his old home in Holyoke, Mass., to his home in Volcano, Cal., May 5, aged 29.

Gustave Boucher, M.D. Royal University of Naples, Italy, 1864, of South Brooklyn, N. Y., died in the Columbus Hospital, Manhattan, May 21, from locomotor ataxia, after an illness of two years, aged 57.

George Osgood Hildreth, M.D. Transylvania University, Lexington, Ky., 1835, the oldest practitioner of Marietta, Ohio, died at his home in that place, May 3, after an illness of four months, aged 90.

W. M. Willingham, M.D. Atlanta (Ga.) Medical College, 1874, died suddenly, May 12, near his home in Crawford, Ga. He had represented Oglethorpe County for several years in the legislature.

Bernard C. Nunez de Villavicencio, M.D. University of Pennsylvania, Philadelphia, 1865, formerly of Galveston, Texas, died at his home in New Orleans, May 21, after a brief illness, aged 64.

Mark T. Loope, M.D. Baltimore Medical College, 1893, surgeon of the Northern Pacific Railway, at Hope, Idaho, died in a hospital at Spokane, Wash., May 22, after a brief illness, aged 46.

John Van Harlingen, M.D. College of Physicians and Surgeons, New York, 1869, died at his home in Brooklyn, N. Y., May 17, from heart disease, after an illness of four months, aged 57.

Henry Klemm, M.D. St. Louis College of Physicians and Surgeons, 1882, died at his home in St. Louis, May 24, after an illness of three months, following an attack of influenza, aged 61.

Nicholas Pfeifer, M.D. Penn Medical University, Philadelphia, 1863, surgeon during the Civil War, died at his home in Lindenhurst, Long Island, N. Y., May 24, after a long illness, aged 83.

Max J. Reinhold, M.D. Hahnemann Medical College, Philadelphia, 1879, died from hemorrhage of the stomach at his home in Williamsport, Pa., after a long illness, May 12, aged 47.

Thomas H. Mathers, M.D. Medical College of Ohio, Cincinnati, 1883, of Lillovet, B. C., died from septicemia following frozen feet, at New Westminster, B.C., April 16, aged 45.

Samuel S. Scott, M.D. Medical College of Ohio, Cincinnati, 1854, a surgeon in the Confederate service during the Civil War, died at his home in Erlanger, Ky., May 22, aged 77.

Waller Overton Bullock, M.D. Bellevue Hospital Medical College, 1869, died at his home in Lexington, Ky., May 18, from paralysis, after an invalidism of four years, aged 61.

Joseph B. Cutts, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1842, an early settler of Polo, Ill., died at the home of his son in St. Louis, May 18, aged 83.

Thomas B. Ennor, M.D. State University of Iowa, Iowa City, 1888, of Potosi, Wis., died at Phoenix, Ariz., April 27, from tuberculosis, after an illness of one year, aged 40.

Arthur A. Blondin, M.D. Northwest Medical College, St. Joseph, Mo., 1892, of Alturas, Cal., died at a hospital in San Francisco, April 28, from heart disease, aged 62.

Henry D. Belden, M.D. University of Vermont, Burlington, 1877, a veteran of the Civil War, died from locomotor ataxia at his home in St. Albans, Vt., May 21, aged 57.

John R. Van Horn, M.D. Georgia School of Eclectic Medicine and Surgery, Atlanta, 1894, died at his home in Clay City, Ind., May 23, after an illness of six weeks, aged 42.

John K. Ruffin, M.D. University of Pennsylvania, Philadelphia, 1857, who had been in feeble health for some time, died suddenly at his home in Wilson, N. C., May 23.

William R. Irons, M.D. Jefferson Medical College, Philadelphia, 1890, died at his home in Allegheny, Pa., from pneumonia, May 24, after an illness of four days, aged 42.

Asa E. Hoskinson, M.D. Starling Medical College, Columbus, Ohio, 1883, died at his home in Columbus, May 19, from pneumonia, after an illness of two weeks, aged 45.

James I. Lamar, M.D. Medical College of Georgia, Augusta, 1851, died at his home in Deatsville, Ala., May 11, from pneumonia, after an illness of six weeks, aged 73.

John Moffett, M.D. Medical College of Ohio, 1849, several times president of the Rush County Medical Society, died at his home in Rushville, Ind., May 1, aged 81.

Charles Cochran, M.D. Willoughby (Ohio) University, 1843, for many years a resident at Toledo, died, May 25, at the home of his daughter in Los Gatos, Cal., aged 86.

John Nelson McCune, M.D. Cleveland Medical College, 1878, died at his home in McKeesport, Pa., May 17, from dropsy, after an illness of four months, aged 52.

James M. Park, M.D. Eclectic Medical Institute, Cincinnati, 1871, of Little Rock, Ark., died suddenly while driving near Scott's Crossing, Ark., May 15, aged 51.

Joseph N. B. Latimer, M.D. College of Physicians and Surgeons, Baltimore, 1879, died at his home near T. B., Prince George's County, Md., May 18, aged 48.

Tyson Smith, M.D. Homeopathic Hospital College, Cleveland, 1881, formerly of Newaygo, Mich., died at the Michigan State Hospital, Kalamazoo, May 11, aged 55.

Ephraim M. Fine, M.D. Medical College of Ohio, Cincinnati, 1872, died at his home in Veedersburg, Ind., May 17, from paralysis, after a brief illness, aged 59.

Joseph T. Moreland, M.D. Chattanooga (Tenn.) Medical College, 1901, of Atlanta, Ga., died at a sanitarium in that city, May 22, after a short illness, aged 56.

James E. Hyslup, M.D. University of Maryland, Baltimore, 1900, died at his home in Keller, Va., May 18, from pneumonia, after an illness of six days, aged 27.

William L. Funderburg, M.D. Southern Medical College, Atlanta, Ga., 1883, committed suicide, by taking morphin at his home in Gadsden, Ala., May 12.

Alvin B. Rice, M.D. Bellevue Hospital Medical College, New York, 1867, died suddenly from heart disease, at his home in Jamestown, N. Y., May 7, aged 61.

A. M. Gontner, M.D. Jefferson Medical College, 1878, of York, Pa., died at the York Hospital, May 17, from septicemia, due to an abscess of the foot, aged 47.

Carl Steiger, M.D. University of Munich, Germany, 1887, died at his home in Monroe, Wis., May 7, from toxemia, after an illness of four days, aged 42.

Clifford J. Hickman, M.D. Eclectic Medical Institute, Cincinnati, 1889, died at his home in South Bend, Ind., May 8, after an illness of one week, aged 35.

Edgar T. Schmidt, M.D. Jefferson Medical College, Philadelphia, 1876, died suddenly in his office in St. Paul, Minn., from heart disease, May 17, aged 48.

Robert M. Enders, M.D. Tulane University, New Orleans, 1869, captain and assistant surgeon, U. S. V., died in Manila, P. I., May 26, from nephritis.

James T. Warnock, M.D. Jefferson Medical College, Philadelphia, 1858, died suddenly from heart disease, May 9, at his home in Atlanta, Ga., aged 68.

Raymond W. Shattuck, M.D. College of Physicians and Surgeons, New York, 1897, school inspector, died at his home in New York, April 27, aged 29.

John J. Healy, M.D. University of Pennsylvania, Philadelphia, 1872, died suddenly from heart disease at his home in Philadelphia, May 7, aged 53.

Robert B. McCants, M.D. Southern Medical College, Atlanta, Ga., 1882, died at his home in Demopolis, Ala., May 28, after an illness of two days, aged 45.

Andrew J. Sauer, M.D. Baltimore Medical College, 1894, died at his home in Baltimore, May 20, from typhoid fever, after an illness of 33 days, aged 30.

Silas E. Farnsworth, M.D. University of Vermont, Burlington, 1867, died at his home in Minneapolis, May 21, from chronic nephritis, aged 65.

William L. Kirkpatrick, M.D. Medical College of the State of South Carolina, Charleston, 1850, died at his home in Anniston, Ala., May 3, aged 76.

John F. Cronin, M.D. Medical College of Georgia, Augusta, 1890, of Augusta and New York City, died from tuberculosis at Daytona, Fla., May 23.

E. P. Stearns, M.D. Eclectic Medical Institute, Cincinnati, 1858, assistant surgeon in the Civil War, died recently at his home in Newton, Kan.

Ralph Morden, M.D. New York Homeopathic Medical College, 1875, died at his home in Circleville, Ohio, from Bright's disease, May 12, aged 50.

William G. Mott, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Basco, Ill., from smallpox, May 5, aged 60.

Robert L. Browning, M.D. Eclectic Medical Institute, Cincinnati, 1882, died suddenly from apoplexy at his home in Judsonia, Ark., May 6.

Edward M. Kanouse, M.D. Hahnemann Medical College, Chicago, 1880, of Wausau, Wis., died at Three Rivers, Wis., May 25, aged 60.

James F. Rawlings, M.D. Medical College of Ohio, Cincinnati, 1891, died from brain disease at his home in Eldorado, Ill., May 13, aged 34.

Joseph A. Schaeffer, M.D. University of Wooster, Cleveland, 1887, of Ashtabula, Ohio, died in the Cleveland State Hospital, April 30.

Adolph O. Schoeninger, M.D. College of Physicians and Surgeons, Baltimore, 1902, died, May 4, at his home in Newark, N. J., aged 24.

E. W. Dean, M.D. Cleveland Homeopathic Medical College, died from consumption at Colorado Springs, Colo., the first week in May.

Charles T. Hudson, M.D. Tulane University, New Orleans, 1882, died at his home in Yazoo City, Miss., May 21, after a short illness.

Robert M. Cochran, M.D. Medical College of Virginia, Richmond, 1865, died, May 8, at his home in Martin's Station, Ala., aged 62.

John A. Bitting, M.D. Jefferson Medical College, Philadelphia, 1874, died suddenly at his home in Sherman, Texas, May 14, aged 50.

John A. Robinson, M.D. Jefferson Medical College, Philadelphia, 1868, died suddenly at his home in Due West, S. C., May 25.

Frederick E. Baxter, M.D. Bennett Medical College, Chicago, 1883, died at his home in Petersburg, Neb., April 30, from cancer.

Samuel H. Thompson, M.D. University of Tennessee, Nashville, 1892, of Arlington, Texas, died, May 20, at Albany, Texas.

Benjamin R. Mosher, M.D. American Medical College, St. Louis, 1891, died at his home in Kinsley, Kan., May 2, aged 73.

John I. Dyer, M.D. National Medical College, Washington, D. C., 1847, died at his home in Washington, May 9, aged 76.

James F. Richards, M.D. College of Physicians and Surgeons, New York, 1859, died recently at his home in Andover, Mass.

Alphonso S. Wilson, M.D. University of Pennsylvania, Philadelphia, 1892, died at his home in Wilkesbarre, May 27.

Abraham Standlee, M.D. American Medical College, Cincinnati, 1857, died at his home in Santa Anna, Texas, May 2.

George W. Noble, M.D. Eclectic Medical Institute, Cincinnati, 1854, died at his home in Edon, Ohio, May 4, aged 80.

Frederick A. Krill, M.D. Homeopathic Hospital College, Cleveland, 1882, died recently at San Luis Obispo, Cal.

Edmund B. Myers, M.D., Pennsylvania, died suddenly at his home in York, Pa., from apoplexy, May 13, aged 73.

Henry M. Beer, M.D. Cleveland Medical College, 1868, died at his home in Valparaiso, Ind., May 26, aged 65.

J. H. Bryant, M.D. College of Medicine and Surgery, Philadelphia, 1849, died at Waterloo, Iowa, April 27.

B. Frank Klugh, M.D. of Florin, Pa., was injured in a railway accident, May 13, and died, May 16, aged 61.

J. F. Couch, M.D., a pioneer of Upshur County, Texas, died at his home in Simpsonville, May 7, aged 85.

Thomas H. Rye, M.D. University of Nashville, 1859, died at his home in Turbine, Tenn., May 26, aged 74.

Charles H. Blair, M.D. Bennett Medical College, Chicago, 1895, died at Beloit, Wis., May 17, aged 46.

Houston D. Shrader, M.D., Washington, D. C., died at Sibley Memorial Hospital, May 21, aged 52.

Isaiah Bowers, M.D., died from dropsy, April 28, at his home in Plymouth, Ind., aged 70.

James D. Donnelly, M.D. died at his home in Mountain City, Tenn., May 21, aged 75.

B. A. Tinsley, M.D., died at his home in Lawrenceburg, Tenn., May 11.

Book Notices.

A TEXT-BOOK OF DISEASES OF THE EYE. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, etc. Fourth Edition, Revised, Enlarged, and Entirely Reset. With 280 Text-Illustrations and 6 Chromo-lithographic Plates. Cloth. Pp. 773. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1903.

De Schweinitz's well-known work on diseases of the eye appears in the fourth edition with numerous changes and additions bringing it well up to date. Much new matter has been added and certain chapters, such as those on refractions, movements of the eyeballs and others, have been considerably rewritten. The work will retain the favor which it has received from the profession.

THERAPEUTICS OF DRY HOT AIR. By Clarence Edward Skinner, M.D., LL.D., New Haven, Conn., Professor of Thermotherapy in the New York School of Physical Therapeutics. Cloth. Pp. 200. Price, $2.00. New York: A. L. Chatterton & Co.

The subject of this work is one that is likely to interest the practitioner more in the future than it has in the past, for the method advocated seems to have advantages and to have acquired at least a standing in therapeutics. The book gives the best side of the treatment, not, however, without mentioning its limitations. The criticism of the book that we should make is first of all that it does not with sufficient completeness and definiteness describe the mechanism of the apparatus. The illustrations given convey a general idea of its appearance and to a certain extent of its mode of working, but on looking over the work we have been unable to find anything as to the possibilities of its utilization in private practice at the bedside in the absence of gas jets, even indeed if it is practicable where they are available.

ANATOMY AND HISTOLOGY OF THE MOUTH AND TEETH. By I. Norman Broomell, D.D.S., Professor of Dental Anatomy, Dental Histology, and Prosthetic Technics in the Pennsylvania College of Dental Surgery, Philadelphia. Second Edition, Revised and Enlarged, with 337 Illustrations. Cloth. Pp. 500. Price, $4.50 net. Philadelphia: P. Blakiston's Son & Co. 1902.

This is a text-book for dental students, and is thoroughly up to date. The illustrations include microphotographs from actual specimens as well as photographs of dissections. The author enters into a general description of the mouth and surrounding tissues. The occlusion of the teeth receives considerable attention, although that in itself is of minor importance, since the etiology of occlusion is entirely neglected, the manner and arrangement of the teeth in the line of evolution and atavism being an essential point. About one hundred and fifty pages are devoted almost entirely to the anatomy of the teeth. The histology of the structures of the mouth are entered into at considerable length. This work would be of more value if the first part had been devoted to the evolution of the pulps and the teeth. The evolution of the face, jaws and teeth should be well fixed in the mind of the student before he undertakes the study of the present condition of man, as nearly all diseases which the dentist is called on to treat are the result of evolution. The work as a whole is a commendable one. In one or two instances, the author has failed to give credit for illustrations. This, however, was no doubt an oversight. The work is finely produced with clear large type, and is well indexed.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College. Volume V. Prophylaxis—Personal Hygiene—Civic Hygiene—Care of the Sick. By Joseph McFarland, M.D., Henry Leffmann, M.D., Albert Abrams, A.M., M.D., and W. Wayne Babcock, M.D. Illustrated. Cloth. Pp. 539. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1903.

Part 1, by Drs. McFarland and Babcock, discusses the origin and prevention of disease, considering the intrinsic factors which tend to increase or decrease the tendency to disease, such as age, race, heredity, etc. The extrinsic causes are similarly treated under the heads of physical, toxic and sociologic causes, in which a great deal of space is given, profitably, to the different forms of animal and vegetable parasites. Part 2, by Dr. Leffmann, treats of civic hygiene, including chapters on hospitals for contagious diseases, the control of venereal disease, the regulation of water, milk and food supply, the disposal of waste material and the disposal of the dead by burial and cremation. Part 3, by Dr. Abrams, includes such important topics as the hygiene of dwellings; the hygiene of travel; personal hygiene; the hygiene of special periods, beginning with infancy; the hygiene of the diatheses as scrofula, rachitis, scorbutus, etc. The last two chapters are devoted to the care of the sick room and the patient, including a chapter on special nursing. The book includes many helpful suggestions which should be in the possession of every active practitioner. This volume keeps up the reputation of this series in the treatment of subjects in a practical manner.

Association News.

New Members.

New members for the month of May, 1903:

ALABAMA.

Williamson, J. L., Tuscaloosa.
Faulk, W. M., Tuscaloosa.
Camp, E. T., Gadsden.
LeGrande, J. C., Birmingham.
Sellers, H. G., Birmingham.
Whaley, Lewis, Birmingham.
Andrews, Glen, Montgomery.
Dupree, W. J., Athens.
Furniss, H. D., Selma.
Gaston, J. L., Montgomery.
Hamrick, R. H., Pratt City.
Hand, S. P., Demopolis.
Hicks, L. O., Jackson.
Knowlton, J. W., Paint Rock.
Mohr, C. A., Mobile.
McWhorter, H. P., Collinsville.
Mershon, Clarence L., Fairhope.
Marlette, C. E., Hayneville.
Robinson, T. F., Bessemer.
Schowalter, V. McR., Point Clear.
Wharton, W. W., Cullman.
Wright, W. I., Dawson.
Woodcock, Burgett, Vinegar Bend.
Parker, E. T., Brewton.
Somerville, W. G., Tuscaloosa.
Lacey, E. P., Bessemer.

ARKANSAS.

Minor, J. C., Hot Springs.
Collings, H. P., Hot Springs.
Thompson, M. G., Hot Springs.
Clegy, J. T., Siloam Springs.
Hurley, C. E., Bentonville.
Lutterloh, C. M., Jonesboro.
Thompson, R. C., Pine Bluff.
White, J. A., Dumas.
Westerfield, J. H., Atkins.
Wells, D. D., Hazen.
Burton, O. H., Hot Springs.
McCollum, I. N., Greenbrier.

CALIFORNIA.

Adams, F. L., Oakland.
Lazard, E. M., Los Angeles.
Paul, J. W., Santa Clara.
Schmitt, Lionel S., San Francisco.
Crabtree, Hezediah T., San Francisco.
Bailly, T. E., San Francisco.
Stafford, O. R., Santa Ynez.

CONNECTICUT.

Burroughs, Geo. McC., Madison.
Segur, Gideon C., Hartford.
Morlarty, Jas. L., Waterbury.
Kilmartin, Thos. J., Waterbury.

DISTRICT OF COLUMBIA.

Brown, H. L., Washington.
Sutton, Richard L., Washington.
Wilkinson, Oscar, Washington.

FLORIDA.

Thomason, Frank G., Kissimmee.

GEORGIA.

Miller, B. E., Daisy.
Hendricks, W. H., Tifton.
Alexander, W. H., Blakely.

ILLINOIS.

Waters, O. J., Chicago.
Smyth, J. P., Chicago.
Hardon, Robt. W., Chicago.
Duff, Guy C., Chicago.
Bartlett, Rufus H., Chicago.
Simpson, Elmer E., Chicago.
Harris, Frederick G., Chicago.
Alcorn, Archibald J., Chicago.
Dohrmann, Geo., Chicago.
Goldsmith, A. A., Chicago.
Doane, P. S., Chicago.
Gottschalk, F. B., Chicago.
Gray, Ethan A., Chicago.
Darling, C. G., Chicago.
Aiken, A. W., Chicago.
Albro, Merlin Z., Chicago.
Hopkins, Caroline B., Chicago.
O'Byrne, Chas. C., Chicago.
Masilko, V. F., Chicago.
Keyes, A. Belcham, Chicago.
Voyles, Chas. F., Murdock.
Pearson, Jas. J., Pontiac.
Hardesty, T. O., Kampsville.
Franing, E. C., Galesburg.
Dicks, T. A., Broadlands.
Baysinger, M. M., Grand Tower.
Hanna, Robt. A., Peoria.
Berry, R. D., Springfield.
Mitchell, H. C., Carbondale.
Foley, John C., Waukegan.
Davidson, W. P., Sullivan.
Davis, C. E., Peoria.
Smith, Isaac Newton, Toluca.
Smith, D. G., Elizabeth.
See, Clarence S., Pleasant Mound.
Denny, Alden Ray, Galesburg.
Galbraith, Robt. G., Matteson.
Taylor, Leonard S., Elgin.

INDIANA.

Thompson, G. W., Winimac.
McKinney, J. W., Bluffton.
McDonald, W. B., New Augusta.

Hoover, P. N., Boonville.
Hershey, K. C., Carmel.
Cummings, David J., Brownstown.
Morrison, Frank A., Indianapolis.
Patton-Hawkins, Madge, Terre Haute.
Durham, Chas. O., Indianapolis.
Crockett, Lillian A., Indianapolis.
Lawson, W. T., Danville.
Frick, H. C., Evansville.
Clark, Edmund D., Indianapolis.

INDIAN TERRITORY.

Ross, S. P., Savannah.

IOWA.

Brink, H. J., Doon.
Powers, J. C., Hampton.
Hostetler, Calvin, Marcus.
Evans, R., Ft. Dodge.
Stevens, E. Luther, Des Moines.

KANSAS.

Chilcott, B. F., Osborne.
Hausman, Jacob L., Marysville.
McVey, Wm. E., Topeka.
Andrews, A. S., Topeka.
Williams, Wm., Pittsburg.
Williams, G. W., Pittsburg.

KENTUCKY.

Boggs, Jas. P., Robbins.
Combs, Glenmore, Winchester.
Prewitt, Nelson V., Winchester.
Dunn, J. T., Louisville.
Thomas, F. P., Hopkinsville.
Heflin, Ernest Lee, Louisville.
Finley, Thos. R., St. Charles.
Hayden, John V., Salem.
Jackson, J. B., Hopkinsville.
Warren, Manley C., Buchanan.
Woodard, Robt. L., Hopkinsville.
Berry, W. T., Oakton.
Beard, Frank M., Shelbyville.
Cissell, Jos. K., Loretto.
Carson, Jas. O., Bowling Green.
Davenport, Edw., Hampton.
Dempster, R. T., Glendeane.
Hocker, Robt. T., Arlington.
LaRue, F. G., Smithland.

LOUISIANA.

Williams, W. T., Natchitoches.
Wilkins, H. F., Rayville.
Tolson, F. R., Lafayette.
Tircuit, A., Anchor.
Thompson, E., Ville Platte.
Sartor, D. R., Alto.
Sitman, C. M., Greensburg.
Simmons, C. D., Baton Rouge.
Smith, Ernest H., Lacour.
Powers, E. O., Grangeville.
Pierson, Clarence, Alexandria.
Postell, L. T., Plaquemine.
Matthews, W. W., Cheval.
McCaleb, J. H., Merrick.
Longino, Luther, Minden.
Lehmann, Victor, Hahnville.
Lawrence, Walter S., Yellow Pine.
Littell, B. A., Opelousas.
Jones, P. H., Lutcher.
Jones, Geo. M., Lutcher.
Kimball, John L., Caspiana.
Irion, C. H., Benton.
Huckabay, G. M., Vivian.
Hadra, Frederick, Ft. St. Philip.
Heard, Jas. Preston, Gueydan.
Holloway, Eugene, Plaquemine.
Hargrove, J. B., Natchitoches.
Gaines, G. W., Milliken's Bend.
Grace, W. L., Plaquemine.
Ellis, J. H., Kentwood.
Duchein, C. F., Lecompte.
Cushman, M. R., Abbeville.
Carruth, R. McG., New Roads.
Colvin, S. I., Minden.
Cannon, G. E., Jonesboro.
Biener, Geo., Port Allen.
Bush, A. R., Sligo.
Allen, J. C., Baton Rouge.
Bascom, Henry, Gueydan.
Walmsley, R. W., New Orleans.
Thiberge, N. F., New Orleans.
Sauter, C. F., New Orleans.
Schmittle, Jos., New Orleans.
Seay, R. W., New Orleans.
Richardson, T. F., New Orleans.
Robin, E. A., New Orleans.
Rudolf, T. R., New Orleans.
Patton, G. F., New Orleans.
Newman, J. W., New Orleans.
Mayer, A. J., New Orleans.
Lowe, E. P., New Orleans.
Loeber, Fred, New Orleans.
Lewis, H. S., New Orleans.
Ledoux, Alexander, New Orleans.
Kelly, Hugh, New Orleans.
Granger, Amedie, New Orleans.
Formento, Felix, New Orleans.
Danna, Jos. A., New Orleans.
Catalano, W., New Orleans.
Bayon, H., New Orleans.
Abbott, Louis Lee, New Orleans.
Surghnor, Graham, Monroe.
Roussel, W. D., Patterson.
Wilson, J. L., Alexandria.
Williams, R. L., New Orleans.
Singletary, T. P., Baton Rouge.
Stone, Russell E., Amite City.
Scott, Jos. T., New Orleans.
Riche, H. Guy, Devall.
Maylie, A. G., New Orleans.
Logan, G. King, New Orleans.
King, Henry Allen, New Iberia.
Hopkins, Ralph, New Orleans.
Hunter, J. L., New Orleans.
Hart, J. B., New Orleans.
Fossier, A. E., New Orleans.
Duggan, T. A., New Orleans.
DePorter, L., New Orleans.
Dempsey, J. G., New Orleans.
Chamberlain, L. C., New Orleans.
Archinard, J. J., New Orleans.
Batchelor, J. M., New Orleans.
Nothacker, Wm., New Orleans.
Archinard, L. D., New Orleans.
Robin, W. H., New Orleans.
Hackett, R. K., New Orleans.
Ernst, O. F., New Orleans.
Charbonnet, L. S., New Orleans.
Couret, Manrice, New Orleans.
Gelbke, Chas. F., Gretna.
Girard, F. E., Lafayette.
Barrow, A. F., St. Francisville.
Houston, E. L., Koran.
Thompson, F. M., Slaughter.
Peters, J. J., Winnfield.
Davies, Edw., Mansfield.

MARYLAND.

Hirshberg, L. K., Baltimore.
Zepp, Jas. A., Baltimore.
Wailes, H. S., Cumberland.
Bevan, Chas. F., Baltimore.

MASSACHUSETTS.

Allen, Horatio C., New Bedford.
Hills, Chas. E., South Natick.

MICHIGAN.

Brooks, Harriet V. Bills, Saginaw.
Cameron, Duncan A., Alpena.
Gillam, Arthur C., Escanaba.
Martin, Jas. B., Traverse City.
Irvine, Geo. W., Detroit.
MacNaughton, Peter D., Calumet.
Jamieson, Robt. A., Detroit.
Schorr, Robt. L., Detroit.
Kirker, Geo. A., Detroit.
Acker, Wm. F., Monroe.
Fenelon, M. P., Escanaba.
Kitchen, A. S., Rapid River.
McGregor, Robt. N., Saginaw.
Moon, Wm. E., Traverse City.
Rees, Geo. M., Calumet.

MINNESOTA.

Ringnell, Carl John, Minneapolis.
Stuhr, Henry C., Argyle.
Graham, Christopher, Rochester.
Woodard, F. R., Minneapolis.

MISSISSIPPI.

Howard, W. L., Kosclusko.
Bolton, W. T., Biloxi.
Davis, W. V., Booneville.
Donald, J. D., Hattiesburg.
Noblin, W. E., Yazoo City.
Seale, J. E., Meridian.
Smythe, J. D., Greenville.
Scott, Jr., Z. J., Winona.
Lucas, J. W., Moorehead.
Beekman, Philip, Natchez.
Barber, T. A., Meridian.
Bass, C. C., Columbia.
Beacham, Woodard D., Felder.
Flowers, E. W., McComb.
Haralson, J. J., Forest.
Hunter, G. S., Bolton.
Mohler, D. G., Mt. Olive.
Murry, Chas. Miller, Ripley.
Pou, Jas. G., Courtland.
Turner, Osborn M., Jackson.
Thompson, Robt. W., Lumberton.
Wymer, J. J., Biloxi.

MISSOURI.

Ellis, Adam D., Powersville.
Harnisch, Henry J., St. Louis.
Vogt, Wm. H., St. Louis.
Goodwin, E. J., St. Louis.
Knott, Jr., Isaiah, Kytesville.
Cadwallader, I. H., St. Louis.
Friedman, Jacob, St. Louis.
Long, J. M., St. Louis.
Miller, J. M., Montrose.

NEW MEXICO.

Bradley, Chas. H., Las Vegas.

NEW YORK.

Hoffman, Chas. Fisher, Bolivar.
Brownell, Mary Alice, Newark.
Baker, Sara Josephine, New York.
Kammerer, Fred, New York.
Laighton, Florence Marion, New York.
Kimball, Chas. C., Watertown.
Robinovitch, Louise G., Watertown.
Warnecke, Anna, Newark.
Slawson, John C., Nyack.
Rogers, Willard H., New York.
Ehlers, Edw. C., New York.
Barnesby, Norman, New York.
Clayton, Mary, Ogdensburg.
Knapp, Hiram L., Newark Valley.
Blair, A. McN., Buffalo.

NORTH CAROLINA.

Boddin, N. P., Durham.
Reed, G. W., Biltmore.
Register, E. C., Charlotte.

OHIO.

Tuckerman, J. E., Cleveland.
Dennis, Chas. D., Columbus.
Campbell, A. D., Cleveland.
Post, Silas B., Canton.
Hatcher, H. H., Dayton.
Stewart, C. E., Toledo.
Shields, Percy, Cincinnati.
Melchers, Edward, Toledo.
Henry, Frank R., Dayton.
Corey, Martha D., Marion.

PENNSYLVANIA.

Skinner, W. F., Chambersburg.
Milnor, Mahlon T., Warrensville.
Frederick, W., Elliott.
Campbell, Chas. L., Sheradenville.
Buehler, W. S., Wernersville.
Pringle, W. N., Johnstown.
Mayer, L. H., Johnstown.
Hechelman, Herman W., Allegheny.
Hoffman, J. Louis, Ashland.
Freudenberger, Katrina, Tamaqua.
Brav, H. A., Philadelphia.
Smith, Lewis Watson, Pittsburg.

SOUTH CAROLINA.

McConnell, Henry E., Chester.
Monsen, M. B., Luray.
Hamilton, J. H., Union.
Hines, Edgar A., Seneca.

TENNESSEE.

Roberts, Deering J., Nashville.
Jacobsohn, Hiram B., Memphis.
Sewell, J. A., Rockwood.
Rawlins, Jas. S., Dancyville.
Kinsey, L. E., Ducktown.
Henderson, R. G., Memphis.
Crooks, Jere Lawrence, Jackson.
Black, Wm. T., Memphis.
Burch, L. E., Nashville.
Rogers, H. A., Ducktown.
Powell, Jas. L., Friendship.
Leake, R. M., Collierville.
Kimsey, Fred M., Ducktown.
Hanna, J. H., Covington.
Carroll, Jas. R., Henderson.
Rogers, W. B., Memphis.
Sanders, John F., Friendship.
Tinsley, P. A., Dandridge.
Jacobs, Arthur G., Memphis.
Worthington, Nathan J., Memphis.
Henderson, S. A., Bells.
Nichol, Adam Gillespie, Nashville.
Mathews, W. J., Johnson City.
Marr, Harrington, Nashville.
Wolff, H. S., Memphis.
Mooney, Chas. F., Knoxville.
Miller, Thos. F., Memphis.
Bryan, W. A., Nashville.
Maury, J. M., Memphis.
McNeil, E. K., Jackson.

TEXAS.

Smith, Allen J., Galveston.
Smith, O., Cumby.
Person, A. G., Snyder.
Nowlin, Bethel, Jonah.
Mason, Chas. F., Ft. Sam Houston.
Morris, Robt. S., Houston.
Benbrook, J. T., Rockwall.
Luter, Wm. E., San Antonio.
Cary, Edward Henry, Dallas.
Blount, Jr., E. A., Dallas.
Walker, A. C., Ft. Worth.
Lankford, J. S., San Antonio.
Harrell, T. M., Round Rock.
Chilton, W. E., Ft. Worth.

UTAH.

Kiehle, F. A., West Jordan.

VERMONT.

Pease, C. A., Burlington.

VIRGINIA.

Turner, Wm. D., Fergusson's Wharf.

WASHINGTON.

Shaw, E. E., Walla Walla.

WEST VIRGINIA.

Thomas, F. S., Charleston.
Preston, B. S., Pratt.
Pritchard, T. J., Huntington.

WISCONSIN.

Reeve, Jas. S., Appleton.
Roberts, John A., Manitowoc.
Harrington, T. L., Milwaukee.

HAWAII.

Schallie, Wm. A., Pohala.

State Boards of Registration.

California.—The Board of Medical Examiners of the State of California met in San Francisco, April 7 to 8, 1903, and examined in 9 subjects, with 90 questions, 40 candidates, of whom 26 passed, 12 failed and 2 were conditioned. The examination was written and the percentage required was 75.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
250	R.	University of Pennsylvania	1902	84 2-9
258	R.	Univ. Med. Coll., Kansas City	1902	82 1-9
266	R.	University of Cincinnati	1899	87 2-3
282	H.	University of Boston	1889	90 8-9
286	R.	University of Michigan	1896	79 5-9
289	R.	University of Michigan	1895	82 2-9
251	R.	Med. Dept. Univ. of California	1902	90
255	R.	Med. Dept. Univ. of New York	1879	80 5-9
252	R.	Medico-Chirurgical Coll., Phila	1902	75 4 9
254	R.	College of P. and S., Chicago	1902	82 2-3
265	R.	Coll. of Phys. and Surgs., New York	1880	83 5-9
284	R.	Coll. of P. and S., San Francisco	1902	88 2-9
259	R.	Rush Medical College, Chicago	1884	80
260	R.	Fort Wayne Coll. of Med., Indiana	1897	85 1-3
261	R.	Vanderbilt University, Tennessee	1902	85 8-9
264	R.	Missouri Medical College	1887	75
267	H.	Hahnemann Hosp. Coll., San Fran.	1901	87
268	R.	Frederick William U., Berlin, Ger.	1899	78 5-9
269	R.	Howard Med. Coll., Dist. of Col.	1902	81 5-9
272	R.	McGill University, Montreal	1890	88 2-3
279	R.	Columbia University, New York	1884	*
274	R.	Royal Coll. of Surgs., London	1896	90 2-3
276	R.	Ohio Medical University	1893	85
281	R.	Woman's Medical Coll., Cincinnati	1895	85
285	H.	Homeopathic Medical Coll., Chicago	1888	76 8-9
288	H.	Hahn. M. C. of Pacific, San Fran.	1902	78 8-9

* Previously conditioned in anatomy and pathology.

CONDITIONED.

263	H.	Hahnemann Med. Coll., Chicago	1884	†75 1-9
278	H.	Hahnemann Med. Coll., Chicago	1902	‡75 5-9

† Conditioned in physiology.
‡ Conditioned in physiology and pathology.

FAILED.

253	R.	Cleveland Medical College, Ohio...	1892	51 2-3
256	R.	Royal University, Parma, Italy....	1900	71
257	R.	Washington University, Missouri...	1895	60 7-9
262	R.	Barnes Medical College, St. Louis..	1898	68 7-9
270	R.	University Med. Coll., New York...	1879	34 2-9
275	R.	University of Michigan.....	1902	59 5-9
287	R.	Univ. of the South, Tennessee.....	1901	65 1-9
271	R.	Bellevue Hosp. M. Coll., New York.	1887	22 2-9
273	R.	Coll. of Phys. and Surgs., Baltimore	1892	69 1-9
277	R.	Faculty of Paris, France.....	1891	67 5-9
280	R.	Royal University of Pisa, Italy....	1899	66 1-9
283	E.	Eclectic Med. Inst., Cincinnati....	1894	62 2-9

Illinois January Report.—Dr. J. A. Egan, secretary, Springfield, reports the examination held by the Illinois State Board of Health in Chicago, Jan. 15, 16 and 17, 1903, as follows: Number of subjects examined in, 11; total questions, 110; percentage required to pass, 75; written examination; total examined, 48; passed, 43; failed, 5.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1567	R.	College of Phys. and Surgs., Chicago..	1903	85
1569	R.	College of Phys. and Surgs., Chicago..	1903	83
1575	R.	College of Phys. and Surgs., Chicago..	1903	77
1580	R.	College of Phys. and Surgs., Chicago..	1903	82
1581	R.	College of Phys. and Surgs., Chicago..	1902	84
1583	R.	College of Phys. and Surgs., Chicago..	1903	80
1586	R.	College of Phys. and Surgs., Chicago..	1901	89
1587	R.	College of Phys. and Surgs., Chicago..	1903	86
1590	R.	College of Phys. and Surgs., Chicago..	1902	91
1593	R.	College of Phys. and Surgs., Chicago..	1902	85
1602	R.	College of Phys. and Surgs., Chicago..	1903	88
1608	R.	College of Phys. and Surgs., Chicago..	1903	90
1609	R.	College of Phys. and Surgs., Chicago..	1903	88
1610	R.	College of Phys. and Surgs., Chicago..	1903	84
1597	R.	College of Phys. and Surgs., Chicago..	1903	84
1598	R.	College of Phys. and Surgs., Chicago..	1903	87
1612	R.	College of Phys. and Surgs., Chicago..	1903	87
1578	R.	College of Phys. and Surgs., Chicago..	1903	87
1568	R.	Rush Medical College.....	1902	89
1579	R.	Rush Medical College.....	1903	87
1582	R.	Rush Medical College.....	1903	88
1585	R.	Rush Medical College.....	1903	84
1588	R.	Rush Medical College.....	1902	89
1595	R.	Rush Medical College.....	1902	89
1600	R.	Rush Medical College.....	1903	85
1605	R.	Rush Medical College.....	1900	91
1570	R.	N.-W. Univ. Woman's M. Coll., Chicago	1901	86
1574	R.	Northwestern University, Chicago.....	1902	85
1577	R.	Northwestern University, Chicago.....	1902	91
1571	H.	Hahnemann Medical College, Chicago..	1903	81
1573	H.	Hahnemann Medical College, Chicago..	1901	85
1596	H.	Hahnemann Medical College, Chicago..	1902	81
1572	R.	Jefferson Medical College, Philadelphia.	1902	87
1584	R.	National Medical University, Chicago..	1902	82
1589	R.	University of Michigan.....	1899	87
1594	R.	University of Athens, Greece.....	1899	77
1599	R.	University of Vienna, Austria.....	1901	86
1603	R.	University of Prague, Austria.....	1896	87
1613	R.	University of Leipzig, Germany.....	1902	84
1601	R.	Woman's Medical College, Baltimore...	1896	83
1606	R.	Laval University, Montreal.....	1896	83
1607	R.	Baltimore Medical College, Baltimore..	1889	82
1611	R.	Harvey Medical College, Chicago.....	1902	86

FAILED.

1566	R.	College of Phys. and Surgs., Chicago..	1902	63
1575	R.	Barnes Medical College, St. Louis.....	1902	69
1592	R.	Barnes Medical College, St. Louis.....	1901	53
1591	R.	Keokuk Med., Coll. Phys. and Surgs...	1902	73
1604	R.	National Medical University. Chicago..	1902	67

Utah Report.—Dr. R. W. Fisher, secretary, reports as follows for the Utah State Board of Medical Examiners: Examination held at Salt Lake City, April 6 and 7, 1903; subjects, 10; questions, 80; percentage required, 75; written examination; examined, 13; passed, 12; failed, 1:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Rush Medical College.....	1902	87.4
6	R.	Rush Medical College.....	1903	85.9
7	R.	Rush Medical College.....	1903	86.7
8	R.	Rush Medical College.....	1903	88.7
9	R.	Rush Medical College.....	1903	88.1
2	R.	College of Phys. and Surgs., Chicago	1898	87.1
10	R.	College Phys. and Surgs., N. Y. City.	1884	82.3
3	H.	Hahnemann Med. Coll. of the Pacific	1902	82.3
4	R.	Phys. and Surgs., Dublin, Ireland...	1883	82.3
5	R.	University of Virginia.....	1895	85.9
11	R.	Omaha Medical College.....	1901	79.6
12	R.	Gross Medical College, Denver.....	1902	80.8

FAILED.

1	R.	St. Louis College of Phys. and Surgs.	*47.7

* Third examination.

Connecticut Report.—Dr. C. A. Lindsley, secretary of the State Board of Health, reports that the examining committee of the Connecticut Medical Society, at three different sessions during the year 1902, at New Haven, gave written examinations in 10 subjects, with 100 questions, and required a percentage of 75. The total number examined was 76, of whom 66 passed and 10 failed. In the absence of the percentages usually given in these columns, we give below a summary:

No.	Sch. of Pract.	College.	Found Qual.	Not Qual.
1	R.	Medical College of Alabama.....	..	1
16	R.	Yale University	16	.
5	R.	Baltimore Medical College.....	3	2
2	R.	Johns Hopkins	2	.
3	R.	Tufts Medical College.....	2	1
1	R.	Harvard University	1	.
1	R.	Dartmouth Medical College.....	1	.
1	R.	University of Minnesota.....	1	.
1	R.	University of New York.....	1	.
1	R.	University of Louisville.....	1	.
3	R.	University of Pennsylvania.....	3	.
5	R.	University of Vermont.....	5	.
1	R.	University of the South.....	..	1
6	R.	Bellevue Hosp. Med. Coll., New York..	6	.
11	R.	College of Phys. and Surgs., New York.	11	.
1	R.	College of Phys. and Surgs., Chicago..	1	.
1	R.	College of Medicine, Syracuse.....	1	.
1	R.	Cornell University	1	.
2	R.	Long Island College of Medicine.....	1	1
2	R.	Starling Medical College.....	..	2
3	R.	Medico-Chirurgical, Pennsylvania	2	1
2	R.	Woman's Medical College, Pennsylvania	2	.
3	R.	Jefferson Medical College, Philadelphia	3	.
1	R.	Gross Medical College.....	1	.
1	R.	McGill University	1	.

He further reports that the committee of the Connecticut Homeopathic Medical Society likewise held three different sessions in the year 1902, at Hartford, with the same number of subjects and questions and percentage required, at which the number examined was 6; passed 5, and failed 1, as follows:

No.	Sch. of Pract.	College.	Found Qual.	Not Qual.
1	R.	Trinity Medical College, Toronto.....	..	1
2	H.	Boston University School of Medicine.	1	1
1	H.	New York Homeopathic College.....	1	.
3	H.	Hahnemann Med. Coll., Philadelphia..	3	.

The committee of the Connecticut Eclectic Medical Association made no examinations during the year.

Medical Organization.

Reorganization.

We quote the following from the *Medical Fortnightly:* "It is almost the rule that every community which is large enough to have a medical society, has two, such is the perversity of human nature and so difficult is it for us to agree among ourselves. The fact that there are more than enough local medical societies ready and willing to undertake the responsibility of being made the local gateway to the American Medical Association is one of the most troublesome problems in the way of reorganization. In St. Louis there was no question as to which society would be recognized, the St. Louis Medical Society was so easily the most important and the only society which could be seriously considered; other communities are less fortunate, and considerable feeling is being engendered in the endeavor to decide which of the aspirants shall be selected. That all will be happily settled eventually goes without saying, and there can be no question the results of the reorganization will demonstrate the wisdom of its having been undertaken. To hasten this happy time it is necessary that the members of the various county societies show a generous disposition during the present period; in undertaking to represent the American Medical Association locally a responsibility rests on each society to conform to the requirements of the Association. To let a matter of sex or petty personalities cause the rejection of physicians, who are eligible for membership in the National Association in all points except such local membership, should be sufficient to discredit any society with the state and National organizations, A broad and generous interpretation of the code and an elimination of all considerations which have no definite bearing on the ethical or moral standing of a physician in his community should characterize the attitude of all county societies toward those who desire membership with us; lacking this the days of troubles of reorganization will be long continued.

Harrison County (Iowa) Medical Society.

Physicians of Harrison County, Iowa, met in Logan, May 21, and organized a county medical society, with the following officers: President, Dr. Irving C. Wood, Logan; vice-presidents, Drs. R. V. Witter, Woodbine, and Thomas Macfarlane, Mondamm; secretary, Dr. J. H. Gasson, Missouri Valley, and treasurer, Dr. Joseph Knowles, Logan.

Thayer County (Neb.) Medical Society.

Physicians of Thayer County met at Hebron, April 14, and organized a county medical society, with the following officers: Dr. Joseph V. Hinchman, Hebron, president; Dr. George A. Birdsall, Alexandria, vice-president; Dr. Joseph H. Boyes, Hebron, secretary and treasurer; Drs. Cyrus M. Easton, Hebron, Adam Herney, Deshler, and W. T. Reynolds, Hebron, censors, and Dr. Charles C. Snowden, Davenport, delegate to the state society.

Livingston County (Ill.) Medical Society.

At the annual meeting held in Pontiac, May 14, it was voted that the society affiliate with the Illinois State Medical Society. The following officers were elected: Dr. Thaddeus O. Bannister, Odell, president; Dr. John J. Stites, Pontiac, vice-president; Dr. John Ross, Pontiac, secretary-treasurer; Drs. James W. Mitchell, Pontiac, George T. Carson, Chatsworth, and Emmet E. McCoy, Flanagan, censors, and Dr. John Ross, Pontiac, delegate to the state society.

Bremer County (Iowa) Medical Society.

This society, organized in October last at Tripoli, Iowa, with Dr. Herman C. Jungblut, Tripoli, president, and Dr. Bert C. Dunkelberg, Tripoli, secretary-treasurer, held its third meeting at Waverly, May 27, and adopted the constitution and by-laws proposed by the American Medical Association for county societies. After the meeting a banquet was given in honor of Dr. Oscar Burbank, Waverly, who celebrated his eighty-third birthday the day previous, and who has been in active practice for 55 years.

Wisconsin in Line.

At the meeting of the Wisconsin State Medical Society, held in Milwaukee, June 3 to 5, the constitution and by-laws recommended by the American Medical Association was adopted unanimously, a committee of ten was appointed to act as a council for the coming year and till the state is divided into regular councilor districts and councilors elected. Several county societies have been organized in Wisconsin during the past few months, and the work of organization will now be taken up systematically.

Columbiana County (Ohio) Medical Society.

This society was organized at East Liverpool, May 19, and adopted the constitution and by-laws proposed by the American Medical Association for county societies. The following officers were elected: Dr. William N. Bailey, East Liverpool, president; Dr. Arthur B. Holland, Wellsville, vice-president; Dr. William E. Morris, Lisbon, secretary-treasurer; Dr. Wilbert A. Hobbs, East Liverpool, delegate to the state society, and Dr. James T. Elliott, East Liverpool, alternate, and Drs. William S. McFarland, Wellsville, Arthur C. Yengling, Salem, and William M. Calhoun, East Liverpool, censors.

Societies.

COMING MEETINGS.

Minnesota State Medical Society, St. Paul, June 17.
Medical Association of Montana, Helena, June 17-18.
Medical Society of New Jersey, Asbury Park, June 23-25.

American Medico-Psychological Association.—At the annual meeting in Washington, D. C., May 13, Dr. Alonzo B. Richardson, Washington, was elected president.

American Association of Pathologists and Bacteriologists.—At the meeting in Washington, D. C., May 13, Dr. Eugene Hodenpyl, New York City, was elected president.

Kennebec County (Maine) Medical Association.—At the annual meeting held in Augusta, May 20, Dr. Luther G. Bunker, Waterville, was elected president, and Dr. Wellington Johnson, Augusta, secretary-treasurer.

Thurston County (Wash.) Medical Society.—At the annual meeting, May 25, in Olympia, Dr. George W. Ingham was elected president; Dr. John W. Mowell, secretary, and Dr. W. L. Bridgford, treasurer, all of Olympia.

Utah County (Utah) Medical Society.—At the annual meeting held May 6, Dr. J. Franklin Noyes, American Fork, was elected president; Dr. J. M. Henry, Payson, vice-president; and Dr. David Westwood, Provo, secretary and treasurer.

Arizona Medical Association.—At the annual meeting held in Phoenix, May 27 and 28, Dr. Logan D. Dameron, Phoenix, was elected president, and Dr. John W. Ross, Phoenix, secretary. Tucson was selected as the place of meeting for 1904.

American Neurological Association.—At the annual meeting held in Washington, May 13, Dr. Frank R. Fry, St. Louis, was elected president; Dr. Hugh T. Patrick, Chicago, first vice-president, and Dr. Graeme M. Hammond, New York, secretary and treasurer.

American Laryngological Association.—At the annual meeting in Washington, May 13, Dr. Jacob H. Hartman was elected president, and Dr. James E. Newcomb, New York City, secretary and treasurer. Atlantic City was decided on as the next meeting place.

Tolland County (Conn.) Medical Association.—At the one hundred and eleventh annual meeting held in Hartford, April 23, Dr. Edwin T. Davis, Ellington, was elected president; Dr. William C. Haven, Coventry, vice-president; and Dr. Ernest O. Winship, Rockville, clerk and treasurer.

Southern Medical College Association.—At the annual meeting held in New Orleans, May 5, Dr. Christopher Tompkins, Richmond, Va., was elected president; Dr. George C. Savage, Nashville, Tenn., secretary-treasurer, and Birmingham, Ala., was selected for the meeting-place in 1904.

College of Physicians and Surgeons (Chicago) Alumni Association.—At the annual meeting held in Chicago, May 25, Dr. Charles C. O. Byrne, Chicago, was elected president; Dr. C. A. Stevens, Texarkana, Texas, vice-president, and Dr. James Moreau Brown, Chicago, secretary-treasurer.

American Dermatological Association.—At the meeting in Washington, May 13, Dr. Joseph Zeisler, Chicago, was elected president; Dr. Milton B. Hartzell, Philadelphia, vice-president, and Dr. Charles J. White, Boston, secretary and treasurer. The next meeting will be held in Niagara Falls, N. Y.

Galva District (Ill.) Medical Society.—At the annual meeting held in Galva, May 7, Kewanee was selected as the place for the 1904 meeting. Dr. Harry W. Waterous, Galva, was elected president; Dr. Francis O. Lowe, Kewanee, vice-president, and Dr. H. Nelson Heflin, Kewanee, secretary-treasurer.

American Association of Genito-Urinary Surgeons.—At the annual meeting held in Washington, D. C., May 12 and 13, Dr. Edwin C. Burnett, St. Louis, was elected president; Dr. F. Tilden Brown, New York City, vice-president, and Dr. John Vanderpoel, New York City, secretary and treasurer.

Physicians' Club of Chicago.—The annual meeting was held June 1, at which the following officers were elected: Secretary, Dr. Henry F. Lewis; directors (for two years), Drs. Joseph Zeisler, A. M. Corwin, and Charles P. Small; (holdover), Drs. A. C. Cotton, J. Clarence Webster and John M. Dodson.

Hardeman County (Tenn.) Medical Society.—Dr. M. M. Smith, Cedar Chapel, was elected president; Dr. H. M. Milstead, Crainsville, vice-president, and Dr. Robert W. Tate, Bolivar, secretary-treasurer, at the annual meeting held in Bolivar. Whiteville was selected as the next place of meeting, October 13.

Oklahoma Medical Society.—The eleventh annual meeting was held in Guthrie, May 12. Dr. Abraham L. Blesh, Guthrie, was elected president; Dr. Aarcha K. West, Oklahoma City, vice-president; and Dr. Eugene O. Barker, Guthrie, secretary and treasurer. The next meeting will be held in Oklahoma City, November 11.

American Ophthalmological Association.—At the annual meeting in Washington, May 14, Dr. Charles S. Bull, New York, was elected president; Dr. Arthur Matthewson, Brooklyn, vice-president; Dr. Jonathan S. Prout, Brooklyn, corresponding secretary, and Dr. Samuel B. St. John, Hartford, Conn., recording secretary and treasurer.

American Medical Editors' Association.—At the annual meeting held in New Orleans, May 5, the following officers were elected: Dr. Charles E. De M. Sajous, Philadelphia, president; Drs. Charles Chassaignac, New Orleans, and Otho F. Ball, St. Louis, vice-presidents, and Dr. J. McDonald, Jr., New York City, secretary-treasurer.

Ohio State Pediatric Society.—This society, at its annual meeting held in Dayton, June 2, elected the following officers: President, Dr. Edwin W. Mitchell, Cincinnati; vice-presidents, Drs. Daniel G. Reilly, Dayton, and William W. Pennell, Fredericktown, and secretary-treasurer, Dr. William Clark, Cleve-

land. During this meeting almost fifty new members were enrolled.

American Orthopedic Association.—At the seventeenth annual meeting held in Washington, May 12, 13 and 14, the following officers were elected: Dr. Reginald H. Sayre, New York City, president; Drs. Joel E. Goldthwaite, Boston, and Gwilym G. Davis, Philadelphia, vice-presidents; Dr. John Ridlon, Chicago, secretary, and Dr. Elliott G. Brackett, Boston, treasurer.

Association of American Physicians.—At the annual meeting in Washington, D. C., May 14, Dr. William T. Councilman, Boston, was elected president; Dr. Edward D. Trudeau, Saranac Lake, N. Y., vice-president; Dr. Solomon Solis-Cohen, Philadelphia, recorder; Dr. Henry Hun, Albany, N. Y., secretary, and Dr. J. P. Crozer Griffith, Philadelphia, treasurer. The next meeting will be held in Washington.

Decatur (Ill.) Medical Society for Macon County.—At the annual meeting held May 26, the following officers were elected: President, Dr. Silas E. McClelland, Decatur; vice-president, Dr. Charles M. Wood, Maroa, and secretary-treasurer, Dr. Lynn M. Barnes, Decatur. The society adopted a new constitution and by-laws which followed very closely those recommended by the American Medical Association.

American Climatological Association.—At the twentieth annual meeting held in Washington, D. C., May 12, 13 and 14, the following officers were elected: Dr. James C. Wilson, Philadelphia, president; Drs. Thomas Darlington, Jr., New York City, and Thomas D. Coleman, Augusta, Ga., vice-presidents, and Dr. Guy Hinsdale, Philadelphia, secretary. The next meeting will be held in Philadelphia, June 2 to 4, 1904.

American Pediatric Society.—At the fifteenth annual meeting held in Washington, D. C., May 12, 13 and 14, the following officers were elected: President, Dr. Augustus Caille, New York City; vice-presidents, Drs. Allen M. Barnes, Toronto, Ont., and Edwin E. Graham, Philadelphia; secretary, Dr. Samuel S. Adams, Washington, D. C.; treasurer, Dr. J. Park West, Bellaire, Ohio, and recorder and editor, Dr. Walter L. Carr, New York City.

Maryland Public Health Association.—At the meeting in Annapolis, June 4 and 5, the subjects discussed were vaccination, disinfectants, consumption, typhoid and malarial fevers, water supply of Baltimore and Annapolis, and health as a state investment. The following were elected officers: President, Dr. Thomas B. Owings, Ellicott City; vice-president, Dr. Frank H. Thompson, Annapolis; secretary, Dr. John S. Fulton, Baltimore, and treasurer, Dr. W. Royal Stokes, Baltimore.

City and County Medical Society (Portland and Multnomah County, Oregon.)—At the annual meeting in Portland, May 22, the following officers were elected: President, Dr. Robert L. Gillespie; vice-president, Dr. R. C. Coffey; treasurer, Dr. Albert E. Mackay; secretary, Dr. Alexander D. Mackenzie; councilors, Drs. James F. Bell, James K. Locke and Joseph A. Pettit; delegates to state society, Drs. Andrew C. Smith, Edward P. Geary, William Jones, and Simeon E. Josephi, all of Portland.

Utah State Medical Society.—The ninth annual meeting was held in Salt Lake City, May 12 to 14. Ogden was selected as the meeting place for 1904, and the following officers were elected: Dr. George W. Baker, Ogden, president; Drs. Frederick Clift, Heber City, and Emerson F. Root, Salt Lake City, vice-presidents; Dr. Walter S. Ellerbeck, Salt Lake City, secretary; Dr. James N. Harrison, Salt Lake City, treasurer, and Dr. Samuel C. Baldwin, Salt Lake City, delegate to the American Medical Association.

American Medical Temperance Association.—At the annual meeting held in New Orleans, May 8, the following officers were re-elected: Dr. Nathan Smith Davis, Chicago, honorary president; Dr. Winfield S. Hall, Chicago, president; Drs. Henry D. Didama, Syracuse, N. Y., T. A. McNicholl, New York City, and Henry O. Marcy, Boston, vice-presidents; Dr. Thomas D. Crothers, Hartford, Conn., secretary; Dr. Charles E. Stewart, Battle Creek, Mich., corresponding secretary, and Dr. George W. Webster, Chicago, treasurer.

American Gastro-Enterological Association.—At the sixth annual meeting held in Washington, May 14, Prof. C. A. Ewald of Berlin was the guest of honor, and a banquet was given him by the association. The following officers were elected: Dr. Samuel J. Meltzer, New York, president; Drs. Fenton B. Turck, Chicago, and William G. Morgan, Washington, D. C., vice-presidents; Dr. Charles D. Aaron, Detroit, secretary-treasurer, and Drs. A. L. Benedict, Buffalo, Max Einhorn, New York City, and Edward Quintard, New York City, councilors.

Medical Society of the State of California.—The thirty-third annual meeting was held in Santa Barbara, April 21 to 23. The legislative body has taken up the constitution and by-laws suggested by the American Medical Association for state societies; has made slight changes necessary to adopt it to local condition, and will present it to the society for action at the next meeting. The following officers were elected: President, Dr. H. Bert Ellis, Los Angeles; vice-presidents, Drs. William H. Flint, Santa Barbara and George A. Hare, Fresno; secretary (permanent) Dr. George H. Evans, San Francisco; assistant secretary, H. P. Hill, San Francisco; board of examiners, Drs. Dudley Tait, San Francisco, Lewis S. Thorpe, Los Angeles, Daniel E. Osborne, St. Helena, Walter S. Thorne, San Francisco, and Samuel H. Buteau, Oakland; alternates on board of examiners, Drs. Clark J. Burnham, San Francisco, Albert W. Kirk, San Francisco, and Francis M. Pottenger, Los Angeles; board of trustees, Drs. Curtis G. Kenyon, Philip M. Jones, Andrew W. Morton and Julius Rosenstirn, San Francisco, George A. Hare, Fresno, Thomas Ross, Sacramento, J. Gordon Baird, Riverside, Charles W. Nutting, Etna Mills, Frank L. Adams, Oakland, and Fitch C. E. Mattison, Pasadena. The society will meet in Paso Robles, April 19 to 21, 1904.

AMERICAN SURGICAL ASSOCIATION.

Meeting held in Washington, May 12 to 14, 1903.

The President, Dr. Maurice H. Richardson, in the Chair.

(*Continued from page 1595.*)

Mikulicz on Gastrointestinal Surgery.

PROF. JOHN VON MIKULICZ-RADECKI, Breslau, Germany, read a paper on the second day entitled "Some Contributions to the Surgery of the Gastrointestinal Tract," in which he divided the subject into the following topics: 1. Cardiospasm and its treatment. 2. Peptic ulcer of the jejunum. 3. The operative treatment of severe forms of invagination of the intestine. 4. Operation on malignant growths of the large intestine.

He discussed each one at some length. In reference to the first topic, in view of the insufficiency of all therapeutic measures for relief, he advised the following operation:

The stomach is exposed by laparotomy and in the anterior wall is made an incision long enough to allow the entire left hand to pass into the stomach. Under the guidance of the fingers, which are pushed forward toward the cardiac end, an instrument resembling a glove stretcher is introduced into the cardiac orifice. Dilatation is gradually effected to such an extent that the blades of the instrument are about 7 cm. apart. Thus is caused a blunt dilatation of the cardia similar to the dilatation of the sphincter ani in case of anal fissure. Then the wounds in the stomach and in the parietal walls are closed.

As to peptic ulcer of the jejunum, the Professor stated that we are pretty certain about its etiology; it can be explained only by the prolonged presence of gastric juice which reaches the jejunum without having been normally diluted and neutralized by bile and by the pancreatic secretions. He does not believe that surgeons are any longer entitled to perform anterior gastroenterostomy, at least for benign affections of the stomach, but considers that the most rational method is the pyloroplastic operation.

MR. B. G. A. MOYNIHAN, Leeds, England, read a paper on "The Surgery of the Simple Diseases of the Stomach," in which he stated that the great majority of such cases susceptible to successful treatment by surgical measures are due to ulceration or to its complications and results.

Papers on the Therapeutic Value of the X-Rays in Surgery.

DR. ARTHUR DEAN BEVAN, Chicago, read a paper entitled "The Therapeutic Value of the *X*-Ray."

DRS. WM. L. RODMAN and G. E. PFAHLER read a paper entitled "The Value of the *X*-Ray in Superficial Epitheliomata and Tuberculosis," with the following conclusions:

1. The length of time required for the cure of epitheliomata is longer than by surgical or caustic treatment, while the cosmetic results are better. The dangers are proportionate to the urgency of the treatment as indicated by the degree of malignancy. It should only be recommended in cases that are inoperable either because of the extent of the growth or its location.

2. It is probably the best means at our command for the treatment of superficial tuberculosis and gives better cosmetic results.

3. It should follow all operations for malignant disease or tuberculosis with the two-fold object of stimulating the healing process and of preventing a recurrence. In some cases it may be of advantage to give a short course of treatment before operation to destroy the outlying portions of the growth and make such operation of a less formidable nature.

DR. WILLIAM B. COLEY, New York, read a paper entitled "Further Observations on the Influence of the Roentgen Ray on Sarcoma," in which he described 36 cases. He felt that, in regard to the relative merits of the toxins and *x*-rays in inoperable sarcoma, the time had been too short and experience too limited thus far to definitely decide this question. He did not believe that the *x*-ray method should be employed in operable cases of sarcoma, with the possible exception of carcinoma of the extremities, in which operation would necessitate amputation. In such cases he recommended a brief course of the combined *x*-ray and toxin treatment.

DR. ALEX. B. JOHNSON, New York, read a paper entitled "Some Experiences in the Treatment of Inoperable Malignant Growths by the X-Ray," in which he reported ten cases, nine of carcinoma and one of sarcoma; eight died under treatment and two are still alive and have apparently improved, one of them being the case of sarcoma. He described the technic.

Hernia.

DR. WILLIAM B. COLEY, New York, read a paper entitled "Results of 1,000 Operations for the Radical Cure of Inguinal and Femoral Hernia Performed Between 1891 and 1902." Out of the 1,003 cases which the author had operated on between August, 1891, and December, 1902, there were 937 cases of inguinal hernia, 756 of which occurred in males and 181 in females; and 66 cases of femoral hernia, all males. In the 66 cases of femoral hernia there was no mortality and the primary union was obtained in all but one case, which formed the only recurrence, the balance having remained well from six months to eleven years. The Bassini method for femoral hernia was employed in 16 cases, and the purse-string suture (with kangaroo tendon) in 50 cases. Out of the 181 operations on the female for inguinal hernia there was no recurrence and no relapse, the method employed being practically Bassini's method for the male. There was no mortality in the 1,003 cases. In children operation should seldom be advised under 4 years, the reasons being that many of the cases at this age are cured by a truss, but after that age in which a truss has been tried and failed, or cases in which the presence of reducible hydrocele prevents a truss from holding the rupture, operation is advised. In all adult cases under the age of 50 years operation is advised unless there are strong contraindications. Between the ages of 50 and 70 years operation is advised in patients in good health in cases in which the rupture is held with difficulty by a truss. Six hundred and fifty of these cases were found well from 1 to 11 years; 708 cases were found well from 6 months to 11 years, and 467 from 2 years to 11 years. A careful résumé of the literature on the subject and a comparison of the results obtained by other operators was given.

DR. N. P. DANDRIDGE, Cincinnati, reported a case of gangrene of 15 inches of cecum and ileum after an operation for appendicitis, with relief of artificial anus after repeated operations.

Operations in Presence of Albumin, Etc.

DR. JOHN C. MUNRO, Boston, read a paper on the third day entitled "The Significance of Albumin and Casts in Surgical Patients," in which he stated that while he believed that there was no doubt that there was danger in operating on a patient whose kidneys are incapable of sufficient elimination, and where there are secondary organic changes, because a patient exhibits a small amount of albumin, hyaline and fine granular casts, with renal cells, the conclusion should not be hastily reached that he is not a fit subject for operation; on the other hand, the presence of any of these symptoms should be sufficient to cause a thorough investigation. He reported a series of 500 cases showing albumin and casts in the urine, not including those, however, that showed renal degeneration, glycosuria, genitourinary diseases, burns, erysipelas or similar diseases, most of whom were subjected to ether anesthesia, and in none of them was it noticed that any renal damage was inflicted. Out of the series of 500 cases 63 died, 8 from shock, 2 after operation for general peritonitis, 5 from pneumonia, 3 from tuberculosis, 19 from sepsis or severe peritonitis, 4 from senility, and, in addition, there were deaths from embolism, malignant disease, cardiac disease, skull fractures and pancreatitis, where the rôle of the urinary organs must have been insignificant. Of the 4 cases in which death was ascribed to senility, one with cellulitis of the arm had 0.25 per cent. of albumin and casts, one with intestinal cancer had profuse diarrhea, one had a strangulated hernia and the fourth died one month after fracture of the femur, showing only the slightest possible trace of albumin with hyaline and granular casts.

Digital Compression to Cure Aneurism.

DR. FRANCIS J. SHEPHERD, Montreal, Canada, read a paper entitled "The Treatment of Aneurism of the External Iliac Artery by Digital Compression, with Report of a Case," in which he referred to the great dangers of surgical interference with the tumor, making amputation of the extremity preferable in many cases to trying to remove the aneurism. He gave a careful résumé of the literature on the subject. The advantages of digital compression are that no apparatus is necessary, the finger being the sole means by which the artery is controlled above the aneurism. This, of course, requires a number of assistants, and does not usually require to be kept up more than 24 hours; in the case reported the pulsation ceasing at the end of 12 hours. This case occurred in a man 43 years of age, who had strained himself by lifting a heavy weight, and some months afterward a swelling appeared in the left groin, which pulsated; was at first soft and painless, but gradually became harder and seemed to grow upward into the abdomen. The patient objected to operation, and it was decided to put him on palliative treatment until the session opened, so that relays of students could be secured. He was put on Tuffnell's treatment, and icebags applied over the tumor, iodid of potassium being given internally and very little fluid. At the end of 12 hours pulsation had entirely ceased, the pain having been severe after the first four or five hours until the end of twelve hours, being controlled by hypodermic injections of morphin. After 12 hours the patient had no excessive pain, but compression was continued in a moderate degree for 12 hours more, when the leg was wrapped in cotton wool and carefully bandaged, he being kept in bed for a couple of weeks more, and six months after the operation, although the tumor could be easily felt, there was no pulsation, and it was very hard.

Strangulated Hernia.

DR. LEONARD FREEMAN, Denver, read a paper entitled "Strangulated Left Duodenal Hernia, in which the Sac Contained the Entire Small Intestine, the Cecum and a Portion of the Colon," in which he referred to the fact that the abdominal viscera and peritoneum are subject to various malformations and malpositions, sometimes acquired and often congenital, and unless the surgeon be familiar with these unusual phenomena his diagnostic ability will be curtailed, by confusing conditions for which he can find no adequate explanation. The peritoneal fossæ may be responsible for the most remarkable forms of hernia and this is especially true of the duodenal fossæ. He carefully reviewed the anatomic formation in this region and reported the case described in the title.

Operations for Goiter.

DR. B. FARQUHAR CURTIS, New York, read a paper entitled "Thyroidectomy and Sympathectomy for Exophthalmic Goiter," in which he referred to the fact that the surgical treatment of this condition has excited much interest of late owing to the fact that medical treatment failed in many cases, although he believed, if the disease had not progressed too far and the patient's circumstances were such as to permit systematic treatment for a sufficient length of time, rest, hygienic measures, and proper medication will generally produce a cure,

or at least hold the symptoms in check, but there are many cases amenable to surgical treatment that can not be cured by medicine. However, this treatment is not unattended by dangers, especially acute exacerbations of the symptoms known as thyroidism, which is just as liable, however, to be produced by operation in any other part of the body.

In conclusion, he stated that exophthalmic goiter could be cured by both thyroidectomy and sympathectomy, a perfect result being secured in about 60 per cent. of the cases of thyroidectomy, and an immediately good result appears to be the rule in sympathectomy. Sufficient time has not elapsed to judge of the permanence of the cure, but the immediate results are far superior to those of thyroidectomy. The relative mortality of the two would seem to favor sympathectomy (Kocher 4 deaths in 59 cases of thyroidectomy and ligation only; Jonnesco no deaths in 14 cases of bilateral sympathectomy), although in his own cases the result is the opposite. He believed that local anesthesia should be employed, and sympathectomy should be performed only on one side at a time, a sufficient time being allowed to elapse for the patient to recover from the effects of the first operation.

Operations on the Prostate.

DR. WILLY MEYER, New York, read a paper entitled "Prostatectomy and Galvano-Caustic Prostatotomy (Bottini's Operation); Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland," which he summed up as follows:

1. The operations making a direct attack on the enlarged prostate gland are preferable to those aiming to exert an indirect influence.

2. We have two useful operative procedures for the direct treatment of the enlarged prostate, i. e., prostatectomy and galvanocaustic prostatotomy (Bottini's operation).

3. In selecting the method indicated in the given case, we must individualize and be guided by anatomic, pathologic and social conditions.

4. Prostatectomy is, of course, the most radical and most surgical procedure; it should be the operation of choice whenever promising success.

5. Perineal prostatectomy offers advantages over the suprapubic method, since it enables the operator to do the operation under the direct guidance of his eyes.

6. Debilitated patients who seem unfit subjects for the more radical operation should not be relegated to catheter life, nor should prostatectomy be performed in order "to let them down easy"; they should be advised to have Bottini's operation done.

7. Surgeons should familiarize themselves with both methods in order to be in a position to do justice to their patients.

8. It is the duty of those refusing to do Bottini's operation under any circumstances to nevertheless advise patients who ask for more radical relief, to have Bottini's operation done, if the operation with the knife seems contraindicated.

9. Further, carefully compiled statistics as to the late results of both operative procedures, preferably in the hands of one man, are desirable in that they will increase our knowledge with reference to the proper selection of the proper method in the individual case.

Diffuse Gonococcus Infection of the Entire Upper Extremity.

DR. CHARLES A. POWERS, Denver, reported a case of this. His patient was a man of 28 years who developed a very extensive phlegmon in the neighborhood of the right elbow joint with concomitant swelling and edema of the entire limb from the pectoral region and shoulder to the ends of the fingers. The gonococcus was recovered from pus liberated by early free incisions, and was also found in a thin serous fluid which escaped at the site of other openings. The course was protracted over many weeks, the patient recovering with stiffened joints. The author emphasized the fact that systemic gonorrheal infection may invade the tissues in wide variety, the gonococcus having been found in the peritoneum, the pleura, the pericardium, myocardium, endocardium, meninges of the brain and spinal cord, periosteum, perichondrium, muscles and tendon sheaths, bursæ, fascia, the skin, the parotid gland, the kidney and the blood current, as well as the joints.

Myositis Ossificans Traumatica.

DR. J. F. BINNIE, Kansas City, Mo., read this paper, calling attention to the fact that bone may be formed in muscle or tendons under several distinct conditions; there may be a process of ossification attacking one muscle after another, myositis ossificans progressiva, producing the ossified man of the freak shows. Often repeated slight traumata give rise to bone growths in muscle or tendon, examples of such growths being "riders' bone," "drill bone," "cavalryman's bone," and "fencers' bone," and lastly there is the so-called myositis ossificans traumatica, where a mass of bone forms in a muscle after a single injury. The author reported a case of the latter in a man aged 41 who had received a severe blow on the right forearm two weeks previously while boxing. One week later the tumor was removed, and eight months thereafter there had been no recurrence and no disability. The paper dealt fully with the literature on the subject and the various theories of the origin.

Method of Instruction in Surgical Pathology.

DR. J. C. BLOODGOOD, Baltimore, said that clinical instruction in hospital wards and out-patient departments always has certain defects and limitations as a complete method of instruction. He felt that during the time the student spends in the wards many important surgical diseases had not been seen at all, or so rarely that the student did not get a clear conception of the disease, and in addition it is very difficult for the student to follow the patient throughout the progress of the disease and his after condition. In the Johns Hopkins Hospital the instruction of the third-year medical class in the surgical laboratory is divided into two parts: First, the systematic part, in which the instruction is given by pamphlets, museum specimens, microscopic sections and illustrations. Second, the more difficult or routine instruction, which is limited to the fresh material sent to the laboratory from the operating and autopsy rooms. He then described each of these parts in detail.

Officers Elected.

The following officers were elected: President, Dr. N. P. Dandridge, Cincinnati; secretary, Dr. Dudley P. Allen, Cleveland; treasurer, Dr. George R. Fowler, Brooklyn; recorder, Dr. Richard H. Harte, Philadelphia. The next meeting will be held in St. Louis some time in May, 1904.

(To be continued.)

DENVER CITY AND COUNTY MEDICAL SOCIETY.

Regular Meeting, held May 5, 1903.

Dr. S. D. Hopkins in the Chair.

The Prognosis of Diseases Incidental to Military Service in the Philippines.

DR. G. H. RICHARDSON, U. S. A., said that of the 166 cases of insanity reported in the Army in 1901, 120 cases occurred in the Philippine Islands, or 2 of every 1,000 on duty there. In 1900 the numbers sent from the Philippine Islands to the United States was over 200. During part of 1900 and 1901 he was in charge of the detention ward in San Francisco where these cases were sent for diagnosis and observation. It was found that 25 per cent. of all cases were, on their arrival here, in such a mental condition as to permit them to be returned to duty. The sea voyage home and the fact that they were once more on their native soil seemed to cure them. Those who were sent to the Government Insane Asylum in Washington, he is informed, did not remain there for any length of time, with the exception of those in whom a diseased mental condition existed prior to enlistment. The form of insanity was a mild melancholia with suicidal tendencies. The history of nostalgia was always marked. Secondary effects of heat exhaustion produce various neurotic conditions. They are vague and indefinite. Severe headache, general weakness, dyspeptic symptoms, loss of memory, epileptiform seizures, local palsies, choreiform attacks, failure of vision and other affections of the special senses. In 1901, 21 were discharged for cephalgia alone. It is impossible to determine how far these sequelæ are attributable to sun exposure or how far they may depend on some intercurrent disease. He does not think the

condition is altogether due to simple sun heat. There must be some special element in the solar spectrum. This class of cases should be sent back at once to the states or some cool climate. In not a few instances, with the most careful treatment, medicinal and climatic, serious permanent diseases of the brain remain, giving rise sometimes to distressing intellectual enfeeblement. Their symptoms are entirely subjective and, like the "railroad spine" to the surgeon and claim agent, by their irregularity and indefiniteness, they give no end of trouble and worry to pension boards.

The gastrointestinal trouble forms the majority of cases sent for treatment. Dysentery stands at the head of the list. The amebic form is the more chronic, but more amenable to treatment, especially the local rise of high injections of quinin. The tendency to relapse, however, is constantly hanging over one who has had it once, and what is worse, is liable to develop abscess of the liver. The bacillary form never causes abscess of the liver, the acute symptoms, however, are apt to be more severe and death is likely to occur early in the disease.

Sprue is frequently met with in the tropics. It may remain latent there and develop for the first time in a temperate climate. It is characterized by alternating periods of exacerbation and quiescence, inflamed eroded tongue, flatulent dyspepsia, pale, copious, loose, frothy fermenting stools, marked emaciation and a tendency to relapse. It is slow in its progress, and unless cured tends to terminate in atrophy of the intestinal mucosa, and sooner or later prove fatal. The prognosis depends on the length of time the disease has existed, the age of the patient being bad for cases over 50, and careless, indifferent patients who do not realize the dangers in which they are, and for those cases who can not or will not restrict themselves to a pure milk diet for a considerable length of time. Cases of chronic diarrhea should be examined for the malarial parasite. Sixteen cases diagnosed as pulmonary tuberculosis showed the presence of malarial parasites. Treatment by quinin for a few days proved the infection to be of malarial origin.

Report of a Case of Cerebral Lues.

DR. J. E. COURTNEY reported the following case: T. B., white, aged 24, cook. One year before he came under observation he was thrown from a buggy and struck on the left temple; was dazed for ten minutes. He denied any knowledge of ever having contracted syphilis, but recalled he had, some five years ago, a small sore on the glans penis, but it disappeared quickly. A year later he had some soreness and swelling in the inguinal region, but no suppuration, no eruption. He was in good health afterwards and served with the Rough Riders in Cuba. He experienced gradual failure of vision in the left eye for nearly a year, which has now been blind for several months, but with little pain until within the last three days. Left eye tender, tension increased, slight ptosis, ball congested, partial detachment of retina. Antedating the blindness of the left eye he noticed he could see objects to the left of the left eye, but not to the right—unilateral temporal hemianopsia. About six weeks ago he noticed jerking of the face and twitching of the muscles of the left arm, and then he lost consciousness. The day preceding this attack he was very sleepy, and for two days after he slept almost continuously day and night. No failure of articulation, but speech slow, gait lacking in elasticity, no decided reflex or vasomotor disturbances. He was then in the county hospital for five weeks. He had a second fit and in delirium jumped out of a second-story window on one occasion, and on another escaped and ran a block or two from the hospital under the idea that he was being killed. Inunctions of mercury and large doses of iodid of potassium were administered and he improved rapidly and weighs now forty pounds more than when he was ill. The interesting question which this case presents is, whether so slight a trauma started into activity the latent infection, and whether an original antisyphilitic course of treatment would have frustrated such late effects.

A New Sterilizer.

DR. GEORGE MOLEEN exhibited a sterilizer which has the advantages over others in the market by being compact, portable and consisting only of three pieces, which includes receptacle for water, a compartment for instruments and dressings, etc. It is especially serviceable in obstetrical practice.

WEST VIRGINIA STATE MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held in Charleston, W. Va., May 26-28, 1903.

The President, Dr. H. B. Stout, Parkersburg, in the Chair.

The president's annual address contained many suggestions of great importance to the moral and material welfare of the association.

Organized Mutual Defense.

The secretary's report showed the association to be in a prosperous condition and that the great strides it has made during the past year were made possible by its partial reorganization at the last meeting. The report closed with the recommendation that the association undertake to protect its members in suits of malpractice.

The association acted on this recommendation and adopted the following resolution:

Resolved.—That this Association pledges its moral support and will substantially defend any member who shall be sued; and further pledges the services of any and all its members, when called on, to attend any trial and testify in behalf of the member sued.

Reorganization.

The meeting was an especially pleasant and profitable one. A partial reorganization had been effected in 1902, but, under the impression that the profession was not ready for the adoption of the entire Association plan, no provision was made for a House of Delegates, and this made many other changes in the constitution and by-laws necessary. As in other states where similar action was taken, some confusion and dissatisfaction had resulted, although everybody was greatly encouraged by the fact that, in spite of these difficulties, the membership had been almost trebled during the year, and that an increased interest in every phase of professional work was manifest on every hand. After a careful consideration and discussion of the situation, it was finally decided to set aside the action of last year and adopt the American Medical Association plan in full. This was done by unanimous consent and with much enthusiasm.

Too much credit can not be given to the officers of the association, including councilors, for the ease with which this complete plan of organization was adopted, although they had able assistance from Drs. Jepson, Wilson, Sharp and many other leading members. This makes the third state to set aside the partial reorganization of last year and accept the uniform plan proposed by the Association.

Officers Elected.

The following officers were elected: President, Dr. T. L. Barber, Charleston; vice-presidents, Drs. Thomas M. Hood, Clarksburg; E. T. W. Hall, Freemansburg; Rolla Camden, Parkersburg; secretary, Dr. Wm. W. Golden, Elkins; treasurer, Dr. V. T. Churchman, Charleston; councilors, first district, Drs. C. A. Wingerter, Wheeling, and J. W. McDonald, Fairmont; second district, Dr. C. S. Hoffman, Keyser, and W. H. Proudfoot, Rowelsburg; third district, Dr. W. W. Tompkins, Charleston, and O. O. Cooper, Hinton; fourth district, Drs. W. S. Keever, and H. B. Stout, Parkersburg; fifth district, Drs. C. R. Enslow and T. W. Moore, Huntington; delegates to the American Medical Association, Drs. S. L. Jepson, Wheeling, and W. H. Sharp, Parkersburg. Fairmont was chosen as the next place of meeting.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

One Hundred and Fifth Annual Meeting, held at Baltimore, April 28 to 30.

Colored Photography.

PROF. R. W. WOOD of Johns Hopkins University opened the session by request, with a lecture on colored photography and photography of objects usually invisible, as waves of sound, bullets in motion, etc.

The Last Fifty Years.

DR. WILLIAM TRAVIS HOWARD, the president, delivered his address, which consisted of a review largely of his personal experience, to show that the past fifty years do not contain all or even the chief advances that have been made in medicine. He gave a sketch of Dr. John P. Mettauer of Farmville, Va., son of a French surgeon of the Revolution, under whom he studied and who was a most original and skilful surgeon, far ahead of his day. He was particularly successful in the treatment of hernia, vesico-vaginal fistula, stricture, etc. He eulogized the faculty of Jefferson Medical College of that day. He paid tributes to the work of Gerhard, who was the first in this country to make the distinction between typhoid and typhus fever, and J. K. Mitchell, who was the first to teach the germ origin of malarial fevers. Dr. William Power of Baltimore was, he said, the best teacher he ever knew, and the first to use quinin in full doses for the relief of the paroxysm of malarial fever. He then spoke of the discoveries of the past half century and compared them with those of previous times, and said that no one should allow himself to be engrossed with the present to the exclusion of the past.

The Second Day.

DR. ROBERT W. JOHNSON reported "Twenty-five Recent Operations for Wounds, etc., of Abdominal Viscera." Dr. William H. Pearce read a paper on "Medical Communism," in which he argued that physicians who make important discoveries in medicine should derive pecuniary benefit from them as they do from their books, and illustrated his ideas by a reference to the case of the late Dr. Walter Reed. Dr. Charles O'Donovan discussed the "Water Supply of Baltimore," and urged that the city should buy the watershed. In the afternoon papers were read by Drs. C. F. Davidson, Robert Reuling, John C. Hemmeter, H. Woods, Jr., W. B. Wolf, H. F. Cassidy, F. C. Boyne, J. Friedenwald, L. J. Rosenthal, W. S. Baer, H W. Kennard, T. R. Brown and T. Cooke, Jr.

Poison Law.

At the business session a committee was appointed to confer with a delegation from the Maryland Pharmaceutical Association with a view to urging before the legislature a law prohibiting the sale of poisonous substances by unauthorized persons. A motion to form a woman's auxiliary to assist in raising funds for a new building was referred to the executive committee. A committee was formed to found a "Fund for the Relief of Widows and Orphans of Deceased Members."

Presentations.

A portrait of Dr. Aaron Friedenwald was presented by his son with a eulogy pronounced by Dr. T. S. Latimer.

Dr. Osler presented a crayon portrait of Dr. John Crawford, and oil portraits were also presented of Drs. Edward White and J. R. W. Dunbar.

Election of Officers.

The following officers were elected: Dr. Eugene F. Cordell, Baltimore, president; Drs. Franklin Buchanan Smith, Frederick, and James M. Craighill, Baltimore, vice-presidents; Dr. J. Williams Lord, Baltimore, secretary; Dr. Thomas A. Ashby, Baltimore, treasurer, and Drs. Harry Friedenwald, G. Lane Taneyhill, Samuel Theobald and John D. Blake, all of Baltimore, executive committee.

Tuberculosis.

At the third day's session Dr. H. Barton Jacobs read a paper on "Our Need of a Mountain Sanatorium for Indigent Consumptives," and the subject of tuberculosis and its prevention was discussed by Drs. Welch, Thayer and Fulton. All advocated notification, and Dr. Thayer urged public sanatoria for both incurable and incipient cases and also public lectures throughout the state.

Other Papers.

Dr. C. Hampson Jones and Wm. Royal Stokes exhibited slides of smallpox patients and tissues.

Dr. J. Clement Clark spoke on the "Increase of Insanity."

Other papers were read by Drs. R. P. Smith, E. B. Claybrook, John Turner, W. F. Skillman, Frank Martin, H. H. Young, A. G. Barrett and L. K. Hirshberg.

At the evening session Dr. Simon Flexner delivered the annual oration on "An Aspect of Modern Pathology."

Dr. C. C. Bombaugh read a poem on "Preventive Medicine."

Drs. L. A. Griffith of Upper Marlboro and J. A. Stevens of Oxford were elected to fill vacancies on the board.

Chairmen of Committees.

The following chairmen of committees were appointed: Library, Dr. G. J. Preston; publication, Dr. J. W. Lord; memoirs, E. F. Cordell; ethics, S. Theobald; legislation, William H. Welch; program, H. O. Reik; membership, W. S. Gardner; general sanitation, Jas. Bosley; finance, T. A. Ashby; county medical societies, C. M. Ellis; delegates to American Medical Association, Drs. Wm. H. Welch and William Osler, with Thomas L. Cullen and S. T. Earle, Jr., as alternates. Dr. H. M. Hurd was elected a trustee.

FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held at Madrid, April 23-30, 1903.

(By Cablegram and Letters.)

(*Concluded from page 1600.*)

Medicine and Classic Paintings.

In the second general session Holländer, Berlin, gave a lantern address with views of about 200 paintings from public and private galleries which had been inspired by medical subjects. He spoke in Spanish, and dwelt particularly on the so-called anatomic paintings in which he claimed that the Dutch school reached its highest eminence.

Section on Medicine: Importance of Routine Medication.

Dr. J. B. Obregon read this paper and emphasized the long history and the logical importance of the counter-irritant method of treatment. Its action, he said, is most manifest in certain cases of acute edema laryngis and bronchiolitis in which prompt vesication immediately turns the tide of the disease. It is also indicated in all forms of internal inflammation in which it can be applied.

Pneumatic Bulbs for Aseptic Hypodermic Injection.

Dr. Pierre Laurent, Bois-Colombes, proposed a method by which the flow of the fluid from bulbs containing medicaments for hypodermic use may be facilitated. He suggests that the excess of space in the bulbs be filled with gas under pressure.

Physiology and Therapeutics of Hypnotics and Narcotics.

Dr. V. Peset y. Cervera read a paper on this subject, in which he said that these agents are to be divided into those that exercise a direct effect on the brain and those that produce sleep indirectly. As has been shown by histologic and chemical methods, cerebral fatigue depends on an actual alteration in the nervous substance. These changes probably interest chiefly the nucleinic acid and are induced by insufficient oxidation or the action of certain leucomains. The direct hypnotics appear to act in the same manner, but more harshly. The indirect hypnotics and hypnotism act on the brain secondarily through the nerves, respiratory and cardiac functions. The theory of the retraction of the processes of the nerve cells does not satisfactorily explain normal or pathologic sleep. The state of the intracranial circulation expresses the successive phases or grades of the action of the pharmacological hypnotics: 1, Active congestion (excitation); 2, relative ischemia (hypnosis); 3, passive congestion (narcosis). As there is no sleep center, the action must be a general chemical one on the brain.

The Protective Role of Human Saliva.

Dr. Miller, Berlin, described the relations of the saliva to dental caries and other infectious diseases of the mouth. He has found that the saliva of man, *per se*, possesses absolutely no antiseptic or protective properties. Sulphocyanid of potassium has no bactericidal action, nor has the buccal mucosa. The saliva does not contain cytases, nor is it hemolytic. The secret of antisepsis of the buccal cavity lies in the buccal flora. They crowd out and eliminate the majority of saprophytes and pathogenic bacteria by simple outgrowth. Phagocytosis plays an important rôle in the diseases of the soft parts. The character of the teeth predetermines to a great extent the occurrence of caries.

Dr. C. E. Nammack, Utica, N. Y., described the six varieties of climate in southern California, which he calls "The American Italy."

The Influence of the Toxins of Diphtheria and of Tetanus on the Blood.

Dr. H. Kucharzewski, Warsaw, detailed the results of laborious experimental research on the effect of subcutaneous doses of the toxins of diphtheria and tetanus, as shown by changes in the corpuscles, the hemoglobin and the specific gravity of the blood. The results, in general, were the same for both. The erythrocytes and the quantity of hemoglobin are diminished by large and medium doses, while the specific gravity is increased. A polynuclear hyperleucocytosis is present which is at its height in the agony, but which declines gradually in the cases which are not fatal (small doses). In cases which are fatal there is a diminution of the lymphocytes and of the eosinophiles; in non-fatal cases the latter are increased. In infectious diseases, examination of the blood may thus give valuable prognostic indications, depending on the relative increase (favorable) or decrease (unfavorable) of the eosinophiles.

Rational Treatment of Tuberculosis.

M. Monier, Liège, is of the opinion that all our mistakes in phthisiotherapy are traceable to the notion that we can attack the bacillus. The only method of treating tuberculosis is to build up the organism by zomotherapy, fresh air and full feeding.

The Soil for Tuberculosis.

One of the most interesting communications was by A. Robin, Paris, in which he presented his views, which have been fully reviewed in THE JOURNAL. He claims that the predisposition to tuberculosis is characterized by exaggerated oxidations and demineralization of the organism, evidenced by declining strength and resisting power. Tonics and stimulants aggravate the evil. Treatment should aim to restrict the oxidating processes, to restore the normal proportion of mineral substances and to combat the tubercle bacilli by local medication, such as inhalation of antiseptics or creosote by the rectum, to be eliminated by the bronchi.

Section on Surgery.

The honorary presidents appointed were Ceccherelli, Parma; Villems, Brussels; Le Dentu and Doyen, Paris; Küster, Marburg, and Sonnenburg, Berlin.

Radical Cure of Femoral Hernia.

Dr. O. v. Lassen, Denmark, said that the methods of Salher or of Schwartz, by which a muscular flap of the pectineus was dissected off and attached to the crural canal were inefficient, inasmuch as the muscle tends to atrophy. He prefers to suture the fascia of the pectineus to Poupart's ligament as far as the falciform process, introducing his needle armed with not too fine gut, but a little deeply into the muscle itself, and taking five or six stitches. The method is applicable in nearly all cases. He has seen only 3 recurrences in 45 cases, although 31 were of two to six years' standing. The recurrences were due to exceptional circumstances and therefore excusable.

Surgical Treatment of Cutaneous Tuberculosis.

Dr. H. Morestin, Paris, said that extirpation was the only method of treatment.

In a second communication he described a plastic operation for prominent ears, comprising the excision of the posterior bands and of pieces of cartilage.

In a third communication he reviewed the methods of cheiloplasty, and in a fourth described an esthetic operation suitable for cases of slight inguinal hernia, in which the incision is made in the hairy region over the pubes, horizontally or vertically. It is especially suited to congenital cases, and does not permit of complicated sutures. (Described in THE JOURNAL, page 1543.)

Epiploitis After Resection of the Omentum.

Dr. J. Ortiz de la Torre, Madrid, pointed out that the numerous sutures which had to be sunk in the abdomen, in cases of hernia in which the omentum was resected, multiplied the chances of infection. It manifests itself eight to ten days after operation by fever, pain and tenderness. It tends, rather slowly, to the formation of abscesses, which point either to the exterior or to the intestine, and tend to be well walled off from the peritoneum by adhesions. Treatment should be expectant and narcotic until the abscess points. The speaker urged hemostasis in epiploiectomy by some other method than suture.

Surgery of the Stomach.

Dr. Cecherelli, Parma, reviewed in detail the various maladies of the stomach and posed as a champion of surgical intervention. He asserted that in very many cases operation accomplished its object, not by attacking the primary malady, but simply by permitting the stomach to empty itself more freely. The organ thus gains the repose necessary to recovery. He holds that even the functional disorders, if severe, indicate operation. Cardenal, Barcelona, thinks that the "pyloric triad" demands operation, and all cases of certain neoformation, even without severe symptoms, and all dubious cases with rapid decline of weight and strength. He regards gastroenterostomy as the best palliative measure against hemorrhage and perforation, and sees no reason why cancer of the stomach should not be cured by radical extermination as in other localities. Hartmann, Paris, is rather inclined to restrict gastroenterostomy in favor of resection in intervention on the stomach.

Heat for Tuberculosis.

Dr. S. Clado, Paris, extolled the application of heat to local and accessible foci as a valuable measure in tuberculous infection.

Dr. T. A. Fort, Paris, said that linear internal electrolysis is easy and almost painless. There is little loss of blood and little danger of urinary fever. No permanent sound is necessary. There is immediate relief and no shock. In 50 cases his mortality has been *nil*. It is superior to gastrostomy in case of stricture of the esophagus, on condition that it is permeable.

Dr. W. Nagel, Berlin, described his method of perineal suture after Tait for restoring the perineum.

Areilza and Arregni, Bilboa, described experimental research which showed that interposition of muscle tissue is a frequent cause for the non-healing of fractured bones and of pseudoarthrosis. They distinguish a special form of the latter due to destruction of the vessels and occlusion of the Haversian canals, for which amputation is the only relief. They call this form "pseudoarthrosis eburnea.'

San Martin, Madrid, is convinced that much of the danger of chloroform can be suppressed by avoidance of mouth breathing. He advocates administering the anesthetic through a single nostril.

Iodoform Filling for Bone Cavities.

Silbermark stated that Mosetig has applied 445 fillings in 121 cases with the technic described recently in THE JOURNAL, page 1545. In one instance two-thirds of the diaphysis were removed and substituted by this filling with undisturbed healing.

Pneumatic Instruments in Surgery.

L. Mencière, Rheims, exhibited his "revolver osteotome," which resembles a revolver in appearance and is operated by a trigger, the force supplied by liquid carbonic acid gas. The piston can strike 3,000 blows a minute on the pneumatic hammer armed with the osteotome or chisel. He thinks that there is a future for pneumatic instruments of this kind, as they are easy to manage, simple and inexpensive. Any compressed or liquid gas can supply the power.

Section on Obstetrics: Prognosis of Face Presentations.

Dr. W. Nagel, Berlin, combated the general belief that face presentations with chin posterior were of bad prognosis. He said that this position occurred as a very natural and frequent evolution of primary occipital presentation, and almost invariably righted itself by rotation of the chin anteriorly. Narrow pelves may prevent the entrance of the face, as of the head in other forms of presentation, and always indicated early version. Innate dolichocephaly, as contrasted with the acquired forms, is an important factor in face presentations.

Operation for Retroflexio Uteri Mobilis.

Dr. A. Schücking, Pyrmont, fixes the portio vaginalis and the fornix posterior vaginæ by means of two circular ligatures of silver thread, which remain in place four to six weeks. In 18 cases the results were almost always satisfactory. In one case he replaced Schultze's pessary by an injection of paraffin into the anterior fornix.

Treatment of Placenta Previa.

Dr. A. R. Simpson, Edinburgh, said that most cases of placenta previa demanded immediate bipolar version and slow extraction. If diagnosed late in pregnancy and the hemorrhage has not been severe, an expectant method is indicated. In primiparæ especially we should resort to preliminary tamponade of the vagina or hydrostatic dilatation. In marginal implantations the placental lobules may be separated from the inferior uterine segment with the finger, which permits the os to dilate without fresh hemorrhage. The third stage demands the greatest care, with, at time, tamponade of the uterus.

Section on Pharmacy: Effects of Injections of Antidiphtheric, Antitetanic and Antistreptococcus Serum on the Blood.

Dr. H. Kucharzewski, Warsaw, read a paper on the effects of the subcutaneous injection of these various substances into rabbits, and also of normal serum taken from a horse. He found that these various sera produced exactly the same results when injected in various quantities as did corresponding quantities of the normal serum of the horse. Hence, he concluded that the effects were due to the serum, and not to the specific antitoxic content. In detail, small doses are without any effect. Moderate doses produce a slight hyperleucocytosis for two to three days. Massive doses slightly diminish the number of red corpuscles and the hemoglobin; do not affect the specific gravity, but produce a considerable increase of the polynuclear and diminution of the mononuclear leucocytes.

Section on Rhino-Laryngology: Etiology of Ozena.

Dr. W. Freudenthal, New York, said that ozena is an atrophy of all the inner coats of the nose, due chiefly to excessive dryness of the air, complicated by the secondary invasion of a bacillus. The micro-organism can not enter unless the soil has been previously prepared in this fashion. Sinusitises are frequently secondary to the ozena.

Atrophic Coryza.

Dr. E. J. Moure, Bordeaux, discussed in great detail the various forms of atrophy, rhinitis and ozena, and their combinations. As regards treatment, he said that it was sufficient in case of purulent ozena of adults to suppress the inflamed tissue and to employ nasal lavage. Massage with silver nitrate spray is an excellent mode of treatment. Hypertrophied mucosæ tend gradually to disappear, even if cocain and adrenalin do not affect them, and excision is very dangerous. In pseudoatrophic strumous ozena lavage and general constitutional treatment suffice to cure the rhinitis. Complicating sinusitises demand surgical intervention. Finally, in the true atrophic ozena, in young children, one should employ simply systematic lavage, until the patient has attained an age suitable for operative procedure. At this point the nasal cavity is reconstituted by means of interstitial injections of paraffin, which fill out the cavity and prevent the accumulation of foul-smelling, decomposing secretions.

Section on Neurology: Folies Toxiques.

Dr. J. Galiana, Madrid, read a paper on those cases of chronic alcoholism in which mental degeneration entered as a complicating factor. In such cases the manifestations of chronic and of acute alcoholism are noticeably different from the pure types. In some of these cases acute attacks may resemble the suspension of mental functions of epileptics. The disturbances of chronic alcoholism are accentuated. The terminal dementia occurs earlier; instead of the motor system, it is the psychical system, as the point of least resistance, which first breaks down. Alcoholism tends to accentuate and develop all previously existent psychical anomalies. In epileptics it multiplies the number of attacks, but is never a cause of the disease *per se*. In hereditary neurotic or degenerative individuals, alcohol tends much more rapidly to induce delirium; a single debauch may thus precipitate a typical delirium in such cases. The speaker then proceeded to a discussion of the syphilitic psychopathies. Secondary syphilis produces psychical aberrations in degenerates, inducing these effects both through the mental anxiety, the anemia, and possibly cellular intoxications. True syphilitic psychoses are perturbations of the order of delirium, of dementia and of the motor functions. The last are of great diagnostic import, and may be either paralytic, convulsive, tremulous or ataxic. He then detailed the various clinical forms of syphilitic motor disturbances, especially pseudo-general paralysis. It is a factor in most cases of true general paresis which occurs notwithstanding early and thorough antisyphilitic treatment and also persists in spite of it.

Resolutions Adopted by the Congress.

In anatomy the importance of topographic representations of the human body being generally recognized, professors of anatomy are asked to co-operate to have an extensive exhibit in this line at the next international congress.

In general pathology, an international committee was planned to revise and classify the known bacteria and study those newly discovered. The authorities were also asked to collect data in regard to the prevalence of rhino-scleroma in Spain. In pharmacy, the necessity of standardization of curative serums and of international unification of hypodermic injections and heroic drugs was recognized by a resolution to this effect. The section on neuropathology unanimously voted an appeal to the lay press to refrain from publishing the details of crimes, as the contagion of criminal impulses among the population is an established fact. Other resolutions were adopted in regard to the suppression of alcoholism and criminal responsibility, recommending for the latter the legislation on the subject in Portugal and the appointment of experts in mental affections to examine all criminals. Among the four resolutions adopted by the section on pediatrics is one that appeals for the revision of the entire chapter of infantile diplegias, while another urges the construction of more sanatoria for children in the country and on the coast. In dermatology, the committee appointed at the last congress to study the unification of optometric scales, was confirmed and ordered to report at the next congress. The section on otology advocated that the autopsy of deaf mutes should be obligatory in public institutions, and that otology should be included in the medical curriculum.

The general sessions adopted a resolution deploring the increasing multiplicity of languages at the international medical congresses and the confusion resulting therefrom, urging the necessity of adopting a common medium.

Impressions at Madrid.

Many members of the congress commented on the comparative absence of saloons in Spain. Very little distilled or even fermented beverages are consumed and the dramshops, even in the large cities, are frequently a long distance apart. Folet mentions, in a letter to the *Echo Méd.*, that at a popular and fashionable restaurant he noticed only one person taking a small glass of cognac in the crowded rooms. During the bull fight the cries of men selling "pure water" were heard on every hand. The enthusiasm of the spectators at the horrors of the bull slaughtering was an interesting psychologic study to the visitors.

The meetings of the sections were held in halls opening into each other, so that the proceedings were disturbed by persons passing through to rooms beyond. The confusion in regard to announcements was also great as the thousands of members gathered at one or at most two small wickets clamoring for information of all kinds. Hundreds of the members gave up the attempt and more were to be found in groups in the world-famous picture galleries than in the section meetings.

The visitors were favorably impressed by the standard of medical science in Spain. Also by the cordial welcome they received, although it was somewhat marred by the cupidity of the general public.

A bull fight had been planned as one of the official entertainments, but this plan was abandoned and the members who attended the bull fights had to pay for admission. The fêtes were all remarkably brilliant and interesting. It was curious

to note here and there in the scientific meetings some legal light, civil engineer or other non-medical member of the congress.

Therapeutics.

Sciatica.

G. L. Bailey, in *Cincinnati Lancet-Clinic*, recommends, in the treatment of the acute attacks of sciatica, that the patient be placed in a reclining position in a hot-air apparatus with all the body inclosed, except the head. The affected limb should be comfortably bolstered up and temperature gradually raised to 240 F. or 260 F., according to the toleration of the patient. During this process he should be induced to drink freely of cool water, and ice cloths should be applied to the head. The patient should be allowed to remain in this position for one hour, followed by an alcohol rub, and then he should be put to bed with the limb well supported.

This treatment should be followed out daily for five or six days, when the pain will have been relieved sufficiently to allow gentle massage giving firm pressure over the nerve, and at its point of exit from the pelvis. As the pain subsides the massage may be given deeper and harder. The patient will usually find complete relief within two or three weeks. In the chronic cases the treatment is practically the same, except that more vigorous massage may be given. Nerve stretching may be accomplished by deeply grasping the muscles of the thigh while the patient is lying on his face and the nerve forcibly pushed and pulled by the operator. With the patient lying on his back, the thigh flexed on the abdomen with the leg extended serves a similar purpose for stretching. Massage and electricity, both galvanic and faradic, are valuable in restoring the atrophied muscles and the circulation. The patient should be instructed to carry out such exercises at home as will tend to produce a stretching of the sciatic nerve and give exercise to the muscles.

Metcalf recommends the following in the medicinal treatment of sciatica:

℞. Tinct. aconiti
Tinct. colchici sem.
Tinct. belladonnæ fol.
Tinct. cimicifugæ, āā ..... ℥ii 8

M. Sig.: Six drops every six hours.

The glycerophosphates are valuable in the treatment of the chronic forms as follows:

℞. Calcii glycerophos.
Sodii glycerophos., āā ..... ℥iss 6
Ferri glycerophos. ..... gr. xxx 2

M. Ft. capsulæ No. xxx. Sig.: One after each meal, three times a day; or:

℞. Calcii glycerophos. ..... gr. xv 1
Mag. glycerophos. ..... gr. xv 1
Pot. glycerophos. (75 per cent.) ..... ℥ss 2
Sodii glycerophos. (75 per cent.) ..... ℥iss 6
Aq. destil. ..... ℥viss 25

M. Sig.: Inject thirty to sixty drops into the seat of the pain once daily.

Locally the following may be applied once or twice daily:

℞. Acidi salicylici ..... ℥ss 2
Ichthyol
Olei hyoscyami comp.
Lanolini, āā ..... ℥iv 15

M. Sig.: Apply locally.

Hay Fever.

According to L. B. Locard, in *Boston Med. and Surg. Jour.*, the treatment of hay fever is either preventive or palliative. With the proper preventive treatment from 60 to 80 per cent. of the cases may be rendered immune, and by the palliative treatment a large majority of the cases may be given complete relief.

The preventive treatment as outlined by the author consists, locally, in correcting deformities and cauterizing the sensitive areas lightly with the galvano-cautery. The constitutional treatment should be started four or five weeks before the usual commencement of the attack. The object of this form of treatment should be to increase the elimination and decrease the production of uric acid, to correct any neurosis present and other abnormalities.

To increase the elimination and decrease uric acid production, alkalies, lithia and sodium salicylate should be given, together with a proper regulation of the diet. Chloretone should be administered as a nerve sedative, giving it just previous to an expected attack. The palliative treatment consists in the use of adrenalin locally, followed by an oily spray. If this does not check the excessive nasal secretion morphin or atropin will usually control it or caffein and suprarenal gland may be given internally.

The patient should wear smoked glasses for the eyes and use adrenalin solution or boric acid and camphor water as an eye wash.

As a local application in the treatment of hay fever Yeo recommends the following:

℞. Resorcin ..... gr. iss 09
Sod. chloridi ..... gr. iv 25
Acidi acetici ..... m. ii 12
Aquæ q. s. ad ..... ℥i 30

M. Sig.: Apply locally with a brush or a swab and repeat the application frequently.

Hydrozone may be used as a local application as follows:

℞. Hydrozone ..... ℥ss 15
Aq. destil. ..... ℥vi 180

M. Sig.: Apply as a nasal douche four times a day, beginning two weeks before the expected attack. The author also recommends a local application of deodorized cod-liver oil sprayed into the nares every three hours.

Constipation.

The following combinations are recommended by Huchard in *Prog. Medical*, in the treatment of constipation:

℞. Pulv. glycyrrhizæ
Pulv. sennæ, āā ..... ℥ii 60
Sulphuris
Pulv. foeniculi, āā ..... ℥i 30
Pulv. sacchari ..... ℥vi 180

M. Sig.: One or two teaspoonfuls at a dose; or:

℞. Sulphuris sublim.
Magnesiæ (calcined), āā ..... gr. lxxv 5

M. Ft. chart. No. x. Sig.: One powder every two or three hours; or:

℞. Magnesiæ (calcined) ..... ℥iiss 75
Lactose ..... ℥iss 45

M. Sig.: One teaspoonful in a little water on rising in the morning; or:

℞. Magnesiæ
Sod. benzoatis, āā ..... gr. xxxvi 2 40
Pulv. rhei ..... gr. lxxv 5
Pulv. nucis vom. ..... gr. viiss 50

M. Ft. chart. No. x. Sig.: One powder as necessary to correct the constipation.

Burnett, in *Med. Summary*, recommends the following in the treatment of constipation:

℞. Sulphuris ..... ℥ss 15
Pulv. rhei ..... ℥ii 8
Pot. et sodii tartratis ..... ℥i 30
Sacchari albi ..... ℥ss 15
Pulv. cinnamomi ..... ℥ss 2

M. Ft. chart. No. xvi. Sig.: One every two hours in water.

Epilepsy.

The following combination, according to Morrow in *Med. Summary*, is of value in checking epileptiform seizures:

℞. Potass. bromidi ..... ℥ss 15
Chloralis hydratis ..... ℥ss 2
Tinct. hyoscyami ..... ℥iiss 10
Ext. cannabis ind. flu. ..... ℥ii 8
Aquæ q. s. ad ..... ℥iv 120

M. Sig.: One teaspoonful every four hours during the day.

Acute Attacks of Gout.

The treatment of the acute arthritic attacks in gout, according to Wilson in *Applied Ther.*, should consist of rest in bed and elevation of the limb. The following is recommended locally:

℞.	Atropinæ	gr. iii	20
	Morph. hydrochlor.	gr. xv	1
	Acidi oleici	ʒi	30

M. Ft. linimentum. Sig.: To be painted over the painful joint with a brush and followed by bandaging the joint with absorbent cotton; or:

℞.	Ext. opii	gr. xlv	3
	Ext. hyoscyami	ʒss	2
	Adipis	ʒi	30

M. Ft. unguentum. Sig.: Apply to the painful joints with cotton wool; or:

℞.	Ichthyol	ʒi	4
	Ung. bellad.	ʒii	8
	Ol. petrolati	ʒiss	6

M. Ft. unguentum. Sig.: Apply locally night and morning; or:

℞.	Pulveris lini	ʒiv	120
	Aq. bullientis q. s.		
	Guaiacol	gtt. xx	1
	Glycerini	ʒi	4

Misce: Mix the glycerin and guaiacol and spread on the flaxseed poultice and place it on the affected joint; or:

℞.	Linimenti belladonnæ	ʒiii	90
	Morph. hydrochloratis	gr. x	65

M. Ft. linimentum. Sig.: One teaspoonful to be mixed with a tablespoonful of hot water and applied on lint under oil silk every four hours.

The following combinations are recommended by *Merck's Archives* as internal medication in the treatment of chronic gout:

℞.	Formin	ʒi	4
	Lithii salicylatis	ʒiss	6
	Aq. menth. pip.	ʒiii	90
	Syrupi	ʒii	60

M. Sig.: One tablespoonful in water two or three times a day.

[The formin in the foregoing prescription is a crystalline powder, soluble in water and alcohol. It is identical with urotropin and aminoform and is a uric acid solvent and genito-urinary antiseptic.]

The following is also of service in the treatment of chronic gout:

℞.	Lithii brom.	ʒi	30
	Sol. potass. citratis	ʒiv	120
	Vini colchici rad.	ʒi	30
	Syr. tolutani	ʒi	30

M. Sig.: One teaspoonful well diluted in water after each meal; or:

℞.	Pot. iodidi	ʒiv	15
	Vini colchici sem.	ʒiv	15
	Tinct. stramonii sem.	ʒii	8
	Tinct. cimicifugæ	ʒvi	24
	Tinct. opii camph. q. s. ad.	ʒiii	90

M. Sig.: One teaspoonful three or four times daily.

Medicolegal.

Refusing Examination—Motion for Specimen of Urine.—The Court of Civil Appeals of Texas holds, in Austin & Northwestern Railroad Company vs. Cluck, not only that, in the absence of a statute authorizing it, a court has no power to compel a litigant to submit his or her person to examination by a physician or any one else, but that a refusal to consent to be examined by a committee to be appointed by the court can not be shown on cross-examination before the jury. Having the legal right to refuse to submit to such an examination, the other side, the court holds, have no right to prejudice the party before the jury by showing an exercise of such legal right. Furthermore, the court holds that if it be conceded that the trial court had the power to compel the party who brought this action to recover for personal injuries to furnish a specimen of his urine for examination by physicians to be appointed by the court, before the other side could be heard to complain on appeal, it must be made to appear that their motion seeking to accomplish that result was seasonably made. The end which they had in view (which was an examination of the party's urine by a committee of physicians appointed by the court) would have required time for its accomplishment. The party would have been entitled to a reasonable time, in the due course of Nature, to furnish the urine, and the court would have been entitled to a like time within which to procure competent physicians to make the examination, and the latter would have been entitled to reasonable time within which to make such examination. For aught that appeared in the record, to have granted the motion at the time it was made might have resulted in an unreasonable delay in the trial; wherefore, the court of appeals holds that it was not made to appear that error was committed in overruling a motion to compel the party to furnish a specimen of his urine for such an examination.

Communication of Smallpox by Incompetent Nurse.—The Court of Civil Appeals of Texas holds, in Missouri, Kansas & Texas Railway Company of Texas vs. Freeman, that when the company took charge of one of its employes for the purpose of isolating, nursing and treating him for smallpox—a dangerous and infectious disease—it assumed and owed a duty to the public to employ competent and experienced persons and agents to perform that duty. It took the risk of all consequences of a wrongful execution of that duty, resulting from the incompetency of a nurse or guard so employed by it. It was the duty of the company's surgeon to employ a person as nurse or guard who had sufficient intelligence and discretion to remain isolated, and not leave the camp and go on the public streets, where he would likely come in contact with persons who had not had the disease, without first disinfecting his person and changing his clothes. It was the negligence of the company's surgeon in employing an incompetent nurse or guard that placed the latter in a position where he could, by reason of his negligence and incompetency, communicate the disease to others. And the court thinks that the company is liable where, as in this case, it employs an incompetent servant, and puts him in charge of a pest camp containing persons afflicted with smallpox, to isolate, nurse and guard such persons, and the servant, by reason of his want of discretion and incompetency, negligently leaves the camp and goes on the public streets of the city, and communicates the disease to another. If one to whom the nurse communicated the smallpox knew that the latter was a guard or nurse at a pest camp, but at the time he met him on the street was under the impression that he had disinfected his person and changed his clothes, and would not communicate the disease, then it was for the jury to determine whether such person was guilty of negligence in so coming in contact with such nurse.

Validity of Practice Acts—Who Exempted Practitioners.—The Supreme Court of Washington says, in the case of State on relation of J. W. Smith vs. Board of Dental Examiners, that the wisdom of such regulations, pertaining not only to dentistry, but also to the practice of medicine and surgery, is apparent. It is of the highest importance to the state that suffering and afflicted humanity shall not be subjected to the care and treatment of unlearned and unskilled persons. In its effort to prevent such a misfortune to its people, the state may adopt a standard for the test of fitness to engage in the work of what should be a learned profession. When that standard is adopted, those who assume to do the work of such a profession must prove their fitness by the test of such standard. Otherwise they violate the law, and can not be recognized by the state as practitioners of a lawful profession when they seek to follow it in an unlawful way. And where there was a proviso that the section of an act requiring an examination to practice dentistry should not apply to persons engaged in the practice of dentistry at the time of the passage of the act who were *bona fide* citizens of the state, the court says that it must be held to refer to the practice of dentistry as it was then recognized by law. It thinks that it should

presume in this connection that, when the legislature used the words "persons engaged in the practice of dentistry," it did not intend to include in that class persons who had never complied with the existing law entitling them to engage in such vocation, and who had furthermore openly and continuously violated that law. The persons exempted from the examination were those who had complied with the law, for they were the only ones actually practicing dentistry, as that term must be construed in the light of lawful regulations. The subject of an act being to regulate the practice of a given profession, the court holds that the legislature may include in the act the means related to the subject for effecting the object sought.

Probability of Insanity as a Defense to Crime.—The Supreme Court of Iowa says, in the homicide case of State vs. Thiele, that the existence of disease in the brain of a living being is seldom the subject of demonstrated or direct proof. Of necessity, reliance must be placed on outward manifestations, and from these the inference drawn as to the condition of the brain. The conduct and speech of a party are not always the true index of mental capacity or incapacity. Cases of feigned insanity are not infrequent, and about all courts are able to do in most cases is to speak from the evidence as to the probability or improbability of the accused having been insane at the time under investigation. By saying insanity is probable is meant, as understood in common parlance and from the definition of lexicographers, that there is more evidence of insanity than against it, or better reason to believe the accused insane than to suppose him sane. In this case the jury were told, in effect, that, even if it were made to appear probable that the accused was insane, he must be held accountable for his act. And more, that such probability would not alone overcome the presumption of sanity. He must have gone still farther and introduced evidence to overcome this presumption, and then, in addition thereto, satisfy the jury of his insanity by a fair preponderance of the evidence. But the supreme court holds that there was error in this. It says that even if the presumption were to be accorded some probative force rather than treated as a mere rule concerning the burden of proof, it ought not to be offset in this way against the probability of the accused's insanity. Sanity is the normal condition, and the presumption that it exists goes no farther than the assumption, for the purposes of the trial, that the accused is not different in this respect from other men. The law does not undertake to measure the precise amount of evidence which, when undisputed, will rebut this assumption and justify the conclusion that a person is abnormal, save that it must be enough to convince the understanding. But the jury are not to be told that the presumption is of no consequence in weighing evidence, or that it is not to weigh the presumption of the accused's sanity against any measureable amount of evidence of insanity; for an appreciable weight of evidence is required to establish the existence of an abnormal condition of the mind. Not until the evidence indicates that the existence of insanity is probable, that is, is such as to render this conclusion more reasonable than a contrary inference, has the assumption that the party under investigation was in a normal state been overcome.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 30.

1 *Primary and Recurrent Mammary Carcinoma Treated by the X-Ray. William J. Morton.
2 *The Treatment of Purulent Conjunctivitis. Edgar S. Thomson.
3 *Notes on Cases Treated by Venesection. George P. Andrews.
4 *On the Active Principle of Rhus Diversiloba (Poison Oak). Carl Schwalbe.
5 *Reflex Symptom from Biliary Calculus. G. W. Squires.

1. **Mammary Cancer Treated by the X-Ray.**—Morton describes the utility of the *x*-ray in cases of mammary cancer and reports a number of cases treated by this method. He uses no shield except for the hair of the head, eyebrows, etc., covering the nipple with a small metallic disc for part of the time. Dermatitis was intentionally carried to the purplish stage, followed by exfoliation and effusion of serum, and in some cases a purulent discharge. In all but one, complete recovery of the skin occurred in from one to four weeks. These areas of dermatitis have often occupied the entire skin area of one breast and axilla. The patients are frequently *x*-rayed from behind the scapula. He thinks this measure is of importance as the deep fasciæ of the muscles of the chest may be affected and the thorax offers but little resistance. The clavicle and ribs may shield infected areas behind the bones. He does not hope for good results unless dermatitis is produced. He has never overstepped the bounds and reached necrosis, but has escaped this only by adhering to the most rigid and exact technic as to time and exposure, distance of tube, force of radiation, and number of treatments per week. The technic is fifteen minutes, 9 inches, high tube (corresponding to a six to ten inch spark gap), clear view of end of radius and ulnar at two feet, and three times weekly. The question of diagnosis is mentioned. He thinks the margin of error is small. Severe dermatitis should certainly be avoided. What is desired would seem to be to set up a mild leucocytosis with tissue reparation, and if in the case of a mammary and unbroken cancer the skin intervenes, this latter suffers a dermatitis lesion merely to enable the operator to set up a similar but lesser lesion in the deeper tumor area. He has often noticed in cases of primary carcinoma that whenever the patient complains of soreness of the skin, she also remarks that the tumor is unusually sensitive. In superficial or ulcerating carcinoma milder treatment with no dermatitis will suffice. It would not be wise, he thinks, to try to do with the *x*-ray what might better be done by the actual or other cautery or by the knife, and the best future for the *x*-ray and phototherapy in general would be extreme conservatism and desistance from the invasion of surgical procedures which offer an alternative of relief or cure to the patient, superior to what the radiation treatment can offer. He holds it as generally admitted that it is advisable to follow up operated cases with radiation to prevent recurrences.

2. **Conjunctivitis.**—Thomson describes the various methods for meeting conjunctivitis according to its type. He thinks there is nothing that will supplant silver, but some of the new germicides seem of value where silver is not well borne. It is imperative in adult cases, and especially in gonorrheal conjunctivitis, to apply medical applications as early as possible. If the gonococcus once has a chance to penetrate the conjunctival tissue thoroughly the eye will probably be lost. In babies the results are not apt to be so serious, but in every case the application of silver should be as early as possible. It is impossible to lay down rules as to the limits of time when the abortive plans of treatment may be used, but he always attempts it when there is any prospect of success. If he sees the case two days after the infection and the swelling and discharge are not at their greatest height, he applies a 3 to 4 per cent. solution of nitrate of silver as thoroughly as possible, and meets the further indications as they arise, using a 2 per cent. solution as a daily application. When using a stronger than 2 per cent. solution it is well to neutralize with salt solution on account of the danger of staining of the cornea. Where silver irritates, as shown by the increased discharge of serum and a tendency to bleed, a 6 per cent. solution of protargol may be used. This is not non-irritating, though less irritating than silver. It is a valuable drug in ophthalmia neonatorum and wherever the conjunctival thickness is not enough to support nitrate of silver applications. It may be dropped in the eye twice daily. In other forms of purulent discharge due to the pneumococcus, Koch-Weeks' bacillus or other pus organisms, protargol in a 6 per cent. solution once daily is a most valuable germicide. It does not stain the tissues like the nitrates, and it is good practice to flood the corneal ulcer occurring in the course of a gonorrheal conjunctivitis with a 6 per cent. solution once a day. It does stain the conjunctiva if continually used. Argyrol, 25 per cent., meets the indications of pro-

targol and is not irritating. It is less effective when an astringent is required, but as a non-irritating germicide it is ideal. The other indications for treatment in purulent conjunctivitis are best met on old lines, and the use of saturated boric acid solution, ice cloths to the lids, the use of argyrol, or protargol for corneal complications; in some few cases scarification in chemosis and cauterization of the cornea, where the chemosis is not severe, may be valuable means to prevent ulceration. Pure carbolic acid is the best cauterizing agent. When corneal infection appears hot-water applications are to be used for the purpose of stimulating the corneal tissues.

3. **Venesection.**—Ten cases of various conditions in which venesection was used, including pneumonia, eclampsia, asthma, dyspnea, etc., are reported by Andrews. In all the cases but one relief was prompt. The method cured in the sense that it tided over an emergency. He thinks there is possibly much value in this neglected therapeutic operation.

4. **Rhus Diversiloba.**—Schwalbe finds from his study of the cases as reported that there is little evidence of poisoning by diffusion of the toxin through the atmosphere. It must be directly applied and may be carried from one person to another by contact, but the fact that the skin of the face is the most susceptible and that it escapes in those cases where atmospheric contagion has been claimed, indicates that neglected contacts are really the causes of the trouble. Persons perspiring easily are more liable than others. Neutral soap will not clear out the hairs containing the poison; an alkali is required to neutralize it. A 1/10 to ½ per cent. solution of carbonate of potash applied several times a day is sufficient to protect everybody against the bad effects of this interesting plant.

5. **Biliary Calculus.**—Squires reports a case where severe pain and an eruption on the heel was the result of a biliary calculus and was immediately relieved on its removal *per vias naturales*.

Medical News, New York.

May 30.

6 Professional Discretion. The Medical Secret. (To be continued.) Prince A. Morrow.
7 *A Report on the Physics and Therapeutic Value of Cathode and Ultra-violet Rays; with References to the Electromagnetic Theory of Light. An Attempt to More Clearly Define the General Character of Those Recently-Introduced Agents in the Treatment of Cancer. Roswell Park.
8 *The Cure of Anal Fissure without Operation; Report of Eight Cases. S. Lewis.
9 *The Therapeutic Use of Suprarenal Gland in Certain Diseases of the Skin. Martin F. Engman and William P. Loth.
10 On Simplicity in the Operation for Laceration of the Cervix Uteri. Louis Kolopinski.
11 Tuberculosis of the Larynx and Aspiration Tuberculosis of the Lungs Following Dermatitis Blastomycetes. Otto T. Freer.

7. **Radiotherapy.**—Park discusses the physical principles underlying radiotherapy, and offers the following conclusions as safely warranted in regard to the therapeutic effects of the *x*-rays and ultra-violet rays: 1. They afford methods of treatment for extremely new growths of limited area and superficial character, which, while not exactly certain, are extremely promising. 2. They not only cause no pain, but tend to relieve pain, both superficial and deep, in a most pleasing and satisfactory way. 3. They are adapted to cases which can hardly be submitted to any other method of treatment, and they afford more hope in delayed and inoperable cases than does any other method of treatment. 4. It will be found that the odor of putrefaction may often be suppressed by their use and the putrefactive process itself checked. 5. Burns and intense dermatitis, so frequently noted when the treatment first came into vogue, may now be almost entirely avoided. 6. More than this, they afford a supplementary method of treatment after operation by which the benefits of the same may be enhanced or enlarged. 7. It is not necessary to intermit such work as the patient may be engaged in in order to carry out the *x*-ray or phototherapeutic method of treatment. He remarks that too much must not be expected, and that what may be accomplished in deep cases is yet unknown. The *x*-rays have, however, been of apparent benefit in relieving pain, even deep seated.

8. **Anal Fissure.**—Lewis has found permanganate of potash applications in "anusol" suppositories night and morning curative in anal fissure. His worst case, in which all other means had failed, was cured by this treatment in ten days.

9. **Suprarenals in Skin Disease.**—Engman and Loth have tried suprarenal with good success in skin disorders dependent on vasomotor disturbance, pruritus, urticaria and lichen urticatus. They find a certain cumulative action on the nervous system that makes them use the drug with caution. It caused in repeated doses, 5 gr. 3 td., tremor of the extremities, aggravated by increased doses. For a child under 4 they give ½ gr. 3 td., gradually increased to 2 gr. Between the ages of 4 and 12, 1 gr., gradually increased to 3 grs. Above 12 the beginning dose may be 2 gr., increasing gradually to 6 gr.

Philadelphia Medical Journal.

May 30.

12 Historical Sketch of Vaccination. Charles W. Dulles.
13 *The Treatment of Fracture of the Neck of the Femur at Bellevue, St. Vincent's and New York Hospitals. Joseph B. Bissell.
14 *A Case of Ulcerative Endocarditis Involving the Pulmonary Valve and Causing Perforation of the Ventricular Septum, Gangrene of the Nose and Ears, Multiple Infarcts in the Kidneys, etc. Henry M. Fisher.
15 A Report of a Case of Malignant Gonorrheal Endocarditis, with Specimens. C. J. Habhegger.
16 Preliminary Report of an Operation for Abdominal Pregnancy of Twenty-one Months' Duration. Charles P. Noble.
17 *Uterine Fibroma Near the Menopause. George E. Shoemaker.

13. **Fracture of the Neck of the Femur.**—Bissell describes the methods of treatment used in several hospitals in New York City. In St. Vincent's there were few of these cases in the year 1900, and only 41 cases since that time. The method used is a fracture board under the mattress, a Hamilton long side splint and Buck's extension with a weight, usually rather heavy, sufficient to reduce the shortening down to one-half inch or under. The Hamilton splint was removed frequently comparatively early, often at the end of the fourth or fifth week. No plaster dressings have been used during the three years. No deaths are recorded. In Bellevue 241 cases are reported from Jan. 1, 1900, to Jan. 1, 1903. The method employed is the fracture board, Buck's extension and the long Hamilton splint as the usual means. The weights were somewhat less than those at the St. Vincent's. Only in one case was the plaster-of-paris spica used from the beginning of treatment to the end. In a number of other cases, however, the plaster was applied after the Hamilton splint had been removed and shortening reduced as much as possible and no amount of weight seemed to reduce it further. In the New York Hospital there were 34 cases recorded. The usual treatment in almost every case was to apply the Hodgen splint. The fracture boards for the bed and occasionally Buck's extension were used with sand bags and moderately heavy weights applied until shortening was reduced as much as possible. The longest period a patient was kept in bed was sixteen weeks and the shortest six. Fifteen of the 34 cases were discharged as cured, 4 as unimproved, 14 as improved and 1 died from pneumonia occurring within twenty-four hours after admission. In none of the hospitals was any operation performed to unite the fractured surfaces, to remove a detached head or to carry on or assist in any manner the treatment. The largest percentage of cures was in the New York Hospital, which speaks well for the methods there employed. According to the author's experience, bed sores are a common intercurrent trouble in these cases, though this does not seem to be borne out by the histories as recorded in these hospitals. He thinks the difficulty of meeting the indications of perfect coaptation and immobilization of the fractured bone, together with attention to the health and comfort of the patient, can not well be met by the methods that have been employed. Coaptation and immobilization are perhaps, to a certain extent, met by the Hodgen splint, but much more is required, and the use of a hip splint, which would allow the patient to be up and about, and fixation by plaster of paris, are the only alternatives to an open operation down to the seat of the fracture and an accurate securing of the fragments by mechanical means, which would seem to him desirable. He holds that the risk of surgical operations in these cases is not so great as that of the tedious and slow and unsatisfactory treatment without cutting.

14. This article appeared elsewhere. See THE JOURNAL of April 18, title 53, p. 1105.

17. **Uterine Fibroma.**—Shoemaker has operated on a large number of cases near the menopause, several of which he reports. He holds the danger of operation in cases of this class, while greater than in simple abdominal sections, is not very great. The mortality should not exceed 6 per cent., and it is largely due to complications such as pyosalpinx, recurrent peritonitis or the effects of hemorrhage, all due to delay.

American Medicine, Philadelphia.

May 30.

18 *A Clinical Report of Nine Cases of Friedreich's Disease; Hereditary or Family Ataxia, So-called, with Comments on Noteworthy Symptoms. Joseph Collins.
19 *Present Status of Congenital Dislocation of the Hip and the Bloodless Reduction. Virgil P. Gibney.
20 *The Forcible Reposition of Congenital Luxation of the Hip. Gwillym G. Davis.
21 Etiology and Treatment of Retrodeviations of the Uterus. Charles A. Robertson.
22 Strongyloides Intestinalis in Texas, with Report of a Case. John T. Moore.
23 *Streptococci Infections. Leonard K. Hirshberg.

18. **Friedreich's Ataxia.**—Collins describes the typical form of Friedreich's ataxia and notes the types that have been described. He gives two cases which he thinks illustrate the fact that the disease conforms to the classic type with some frequency. He calls attention to the uniformity of the clinical manifestations and also to some uncommon clinical features, such as preservation of the tendon-jerks, pes planus, manus cavus and an uncommon complication, the Menière symptom-complex, which occurred in one of the cases reported.

19. **Congenital Dislocation of the Hip.**—Gibney reviews the treatment of congenital hip-joint disease, and especially the effects of the Lorenz method. He considers stretching of the capsule an element of danger and unnecessary. The number of cases in which paralysis of the quadriceps femoris and leg muscles have developed indicates this. He offers in conclusion the following few points that seem to him to be paramount:

1. Do not rest content in a case of hip lameness in a young child until you have made a thorough examination of the patient and have obtained a full history of the case. 2. The diagnosis once established, aim to effect a reduction before the sixth or seventh year. It is fatal to postpone operation. 3. In patients beyond the age limit fortify yourself with a Roentgen ray picture in order to determine the exact position of the head, the shape of the same, and the relationship which the neck sustains to the shaft. 4. Do not make long attempts at reduction in patients over 10. 5. Bear in mind the dangers which Dr. Lorenz himself has warned against, namely, too extensive laceration of the soft parts, paralysis which may or may not yield to time and treatment, the fracture of the femur or the pelvic bones, rupture of an artery, sometimes the femoral.

20. **Congenital Dislocation of the Hip.**—Davis criticises the Lorenz method, holding that it is unnecessarily severe and has developed dangerous features, and maintains that the comparatively mild and gradual methods of Paci are preferable. Forcible traction, he holds, has no place in immediate reduction of congenitally luxated hips, and it is mainly responsible for the traumatisms that occur. If we are to avoid them we must adhere more closely to the original teaching of Paci, which consists simply in the application of the circumduction method of reducing traumatic luxations, by which the thigh is flexed on the abdomen followed by downward pressure on the knee with abduction, external rotation and gradual extension. The pressure is made on the trochanter posteriorly while the limb is carefully extended. Abduction is afterwards maintained to an extent sufficient to prevent the head from escaping from its new position. He prefers the fixation of the thigh on the abdomen to fixation at right angles with the body. He says that rather than resort to the great force now at times employed, he believes it would be much better to incise and clear a way for the head of the bone.

23. **Streptococci Infections.**—Hirshberg reviews the facts in regard to the various pathogenic streptococci, and holds that there is little warrant, with our present means of differentiating bacterial species, for dividing the streptococcus into eighteen or more species as is done. From the multiplicity of pathologic processes in which the streptococcus is invariably found, it is quite likely that there are distinct species or at least varieties of streptococci involved, but our present means of separating them proves it is open to considerable doubt.

New York Medical Journal.

May 30.

24 *Clinical Observations on Backache. Robert W. Lovett.
25 *Cocain Herniotomy. Alexander Lyle.
26 *The Essentials for Aseptic Labor. A. Ernest Gallant.
27 The Eye in Its Relation to General Disease. Nathan D. McDowell.
28 *A Supposed Sarcoma of the Kidney Cured by *X*-ray Treatment. Charles H. Richmond.
29 *Notes on Two Cases of Urogenital Tuberculosis. Charles G. Cumston.
30 *Heredity and Tuberculosis. Maurice Packard and Lester L. Roos.
31 *Chronic Pneumonia. E. Paller.

24. **Backache.**—From an orthopedic standpoint certain well-defined types of backache present themselves which are divided roughly into two groups by Lovett, those due to causes existing in the spine itself and those due to external causes. The first of these are either mechanical or static, due to faulty attitude or the result of injury or inflammation. Among the first Lovett mentions faulty spinal attitude, in which the extra strain is borne by certain ligaments not calculated for them, hence pain follows from continuous ligamentous strain, especially when associated with stretched spinal muscles. In round shouldered, lax spined young woman pain is not infrequent and is familiar under the name of irritable or neurasthenic spine, and is generally localized in one or two points, is apt to be severe and aggravated by exercise. Stiffness comes on after a while, and in old cases the differentiation from Pott's disease and osteoarthritis may be difficult. The condition tends to grow worse with periods of improvement, and the cure lies in the development of the spinal muscles and the acquirement of an erect attitude by gymnastic exercises, at first mild, later increasing in force, following the line of the "setting up drill" of fthe military recruit. The physician must be sure of his diagnosis, for the same treatment is not suitable for Pott's disease. In lateral deviation of the spine, when due to a shorter leg on one side, pain is not uncommon and is often situated in one or the other of the sacroiliac joints, or in the loin or around the scapula. As far as Lovett's experience goes, the pain is on the convex side of the curve rather than on the compressed side. The correction of the shortened leg by a thick sole will in many cases do away with the backache. The causes due to injury or trauma include sprains of the back which are often serious, far more so in their symptoms than would be suggested by the anatomic conditions. In some cases it is impossible to make an off-hand diagnosis from Pott's disease. Instead of being put to rest like an injured ankle, it is the rule that the parts are kept in action and treatment is, therefore, embarrassed. In chronic or acute sprain absolute rest and fixation are necessary, or their restricted use. There is also a persistent backache without obvious cause, of which he has seen two cases. The patients were not neurasthenic; they stood well, their muscles were good, and they had suffered no injuries, and in both cases the condition was obstinate. In conclusion he mentions Pott's disease and arthritis deformans and the causes of backache existing outside the spine. Three conditions of the foot are mentioned, such as flatfoot, which is not common in private practice; pronated foot, which is more common, the weight of the body being transmitted diagonally through the arch instead of straight down, and pain and irritability result. This is most commonly called flatfoot, but it outnumbers the cases of real flatfoot many times over. Another condition is what is called contracted foot, which is very little known and but imperfectly understood. It is characterized by shortness of the muscles of the back of the calf and their stretching is necessary in the treatment. Backache is a common accompaniment. The pain from these three conditions is generally in the small of the back and is aggravated by stooping or standing. It also results from walking. The real flatfoot and pronated foot are easily treated by foot plates, and the backache disappears if this is the cause. In case of contracted foot, stretching of the calf muscle is necessary, and the under side of the foot must be supported by a pad or a short steel plate. The arch of the foot must be correctly supported.

25. **Cocain Herniotomy.**—Lyle describes his method of operating under cocain, insisting on the importance of keeping the

patient unaware of what is being done. It consists in blocking off the nerves by injection, careful dissection and practically the Bottini operation with the exception of the treatment of the sac, in which he follows the Macewen method, which, as we know, retains the sac, and pulling it with a purse-string suture or No. 4 catgut through the internal or deep ring, anchors it there by carrying this suture through the abdominal muscles and skin about an inch above the upper extremity of the skin incision, there winding the end of the suture around a small piece of sterile gauze. This leaves an obstruction in the internal ring. The advantages claimed for the method are, that we are saved the danger of general anesthesia to the heart, lungs and kidneys, that we cut no nerves, and therefore do not impair their function, and ligate no vessels; there is no shock, nausea or straining. The patient continues on the full diet and can enjoy a hearty meal immediately after the operation; all cases have healed by primary union. The patient is confined to bed for three weeks, after which time he may be about and return to work.

26. **Aseptic Labor.**—The essentials of aseptic labor are given by Gallant as follows: (*a*) a good-sized hand bag, to be used for this purpose and no other; (*b*) stocked with the necessary drugs; (*c*) steam sterilized gauze, gown and cotton ball sponges (several sets of which must be kept on hand); (*d*) hand brushes, silkworm gut, rubber gloves, and catheter, ready to be boiled in plain water; and (*e*) a set of metallic instruments to be boiled in soda solution when needed. As a time-saving measure these supplies, dressings and instruments should be arranged on a table standing conveniently near the accoucheur's right hand, and the drugs placed in a row on the mantel, to obviate soiling the bag and infecting the operator's hands. The hand cleaning can best be accomplished (without antiseptics) by the liberal application of the tincture of green soap, rubbed thoroughly into the dry hands and arms (two or three coats), working the soap well under the nails and between the fingers; then, when they are thoroughly coated and dry, scrubbing with a stiff brush, in running water, until all traces of soap have been scrubbed away. Before applying the forceps or introducing the hand into the vagina, cut short the hair, soap well, and scrub the vulvoanal region, the thighs and abdomen as carefully as you have the hands. Put on rubber gloves if the hands recently have been in contact with septic wounds or pus from any source.

28. **Sarcoma of the Kidney.**—In the case reported by Richmond, the patient had a swelling which crowded the liver and organs forward and inward. The posterior dulness reached as high as the eighth rib. There was a great loss of strength and flesh. The diagnosis made was that of sarcoma, which, however, was not verified by any exploratory operation. Night sweats were frequent, the patient became very weak; the tumor extended downward as far as the crest of the ileum. The treatment was the *x*-ray for nineteen consecutive days. At the end of that time the temperature had decreased to normal, night sweats were lessened; the tumor had apparently ceased to grow and seemed softer and the patient was generally improved. She was then sent to the hospital, where the treatment was continued, and at the end of nine weeks the growth had entirely disappeared as far as could be determined by bimanual examination. At the present time, April 1, 1903, she seems quite well, though she has not fully regained her powers of endurance. He intends to continue the *x*-ray treatment two or three times weekly for the next few months as a precautionary measure.

29. **Urogenital Tuberculosis.**—Cumston describes two cases illustrating the ascending and descending forms. He holds that the ascending form is generally more favorable than the descending type, because operative treatment is more easily accomplished, and also from the fact that an earlier diagnosis is far easier to make.

30. **Heredity and Tuberculosis.**—Packard and Roos review the literature as to the hereditary transmission of tuberculosis, and claim that it is not only a possible, but an important mode of transmission. They insist on the danger of transmission by heredity and the criminality of marriage of tuberculous patients. Experimental evidence by Friedmann shows that tubercle cultures injected into the vagina directly after sexual intercourse in rabbits produces infection of the ovum, which shows that sperm highly charged with tubercle bacilli may produce the same trouble. The authors also think that the tuberculin reaction is perhaps rather uncertain as a diagnostic method. Negative results are too frequent.

31. **Chronic Pneumonia.**—Palier reports a case which came on with an acute onset followed by very slow recovery lasting for several months. The condition, he thinks, is often mistaken for consumption, and change of climate and exercise advised, which is a mistake.

Cincinnati Lancet-Clinic.

May 30.

32 *Diagnosis and Treatment of Empyema. With Report of Cases. C. M. Lenhart.
33 Subscription Problems. C. F. Taylor.
34 Surgery of the Prostate, Pancreas, Diaphragm and Spleen (continued). B. Merrill Ricketts.

32. **Empyema.**—The important points in the operative treatment of empyema are, according to Lenhart: 1. An early diagnosis and operate as soon as pus is discovered. 2. In operating be sure you open the pleural cavity in the most dependent part to secure good drainage.

St. Louis Medical Review.

May 30.

35 Presentation Address to Dr. Young H. Bond. Robert C. Atkinson.
36 The Use of the Obstetric Forceps in Abbreviating the Second Stage of Labor. William H. Stauffer.

Quarterly Journal of Inebriety, Hartford, Conn.

April.

37 *Alcohol in Surgery. Pearce Gould.
38 *The Value of Surgery in Certain Cases of Inebriety. H. A. Rodebaugh.
39 *On the Treatment of Dipsomania and Chronic Alcoholism by Hypnotic Suggestion. J. Milne Bramwell.
40 *Insanity from Hasheesh. John Warnock.
41 Inebriety in Ancient Egypt and Chaldea. T. D. Crothers.
42 *Static Electricity in the Treatment of Morphinism. A. J. Pressey.
43 Food and Poison. Max Kassowitz.
44 Alcoholism and Crime. P. M. Lightfoot.
45 Tobacco Poisoning. A. C. H. Friedmann.

37. **Alcohol in Surgery.**—Gould has studied the use of alcohol in surgery and has found it of very limited utility. It seems to impair convalescence and he would not place it among the means of primary value in the treatment of shock and collapse. It is injurious in cases of cancer, though there are special circumstances in which it may be used with good effect for securing sleep or promoting appetite. In conclusion, he remarks that it may not be the best treatment to absolutely withdraw alcohol from those that have been used to it as the breaking up of a life-long habit may in some instances be injurious.

38. **Surgery in Inebriety.**—The theory under which surgery may be advantageous in inebriety proposed by Rodebaugh is that certain conditions may interfere with what is called the nerve force and reduce the resistance, and he reports a case where operations for hemorrhoids which were a source of irritation leading to nervous waste, for phimosis and for deflected septum were efficient in combating the alcohol and morphin habits.

39. **Hypnotism in Alcoholism.**—Bramwell reports cases where hypnotism has been used in curing the alcoholic habit and dipsomania. The important points of treatment are that the patient must be willing to be cured, and must be susceptible to hypnosis, though deep hypnotism is not requisite for good results. In dipsomania the treatment ought to be begun at the quiescence of an attack and aim at retarding or weakening the next attack. When stimulants are taken continuously the patient should be encouraged to discontinue gradually or at once. The management of the patient before suggestion has taken effect is important. He should always be under the supervision of some trustworthy person who can advise and help him to overcome the temptations. Actual restraint is useless and the moral effect is always bad. The operator must be persevering and not easily discouraged; many persons relapse once or twice during treatment. The distaste for alcohol ought to be suggested as well as the abolition of the craving of it. The patient should look forward

with the idea that he can never be a moderate drinker, that his only alternative is total abstinence or the gutter. Even when the craving disappears quickly the hypnotism should be continued regularly for a month, and if the patient can be observed for six months so much the better. The object of treatment is not only to cure the disease, but to strengthen the will; if the patient can not control himself it is a failure. Bramwell thinks his results are encouraging, but he hopes for still more satisfactory ones.

40. **Hasheesh Insanity.**—The director of the Cairo asylum describes his experience with hasheesh insanity, which seems to be more frequent in that country than elsewhere. There is a close analogy between the condition of certain hasheesh habitués and dipsomania. He notes the following special points: 1. Suicidal intentions are common among alcoholics, rare among hasheesh cases. But we must bear in mind that most of the latter are Mohammedans, among whom suicide is rare. In Egypt hasheesh seems to be a more important factor in the production of insanity than alcohol is in England, and as a cause of crime of equal importance. The use of hasheesh, unlike that of alcohol, is not accompanied with any characteristic anatomic lesions and no physical disorders of note are met. The only exception to this is the staggering gait of hasheesh intoxication and delirium. In general only the physical disorders and lesions met with in idiopathic insanities are encountered.

42. This article appeared in THE JOURNAL, Jan. 10, 1903.

Kansas City Medical Record.

May.

46 Inflammation of the Pelvic Organs Involving the Vermiform Appendix, with Report of Cases and Exhibition of Specimens. C. M. Fulton.
47 *The Operative Treatment of Hernia. Robert McE. Schauffler.

47. **Hernia.**—The operative treatment of hernia is reviewed by Schauffler, who insists on the importance of radical operation for cure. The mortality is slight and constantly being reduced, and unless there are objections on account of age, either too early or too advanced, or mechanical difficulties, as in very large hernia with danger of increasing intra-abdominal pressure by reduction and special idiosyncrasies to anesthetics, the results are fairly good. The operator should be thoroughly familiar with anatomy. Antisepsis should be rigid and the technic should be dry, with little handling and careful control of trifling hemorrhage. The Bassini operation is the best for inguinal hernia. He, however, calls attention to a few points. Whatever the skin incision, let the incision in the external oblique aponeurosis be a full finger's breadth from Poupart's ligament, so that it may be reflected in a lower as well as an upper flap. Have the suture material absorbable, kangaroo tendon, reindeer tendon or chromicized catgut. Suture the conjoined tendon, which is rather a muscle edge than a tendon, to Poupart's ligament with broad bites of muscle and shallow but firm ones in the ligament, taking care to retract well the lower external oblique flap which is continuous with Poupart's ligament. Do not tie too tight, lest the muscle atrophy. The cure depends on the firm union of the approximated parts, not on any permanent strength of the suture material. The crucial point in the suturing is to have the first suture, or the first two if one is placed above the cord, give snug approximation of the new internal ring to the cord without unduly constricting it. The aponeurosis of external oblique should be overlapped if possible, at least nicely approximated, without the sutures being very tight. This tissue is poorly nourished and easily sloughs. In femoral hernia the greatest difficulty is to distinguish the sac and true hernial contents from the tumor of true peritoneal fat which so often precedes or surrounds it. Never dissect a mass of fat blindly; it may have a little "glue finger" of intestine or bladder as its center. Almost any closure is successful in a femoral hernia, but the position of the femoral vein must always be kept in mind. In umbilical or ventral hernias in small patients, not very fat, the prognosis is good. With large or irreducible hernias in fat people with adhesions and attacks of inflammation or partial strangulation frequent it is much more serious. It is often wise, he says, to circumscribe the mass, including redundant skin, and come down on normal peritoneum just beyond the hernial opening and then reduce as much as possible, working from within, and resect the remainder of the omentum with part of the sac and skin in one mass. In the closure the peritoneum is stitched flat, as in laparotomy, and the abdominal wall closed in layers, taking special care to approximate the recti muscles. Small hernias in the linea alba or lateral walls are easily cured by such closure as is indicated by ordinary surgical common sense. Post-operative ventral hernias are treated along the same lines. In strangulated hernia the condition is more serious. Even apparently successful taxis is attended with considerable mortality. Recent statistics favor resection rather than colostomy. There are many cases of hernia imperfectly controlled by a truss or retained at the cost of much discomfort where operation would be better and the danger of taxis is a very serious one.

University of Pennsylvania Medical Bulletin, Philadelphia.

May.

48 *Sensations Interpreted as Live Animals in the Stomach. Alfred Stengel.
49 Syphilis of the Lungs Simulating Pulmonary Tuberculosis. Alfred Stengel.
50 Methods of Clinical Examinations, Embodying the Practical Course Given to the Third Year Students of the University of Pennsylvania. C. Y. White.

48. **Live Animals in the Stomach.**—Stengel has investigated the alleged cases of this kind and reports one case where the belief of live animals in the stomach was maintained by the patient. He says, in view of these cases and others like them, he is convinced that the cases of supposed invasion of the stomach by various animals are often instances of gastric disease with misinterpreted sensations. These are not to be treated on the theory that they are pure delusions, as they are, in many cases at least, instances of organic gastric disease which may be relieved by appropriate treatment.

Annals of Ophthalmology, St. Louis.

April.

51 *Report of Cases of Extensive Symblepharon and of Shrunken and Obliterated Cul-de-Sacs, Relieved by Skin Grafting, with Description of the Operation. H. W. Woodruff.
52 *Anomalous Direction of Retinal Vessels on Emerging from and Entering Optic Disc. E. F. Snydacker.
53 Report of a Case of Toxic Amblyopia from Coffee. P. B. Wing.
54 Cure of Pulsating Exophthalmos by Ligature of the Common Carotid Artery. H. V. Würdemann.
55 Four Eye Injuries with Introduction of Foreign Substances Not Suitable for Removal by Magnet. M. W. Zimmerman.
56 A Case of Acute Glaucoma, with Iritis, Following Cataract Extraction. James Bordley, Jr.

51. **Symblepharon.**—Woodruff's method of treating these cases is by skin grafts. He thoroughly cleanses all the parts and flushes the field with boric acid solution. If pseudopterygium is present, it is first dissected through, the lid thoroughly freed from its attachment to the eyeball and the cul-de-sac made large in all dimensions. Cicatricial bands should be removed entirely. Bleeding is checked by hot water. A plate is now cut from a sheet of block tin, which will snugly fit into the new-formed cul-de-sac. The corners are rounded off and the edges smoothed with the scissors or file. The plate may be cut out in the center to prevent rubbing on the cornea, if necessary. Four holes are made for the sutures, two at the outer and two at the inner angle of the plate, to correspond to the lid margin. A thin layer of skin is removed about one-third wider and more than three times as long as the plate. This is taken from the inner surface of the arm flattened by pressure. The plate and graft are then pushed into the cul-de-sac and sutured to the lid near its margin, tying the ends of the sutures over small rolls of gauze. The lids may be sewed together and dressed with gauze and bandaged in the usual way. The eyes should be bandaged as long as the plate is in place, and absolute quiet maintained. The plate is removed in four days and more freedom allowed the patient. Six cases are reported. He thinks the method is the best up to date. The white surface of the graft may be quite noticeable for awhile and objected to, but the graft can be placed at once where it is wanted, and is held down in the very bottom of the artificial cul-de-sac until it has adhered, and approximation and rest are secured by the plate.

52. **Anomalous Direction of the Retinal Vessels.**—This peculiar anomaly of the retinal vessels described by Snydacker

consists in the superior and inferior temporal veins and arteries, on emerging from the optic nerve, proceeding directly toward the nasal portion of the retina as if that were their destination; afterwards turning towards the temporal portion where they were distributed as usual. He thought this was but a coincidence with the defective sight in his first patient, but he shortly afterwards met with other cases showing the same peculiarities. There was also some congenital deficiency present besides the anomalous vessel exit, and there were also marked errors of refraction, most frequently myopic astigmatism. He finds very little mention in the literature of this condition.

Ophthalmic Record, Chicago.

May.

57 Confessions of a Traveler. (Continued.) Albert B. Hale.
58 Paralysis of External Recti Muscles Appearing After a Blow on the Skull. Edward Lauder.
59 A Simple Test for Stereoscopic Vision. Frederick H. Verhoef.
60 *Conditions and Diseases of the Eye Which Make an Enucleation Necessary. A. J. Erwin.

60. Enucleation of the Eye.—The conditions requiring enucleation are enumerated by Erwin as follows: 1. A blind eye which menaces a sound one. 2. A nearly blind eye which has set up sympathetic disease should not be removed, and every operator should keep this distinction in mind. 3. Every lacerated eye with a ragged wound in the ciliary region should be removed before it has time to set up sympathetic disease, and also 4, every eye which contains a growing tumor before it involves the orbital tissue. Lastly, he says, eviscerate early in panophthalmitis. These indications are discussed in detail. The second rule is important, that a diseased eye with some sight which has already set up sympathetic disease in the other eye will not save the other eye by its removal, and it is worth while to save what sight it has. Not every ciliary laceration warrants enucleation. A clean rent that has healed promptly without contraction is fairly safe so long as it remains free from irritation, but ragged laceration calls for enucleation before it has had time to cause disease of the other eye. As regards the operation, he thinks a careful study of the conditions present in each case is required. With threatenel sympathetic disease of the other eye, simple enucleation where applicable would be judicious; also, in panophthalmitis simple evisceration would be best and easiest, and enucleation, not evisceration, should be done in all cases of interocular tumor, as they usually involve the sclera. Evisceration should always have preference where there are adhesions of the sclera or capsule unless contraindicated. He reiterates that where there seems to be an immediate danger of sympathetic ophthalmitis simple enucleation or evisceration should be done, but the demand for the best cosmetic effect now requires in all other cases the Lang or Mules operation where possible. The technic of the two operations is described.

The Laryngoscope, St. Louis.

May.

61 *Remarks on the Etiology of Hypertrophic Rhinitis. E. L. Shurly.
62 *Rhinoplasty by a New Operation. O. B. Douglas.
63 *Malignant Tumors of the Nasopharynx. Francis J. Quinlan.
64 *Middle Ear Diseases in Tuberculosis. Robert Levy.
65 *The Report of a Case of Pin in the Larynx and Its Removal by an Original Method. Otto J. Stein.
66 Report of Two Cases of Laryngeal Paralysis Due to Aortic Aneurism. Hal Foster.
67 Superheated Medicated Air in Diseases of the Ear and Nose. Joseph C. Beck.

61. Hypertrophic Rhinitis.—Shurly discusses the etiology of this condition, which he largely attributes to defects of development owing to evolution of the nasal region in the higher races. The upper nasal passages of the Caucasian are only abnormally normal, and this lack of proper structure tends to the production of the condition. Other causes that may occasion it are attacks of measles, diphtheria, scarlet fever, etc., which every child must go through, and still another cause is the artificial mode of living, especially of the well-to-do class. Lastly, he believes that a new etiologic factor will arise in the prevalent consumption of fake foods and nostrums, and consequent abuse of the metabolic functions.

62. Rhinoplasty.—The new operation described by Douglas was devised in a case of depressed fracture of the bones, where he found he could not raise them from below, and in which he made an open mask for the face with a sort of bridge running down the course of the nose. Working from within he supported the adhesions and sutured the bones with sutures which were passed out through a common opening in the bridge of the nose and fastened to the bridge of the mask, thus supporting the outlines of the nose in a normal position. The result was good.

63. Malignant Tumor of the Nasopharynx.—Quinlan reviews the literature of these growths and finds that there is sufficient evidence to show that aside from the pseudo-malignancy of certain rapidly growing fibromata there is the possibility of true sarcoma and no reason, a priori, to exclude carcinoma from this region. The type usually described corresponds to adenocarcinoma. As regards treatment, he does not give a hopeful opinion. The prognosis of malignant growth in the nasopharynx is very unfavorable. The character of the tissues favors rapid malignancy, and the results have only been very slightly modified for the better. This is largely due, however, to the fact that the condition is not recognized early enough. When patients are in middle life and when symptoms are suspicious, careful examination should be made. Every day of delay makes the prognosis worse and temporizing measures are almost criminal.

64. Middle-Ear Disease in Tuberculosis.—Levy concludes his paper with the following summary:

1. Any of the usual aural affections may affect the tuberculous as well as the non-tuberculous. 2. The usual modification of an acute otitis in a tubercular subject is manifested in the course the disease pursues. 3. It is a doubtful question whether the *Bacillus tuberculosis* is present as a distinctly etiologic factor or as an accident. 4. Comparatively few cases of tuberculosis in children and relatively few instances of bone tuberculosis are met with in Colorado. 5. Clinical tuberculous otitis occurs with moderate frequency in Colorado, being secondary to lesions of the respiratory organs. 6. Tuberculous otitis may develop when the general symptoms of tuberculosis have been arrested and the patient's condition is unusually good. 7. Tubercle bacilli may find their way into the middle ear through the Eustachian tube, through the lymph channels of the blood currents. 8. Unusual care must be exercised in the application of the nasal douche in tuberculous patients. 9. The discharge may be arrested, but not permanently, as a rule. 10. It must be exceedingly rare for miliary tuberculosis to develop from an otitis as the focus of infection. 11. Through and through irrigation with tubercle-bacilli destroying agents is of prime importance in the treatment. 12. General and climatic treatment must be conscientiously carried out.

65. Pin in the Larynx.—In the case reported a pin was firmly fixed across the larynx and could not be removed by forceps without too extensive laceration of the tissue. Several methods were suggested, but the plan finally adopted was to seize the pin at the center with a hook, then by pressing it double it up. A canula, bent at the proper angle to enter the larynx, was very firmly fixed at right angles to a heavy handle, carrying a lever, to whose upper end was fastened the stiff steel wire that passed through the canula. This wire terminated in a hook at its distal end. The hook at the end of the canula was easily carried around the exposed part of the pin and continuing to hold the instrument in the same position pressure was made on the lever of the handle and the pin bent back and jack-knifed itself so that it was drawn out of the tissue and up into the canula, without the patient knowing anything had been done. The recovery was complete and rapid.

Texas Medical Journal, Austin.

May.

68 *The Rational Treatment of Snake Bites and Others with Adrenalin Chlorid. R. Menger.

68. Snake Bite.—Menger suggests the use of adrenalin in snake bite on account of its effect as a heart stimulant. He has had no experience with it, however, but simply offers it as a proposition.

Detroit Medical Journal.

May.

69 *On the Blood Pressure in Surgery. George W. Crile.
70 Some Points in the Diagnosis and Treatment of Diseases of the Nose and Throat, and Their Relation to General Medicine. Willis S. Anderson.
71 Acute Dilatation of the Stomach. W. M. Harvey.

69. Blood Pressure in Surgery.—The following is a summary of the results of Crile's study of the blood pressure in shock:

Surgical shock is an exhaustion of the vasomotor center. Neither the heart muscle, nor the cardio-inhibitory center, nor the cardio-accelerator center, nor the respiratory center are other than second-

arily involved. Collapse is due to a suspension of the function of the cardiac or of the vasomotor mechanism. In shock, therapeutic doses of strychnin are inert, physiologic doses dangerous or fatal. If not fatal, increased exhaustion follows. There is no practical distinction to be made between external stimulation of this center, as in injuries and operation, and internal stimulation by vasomotor stimulants, as by strychnin. Each in sufficient amount produces shock, and each, with equal logic, might be used to treat the shock produced by the other. Stimulants of the vasomotor center are contraindicated. Cardiac stimulants have but a slight range of possible usefulness, and may be injurious. In collapse, stimulants may be useful because the centers are not exhausted. Saline infusion in shock has a limited field of usefulness. In collapse it may be effective. The blood tolerates but a limited dilution with saline solution. Elimination takes place through the channels of absorption. Its accumulation in the splanchnic area may be sufficient to fix the diaphragm and the movable ribs, causing death by respiratory failure. Saline infusion, in shock, raises, but can not sustain the blood pressure. Adrenalin acts on the heart and blood vessels. It raises the blood pressure in the normal animal; in every degree of shock; when the medulla is cocainized, and in the decapitated animal. It is rapidly oxidized by the solid tissue and by the blood. Its effects are fleeting; it should be given continuously. By this means the circulation of the decapitated dog was maintained ten and one-half hours. In excessive dosage there is a marked stimulation of the vagal mechanism. The pneumatic rubber suit provides an artificial peripheral resistance without injurious side effects, and gives a control over the blood pressure within a range of from 25 to 60 mm. mercury. Physiologic rest, posture, heat, artificial peripheral resistance, guarded use of adrenalin and, particularly when there has been considerable hemorrhage, normal saline solutions are the most reliable means of combating shock—but prevention is the best cure. By combined use of artificial respiration, rhythmic pressure on the thorax, and adrenalin injected into the jugular vein, animals which were apparently dead as long as fifteen minutes were resuscitated. The control of the blood pressure is almost equal to the control of life itself.

His paper concludes with a study of the different conditions for blood pressure determination after various operations.

Dominion Medical Monthly, Toronto.

May.

72 The Economic Aspect of the Tuberculosis Problem in Canada. A. J. Richer.
73 *The Administration of Hyoscin Hydrobromate Before Ether Anesthesia. E. A. Robertson.
74 Hemiplegia Complicating Pregnancy. Report of a Case. Lewis H. Marks.
75 Oxyuris Vermicularis in the Appendix. Ernest A. Hall.

73. **Hyoscin Hydrobromate Ether Anesthesia.**—Robertson recommends the use of 1/100 of a grain of hyoscin hydrobromate one-half hour before the administration of ether. The patient is calm and dozes off with quiet respiration, the mouth dry, takes ether without struggling and the stage of surgical anesthesia is quickly reached. There is little or no secretion of fluid from the mouth or respiratory tract, no muscular rigidity or cyanosis and a very small quantity of ether is required. There is no vomiting or obstruction to the respiration by secretion of fluid in the air passages. The patient regains consciousness rapidly, but is quiet and sleepy for the first twelve hours after the operation. There is some dryness of the mouth and thirst. He has never seen any dangerous symptoms follow the use of the drug and he thinks that it prevents or lessens many of the disagreeable or dangerous effects of ether.

Northwestern Lancet, Minneapolis.

May 15.

76 Pathologic Laws. H. D. Valin.
77 Bursitis Subdeltoidea Acuta. E. Klaveness.
78 Reflex Cough Due to Irritation in the Upper Respiratory Tract. William R. Murray.
79 The Hygiene and Treatment of the Voice. J. G. Parsons.

Virginia Medical Semi-Monthly, Richmond.

May 22.

80 The Tuberculin Test in the Diagnosis of Tuberculosis in Man. Boyd Cornick.
81 Some Suggestions of Interest to Physicians on the Scientific Aspect of the Race Question, with Particular Reference to the White and Negro Races. James Orr.

Medical Fortnightly, St. Louis.

May 25.

82 Some Points in Regard to Formaldehyd Disinfection. R. B. H. Gradwohl.
83 Hydrotherapy. T. A. Wakely.
84 Mastoid Disease. C. A. Boice.
85 Surgery of the Diaphragm. B. Merrill Ricketts.
86 Painful Menstruation. W. L. Downing.

Canadian Journal of Medicine and Surgery, Toronto.

June.

87 Intestinal Obstruction Produced by Bands of Adhesions. J. F. W. Ross.
88 Erythema Circinatum—Acne Variioliformis. Alexander McPhedran.
89 Phenic Acid in Pyogenic Processes. Thomas H. Manley.

Columbus Medical Journal.

May.

90 Preventive Medicine. Edmund C. Brush.
91 Adrenal Extract in Urethral Hemorrhage. M. L. Heidingsfeld.
92 Some Surgical Complications and Sequelæ of Typhoid Fever. William J. Means.

Toledo Medical and Surgical Reporter.

June.

93 Diagnosis of Kidney and Bladder Disease, Especially with the Cystoscope. Charles M. Harpster.
94 The Benefits of the X-Ray and Static Currents. John Gardner.

St. Paul Medical Journal.

June.

95 Medical Progress of the Past and the Demands of the Future on Our Profession. J. L. Rothrock.
96 Gallstone Disease: Its Causation and Diagnosis. William E. Ground.
97 Medical Associations. Franklin Staples.
98 Gastrostomy; Stab Wound of the Thorax. Frederic T. Dennis.
99 The Significance of Pain, Especially within the Abdominal Cavity. C. P. Thomas.
100 Brain Tumor Giving Rise to Internal Hydrocephalus, but with the Clinical Aspects of a Simple Melancholia. Arthur W. Dunning and H. C. Arey.
101 A Simple Method of Tying a Ligature Which Is to Be Removed Later. Arnold Schwyzer.

Journal of Medicine and Science, Portland, Me.

May.

102 New Views on the Constitution of Matter. F. C. Robinson.
103 Brief Sketch of the Lives and Works of a Few Eminent Scientists of Modern Times. Franklin Staples.

Clinical Review, Chicago.

June.

104 Typhoid Fever in Infancy and Childhood. A. C. Cotton.
105 Lectures on Gynecology. Franklin H. Martin.
106 Melancholia; Paretic Dementia; Two Cases of Organic Dementia. Daniel R. Brower.
107 Clinical Lectures on the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Indiana Medical Journal, Indianapolis.

June.

108 Oration on State Medicine, American Medical Association. William H. Welch.
109 Report of an Ectopic Gestation in the Fifth Month, with Unusual Features; Operation and Recovery. O. G. Pfaff.
110 Local Iodoform Dermatitis, with Report of a Case. Alois B. Graham.
111 Impressions of Lorenz; a Day with the Austrian Surgeon on the Tchefuncta River. Joseph Rilus Eastman.
112 Voluntary Production of Cutis-Anserina and Erection of the Hairs of the Body. O. W. McQuown.

Canadian Practitioner and Review, Toronto.

May.

113 Food in Health and Disease. Adam H. Wright.
114 The Indian and the Indian Medicine Man. J. F. W. Ross.

Mississippi Medical Record, Vicksburg.

June.

115 Chronic Rheumatism and Neuritis. James J. Walsh.

Pacific Medical Journal, San Francisco.

May.

116 The Use of Acids in Gastric Disease. Alfred W. Perry.
117 Gastrectomy. Winslow Anderson.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 23.

1 *The Influence of Wind on Phthisis. W. Gordon.
2 Case of Pyopericarditis; Pyopneumo-pericardium; Pneumococcus Pyemia. W. K. Sibley, W. Arbuthnot Lane and George Rowell.
3 Case of Infective Endocarditis Successfully Treated by Rectal Injections of Antistreptococcus Serum. Dyce Duckworth.
4 *Traumatism as a Factor in the Etiology of Pulmonary Tuberculosis. James Weir.
5 *The So-called Anthracosis and Phthisis in Coal Miners. R. S. Trotter.
6 *The "Physiologic" Difference Between the Two Sides of the Chest. J. Edward Squire.
7 Consumption in the Navy. W. E. Home.
8 Observations on Empyemata in Children. P. Stanley Blaker.
9 Six Cases of Empyema. Oswald F. Rowley.

1. **The Influence of Wind on Phthisis.**—Among the various climatologic elements that effect the progress of phthisis, wind seems to be considered as uncertain. Gordon reviews the opinions of various authors and analyzes the statistics of certain Devonshire parishes which are more or less exposed to the wind, especially the southwest winds and ocean

winds. He finds from a careful study of the subject that the direction of the wind exerts a very positive influence on consumption mortality and that these regions exposed to strong, damp winds have the highest ratio of mortality of consumption. He sums up his conclusions in the following:

1. West and southwest winds in Devonshire have a marked influence on phthisis, raising the phthisis death rate among populations exposed to them, and injuring those who have already developed the disease. 2. This bad influence is probably due to the fact that west and southwest winds are the prevalent strong wet winds of the country. 3. It is reasonable to believe that strong, wet winds anywhere may produce similar effects. 4. The bad effects may be possibly explained by the chilling and depressing nature of the winds, and by their tendency to excite bronchial catarrh in those exposed to them.

4. **Traumatism and Tuberculosis.**—Weir reports a case of tuberculosis occurring in a man in the prime of life and in ordinary health, following an injury to the chest. The family history was tuberculous, but the patient had always been well excepting for pneumonia twenty years before. One sister died of phthisis, said to be due to injury to the chest. In his own case there was a clear sequence of injury with apparently succeeding pleurisy followed by pulmonary symptoms, the presence of tubercle bacilli, etc. The patient recovered under pulmonary gymnastic treatment together with the usual medical aids. Weir remarks on the importance of traumatism, suggesting that in our ordinary estimation of the significance of pleurisy we may have the cart before the horse, and pleurisy may not be due to consumption, but consumption to pleurisy, causing adhesions and making a point of lessened resistance for the attack of the tubercle bacillus.

5. **Anthracosis.**—Phthisis was formerly considered to be a regular occupation disease of coal miners, but owing to sanitary improvements in late years this is less the case. While all miners will show a blackening of the lungs, this is by no means an indication of disease. The really formidable dust particles are not those from coal or soot, but the particles from the sandstone strata or dust from other rocks, etc., associated with the coal. The average life of the horse or pony in the pit is fully up to the average standard, and he believes that there may be some protective influence in the coal dust or coal carbon particles inhaled by the miners. He says that in fact the average coal miner often works in a mine under more healthy conditions than those under which he lives at home. He mentions the following facts as worthy of note:

1. Coal dust may remain imbedded under the skin for years without producing any irritation whatever. 2. The death returns from phthisis in a colliery district show a greater proportion of deaths among females than among males. 3. Colliery surgeons almost invariably state that phthisis is not so common in mining as in other districts where they have been in practice. 4. In the majority of phthisis cases which do occur there is a strong family history of phthisis on one or both sides. 5. Phthisis often seems to attack successive families in particular houses.

6. **Physiologic Differences Between the Two Sides of the Chest.**—Squire has investigated 58 persons, 28 males and 30 females, as to the physical signs on the two sides of the chest, all young adults and in general good health. Only in a very few were there signs of disease, and of which the subjects themselves were hardly aware. The general results are summarized by him in the following conclusions:

1. In the majority of healthy persons, but not in all, the physical signs elicited over the upper part of the right lung differ somewhat from those on the corresponding part of the left side.

2. These differences consist in the following: (*a*) The percussion note is slightly less resonant and higher pitched on the right side; (*b*) the breath sounds are louder on the right side, and the expiratory portion of the sound more marked; the character of the sound and the proportion between the length of the inspiratory and expiratory sounds is not modified in health; (*c*) the vocal resonance, especially in men, is more marked on the right side; (*d*) vocal fremitus is more marked on the right side.

3. Of these differences the increase in the vocal fremitus is by far the most constant. Differences in the percussion note are only noted in half the cases examined.

4. The differences, except in percussion, are not so much alterations in the character of the signs as modifications in transmission of the sounds.

5. The modification in the signs are apparently due to the direction and form of the main bronchus, which are not the same in the two lungs. The percussion note modification may possibly be influenced by the thicker covering of the right side of the chest, but is most probably also dependent on the position and size of the bronchus.

The Lancet, London.

May 23.

10 *Some Reflections, Mainly Ethical, on the Present Position of Operations in the Practice of Surgery. William H. Bennett.
11 *The Tongue in Disease. W. Howship Dickinson.
12 *The Disposal of the Wounded in Naval Warfare. Philip N. Randall.
13 *The Surgical Treatment of Pulmonary Hydatids. John O'Conor.
14 A Case of General Infection by a Nematode, Accompanied by Hypertrophic Gingivitis. J. Dencer Whittles.
15 Full-time Extra-uterine Pregnancy; Fetus Lodged in a Capsule of the Ovary in a Peritoneal Sac Resembling that of the Tunica Vaginalis. James Oliver.
16 *Note on the Etiology of the Sleeping Sickness. Annibal Bettencourt, Ayres Kopke, José Gomes de Rezende, Jr., and Annibal Correia Mendes.
17 On a Case of Arterial Occlusion and Gangrene. Andrew Dunlop.
18 *A Further Note on the Therapeutics of a 10 Per Cent. Solution of Sodium Cinnamate in Glycerin Injected Subcutaneously. Lovell Drage.
19 Researches on Hibbertia Volubilis. John Reid.

10. **Operative Surgery.**—Bennett reviews the record of surgery, which he thinks passes through certain stages with the surgeon: 1. The period of extra-confidence in operative work; 2, a feeling of less aggressiveness; 3, a tendency to confine one's work to certain operations with which the surgeon is most familiar and his practice becomes more eclectic; 4, in fortunate cases the period when operations may be things of the past. He deprecates too much following of operative ideals. In many cases the necessity of complete operation may be wanting. Rules of routine procedure are objected to. The mere safety of the operation sometimes tends to obscure the fact that its results are not altogether advantageous. While the use of exploratory operation has been on the whole advantageous, he thinks there are still some possibilities of its being overdone. He remarks on the position of the surgeon toward the public; the difficulty sometimes of the patients or their friends persisting in demands for operation, and considers the responsibility of surgeons in these cases. He believes in the future that the operative surgeon as we now know him will be a less imposing figure in the medical landscape than he is now, and operations, except in a restricted degree, which he advocates, will be looked on with as little favor as suppuration is regarded at the present time.

11. **The Tongue in Disease.**—Dickinson reviews the various conditions of the tongue in disease, especially those that may be symptomatic. The first stage of disease is what he calls the dotted or stippled tongue, characterized by a trifling excess of epithelium on the papillæ. It may not necessarily mean ill health, it may be an individual peculiarity. It is not usually accompanied with pyrexia. The coated or loaded tongue comes next. This is an exaggeration of the former state, a superabundance of epithelium, by putting too much on or taking too little off. Some degree of febrile action is usually present. The average temperature in his study of 49 cases was 99.1. The method of taking food is often concerned in the production of this type of tongue, but it occurs in a great variety of cases where the patient is out of sorts, though not really ill. Whatever raises the temperature, impairs the appetite and restricts the salivary flow gives rise to this state of affairs. When the coated tongue is dry the indication is more grave. Two varieties are mentioned: the strawberry tongue and the plastered tongue, which is simply the ordinary coated tongue, only more so. A first glance of this gives the alarm of either pneumonia or typhoid fever in the first place, then of acute bronchitis or acute rheumatism. Other acute disorders may be indicated, though less prominently. The average temperature in the 29 cases presenting this tongue was found to be 101.6. This is the most definite in its indications of all the tongues of which we know. Next he mentions the furred or shaggy tongue, which is more characteristic of chronic than of acute cases. Except with the diet this tongue has no special association, though some degree of pyrexia is usually present. He has noticed it in pneumonia, typhoid and acute rheumatism, which generally means a long illness of such a sort as to restrain saliva and inhibit solid food. Succeeding the plastered and furred tongue comes the incrusted, brown and dry tongue with the elongated papillæ separated and caked over with a brittle crust, cracked and fissured, which largely consists of vegetable organisms. It indicates a long exemption from wear and wash, or the absence of mastication, production of saliva, and generally, though not neces-

sarily, of high temperature. This is the tongue of the typhoid state, though not limited to typhoid fever. It is of grave prognosis and calls for liquid nourishment and stimulants. Next he speaks of the denuded tongue, red, smooth and dry, which is usually associated with pyrexia and deficiency of saliva. It represents a later phase of disease than the coated or encrusted, for it often succeeds them. Exhaustion by discharge evidently plays a large part in the impairment of nutrition which this tongue represents. Pyrexia is not so high. The diseases with which it is associated are mostly subacute and the fevers are often hectic. Its clinical significance is prostration of some standing, often connected with material exhaustion and apt to be attended with febrile action of the hectic type. Physiologically the essential factor is failure in the growth of the lingual epithelium due to a concurrence of causes.

12. **Disposal of the Wounded in Naval Warfare.**—See "London Letter" in news department, this issue.

13. **Pulmonary Hydatids.**—O'Conor thinks that Argentina is probably only second to Australia in its frequency of hydatid disease. He has operated on 84 cases in the last 8 years, 3 of which were pulmonary, and discusses the diagnosis, localization, treatment, etc., of these cases. The diagnosis may be difficult before rupture of the cyst occurs. He does not like exploratory operations on the chest, and recommends the exploratory needle and syringe as a diagnostic agent to locate the cyst and to find its nearest point to the surface. He does this under anesthesia. His operation is described. He makes a four-inch cut parallel to the corresponding ribs which are incised, the pleura opening and the presenting lung secured by bullet forceps and drawn into the wound, the exploring needle again inserted and left *in situ* to act as a guide for the knife. The intervening tissue is excised and the cut edges seized and diverted. As the fluid escapes the needle is withdrawn and the index finger introduced along the blade of the knife into the cyst. The latter is then withdrawn and two sharp hooks inserted alongside the finger and the cyst walls secured and drawn outwards. With a large, full-curved needle half a dozen silkworm-gut sutures are applied so as to include the cut edges of the fibrocyst with some pulmonary tissue and passed outward through the intercostal muscles and the skin, and just as they are being tied the assistant removes the bullet forceps so that the extruding portion of the lung may recede. The endocyst is removed by gentle application of a long forceps, a large rubber drain inserted and iodoform gauze applied to the wound. The after-treatment is tedious. There is a tendency to the formation of a flask-shaped cavity by closure of the external wound before the cavity of the lung is obliterated. He does not believe in removal of the contents and closure of the external wound without drainage. Four cases are reported.

16. **Sleeping Sickness.**—The members of the Portuguese commission argue for their priority in the discovery of the bacterium of this disease and the identity of that described by Castellani with their own.

18. **Sodium Cinnamate.**—Drage has used sodium cinnamate in tuberculosis with success and reports a case. His experience has led him to believe that in early cases of pulmonary tuberculosis a successful issue may be predicted with confidence, and that in all more advanced cases amelioration may be guaranteed with equal confidence by this treatment. He employs a 10 per cent. solution of cinnamate of soda in glycerin, subcutaneously, 30 minims at a time. The glycerin is injected into the flank as a rule. He has also employed it in cancer with good results.

Journal of Tropical Medicine, London.

May 15.

20 Notes on the Insanitary Condition of the Standerton, Transvaal. Myer Coplans.
21 Case of Peripheral Neuritis, Probably Rice-Produced, Simulating Beri-beri, from Omdurman, Soudan. J. B. Christopherson.
22 Tropical Hygiene. W. J. Simpson. (To be continued.)

Intercolonial Medical Journal of Australasia, Melbourne.

April 20.

23 Observations on Pathology and Surgery of Retro-displacements of the Uterus. G. Rothwell Adam.

Archiv f. Gynaekologie, Berlin.

Last indexed page 274.

24 (LXVIII, 1.) Beitrag zur geburtshülflichen, gynäkologischen und entwicklungsgeschichtlichen Bedeutung des Anus anomalous vulvovaginalis. H. von Bardeleben (Berlin).
25 *Tubal Nidation. Kroemer (Giessen).—Untersuchungen über die tubare Eieinbettung.
26 Mutual Relations Between Parametritic Exudate and Pregnancy, etc. L. Blumreich (Berlin).—Ueber die Wechselbeziehungen zwischen parametritischem Exsudat und Schwangerschaft, Geburt und Wochenbett.
27 *Etiology of Birth Paralysis. J. Eversmann (Bonn).—Beitrag zur Frage der Aetiologie der Entbindungslähmungen der oberen Extremität.
28 *Vaginal Laceration During Labor. M. Kaufman (Lodz).—Zur Lehre von den Zerreissungen des Scheidengewölbes während der Geburt.
29 Zur Eklampsie-Frage. L. Knapp (Prague).
30 (No. 2.) Ueber einen durch ungewöhnlichen Sitz ausgezeichneten Ovarialtumor. A. Bluhm (Berlin).
31 Ein Beitrag zur Kenntniss des Sarcoma botryoides mucosæ cervicis infantum. Ibid.
32 *Ueber die Breus'sche Hämatommole. F. Taussig (St. Louis).
33 Case of Hemignathia. O. Bürger (Vienna).—Ueber einen Fall seltener Missbildungen.
34 *Resistance to Infection and Intoxication During Pregnancy. Bossi (Genoa).—Ueber die Widerstandskraft von Thieren während der Schwangerschaft und im Puerperium gegen Infection und Intoxication.
35 *Recovery After Multiple Perforations from Sponge left in Abdomen; Technic, etc. Kayser (Berlin).—Ein durch dreifache Darmresection geheilter Fall mehrfacher Darmperforation im Anschluss an das Zurücklassen einer Compresse in der Bauchhöhle nebst Bemerkungen zur Technik der Darmresection.
36 *Die Nuclein-Kochsalzbehandlung der puerperalen Sepsis im Lichte moderner Forschung. J. Hofbauer (Vienna).
37 *Instrumental Dilation. A. Dührssen (Berlin).—Ist die Bossi'sche Methode wirklich als ein Fortschritt in der operativen Geburtshülfe zu bezeichnen?
38 *Ein weiterer Fall von Tuberculose der Placenta. E. Runge (Berlin).
39 Study of Dislufection of Hands; Rubber Gloves in Obstetrical Training. H. Schumacher (Strassburg).—Bacteriologisch-klinische Studien zur Frage der Hände disinfection und der Bedeutung der Gummihandschuhe für den geburtshülflichen Unterricht.
40 *Die Function der Corpus luteum. L. Fraenkel.
41 (No. 3.) *Intrauterine Rigor Mortis. B. Wolff (Berlin).—Ueber intrauterine Leichenstarre.
42 Ueber einen in pathologisch-anatomischer und klinischer Hinsicht bemerkenswerthen Fall eines Dickdarmcarcinoms mit Ovarialmetastasen und ausgedehnter carcinomatöser Erkrankung der Haut (Cancer en cuirasse). Kayser (Berlin).
43 *Influence of Pregnancy, etc., on Muscular Powers. Bossi (Genoa).—Einfluss der Menstruation, der Schwangerschaft, der Geburt und des Puerperalstadiums auf die Muskelkraft.
44 *Zur Bildung der Capsularis bei der Tubarschwangerschaft. Voigt (Dresden).
45 Zwei Fälle Thoracopagus tetrabrachius. K. Kamann (Munich).
46 *Ueber zwei Fälle von Sectio cesarea wegen Eklampsie. E. Streckeisen (Münstertingen).
47 Zur Kasuistik und Statistik der Lithopädions. Extrauteringravidität. Ausgetragene Frucht, 4 Jahre retinirt. Lithokelyphos per koeliotomiam entfernt. M. Strauss (Kronach).
48 *Tuberculosis of Ovarian Tumor. F. Prüsmann (Kiel).—Zur Tuberculose der Eierstocksgeschwulste.
49 Die Aetiologie der congenitalen Zwerchfellhernien (hernia of diaphragm). W. Liepmann (Halle).
50 Zu der Mittheilung von A. Dührssen: "Ist die Bossi'sche Methode wirklich als ein Fortschritt in der operativen Geburtshülfe zu bezeichnen?" Bossi. (Reply to No. 37 above.)

25. **Tubal Nidation.**—Kroemer states that the egg is embedded in the tube in exactly the same manner as in the uterus. It sinks through the softened mucous membrane of the tube into the fibro-muscular membranes and is completely encapsulated. Ordinarily the mucous membrane at this point rises and forms the capsule. Then the egg grows either into the lining of the tube or it separates the lining and the mucous membrane and presses the tube to the opposite side, and so lies within the muscular layer. In this case the tube is found as a small slit at the periphery of the egg. Sometimes the growth of the tube will cause a disturbance of the placenta and a hemorrhage follows which dissects the mucous membrane free from the muscular layer, and it is found as a string running through the extravasated blood. He believes that muscular contraction of the tube causes hemorrhage leading to abortion and in such cases fragments of villi may be left behind and form new growths. This fact is a point in favor of operative interference in every case of tubal pregnancy.

27. **Etiology of Birth Paralyses of the Upper Extremity.**—Eversmann cites a case of version, after which the child had paralysis of the muscles supplied by branches of the fifth and sixth cervical nerves. Suspecting a fracture, but unable to

demonstrate it, a radiograph was taken which showed a green stick fracture of the opposite or right clavicle, but no left-sided bony lesion. The child died suddenly at 2½ months without much change of condition, and the postmortem showed the healed fracture of right clavicle and a rupture of branches of the fifth and sixth left cervical nerves.

28. **Tears of the Vaginal Vault During Labor.**—Kaufmann reports 80 cases from the literature, including his own, and gives careful analysis of these. The tear is most frequently located posteriorly; its extension on the uterus complicates prognosis and treatment. The laceration is usually spontaneous, and most patients were multiparæ; in a few cases the children were oversized. In 68 cases the peritoneum was torn open; in 7 cases no report; in 5 cases uninjured. As to treatment during delivery, 20 abdominal and 2 vaginal hysterectomies were performed, and 6 laparotomies for repair of tear to peritoneum, while 9 were repaired per vaginam; 19 cases drained and tamponed; 7 were aseptic. Death occurred in 28 cases, 10 from hemorrhage and 18 from sepsis. In 40 cases of uncomplicated rupture of vaginal vault, there were 10 deaths, 2 from hemorrhage. The author shows by cited cases how almost any obstetrical operation may tear or perforate the vaginal vault or cervix. Etiologic factors are traumatism from different operations, histologic changes in the musculature and faulty mechanism or spontaneous rupture. About 40 per cent. of such tears occur in cases of transverse position of fetus. When rupture has taken place often no severe symptoms appear and the condition is found accidentally when examination is made or manual delivery of placenta attempted. Diagnosis depends on gradual cessation of pains, moderate hemorrhage and possible prolapse of intestine, confirmed by digital examination. In this condition such severe pains and collapse as in rupture of the uterus are not found. The prognosis is better than in the latter. The mortality is only 25 per cent., as contrasted with 65 per cent. in rupture of uterus. The prognosis as to the child is unfavorable. The author recommends delivery through the opening in the vaginal vault, since it does not decrease in size as does the wound in a ruptured uterus. Laparotomy is indicated only when hemorrhage is not easily controlled from below. Hysterectomy is indicated only when the uterine tear is extensive and its margins ragged and contused. The vaginal tear should be closed with suture and the drain and tampon used as needed.

32. **The Blood Mole of Breus.**—Taussig reports from Wertheim's clinic in Vienna 8 new cases of blood mole, first described by Breus in 1892. He discusses their pathology and clinical symptoms and reaches the following conclusions: 1. These moles can be divided into two classes, namely: (a), those with a pedicle where the placenta was not distinguishable, and (b) those with a broad base where the placenta was already differentiated. 2. Absence of vessels in the chorion and of the heart is not characteristic of this kind of a mole, for chorion vessels and rudiments of a heart are sometimes found. 3. The decidua is sometimes preserved; hence the cause of the malformation can not be changes in the decidua. 4. The syncytium grows after the death of the fetus, but not the Langhans' layer. 5. Amnion epithelium can also grow after death of the fruit. 6. A post-mortal growth of chorionic villi was not proven. 7. The embryo shows certain malformations, but none that can be regarded as the cause of its death. It is generally shriveled. 8. The formation of the blood mole occurs in the following way: After the death of the fetus the membranes grow and the liquor amnii increases in amount so that a secondary hydramnion occurs. Later, from unknown causes, this post-mortal growth ceases. The egg is retained and the amniotic fluid is gradually reabsorbed. The membranes become folded together, partially filled with blood, and finally a sessile or a pedicled hematoma is formed.

34. **Immunity of Animals During Pregnancy and the Puerperium in Respect to Infection and Intoxication.**—All agree that various factors like cold, loss of blood, etc., increase the susceptibility to infection. In order to determine whether pregnancy is also such a factor Bossi has experimented on 79 rabbits and guinea-pigs, some pregnant and some non-pregnant, injecting under the skin or into the veins cultures of the bacilli coli, diphtheriæ, tuberculosis, etc., as well as streptococci and staphylococci. His conclusions from these observations, which he regards as only preliminary, are as follows:

1. After infection with mixed cultures of streptococci and staphylococci or streptococci and diphtheria bacilli the number of acute infections was much greater with pregnant than with non-pregnant animals. Also the number of deaths was much greater with pregnant animals when equal amounts of the pathologic germs were injected under similar conditions. 2. The further advanced the pregnancy, the greater were the effects of the injection. 3. The temperature was higher after experimental infection in pregnant animals than in the control animals. 4. Abortion was common after experimental infection. Opposite results were obtained after experimental infection with *Bacilli diphtheriæ*; the pregnant animals possessed the greater immunity. 5. Frequently pathogenic bacteria were found in the placenta and less often in the fetal blood. 6. Diphtheria toxin had less effect on pregnant animals. 7. Puerperal animals showed no great susceptibility to experimental infection. 8. Injected micro-organisms were found in the milk secretion.

The important clinical conclusion is drawn that artificial interruption of pregnancy is indicated in cases of infectious disease like tuberculosis.

35. **Intestinal Resection for Multiple Perforation.**—Kayser reports a case of multiple perforation following the leaving of a sponge in the abdominal cavity, and cites many others, including experiments on animals. The symptoms usually are: Severe abdominal pains, peritonitis, sometimes chills, vomiting and constipation. He concludes that unless the sponge is soon removed it will initiate a fatal sepsis. As for the technic, he advocates the wedge-shaped excision with the preservation of mesentery intact, because of its ease of performance; because it is suitable for work in large intestines where the Murphy button is less practical; because in multiple resection it allows the passage without difficulty of a Murphy button if that has been used in the higher anastomosis, and because it combines rapidity with a high degree of safety. The angle caused by this anastomosis is functionally unimportant.

36. **The Sodium Chlorid-Nuclein Treatment of Puerperal Sepsis.**—Nineteen severe cases of general puerperal sepsis in Schauta's clinic have been treated with nuclein and salt solution, with one death. Nuclein in doses of 5 to 6 grams every 12 to 24 hours is given until the bone marrow reaction appears (bone sensitiveness). Five to six hundred grams of salt solution are given daily either subcutaneously or by the rectum. The recent investigations of the part played by the bone marrow in the regeneration of the blood and in the formation of immune bodies are discussed and a theory for the mode of action of the nuclein and the salt is given.

37. **Can the Bossi Method Be Regarded as an Advance in Operative Obstetrics?**—Dührssen has found in gynecologic practice that the cervix dilates to a certain point with solid dilatation and then tears easily; the same is true in obstetric work. He believes that Bossi's method, in many cases, can dilate only by producing tears, as in old primiparæ, in multiparæ having hard cervical scars, and in the premature labor of primiparæ. He cites a number of reported cases and draws the conclusions from them that in placenta previa the Bossi method is useless since it only increases bleeding, whereas the chief indication is not hastened delivery, but efficient hemostasis, which the metreurynter accomplishes well. If the cervix is obliterated in cases where the Bossi method either failed or dilated with severe tears and version or perforation had to be done, the author believes his method of incision into the cervix would have been best and harmless. He thinks the metreurynter fully as good as the Bossi instrument since it dilates, without tearing, sufficient for delivery in half an hour to one hour. In case it does not dilate, he believes the method of careful incision to be better. In cases of miscarriage where rapid emptying of the uterus is desirable and the cervix rigid, the vaginal cesarean section is preferable because of its ease and rapidity of accomplishment. If this be considered inadvisable, use the bag until some dilatation is made and then make the version according to his method. Dührssen does not believe that infection is carried in by the bag, as claimed by some, nor has he ever had trouble in introducing it. Crowding the advancing part and increasing tendency to prolapse of the cord are also urged against it, but he has never witnessed them. In either

event it is only preparatory to version and matters not. Altogether, the Bossi method is neither sure nor safe since it can not in every case dilate sufficiently to allow delivery of a living child, and because it causes uncontrollable tears and contusions favoring infection. The author believes the best method for rapid delivery in case of obliterated cervix is by deep incisions; in case of non-obliterated cervix, the use of the metreurynter and Mueller's bag with constant traction until the cervix is nearly obliterated. In case of non-obliterated and rigid cervix he prefers his vaginal cesarean section.

38. **Tuberculosis of the Placenta.**—Runge reports from the literature several cases in which fetuses were tubercular, being infected through the blood and placenta. He describes the histological changes in the placenta, showing how the bacilli pass from the mother's tissue into the placenta. In the case he himself reports, the tubercular infection occurred in the decidua basalis, while in all the other cases it was found only in the layer of chorionic villi. Here no groups of bacteria were found in either the capsularis or vera, but in the broad decidua they were found around the Nitabuch layer, in the glandular layer of decidua and in a tongue of decidua projecting between the chorionic villi.

40. **Function of the Corpus Luteum.**—Gustav Born of Breslau first suggested the hypothesis that the corpus luteum of pregnancy is a gland with intrauterine secretion having the function of causing the nidation and development of the egg. Fraenkel believes that he has established this theory by experiments, and he has extended it. He holds that there is no essential difference between the true and false corpora lutea, which are ovarial glands controlling the nutrition of the uterus from puberty to the climacterium, and causing the insertion and development of the fertilized egg and of menstruation when the egg remains unfertilized. The facts favoring this theory are the gland-like structure of the corpus luteum, and its growth after ovulation and the fact that only animals which have a uterine insertion of the egg possess developed corpora lutea. Experiments were made chiefly on rabbits and required considerable preliminary observation to determine the sexual physiology of these animals. By various series of experiments, in which he removed sometimes one or both ovaries, and sometimes one or all of the corpora lutea, Fraenkel determined that they are necessary to the insertion of the egg or to their development up to about 20 days. This trophic influence is exercised on the uterus by the internal secretion of the corpora lutea carried by the vessels. The influence of the so-called false corpus luteum was determined on animals by burning them out, when temporary atrophy of the uterus occurred. In women in a number of cases of laparotomy for ventrofixation and similar operations, the corpora lutea were removed, with the result that menstruation remained absent for one or two periods. Therapeutic use of these facts appears in the employment of "lutein" prepared from the lutein bodies, which prevents the appearance of the premature menopause symptoms. Also in operations on the ovary during pregnancy we should preserve the ovaries and their lutein bodies as long as possible.

41. **Intrauterine Rigor Mortis.**—To the 30 cases previously reported Wolff adds 4 more from the obstetrical polyclinic of the Berlin Charity Hospital. He concludes that the occurrence of this physiological phenomenon is not extremely rare, but generally overlooked. The rigor generally reaches its climax about three to four hours postmortem. If the child remains in the uterus over five hours after its death the rigor will probably nearly or quite disappear. Particularly early and severe rigor mortis occurs where the mother is in a dying condition before or during the birth of the child. He explains this fact by assuming an extreme disturbance of the circulation in the parous woman causing a retention of metabolic products in the fetus, which, after its death, influences the early and intense development of rigor mortis. This circulation disturbance in the mother is very frequently due to eclampsia, but may result from other causes.

43. **Influence of Menstruation, Pregnancy, Labor and of the Puerperium on the Muscular Power.**—Bossi used Mosso's ergograph to determine the variations in muscular power caused by menstruation, pregnancy, etc. To determine the effect of menstruation he made daily observations for several months on a number of midwife students. Some of these ergographic curves are reproduced in the paper. They show that menstruation has a morbid influence on voluntary muscular contraction. It is particularly noticeable that the muscular strength is diminished in the period preceding the bleeding. This fact is explained by the hypothesis that toxic substances are eliminated by menstruation. Just before menstruation these toxic substances have accumulated and exercise a deleterious effect on vital functions including muscular efforts. The observations on pregnancy, labor and the puerperium were made on a number of patients. They showed that muscular strength is lessened just preceding the physiological crises of pregnancy. These crises correspond to the times when menstruation would have occurred in the non-pregnant state. The effect of labor is also shown in the curves.

44. **Formation of the Enclosing Capsule in Tubal Pregnancy.** The covering of the egg in tubal pregnancy is held by some to be a decidua reflexa and by others folds of tubal mucous membrane. The study of six suitable specimens has led Voigt to the conclusion that the capsule is formed by the penetration of the egg into the maternal tissues and embedding of itself deep in the tubal walls. Thus the mucous membrane, the connecting tissues, and also a part of the muscles surround and cover the ovum. In the course of further development this capsule may be so changed by the devouring action of the Langhan's cells or by hemorrhage that only band-like remnants of the walls remain. He found no trace of decidua reflexa.

46. **Cesarean Section for Eclampsia.**—Streckeisen reports two cases of cesarean section for eclampsia, both twin pregnancies. In one, both children were extracted dead and the mother died of infection. In the other both mother and children were saved. In 1897 Kettlitz collected 28 reported cases of cesarean section for eclampsia and found a mortality of 50 per cent. for the mother and 62 per cent. for the children. Streckeisen has collected 28 additional cases, including his own, which show a mortality of 32 per cent. for both mothers and children. The mortality of mothers for all 56 cases is 42 and of the children 46.5 per cent. As a result of his studies he concludes that the operation has a place in the treatment of eclampsia in extreme cases.

48. **Tuberculosis of Ovarian Tumors.**—Prüsman reports a case of this rare combination which is the thirteenth case now on record. Like most of the others the tumor was a cyst. Tubercle bacilli were found. He contends that the cyst in his case was secondarily infected and not that the introduction of the bacilli stimulated the growth of the cyst. On account of the absence of any signs of general or local infection, he admits the possibility of a primary infection in this case, possibly from sexual connection.

Beitraege zur Geburtshilfe und Gyn. (Hegar's), Leipsic.

Last indexed page 342.

51 (VI, 3.) Solid Tumors in Abdominal Cavity of Unknown Origin. F. Prüsmann (Kiel).—Zwei Fälle von soliden Tumoren der Bauchhöhle unbekannten Ursprunges.
52 *Ovarian Pregnancy. H. Füth (Leipsic).—Uber Ovarialschwangerschaft.
53 *Zur Bakteriologie des Lochialsekretes fieberfreier Wöchnerinnen. K. Franz (Halle).
54 *Zur Indikationsstellung für die Total-Exstipation des septischen Uterus. Baisch (Tübingen).
55 *Posterior Parietal Presentation. W. Zangemeister (Leipsic).—Ueber Hinterscheitelbeineinstellung.
56 Beitrag zum Studium der path. Anatomie der Atresia hymenalis congenita. O. Beuttner (Geneva).
57 Ein eigentümlicher Fall von inversio uteri senilis mit Bemerkungen über die operative Behandlung der Inversion überhaupt. R. von Fellenberg (Berne).
58 Mucous Polypi. O. Beuttner (Geneva).—Ueber Schleimhautpolypen der Uterushöhle.
59 *Diagnose und Behandlung der Genitaltuberkulose beim Weibe. H. Sellheim (Freiburg i. B.).
60 *Cancer Inoculation. H. Heilemdall (Tubingen).—Ueber Impfkarzinose am Genitaltraktus.
61 Fall von "Missed labour" bei Carcinoma uteri. A. Labhardt (Basle).
62 Weitere Beiträge zur Lehre der mesonephrischen Tumoren. G. Schickele (Strassburg).
63 (VII, 1.) *Ueber die Behandlung der Uterusruptur. P. Zweifel (Leipsic).
64 *Ueber die Entfernung entzündeter und durch Neubildung erkrankter Ovarien mittels vaginaler Köliotomie. F. Heinsius (Greifswald).

65 *Accidental Injuries During Gynecologic Operations. A. Blau (Vienna).—Ueber die am Klinik Chrobak bei gynäkologischen Operationen beobachteten Nebenverletzungen.
66 *Beiträge zur Anatomie der ausgetragenen Extrauteringravidität. R. Freund (Halle).
67 Small, Recent Carcinoma of Cervix with Extensive Glandular Metastases. F. Tiburtius (Freiburg).—Collumkarzinom von kurzer Dauer und geringer Ausbreitung bei hochgradiger Lymphdrüsenmetastase.
68 Histologic Changes in Placenta Occasioned by Death of Fetus. H. Szasz (Budapest).—Ueber durch den Tod des Foetus bedingte histologische Veränderungen der Placenta.

52. **Ovarian Pregnancy.**—Füth describes a case which has all the marks of ovarian pregnancy demanded by Leopold, namely, absence of ovary on the side corresponding to the tumor and its participation in the formation of the fruit sac; union of the latter with the uterus through the utero-ovarian ligament, and complete freedom of the tube including the plica infundibuleovarialis. A lithopedion was found on the opposite side of the abdomen. Füth considers this the twenty-first case of proven ovarian pregnancy.

53. **Bacteria in the Lochia of Normal Puerpera.**—In order to determine whether the uterine cavity is sterile or not during the first nine days of the normal puerperium, Franz undertook the examination of 120 normal puerpera, namely those whose axillary temperature never exceeded 38 C. and who had no other pathologic symptoms. The secretion was taken according to the rules of Doederlein, and all was used in the cultures. Of 20 cases examined in the first two days of the puerperium, 8, that is 40 per cent., gave positive results. Of 100 cases examined in the third to ninth days, 63 were positive. Staphylococci were found twelve and streptococci nine times. Bacteria were found more often when the temperature was under 37.5 C. than when it was between 37.5 and 38 degrees. Cases with purulent secretions were more frequently contaminated than those with bloody or serous lochia. The greater the amount of the lochia the more likelihood of a positive finding. The findings were more frequently positive in multiparæ than primiparæ. There was less liability to contamination when the labor was protracted. The conclusions from this investigation are that there is no relation between contamination of the uterine cavity and the clinical symptoms, or in other words, the presence of bacteria in puerpera without fever is not pathologic.

54. **Indications for the Total Extirpation of the Septic Uterus.**—Baisch first considers the danger on account of sepsis of the complications of labor with complete inversion of the vagina with elongation of the neck of the uterus. In only 31 cases of 124 reported in the literature was labor spontaneous. The mortality of the children was 30 per cent., and of the mothers about 11 per cent. In two cases of Doederlein's clinic in Tübingen hysterectomy probably saved the patient's lives, while in one where operation was refused, the patient died. Baisch concludes that in cases of total prolapse when fever exists during labor, hysterectomy is indicated. A discussion of other indications leads to the conclusion that cases of mixed infection and saprophytic disease call most often for surgical interference because intoxication from the latter makes it very difficult for the organism to successfully combat the infection.

55. **Posterior Parietal Presentation.**—Zangemeister divides the cases into primary and secondary, depending on whether the membranes are intact or not. Primary cases are rather common and generally terminate spontaneously. In 2,250 labors 10 cases of secondary posterior parietal presentation occurred (equal to .44 per cent.), 2 of which terminated spontaneously. He concludes that turning is best when the presentation does not improve in a short time. If turning is impossible on account of danger of rupture, spontaneous delivery may be waited for under certain conditions. Symphysiotomy is in these cases valuable. External or combined rectification is almost always impossible. High forceps is allowed only as a trial before perforation of a living child.

59. **Diagnosis and Treatment of Genital Tuberculosis in Women.**—Sellheim calls especial attention to Hegar's sign of pelvic tuberculosis found by internal examination, namely, presence of numerous nodules from the size of a pin's head to a lentil on the ligamenta sacro-uterina, the posterior surface of the uterus and of the ligamenta lata. Operative treatment should be instituted only when thorough general and local treatment fail to stop the progress of the infection. To determine the value of both methods Sellheim has studied the results in cases treated in the Freiburg clinic during the last eight years. There were 31 palliative and 27 operative cases. He found the results of the palliative treatment satisfactory as far as disappearance of pain, ability to work and shriveling of diseased organs were concerned. In the operative cases he found the best results in the radical operations where both adnexa and uterus were removed.

60. **Cancer Inoculation in the Genital Tract.**—Hellendall concludes that no case of cancer metastasis in the vagina through inoculation from a corpus or a cervix cancer has been proven to occur, and that the probability of such an inoculation can not be assumed since a careful microscopic examination has not excluded the possibility of distribution of the cancer in a retrograde manner through the veins and lymphatics.

63. **Treatment of Uterus Rupture.**—Zweifel holds it very important to distinguish between complete and incomplete rupture. For the latter, drainage is a satisfactory treatment, but not for the former. He recommends here laparotomy and careful suture of the serosa not including the musculature which should always be regarded as infected. After recovery the patient may be sterilized by excising a piece of each tube to prevent rupture in a subsequent pregnancy. After suturing the tear the peritoneal cavity should be carefully cleaned from blood. He reports 29 cases from his clinic.

64. **Vaginal Ovariotomy.**—Heinsius describes the technic adopted by A. Martin and discusses the indications for operation and the complications which may arise. A table is given of the 110 cases operated on at Greifswald.

65. **Accidental Injuries During Gynecologic Operations.**—The effort made in recent years to increase the thoroughness of operation for malignant disease has resulted in an increase in the injuries to neighboring organs, namely, the ureters, the bladder, and the bowels. A study of the accidents that have occurred at Chrobak's clinic in the last twelve years has been made by Blau. They are classified, compared with those of other clinics as far as possible, and their treatment considered. In 2,193 operations 45 (equal to 2 per cent.) accidents have occurred. The ureters were injured 15 times, bladder 21 times and bowels 14 times. The mortality of ureteral injuries was 80 per cent., of bladder injuries 43, and of bowel injuries 78 per cent. Of the 45 operations 24 were laparotomies with 26 injuries, including 10 of the ureters, 7 of the bowels, and 9 of the bladder. Twenty were vaginal operations, with 23 injuries, including 4 of the ureters, 12 of the bladder and 7 of the bowels, and one was a sacral hysterectomy with 1 injury to the ureters.

66. **Extrauterine Pregnancy at Term.**—Freund reports a case of unruptured tubal pregnancy at term with a fungiform placenta, and discusses the features of this rare case (only four others are known). The chief conclusion from the study is that where the placenta is inserted on the mesosalpinx it takes a fungus form whose stalk is formed by the vascular tubal wall. On account of the great development of the vascular apparatus the musculature can remain intact to the end of pregnancy. Freund also reports a case of lithokelyphopedion and gives a table of 10 other cases known.

Centralblatt f. Gynaekologie, Leipsic.

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69 (XXVII, 13.) *Zur Radikaloperation der Nabelbrüche und der epigastrischen und subumbilikalen Hernien der Linea alba. Menge (Leipsic).
70 *Lateral Symphysiotomy. L. Meyer (Copenhagen).—Fall von Lateralschnitt durch das Os pubis nach Gigli.
71 *Eine neue Methode der Prolaps-Operation. A. Rieck (Altona).
72 (No. 14.) *Retention of Fetus After Laceration of Gravid Uterus. L. Goth (Kolozsvar).—Fruchtretention nach Zerreissung der schwangeren Gebärmutter.
73 Zur Narkosen-Frage. G. Burckhard.
74 *Ueber Impregnierung. E. Toff (Braila, Roumania).
75 (No. 15.) Origin of Cervico-Vaginal Fistula. A. Ostrcil (Prague).—Fall von Fistula cerv.-vag., bei welchem der Entstehungsmodus direkt beobachtet wurde.

76 *Ein neues Pessarium zur Behandlung grosser inoperabler Genitalprolaps. Menge (Leipsic).
77 Tetanie nach einer Perineoplastik. L. Goth (Kolozsvar).
78 (No. 16.) Case of Dorso-anterior Frontal Presentation. F. Ahlfeld.—Fall von dorso-anteriorer Vorderhauptslage.
79 Vaginal Cesarean Section for Uncontrollable Vomiting. E. Ehrendorfer.—Zum konservativen vaginalen Kaiserschnitt, ausgeführt wegen unstillbaren Erbrechens in der Schwangerschaft. One case. Successful.
80 *Vaginal Cesarean Section in Eclampsia. A. Dührssen (Berlin).—Ein weiterer Fall von vaginal Kaiserschnitt bei Eclampsia gravidität is.
81 Phantom for Teaching How to Protect the Perineum. W. Zangemeister (Leipsic).—Ein Dammschutzphantom.
82 (No. 17.) *New Sign of Multiple Pregnancy. Jentzer.—Ein neues Zeichen von mehrfacher Schwangerschaft.
83 Apparent Abdominal Pregnancy in Rabbit After Primary Rupture of Uterus. K. Kamann (Greifswald).—Scheinbare Abd.-Gravidität beim Kaninchen, etc.
84 *Weiterer Beitrag zur Bekämpfung des Ileus mittels subkutaner Strychnin-Injektionen. H. Grube.
85 Zur Technik der Füllung des Kolpeurynters. A. Foges. (Vienna).
86 (No. 18.) *Self-holding Speculum. S. Spiegel (Schauta's clinic, Vienna).—Ein neues selbsthaltendes Spekulum.
87 Complications of Ovarian Dermoids. Ahrens.—Komplikationen bei Eierstocksdermoiden.

69. **Radical Treatment of Hernias on Linea Alba.**—Menge has recently operated on two very large umbilical hernias and one subumbilical, by a modification of Biondi's method of combined vertical and transverse incision. He aimed to produce a very broad, flat adhesion of the fascia to the muscle at the point of the previous hernia, and the results confirmed his assumption that this technic would impart great solidity to the cicatrix. The anterior lamella of the sheath of the rectus was incised across to a distance of 3 or 4 cm. on each side of the hernial opening, the rectus itself divided lengthwise with the fingers and the posterior lamella of the sheath also incised across. Each lamella was then sutured across; the rectus with a vertical suture. The wound healed rapidly by primary intention in each case, but further experience will show whether this technic allows the development of a hematoma under the fascia, and whether the circulation in the fascia and muscles will be impaired.

70. **Lateral Symphysiotomy.**—Meyer reports a case in which he performed pubiotomy or extramedian symphysiotomy according to Gigli's technic. The child had been born dead in a previous pregnancy, terminated by obstetric maneuvers. At term, with the second pregnancy, the rachitic pelvis measured only 7 to 7.5 cm., labor was energetic and head movable above the inlet, which it was unable to enter. Instead of making an oblique incision, Meyer incised vertically, inserting his finger from below and catching with it the wire saw introduced from above. The sawing was thus parallel to the median line and proceeded with surprising ease. The child was then extracted without difficulty, the bone gaping about 5 cm. The pubis was sutured with silver wire, with a small drain tube left at the lower angle of the wound, removed the sixth day. There were no urinary disturbances except that catheterization was necessary for four days. The union seemed solid by the seventeenth day and the patient was allowed to get up the twenty-first. The gait is free and natural and she can stand on either foot alone without trouble. There has been no displacement of the bones. The child weighed 3,700.51 gm. This is the fourth pubiotomy Meyer has done and all the patients rapidly recovered. He mentions that the treatment after an operation on the symphysis or pubis is much facilitated by the Borries litter, made at Copenhagen. He suggests as the only drawback to this extramedian symphysiotomy, the possibility that the circulation of the small fragment of bone left adherent to the symphysis may be interfered with. His experience indicates that the circulation is adequate, but time alone can fully decide the question. (Gigli's communication on the subject was reviewed in THE JOURNAL, xxxix, p. 226.)

71. **New Method of Prolapse Operation.**—Rieck is able to ensure complete relief and freedom from recurrence even in cases of total prolapse of uterus and vagina. The uterus is detached from the bladder and the latter with its peritoneal covering is fastened on the posterior surface of the uterus, while the anterior wall of the vagina is sutured to its anterior surface and up over the top of the fundus. As the uterus is thus fastened in extreme anteflexion between the bladder and vaginal wall there can be no further prolapse, and the bladder is prevented from pushing down the vaginal wall as the uterus is interposed. The rear wall of the vagina is sutured to the perineum and does not show even if it may stretch a little. In case of women still in the child-bearing period a less radical procedure is preferable. In this case the anterior wall of the vagina is incised on the median line and the two halves superposed, thus doubling the wall of the vagina along this part. The detached mucosa with its raw connective tissue surface healed perfectly to the epithelium surface in the 4 cases that have been treated according to this technic. No tendency to further prolapse could be discovered three weeks after dismissal. Two of the patients had total prolapse of both uterus and vagina, and the operation was completed by low vaginofixation in the younger patient and high fixation in the patient at the climacteric age. It remains to be seen whether this doubled vaginal wall will interfere with childbirth later.

72. **Retention of Fetus After Laceration of Uterus.**—A v-para was injured in the abdomen during the seventh month of pregnancy and the movements of the fetus were no longer perceptible after the traumatism. Six weeks of good health followed, after which she applied for treatment on account of severe pains in the abdomen and slight fever. Investigation revealed a tear in the anterior wall of the cervix and in the cavity thus formed the remains of a seven-month fetus. No placenta could be discovered. Goth ascribes the rupture to the traumatism, and thinks that the uterus was rendered incapable of labor and behaved like a loose sac, as in an extrauterine pregnancy. This explains the absence of any indications of labor.

74. **Impregnation.**—Toff is convinced that the female organism is more or less essentially altered by the reception of the male semen in considerable amounts, and becomes in time impregnated with the organic juices or chemical combinations of the male organism. This influence is particularly marked, he thinks, during and following pregnancy. Elderly virgins and women who prevent conception are liable to suffer from various affections which are possibly due to the lack of the vital forces which normally are transmitted from the male to the female organism. On the other hand, the influence of the male organism may be detrimental in case it is diseased. Women, healthy until marriage, sometimes suffer from headaches, anemia, nervous affections, etc., which may be due to toxins transmitted in this way from the male. He suggests that this may prove to be one of the factors in uncontrollable vomiting of pregnancy, eclampsia, kidney affections, etc. The closer to nature the life of the people, the healthier are the men and women and the smoother the course of pregnancies and childbirth.

76. **Pessary for Large Inoperable Prolapse.**—Menge's instrument is a large oval ring with a crossbar. A pear-shaped knob fits into a hole in the center of this crossbar, after the ring has been inserted in the vagina. By its introduction in two parts, it is thus possible to use a larger ring than would be otherwise applicable, and it proves an effective obstacle to further prolapse. He calls it the "Keulenpessar," as the knob resembles somewhat the pestle of a mortar. It fits into the crossbar with a bayonet catch, and holds the ring perpendicular to the axis of the vagina.

80. **Vaginal Cesarean Section in Eclampsia.**—Dührssen describes a case in which he delivered a primipara in severe eclampsia of a child weighing 4,500 gm. with a head circumference of 37 cm. The vagina was very narrow, but the entire operation was complete and the child extracted in eight minutes. The wound healed by primary intention; involution of uterus proceeded apparently normally and recovery was rapid. There were no convulsions after delivery. He recommends in primiparæ to previously incise the vagina, making the opening in both vagina and uterus large enough to admit a man's fist. He points out that his operation is both intra- and supravaginal, as well as bilateral on the uterus. Through the anterior incision in the vaginal wall he detaches and pushes back the bladder and processes of peritoneum without opening the

abdominal cavity, and thus frees the wall of the uterus so that after it is incised a large child can be delivered alive, as he has accomplished in his 4 cases.

82. **New Sign of Multiple Pregnancy.**—Jentzer was able to palpate two fetal heads, and mentions that when they were brought in contact they felt like billiard balls knocked together in water. In the case described the woman was delivered of triplets, but the third fetus escaped detection. This and a following birth proceeded normally, although she had been previously treated by ventrofixation for painful retroflexion. In 5 other cases of childbirth consecutive to ventrofixation the course of the pregnancy and puerperium was normal in every respect.

84. **Strychnin in Ileus.**—Grube attributes the favorable result in the case he reports to his subcutaneous administration of .01 gm. strychnin nitrate in three doses in four hours, followed six hours later by .005 gm. Peristalsis was excited; the heart symptoms subsided and the patient soon recovered. The ileus was due to severe paralysis of the intestines subsequent to removal of a purulent sacrosalpinx with suppurative encapsulated peritonitis. He adds that this case emphasizes the advantages of vaginal intervention, as the peritonitis remained circumscribed, and was not spread over the entire peritoneum as liable with a laparotomy.

86. **Self-Holding Speculum.**—Spiegel's instrument screws to the edge of the table and the speculum part is adjustable at any angle. It dispenses with the presence of an assistant to hold the speculum, and has never caused trouble of any kind during several months' experience with it in constant use at Schauta's clinic.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

88 (XXIX, 17.) *Nerve Grafting. W. Körte and M. Bernhardt.—Fall von Nervenpropfung: des Nervus facialis auf den Nervus hypoglossus.
89 Previous Warming in Steam Sterilization. R. Beckmann.—Zur Frage über die Zulässigkeit von Vorwärmevorrichtungen in Dampfsterilisatoren.
90 *Zur Färbe- (staining) Technik der Malaria-Parasiten. J. Koreck (Szerb-Csanad, Hungary).
91 Beitrag zur Serum-Behandlung der Diphtherie. Geissler.
92 Apparat zur Kochsalz-Wasser-Infusion. E. Braatz (Königsberg).
93 Medicolegal Study of Criminal Responsibility. Biberfeld.—Geisteskrankheit oder Geistesschwäche.
94 (No. 18.) *Further Attempts to Produce Specific Substances from Bacteria. L. Brieger and M. Mayer.—Weitere Versuche zur Darstellung spezifischer Substanzen aus Bakterien.
95 *Ueber den Paratyphus. H. Kayser (Strasburg).
96 Ueber einheimische Malaria und Malaria-Kachexia. Reckzeh (Berlin).
97 Balneology in the Army. Schültzen.—Ueber Verwendung balneologischer Hülfsmittel und Benutzung von Kurorten in der Armee. (Commenced in No. 17.)
98 *Treatment of Trifacial Neuralgia. C. Lilienfeld (Charlottenburg).—Zur Behandlung der Trigeminusneuralgie.
99 Training of Nurses. P. Jacobsohn (Berlin).—Zur Ausbildung der Krankenpfleger und Krankenpflegerinnen.
100 *Primäre Angina gangränosa bei einem Knaben. E. Oberwarth.
101 Protective Antidysentery Inoculation. K. Shiga.—Ueber Versuche zur Schützimpfung gegen die Ruhr. Claim for priority.
102 (No. 19.) Protozoa in Blood in Spotted Typhus. E. Gotschlich (Alexandria).—Ueber Protozoenbefunde (Aplosoma) im Blute von Flecktyphuskranken. Six cases.
103 *Artificial Production of Adhesions in Pleura for Surgical Purposes. Karewski and E. Unger.—Ueber künstliche Erzeugung von Pleuraverwachsungen zu chir. Zwecken.
104 Ueber die akute primäre Osteomyelitis der Wirbelsäule (of spine). F. Weber. One case.
105 *Volumetric Determination of Albumin in Urine. O. Rössler (Baden-Baden).—Die vol. Eiweissbestimmung im Harn.
106 *Ueber Thoracoplastik und Höhlen-Desinfektion bei Lungen-Phthise. C. Spengler (Davos-Platz). (Commenced in No. 18.)
107 Spontaneous Retrogression of Hydronephrosis in Diabetes. Zaudy.—Eine seltene Complikation des Diabetes mellitus.
108 (No. 20.) *Ueber Pulsus paradoxus. F. Riegel (Giessen).
109 *Relations of Slight Infections to the Blood-forming Apparatus. F. Freymuth.—Exp. Untersuchungen über die Beziehungen leichter Infektionen zum Blut-bildenden Apparat.
110 Influence of Removal of Liver on Freezing-point of Blood. A. Pfinghoeft.—Exp. Untersuchungen über den Einfluss der Leberausschaltung auf den Gefrierpunkt des Blutes.
111 Spontaneous Recovery After Injury of Liver and Puncture. C. Francke.—Zerreissung der Leber und eines grossen Gallenganges nach Bauchpunktion spontan geheilt.
112 Athyreosis im Kindesalter (in children). R. Bartz.
113 Tropenkrankheiten und Koloniale Medizin. Steuber (Küstrin).

88. **Nerve Grafting.**—In operating on a suppurating temporal bone, the facial nerve was severed at the stylomastoid foramen, and the distal stump was fastened side by side to the hypoglossal nerve. The facial and hypoglossal domains were paralyzed for six months, the former totally, the latter partially, causing some slight disturbances in swallowing. Then gradual improvement was noted, electric excitability gradually returned, and the corner of the mouth can be now actively moved. The voluntary impulse is thus successfully transmitted to the facial muscles by way of the hypoglossal, and further improvement is anticipated in time. The partial paralysis of the hypoglossal shows that only a healthy nerve can be utilized for such grafting. The tongue still moves involuntarily with the voluntary movements in the facial domain, nearly a year after the operation, as in Kennedy's case, in which the facial muscles moved as the trapezius was contracted. Körte, in future, would choose the accessory nerve instead of the hypoglossal in such a case as paralysis in its domain is of much less importance than in the hypoglossal.

90. **Stains for Malaria Parasites.**—Koreck gives a number of formulæ for stains and shows that the age of the solution as also the amount of heat to which it has been subjected, have an influence on the result of the stain. His improved Ziemann stain is made by adding .5 gm. collargol to 100 c.c. of a 1 per cent. solution of methylene blue and using it in the proportion of 1 to .6 of the eosin solution. The resulting stain is fine in fifteen minutes or less.

94. **Production of Specific Substances from Bacteria.**—Brieger has found that it is possible to derive from a solution of typhoid cultures a non-toxic substance which confers high agglutinating power on rabbit serum, but no bactericidal or protecting properties. He describes his technic.

95. **Paratyphus.**—Kayser reports 3 cases of apparent typhoid fever in which the serum agglutinated the paratyphus bacilli, type B, while it had no effect on true typhoid bacilli. Two of the patients were sisters about 25, the third a child of 8. There was no albuminuria, but severe headache in the 2 first and edema of the lids and painfulness of the spine in the latter case. He adds that experience with these paratyphus cases to date indicates that the infection is mild, but that in testing for the agglutination both type A and type B of the paratyphus bacillus must be tested. He protests against the use of the term typhoid instead of typhus, claiming that the former should be restricted to "ileotyphus."

98. **Electromagnetic Treatment of Trigeminal Neuralgia.**—Lilienfeld has cured 11 and materially improved 65 out of a total of 90 cases of trigeminal neuralgia treated by electromagnetic seances. Almost all his patients had suffered for years from neuralgia, some for ten to twenty-five. He describes 7 typical severe cases in detail. In one the pain was mitigated after the fifth application of the alternating magnetic field, 15 amperes. By the fifteenth the patient was freed from pain during the day, and by the thirtieth entirely relieved except for occasional comparatively slight twinges during the night. Treatment was interrupted at this point, but the improvement has continued for three months to date. In another very severe case after twelve years of suffering the patient was dismissed completely cured by a course of 50 applications. All these chronic cases had been previously treated with the usual measures without avail, and even if the neuralgia should return later, the months of freedom from pain are certainly an immense gain.

100. **Primary Gangrenous Angina.**—The patient was a lad of 12 who had passed through measles and typhoid in early childhood. The malignant angina developed with exacerbations. The first stage was characterized by pains in ear and neck on right side, subsiding after a week; two weeks later pains occurred in the ear and neck, and the tonsil, palate and uvula on the left side were found to be ulcerated. The ulcerations healed and for ten days there was no further trouble, but then a gangrenous abscess developed in the right tonsil, and ten days later in the left. The spleen was enlarged. The angina retrogressed by the end of ten days, leaving merely a whitish deposit on the right side of the throat. A few days

later severe symptoms again appeared, with high fever, pains in the left side of the neck and petechiæ. This stage also subsided, and for a month the little patient seemed well, except for a transient attack of heart weakness. The fifth and fatal stage then set in and the gangrene in the throat spread with a fatal termination in ten days. The petechiæ during the last three stages were noticeable, as also a severe hemorrhage from the retina during the terminal stage. Numerous internal hemorrhages were also observed at the autopsy. In this, as in 2 other cases on record, a loud systolic murmur was heard during the last stages of the affection, but the assumption of a vitium cordis was not confirmed by the autopsy. Treatment had been energetic, with lactic acid, etc.

103. **Artificial Production of Pleural Adhesions for Surgical Purposes.**—Karewski proclaims that he has succeeded in inducing effective adhesion by means of a combination of chemical irritation, trauma and prevention of displacement of the sheets of the pleura. He accomplishes this by the use of silk threads impregnated with turpentine, uniting the interspaces with the lung pleura. The turpentine suture attracts the leucocytes and entails a deposit of fibrin, thus walling off the part of the lung desired with a broad sheet of adhesions or merely a circular wall, according to the way the sutures are applied, either parallel through the interspaces or circular around the focus. His experiments were made on large dogs, and he found that in three days firm union was realized by this means over a flat surface. Linear adhesions required a few more days to form a strong enough wall. He thinks that the conditions in man would be much more favorable for the formation of adhesions by this technic.

105. **Volumetric Determination of Albumin.**—Rössler states that it is possible to determine the amount of albumin in the urine, even in a proportion of 1/120,000, by means of a mixture of 2 parts succinic acid, 1 part sublimate, .1 part sodium chlorid and 50 parts distilled water. Three drops are added to 5 c.c. of dilute acetic acid and the urine added to form a layer, as in the potassium ferrocyanid test, of which this is a modification. The height of the white zone that forms from the combination with albumin indicates the amount of the latter. It is measured with a compass and by comparison of the results obtained at rest, after exercise, medication, baths, etc., a characteristic curve is obtained. The increase in the amount, after walking for an hour, after two hours' mountain climbing, etc., was much more marked in case of kidney disease, and the method is thus able to reveal the latter in its incipiency. Kussmaul adopted the following system: the first day the albumin was determined during complete rest; the second day after an hour's walk and the third day after two hours' moderate mountain climbing. In case of mere spermatorrhea the curve was flat or dipped slightly down, as was also the case when the albumin was due to the presence of pus in the urine, but in case of kidney disease, the curve rose each day, and the third day was nearly three times the height of the first day. In case of kidney disease with spermatorrhea the ascent to the third day was more gradual and not so high at the last, as in case of kidney disease alone. In case of a suppurative affection of the bladder or uterus in addition to the kidney affection, the height of the zone was above that of the other curves on the first day and considerably higher on the two following days. The curves thus obtained correct many a mistaken diagnosis. In one instance they contradicted the assumption of a kidney affection for which the patient had been treated elsewhere for two years. Catarrh of the uterus was diagnosed and the patient promptly cured by appropriate treatment.

106. **Thoracoplastic Operation and Disinfection of Lung Cavities.**—Spengler advocates disinfection of the lungs in case of tuberculosis or other severe affections of the respiratory passages, by means of inhalation of a mixture of 5 c.c. formalin, 20 c.c. absolute alcohol and 75 c.c. ether. Ten drops of this mixture are poured into a tumbler and inhaled in ten deep breaths through the opened mouth once every second day, or five drops morning and evening on alternate days. After fourteen days of these inhalations he suspends them for several days. He has never seen any harm from these doses even when long continued, and some of his patients inhaled as much as forty drops six times a day, but he found that these larger amounts depressed the vitality and thus favored bacterial proliferation. He, therefore, warns against more than ten drops on alternate days, continued with interruptions until the bacilli have disappeared from the sputum. In case of laryngeal tuberculosis, once in three days is probably sufficient and caution is also needed with nephritic patients. Pure formalin is too irritating and not volatile enough. Even in advanced cases the measure is useful for the protection of others. It should be used in all cases of cavity formation with rigid walls and inadequate evacuation of the products in the cavity. In case it fails to relieve after thorough trial, he urges resection of ribs to mobilize the thorax and thus allow the parts to expand and contract. But the inhalations will frequently reduce the suppuration to such a point that intervention is not required and many cases of phthisis with cavities heal in a remarkably short time. He has performed such a thoracoplastic operation eight times and one of the patients is clinically cured. All were cases of severe bilateral infection. His experience indicates that the sweats in tuberculosis aid in the absorption and elimination of the exudate in the lungs, and should not be suppressed. The amount of sputum in twenty-four hours and physical examination are aids for locating and measuring the size of the cavity. Inhalation of the "F.-A.-E. mixture" described above causes, in isolated cases, rapid decrease in the amount of sputa and number of bacteria, both the tubercle bacilli and others, but this occurs only in favorable circumstances. When there is active mixed infection, the germs ensconced deep in the parenchyma of the lung, inaccessible to the formalin vapors, the results will be meager or negative. He illustrates and describes the technic of the thoracoplastics which he recommends.

108. **Pulsus Paradoxus.**—Riegel distinguishes three causes for this condition. In the first group it is the result of compression of the large vessels from the effects of mediastino-pericarditis. The swelling of the veins in the neck during inspiration is important in the differentiation of this group. The heart is not implicated in the production of the paradoxical pulse but rather works with extra energy on account of the resistance in the aorta. The apex beat is not weaker during inspiration but stronger than usual, as also the heart sounds. In the two other groups the pulsus paradoxus is the expression of impaired heart action. In one the cause is interference with the intake of air, as in laryngeal stenosis, pneumonia, capillary bronchitis, etc. As the air can not enter freely, the negative pressure during inspiration is increased, and the normal inhibiting influence of inspiration on the heart is unduly magnified. If tracheotomy is done the paradoxical pulse disappears at once. In the other of these two groups the cause is to be sought in the enfeeblement of the heart, which is unequal to its task. In such cases the paradoxical pulse may vanish on exhibition of digitalis. Distinction of these three types of causes is important for treatment, although it is possible for two or more of them to be associated in a case.

109. **Relations of Mild Infections to the Blood-Forming Apparatus.**—This communication from Koch's Institute for Infectious Diseases announces that minute doses of infectious germs, so small as to be unable to produce any symptoms in the laboratory animals, yet exerted a specific influence on the blood-forming apparatus, stimulating it to unusual activity. Even a very mild infection, therefore, may be able to excite this apparatus to abnormal functioning, a fact important for the clinic. Not only the bacteria but even their dissolved toxic products exerted this influence. This fact may explain the puzzling anemias noted in chronic obstipation. Also the abnormal heart action, the nervous symptoms, general and local, the depression, etc., may be due to absorption of toxic substances from the intestines and to their influence on the blood-forming apparatus, as whenever this apparatus is unable to fulfill the extra demands on it, its functions must suffer, and principally the regeneration of the blood. Many puzzling cases

of anemia and chlorosis may be the result of some apparently insignificant infection and its effect on the hematopoietic organs. In such cases infection in the respiratory, digestive and female genital organs must be excluded before we can institute appropriate treatment.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures, and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners, by Leading Members of the Medical Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U. S. A. With Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume I. Thirteenth Series, 1903. Cloth. Pp. 306. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1903.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful for the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College. Volume X. Pneumotherapy, Including Aerotherapy and Inhalation Methods and Therapy. By Dr. Paul Louis Tissier, One-Time Interne of the Paris Hospitals. Illustrated. Cloth. Pp. 479. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1903.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS. By E. L. Keyes, A.M., M.D., LL.D., Consulting Surgeon to the Bellevue, and E. L. Keyes, Jr., A.B., M.D., Ph.D., Lecturer on Genito-Urinary Surgery, New York Polyclinic Medical School and Hospital. A Revision of Van Buren and Keyes' Text-Book. With 174 Illustrations in the Text and 10 Plates, 8 of Which Are Colored. Cloth. Pp. 827. Price, $5.00. New York and London: D. Appleton & Co. 1903.

BACTERIOLOGY. A Manual for Students and Practitioners. By Ferd. C. Zapfee, M.D., Professor of Pathology in the Illinois Medical College. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University. Illustrated with 146 Engravings and 7 Colored Plates. Cloth. Pp. 350. Price, $1.50 net. Philadelphia and New York: Lea Brothers & Co.

DISEASES OF THE HEART AND ARTERIAL SYSTEM, Designed to Be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By Robert H. Babcock, A.M., M.D., Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons, Chicago, Ill. With 3 Colored Plates and 139 Illustrations. Cloth. Pp. 853. Price, $6.00. New York and London: D. Appleton & Co. 1903.

PRACTICAL HANDBOOK OF THE PATHOLOGY OF THE SKIN. An Introduction to the Histology, Pathology, and Bacteriology of the Skin, with Special Reference to Technic. By J. M. H. MacLeod, M.A., M.D., M.R.C.P., Assistant in the Dermatological Department, Charing Cross Hospital. With 8 Colored Plates and 32 Black and White Plates. Cloth. Pp. 408. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1903.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Roberts Bartholow, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene, in the Jefferson Medical College of Philadelphia. Eleventh Edition, Revised and Enlarged. Cloth. Pp. 866. Price, $5.00. New York and London: D. Appleton & Co. 1903.

HYGIENIC LABORATORY. Bulletin No. 10. M. J. Rosenau, Director. February, 1903. Report on the Prevalence and Geographic Distribution of Hookworm Disease in the United States. By Ch. Wardell Stiles, Ph.D., Chief of Division of Zoology. Paper. Pp. 121. Washington: Government Printing Office. 1903.

WILD OATS. A Sermon in Rhyme. By Maurice C. Hime, M.A., LL.D., Sometime Head-Master of Foyle College, Derry. Cloth. Pp. 49. Price, One Shilling. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

TRANSACTIONS OF THE AMERICAN ROENTGEN RAY SOCIETY. Third Annual Meeting, Chicago, Ill., December 10 and 11, 1902. Paper. Pp. 178. Louisville: Courier-Journal Job Printing Co. 1903.

THE JOHN CREAR LIBRARY. Eighth Annual Report. For the Year 1902. Paper. Pp. 45. Chicago: Printed by Order of the Board of Directors. 1903.

PRACTICAL SYNONYMS. By John H. Bechtel. Cloth. Pp. 226. Chicago, New York and London: Page Davis Co.

SECOND ANNUAL REPORT OF THE LEWIS HOSPITAL of Bay City, Mich., Jan. 15, 1903. Paper. Pp. 25.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. A., under orders from the Adjutant General's Office, Washington, D. C., for the week ending May 30, 1903:

Ashburn, James K., contract surgeon, is granted an extension of leave for ten days.

Farr, Charles W., first lieut. and asst.-surgeon, granted leave January 28, has extension of two months, and is changed to two months' sick leave from April 26, 1903.

Fanning, George J., contract surgeon, is granted an extension of leave for one month from May 22.

Gorgas, William C., colonel and assistant-general, now on leave in New York City, will report on June 1 to the commanding general, Department of the East, for temporary duty as chief surgeon of that department during the absence on leave of Colonel Henry Lippincott.

Gregory, William G., contract surgeon, is granted leave for one month on surgeon's certificate, with permission to leave the Department of California and is granted permission to apply for an extension of one month.

Godfrey, Guy C., captain and asst.-surgeon, is relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, Cal., and report by telegraph to the Adjutant General of the Army for further orders.

Jones, George H., contract surgeon, now on leave at Toledo, Ohio, is relieved from further duty in the Division of the Philippines and will proceed to Fort Fremont for duty, to relieved Contract Surgeon J. Randolph Harmer, who will proceed to Fort Totten for duty.

McCulloch, Champe C., Jr., captain and asst.-surgeon, is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, Cal., and report by telegraph to the Adjutant General of the Army for further orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 29, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 16-23, 4 cases.
California: Los Angeles, May 8-16, 1 case; San Francisco, May 10-17, 2 cases.
Colorado: Denver, April 25-May 2, 19 cases.
Illinois: Belleville, May 16-23, 1 case; Chicago, May 16-23, 9 cases.
Indiana: Elwood, May 17-24, 6 cases; Indianapolis, May 16-23, 3 cases.
Iowa: Des Moines, May 16-23, 1 case.
Kentucky: Newport, May 8-23, 2 cases.
Louisiana: New Orleans, May 16-23, 4 cases.
Maine: Biddeford, May 16-23, 1 case.
Maryland: Baltimore, May 16-23, 1 case.
Massachusetts: Holyoke, May 16-23, 1 case.
Michigan: Detroit, May 16-23, 25 cases, 1 death; Grand Rapids, May 16-23, 1 case; Port Huron, May 16-23, 1 case.
Minnesota: Winona, May 16-23, 3 cases.
Missouri: St. Louis, May 17-24, 20 cases.
Nebraska: Omaha, May 16-23, 1 case.
New Hampshire: Manchester, May 16-23, 4 cases; Nashua, May 16-23, 6 cases.
New Jersey: Camden, May 16-23, 1 case.
New York: Elmira, May 16-23, 1 case; New York, May 16-23, 1 case; Rochester, May 14-21, 6 cases.
Ohio: Ashtabula, May 16-23, 2 cases, 1 death; Cincinnati, May 15-22, 15 cases; Dayton, May 16-23, 5 cases.
Pennsylvania: Altoona, May 16-23, 1 case; Carbondale, May 14-21, 1 case; Johnstown, May 16-23, 1 death; McKeesport, May 16-23, 1 case; Philadelphia, May 16-23, 18 cases, 4 deaths; Pittsburg, May 16-23, 24 cases, 3 deaths, 1 case imported from West Virginia; Reading, May 18-25, 1 case.
South Carolina: Charleston, May 16-23, 10 cases, 1 death.
Utah: Salt Lake City, May 16-23, 3 cases.
Wisconsin: Milwaukee, May 16-23, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, April 26-May 3, 1 death.
Canada: Winnipeg: May 9-16, 1 case, 1 death.
Canary Islands: Las Palmas, April 25-May 2, 18 cases.
China: Hongkong, March 28-April 11, 2 cases, 1 death.
Colombia: Barranquilla, May 3-10, 3 deaths: Bocas de Toro, May 25, 25 cases, 2 deaths.
Great Britain: Birmingham, May 2-16, 24 cases; Dublin, May 2-9, 27 cases, 4 deaths; Dundee, May 2-9, 1 case; Glasgow, May 8-15, 1 case; Leeds, May 2-16, 34 cases, 3 deaths; Liverpool, to May 16, 6 deaths; London, May 2-9, 17 cases; Manchester, May 2-9, 10 cases, 1 death; Newcastle-on-Tyne, May 2-9, 1 case; Nottingham, May 2-9, 2 cases; Sunderland, May 2-9, 1 case.
India: Bombay, April 21-28, 94 deaths; Calcutta, April 18-25, 3 deaths; Madras, April 18-25, 1 death.
Mexico: City of Mexico, May 10-17, 11 cases, 7 deaths.
Russia: Moscow, April 25-May 2, 2 cases, 1 death.
Spain: Valencia, April 15-30, 2 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 26-May 3, 13 deaths.
Colombia: Panama, May 11-18, 3 cases, 1 death.
Costa Rica: Limon, April 30-May 14, 5 cases, 2 deaths.
Mexico: Coatzacoalcos, May 8-16, 1 case: Tampico, May 8-16, 1 death; Vera Cruz, May 16-23, 12 cases, 7 deaths.

CHOLERA.

India: Calcutta, April 18-25, 140 deaths.
Straits Settlements: Singapore, April 4-11, 3 deaths.

PLAGUE.

Brazil: Rio de Janeiro, April 26-May 3, 2 deaths.
Chile: Iquique, May 27, present.
China: Hongkong, January 1-April 11, 216 cases, 208 deaths.
India: Bombay, April 21-28, 1,031 cases; Calcutta, April 18-25, 434 cases; Karachi, April 19-26, 228 cases, 197 deaths.
Japan: Yokohama, May 26, present.

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Original Articles.

INDICATIONS FOR CHOLECYSTECTOMY.*

BYRON B. DAVIS, M.D.

Professor of Principles of Surgery and Clinical Surgery, College of Medicine, University of Nebraska; Surgeon to Immanuel and to Wise Memorial Hospital.

OMAHA.

The primary object of every surgical operation is to secure the completest and quickest relief compatible with safety. If it can be shown that in certain specified conditions of the gall bladder cholecystectomy is followed by more perfect restoration to ideal health, by a prompter convalescence, and that the mortality is no greater than in cholecystostomy, my point is made.

Cholecystostomy is frequently disappointing, the hoped-for benefits are only partially realized and the patient still has pain. Of my last twenty-eight cholecystostomies, six are known to have pain, not so severe as before the operation, but enough to be a source of worry and inconvenience. This means more than 20 per cent. of failures to accomplish fully what was attempted. Hans Kehr reports that in more than 17 per cent. of his cholecystostomies the relief was only partial. Others report the same disappointing results.

When we face squarely the fact that in any operative procedure there is to be considered not only the primary mortality but also the knowledge that about one patient out of five will be only partially relieved, some of them indeed almost as great sufferers as before, it is a humiliation to surgical pride. If improvement in technic will not give better results, no true surgeon will be satisfied until some other measure is found more satisfactory, really curative.

A prolonged convalescence, though not an insuperable objection to an operative procedure, if finally followed by entire relief, is to be deplored. After draining the gall bladder till the infection is removed the fistula quickly closes in many cases, but in a startling number a chronic fistula follows, most of them finally healing, but after so long and disagreeable delay that many times the patient regrets ever having the operation. In the twenty-eight cases of drainage mentioned three fistulæ discharged for many months, but finally healed; one is still discharging after six months, and three continued to discharge until cholecystectomy was done. Twenty-five per cent. of chronic fistulæ seems a good many, but it occurred in this series and, judging from the number of fistulæ I have seen after operations by other surgeons, the conclusion can not be dodged that this is a standing opprobium to this form of operation.

In simple uncomplicated cases the operative mortality for cholecystostomy ought to be very low. Kehr gives his as 2 per cent. In the cases complicated by dense adhesions, atrophy of the gall bladder, acute infections and the like, the mortality is considerable. Kehr admits a mortality of 47 per cent. in this class of cases. Some of his cases were operated on a number of years ago. With the present perfected technic it is probable that it would be considerably less, though bound always to be high. The fact can not be evaded that with the serious complications met in all old cases and in the acute infections (empyemas, gangrene, etc.), the dangers from any operation are great, and in many we must be satisfied to do what will tide the patient over until in such condition as to be able to withstand such an operation as will bring relief.

Kehr has found that less than 1 per cent. of his cholecystectomies continued to have symptoms. All the rest were completely cured. Absence of all disagreeable sensations has been noted in all of my cases in which cholecystectomy has been done, though in two of them still under treatment it is too early to know the result.

After cholecystectomy the convalescence is very rapid. As a rule there is no discharge, though in occasional cases where infection of the ducts is present, closure of the cystic duct has not been deemed advisable. Even in cases drained in this manner healing has been prompt. No mucous fistula due to a diseased gall bladder poorly drained has been present. In ten out of twelve cases the wound has been closed in a week to ten days.

Kehr's operative mortality for cholecystectomy is 3.3 per cent., as against 2 per cent. for uncomplicated cholecystostomies. There is abundant reason to believe that many of his cholecystectomies would be considered complicated, so this seems an excellent showing for cholecystectomy. In my own cases since Jan. 1, 1902, there have been twelve uncomplicated cholecystostomies, with no deaths; sixteen complicated cholecystostomies, with three deaths (one of these I feel certain would have recovered had cholecystectomy been done); twelve cholecystectomies, with one death, a very badly complicated case.

Why are so many cases uncured after cholecystostomy? The answer to this question I believe to be found in the amount of pathology left behind. Adhesions to the pylorus cause dragging on the stomach, with resulting gastric symptoms. Adhesions to the intestines produce painful sensations during active peristalsis. There are often a number of conditions of the gall bladder following cholecystostomy, which seriously interfere with perfect emptying of the viscus: 1, Adhesions to neighboring viscera; 2, crippling of the gall bladder from inelasticity of its walls; 3, partial occlusion of the cystic duct; 4, interference with the perfect contraction of the walls

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

during the effort to empty itself, due to the fundus being fixed to the anterior abdominal wall; 5, the weight of the liver pressing down on the anchored gall bladder.

The number of cases demanding surgery of the gall bladder in which the cystic duct is normal and in which the mucous membrane is intact and the walls normally elastic, is only a small minority. Such cases will usually close promptly after simple drainage. But when any of the above conditions are present, prolonged and imperfect convalescence is to be expected.

The advantages of cholecystectomy are to be found in all the conditions which render cholecystostomy unsatisfactory and disappointing: 1, When the cystic duct is wholly or partially occluded healing is prompt and complete; 2, when the wall of the gall bladder is thickened, friable and atrophied, the functionless viscus is taken out and can no longer torment the patient; 3, when there are adhesions they will remain as long as a pathologic gall bladder is present to keep up the irritation; 4, it is a well-known fact that intra-abdominal adhesions gradually weaken, stretch and disappear when there is no disturbing element; 5, the value of the gall bladder as a reservoir for the bile is *nil*, and functionally it serves no more useful purpose than does the vermiform appendix; 6, after a gall bladder has been as profoundly diseased as it usually is when made the object of surgical attack it never regains its normal state and is henceforth not only valueless but, on account of its defective drainage, is constantly subjected to the risks of fresh infection; 7, the cholesterin, which is the principal element of almost all stones, is only elaborated in such a quantity as to do harm by the epithelium of the gall bladder when infected, being due to degeneration, therefore, when removed, all danger of future stone formation is at an end; 8, it is estimated that at least 5 per cent. (Mayo) of the cases of serious disease of the gall bladder are followed eventually by carcinoma; removal will take away this menace.

A number of gentlemen who have written on this subject seem to regard cholecystectomy as especially dangerous where adhesions are numerous. Some of the most satisfactory results I have obtained have been in this class of cases and, as all know, adhesions are inimical to complete relief when cholecystostomy is performed. A gangrenous gall bladder is safer outside the abdomen, and, even though the operation requires a little longer time than simple drainage, I believe the risks of a slightly longer operation are more than offset by the more favorable condition following complete removal. When the operation is for empyema, more or less destruction of the mucous membrane of the gall bladder and cystic duct is to be expected and retention of such a viscus will probably result in only partial relief.

It must be admitted that there are some conditions where the simplest and quickest surgical procedure possible to give temporary relief is as much as the patient can bear. Here simple drainage may be done, to be followed later by cholecystectomy if complete relief is not obtained. In cases where there is temporary or permanent closure of the common duct this operation is, of course, not to be thought of.

To some the existence of infection has been deemed a contraindication to cholecystectomy, since it is in violation of the cardinal principle in these cases, drainage. It is as easy to secure drainage when the gall bladder is removed as when it is retained. In four of my cholecystectomies, instead of ligating the cystic duct, W. J. Mayo's method of removing the mucous membrane has been used. The greater part of the gall bladder is removed. Beginning a short distance above the cystic duct the mucous membrane is stripped off and removed down into the duct. Then a purse-string suture is introduced around the cuff of muscle and peritoneum and tied over the end of the drainage tube. It drains as perfectly as when the entire organ is retained, and closes quickly when the drainage tube is removed.

When the common duct is patulous and is not constantly being infected afresh from a septic gall bladder it seldom needs external drainage. The voluminous flow of bile through the hepatic and common ducts tends to sweep infective material into the bowel. The need of drainage in these cases is usually not to be found in the ducts but in the infected and crippled gall bladder. Surgeons who have once tried cholecystectomy are constantly resorting to it for an increasing number of indications. The operative mortality, immediate and remote, seems no greater than that from cholecystostomy when both complicated and uncomplicated cases are taken into consideration. The rapidity of convalescence is certainly a powerful argument in favor of the more radical procedure. The strongest inducement in favor of cholecystectomy is the complete relief it gives, in striking contrast to the painful and dragging symptoms which so frequently remain after cholecystostomy.

THE CALL FOR EXPLORATORY OPERATION IN THE GALL-BLADDER REGION.*

F. A. DUNSMOOR, M.D.
MINNEAPOLIS.

The surgical age is on, and it is to the credit of the profession that this is true. It were trite to cite cures where drugs have been used to worse than waste precious time, followed by an operation which has brought relief, comfort and usefulness to patients who were a burden to themselves and friends. It is not our intention to criticise former practice of the internalists or surgeons. It is not ages ago that each was barbarous in both senses of the word. It is an old tale to this body to be told of the safety of abdominal incisions when absolute cleanliness and skill attend the operation. Hence this word as advocating such procedure as a simple means of diagnosis and a long step toward the best method of cure.

The diagnostician has continually in his mind's eye a map of the surface of the body, and knows what normally should be hidden beneath each square inch thereof, irrespective of the attitude, posture or part presenting. He reviews the physiologic functions and possible or probable pathologic lesions, and still may have another guess coming. Nevertheless, a writer for one of our medical journals has said that no man should make an abdominal section until competent to certainly foretell the exact pathologic condition for which the operation was to be made. Mindful of this demand by critics, the writer hesitated to advance the suggestions of this essay.

Dividing the abdominal cavity equally into two zones, the upper will always be the field of most difficult surgical maneuvers, whose tumors are more frequently malignant and their cure impossible; while the lower provides the opportunities for brilliant recoveries to the beginner. This truism is magnified in the right hypo-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

chondrium, because of the important glands, ducts and vessels therein contained.

Neoplasms or inflammatory products in the pelvis have fixed walls for their protection, with only slight disturbance from excretory functions, while pathologic changes in the proximity of the chest wall are subject to continued irritation due to respiratory movements, as well as pressure from the almost continual variation of body posture.

Often the resulting exudates and adhesions of salpingitis are painless, while adhesions from an old or new pleuritis give rise to stabbing pain from movements, like sneezing, coughing or muscular effort.

Any maneuver separating the adhesions would be of great benefit. Similar results obtain when the lesion is immediately below the diaphragm. There, however, pain is frequently associated with gastrointestinal disturbance and concomitant involvement of the liver, pancreas, large glands, or a movable kidney. These facts indicate a greater demand for surgical attention to manifestations of disease here than in the famous pelvic region.

An incision through the upper right semilunaris is practically bloodless and has, *per se,* no mortality, and yet what a field for investigation! Beneath the space not larger than the palm of one's hand, and with the center midway between the tenth rib and the umbilicus, we find the gall bladder, hepatic and pancreatic ducts, part of the liver and kidney, the pyloric end of the stomach, part of the duodenum, colon, omentum, mesentery and important vessels. When diseased, many other important structures have occupied this space. Clinically, we are supposed to be able to diagnose gallstones. Thirty years' personal observation, W. Mayo's St. Mary's Hospital reports, and postmortem findings the world over, show that they are oftener overlooked than found. Pancreatic disease is much more obscure. Abscess of the liver, or hydatids, cancer of pylorus, usually definitely proclaim their presence. There remain, however, many inflammatory and non-malignant conditions which leave vague contradictory or puzzling symptoms, following one or more acute attacks of various affections incident to this location. Selecting only those not benefited by drugs or massage, but aggravated by driving, riding, jolting or by ordinary manual labor, we have abundant reason for exploratory and radical surgery in this region. The arrangement and anatomic support of the upper abdominal viscera are such that the danger of a hernia following section of the abdominal wall here is much less than below the umbilicus. The same causes make greater probability of permanent cure following division of adhesions.

It has been quite common to discourage any operation in the region of the gall bladder until the surgeon was confident of finding stones. The same may be said of operations looking to examination of the kidney. Pancreatic disorders and disease of the blood vessels are free from liability of harm from such investigation through an incision at this point, or through the linea alba. There are many cases in which a reasonably certain diagnosis of disease of the gall bladder is made, when it is not expected that calculi are present; but we may wish to drain through the kidney pouch for empyema, or chronic catarrh, or examine for results from trauma.

When we contemplate the important organs which may be readily and with great safety thoroughly examined through a window in the right hypochondrium, we shall find at least a reasonable excuse for the exploratory incision, which has so often been the open door for relief of undiagnosed pathology of the lower abdomen.

CASE 1.—J. S., Kidder, N. D., farmer, aged 28, family history negative. In spring of 1896 had an attack of vomiting with pain over stomach which lasted two months. Has had severe recurrence each year, one beginning a year ago, and has been constant since. Operated on May, 1902. No gallstones, but vermiform appendix inflamed and adherent to gall bladder and liver. Appendix removed, adhesions separated and colon replaced in normal position. Good recovery and present health good.

CASE 2.—G. F. P., Wilmot, S. D., senator, aged 40. For two years has had "spells" of pain in right side in hepatic region. When the attack was severe the pain would extend from shoulder to groin and be attended with jaundice. Present attack began one month ago with icterus and putty-colored stools. Operated on Sept. 7, 1902. No calculi in bladder or ducts. Evidence of local inflammation and adhesions. Latter broken up. Uneventful recovery.

CASE 3.—Mrs. N. S., housewife, aged 23, emaciated, anemic, jaundiced and neurasthenic. Had hepatic colic three years ago, passed stone; several attacks since; last three weeks ago. Patient constipated, has clay-colored stools, pain over gall bladder, usual gallstone symptoms. Operated on at Asbury Hospital March 14, 1901. Incision right of rectus, gall bladder found twisted and bent or doubled on itself. Covered with adhesions of omentum to gall bladder and liver. No stones present, all adhesions divided; gall bladder liberated, wound closed; uneventful recovery, icterus gone. Good health reported November, 1902.

CASE 4.—C. S. P., Estelline, S. D., male, farm owner, aged 45, member house of legislature. Entered Asbury Hospital Oct. 14,1901. Father died at 71 of "heart failure"; mother living and well; two brothers died in infancy; one sister had consumption at 22. Patient has always been well until some time in June, 1900, when he had very severe pain in right hypochondriac region, requiring opiates. Severe pain ceased one month ago, leaving a sore spot to right of ensiform cartilage. Sept. 1, 1901, he had another attack, and again October 1. Operated on Oct. 15, 1901. No gallstones in bladder or ducts. Extensive adhesions; frail-like mesh work extending widely under lower surface of liver, extending to stomach covering in gall bladder and intestines. Have seen this patient twice during past two years, has gained 30 pounds and has had no further trouble.

CASE 5.—Miss B., Drayton, N. D., student, aged 19. Family history good. Present illness began four years ago with pain in right side. No tenderness until last year, when point of pain located between crest of ilium and lower rib. Patient neurotic and has lost much flesh the last six months. Operated on at Asbury Hospital April 5, 1902. Incision in upper right semilunaris, found omentum massed in right side with evidence of inflammation extending from colon to liver. Coils of intestine and omentum adherent to right mural peritoneum. No stones in gall bladder. Appendix removed. Patient had peritonitis for two weeks and convalesced slowly. A week later had an attack of dyspnea, feeble pulse, lividity and was evidently near dying. Had dilated heart. Recovered in two weeks, so as to be able to return home. Returned to hospital Nov. 1, 1902, with pain in right ovarian region. Has gained 40 pounds in flesh and has bright, rosy cheeks. Was put under local treatment of douche and external massage for two weeks with no benefit. Operated on November 16, removing left ovarian cyst three inches in diameter, also removed right tube for extensive salpingitis. Is about the hospital, complains of neuralgic pains in various parts of the body.

This group of cases simply shows benefits from so-called liver cases which drugs and diet did not help. Case 3 is evidence that gallstones may be expelled by way of the bile ducts and leave more pathology behind than their presence manifested.

In Case 4, although the appendix was involved, the condition and symptoms warranted the conclusions that the pathologic conditions began at the gall bladder and a general peritonitis followed, finally involving the pelvic organs. Had this case been explored four years

earlier, I have no doubt the ovaries could have escaped disease and removal.

DISCUSSION

ON PAPERS OF DRS. DAVIS AND DUNSMOOR.

DR. WILLIAM J. MAYO, Rochester, Minn.—Dr. Dunsmoor has called our attention to the necessity of frequent operation in the region of the gall bladder. Let us not forget that there are two kinds of diagnoses; one that is exact, in which we know what we are going to do, and the other a diagnosis, which must be very commonly made, in which we can not say exactly what the condition is, but in which we do know that a condition exists which can probably be relieved only by surgical interference and, therefore, a diagnosis that would necessitate surgical interference need not necessarily carry with it an accurate diagnosis of the condition that we expect to find.

I am most heartily in sympathy with the general idea of the paper by Dr. Davis that the gall bladder should be removed, if we can do so safely. But we can not always do this. These people are sometimes very fleshy, and possibly have degenerative lesions, which may be at an advanced stage. Therefore, it is wise to study up the causes that have given us the after-trouble in the past following cholecystostomy, so that we can say to ourselves at the operating table, this case should have the gall bladder removed; this case may not need it. Some time ago I went over the causes of death in our series of several hundreds of operations on the gall bladder and there was but one from peritonitis. The danger of peritonitis, if proper gauze protection is employed during operation, is not great. The cause of death is more frequently suppression of the liver function. The liver has carried to it certain infectious material, and if its action is not good, that patient may die from suppression of the liver function, in from forty-eight to seventy-two hours, and this class of cases constitutes about one-third of our death rate. Therefore, we must say to ourselves, there is a class of cases in which there is a certain amount of increased danger attendant on the removal of the gall bladder, and experience has taught us that it is not necessary. What class of cases is it, then, that we can say to ourselves that it is wise for us to remove the gall bladder? It is those cases in which there is stone in the cystic duct or obstruction of the gall bladder, for here future trouble with drainage may cause colics or fistula. In cases in which the gall bladder is obstructed at the cystic duct, I think it should be removed. But if the gall bladder contains bile and the cystic duct is freely open, and one ties it, there will possibly be some deaths from suppression of the liver function; and, therefore, I make it a rule, in cases where the cystic duct is freely open, where there is bile in the gall bladder and the gall bladder is more or less infected, to provide for drainage through the cystic duct, either by doing a cholecystostomy or by amputating the fundus of the gall bladder and removing the mucous membrane from the base. In this way, the cystic duct can be divided and left open for drainage of bile to the surface, the outer coats of the base forming a pouch into which a drainage tube can be securely fastened against the open cystic duct and safely carry the bile without leaking. This gives the benefit of temporary hepatic drainage, with the permanent effects of cholecystectomy.

DR. J. B. MURPHY, Chicago—Dr. Davis has stimulated my courage to take out more gall bladders in the future than I have in the past, and I am a coward in doing any class of surgery that I believe increases the risk to the patient. All the time, I have been asking myself the same questions that Dr. Mayo has; why should we not have a return of the symptoms, if we do not remove the gall bladder, and, indeed, I am not sure that we do not sometimes have a return of the symptoms even after the gall bladder has been removed. The principal causes of the return of the symptoms are two: remaining stones and affections of the cystic duct. Therefore, if these are the two principal sources of the return of the symptoms, it means that the symptoms recur as a result of imperfect operative procedure in the first operation, and I personally plead guilty that my early operations were not as good as they are now, and I frequently have recurrences even now. Now, this brings us to the consideration of the two elements of the primary operation, namely: first, the thorough examination of the cystic duct to see if there are any stones remaining, and second, a careful examination and removal of any adhesions which may be on the lower side. These two elements, I believe, will contribute to the improvement of our results without increasing the risk to the patient. Personally, if I could with equal safety feel that the gall bladder could be removed without interference with the function of the liver, I would do so. The mortality in these operations is 47 per cent. I do not know of any work in the region of the gall bladder that gives that percentage, and I am against any operation that reaches such a high mortality. Where infection is present, and where the infection has been multiplied for weeks, I do not feel like doing any more surgery than is absolutely necessary for drainage.

In reference to Dr. Dunsmoor's remark that we must do more work of an exploratory character in the region of the gall bladder, where the symptoms of pain are absent, I think if we would follow out his suggestions in this direction we would receive very good results, with very little risk to the patient.

DR. A. J. OCHSNER, Chicago—This condition of untreated gall bladder cases exists in nearly every part of the country. This condition was impressed on my mind most forcibly by Dr. Mayo some years ago, when I observed his many operations for this condition. In reply to my inquiry in regard to the reason why he obtained, relatively, so many of these cases, he replied that he made the diagnosis. He did not say this to be quoted, and he did not think that I would tell it to this or any other society, but it is true that we do not make the diagnosis unless our attention has been called to the fact that there is a very large number of cases suffering from so-called gastritis or indigestion due to a condition of the small intestines, chronic appendicitis or loose kidney, which are, in fact, suffering from gallstones. The difficulty is that we have simply learned to diagnose gastritis whenever there is a pain in the region of the stomach. I believe that when our attention has been called to this fact, as it has by this paper to-day, we are likely to look for more definite symptoms before making a diagnosis of gastritis, and that in these cases we will investigate further and make a diagnosis of gall bladder trouble. In my own case, I went home and removed the gallstones from the cases which I had previously referred to the internist to treat for gastritis, and I have operated on several hundred of these cases since.

With regard to the paper of Dr. Davis. I would say that every surgeon as he increases his experience increases the number of cholecystectomies, because he differentiates between the cases that will get well after simple cholecystostomy and those in which a secondary operation must be performed, and with our increasing experience we make a very careful and thorough examination of the case after the abdomen is opened. The diagnosis that we can make before the abdomen is opened is only sufficient to indicate that an abdominal operation should be done. But the accurate diagnosis must be made after the abdomen is opened, and the various steps which Dr. Murphy has described must be followed. The common duct, the cystic duct and the gall bladder should be carefully examined. If the cystic duct is obstructed either from the presence of stone or of cicatricial tissue, and the patient's condition is sufficiently good, then our experience teaches us that the gall bladder should be excised. I believe it is better for the patient and the surgeon to make a cholecystostomy at the time of the primary operation in patients with little strength, because he will recover, and will be comparatively normal until later, when it is safe to make a secondary cholecystectomy. I agree fully with all that Dr. Davis has said in regard to gall bladder surgery.

DR. WILLIAM D. HAMILTON, Columbus, Ohio—About two years ago, while in England, I went to Leeds and saw work, especially choledochotomies, done by A. W. Mayo Robson, whose great skill in the surgery of the upper abdomen can not be disputed, he having done with an amazingly small mortality about one thousand operations in this region. I should have been very grateful had any of the essayists this afternoon thrown further light on how to do these things.

Any man who undertakes operations in the gall bladder region must be prepared to incise the gall bladder or cystic or comon duct or duodenum, if required, for clearing any portion of the biliary passages.

I got from Dr. Robson the idea that it is only when the gall bladder is pathologically spoiled, so that it can no longer with safety be retained or used for drainage, that he removes it. A pad is put under the patient's back, 18x6x3½ inches, and under the liver line. The effect is to raise the spine, liver and bile ducts, bringing them nearer to the surface. The right rectus muscle is split in its middle from the level of the gall bladder upward, instead of downward, as was formerly done, and I want to emphasize this point. If necessary, he carries the incision clear up to the interval between the ensiform cartilage and right costal margin as far as possible. This exposes freely the upper surface of the liver. The liver can then be drawn downward and forward with the gall bladder in one hand of the assistant, while his left hand retracts the edge of the incision, and contiguous organs, thus displaying the cystic and common ducts from the top of the gall bladder to the duodenum in a straight line, provided adhesions have been already freed. One can thus easily open the common bile duct, clear it and stitch it without needle forceps, a method which I have successfully used.

DR. B. B. DAVIS, Omaha—The question that has been dwelt on considerably in the discussion seems to be the danger of doing a cholecystectomy, when we must jeopardize the life of our patient in doing so. I attempted in my paper to throw out this suggestion, that if the condition of the patient were such, or the surrounding conditions such as to make the removal of the gall bladder not an ideal operation, or to render it dangerous, then I would at first resort to the correction of the trouble, and later I would do a more radical operation, if necessary. I feel that this is very important. There are many cases which come to operation which are absolutely unable to bear a severe procedure. In regard to the point made by the last gentlemen, I do feel that if all the cases of gallstones were operated on very early it would give rise to a complete cure in every case, and cholecystectomy would probably answer the purpose, but in my experience it seems to me that at least nine-tenths of the cases have been complicated. I have had a great many where there was obstruction of the cystic duct. I have found stone in the cystic duct. I have found a great mass of adhesions. I have found a very greatly contracted gall bladder; frequently with very thick and friable walls, absolutely useless and detrimental to the recovery of the patient. It seems to me in these cases that it is absolutely necessary to have the bladder removed, in order that the patient may get well. Fortunately in these cases the gall bladder is completely shut off from biliary circulation. Of course, in these cases the only method is the removal of the gall bladder. To my mind the cases which will not demand cholecystectomy are the simple early cases, and the cases which really need cholecystectomy in order to make a complete cure are those complicated cases which we hope in the future will not be so common as they have been in the past.

DR. F. A. DUNSMOOR, Minneapolis—No man should attempt to do an exploratory operation on the gall bladder unless he is thoroughly competent to do any operation that he may find the condition demands when he opens the abdomen. If he is not able to do this, he should not explore, but should let somebody else do so who is qualified to meet the many emergencies of gall bladder work. I wish to say in regard to the gall bladder's mistaken function, that it is not always the place where the gallstones are formed. I have found plenty of gallstones that were not in the gall bladder. I don't mean in the cystic duct, nor in the common duct, but in the substance of the liver. I recall two cases in which there were numerous gallstones scattered throughout the substance of the liver, one associated with hepatic abscess, both with icterus.

Cod-Liver Oil or Saw Wood.—The *New Idea* suggests that when the physician thinks a patient needs cod-liver oil he should pause and consider as follows: If this patient's stomach is strong enough to digest the ordinary cod-liver oils and emulsions that are put on the market, it is not medicine he needs, it is simply work. He is able to saw wood.

OBSERVATIONS ON BREAST FEEDING FROM AN OBSTETRICIAN'S POINT OF VIEW.

WITH REPORT OF CASES.*

EFFA V. DAVIS, M.D.
CHICAGO.

It is with some trepidation that the author appears before a company of pediatricians to present views on the subject of infant feeding; but in the practice of obstetrics, if one is conscientious and consistent, the care of both mother and child calls out the study of infant feeding from the first day of birth, or even earlier, and is so much a part of one's practice that there must be, perforce, a great common source of sympathy and interest between the obstetrician and the pediatrician.

By far the greatest number of infants born are attended, not by specialists, but by the family physician, who, too often, does not even look at the infant when the daily or occasional postpartum call is made on the mother, but relegates the helpless little mite to the care of the nurse or elderly relative. By such means many interesting things pertaining to the child's early days of life are overlooked.

The feeling to which Dr. Rotch of Boston recently referred, namely, that the care of infants and children is a minor part of the practice of medicine and that the youngest and least experienced physician in the community will do for the baby, is too often present. But when one stops to contemplate that one-tenth of all children born do not live a month, it would seem as if the early care of the infant should appeal sharply to all.

An obstetrician, under the usual conditions, has the welfare of two patients to consider during the nine months of pregnancy and the six weeks of convalescence. Many problems are presented to him, if he is observant, by the smaller of his patients. And it is with a desire to receive light and assistance that some of these observations are presented to you.

Before birth the interests of both mother and child are so interdependent that the obstetrician must of necessity be somewhat more of a pediatrician than you may fancy. The safe delivery of the living fetus does not represent all that the obstetrician is responsible for. Much of his study of pregnancy relates to the child's welfare as well as the mother's, and in the labor through which the infant must pass it should claim its proper share of consideration. After birth its very helplessness should plead eloquently to the physician for careful attention. While watchful of complications in the mother, such as hemorrhage, eclampsia, heart failure, etc., the infant should not be forgotten. My first precaution in regard to infant feeding begins before the cord is severed. For the past five years I have allowed, if possible, the pulsations in the umbilical cord to cease naturally before clamping and cutting, giving the infant a good opportunity to establish respiration and to attain in the interval all the placental blood possible. This interval frequently lasts fifteen minutes or longer. The time is occupied in carefully cleaning the infant's eyes and closely watching the contractions of the maternal uterus. Delayed cutting of the cord seems to be a more normal method than its prompt separation; the infants, on the whole, treated in this manner show a more tranquil condition, sleep better and show less hunger during the first three days, and almost uniformly show no loss

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

of weight when weighed at the end of the first week, and often show a gain. I do not notice icterus neonatorum more often than when I practiced prompt cutting of the cord years ago, as some text-books suggest.

The application of the child to the breast is a matter which I personally attend to, usually before I leave the bedside, one or two hours postpartum. If the labor has been very painful, and the patient much exhausted, a longer period of rest is permitted. Both mother and infant profit by the gradual but regular application of the child to the breast from the first day postpartum. An interval of six hours on the first day, four hours on the second, three hours on the third and every two hours thereafter, night feedings to occur at 10 p. m., 1 a. m. and 5 a. m. for the first six weeks. This gradual demand on the glands has the effect of quietly establishing their function and preparing the nipples without producing erosions and great tenderness.

The mammary glands of the mother are supported and lightly compressed by a breast binder applied on the evening of the second day postpartum. If this binder is applied properly and adjusted after each nursing no extreme turgescence will appear to annoy the mother. I employ preferably a strip of canton flannel wide enough to reach from the arm pits well below the mammæ. It is pinned from below upward, the glands being held upward and toward the median line of the body. Straps are pinned over the shoulders to keep it in place, and a layer of cotton applied under it to equalize the pressure. Where the assistance of a trained nurse can not be had, I have an opening cut over the nipples the size of a silver dollar, to permit nursing without removing the binder, and adjust it each day myself. It has been for me a most simple and effective device, preventing painful so-called caking and the necessity of bruising the glands with breast pumps. It permits at the same time a natural and proper secretion of milk. Massage or handling of the breast is not permitted except when the establishment of the gland function seems to be tardy.

Occasionally we have to deal with a mother who does not wish to nurse her infant, because of its being illegitimate or for some other foolish reason. I am happy to bear testimony that these are rare exceptions in my practice, but when a patient starts out with the determination not to nurse her child, it seems to make a difference in the mammary secretion, and although the child may be put to the breast regularly, it often loses or remains stationary in weight and is restless and fretful. By employing a good deal of sternness and mental suasion these cases are made to take a better view of the situation and the milk supply is improved as determined by the improvement of the infant.

Another class of cases present themselves on rare occasions and are less satisfactorily handled. An occasional infant will refuse to thrive during the first week of life, when the mother seems to have the usual supply of milk and the usual solicitude in regard to nursing her child. These infants are fretful after the third or fourth day, more or less sleepless and do not gain, but show a greater initial loss of weight than normal. The stools show faulty digestion and become frequent and watery, finally green and diarrheal in character. Crying is almost constant and excoriations and irritations about the anus with mild eczematous eruptions are noticed, due probably to the acid intestinal indigestion. Vomiting is not always but occasionally an early symptom and curds invariably show in the stools.

These symptoms are more or less severe, and as long as the child is breast fed continue to appear till it becomes emaciated and more ill and unpromising in appearance each day. Sometimes there is a slight gain in weight of two or three ounces each week, but more often the child's weight remains stationary or goes down the scale.

An analysis of the breast milk in these cases often does not solve the question, as its proportions do not seem to be outside the limits of a normal variation. The expense and difficulty of obtaining accurate analysis of breast milk is so formidable an obstacle in the study of these cases that I have not been able to give it any great attention. One or two analyses have been made in most of the cases I shall report, but not sufficient work along that line has been attempted to prove any of the theories advanced.

These cases are most perplexing to the obstetrician, as the wailing infant retards the convalescence of the mother, and her anxiety as to its welfare may alter the quality of her milk, which under the best conditions does not seem to agree with her child.

What shall be done? If the percentage of proteids is found to be too high, as the appearance of curds and colic would indicate, we can not prescribe outdoor exercise, as can be done later in the puerperium. Even massage as a passive exercise to possibly decrease the curds is not practicable as early as the first week, and massage under any condition is only a luxury for the rich. Meat is usually restricted largely during the first two weeks of convalescence, and it can not enter into the production of too high a per cent. of proteids. The excessive fats, which may produce vomiting, can perhaps be reduced by frequent application of the child to the breast; but too frequent nursing also raises the percentage of proteids, we are told, and the long interval reduces the quantity of milk. At any rate, in my experience, these infants seem to be affected in no way by anything we can do toward modifying the mother's milk. They seem to have an idiosyncrasy or an incompatibility for the breast milk. When placed on an artificial diet, after a few doses of calomel to cleanse the alimentary tract, they will almost immediately improve, sleep will become tranquil, appetite and bowels become normal and skin begin to clear up. I usually use malted milk for this test. When the child is returned to the breast, all the old troublesome symptoms return. Knowing the advantages of breast feeding over the bottle, I always hesitate long before taking an infant from its mother's milk; but it seems to be equally true that while some infants can not be made to thrive on artificial food, there are others that can not be made to thrive on their mother's milk. And yet the percentages of the known ingredients of both the mother's milk and the artificial diet, from an analyst's point of view, are within what we are taught to recognize as normal limits.

The question presents itself, is it the fault of the food or of the infant's digestive power in these instances? Often the same mother has been able to nurse a previous child successfully, and that leads one to hesitate longer in advising an artificial food.

The recitation of the following cases will illustrate. All except Case 4 are from my private practice and in families where trained nurses and intelligent co-operation from the mother could be had.

CASE 1.—Infant girl born of Hebrew parents, November, 1898. Father subject to an occasional attack of rheumatism and eczema; otherwise healthy. Mother a healthy young woman, second para. First child born dead three years pre-

viously, after some obstetrical operation at time of delivery. Sepis followed, but mother made a good recovery. Maternal grandmother afflicted with diabetes.

The case was under my care from the third month of the pregnancy, which was normal, as well as the labor and puerperium. The mother was anxious to nurse her infant, and it was applied to the breast in the usual way. The child weighed 7½ pounds at birth and seemed healthy and well. After the fourth day it became restless and fretful, cried much of the time and did not gain in weight. Stools became frequent, watery and green in color, with many curds. Small doses of calomel were administered, with only temporary relief. The breast milk was diluted by giving distilled water from a bottle at each feeding. The diet of the mother, as well as her bowels, were carefully regulated. Analysis was made of the breast milk at the end of the twelfth day, and only a slight increase in the percentage of proteids was determined. Thinking this might be remedied when the mother came to take more physical exercise, the child was still given the breast. But the symptoms grew worse and worse, the anal region showed great irritation and patches of a mild eczema began to appear on the forehead and cheeks. The gain in weight was very slight, if at all, from week to week, and the abdomen became distended with gas, attacks of colic were frequent, and all the relatives became anxious over the case. The mother was obedient and careful in following my directions. She began to take walks in the open air at the end of six weeks, but with no apparent effect on the child's digestion. Malted milk was tried as a substitute to relieve the symptoms and to tide the case along till we were satisfied that it could not digest the mother's milk. When given for 24 hours the crying ceased, the child slept and the stools began to improve. A return to the breast milk would bring back all the distressing symptoms. After working over the case for three months, we all became convinced of the necessity of artificial feeding, even including the mother, who had been firm in her resolve to nurse the child up to that time. An artificial food was adopted of malted milk and cream and the child began to thrive at once, and continued to do so as long as it was under my observation. For a short time, I might add, we tried modified cow's milk from the Walker Gordon laboratory, but this did not seem to be digested as well and the malted milk and cream was resumed, as it gave such good results.

CASE 2.—Girl, born Dec. 27, 1900. Father German-American, well and healthy. Mother German-American, nervous type; subject to severe attacks of dysmenorrhea. First came under my care for uterine polypus three months before becoming pregnant; had been thin and ailing for three years, and after removal of the growth and treatment for cervical erosions, she became pregnant for the first time and passed through her nine months of waiting in good condition, except for slight facial eczema occasionally noticeable in the last two months. Labor and the puerperium were normal.

Infant weighed about 7 pounds at birth and appeared healthy. It was exclusively breast fed for six weeks, but gave the nurse great anxiety by frequent fits of crying, sleeplessness and but slight, if any, gain in weight. Many simple remedies were tried to correct the apparent indigestion, without effect. Crying became almost incessant and the infant slept only from exhaustion. I was often called in the middle of the night to suggest something for the attacks of pain which seemed to assail it. The mother possessed more than the usual amount of knowledge of physiology and chemistry and was helpful and trustworthy in carrying out instructions.

At the end of six weeks, after analysis of the breast milk, which showed the normal average percentages, a trial of artificial food was made. A preparation of malted milk was given for 48 hours, and the symptoms subsided. The mother's milk being drawn in the meantime, nursing at the breast was resumed on the third day. An attack of colic began one-half hour after the breast milk was given and lasted for some hours. The mother tried for a time to partly nurse and partly feed the child, but always with the same violent attacks of crying after each breast feeding, and general signs of indigestion. After using malted milk as a substitute for two weeks, modified cow's milk was used instead with good results and no breast milk was given after the third month. The growth and health of the child was all that could be desired after that and she presents a perfectly normal appearance now at two and one-half years, development having been quite natural in all respects.

CASE 3.—Boy, born September, 1902. Father well and healthy. Mother American, primipara, aged 35. Subject to eczema of the hands. History of uterine displacement and dysmenorrhea. Came under my care at the seventh month of pregnancy. Head of fetus carried low in the pelvis; pregnancy history otherwise normal. Uterine inertia and forceps extraction. Child weighed 9 pounds at birth, face unsymmetrically developed, caused, no doubt, by the crowded position during the last two months of pregnancy of the head in the bony inlet of the upper half of the birth canal. This position was probably brought about by the wide pelvic inlet, the imperfect development of the uterus, due to adhesions, and the tight clothing of the mother during her early months of pregnancy.

The infant began to cry in the first week, and was unwilling to take the breast readily for two weeks. Its stools were white and curdy, sometimes green, and there was loss of weight. Mother's milk was abundant, but she was rendered nervous over the apparent illness of the child. The milk was not analyzed, but as the child had lost one half pound at the end of one month, he was put on the breast milk of a healthy wet nurse, whose own child of one month was gaining at the rate of 12 ounces each week. The first week there was some improvement. The child had gained one-half pound, but had been given malted milk every other feeding, as the wet nurse still nursed her own infant. After that time, modified cow's milk was given alternately with the breast milk feedings and no gain in weight resulted. The child slept better and cried less, but the stools remained abnormal and he vomited often. At the end of the second month his weight was just 9 pounds, the same as at birth, and he looked emaciated, with pasty color to the skin, eruption about the anus, and marasmus well established. As the wet nurse was an expensive luxury, we gave up the breast feeding entirely and tried fresh cow's milk, first modifying carefully and moving the percentages of fats, proteids, sugar, etc., up and down the scale without success. The child looked starved and ill. Thinking a malt addition to the milk might improve digestion, malted milk was again tried. The child showed slight improvement, but did not gain in weight. He still vomited and passed whitish, pasty but odorless stools. When 2½ months old, one of the malted foods (Wyeths) was added in small quantities to the modified cow's milk formula, and a decided change took place in the character of the stools. There was cessation of vomiting, hunger was satisfied, and at the end of one week the child gained one-half pound.

The experiment was tried several times of substituting the simple modified cow's milk formula, a modification with Mellin's food and with diastase, but the weight became stationary as soon as the malted food was taken out of the formula. One teaspoonful only was added to each feeding, but later this was increased to two. The gain was constant after using this agent, and at 5½ months the child weighed 15 pounds and was bright and healthy in appearance.

CASE 4.—Boy, born Oct. 19, 1902. Father rheumatic, otherwise well. Paternal grandmother suffers with a heart lesion. Mother young American, third para. Suffered with dysmenorrhea before childbirth; otherwise healthy. Her first infant was breast fed and fairly well nourished, but died at 9 months of pneumonia. Second child weighed 6½ pounds at birth, also breast fed and well nourished. Weight 17 pounds at six months and 21 pounds at one year. Digestion seemed perfect, with the exception of occasional attacks of colic the first three months.

The third child is the case to be described. Weight at birth 7¾ pounds. Breast fed for three months. Poor digestion, with colic. Stools loose, irregular, green and curdy. Vomit-

ing, restlessness and fretful temper. Slight gain in weight. The attending physician, owing to these symptoms, made two breast milk analyses and reported the milk rich in fats and proteids. He advised the mother to continue breast feedings. This she did, but the child cried so much and evidently seemed to be so poorly nourished, that some artificial feeding was attempted without the physician's advice. Condensed milk was used, three extra feedings being given during 24 hours. The child began to improve in temper and gained in weight more rapidly. Hunger was appeased and vomiting nearly ceased.

March 2 I was called because of return of vomiting and fretfulness. I found the infant, then about four months old, with pasty colored skin, curdy, clay colored stools, vomiting frequently, colicky and hungry. The use of condensed milk was stopped and modified fresh cow's milk was substituted, which a trained nursery maid prepared, the mother being allowed to nurse the child but twice daily. Improvement began at once. In about ten days I was called again to find the child in a high fever, with symptoms of bronchitis; stools showed poor digestion. The alimentary canal was swept clean with castor oil and calomel, arrowroot water given for 24 hours, and the temperature and bronchial symptoms subsided.

It was then gradually put back on the breast milk and modified cow's milk, the breast being given every other feeding for 35 hours.

The child did not seem satisfied, and would not empty the breast, though apparently hungry, and the milk in the glands seemed to be abundant. When given the bottle he drained it to the last drop and was satisfied. After a test of three days, with no improvement, artificial food was given entirely, with a subsequent gain of ten ounces in one week. Stools appeared yellow and well digested, and happy temper and normal sleep returned.

CASE 5.—Girl, born August, 1900, of young Italian parents, Father well and healthy. Mother primipara, normal labor, pregnancy and puerperium. Infant breast fed, weight 7½ pounds at birth. It became colicky with abnormal stools soon after birth, and although it gained slowly in weight, became distinctly rickety at the end of nine months.

A breast-milk analysis showed a low fat and a high proteid percentage. A troublesome galactorrhea was present throughout lactation. The patient had been drinking beer as a tonic before and after delivery. I tried the effect of outdoor exercise and no fluids except milk and cocoa, with no results. The infant did not appear well till artificial feeding was begun at nine months. After a course of codliver oil and cow's milk the signs of rickets disappeared and the child gradually began to appear normal in strength and development.

I have since delivered the mother of a second child, a girl weighing 6 pounds, June 24 1902.

It has been successfully breast fed, and at four months was normal in growth and habits.

CASE 6.—A girl, born November, 1902, came under my notice in the nursery of the Chicago Maternity Hospital, where it had been placed by the mother, who had taken a position as a wet nurse. No family history was obtained. The child, while well and thriving, was taken abruptly off its mother's milk and placed in some private home, where it was fed on Mellin's food. At the end of two weeks its condition was so alarming that it was brought to the nursery in what seemed to the nurse to be an almost dying condition. The face was pinched and extremities cold, and the chin dropped. The temperature per rectum showed fever. Stools were abnormal. The child was placed in an incubator and under the care of a special nurse and careful feeding the spark of life was rekindled. With the assistance of one or two daily feedings from its mother's milk it was made to gain slightly in weight, the body heat sustained to a better degree, and a hopeful view taken of the case. At the end of a month the mother ceased her one daily feeding from the breast for a few weeks and the artificial feedings were alone given. The gain in weight ceased and then a loss of weight ensued, with vomiting and cold extremities. After two months or more of experiment, the mother decided to return to her child, as its feeble state alarmed her and she entered the hospital to nurse it. From the first day the vomiting ceased, and whereas before we were unable to give the proteids in any form except whey and pasteurized cream, without excessive vomiting, the child now took its mother's milk with no ill effects and began a prompt and uneventful recovery, being discharged with its mother, quite well and thriving in two weeks.

This is a type often seen, and yet beside this infant were many others in this nursery who had been just as abruptly taken from their natural food and were thriving vigorously on artificial formulæ.

SUMMARY.

In the first five cases all of the infants presented signs of indigestion in the first week of life.

Four have a family history, either of rheumatism or eczema, and two of both.

All of the first five infants recovered promptly on artificial diet containing cow's milk modified, and all but one (Case 2) did better when some malted preparation was used.

All of the mothers desired to nurse their babies, and two had successfully done so in the case of other children.

CONCLUSIONS.

It is often solely the idiosyncrasy of the child, not always the quantity or quality of the breast milk, which prevents successful breast feeding.

The idiosyncrasy may be along the line of a dyscrasia inherited from parents, subject to what is known as the uric acid diathesis.

It is not fair to the infant to allow it to remain sick and in distress because of a paltry ounce or two which it manages to gain in the course of a week, just to have it breast fed.

A careful study of the child should be made in all cases when the signs of indigestion appear shortly after birth. And when possible a milk analysis should be performed many times to clear away, if may be, some of the doubts which arise.

In large cities, where municipal laboratories exist, the assistance of an expert chemist in the study of human breast milk would be of infinite value to the profession, desiring to lessen this one-tenth death rate of infants during their first month of life, and to the busy obstetrician who has no opportunity of becoming an analytical chemist.

100 State Street.

APHTHÆ AND HERPES.

CONTRACTED BY CHILDREN DRINKING MILK FROM COWS SUFFERING FROM FOOT AND MOUTH DISEASE.*

E. F. BRUSH, M.D.
MT. VERNON, N. Y.

At Frankfort-on-the-Main, in 1884, foot and mouth disease was prevailing among the entire herd of a model dairy farm. After the disease had subsided an investigator named Cnyrim, with an apparent endeavor to put the model dairy in a good business position again before the public, formulated three questions, which he had printed and sent to one hundred physicians in Frankfort and the neighborhood. From these he received fifty-three answers, out of these fifty-three answers only twelve reported suspicious cases, but eight of these twelve did not get their milk from the model dairy. So

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

it appears from the findings of Cnyrim there were only four mild cases that could possibly be attributed to the milk from the Anstadt, and so Cnyrim jubilantly exclaims at the end of his bill of health to the customers of the model dairy farm: "The final conclusion indubitably indicates that the outbreak of foot and mouth disease brought no danger to the consumers who remained loyal to the institution."

The foregoing allusion to Cnyrim and his model dairy farm I have given to indicate one of the conditions that make it difficult for the book student to associate bovine foot and mouth disease with human herpes and aphthæ. If we look at the matter from a dairyman's point of view, it will readily be seen why there are so many Cnyrims keeping us off the main track. Foot and mouth disease in a cow lasts only from ten to twenty-one days; fatality from the disease in some seasons is of great rarity, and at the worst the mortality ranges only from 1 to 5 per cent.; after the disease subsides dairy herds very often resume their ordinary flow of milk and normal degree of health. In a milking herd unmolested by health authorities the dairyman will lose for about a month from one-third to two-thirds of his income from milk, and he continues his business with only this loss after the disease has abated. Under the present conditions established by the Federal Bureau of Animal Industry, a dairyman having the disease in his herd has his stables at once quarantined, his entire income stopped. His cattle are appraised at a fair valuation and he receives 70 per cent. of this appraisal, all his animals are killed, the stables thoroughly cleaned and no animals are allowed in them for two weeks or more, and then only two animals for a time as a test. Thus it can readily be seen that a dairyman whose herd is afflicted with foot and mouth disease has his business entirely destroyed, and if he ever resumes it is necessary to start almost from the beginning. I have always maintained, and still adhere to my view, that none of those who conduct such a large and laborious business as the milkman with from twenty-five to one hundred cows is so poorly paid for his labor and his investment as the farmer who carries on a milk business. That he does his business carelessly, I know, that he will send to a community milk that he knows will do harm, he will not often, I think, deny, and so, when he himself can mislead the health authorities he will do so, and when he can not do so himself, he will, if possible, hire a Cnyrim.

While studying the literature of foot and mouth disease from the meager human medicine point of view, and learning that the disease was prevailing in some of the New England states, I wrote to Dr. Salmon, chief of the Bureau of Animal Industry at Washington, asking him where I could find some cases of human aphthæ acquired from the milk of animals with foot and mouth disease. He replied that he did not think I could find any such cases, but if I would go to Concord, Mass., I would be certain to find numerous farms from which cows had been removed that were affected with this disease. I went to Concord, and found that 327 cattle had been killed in that community because they had foot and mouth disease. I made the acquaintance of Dr. E. D. Harris, a veterinarian who was the inspector of animals and provisions for that town. He accompanied me to several of the farms where the animals had been killed. Among all these farmers only one peddled milk in the village of Concord, and his was the first herd to contract the disease. Among his customers there were, so far as I could discover, four who were affected by the milk, an old gentleman and his wife with slight fever and nausea, the son, a young man, with a mild aphthæ and herpetic eruption, and, in another family, a middle-aged woman with a very sore mouth with the characteristic vesicular eruption of aphthæ. The dairyman who had supplied these people with milk assured me that only the milk of one sick cow mixed with the milk of forty odd others not affected had been served. Learning that a family named J. in Concord, whose herd had been killed, asserted that their children had been fed on the milk of the diseased cows, I called on them in company with the veterinarian. They were naturally very much perturbed and angry, their business having been entirely destroyed. When I first saw the father and mother and talked with them in the presence of the veterinarian they affirmed very earnestly that they had fed raw fresh milk from the diseased herd to two healthy little girls, about 5 and 7 years old, and a robust boy about 11, whom I saw playing about the place. But when I got the mother aside and questioned her seriously she confided to me that there was one cow that was not very sick and had recovered before the others were badly taken, and when the disease was rife in the herd what milk the children got was from this well cow after it had been boiled. "But," she added, "there is a family named C. up the road who fed their children on the milk all through the disease and made butter from it until the animals were killed." The veterinarian took me up to C.'s farm; they were a thrifty, not over clean, Scandinavian family, father, mother and six children. They did not let us into the house; the father and mother came outside and talked with us; they were very angry at the veterinarian and thoroughly incensed against the federal authorities. We could not help pitying them; a hard-working couple who had been years in getting together a herd of cattle and having them all taken away and their entire occupation gone. On questioning them the mother insisted in a most serious and solemn manner that all the six children, from a boy of 12 to a baby less than a year, had consumed all the milk they desired from the sick cows. I only saw one of the children at this interview, a boy of about 7, and he looked thin and anemic, and I felt pretty sure that this boy had been sick. The next day I visited the family alone. I walked right into the kitchen where the mother and six children were congregated. Getting the mother into a confidential mood, she told me that the first cow that was taken sick in their herd sickened about her calving time, and was sick only for four or five days, recovering perfectly before the rest of the herd were much affected. The mother said she had fed this cow with saltpeter and corn meal for a couple of days to clean her out, and it was the milk from this cow, boiled, that the children got. I asked her if she would dare to feed her baby on the milk of one of the sick cows; she threw up her hands and exclaimed, "Oh, no, no! I have seen a calf suck a sick mother and drop dead." But she added, "I am mad with the men that killed our cows; they were all well again when they were killed and the milk was just as good as it ever was."

Failing to discover any children affected by the disease in Concord, I learned that there was a dairyman in Lincoln who made a specialty of babies' milk which he sent to Boston. I found him at home, his entire herd of cows had been killed, he was not at all disturbed, seemingly taking a philosophical view of matters, and was only waiting until the time had expired when he could resume operations with a new herd. He said that just as soon as the disease broke out in his herd he continued to ship his milk to Boston, but sent a printed circular to all his customers that his cattle were afflicted with

foot and mouth disease and that he advised them to boil the milk. He stated positively that during the sickness of his herd he used the milk in his family and allowed his daughter to drink it fresh and raw with no bad results. I asked him if he could give me a list of his customers in Boston, but he refused. I asked him then for the name of a physician who knew some of his patrons and recommended his milk, and he did so cheerfully enough. I wrote to the physician, inquiring if there were any cases of aphthæ associated with milk from this dairy, and I received from the physician a very kind and courteous letter, from which I quote the following: "As for foot and mouth disease, I have never seen but one doubtful case, and in this case the mother stated the infant had not been fed on milk."

From the American standpoint, for the past thirty years aphthæ and herpes contracted from cows suffering from the same affection is absolutely *non est,* as there has been no bovine foot and mouth disease in this country until the epidemic that appeared this winter in New England. But during all this time there have been very many cases of stomatitis aphthosa, or the same disease under one or other of its many synonyms that have not been contracted from foot and mouth disease in cattle. Forchheimer, in his book on "Diseases of the Mouth in Children," is perfectly right when he doubts the relationship between foot and mouth disease and stomatitis aphthosa in children as he saw it, because in his time there has been no such disease among our dairy cattle. Nevertheless, there is an aphthous condition and an herpetic affection that is caused by drinking milk from cows suffering from the so-called foot and mouth disease, an affection characterized by an aphthous eruption in the buccal cavity of the bovine animal and an herpetic eruption on the less hairy portions of the animal's skin. The disease in the dairy animal is often mild and not characteristically fatal. The acquired disease in the child, depending on the freshness of the milk and the amount ingested, can be either a mild or a fatal malady. In 1883 R. Demme, in the *Vienna Medical Journal,* Vol. vi, reports in the Canton of Lucerne a case of twins fed on goat's milk, the goat having foot and mouth disease. The milk was fed fresh and raw. The stronger of the children, a boy, had a very severe aphthous condition of the entire mouth and throat, and died after seven days' illness; the other, a girl, was also sick with aphthous sore mouth, but recovered after five days.

Dr. M. K. Robinson reports, in the London *Practitioner* for 1884, a severe epidemic of aphthæ acquired from hoof and mouth disease in Devonshire. Two hundred and five persons were affected in one week, two children died, the aphthous affection having extended to the respiratory tract in the children.

J. C. Gooding reports, in the *Medical Times and Gazette* of London, in 1872, that a mother who drank milk from a herd affected by foot and mouth disease, acquired an aphthous affection of the mouth, and, as she was nursing an eight-month-old infant, the child also was infected with aphthæ from its mother's milk. The same author reports the case of an infant twelve months old that was infected from the same cow's milk, but recovered promptly when the milk was stopped. Three older children were also affected by the cow's milk, but recovered promptly when it was discontinued.

Friedberger and Frohner, in their text-book of the "Pathology and Therapeutics of Domestic Animals," write (the English edition, p. 610): "The use of milk from aphthous cows contaminates children quite frequently and is fatal to them."

Professor Brown, head of the Veterinary Department of the British government, says: "Milk from cows infected with foot and mouth disease acts energetically on young animals when it is given warm; calves die quite suddenly after sucking cows affected with the malady, and fatal effects have followed the administration of the milk to guinea-pigs." So the head of the Veterinary Department in England, looking entirely to the interests of the cattlemen, has warned the breeder of the danger to young animals, but carrying out the Cnyrim idea he makes the following statement in the London *Lancet* (Vol. ii, 1869): "It has been alleged that there is not any direct evidence of injurious consequences arising from the consumption of milk from cows (affected with foot and mouth disease) on human subjects." The author accounts for this by assuming that in consequence of the marked decrease in the flow of milk from animals affected the milk would be very much diluted to make up for the loss.

Failing to find any cases of aphthæ in children at Concord, I proceeded to Lawrence, Mass., and there made the acquaintance of Dr. J. F. Winchester, president of the American Veterinary Association, who told me that there were two families in town who had been afflicted with aphthæ from drinking milk from cows affected with foot and mouth disease. One of these families were patients of Dr. McAllister. I called on him and he kindly took me to the house to get the story from the mother herself.

Mrs. S, mother of five children, aged 1, 3, 5, 8 and 10 respectively, in December last was taking three quarts of milk from a milkman named G., who produced his own milk on a farm near Lawrence. The baby was bottle-fed on condensed milk, but was given one feeding a day of fresh milk; the three-year-old child lived almost entirely on fresh milk; the other children had milk on their oatmeal and in their coffee, but did not have any to drink. On December 13 the three-year-old child became very sick, feverish, vomiting and some diarrhea, tongue very much swollen and covered with blisters, lips covered with blisters. After the child had been sick for four days it began to have severe convulsions, several of them daily. On December 19 the mother noticed in one of the local papers that the cows of the milkman G. had been condemned by the animal bureau for foot and mouth disease. She spoke to the doctor about it and he advised her to stop the milk. She did so, and all the children recovered in a few days, the other four children having all had sore mouths without being very sick. The mother thought that the three-year-old child, if the milk had been continued much longer, would surely have died, as he was very sick and the convulsions were severe.

I was not able to see the other family, but have written to the family physician, who as yet has not answered me. The milkman G., who served the first-named family, had 35 cows killed, so he must have distributed in Lawrence 200 to 300 quarts of milk, so here we have in this family five children consuming only three quarts of it, and every one of them affected, and it is very natural therefore to suppose that there were many other cases so affected in the city of Lawrence. It is easy to see how these five cases could have been missed had not the mother noticed the name of the milkman in the paper. The family physician did not associate the disease with the milk. Why should he? He undoubtedly had seen many cases of aphthæ and stomatitis during the past thirty years when there had been no foot and mouth disease in the country.

There is an aphthous condition of the young in both the bovine and human families that is non-contagious, and there is also an aphthous condition in both these species that is contagious, and the similarity between the

contagious and the non-contagious in both families is so marked, clinically, that it is very difficult to separate them; in neither of the families and in neither the contagious nor non-contagious affection has, up to the present time, any pathogenic organism been discovered, and in the contagious affection, contrary to the general rule, one attack does not give immunity. Therefore, the only way to diagnose in the human young a stomatitis aphthosa acquired from the bovine race would be from a knowledge that the milk comes from an infected herd. All the literature points straight to one fact, namely, no matter how severe the affection may be, if it is caused by the milk it subsides very quickly without further treatment by simply stopping the milk. So it follows that the simplest way to diagnose between contagious and non-contagious stomatitis aphthosa in the milk-fed young is to stop the milk. Then, if the milk was the cause, the diagnosis is made and the affection cured.

LITERATURE.

SAGAR, M.: Libellus de aphthiks pecoris. (Vienna, 1765, 8 vo.)

BROSCHE (Dresden, 1820): Reports two cases of milkmaids who had milked cows affected with foot and mouth disease, and contracted herpes on the fingers and toes.

MEDICINISCHE VEREINSZEITUNG (1834, No. 48, p. 226): Professor Horzburg of Berlin drank a quart of fresh milk daily from a cow with foot and mouth disease. On the second day he experienced slight fever, contraction of the limbs, headache, heat and dryness of the mouth, and an itching sensation in the hands and fingers. Five days later the mucous membrane of the mouth and tongue became perceptibly swollen and small vesicles appeared. These vesicles increased in size for a few days, and at last burst, leaving in their place dark aphthous patches which did not disappear for a considerable length of time. On the hands and fingers vesicles also appeared, and afterward burst and dried up in the same manner.

MAGAZIN FUR THIERH. (1840, vol. ii): Hildebrandt in.

JOURNAL DE MEDICINE VETERINAIRE (public à l'ecole de Lyons, vol. ii, 1846).

EDINBURGH MEDICAL JOURNAL (February, 1863, p. 704): J. B. Histop reports two cases of murrain (aphtha epizootica) in man. "In August, 1862, Mrs. X., the wife of an extensive farmer, came under my care on account of an eruption of bright red spots one-eighth of an inch in diameter, covered with a thin white desquamation which was so thickly sprinkled over her feet, legs, thighs, and the lower part of her body as to leave only minute interspaces of sound skin. On a subsequent visit to my patient, I found her husband complaining of a sore mouth and throat. On examination, I found the mucous membrane of the lips, mouth, tongue and throat studded with small ulcers, giving off a white slough, which left behind it a clean, but highly sensitive, cup-shaped cavity; his forehead was also covered with an eruption similar to that on the lower extremities of his wife. The only cause that could be assigned for this peculiar affection was the circumstance that the whole of Mr. X.'s cows were at that time laboring under the vesicular murrain (aphtha epizootica). I subsequently ascertained on inquiry that various other individuals employed about the cattle had suffered from similar eruptions, though in a less degree. Several of the children about the house were also affected with sore throats, but the symptoms in their case were mild. The family were in the habit of freely using the milk fresh from the cows."

LANCET, vol. iv (London, 1869, pp. 589-591): An unsigned article, with some microscopic illustrations. No human cases cited. Also a report of Professor Brown, "Foot and Mouth Disease in Relation to the Milk and Meat Supply."

REPORT OF MASSACHUSETTS BOARD OF HEALTH (vol. iv, p. 426, Boston, 1871): A. H. Nichols. Report on the use of milk from cows affected with foot and mouth disease. In one family, the members of which partook freely of milk (from a dairy of cows suffering from foot and mouth disease) a peculiar disease broke out in the course of five or six days, carrying at the same time similar and well-marked symptoms in no less than three adults. The symptoms consisted of loss of appetite, nausea, slight acceleration of the pulse, swelling of tonsils and submaxillary glands, the appearance of a few vesicles on the lips and tongue and a singular cutaneous eruption on the lower extremities, consisting of clusters of papules, vesicles, pustules and ulcers of different sizes, the latter characterized by a dark red color while their peripheral margin was slightly elevated and inflamed. These appearances in various stages of development were all seen at one and the same time, indicating that a fresh outbreak of vesicles was taking place as rapidly as the old ones disappeared. In each case, the eruption was confined to one limb and attended by great constitutional disturbances and lasting six or seven weeks. At the same time, in the same town, Dr. Braman reported a case as follows: "The symptoms here noticed were an efflorescence on both lips which at a distance looked swollen and everted, and on close examination were proved to be studded with minute vesicles and aphthous patches, decided swelling of the mucous membrane of the gums and nasal cavity, pain and tenderness in the region of the abdomen, and diarrhea." Two young rabbits were inoculated with matter from the vesicles on this woman's mouth; at the end of two days the characteristic eruptions took place in the mouths of these rabbits and they were seized with convulsions and died. Next, some of the lymph was introduced into the arm of a healthy man, and at the end of two days vesicles began to form at the points of inoculation, four or five days later vesicles ruptured, leaving unhealthy looking ulcers, which increased in size and had not healed when the article was written.

MEDICAL TIMES AND GAZETTE (vol. i, London, 1872, p. 94): J. C. Gooding on "Diseases of the Mouth and Bowels from Using Milk of Cows Affected with Foot and Mouth Disease," reports, "In the autumn, 1819, Mrs. —— was suckling an infant eight months old and was herself drinking about one and a half pints of milk daily. She complained of soreness of the gums and roof of the mouth. Shortly after the infant exhibited disinclination for the breast, crying when pressed to take it. On examining the mouth, the gums of the upper incisors were found to be swollen and very tender. About this time the husband had sore gums and palate; he had been taking about a pint of milk daily. The milkman acknowledged that his cows had foot and mouth disease; on changing the milk, they all recovered without treatment." He also reports an infant twelve months old, gums hot, swollen and red, roof of mouth deeply congested, feverish, pallid and fretful. Stopped the milk and the child made a prompt recovery. Milk from the same milkman was given to three older children; two hours after ingestion one, three years old, was taken with vomiting and diarrhea; one, seven years old, with vomiting; one, nine years old, was not affected.

REYNAL AND SACC: Sur l'innocuite du lait provenant des vaches atteintes de la fievre aphtheuse ou cocotte (Bull. Soc. nat. d'agricult. de France, viii, Paris, 1873, 103, 129, 331, 372, 392, 421).

DAMMAN: Milch von mit Maul und Kleuenseuche behaffeten Küher (Alpwirth Monatsbl., 9, Aarau, 1877; 9-11).

DEMME, R.; Ueber die Uebertragung der Maul und Klauenseuche durch die Milch. (Wien. med. Bl., 6, 1883; 8-11). Reports the case of twins both fed on the fresh milk of a goat suffering from foot and mouth disease, both sick, one died of the affection.

M. R. ROBINSON: Outbreak of epidemic sore throat following the use of milk from cows suffering from aphthous fever. (Practitioner, vol. xxxii, pp. 467-475, London, 1884). Reports that in Devonshire, in February, 1884, there were 205 persons attacked in one week, the milk all coming from one milkman. The symptoms were inflammation of the throat, enlargement of the lymphatics of the neck and vesicular eruption. Two young children died, two persons with chronic kidney trouble died, a servant girl who had been sick for seven days died in coma.

PROUST: Transmission de la fievre aphtheuse a l'homme par injectiono du lait d'animaux malades. (Rev. d'hyg., vol. x, Paris, 1888, p. 576.) Proust quotes Delest and David (1887), who published treatises on the subject, as follows: "Three Germans took milk intentionally from a sick cow. Next day one was taken with fever and burning in the mouth; on the fourth day numerous aphthous vesicles appeared in the buccal cavity; the two others did not present fever, but had the aphthæ." "In 1872 Bircher took a glass of goat's milk; three days afterward three vesicles appeared as large as a pea. These vesicles burst and left little ulcerations. All the goats on the farm where he got the milk had aphthous fever, and the author was assured that many people in the village and the neighborhood presented symptoms of the same nature." Proust himself has seen repeated cases, isolated or simultaneous, that he knew were due to milk from aphthous cows. He also quotes Thorn-Thorn (1869), who visited various districts where aphthous fever was prevailing among the cattle, and questioned both the doctor and the veterinarian. At Bungay (4,000 inhabitants consuming the milk of 150 sick cows) he found one doctor only who had attended five persons who presented vesicles about the mouth and had fever. At Lewes (10,000 inhabitants) no doctors report any sickness. At Hertford (7,000 population) 130 persons took milk from a dairy where the cows were suffering from epizootic aphthæ and none were sick. There were no cases at Ware, Hutchins, Stevnage or Barnard, but at Beccles (population 4,300) two physicians attended more than one hundred persons attacked with pain in the mouth, a vesicular eruption, ulcerations resembling those of mercurial stomatitis, digestive troubles and prostration. All these persons had drunk milk from cows with aphthous fever. At Bexhill, three families from London, a total of thirteen persons attacked simultaneously with ulceration of the lips, gums and tongue, swelling of the tonsils and submaxillary glands. The affection lasted three weeks and was followed by marked weakness. All these persons had consumed liberally milk from sick cows, not boiled and not creamed.

HECKER: Untersuchung zur Bekampf der Maul und Klauenseuche (Thierarzt Woch., Berlin, 1889).

LABAT, A.: L'usage du lait des animaux atteints de la fievre aphtheous est des modes de transmission de cette maladie a l'espece humaine (Rev. Med. de Toulouse, 24, 1890, p. 27, 39, 55, 67).

LOEFFLER AND FROSCH: Bericht der Kommission zur Erfosschung der Maul und Klauenseuche. (1 Abt. 33, 1898).

F. FORSCHHEIMER: The diseases of the mouth in children (p. 38, Philadelphia, 1892).

RENARD: Fievre aphtheuse chez l'enfant; transmission par le lait de vache; traitement. Rev. mens. d. mal. de l'enf., xiii, Paris, 1895; pp. 18 to 22.

SALMON, DR. D. E., U. S. Department of Agriculture: Special Report on the Diseases of Cattle, Washington, D. C., 1896, p. 391. "Human beings may become infected by drinking the unboiled milk from animals suffering with the disease." He cites no cases.

PROCEEDINGS of the Seventh National Veterinary Congress. Baden Baden, 1899. Hecker.

LANGDON FROTHINGHAM, M.D.V.: "Foot and Mouth Disease (Medical and Surgical Journal, vol. cxlviii, pp. 9 to 12, Boston, 1903).

NOTHNAGEL: Spezielle Pathologie.

FRIEDBERGER AND FRÖHNER: Lehrlich der spezielle Pathologie der Hausthiere. "The use of milk from aphthous cows contaminates children quite frequently and is fatal to them."

Pure Carbolic Acid in Erysipelas and Osteomyelitis.—Mencière relates in the *Gaz. Méd. de Paris* two cases of erysipelas treated by application of a compress dipped in a 50 per 1,000 solution of carbolic acid. It was left in place for three or four minutes and then the parts were rinsed with alcohol. American authors have reported the same. In a case of acute osteoarthritis he applied the pure acid liquefied with one-tenth alcohol. The infection was arrested even more effectually than with the usual use of the bistoury and scissors.

PROLONGED WITHDRAWAL OF FOOD IN CERTAIN CASES OF INTESTINAL DISORDER.*

THOMAS D. PARKE, M.D.
BIRMINGHAM, ALA.

It may safely be stated, as a general principle, that the less we rely on drugs in the management of any given diseased condition the more do we fall back on accessory management in the way of hygiene, diet, and hydrotherapy. The man who thinks he has found a specific for typhoid fever in his tablets given at prescribed intervals, loses interest in baths. The man who imagines he can digest food in a patient's stomach by means of artificial digestants, places less stress on diet.

So in disorders of the intestinal tract of childhood, when one comes to realize that drugs may not be depended on for cure, he falls back on management by other means.

All authorities agree that diet is the great desideratum in, as well as the great barrier to, the successful management of this class of cases. All authorities recommend that food be withdrawn in the beginning of such disorders, but in no text-book has been encountered a recommendation that the period of withdrawal be prolonged beyond forty-eight hours.

The object of this brief paper is to put on record the clinical observations:

First.—That infants can safely be deprived of all food except water for much longer periods of time than have been advised in our text-books.

Second.—The value of the procedure in the management of severe cases.

Drug treatment and feeding management will not be entered into.

How much longer than forty-eight hours infants might, with impunity, be deprived of food was not known to the writer, nor were data on the subject to be found in the text-books.

It was known that professional fasters had demonstrated the possibility of very prolonged periods of fastings for adults—even to fifty days—and it was recalled that new-born infants manage to survive on the scanty secretion furnished by the mother's breasts for the first two and even three days.

It was recognized that food of any character seemed to act as a poison on some of these cases even after forty-eight hours, and so the period of food withdrawal was lengthened until three years ago this last April a child, 15 months of age, was kept absolutely on plain water, *ad libitum,* for five days and nights, 120 hours. The child was suffering from ileocolitis, ushered in by convulsions, fever and bloody stools. The convulsions occurred at intervals, but with lessening severity, for two days.

It was unknown territory, in one sense, but as the child seemed to maintain her strength and flesh as well as, or better, than other patients given food, and as the conviction was strong that food would only aggravate a desperate case, the course adopted was persisted in for five days, till the reduction of temperature and change in character of stools seemed to warrant the administration of diluted food in the form of broth, followed by whey and then by modified milk.

During the summer of 1902 an infant, ten months old, ill with ileocolitis, was kept for five days on water—baths being employed for the reduction of temperature.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

At the end of these five days the very serious question arose as to whether it would be justifiable to keep an infant of ten months any longer without food. Again unexplored territory had been reached. Egg albumin water was given once only to the amount of three ounces. The symptoms were all aggravated by it within a very few hours, and thereon the resolution was formed, with the consent of an intelligent father, to persist in keeping all food from the child till the symptoms abated or the child was beyond any hope. After three more days—that is, eight days in all—the fever having abated and the stools changed, diluted food was given and the child went on to recovery.

The most surprising observation made was the failure of this little patient to fall away to a skeleton after such prolonged fasting. It is regretted that no weights were taken, but to preconceived ideas it was simply a revelation how the child could retain so much flesh. Not that the child did not lose flesh, for it did, but merely that the loss was not commensurate with preconceived notions and was a source of general remark to such parties as saw it and knew the history of the case.

During the last four seasons no case of acute intestinal disorder seen during the first week has been lost, save one. This was a case of multiple ulcers of the stomach, accompanied by convulsions, persistently high temperature, extreme tympany, no vomiting or diarrhea, and in which the correct diagnosis was made by means of a postmortem examination. The favorable outcome of some apparently desperate cases, during these four seasons, has engendered confidence that in the extension of this recognized procedure we have a valuable help.

The prolonged withdrawal of food is not advocated in every case indiscriminately, nor even in the majority of cases. In the vast majority, if seen early, a withdrawal of a few hours until Nature or a laxative empty the intestinal tract of offending material, will be all that is required. What is contended for is that each case be individualized—be managed in accord with the indications furnished by tongue, by tympany, by temperature, by stool. What is contended for is that these little patients, ill with the severer forms of intestinal disease, will be more comfortable, will live longer, will recover more quickly on water than they will on food of any description that a disturbed intestinal tract can not assimilate.

The text-books tell us to keep them forty-eight hours on water, then to put them on gruels, broths, whey. The contention of this paper is that not time, but the characer of the stools, the condition of the patient, be the limit for a return to food.

INFANT FEEDING—ITS RELATION TO THE DIARRHEAL DISEASES OF INFANCY.*

JAMES G. MASTIN, M.D.
Professor of Pediatrics, Illinois Medical College; Pediatrician to Illinois Free Dispensary.
CHICAGO.

The causative relation of diet to diarrheal disease is an important and real one, and is worthy of serious consideration at the hands of practitioners of medicine in general, and pediatrists in particular.

Clinical observation of the varied and complex digestive and nutritional disturbances of early life, illuminates their etiologic and pathologic study, and when coupled with a comprehensive view of the physiology of digestion must eventually lead to the general adoption of successful preventive measures. The ideal achievement of modern medicine, the discussion of which involves the consideration of quality, quantity, production, and in the artificially fed preparation of the food on one hand and on the other perverted function, catarrhal inflammation and infection.

A brief review of the most essential changes that occur in the process of digestion, and a consideration of the function of lactation is not out of place, especially as they are the basis of the writer's views on this subject. Digestion, physiologically considered, begins in the mouth by mastication and insalivation of the food. Ptyalin, the most important of the digestion ferments of the salivary secretion, is an unorganized enzyme and belongs to the amylolytic or diastolic group possessing the power to convert starch into maltose through several successive forms of dextrin; its action continues for a variable length of time after the food has reached the stomach, or until neutralized by the acid of the gastric juice.

The function of the gastric juice is that of converting proteid through several successive changes into peptone, the end of stomach digestion. Starches, sugars and fats pass through the stomach unaltered. They are poured into the intestine mixed with the product of gastric digestion, where, under normal conditions, the whole mass of undigested substances are converted by the combined action of the bile, intestinal and pancreatic ferments, or enzymes. All starchy matter that has escaped the converting action of ptyalin is changed by amylopsin and a similar ferment contained in the succus entricus. Steapsin and the bile contain fat ferments, which act on the fatty matter of the food, splitting it up into fatty acids and glycerin, thus effecting their emulsionization and saponification, in which forms they are absorbed.

Trypsin has the property of peptonizing proteid, and exerts its action on albuminous matter escaping digestion in the stomach. The succus entericus, in addition to its amylolytic action, contains inert enzymes which have the property of converting cane sugar, maltose and dextrin into glucose.

The young infant, however, does not masticate its food, and while the salivary secretion is present at birth only in small quantity, it increases in amount with the development of the child. The part played in digestion by it in early infancy is an unimportant one. With the eruption of the teeth its amylolytic function is markedly increased, indicating a change in the digestion of the child.

Pepsin and hydrochloric acid are present in small quantity in the gastric fluid of the new-born, but owing to the rapidity with which the food passes from the stomach into the intestine, partly on account of its fluidity, and partly to the shape and position of the stomach, only a small portion of the proteids are peptonized by the gastric ferments. Coagulation of the milk is effected by the rennet ferment, probably aided to a certain extent by the acids of the gastric juice.

The amylolytic function of the pancreatic juice and succus entericus is developed to a certain degree, but not fully established until the sixth to eighth month after birth. The amount of the various digestive ferments secreted are in proportion to the stimulating qualities of the food. As pointed out by Jung after Pawlow, "Vegetable albumin calls for the largest amount of ferment from the pancreatic gland as well as from the stomach, whereas milk albumin calls for little"; further, that "without any doubt there is a distinct adaptation of the

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juice to the food. Starchy foods get more amylolytic ferment and fatty food more fat ferment." All of which tends to show that digestion in infancy occurs almost wholly in the intestine, and that the stomach acts as a reservoir quite as much as an organ of digestion, also that the young infant is capable of digesting starches and sugars in proportion to the normal secretory capacity of the pancreas, and that starches, sugars, fats and proteids in excess tend to exhaust the secretory function of the glandular organs of digestion by over-stimulation. We know from clinical experience that an excess of these elements of food, separate or combined, cause fermentation, indigestion and diarrheal discharge. Also that these elements must be of the proper kind and in proper proportion to stimulate normal digestion and support the process of nutrition. They are all found in good breast milk.

Lactation is a physiologic function in woman and all mammals, of course the quantity and quality of the milk varies according to the state of health, diet, exercise, personal hygiene, sanitary surroundings and physical development; all of which should be, and to a certain extent are, under the control of the physician.

There are certain diseased conditions that unfit a mother for nursing her infant from the start, as pointed out by Holt. If the mother be a multipara, a history of the success or failure of nursing in former periods of lactation should be ascertained, and when necessary steps taken to obviate any probable difficulty; her surroundings should be made the best possible compatible with her circumstances; her diet directed, both quantity and quality being considered, in fact, prescribed for with as much care and precision as in any other abnormal condition. An examination of the milk of the primipara is necessary before we can prescribe intelligently for her, except in a general way, i. e., care of the mamma, physical exercise and management of the excretory function of the kidney and bowels.

That maternal nursing when possible is superior to any other method of feeding is an established fact. It is possible always when the mother is healthy and her milk normal. But it must be remembered that all mother's milk is not within the normal limit, though she may be in good health.

We know from chemical analysis that fats, proteids, carbohydrates, mineral salts and water are present in normal mother's milk in certain proportion; unfortunately, however, a determination of the exact percentage of these elements of milk is not a bedside possibility. Yet we have the means of clinical examination which are sufficient for all practical purposes, as pointed out by Holt, and emphasized by Southworth. Early and repeated examination of the milk is imperative in order that the proper mode of living may be adopted for the mother during the nursing period, with the view of preventing the digestive and nutritional disturbances in her infant that are certain to follow the prolonged ingestion of abnormal milk. The new-born infant is an exceeding delicate being, its organs are rudimentary, which, under normal conditions, develop functional activity with great rapidity, the equilibrium of which, however, is easily disturbed the digestive function once upset. Complications develop; the longer the cause is operative the greater the difficulty of re-establishing functional balance. True, some infants (like some patients who get well in spite of treatment) live and thrive in spite of poor food and bad methods of feeding, almost always, however, at the expense of nutrition. Hence our efforts at maintaining maternal nursing must be kept up, and if properly carried out are usually successful. If the milk be deficient in quantity only, supplementary artificial feeding should be adopted, two or more feedings daily, preferably with a spoon from a clean container; or a good wet nurse may be employed to nurse the child alternately with the mother. When both quantity and quality can not be brought up to the proper standard, the wet nurse may be employed exclusively during the first three or four months, after which artificial feeding is to be preferred.

Artificial feeding suggests the selection and preparation of an artificial diet. That cow's milk is the best possible substitute for mother's milk can scarcely be denied; its modification by the method of Holt or Rotch is the first step towards preparation; its further modification by Jacobi's method is of equal importance, the object of the former being that of preparing a diet containing fat, proteid, sugar, mineral salts and water in the same proportion that they exist in mother's milk, also for the purpose of breaking up the curd. The latter method further divides the curd, thus exposing a greater surface to the action of the digestive ferments, markedly facilitating their digestion, a point of very great importance on account of the density and toughness of cow casein. In view of the fact that mother's milk during the early days of lactation contains a minimum quantity of lactose, often amounting to less than 2 per cent., and that proteid is present somewhere between 1 and 2 per cent., indicates that a modified cow's milk should contain at the start not more than 3 per cent. of milk sugar, and owing to the difficulty the infant experiences in digesting cow casein, the per cent. of proteid should be present in not more than 1 per cent., and should the infant be delicate or digestive disturbance be already developed, it should be reduced to 0.5 per cent. or less. These elements may be increased in the food in proportion to the demands of the infant, until at the end of the third or fourth month the carbohydrates shall have been raised to 6 or 7 per cent. and the proteid to 1.5 per cent.

Jacobi has given us some very important hints on the use of milk sugar in the modification of cow's milk for infants, pointing out that milk sugar, on account of the excess of mineral salts and impurities that it contains, partly defeats the object for which it is added to milk solutions, indicating that a pure cane sugar is preferable to the impure milk sugar of commerce.

Milk sugar in excess undergoes fermentation in the bowel, forming lactic acid. Albumin in excess also ferments and undergoes decomposition in the intestines, and both are exciting causes of indigestion, fermentation, diarrhea and catarrhal inflammation, thus preparing a suitable soil for the lodgment and development of pathogenic organisms. It has been truthfully said that "every infant is a law unto itself." Our rules relative to artificial feeding must be adapted to the requirements of each case. Chemical formulæ for the preparation of infant's food are numerous, and manufacturing concerns have flooded the country with their so-called infant foods. Jacobi indirectly disposes of them all in a sentence: "Infants are not chemists and are not bound to be guided by chemical formulæ in their compound physiologic functions."

The writer has thus far had in mind only the modification of pure cow's milk, i. e., bacteriologically safe milk, that containing not more than 30,000 bacterium to each c.c. and entirely free from pathogenic organisms.

The milk of the cities' poor, that transported in cans often many miles by rail, exposed to thermic variations, causing chemical change and, to a certain degree, con-

taminated with the dust of the road and street, to careless handling before and after it has reached the hands of that class of people huddled together in the tenement districts, that class who contribute a greater number of cases of diarrheal disease the year around than any other class, that furnish the greatest number of deaths among infants and children during the heated term from intestinal infection, cholera infantum, etc., than all other classes combined. These diseases, however, are not peculiar to the poor, they too frequently occur among the better classes. They are prevalent among the poor in the tenement districts partially on account of bad sanitary conditions and neglect; mostly, however, to ignorance of food values, of the digestive capacity of their young, and of the danger lurking in contaminated milk, of the value of sterilization, of infection and its disastrous results. The variety of indigestible and pernicious articles of food allowed infants and young children among those people is too well known to require description. All of which suggests a discussion of moral responsibility, professional and civic, which, however, is beyond the scope and limit of this paper.

Infants fed on good breast milk, properly clothed and otherwise cared for, seldom suffer from severe diarrheal disease, the death rate in such cases being very small. Of 1943 fatal cases of diarrhea collected by Holt, only 3 per cent. had the breast exclusively. In my own experience the percentage of fatal cases of diarrheal disease in nursing infants has been very small. Infants develop diarrhea from other causes, but the percentage of cases and the severity of the discharge is insignificant in comparison to the number of cases and severity of that form due to poor food and improper methods of feeding. Unfortunately the means of ascertaining the percentage of deaths for comparative purposes between breast-fed and artificially-fed infants and children are inadequate. We know, however, that the mortality rate in the artificially fed is much greater and that their resistance to all forms of acute disease is very much less. Also that they are more susceptible to digestive and the more remote nutritional disturbances than the breast nursed.

BIBLIOGRAPHY.

Jung: THE JOURNAL A. M. A., 1902.
Holt: Diseases of Infancy and Childhood, 1902.
Southworth: JOURNAL A. M. A., 1902.
Rotch: Disease of Infancy and Childhood, 1902.
Jacobi: Transactions of American Pediatric Society, 1902.

776 Walnut Street.

DISCUSSION

ON PAPERS OF DRS. BOOT, TULEY, M'ALLISTER, COTTON, SNYDER, DAVIS, BRUSH, PARKE AND MASTIN.*

DR. H. M. MCCLANAHAN, Omaha—I merely wish to draw attention to two points brought out in this excellent series of papers, for it is impossible to touch on many of the excellent suggestions. One of these points is that of normal lactation. I gave considerable attention to the literature on this subject a year ago, and found only two articles giving special consideration to this important subject. This question will, I am sure, engage our attention a great deal more in the future than it has in the past. On this Section devolves the duty of educating the public on the importance of normal lactation. If in the next ten years the mothers of this country could be educated to nourish their babies as nature intended, I think it would probably add more to the saving of infantile life than anything else, even than the surgical procedures so enthusiastically advocated, and to which so much attention is directed.

The other point I wish to dwell on is that of mixed feeding, for, I believe the majority of practitioners do not fully recognize its importance. The idea has prevailed that if the mother has not sufficient breast milk she should not nurse her baby, but this idea is wholly erroneous; let the baby have all she has, and then supplement this by bottle feeding. I have recently had under my care a child of seven months which had been nursed, and was losing weight. The whole secret was that the milk, as shown by analyses, was good, but there was not enough of it. I, therefore, supplemented this breast feeding by two or three bottles, when the gain in weight not only reached normal, but exceeded it.

The question of the antitoxic influence of human breast milk on a baby I think is very important. You will remember that this question was alluded to by Dr. William H. Welch in his masterly address in London some months ago. The influence of this Section should go out to the laity through the profession, and the mothers should be taught the value of breast nursing, and how it may be best maintained.

DR. CHARLES G. KERLEY, New York—With regard to the classification given in the first paper: It seems to me a waste of time to make a classification based on clinical manifestations. These cases are all infectious, and when we know more about them we will probably learn that the infection is very much the same in all. Abundant postmortem experience shows that it is practically impossible to make a classification in which the clinical manifestations and pathologic findings fit. In other words, no definite set of symptoms corresponds to any definite lesion.

I agree with almost everything that has been said by Dr. Tuley, though perhaps I would begin a little earlier in regulating the mother's life. In order that a mother may successfully carry out the nursing function, a nursing régime and habits of life suited to this purpose must be established. She should have definite periods of rest and certain lines of diet—usually a diet very much like that to which she was accustomed hitherto. I would not put a society girl on the same diet as I advise for one of my dispensary mothers. When maternal nursing is referred to in papers or in discussions, the so-called "society girl" comes in for a generous amount of abuse. I have never known a mother—and I have known thousands of mothers—no matter what her station in life, who is not willing to nurse her child if she can. According to my observations, the maternal instinct is very strongly developed. A mistake often made with the better class of mothers is in our making the nursing a burdensome matter. Before becoming mothers these young people have been accustomed to having a good time, and if they are put under strict nursing orders every two or two and a half hours without any means of recreation, the nursing is apt to be a failure. Among this class of patients I allow the baby one bottle a day. This enables the mother to secure needed recreation, out-of-door exercise and entertainment. There is no reason why she should not attend a matinee or the opera. They certainly are much more successful when a moderate amount of liberty is allowed; more of them are able to nurse their children and nurse them longer. The addition of one bottle a day is also of service in the case of such family emergencies as sickness or sudden calling away of the mother.

I do not know of any specific medication or means which is of value in increasing the milk supply: good food, fresh air, absence of worry, exercise and attention to the bowel function ordinarily answer.

Regarding the question of artificial feeding, I think we sometimes go rather wide of the mark in our papers because we attempt to apply one principle to all sorts of conditions of children and society.

I feed three classes of children: First, the dispensary, or out-patient infant; second, the infant resident in the hospital or children's institution; third, the infants of the better class. Each type requires special management. Including all of the above we must still make another division—the ill and the well. Many physicians attempt to feed sick babies in the same way as well babies. This explains much of the dissatisfaction in connection with infant feeding. It is a comparatively easy matter to feed babies artificially if we take them from the beginning of life. With children who are ill with impaired digestion as a result of indefinite, vacillating or hysterical feeding it is very different. On attempting to feed these digestively sick infants according to the rules laid down in the books for healthy infants, trouble is naturally met. Such a child must be treated as though it were ill. Its stom-

*The first five of these papers appeared in THE JOURNAL June 13.

ach must receive due consideration. Very commonly I see children who have been fed properly from the standpoint of the well child, but who fail to thrive because they cannot take care of the food given them. In many of these cases in which the infant can not digest the proper amount of strength of food, much benefit arises from stomach washing, although there has been no vomiting. A tube introduced into the stomach will show the presence oftentimes of a large amount of mucus. I recall one such case in which the stomach washing brought away an ounce and a half of mucus. Under daily washings, although there was no vomiting, the child made satisfactory progress. I put these children on a sick diet. For the first day or two I make use of a dextrinized gruel. Condensed milk answers well for a week or two with many of these infants. It is easier of digestion than cow's milk, and sustains the child until it is ready for a cow's milk mixture. I wish to emphasize that I use condensed milk only as a temporary diet for the digestively ill; it is wholly unfitted for well children.

I wish this Section would take up the question of the necessity of state control of the milk supply. When the chairman referred to the lack of interest the state took in the care of the young, it reminded me of the fact that in all large cities from 12 to 15 cents must be paid a quart for a safe milk.

There must be a far more efficient state or municipal control of the milk supply in our larger cities if we are ever to secure a milk at a reasonable figure that is fit to give a baby. This can be accomplished by establishing in large cities milk laboratories on the lines laid down by Mr. Nathan Straus, of New York. If the purest milk be placed in a tenement where the mother knows nothing about caring for it, it will rapidly become contaminated. Hence with such laboratories it will be necessary to have district physicians and nurses to instruct the mothers how to keep and prepare the food and how to properly care for young infants. Several years ago we began at the Babies' Hospital to issue pamphlets of instructions with regard to the care of children. In these pamphlets the mothers were instructed with the first sign of gastrointestinal derangement, to take the child off milk and give it a barley-water diet, give it a teaspoonful of castor oil, and to bring the child to the dispensary.

The mortality from diarrhea in New York city last summer in children under 5 years of age was nearly four thousand. The year before it was about 4,700. During these years it has been shown that this tremendous mortality is unnecessary and preventable. I reported recently from the out-patient department of the Babies' Hospital a series of over 850 cases treated, with 3 per cent. mortality, or about thirty deaths.

Last year Dr. William H. Park interested himself in the milk supply, and selected at random among the tenement districts, fifty infants under 1 year of age, who were put under the care of a physician, who visited them regularly and saw that they received the Straus milk, which was the best obtainable. The mothers were instructed as soon as they saw vomiting or diarrhea to stop the milk, put the child on barley-water and summon the physician. Of these fifty cases among the poorest and most ignorant people, there was not one death. Our records at the Babies' Hospital of 3 per cent. of deaths were obtained among children of this class who came to us ill with diarrhea. The prevention, therefore, of a large summer mortality from diarrhea, lies in the proper selection and care of the food, and in a general common sense management of the infant. It is impossible in New York city for a mother with 8 cents in her hand to exchange it for a quart of safe milk. This should not be so, and it is the duty of municipalities to guarantee a safe food for the offspring of the poor.

How ridiculous for men in exalted positions in church and state to become hysterical over race suicide and small families, when no effort whatever is made officially to preserve the lives of the children already here.

Regarding the Shiga treatment: I have seen eight or nine cases of Shiga diarrhea which have been treated by the Shiga serum. Some of these cases were mild, some severe; clinically they differed in no respect from what we have, in lieu of a better name, called "summer diarrhea." Probably a great majority of the cases of intestinal disease which occurs in infants during the summer were found due to one means of infection—the Shiga bacillus. The results in those small number of cases has been sufficiently good to impress me favorably with the serum treatment. As yet we do not know the proper doses to fit the varied degrees of severity, or how often it is wise or safe to repeat it. Our knowledge in this respect will doubtless be increased a great deal during the coming summer.

DR. R. B. GILBERT, Louisville, Ky.—I wish to emphasize what Dr. McClanahan has said regarding the matter of lactation. We all know that many mothers do not nurse their children, and I think popular instruction from physicians would increase the number of nursing mothers.

As to the modification of the mother's milk while nursing, and even before the birth of her infant, this should receive due consideration. With a little care on the part of the pediatrician, the mother may be placed in such a condition that her milk will be nutritious and abundant. The new-born infant really does not require nourishment for twenty-four or forty-eight hours, and I think the mother should not be worried and annoyed by efforts to make the child nurse within two or three hours after delivery. The infant at this time requires nothing but sterile water, warmed to the temperature of the body. I believe that a newly born infant can live for eight days just as well as older infants, without food, and I may add that I believe if saline enemata are given this period might, if necessary, be increased. Anxiety, emotional excitement and mental influences generally will modify the breast milk very materially, and often very seriously. I recall one case in which the child was put to the breast immediately after a violent fit of anger. The infant was well at the time of being put to the breast, and within an hour it died in convulsions. It was found that the stomach and esophagus were filled with tenacious coagulated milk. The use of whiskey and especially of tobacco by the nursing mother greatly deteriorates her milk, and makes it poisonous for the infant. The colostrum in the first milk secreted remains for about a week, and is more abundant at the beginning. Instead of allowing the infant to nurse out this colostrum, in the case of infants having a tendency to diarrhea, this should be milked out and thrown away. Another thing which greatly influences unfavorably the mother's milk during lactation is sexual excitement. I am sure I have known of deaths among nursing infants follow excessive venery. The infant should not be allowed to nurse the mother for three or four hours after sexual excitement, and it would be still better to nurse out a little of the milk and throw it away. The knowledge laid down in Dr. Davis's paper should be disseminated among the nursing mothers throughout the country.

DR. P. J. BARCUS, Crawfordsville, Ind.—I wish to emphasize the importance of seeing that the minute details of management and treatment are carried out. Too much of our teaching seems to be directed toward looking after the child after it is sick, instead of while it is well. Formerly the new-born child was entrusted to the grandmother; we of the present time trust the new-born infant very largely to the trained nurse. This, I think, is a mistake. I am a strong believer in the use of water during the first few hours of life. I think the child should be put to the breast in the first hour or two. If the colostrum corpuscles continue for a few days it is then necessary to draw the milk with a pump, and not give the child this colostrum. It is very necessary that the child should have more water than it usually receives. We should not trust the infant to the nurse alone until assured that modern principles will be fully carried out.

DR. THOMAS S. SOUTHWORTH, New York—With regard to the formation of milk commissions, I would say that I recall very well sitting beside Dr. W. H. Park in New York at a dinner at which he proposed this certificate of the milk for the city. This proposition was made tentatively at a private gathering of medical gentlemen to see how it would be received. All of those present recognized the excellence of the suggestion, but uppermost in the minds of all was the question as to its practicability; yet the next summer, by the aid of the Rockefeller Research Fund, this matter was undertaken, and by the next fall there were firms producing "certified" milk, and later what was called "inspected" milk. The latter is much the same as the certified milk, except that it is furnished in quantity in the cans, and not in bottles. I have been strongly impressed in my work among the poor in the out-patient department of the

Babies' Hospital with the willingness and anxiety of the poor to secure the best possible milk.

I am inclined to think that in one of the cases reported by Dr. Tuley, in which breast nursing was given up because of menstruation, breast feeding might have been continued if the breasts had been pumped during menstruation and artificial food given only at this time, the breast feeding being resumed later.

With regard to the cases reported in Dr. Davis's admirable essay, I would say that a great deal of persistence is required in order to maintain breast feeding because a strong pressure is brought to bear on the physician by the family and friends if the infant is not thriving. I have already published a case in which in the very hot season a child was not thriving, and the stools for six weeks since birth had been loose and green; nevertheless by getting the mother out-doors, giving her iron and feeding her on corn-meal gruel, she was able to continue nursing, and the child thrived at the breast and was over the average weight when 1 year old. I do not think that baby would have survived if it had been taken from the breast and put on artificial food during that very hot summer. I have in mind another case in which a baby died when a few days old because of difficulties in maternal nursing. The second child was wet-nursed for fear there might be trouble, and this baby survived. The mother determined to nurse the third child, and although the milk did not agree at first, by waiting until the colostrum period was passed, and by getting the mother in better condition, she was able to nurse the child satisfactorily. The same thing happened with the fourth child, although it took a longer time to secure a good result, as the mother had been very ill. She is now nursing her child most successfully, and it is making gains far beyond that of the average baby at the breast because the mother has an abundant supply of milk of the best quality. We should not be too soon discouraged in our attempts to restore the breast milk which apparently does not agree with the child.

DR. GEORGE N. ACKER, Washington, D. C.—I think that a great many mothers could be made to nurse their children, yet I recall many mothers who refused to nurse their offspring and who had taken this position even before the birth of the child. This is a matter which should be attended to from the first. I have seen several instances in which the wearing of corsets has prevented the secretion of milk. Nurses can be of great assistance to the physicians in this matter. Holt read a paper on this subject some years ago, and made the statement that only one American woman in ten was able to nurse her child up to the third month, and that it was a curiosity to find an American mother who could nurse after this time. I think even the milk of a poor mother is better than modified or laboratory milk. Recently the health officer of Washington endeavored to force the milk men to clean the cans before returning them to the country, but he met with much opposition. I was surprised to find Mr. Gordon, of the Walker-Gordon Laboratory, coming before the commission and testifying that a little dirt in the milk was not of much importance. With regard to artificial feeding, I make it a point to begin with low percentages and feel my way. Carried out in this way, the modification of milk for infant feeding is usually a success.

DR. JOHN C. COOK, Chicago—There is a pathologic condition in these bowel troubles of children which has not been very thoroughly elucidated in the literature or brought out in this discussion. In a great majority of the cases there is an accumulative toxic condition, the result of previous bad feeding and hygienic surroundings. These children have been badly fed from day to day, both as to quantity, quality and times of feeding, with the result that the powers of resistance have been so greatly diminished that last feeding is as a torch to an already well prepared tinder box, and many times we are prone to accredit it with results that it is not entitled to.

DR. THOMAS S. SOUTHWORTH, New York—Dr. Kerley and others have already spoken of the difficulty in forming classifications which are entirely satisfactory because we find that the lines of distinction are not so clearly marked clinically between the different types of the more acute infections of the intestine, and also because, given a certain course of clinical symptoms, it is extremely difficult to predict from them what will be found in the autopsy room. Perhaps the most interesting field that has been opened up for some time is that with regard to the Shiga bacillus and its allied forms and their etiologic relation to intestinal affections. The impression has gone abroad that the summer diarrhea of children may eventually be found to be attributable to these bacilli, but I think it will be found that certain epidemics of intestinal disorders in children are due to this bacillus, or to allied forms, and that there still remains a very large proportion of the more acute intestinal affections in which these bacilli are not present. Last January I had an extremely interesting experience with one type of this bacillus in the Nursery and Child's Hospital, New York. The infection got into a ward of small children, and resulted in eight deaths. The type of the disease was rather interesting. The first symptom was a rise of temperature, and with this there would be found on the napkins pink or rose-colored stains of mucous. In some cases the hemorrhages from the intestines were larger because there was much congestion of the intestine. The stools were not particularly frequent, and many of them were fairly well digested. Coincident with the rise of temperature and the appearance of these blood-stained stools there was a very sharp fall in weight, despite the best efforts at feeding. These children would lose several ounces a day. They would then suddenly go into a collapse, evidently from a toxic accumulation in the system, and although they might be temporarily aroused from this collapse, death would occur within twenty-four hours. The pathologic findings in these cases, which are to be published shortly, showed varying degrees of enterocolitis, especially of the catarrhal type. There was intense congestion of the lower portion of the intestine, particularly those in which there had been considerable transudation of blood. In one case showing otherwise similar symptoms to the others, there was an ulcerative gastritis with little or no ulceration of the colon. These cases were due to the indol-producing type of the Flexner-Manila bacillus, an organism belonging to the Shiga group.

DR. HENRY E. TULEY, Louisville, Ky.—It seems to me that this symposium has been productive of great good. One thing especially has been brought out with great unanimity by the papers of those taking part in the discussion, i. e., the importance of breast feeding. Another question on which this section should go on record is as to the importance of the classification of diarrheal diseases. The classification at present is very chaotic, and we need a good classification as an aid in our work. This revision, which should be made, is particularly timely now that we have received such valuable information with regard to the Shiga bacillus. In order to bring the matter before the Section I move that the Chairman appoint a committee of three to consider this subject to report at the next meeting.

In the case reported in my paper and commented on by Dr. Southworth, an attempt was made to preserve maternal nursing, but the mother was a very nervous woman, and the excitement incident to the sickness of her infant caused a cessation of the lacteal secretion, and I was unable to keep up the supply over the menstrual period.

If we would instruct mothers more minutely as to the importance of recognizing a slight intestinal disturbance and correcting it by a change in, or a stopping of, the milk, there would be much less trouble in controlling such affections. The laity are so firmly of the opinion that teething is responsible for most of the errors in digestion that it is time they were enlightened on this point; through lack of such knowledge indigestion is allowed to go on until the storm comes to which Dr. Cook has referred. A child is not able to digest as strong a formula of modified milk in hot weather as in cold weather, and hence we should forestall this, even at the expense of a possible slight loss of strength and weight, rather than allow the development of trouble in hot weather.

I have recently had an experience in endeavoring to get up a milk commisison in Louisville, but I was checkmated because the opinion prevailed that it would lead to the advertising of a certain milkman's milk, and that the profession generally was not interested in such a matter. Our health officer has done a great deal toward obtaining a pure milk supply, but un-

fortunately all of his work has been in the line of chemical investigation, and not bacteriologic study. He practically has no authority under the law to extend the search up to the dairy where most of the trouble occurs. One of the dairymen was recently arrested for feeding swill, in violation of the statute, and he retained as his attorney the father of the child whose case I have reported, and this attorney defended the dairyman, although he had been most earnest in endeavoring to secure pure milk for his infant. The milk supply of Louisville comes partly from another state, and we can not control that portion of the supply unless it is below the chemical standard.

We often learn useful lessons from the laity. Recently a negro monthly nurse, who is very competent and has had a large experience among the best families in Louisville, stated to me that she made it a rule never to put the baby to the breast until the third day, and that she did not give the child anything but water during this time. She insisted that in this way she invariably had good babies, that they did not lose much weight, as determined by actual weighing, and that the mothers under her care never had fissured nipples because she saved them from the useless tugging at the nipples usually allowed in the first few days before the flow of milk has been established. Some mothers continue nursing for a very long time with the idea of preventing conception. I think we should endeavor to stop nursing as soon as possible after the end of the first year.

DR. A. C. COTTON, Chicago—The statement has been made in this discussion that breast milk should be stopped which apparently does not agree with the child. If the words breast and milk were left out I would agree to the statement—in other words, stop anything that does not agree with the child. Why single out breast milk? I do not think that in the way we look at this subject we treat it fairly. Years ago somebody "shied" at some of the difficulties of breast feeding, and we jumped clear over the fence and into the worst kinds of boulders and thickets and stumps of artificial feeding in order, like a frightened horse, to get away from this little difficulty. Why do we talk about influencing legislation to secure a good milk supply when one-half as much energy expended in the right direction would secure a far better supply from the source which nature intended should be used? We are all in favor of a pure milk supply for the larger children, but why not attend to the natural supply of breast milk for the young infant? We can not begin to make cows' milk as good as mother's milk, no matter how we treat it. We are apt also to mix up supplemental feeding and substitute feeding. Why change the food as soon as there is a little difficulty with the feeding? If the mother can be allowed a little more liberty, as suggested by Dr. Kerley, we shall improve her mental condition and incidentally her breast milk. I like this idea very well, and all who have had experience know that by an occasional substitute feeding under these circumstances we may do good. Every time we take away from a baby even a little mouthful of milk left in the mother's breast we do an injury to that infant. Disturbed lactation must be the future study of the pediatrician, beginning, as Dr. Davis does, by preparing for lactation and feeding the newly-born infant on placental blood. I take issue with Dr. Davis, however, with regard to the artificial milk, for six cases fed on malted milk or anything else does not prove anything. I am disposed to think that there was something wrong with the domestic hygiene in the cases reported, possibly something in the inner life of the family which disturbed and interfered with lactation. I have, on a previous occasion, reported upward of fifty cases of disturbed lactation resulting from excessive coitus. Because we are "baby doctors" is no reason why we should consider this subject too delicate a one to inquire about. We have been told to-day that these babies are sick babies, and should be dieted accordingly, but who thinks of dieting a baby fed at the breast? Let us not forget to teach the nursing mother that her child may be fretful because of thirst, and that it should be given water instead of so much milk. Pump out the breast and feed the child water. It is all very well to organize to secure a good milk supply, but it is far better to organize to secure good wet nurses. There are many foundling institutions in which the death rate has been so appalling that they do not dare to publish the results. What these institutions stand in dire need of is breast feeding with some supplemental feeding. The burning question of the hour is, how to prevent this priceless pabulum from going to waste. I care not what the bacillus is, if we keep on exciting acute indigestion we shall not get rid of it by any bactericide that will ever be discovered.

DR. J. ROSS SNYDER, Birmingham, Ala.—I agree with Dr. Kerley that we do not need to concern ourselves with the question of race suicide; this will take care of itself if we take care of the children already in existence. I should not care to conduct a party of legislators into the Yellowstone Park or the swamps of the Mississippi, but I should like to take them into my tenements, for I am sure I could show them something which would interest them. I have come to believe that incubators must be at work in these tenements rather than a natural process of maternal hatching. I have been greatly pleased with the accumulating testimony to the effect that we are doing something to prolong and improve lactation, and I can indorse Dr. Cotton in the earnestness of everything that he has said on this subject. When I was on the staff of the Nursery and Child's Hospital, New York, Dr. Southworth tried to get me to introduce certain measures which were calculated to improve the supply of breast milk, and what I learned then deeply impressed me. A peculiar case came to my notice last October. I was called in to see a breast-fed child that was not doing well. Examination of the milk and stools showed the proteids to be too high. Investigating the life of the mother, I found she was leading a very sedentary life because of an ingrowing toe-nail. This was removed and she was told to take plenty of out-door exercise and drink corn-meal gruel. In a short time the baby experienced no further trouble in digesting the mother's milk.

DR. EFFA V. DAVIS, Chicago—I have been very much edified by this series of papers, and yet I feel that some things should not pass without explanation. Objection was made to my plan of early nursing on the ground that the child might exist a considerable time without any food, but I wish to emphasize that the highest death rate occurs in the first month of life, and as the pediatrician is rarely as close to the infant at this time as the obstetrician, the latter should carefully consider this matter. I feel the safest plan for the infant is to establish early nursing. According to my experience the application of the child to the breast in the first few hours after delivery is not a tiresome process, but one full of pleasant interest to the mother, and the function of the glands is more naturally established by the system of nursing which I have suggested. I should like to ask in this connection what condition the mammæ are in when the plan of the negro nurse is adopted of not applying the child to the breast for three days?

It is true that the baby can live for a considerable time without food, but Holt and others report cases of inanition fever as the result. Moreover, the secretion in the breast is natural; colostrum is a physiologic product that nature intended for the child, and it will not disagree in the great majority of cases. In an institution with which I am connected the nurses were formerly taught to give the babies only sterilized water for the first two or three days of life; but I found so much water being given that it was difficult to get nursing habits established, and much loss of weight occurred.

The first five cases reported came under my observation during twelve years of work, in which time I have attended 1,500 or more confinements. I have reported them because they are not common.

I can not understand the statement quoted from Holt, that mothers who can not nurse their babies beyond three months are the rule—because this is certainly not true in Chicago.

With regard to modifying the mother's milk, in the cases reported I used every possible means known and approved, with the hopes of successfully feeding the children without removing them from the breast. I believe all of these five children would have been better treated if I had taken them more promptly from the breast milk, instead of waiting, as I did, three, four and in one case nine months. Out-door exercise was employed as soon as possible and general habits regulated. In some of the cases I was very particular to

inquire regarding coitus, and found it was not a possible factor in the disturbance.

I do not stand as an advocate of artificial feeding. I am always very reluctant in taking a child from its mother's milk, and should be glad to know of any new method of preserving or improving the breast milk in the class of cases reported.

DR. T. D. PARKE, Birmingham, Ala.—With the rest I am, of course, in favor of the breast as against the artificial feeding of children, and I always endeavor to obtain a wet nurse if for any reason the mother is unable to nurse her child. I am also heartily in favor of the movement for better milk. One of the first questions I always ask my patients is as to the source of the milk. I endeavor to have the milk procured from some private family near by having a cow. I instruct them carefully with regard to the care of the milk when it is received. With regard to the prolonged withdrawal of food, the main point in my paper, I would say that I was driven to that because I found that in some cases barley water soured on the stomach, and that in other cases the egg albumin appeared to act as a poison, and also because broths made with chicken gave rise to foul-smelling stools. It is very easy to read a paper as to how long a child was kept without food, but I can assure you that it was not easy to carry it out in private practice. Fortunately these cases occurred in families of high intelligence, and who were able to have trained nurses. Dr. Cotton spoke about taking the mother's breast from the child. Whenever these children become sick I stop the breast just as soon as I stop other food. I believe this practice saves trouble and time, that the child will get well more quickly, that there will be fewer ill-smelling stools, and that the restlessness resulting from absorption of toxins from the intestinal canal will be absent.

THE SAFRANIN TEST FOR SUGAR IN THE URINE OF CHILDREN.*

W. S. CHRISTOPHER, M.D.
CHICAGO.

A little over five years ago the writer's attention was directed to the safranin test for sugar in urine by Alfred H. Allen's book on "The Chemistry of Urine."

Safranin, which is one of the coal-tar dyes, occurs in commerce as a brownish red powder which forms a blood-red solution with water. The writer has invariably used in his work the preparation made by Grübler.

M. Louis Crismer of Liege was the first to advocate the use of safranin as a test for sugar in urine. His method was to heat together 1 c.c. of urine, 5 c.c. of a 0.1 per cent. solution of safranin in water and 1 c.c. of a 10 per cent. caustic soda solution. The decolorization of the safranin occurs if the urine contains sugar. I have been unable to get Crismer's original article, but have found abstracts of it in several places.[1] According to Crismer, some urines which show sugar by the test above given will fail to show sugar by Fehling's test, but no urine which reacts to Fehling's test ever fails to give the safranin reaction.

Prof. Chas. C. Curtman[2] has found the safranin test proposed by Crismer to be very reliable for the detection of abnormal glucose in the urine. He has never found a normal urine of which 1 c.c. decolorized more than 2 c.c. of the test solution. He holds that if 1 c.c. of urine decolorizes 5 c.c. of the safranin solution (1-1000) glucose is present in abnormal quantity.

Safranin is very readily oxidized, and exposure to the air or agitation of the decolorized solution will very readily bring back the red color. So sensitive is the safranin to the action of the atmospheric oxygen that a single bubble, rising from the bottom of the test tube in which the reaction is occurring, will cause a partial but distinct return of the red color. This fact limits the application of the reaction in a quantitative way. After numerous and varied attempts to use it in an exact quantitative manner, I was finally forced to adopt the approximate quantitative method suggested by Allen. In my hands this method finally took the shape to be presently described, and while only approximately quantitative, has given me some valuable results from a clinical standpoint.

According to Crismer, safranin is decolorized by sugar, but is not decolorized, when heated in alkaline solution, by uric acid, creatin, creatinin, chloral, chloroform, hydrogen peroxid, and only slowly (but in the end completely) by solutions of albumin. Personally I have had no opportunity of verifying this statement, but at my request Dr. Maximilian Herzog, professor of pathology in the Chicago Policlinic, has conducted some experiments on this line, and he reports to me that his experiments show that uric acid does not decolorize safranin, even if used in large amounts. The same is true of creatinin. He also found that morphia sulphate, chloral hydrate and powdered rhubarb root did not decolorize the safranin solution. His experiments were made in the same manner and with the same precautions that I employ in making the test in urine.

Allen has fully confirmed the observation of Crismer as to the inability of uric acid and creatinin to decolorize safranin. Whereon Allen says, "any discharge of color (of the safranin) may confidently be set down to the presence of sugar."

Clinically I have found that extensive reduction of safranin by urine is generally (but not always) associated with autotoxic symptoms, and hence, whether it always means sugar or not, it is a readily applied and valuable index of certain forms of autotoxemia and assists in the analysis and classification of these complex conditions.

The method of applying the test, as I use it, is as follows: A series of test tubes is taken, into each of which is put 1 c.c. of the urine to be tested, 1 c.c. of normal sodium hydrate solution and varying amounts of a 1 to 1000 aqueous solution of safranin. Into the first test tube is put 1 c.c. of the safranin solution; into the second, 2 c.c.; into the third, 3 c.c., and so on, until all the tubes are prepared. All the tubes are then placed in a glass beaker containing enough glycerin to rise above the level of the solutions in the test tubes. Heat is then carefully applied to the bottom of the beaker (which, of course, is protected by wire gauze) and the glycerin heated nearly* to the boiling point of water, a thermometer being perferably immersed in the glycerin to keep track of its temperature. Occasionally no reaction occurs, but generally the red color of the safranin is discharged in one or more of the test tubes, fading first from the tube containing 1 c.c. of the safranin solution, next from that containing 2 c.c., and so on up. The number of test tubes in which the safranin is decolorized is then recorded on the urinalysis slip. This number I call the Safranin Index. Occasionally the color is discharged in a certain number of the tubes, say, for example, 3, and partially in the next. Such a result I

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

1. Jahresbericht über die Fortschritte der Pharmakognosie, Pharmacie und Toxicologie, 1888, p. 274. Phar. Jour. (3), xix, 348.

2. Pro. Amer. Phar. Assoc., 1889, p. 661.

* The reaction occurs at 180° F. It is never necessary to raise the temperature above 190° F. When the sugar is largely in excess of the safranin, I have seen the reaction occur at as low a temperature as 140° F.

record as ½ more than the number of c.c. completely decolorized, hence in the example taken the result would be recorded as 3½. In making the test it is imperative that the material in the test tubes does not boil, for even a single bubble will cause a partial reoxidation of the safranin and thus vitiate the test. Formerly I used a water instead of a glycerin bath, but the agitation of the tubes by even slight boiling of the water of the bath, even when their contained solutions did not boil, always produced some reoxidation of the safranin.

Many months slipped by before I felt that we had the method sufficiently well in hand to warrant recording results. At first the test was only occasionally applied, but very soon it became the rule to make the safranin test in every urine examined in my laboratory, and for about three years this rule has been in force. It has not been possible always to carry this out; at times the quantity of urine received would not suffice for this, and such other tests as might in the particular case be deemed more serviceable; at times darkness coming on would interfere; and again, time itself would not permit. Notwithstanding these interferences, I find that the test has been made in approximately two-thirds of the urines examined, hence the results here presented are in no sense selected cases. Even of those made some few urinalyses had to be rejected from this discussion because of lack of data to determine the sex and age of the individuals from whom the samples came. There then remained for consideration in this paper 3,504 urinalyses, represent 861 different individuals. Of these 23 samples were from adults, the remainder were from boys 1,775 samples and from girls 1,706 samples. The cases were all private patients and mostly office cases.

Some time ago I called the attention of Dr. H. B. Favill of Chicago to the safranin reaction, and he agreed to use it in his laboratory. His laboratory assistant was taught the method by my assistant in my laboratory, and consequently we are sure that absolutely the same method has been used in each. Dr. Favill has very kindly turned over to me for use in this paper the results of the analyses of 58 samples of urine from men and 84 samples from women, which have been combined with my own 23 observations of adult urine, and both appear in the table.

In preparing Table 1 it was found necessary to omit the urinalyses of two boys, Lewis G. and Ralph W. Among the 1-year-old boys the urine of Lewis G. appeared 46 times with an average safranin reaction more than double the average of the others. Among the 2-year-old boys it appeared 19 times with an average of more than 2½ times the others. Among the 3-year-old boys it appeared 9 times, with an average slightly below that of the others. Practically the same was true of the urine of Ralph W., which appeared 14 times among the 1-year-old boys, twice in the 2-year group and 10 times in the 3-year group. These two boys were distinctly abnormal in their safranin reactions, and for this reason their urines were examined frequently. These two facts caused their urines to have an undue weight in the determination of the averages, and as these averages were intended to establish norms, it was deemed proper to omit all of their urinalyses from years 1 and 2, but to include all of them that belonged to year 3. In computing the table the urinalysis cards were first distributed as to sexes, and then each sex separately divided as to years, after which the average safranin index for each year was determined by finding the sum of all the indices of that year and dividing by the number of urinalyses involved.

Table 1 shows for each sex the number of urinalyses for each age by years, the sum of the safranin indices in those urinalyses, and the average or normal safranin index for the particular year. For convenience, the age of children under 1 year appears as zero; each age includes all of that year up to the following year. Ages were recorded as that of the last birthday, hence children under 1 year appear as of the age of zero.

TABLE 1.—SAFRANIN DATA.

	Males.			Females.		
Age.	No. Exam.	Total.	Norm. Saf. Index.	No. Exam.	Total.	Norm. Saf. Index.
0	78	72.5	0.93	35	31.5	0.90
1	133	226.0	1.70	178	258.5	1.45
2	214	458.5	2.14	264	457.0	1.73
3	212	468.0	2.21	205	410.5	2.00
4	205	436.5	2.13	216	379.0	1.75
5	165	308.0	1.87	146	228.5	1.57
6	132	251.0	1.90	125	176.0	1.41
7	88	161.0	1.83	113	176.5	1.56
8	74	121.5	1.64	93	128.5	1.38
9	95	194.5	2.05	88	152.0	1.73
10	122	208.5	1.71	99	111.0	1.12
11	92	155.5	1.69	51	95.5	1.87
12	44	66.0	1.50	20	32.5	1.63
13	30	37.0	1.23	20	45.0	2.25
14	8	14.0	1.75	11	20.5	1.86
15	1	3.0	3.00	2	1.5	0.75
16	0	0.0	0.00	14	18.0	1.29
17	2	2.0	1.00	17	34.0	2.00
18	0	0.0	0.00	5	7.0	1.40
19	1	1.0	1.00	4	5.5	1.38
20	0	0.0	0.00	1	1.0	1.00
Adults..	66	92.5	1.40	99	158.0	1.59

The normal safranin indices of the two sexes for the several years given in Table 1 are graphically represented in Chart 1. A study of the safranin curve shown in Chart 1 reveals the following:

1. The normal safranin index is low during the first year of life, but gradually increases, reaching its maximum between 3 and 4 years, after which it slowly decreases for a number of years, but never becomes so low as during the first year.

2. During the first ten years of life boys have a safranin index constantly higher than that of girls.

3. At 11 years the safranin index curves of the two sexes cross, the girls becoming superior. While this may be entirely an accidental showing, it is in all probability a pubescent phenomenon. It is significant in this connection that the growth curves of weight, stature and height sitting of the two sexes cross at almost exactly the same age. Further observations, however, will be necessary to confirm this point. The sharp rise at 9 years is possibly fortuitous, although it must be admitted that the fact that both sexes show the same rise would indicate that it is not altogether accidental. Further, a careful examination of the urinalyses of that age shows nothing to indicate that it is not normal. A similar rise also occurs in the urea and acidity curves.

It being desirable to compare the safranin averages at the different ages with the percentage of urea and the degree of acidity at these ages, these were computed from the same urinalyses which furnished the safranin data. Many more urinalyses were available for this latter purpose, but it was considered preferable to use only those from which the safranin table had been derived. It will be noted that in a few instances urea and acidity estimations were missing from some of the safranin cards, and hence the tables do not at all times agree as to numbers examined.

The urea was occasionally estimated by means of a nitrometer, but more generally with a Doremus ureometer. The acidity was determined by titration with decinormal soda solution, the end reaction being determined with phenolphthalein. The number of c.c. of decinormal soda solution necessary to neutralize 10 c.c. of the urine was recorded as the Acidity Index.

Table 2 gives for each sex and each year of age the number of urinalyses, the totals of urea percentages and the average or normal urea percentages.

TABLE 2.—UREA DATA.

	Males.			Females.		
Age.	No. Exam.	Total.	Norm. Urea Per Cent.	No. Exam.	Total.	Norm. Urea Per Cent.
0	78	53.45	0.69	34	27.5	0.81
1	133	230.0	1.73	176	288.25	1.64
2	214	434.6	2.03	264	488.4	1.85
3	211	482.2	2.29	204	398.75	1.95
4	205	426.55	2.08	216	396.8	1.84
5	165	346.7	2.10	145	278.2	1.92
6	131	294.7	2.25	125	234.2	1.87
7	88	186.3	2.12	113	208.0	1.84
8	74	144.2	1.97	92	172.7	1.88
9	95	211.3	2.22	88	188.6	2.14
10	122	253.0	2.07	99	154.7	1.56
11	192	185.2	2.01	51	100.0	1.96
12	44	83.2	1.89	20	35.5	1.78
13	30	52.5	1.75	20	44.5	2.23
14	8	15.8	1.98	11	21.5	1.95
15	1	2.7	2.70	2	1.5	0.75
16	0	0.0	0.00	14	20.8	1.49
17	2	3.2	1.60	17	31.0	1.82
18	0	0.0	0.00	5	7.1	1.42
19	1	1.5	1.50	4	4.6	1.15
20	0	0.0	0.00	1	1.1	1.10

Table 3 gives similarly for each year and sex the number of urinalyses, the totals of the acidity indices and the average or normal index of acidity. By presenting the data in this manner the opportunity is offered to others to combine the results of their own similar observations with these. The resultant data of Tables 2 and 3 are shown graphically in Chart 1.

TABLE 3.—ACIDITY DATA.

	Males.			Females.		
Age.	No. Exam.	Total.	Norm. Acid. Index.	No. Exam.	Total.	Norm. Acid. Index.
0	72	137.7	1.91	31	65.3	2.11
1	123	451.0	3.67	165	575.4	3.49
2	211	885.3	4.20	258	927.4	3.59
3	203	866.7	4.27	196	736.5	3.76
4	204	810.1	3.97	211	680.5	3.23
5	164	629.4	3.84	144	486.6	3.38
6	132	520.9	3.95	124	388.4	3.13
7	88	324.0	3.68	112	383.0	3.42
8	74	217.8	2.94	93	319.1	3.43
9	93	376.5	4.05	88	372.3	4.23
10	121	427.0	3.53	91	249.2	2.74
11	92	331.6	3.60	51	153.7	3.01
12	44	126.0	2.86	20	53.2	2.66
13	30	72.5	2.41	20	74.4	3.72
14	8	26.4	3.30	11	36.5	3.32
15	1	4.0	4.00	2	2.6	1.30
16	0	0.0	0.00	14	35.3	2.52
17	2	4.0	2.00	17	44.0	2.59
18	0	0.0	0.00	5	12.2	2.44
19	1	2.2	2.20	4	7.9	1.98
20	0	0.0	0.00	1	1.7	1.70

The urea curves and the safranin curves show most striking resemblances; both commence during the first year of life at points far below the average, both rise rapidly at first, more slowly afterwards, and both reach their maximum in the fourth year of life. In both the curve of the boys rises above that of the girls and stays above until the age of puberty, the curves crossing at 12 years for urea and at 11 years for safranin. It would seem that the number of urinalyses is sufficient to eliminate chance errors and to indicate that these showings are real. The acidity curve follows much the same course as the other two, but is more broken. Many of these patients were given alkalies freely and the acidity curve has been therefore much interferred with, and it is not surprising that it is more irregular than the other two. Moreover, acidity is a very complex resultant. Its general similarity to the others, notwithstanding the interference with it, adds great weight to the accuracy of the other two curves.

The ratios have been computed for each year between the average so-called "percentage of urea" for the year and the normal safranin index for the year, the urea in each case being considered as 1. Similar ratios have been computed between the normal percentages of urea and the acidity indices, the urea again being expressed as 1. These ratios are given in Table 4 and graphically shown in Chart 2.

TABLE 4.

	Ratio Urea Per Cent., to Safranin Index.		Ratio Urea Per Cent., to Acidity Index.	
Age.	Males.	Females.	Males.	Females.
0	1.31	1.11	2.69	2.59
1	0.98	0.88	2.12	2.13
2	1.05	0.94	2.07	1.93
3	0.97	1.03	1.87	1.93
4	1.02	0.95	1.92	1.75
5	0.89	0.82	1.83	1.75
6	0.85	0.75	1.76	1.67
7	0.86	0.85	1.74	1.86
8	0.84	0.73	1.51	2.49
9	0.92	0.81	1.82	2.45
10	0.83	0.72	1.71	2.45
11	0.84	0.95	1.79	1.61
12	0.79	0.92	1.51	1.63
13	0.70	1.01	1.38	1.66

The curve of the urea-safranin ratio is divisible into four sections. The first section comprises the first year only; the second section comprises years 1 to 4 inclusive; the third section comprises the years 5 to 11 inclusive for boys, and 5 to 10 for girls; the fourth section comprises years 12 and 13 for boys and 11 to 13 inclusive for girls. The curves are not plotted beyond 13 years because paucity of numbers makes their accuracy doubtful beyond this point. The first three sections are similar in the two sexes. In the first section the ratio is high, being 1.31 for boys and 1.11 for girls. One of the baby boys had a safranin index of 12. If this case should be thrown out entirely the ratio would still be 1.14. On the other hand, many of the safranin indices of urines belonging to the first year of life are recorded as zero, which would have been recorded as fractional parts of unity had fractional parts of a c.c. of the safranin solution been used in their determination. So that the average indices as recorded can not be far from the truth even with the one unusual index counted in.

In the second section of this curve the line is nearly horizontal and very close to unity, its average being 1.005 for the boys and 0.95 for the girls. The third section drops to a lower level and maintains it throughout the whole section, the average ratios of the section being 0.86 for boys and 0.78 for girls. The fourth section drops to a still lower level for boys, viz., 0.75, but rises with the girls to 0.96. These curves bring strongly to mind the curves of the annual percentages of growth and development in stature, height sitting, weight, endurance, grip and lung capacity, which show a pubescent exaltation with a prepubescent diminution of rate of growth. The low ratio at 10 years in girls, 0.72, followed by the high ratio, 0.96, is very suggestive of the above mentioned peculiarity. These ratios represent the relative proportions of the saccharin and urea elements in the metabolism. They show that in infancy the saccharin element, although absolutely low, is relatively high, but gradually diminishes as the age of the child increases, to again show an exacerbation at puberty. These ratios are also serviceable in assisting in the determination of the significance of single samples of urine. It not infrequently happens that in a given sample of urine the urea percentage, safranin index and acidity index will all run high. If, however, their ratios to each other be approximately normal, it shows that the urine is concentrated, but not necessarily toxic, yet, nevertheless, even in such instances one always suspects, at least, that the small volume of urine is not carrying away all that it should.

The safranin index varies considerably from day to day. This is very well illustrated in the case of Lewis G., of whose urine 74 examinations were made. The safranin indices in these examinations are shown graphically in Chart 3, which is made after the manner of a

temperature chart. Time intervals are not proportionately shown on this chart, but the date of each examination is given. The characteristic of this chart is its irregularity, extensive changes occurring even from day to day. The chart shows very clearly that caution must be used in drawing conclusions from a single urinalysis —this may be very far from the average safranin index of the individual. Chart 3 also shows Lewis G.'s urea percentage and his acidity index for each day that the safranin index is recorded. The relations between the three and their (in a large fraction of the chart) daily variations are shown. In general, safranin and acidity accompany each other. Occasionally a high acidity will be found to precede a high safranin by a day, and begin to drop the same day that the safranin index reaches its maximum. In general a high safranin does not last more than two or three days; high acidity not infrequently persists longer, and may occur independently of the safranin reaction. High safranin very rarely occurs independently of high acidity. I have not always made copper tests of the urine, but in general it may be accepted that a urine which has a safranin index of 5 will show sugar by a copper test. In a general way the urea rises and falls with the acidity and safranin indices.

To determine the minimum number of observations necessary to establish with some degree of significance the average safranin index of an individual, the following study of these urinalyses was made. A list was made of all individuals under 21 of whose urine 10 or more examinations were made, also of the number of examinations of each, and of the average safranin index of each individual. There were altogether 77 individuals (both sexes) with 1,559 urinalyses, making an average of 20.3 examinations for each. The average of all their safranin indices was 1.82. The average safranin index of all urines examined, adults excluded but including Lewis G. and Ralph W., was 1.81. Of the 77 individuals 11 had exactly 10 urinalyses and the average safranin index of these 11 was found to be 1.81. This would indicate that for a given individual not less than 10 examinations should be made to determine his average safranin index. Of the 77 individuals with 10 or more examinations, 11 had an average safranin index between 2 and 2.5; 11 had an average index between 2.5 and 3;

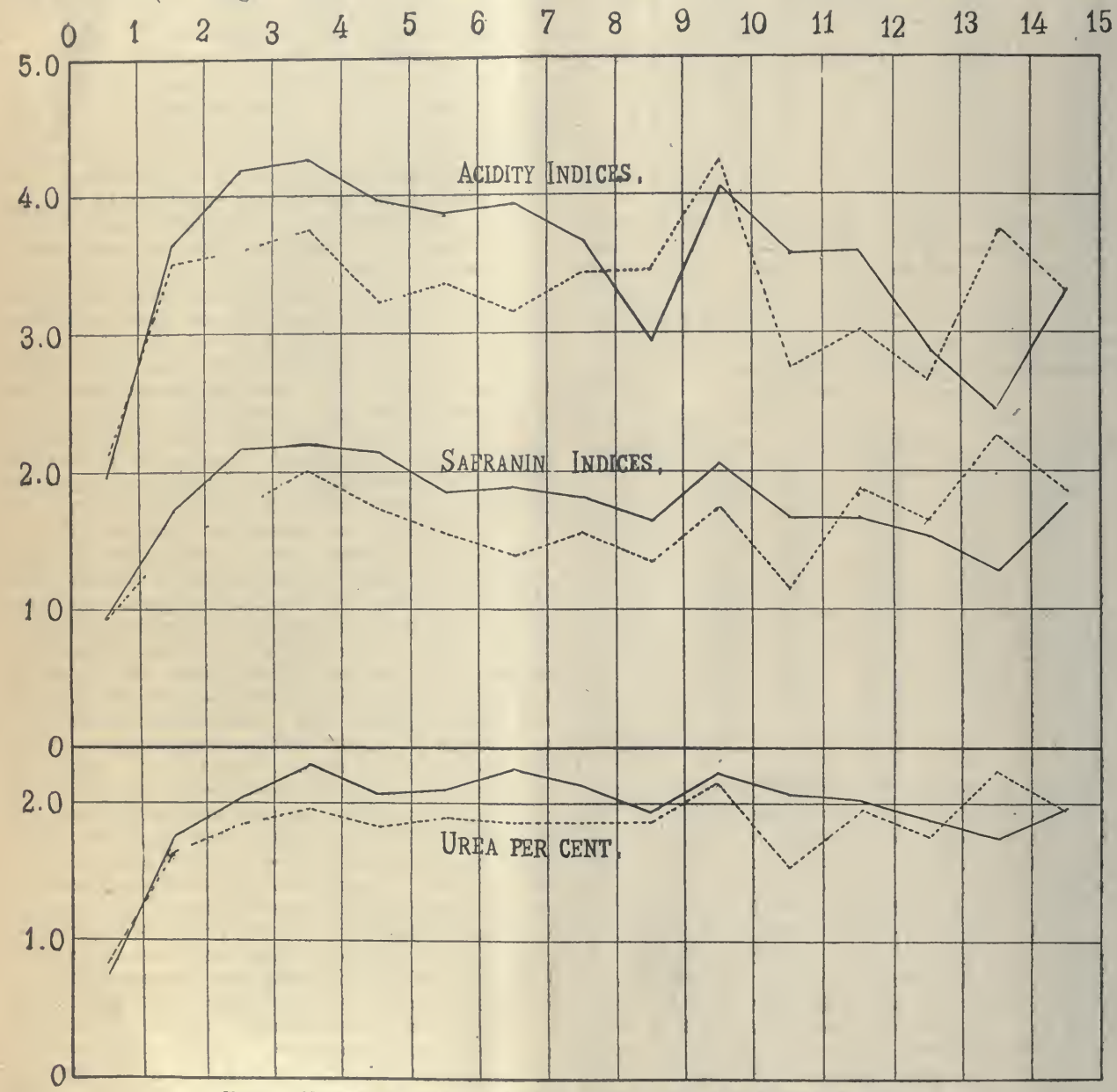


Chart 1.—Normal urea, safranin and acidity curves. Solid line, boys; dotted line, girls.

with 2 the average index was between 3 and 3.5, and with 4 it was 3.5 or more, the maximum being that of Lewis G., 3.92.

From a consideration of these facts it would seem justifiable to say that a child who has an average safranin index of 2 or more, based on not less than 10 urinalyses, is of a saccharin diathesis. Of the 77 children in my list, meeting the preliminary requirements, 28, or roughly one-third, would be classed as having such saccharin diathesis. Of these 28, 20 were boys and only 8 girls. The term diathesis is one which has been used so loosely and in so many senses, that it is, possibly, an unfortunate one to use here. It is used here in the sense of a type of chemism of the individual, and since its presence or absence in any given child can be determined positively, there is no lack of definiteness to the term as here employed.

A negative result of the safranin test, or, in other words, a safranin index of 0, is most commonly found in the earlier years, and more often in girls than in boys. The number of negative results could have been materially reduced had the safranin solution been used in smaller quantities than 1 c.c. in these tests. The distribution of these negative results by age and sex is given in Table 5.

TABLE 5.—PERCENTAGE OF SAFRANIN EXAMINATIONS GIVING NEGATIVE RESULTS OR A SAFRANIN INDEX OF ZERO.

Age.	Males. Per Cent.	Females. Per Cent.
0	43.6	34.3
1	12.4	19.1
2	4.6	13.6
3	5.2	11.2
4	7.8	8.3
5	4.2	8.9
6	6.1	12.8
7	4.6	15.0
8	8.1	19.4
9	6.3	4.6
10	9.0	23.3
11	5.4	7.8
12	11.4	0.0
13	16.7	0.0
14	12.5	0.0
15	0.0	0.0
16	0.0	7.1
17	0.0	0.0
18	0.0	0.0
19	0.0	0.0
20	0.0	0.0
Average	9.2	12.8

Crismer seems to have adopted a safranin index of 5 as the minimum for showing sugar of clinical importance. Allen also says that "if more than four or five measures (of safranin solution to 1 of urine) is required the urine is distinctly diabetic." I also agree that a safranin index of 5 is about the limit of the copper test. I have therefore collected from my examinations all those showing a safranin index of 5 or more. There were 137 in all, or roughly, 4 per cent. of the 3,481 examinations made of children's urine. Table 6 shows for each index from 5 up, the number of urines showing that index.

TABLE 6.—EXAMINATIONS GIVING HIGH SAFRANIN INDEX.

Index.	No.	Total.	Index.	No.	Total.
5	44	220.0	8	8	64.0
5½	18	99.0	8½	1	8.5
6	33	198.0	9	1	9.0
6½	7	45.5	10	4	40.0
7	16	112.0	10½	1	10.5
7½	2	15.0	12	2	24.0
				137	845.5
Average Index.....				6.17	

The highest safranin index found in all my examinations was 12, and this, as shown in Table 6, occurred but twice, once in the urine of Lewis G. and once, strange to say, in the urine of Franklin P., who at the time was just 14 days old, and suffering from one of the autotoxic or septic conditions of the new-born.

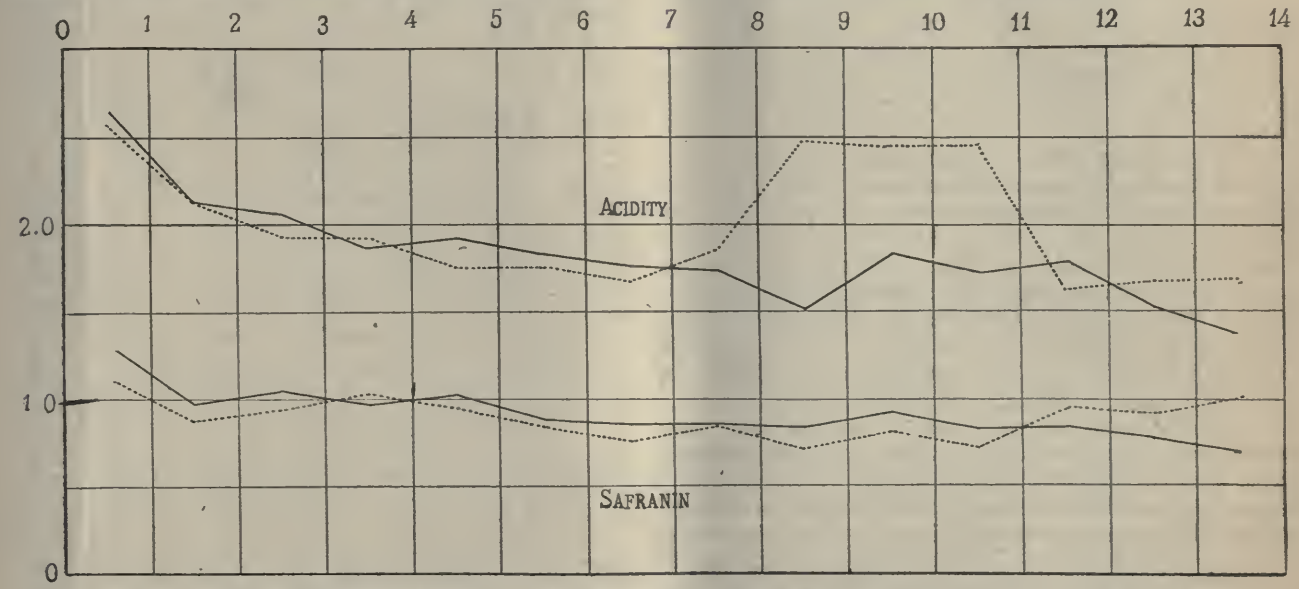


Chart 2.—Ratios of safranin and acidity to urea (urea being considered as 1.0). Solid line, boys; dotted line, girls.

After reaching the foregoing results it seemed that they were of sufficient importance to warrant a more critical inquiry into the chemical significance of the safranin reaction. It was known that safranin was decolorized by glucose and not by uric acid nor by creatinin, the two great reducing agents found in normal urine. The presence of the so-called "physiologic sugar" in normal urine is also generally accepted. It was therefore probable that the safranin reaction in urine was due to sugar and sugar only. On the other hand, two samples of urine (tested after the formulation of the foregoing tables) and having safranin indices of 10 and 13 respectively, were found by Dr. Max Herzog to give no reaction to Fehling's test nor to the phenyl hydrazin test.

I then carried on a line of experiments in the laboratory of Dr. Julius H. Eichberg of Cincinnati, and in conjunction with him, from which the following was found:

1. A solution of glucose in water of the strength of 1 to 1,000,000 (one to one million) will reduce Fehling's solution with the precipitation of cuprous oxid.

2. A solution of glucose in water of the strength of 1 to 2,500 does not discharge the color of safranin. In

making this test there were used 1 c.c. each of the glucose solution, normal sodium hydrate solution and the 0.1 per cent. solution of safranin.

3. A fresh urine, having a safranin index of 2½, was used in making a solution of the following strength: Anhydrous glucose, 1 gram; urine, fresh, 100 c.c.; water, 24,900 c.c. This solution reduced Fehling's reagent with deposit of cuprous oxid, but was negative to safranin.

4. A 1 to 1,000 solution of glucose in a urine having a safranin index of 2½ before the addition of the glucose, gave a safranin index of 5. This same solution failed to reduce Fehling's reagent. A solution of glucose of 1 to 500 in the same urine also failed to reduce Fehling's test. A solution of glucose of 1 to 250 in this same urine gave Fehling's reaction, and when it was diluted to 1 to 500 by the addition of water it again gave Fehling's reaction.

From the foregoing it is evident that while Fehling's reagent is a much more delicate test than safranin for sugar when in solution in water only, it is less delicate than safranin when applied to urine. It would further seem, from some of my experiments, that the conditions in urine which inhibit or otherwise interfere with the Fehling's reaction are variable so that no definite line can be fixed quantitatively as to the relative delicacy of the safranin and copper tests in the detection of sugar in urine.

5. A watery emulsion of commercial compressed yeast reduced Fehling's reagent with a trace of Cu_2O (a dextrin reaction), but failed to discharge the color of safranin.

6. A diabetic urine having a safranin index of 20 was found by fermentation to contain 1⅞ per cent. of sugar. After 24 hours' fermentation it was filtered and then showed no reaction to Fehling's test, but gave a safranin index of 1½. After standing another 24 hours, with yeast in it, it failed to react to safranin.

7. Another diabetic urine, whose safranin index was determined as high as 15, but whose complete safranin index was not determined, but which by fermentation showed a percentage of sugar greater than 2, also failed to give the safranin reaction after two days' fermentation.

The final safranin tests in the above diabetic urine were made by using 1 c.c. each of the urine, the sodium hydrate and the safranin solution, conditions under which slight changes of color might not be noticeable.

The results of these fermentation tests at once suggested that an effort be made to ferment out with yeast the safranin reducing substance in normal urine. Accordingly a series of five non-diabetic urines was taken, their safranin indices determined when freshly passed, after which each was mixed with yeast and kept at a suitable temperature and the safranin indices determined from day to day. The results are shown in Table 7. The test was the same as that previously used, excepting that the safranin solution was measured in tenths of a c.c.

TABLE 7.—CHANGES PRODUCED BY YEAST IN THE SAFRANIN INDICES OF NORMAL URINES.

Urine.	When Fresh.	After One Day.	After Two Days.	After Three Days.	After Four Days.
1	2.5	0.8	0.4	0.25	0.15
2	1.0	0.2	Trace	0.0	....
3	3.0	1.2	0.3	0.12	....
4	2.5	1.0	0.8	0.4	....
5	2.5	1.5	0.7	0.3	....

From these results it may be concluded that the safranin reducing body in urine gradually disappears in the presence of yeast, making it highly probable that safranin indicates only sugar, or one of its congeners.

These experiments put the safranin test for sugar in urine on a very high plane. It is decidedly more reliable than Fehling's test in both its positive and negative showings. If a safranin index of 5 be taken as the

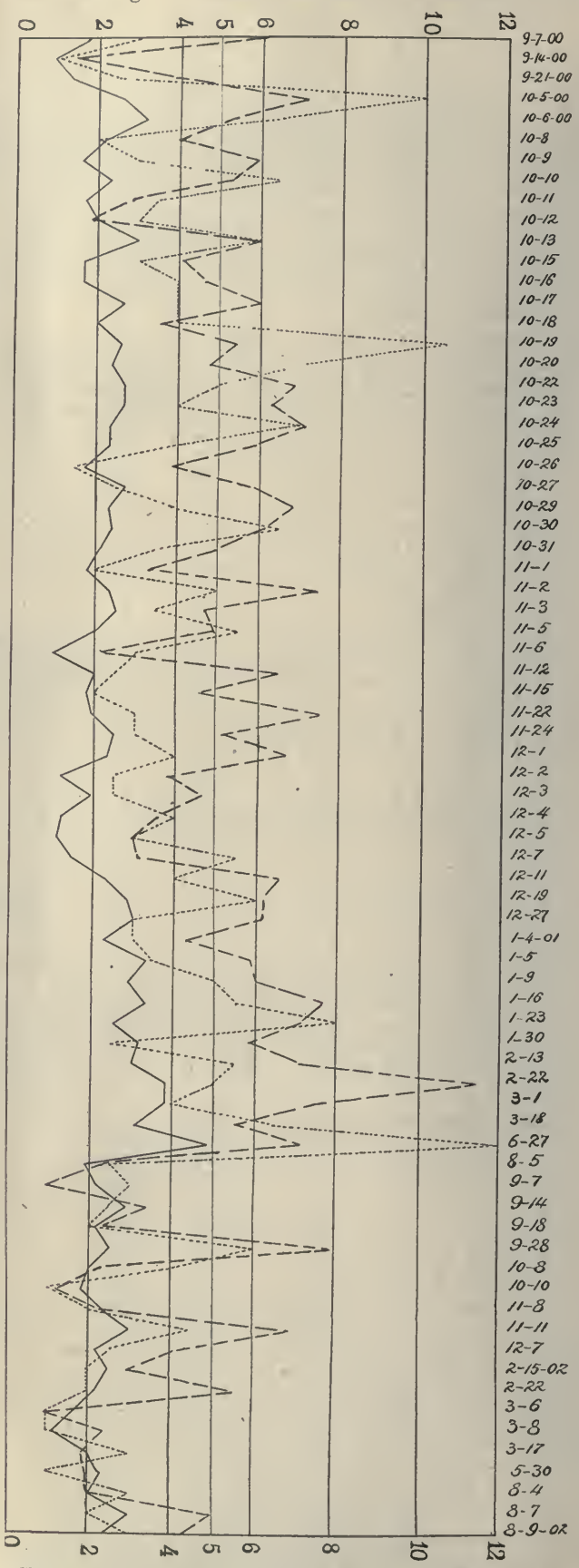


Chart 3.—Safranin, acidity and urea curves of Lewis G. Solid line, urea; dotted line, safranin; broken line, acidity.

normal limit of the copper test, then some urines which contain that much sugar would be overlooked if the Fehling's test alone were employed. It is evident that glycosuria of such degree is more common in the urine of children than has heretofore been supposed, the foregoing tables showing that it occurred in approximately 4 per cent. of the urines examined.

I regret that I have had no opportunity of determining the reaction of safranin to glycuronic acid.

In a subsequent communication I shall present the clinical features of the saccharin diathesis.

In conclusion the following summary is offered:

1. Safranin is a reliable and convenient test agent for sugar in urine. It is sufficiently delicate to show the variations in the so-called "physiologic sugar" in urine.

2. Safranin is decolorized by sugar, but not by uric acid, creatin, creatinin, chloral, chloroform, hydrogen peroxid, albumin (except slowly), morphia or rhubarb.

3. The safranin index is the number of c.c. of a 0.1 per cent. aqueous solution of safranin, decolorized by 1 c.c. of urine.

4. The normal safranin index is low during the first year of life, but gradually increases, reaching its maximum between 3 and 4 years of age, after which it slowly decreases for a number of years, but never becomes so low as during the first year.

5. During the first ten years of life boys have a safranin index constantly higher than that of girls.

6. At 11 years of age the safranin index curves of the two sexes cross, the girls becoming superior. This is probably a pubescent phenomenon.

7. The curves of average urea percentages, by ages and sexes, closely resemble the corresponding safranin curves, being low during the first year, rising to their maxima at three years, descending slowly thereafter, with the boys superior to the girls from birth to puberty, and then the girls superior.

8. The curves of the acidity indices resemble in a general way those of urea and safranin.

9. The ratios between the average urea percentages and the safranin indices show the relative amount of physiologic sugar excreted to a given amount of urea. The excretion of physiologic sugar is relatively high during the first year of life, lower during the next four years, and still lower during the next 6 or 7 years. At puberty there is a relative increase in the excretion of physiologic sugar in girls. The data are lacking to determine whether this is true in boys.

10. The ratios between the average urea percentages and the acidity indices show considerable irregularity, which is probably fortuitous. On the average the ratio is about 1:2.

11. Urine with a safranin index of 5 will generally show sugar by the copper test.

12. The safranin and acidity indices vary greatly from day to day. In general the safranin and acidity accompany each other. Occasionally high acidity precedes high safranin by a day. In general high safranin does not last more than two or three days. High acidity not infrequently persists longer and may occur independently of a high reaction. High safranin rarely appears independently of high acidity.

13. The average safranin index of all children's urines examined (3,481 in all) was 1.81.

14. Ten is the minimum number of urinalyses necessary to determine the average safranin index of a child.

15. A child whose average safranin index (founded on not less than 10 examinations) is 2 or more, may be said to be of the saccharin diathesis.

16. The saccharin diathesis was present in about one-third of the children whose urines were examined a sufficient number of times to formulate their average safranin index.

DISCUSSION.

DR. A. C. CROFTAN, Chicago—I see only one objection from a chemical point of view to the experiments reported, and this possible objection Dr. Christopher mentions himself, viz.: that he has not absolutely determined whether or not certain urinary ingredients other than sugar that occur in small quantities in every normal urine do not also give the safranin reaction. I refer in particular to glycuronic acid; this body, as we know, appears in considerable quantities in the form of compound glycuronates whenever intestinal putrefaction is excessive, and as extensive reduction of safranin by urine is seen in cases particularly that present autotoxic symptoms, it is possible that glycuronic acid may in part be made responsible for the reaction. This point can readily be determined, and Dr. Christopher informs me that he is at present engaged in investigating this simple problem. Even should it be found that glycuronic acid also produces the safranin reaction and not glucose alone, the results reported would be rendered in no wise less valuable for glycuronic acid is closely related to glucose—in fact, Dr. Christopher speaks expressly of "sugar or one of its congeners."

Dr. Christopher has collected an enormous mass of material in children so that the conclusions he draws from his analytical data necessarily carry much weight. The fact that the figures in adults as supplied by Dr. Favill are so much lower than those found in children demonstrates clearly to my mind that the drop in the safranin index, i. e., the decrease in the sugar excretion, is a pubescent phenomenon. Persistence of a high safranin index after puberty might fitly, therefore, be regarded as an arrest of development and an abnormally high safranin index in the later years of childhood as an indication of the saccharin diathesis in Dr. Christopher's sense. The practical importance of this finding can not be underestimated, for it should teach us above all to be on our guard for the development of metabolic disorders, particularly diabetes, in children or adolescents showing a high reaction.

The peculiar relations shown by Dr. Christopher to exist between the safranin index curves, the average urea percentages and the acidity indices of the urine in boys and girls, and the differences demonstrated in the two sexes disclose highly interesting relations that, for the present, however, are difficult to interpret. Dr. Christopher has refrained in his communication from drawing any clinical conclusions from his figures, and I am interested to know what his ideas on this part of the subject are; I hope we may look forward before long to a clinical interpretation of his laboratory findings. Studies of this character are very important, and it is earnestly to be hoped that clinical laboratory investigations such as those Dr. Christopher has carried out will stimulate similar researches by others who have a large clinical material at their disposal, but who have hitherto allowed their material to go to waste, or have contented themselves with formulating stale casuistic statistics that are merely a repetition of what has been done a thousand times before. We are just beginning to understand the finer mechanism of the nutritional disorders, so-called, and the sooner clinicians begin to gather material that can form the basis of definite conclusions in this direction the better.

Not the least important part of Dr. Christopher's contribution are his discoveries in regard to the Fehling reaction as compared to the safranin reaction for sugar in the urine. He has shown, I believe, conclusively, that certain serious objections can be made against the employment of the popular Fehling cupric reducing test and that serious errors can creep in when performing this test that may render it altogether unreliable under certain condidtions. The urine, it appears from Dr. Christopher's experiments, may sometimes contain bodies in solution that can inhibit the Fehling reaction. This is a very valuable discovery. The safranin test, we are told, is much more reliable than the Fehling test, for it often indicates sugar (or its congeners) in the urine when Fehling fails. As the safranin test, as formulated by Dr. Christopher, is, moreover, more simple of execution than the Fehling test

(properly performed!), and as the end reaction is more easy to read, the safranin reaction for sugar promises, thanks to the labors of the author of this paper, to become a valuable adjuvant to our clinical armamentarium.

DR. W. F. BOGGESS, Louisville, Ky.—I have been struck with the frequency with which the ordinary sugar tests respond in children, but I recognize the fact that has just been stated, that this often arises from intestinal putrefaction or from metabolic changes. The conclusions are certainly very interesting, and I am sure we shall all await with much pleasure his supplemental report. When one considers the immense amount of sugar commonly ingested by children one should not be surprised at the frequency with which the sugar reaction is obtained. The charts showing the relation of urea, acidity and the safranin reaction up to the time of puberty are certainly very suggestive, and may give a new insight into the metabolic phenomena of early life.

CAPILLARY BRONCHITIS.*

PHILIP F. BARBOUR, A.M., M.D.
Professor of Diseases of Children, Hospital College of Medicine.
LOUISVILLE, KY.

The tendency of the bronchitis which involves the smaller bronchi to invade the air cells, thus producing a pneumonia, has only recently been generally recognized, but with this more exact knowledge of the pathology of bronchopneumonia the profession has come to look on the accompanying pneumonia as the important condition to be treated. Yet all will agree that in many cases pneumonia is the lesser factor and that the bronchial mucous membrane, with its outpour of mucus into the smallest bronchioles, constitutes the real danger to the child. The older writers called attention to this condition under the designation "capillary bronchitis," an expression which, unfortunately, has fallen into innocuous desuetude, for no other term conveys exactly the same impression to us.

It is the extent of the involvement rather than any pathologic difference that makes capillary bronchitis more to be feared than even catarrhal or croupous pneumonia.

The natural tendency of inflammations of the mucous membranes of the air passages is toward extension by continuity of structure, beginning, possibly, as an acute coryza, followed by a laryngitis, to be succeeded by a more or less deep bronchitis. When bronchitis attacks the larger bronchial tubes, the inflammation is limited mainly to the mucous membrane and in its extension is confined usually to the mucous layer. As the bronchi become smaller the histologic elements of the bronchial wall become fewer in number; the mucous membrane changes from a ciliated columnar epithelium into a flat pavement membrane; the internal fibrous layer disappears; the non-striated muscular layer becomes thinner; the external fibrous layer loses its muciparous glands and its cartilaginous plaques and, in fact, is continuous with the interstitial connective tissue of the lung proper, its cells forming here part of the bronchiole wall and there part of the wall of an air cell. Now, when bronchitis has extended into the smallest and terminal bronchioles, the inflammation no longer remains limited to the mucous membrane, but involves also the muscular and external fibrous coats, thus piercing, so to speak, through the wall of the bronchiole into the adjacent air cell and causing a bronchopneumonia. When the temperature of a child that has been suffering from bronchitis jumps up from 101 to 104 F., when the respiration has increased to 60 or 80 per minute, and the pulse is greatly accelerated, even the tyro in medicine knows that he has no longer to deal with a bronchitis, but with a pneumonia. The clinical picture of bronchopneumonia is familiar to all of us, and I will not detain you with rehearsing the ordinary course of such a case, with the two weeks of fever, the liability to extensions and recrudescences, the exhaustion, etc.

But when the inflammation, instead of penetrating deeply into the air cells, spreads widely and involves a number of the bronchioles with their adjacent air cells at the same time, symptoms of an alarming interference with respiration rapidly develop, and dyspnea and cyanosis call urgently for relief and the time of probation is brief. The onset of this condition is easily recognized. The child has had a bronchitis which has gradually involved smaller and smaller bronchioles. The râles become finer and finer and shrill sibilant râles may be heard over most of the posterior surface of the lungs. The breathing becomes more and more labored from the difficulty in forcing air through the narrowed tubes. When secretion has been established there is still greater difficulty in getting air through bronchioles filled with mucus. Respiration becomes more and more embarrassed, the child rolling about the bed and restlessly struggling for breath, its color becoming darker, the nose and ears cold, until death soon closes the scene. The lungs are drowned in their own secretion. This is a different picture from that which obtains in bronchopneumonia. There it is exhaustion from high temperature, rapid respiration, and increased work of the lungs and the right heart. Here it is the struggle for air, the labored breathing, the cyanosis and dyspnea.

TREATMENT OF FIRST STAGE.

There are two stages in capillary bronchitis, using the term in the above sense, the symptoms and treatment of which are radically different. The first stage is characterized by lack of secretion and by dyspnea, which is due to several causes. As a result of the inflammation of the mucous membrane there is marked congestion, so that the lumen of the smallest tube is thereby considerably lessened and the breathing interfered with. Another important factor is the spasm of the muscular layer induced by the inflammation which is contiguous to it and which also tends to attack the muscular fibers themselves. Analogous conditions are seen in the narrowing of the anterior nares in acute coryza and in the spasm of the glottis in acute laryngitis. The inflammation of the mucous membrane at first also checks the secretion of the muciparous glands and the natural moisture of the mucous surface. In fact, attention is usually directed to this dryness in selecting the medication instead of considering also the other factors which are really of more importance.

Congestion, spasm and dryness being the factors present in the case, the usual empiric treatment is founded on a rational therapeusis. The inhalation of steam or steam impregnated with various aromatic substances tends to allay spasm and alleviates the dryness. Hot applications, baths and counter irritation serve as derivatives. Hot whisky relaxes spasm. Nitroglycerin in small doses frequently repeated dilates the bronchioles. Atropin or belladonna, by its sedative action on the reflexes, relieves the urgent dyspnea and, at the same time, stimulates the circulation and respiration. Ipecac not only relaxes the spasm but increases the secretion.

* Read at the Fifty-fourth Annual Session of the American Medical Association, In the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

TREATMENT OF SECOND STAGE.

The second stage, on the contrary, is characterized by the increased secretion of mucus and epithelial cells which is poured out some forty hours later into the smaller bronchioles, thus filling up their lumen. It will be recognized by the change from the dry sibilant to the fine, moist, subcrepitant râle. The mucous lining of the capillary bronchioles is made up of flat pavement instead of ciliated columnar cells, so that the secretion is removable only by deep inspiration and cough or by rhythmic contractions of the circular muscular fibers in the walls of the bronchioles. This muscular effort is greatly hampered by the inflammation present there, by the weakened muscular tissue and by the peribronchial and alveolar congestion and inflammation.

The inspiration and the expulsive efforts of coughing are largely inadequate because of the difficulty in getting air through and behind the mucus; to this must be added the general feebleness and inefficiency of the skeletal and thoracic muscles, the softness and plasticity of the bones and the ignorance of the child as how best to co-ordinate its expulsive efforts. Finally, the excessive amount of mucin in the tissues of the child makes the secretion of mucus into the tubes relatively greater than in the adult. From this excessive secretion comes the chief danger of the second stage. For in listening to the chest sounds in such cases one hears the labored breathing of the child as it tries to respire through a column of liquid which fills up the large bronchi and extends into their minutest ramifications. The problem at this stage is how to get air into the lungs and how to remove the quantity of mucus. The two phases of the problem are practically correlative. The mucus may be mechanically removed by emesis, and for this ipecac is probably the surest and safest agent, for it liquefies the mucus and thus renders its expulsion easier and it is not so depressing as certain other emetics. Thomson objects to ipecac on the ground that it tends to increase the secretion of mucus in the tubes even while it is removing by the vomiting that which is already present, and advises instead of it the use of turpeth mineral or other irritant emetic. The objection to the irritant emetics is the liability to increase the irritation of the gastric mucosa which always accompanies the catarrhal condition and which results from the swallowing of the mucus that is coughed up, and, further, the beneficial action of any ipecac that is retained on the hepatic cells is distinctly of advantage. During the vomiting, or even during the coughing spells, the head of the child should be lower than the body, so as to get the effect of gravity in removing the secretion from the lungs. Emesis is, however, a great strain on the children weakened by such a serious disease, so that the physician should exercise great professional discretion in its use and should stay with the child to guard against too great depression. It should not be practiced oftener than two or three times in the twenty-four hours.

As noted above, the contraction of the circular muscle fibers in the bronchioles squeezes out the mucus into the larger bronchi, where it can be carried away by the ciliated epithelium. The expulsion of the mucus will be favored by any agent which will improve the tone of the muscular coat. Strychnin is the best drug for this purpose, as, in addition to its other good qualities, it increases the reflexes and so favors cough, but it should be administered frequently in small doses and almost to the tetanizing point. Opium, on the other hand, lessens the reflexes, quiets the muscular activity and thus stupifies a child into its last sleep. It is a most dangerous drug in bronchitis in children.

Undoubtedly any drugs which liquefy mucus will facilitate its removal, but, unfortunately, such drugs, with the exception of chloral, also increase the amount of mucus. Usually, however, after the secretion is established, it is not very viscid or very difficult of expulsion. The chief danger comes from its quantity, from the blocking up of many minute bronchioles and the consequent development of atelectasis to a larger or smaller extent. To lessen the secretion and to prevent that atelectasis no drug equals belladonna or its alkaloid, atropin, which stimulates respiration and circulation, while it dries up the secretion. There can be no objection to the administration of strychnin and atropin at the same time, for, although atropin diminishes reflexes, yet its first effect is on the secretions, and the strychnin has its most marked action in stimulating the reflexes. Other agents, such as oxygen by inhalation, stimulants and such details as the cotton-batting jacket, attention to the stomach and the intestinal canal, the hygiene of the nursery, etc., do not require extended notice.

An important phase of our subject is the prevention of the involvement of the capillary bronchioles by proper medication of the bronchitis in its incipient stages. The discussion, which will be brief, must be on the best methods of treating inflammations of the bronchial mucous membrane and, incidentally, of preventing the extension of that inflammation. There are certain phenomena to be observed in inflammations, the reasons for which have not been wrested from Nature. With the onset of inflammation one finds congestion and enlargement of the capillaries, slowing of the circulation and finally stasis, the white blood cells becoming attached to the wall of the blood vessel and finally working their way into the surrounding tissue, often followed by red blood cells, with a coincident outsoaking of the liquid elements of the blood. This change in the circulation and nutrition of the local cells affects their vitality disastrously and they soon die and are cast off from their attachments. In the evenly balanced condition of the vasomotor system this local dilatation of the blood vessels, with engorgement of blood, will be met by vasomotor spasm of remote vessels, as shown by cold hands and feet, tense radial artery, etc. Aconite has a more desirable action on inflammatory congestions than any other drug. It quiets the excited action of the heart, relaxing arterial spasm and thus equalizing the circulation and withdrawing blood from the congested area. The force and rapidity of the heart beat is lessened and the blood current slowed. Under its use the radial artery will be relaxed and the pulse made soft. In congestions of the pulmonary tissues aconite will, by its effect on the systemic circulation, lessen the amount of blood going to the inflamed area and thus jugulate inflammation. It tends to prevent the extension of the inflammation along the mucous membrane.

Veratrum viride is practically a congener of aconite, but safer in its action. The late Dr. Larrabee used to teach that veratrum viride would bleed into the splanchnic blood vessels.

The depressing action of either or both on the heart can be obviated by combining with them digitalis, whose antiphlogistic powers have long been recognized. Digitalis contracts the arteries and thus prevents the stasis in the capillaries and the diapedesis of the white blood corpuscles. Professor Hare has called attention recently to the mutually helpful action of aconite and digitalis in certain phases of heart trouble. The combination of

these drugs, with or without strychnin, will dissipate the congestion, prevent extension of the inflammation and shorten the attack of bronchitis. By using the active principles of the plants, greater accuracy of dosage and certainty of effect are secured. With such agents one is combating the inflammatory process, and certainly their employment is more rational than the administration of expectorants to start the secretion and then opium and other drugs to stop it. When they are used intelligently the long continuance of the catarrhal trouble and the administration of all the host of expectorants will be largely obviated.

Under the best treatment the mortality of capillary bronchitis will always be high, so the prognosis is invariably grave.

The ultimate results of the prolonged inflammation of the bronchial and peribronchial tissues and the changes in the surrounding alveolar tissue are of great interest, but their discussion would prolong the paper to an unjustifiable length.

760 Second Street.

MANAGEMENT OF CATARRHAL PNEUMONIA IN INFANTS.*

CHARLES GILMORE KERLEY, M.D.

Professor of Diseases of Children, New York Polyclinic Medical School and Hospital; Attending Physician, New York Infant Asylum; Assistant Attending Physician, Babies' Hospital.

NEW YORK.

Catarrhal pneumonia, on account of its large mortality and because of its frequent appearance as a complication in almost every disease of infancy, is one of the most formidable ailments which we are called on to treat.

The disease is usually described as primary and secondary. Among the several hundred cases which have come under the writer's observation comparatively few were primary, not 5 per cent. Those described as primary usually follow a bronchitis, often a neglected bronchitis. The disease varies considerably as regards its severity, depending on the age and condition of the child, the nature of the infection and the amount of lung involved. It occurs with its greatest fatality when associated with diphtheria and measles.

Catarrhal pneumonia demands the best attention we can give it, not only on account of the delicate organ attacked, enclosed in weak thoracic walls, but because, unlike lobar pneumonia, scarlet fever, typhoid fever and many other diseases of early life, there is no self-limitation, no cycle. In these diseases we are only required to assist a patient through the various stages; in catarrhal pneumonia we must do more—here we are asked to cure.

Every child at the commencement of illness has a definite resistance with which to withstand the disease. In catarrhal pneumonia, for the reasons just given, it must be our effort to preserve every strength unit which the child possesses. An immense amount of vitality is wasted in sick children because of irritability, restlessness and loss of sleep. One of the first duties in a given case is not to give this or that drug, or use this or that local application, but to make the child comfortable—to put it in the best position to withstand disease. We must establish a sick-room régime which will make this possible.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

FRESH AIR.

The value of a constant supply of fresh air is too little appreciated. There should be a direct communication with out of doors in every case throughout the attack.

VENTILATION.

Various means of ventilation have been devised. A very cheap and effective one is the window board, which anyone can make. The board is placed under the lower sash, between it and the window sill. I usually order it to be four inches wide. This brings the sash apart and allows the entrance of a free current of air, which is directed upward. If plenty of fresh air at a proper temperature were available during the early part of the illness, there would be much less use for oxygen later on.

An absolute necessity in a sick room is a good thermometer. In pneumonia cases this thermometer must never register above 70 F.

CLOTHING.

There is a marked tendency to coddle, to wrap, to overclothe pneumonia patients. The patient requires during the winter absolutely nothing more than a medium weight flannel shirt, the band, if one is worn, and the usual night dress. I have, some years since, discarded the oiled silk jacket. It is cumbersome, it is impossible to keep clean, and it overheats the patient

Given an infant with catarrhal pneumonia, have him heavily clad, keep him in an unventilated, overheated room, in close contact with an adult body, and you have a patient who is tremendously handicapped. There is but one place for a sick infant and that is in his roomy crib.

FOOD.

In every illness with fever, the digestive capacity is considerably reduced. If the usual milk diet is continued, we are very liable to have a gastrointestinal infection added, oftentimes as a serious complication to the existing disease. In the breast-fed, a drink of water is ordered for the child before the nursings and between the nursings. The nursing hours should be the same as in health, but the time allowed for each nursing should be reduced from one-third to one-half.

In the bottle-fed, the milk strength should be reduced from one-third to one-half by dilution with water, so that the quantity given remains the same. Runabout children, those from 2 to 4 years of age, are put on a diet of diluted milk, gruels and broths.

Normal bowel function is more necessary for the sick than for the well. There should be at least one stool in twenty-four hours.

REST.

Having placed the child under the best dietetic and hygienic influences, we are in a position to use medication to a much greater advantage. In using medication and in performing the various offices, it must be our effort to disturb the child as little as possible. In our anxiety to do we are very liable to overdo, and often I regret, do harm. If a well child were given syrup expectorants, stimulants, baths and local applications, something done every hour or two in the twenty-four, he would have to be a strong child in order not to be made ill. We should treat our ill with more consideration. Make the interval that the child is to be disturbed at night as long as possible by performing the various offices at one awakening. Thus, at one awakening, the child can be given food, medicine and local treatment applied. I always endeavor to make the interval three hours when possible.

STEAM INHALATIONS.

Among the distinctly remedial measures, aside from those administered internally, steam inhalations with creosotes deserve an important place. The patient is placed in its crib, which is covered and draped with sheets so as to make a fairly tight enclosed space. The apparatus necessary is an ordinary croup kettle. Ten drops of creosote is added to one quart of water and placed in the kettle. The nozzle of the kettle is introduced between the sheets at a safe distance from the child's face and hands, the steaming being carried on for thirty minutes every three hours. The sheets should be parted slightly about every ten minutes so as to allow a renewal of the air. The inhalations are to be given both sleeping and waking. As a patient improves, the inhalations may be given at less frequent intervals until normal respirations and the chest signs tell us that it is no longer required. Steam inhalations in bronchitis and in catarrhal pneumonia are so well thought of by Dr. L. Emmett Holt that he had built in the new Babies' Hospital a special steaming room.

COUNTER-IRRITATION.

The application of counter-irritants to the skin over the thorax is, to the author's mind, a means of much service in cases in which there is a great deal of bronchial catarrh, which covers, of course, most cases. In order that a counter-irritant be of service, a distinct red blush must be produced on the skin. Turpentine diluted with oil, one-third turpentine and two-thirds oil, when briskly rubbed on the parts for a few minutes produces a fairly satisfactory counter-irritation. The old-fashioned home-made mustard plaster has answered best as a counter-irritant in my hands.

Written directions are always given for the preparation of the plaster, and the boundaries of the area of skin to be covered are indicated by pencil marks on the skin's surface. If the nurse or mother is simply told to put a mustard plaster on the chest, a plaster the size of a man's hand will usually be placed somewhere between the umbilicus and the chin. For the first two or three applications, one part of mustard to two parts of flour is used. This is moistened with water and made in the consistency of a rather thin paste. The paste is then spread on cheesecloth, old muslin or linen, which has been cut to the desired size. The plaster is readily held in position by a bandage of any thin material extending around the thorax. When the skin is well reddened, usually within five to fifteen minutes, the plaster is removed and vaselin or sweet oil applied. I never use a plaster oftener than once in six hours and then only in the severest cases. Ordinarily, two or three applications in twenty-four hours answer. If the plasters are continued for several days, it will be necessary to make them much weaker after a day or two in order to avoid blistering—one part of mustard to five or ten of flour. The counter-irritation is particularly effective when applied early at the commencement of the attack.

HOT MUSTARD BATH.

In cases of sudden onset, with high fever, rapid breathing and cold extremities, a mustard bath—one tablespoonful of mustard to six gallons of water, 100 F.—will often furnish marked relief to the immediate symptoms. Autopsies of these cases show a general congestion of the internal organs, with intense congestion of the lungs. The bath may be repeated at six-hour intervals. This type of case is usually very rapid in its development—the child is relieved or dead in thirty-six to forty-eight hours. By relieved we do not mean that the child has recovered, but that the acute urgent symptoms have subsided.

These cases only, according to the writer's opinion, should be considered primary.

DRUGS.

The internal drug treatment is, to a large extent, symptomatic. A great deal of harm may be done to young children in the thoughtless use of drugs in any disease. In catarrhal pneumonia, it is particularly necessary that, in our endeavors to assist the patient, we do nothing to harm him, for we are treating a disease in which the resisting powers count for everything. In young children the digestive function is very easily put out of order in health. In illness with fever, and the nervous exhaustion attendant on the illness, the stomach is most easily disturbed; the child is not properly nourished and the ability to resist the disease is lessened. Expectorant drugs must be given with care and are better prescribed in tablet or powder form. The practice of using heavy syrups of wild cherry, tolu and others, with large doses of the ammonia salts, only adds to the burden of the patient. For a child 1 year of age with catarrhal pneumonia, one one-hundredth of a grain of tartar emetic and one-fortieth of a grain of ipecac answers well as an expectorant. If the cough is very severe and teasing, one-fourth of a grain of Dover's powder may be added to each dose. The drugs may be given in powder or tablet form with sugar of milk and dissolved in at least two teaspoonfuls of water and given preferably after feeding, not oftener than once in two hours. The ammonia salts so generally used in catarrhal pneumonia as a routine measure are badly borne by the stomach. The muriate is of some value during resolution, but should not be given in larger dose than one-half grain well diluted, at two-hour intervals. I rarely use the ammonia salts.

ANTIPYRETIC DRUGS.

When there is considerable fever and restlessness, which is not reduced by sponging, and when bathing, on account of lack of intelligence in the family, can not be carried out, a combination of caffein, Dover's powder and phenacetin may be used. For a child 1 year of age I would give one-fifth of a grain of caffein, one-half grain of Dover's powder and one and one-half grains of phenacetin at about four-hour intervals. In giving Dover's powder it is well to keep watch of the bowel function.

HEART STIMULANTS.

Heart stimulants are usually necessary, and in their selection two points are to be considered—their effect on the heart and their effect on the stomach. But, first, what are the indications for the use of the heart stimulant? Ordinarily, I think, they are used too early. A heart stimulant should never be given because the child has pneumonia or diphtheria or scarlet fever, but it should be given in pneumonia, scarlet fever and diphtheria as soon as we learn that the heart needs assistance. And, briefly, there are two conditions to guide us, a very rapid pulse and a soft, usually not rapid, pulse with a tendency to irregularity. In a general way, I believe that a heart which is beating at the rate of 150 during quiet or sleep and is not strengthened by sponging or packs needs assistance, and the drug which has served me best is tincture of strophanthus, which drug acts as a direct stimulant to the heart muscle. The pulsations, by its use, are made stronger and fuller and the beats per minute diminish. When the heart's action shows a tendency to irregularity, with a soft, easily compres-

sible pulse, then strychnin is the remedy. For a child 1 year of age one drop of strophanthus in water may be given every three hours. For a child 1 year of age one three-hundredth grain of strychnin may be given every three hours, to be increased to one two-hundredth or even to one one-hundredth of a grain every three hours for a few doses if the case is carefully watched for symptoms of strychnin poisoning. Strophanthus and strychnin possess advantages over all other stimulants in that they do their work and have no unpleasant effect on the stomach, as is the case with alcohol, digitalis and the ammonia preparations. If the condition is very urgent, strophanthus and strychnin may be used in combination. Digitalis I rarely employ because of its tendency to interfere with digestion.

ALCOHOL.

Alcohol in the form of whisky and brandy is very rarely of great service in catarrhal pneumonia. It may stimulate the heart, but its prolonged use greatly upsets the stomach. When used it should be held off until late in the disease, when other means of stimulation fail. Then, given in large amounts, it has been a means in my hands of carrying the patient through safely. One-half of one dram of whisky or brandy, well diluted, may be given every one or two hours to a child 1 year of age. The cases of catarrhal pneumonia, however, actually saved by the use of alcohol, are few indeed.

NITROGLYCERIN.

One one-hundredth of a grain every three hours for a child 1 year of age is of service in cases where there is marked cyanosis with cold extremities. Its use should be discontinued as soon as improvement in this respect is noticed. The one unpleasant effect that I have observed from its administration is a tendency to produce headache and marked restlessness.

BATHS AND PACKS.

A sponge bath for cleansing purposes at 95 F. may be given daily.

What is to be our guide in dealing with the temperature? At what degree of rectal temperature are we to interfere? Only rectal temperature should be considered. This depends to a great extent on what is behind the fever and its effects on the individual. If a child has a high fever and is more comfortable when it is reduced, if he will digest his food better and sleep better, it is our duty to reduce it. Further, by reducing the temperature we lessen the work of the heart, saving it oftentimes many beats a minute. Usually when the temperature has a tendency to run above 104 interference is of advantage, and the best means at our command is the use of local applications of water in the form of sponge baths or packs. If the temperature is not hard to control a sponge bath will answer our purposes. Either salt or alcohol may be added to the water. Ordinarily two teaspoonfuls of salt to a quart of water, or one part alcohol to three parts water is ample. It serves two purposes—the application of cold water acts as a sedative and reduces the fever. Cold sponging, while not controlling the fever as effectually as a bath or pack, possesses the advantage that the most unskilled can use it. For sponging, the child should be stripped and covered with a flannel blanket, the sponging being done under the blanket. In order not to antagonize or frighten the child, it is best to begin with the water at 95 F. and reduce gradually to 70 or 75 F. by the addition of ice or cold water. The sponging may be continued from ten to twenty minutes, and should not be repeated at shorter intervals than ninety minutes. After the sponging is completed the skin should be briskly rubbed for a few minutes with a dry towel. If the temperature is not readily controlled in this way, it is best to use other means, as too frequent sponging exhausts the patient.

The tub bath as a means of controlling the temperature in children has not been successful in my hands for the reason that I have not been able to control active fever cases with it. The exposure, fright and necessary shortness of the bath renders it very unsatisfactory.

By far the best means at our command for controlling a continued high fever is the use of the cold pack. Properly applied, it is without the slightest danger. The pack is prepared as follows: a large bath towel or any thick material may be used; slits are cut in one end of the towel so that the arms may pass through it; the towel is folded over the body, and should extend from the neck to the middle of the thighs; the arms and the legs from the knees down should remain free; a hot-water bag, carefully guarded, should be placed at the feet; the towel is moistened with water at 95 F.—it is well to make the pack warm at first, so that the child will not be frightened and shock will be avoided. I have known severe shock to follow in a child with a temperature of 105 who was put suddenly in a pack at 70 F. In two or three minutes the towel is moistened with water at 85, then at 80. When 80 is reached, it is best not to make the water any colder for half an hour, when the temperature is taken. If, in the beginning, it was 105 and now shows a slight or no reduction, the temperature of the pack may be reduced to 70, or 60 even, by the addition of cold water or ice, without removing the child, the child being turned from side to side so that all the parts may be wet and the patient cooled. During the first hours in the pack, the temperature should be taken every half hour, and when it is reduced to 102 the child is removed and wrapped in a warm blanket. In cases of sudden and rather persistent high fever, the child may be kept in the pack continuously. We aim to keep the temperature between 102.5 and 103.5. I recently kept a 4-year-old boy, ill with lobar pneumonia, seventy-two hours in a pack. The degree of cold necessary to control the fever in a given case will soon be learned. In the case referred to a pack at 70 F. was necessary to keep the temperature at 104 or a trifle lower. The towel should be changed every three hours for a fresh one. An ice bag should be kept at the head, a hot water bag at the feet and the patient covered with a medium weight flannel blanket.

OXYGEN.

Oxygen is of immense service in very severe cases with restricted breathing space. It may be given continuously for one or two minutes out of seven or ten. As often given, one or two minutes every half hour, it is of little or no service.

SUMMARY.

In conclusion: In catarrhal pneumonia, the administration of drugs is of secondary consideration. We first make the child comfortable, place him under proper diet and hygienic rules of living, use local applications, steaming, and means other than the internal use of drugs, when possible. When drugs are given they should, without compromising their efficacy, be made as innocent as possible.

DISCUSSION

ON PAPERS OF DRS. BARBOUR AND KERLEY,

DR. C. F. WAHRER, Fort Madison, Iowa—Dr. Kerley's paper dealt with a disorder which presents many difficulties and

which brings very little credit if the issue is successful and much blame if the termination is unfavorable. A large number of these poor children are actually smothered to death by the treatment employed. This may not be the case in modern hospitals where there are skilful nurses and all of the conveniences for modern treatment, but a very large number of these cases must be treated in humble homes where nursing is practically absent. I was recently called in consultation to a little sufferer, 11 months old. I found a miserable room, about 6 by 12 feet, and a stove which kept the room at an insufferably high temperature. On this stove was a tomato can containing a little water, because the family physician had insisted that there must be some moisture in the air. The child's whole chest was covered with a heavy clayey preparation, about one inch thick. As if this were not enough the grandmother had added an onion poultice, and over this was a heavy blanket, and over this a feather bed. I am not exaggerating the conditions at all; these are the facts. When I took the rectal temperature of the child it was 110 F. I need hardly say that the child was dead in a few hours. Now, what was the medication? The doctor told me he had been giving a mixture containing a little ipecac and the compound syrup of squills, and that he had added to this some more tartar emetic, doubtless overlooking that the mixture already contained this ingredient, and some muriate of ammonia, with wild cherry. A teaspoonful of this mess was given every half hour. In addition to that it received three drops of aconite, in its its asthenic condition, every half hour. This is a picture that is not infrequently met.

The diagnosis of bronchopneumonia is not always easy; to differentiate between pure bronchitis and pure pneumonia is sometimes well-nigh impossible. Only recently I was in consultation on a child of two and a half years which had been treated for bronchitis. After a time the left side of the chest became bulging. The introduction of a hypodermic needle evacuated pus, and the next day I made an incision and evacuated about one quart of pus. The diagnosis was plain. Microscopic examination showed the presence only of the pneumococcus. I am glad to say that this child is getting well.

DR. WILLIAM CARVER WILLIAMS, Chicago—I wish to emphasize in a few words what seems to me to be the most important part of Dr. Kerley's paper. I was especially interested in what he said of the conservation of the vitality of the patient at the very beginning. It seems to me that this is most important, and that it can not be too strongly emphasized. As a matter of fact it is the child's vitality and strength which will save him rather than the drugs or other means employed in the treatment; hence, everything in the way of therapeusis should be so planned as not to waste, as the doctor said, a single unit of the child's vitality. I believe that a great deal of such waste occurs because of a neglect of this advice.

DR. R. B. GILBERT, Louisville, Ky.—This subject is often very badly neglected. I can not make a very close differential diagnosis between capillary bronchitis, bronchopneumonia and catarrhal pneumonia; the truth is that capillary bronchitis, in an infant, is practically a pneumonia and should be considered as such. When we consider the minute caliber of the capillary bronchi in the adult, about 1/80 of an inch, and then think how much smaller it is in a child of one year, we can understand what obstruction must arise from congestion and blocking up by mucus. The wonder is that any case of capillary bronchitis or of catarrhal pneumonia in an infant ever survives, even with the most judicious treatment.

One of the essayists repudiated the use of ammonia. I wish to take issue with him, and draw a line at the bromid of ammonium. The muriate of ammonia is certainly very nauseous; the bromid of ammonia is a defibrinizer of the mucin, and a favorite expectorant. I sometimes also employ minute doses of belladonna along with some counter-irritant. When an emetic is necessary I think turpeth mineral is decidedly to be preferred. It produces emesis promptly, and within an hour afterward the patient will resume taking food without disgust, which is not the case after ipecac or lobelia. If there is a little fragment of the turpeth mineral left in the system it is absorbed, and acts as a defibrinizer and expectorant.

Dr. Kerley has spoken favorably of Dover's powder, but I can not indorse this, or the use of any other form of opium, and I am rather surprised that he recommends it, even in minute doses. Chloral and bromid are certainly safer and answer the same purpose. The use of mustard plasters is certainly most excellent, even though it is a grandmother's remedy. It is not necessary here to weaken the mustard; put it on full strength and leave it on for a very short time, and the desired effect will be obtained. A bath or pack at a temperature of 80 F., and kept up for some time, will control the fever, and is much more comfortable than the colder application.

DR. HENRY E. TULEY, Louisville, Ky.—I think there are several things we should discard in considering bronchopneumonia in children; the first is the use of the name capillary bronchitis for the disease is really a pneumonia. Moreover, if called capillary bronchitis the laity do not attach sufficient importance to it. We should discard poultices entirely, for they are of no use and are a detriment. The use of all nauseous medicines should be avoided, and the coal-tar antipyretics should be discarded. The cold pack will be found most efficient, even when the fever is severe and persistent.

DR. THOS. D. PARKE, Birmingham, Ala.—The picture so vividly drawn by Dr. Wahrer recalls to mind another scene. I was called in consultation to see a child of 5, supposed to be in a desperate condition from bronchopneumonia—another consultant the day previous having given a fatal prognosis. The child was gasping for breath with the windows down and a kettle containing some tarry preparation boiling in the room. On examination I found that asthma was accountable for the character of the breathing, and had been masked by the bronchitis. The kettle was removed, the windows opened and a favorable prognosis given. And this is what I would emphasize: that in a small proportion of cases, asthma is engrafted on bronchitis and mistaken for bronchopneumonia. These are the cases, apparently desperate, that surprise attendants by prompt and unexplained recoveries.

With Dr. Kerley, I believe the main thing to do in bronchopneumonia is to conserve the energy of the patient. This can be done by giving plenty of air and by watching the intestinal tract for tympany. We all know how these little patients are apt to become tympanitic during the course of pneumonia of any type, and every one who has ever suffered from indigestion, accompanied by marked tympany, knows how distressing and depressing it is. As Dr. Kerley has pointed out so well, we should direct the feeding in accordance with this indication.

My own practice has been not to awaken a child with pneumonia for the administration of food. As I have already said, I am not afraid of starving these children. As regards baths, my practice has been, unless the temperature runs exceedingly high, and the child is very nervous, to make use of the pack as employed by Dr. Simon Baruch. He claims that full baths in water at a temperature low enough to reduce the body temperature will be apt to do harm. Some years ago I began the use of packs over the thorax. The mother is directed to dip a towel in water at a temperature of 85 or 90 F. and envelope the child in this from the umbilicus to the clavicles. These are to be changed every five minutes for fifteen minutes at intervals of an hour, provided, of course, the child is awake. If the temperature is excessively high, I give baths under the closest supervision, provided I can secure intelligent nursing. I am in favor of giving just as little medicine as possible. The tendency among all of us is to give too much medicine. We are influenced by environment and by our medical heredity. The first paper demonstrated this, and I think the same tendency was evidenced in Dr. Kerley's paper. We should constantly combat this tendency in the treatment of a disease like pneumonia. Like Dr. Kerley, I watch the intestinal tract and keep the bowels open. Strychnin is my main reliance among drugs, but I do not give it by the mouth. The bitter taste can be avoided, and the same effect obtained almost as quickly, by giving this drug by the rectum. I generally begin the

use of strychnin early, and I direct the use of a solution of strychnin injected by means of a small glass syringe into the bowel. I am in favor of large doses of this drug, and hence do not hesitate to administer to a child of one year 1/100 of a grain of strychnin, and on occasion I have given 1/75 of a grain every three hours for some time without producing a tetanic condition. I ordinarily begin with 1/150 of a grain, or 1/100 of a grain and increase the dosage. I do not fear producing twitching because I have never seen it do any harm, since by withdrawing the drug temporarily this symptom passes off.

DR. HUGH N. LEAVELL, Louisville, Ky.—I believe the mustard plaster is a most efficient means of relieving congestion in the earliest stages. The plaster I have been in the habit of using is not made at home because of the great variations in the strength of mustard. The plaster can be placed on the chest; I usually place it in the interscapular space and leave it there for from three to five minutes, and repeat this application four or five times a day. A good deal can be accomplished from the use of inhalations, more than from almost any other single method of treatment; nevertheless, it may be carried too far, so that in the later stages such practice may favor the smothering of the child in its own secretions. The same criticism may be made of the too long continuance of expectorant mixtures. Of course, the majority of us believe that syrupy mixtures do more harm than good, and hence I have been in the habit of using the tablet of antimony and ipecac, 1/100 of a grain each, in the early stages of this disease, at intervals of an hour for three or four doses, and then lengthening the interval to five or six hours up to the time of the return of the secretion. But there is another point to be considered in this connection. We know that the infant is not able to expectorate, and that the secretions are swallowed, and that they themselves have a tendency to upset the digestive organs and produce a pyretic condition. A good deal can be done in an antipyretic way by looking after the digestive tract in bronchopneumonia, by emptying the stomach occasionally and promoting the activity of the bowel. I do not favor the use of an antipyretic until this has been accomplished, but after this and the cold pack have failed I would be willing to make use of the coal-tar antipyretics, guarding them by the use of caffein. Stimulation of the heart I conceive to be of paramount importance, but this stimulation should not be begun early in the disease unless even at that time there is distinct evidence of a flagging circulation, such as a shortening of the first sound of the heart. When stimulation is indicated, however, it should be pushed up to the desired effect regardless of what dose is necessary to secure it. I begin with 1/150 of a grain of the strychnia and increase it usually up to 1/60 or 1/50 of a grain.

DR. P. F. BARBOUR, Louisville, Ky.—I wish to disabuse the minds of those who think I believe in such an entity as capillary bronchitis. I took pains in my paper to say that it was a physical or pathological impossibility to have a pure capillary bronchitis. At the same time many of us will recognize that in many cases of catarrhal pneumonia it is the catarrhal element which is the dangerous one, and that in other cases there may be very little of this catarrhal element present. It was to draw attention to this phase of bronchopneumonia, and to the management of the secretion of mucus, which is often the greater danger to the child than the prolongation of the disease, or the high temperature, that my paper was especially written. I used the term capillary bronchitis to draw attention to what the older men called capillary bronchitis, i. e., a condition in which the mucus is really the great element of danger. One of the gentlemen has taken me to task for saying that the diagnosis of bronchopneumonia can be made by the tyro. He has taken the term out of its context. What I meant to say was that when we had made the diagnosis of a bronchitis and the temperature suddenly jumped to 103 or 104 F., and the pulse respiration became rapid, all of us would immediately suspect the occurrence of a bronchopneumonia. A previous history of a bronchitis and the sudden advent of the symptoms described would lead most of us to make the diagnosis of bronchopneumonia, even if we were unable to find the pneumonic area.

The question of medication is, of course, one in which we are all interested. Like those who have discussed these papers, I am very much opposed to the use of most of the syrupy mixtures employed by the majority of physicians in the treatment of pneumonia. The mixture of the mucus in the stomach with the syrup soon produces fermentation and flatulent distension. I do not think, however, that we should discard medication altogether, despite the great value of the local applications. I should be unwilling to trust the child entirely to these external applications. The only drugs on which I laid any stress were those used for certain specific indications. First of all strychnin is used to maintain the strength of the child, and secondarily for its effect in stimulating the reflexes, thus securing contraction of the capillary bronchioles and the forcing out of the mucus into the larger bronchi. I believe in strychnin from the start to the finish of bronchopneumonia, and I give it to the point of producing twitching of the muscles. The second drug on which I laid stress was belladonna or atropin. When the air bubbles back and forth in the mucus there is nothing which will give the good results of this remedy, because it not only checks the secretion of the mucus, but aids the action of the strychnin in stimulating the respiratory centers. I think all who have employed this remedy will bear me out in this statement. The last drug I insisted on was aconite, more in the prevention of bronchopneumonia than after its full development. Those of us who have used aconite in cases of acute tonsillitis, acute coryza and acute bronchitis must have noted its effect in checking the inflammation without upsetting the stomach.

With regard to the swathing of the child in poultices and jackets, I would say that I am opposed to the use of the oil-silk jacket for the reason that this material is impervious to moisture and air and prevents the exhalations from the skin. I do believe that light-cotton batting jackets are of distinct service. Dr. E. Fletcher Ingals, Chicago, reports on more than 1,000 cases of pneumonia treated in the Cook County Hospital, and states that, irrespective of the other treatment, the mortality was 5 per cent. less in the cases treated by the cotton batting jacket than in those in which this jacket was not used. The sensation of cold striking the chest when the arms are uncovered seems to point to the value of some such protection, particularly in children who can not be kept as quiet as adults.

I have been in the habit of using nitroglycerin at the time of the bronchopneumonia when the dyspnea arising from the bronchial asthma is marked. The action of this drug is very evanescent, and minute doses frequently repeated seem to me to do better than large doses given at longer intervals.

DR. C. G. KERLEY, New York—Those cases which have been described in the older books as capillary bronchitis have presented, on autopsy, the pneumonic elements. Regarding my own paper, I would say that I carefully stated that I employ sedatives reluctantly, yet there were times when such medication was of distinct advantage. I have used Dover's powder and have recommended it because I have found it of service. If there is a sedative which I would not give a young baby it is chloral, because of its disturbing action on the stomach, and its depressing effect on the heart in young infants. No exact temperature can be laid down at which it is necessary to employ antipyretic measures; the effect of the fever on the patient must be our guide.

With regard to drugs, I may say that I am a thorough believer in drugs, but insist that they be given properly, that is, in a form in which they will do no harm while aiding in effecting a cure.

It is an extreme view that excludes all medication. I said that if food or medicine were to be given at night the intervals should be made as long as possible, but I do not wish any one to infer that I advocate giving food at specific intervals during the night. I have not seen much benefit from rectal medication; the absorption is very uncertain and the rectum is apt to show intolerance very soon. In the treatment of children we can not go very much by experience with adults. Children should be sufficiently clothed and kept covered, but I see no reason for employing any special form of clothing. Dr. Tuley will remember that in the New York Infant Asylum we used the oil-silk jackets very extensively, but in more recent years

I have discarded them, and I am firmly convinced that the cases do better without these jackets, or even the ordinary cotton batting jackets. I wish to emphasize especially the great importance of avoiding the common error of overclothing these patients.

Clinical Report.

BILATERAL ACUTE GLAUCOMA FOLLOWING ARTIFICIAL MYDRIASIS.*

WALTER L. PYLE, M.D.
Assistant Surgeon to Wills Eye Hospital.
PHILADELPHIA.

The points of interest in the following case are:

1. The absence of any previous objective or subjective symptoms indicative of glaucoma.

2. The violence of the attack following a single instillation in each eye of such a weak mydriatic (cocain and homatropin solution, gr. v to ʒi.)

3. The long delay (39 hours) before the appearance of the acute glaucomatous attack.

On the morning of April 28, 1903, I was consulted by a woman of 50 in good health, but of rheumatic tendency, with a vague history of periodic ocular neuralgia, and symptoms of accommodative asthenopia. The eyeballs were not congested, the tension was about normal, and the anterior chamber of moderate depth. The pupils were active to light and accommodation, and so small that a satisfactory view of the fundus was not obtainable. One drop of a mixture of homatropin and cocain, 5 grs. of each to the ounce, was instilled in each eye. Complete mydriasis occurred in about 30 minutes. No cupping of the discs was seen, and no arterial pulsation or fundus changes were noted, although there was some peripheral lenticular segmentation. The ametropic correction was: O.D.+S.0.75+C.0.25 ax.120°; O.S.+S.0.75+C.0.25 ax.60° V.=6/5. The patient had previously worn simple spherical lenses (+S.3.25) for reading only, ordered by an optician.

The patient left my office without complaint or discomfort, and when I saw her the following morning there were no ominous symptoms. At 2 a. m. of the morning of the next day she was awakened by violent pains in the eyes, followed by intense retching and vomiting, and rapid failure of vision. I saw her about noon and found a typical attack of acute glaucoma in each eye. The tension was +2 or 3. The cornea of the right eye was hazy, rendering the fundus-view very unsatisfactory, but enough could be seen to show that there was no cupping of the disc, although there was marked arterial pulsation. The left cornea was so hazy as to obscure even the red fundus-reflex. The vision fell to counting of fingers in the right eye, and doubtful light-perception in the left. The pupils were widely dilated and inactive, the anterior chamber was abolished and there was intense conjunctival and ciliary congestion.

Eserin and massage were immediately applied, and local heat, diaphoresis and anodynes ordered. Sodium salicylate in 10-grain doses was given every two hours, tincture strophanthus in 5-drop doses every four hours, and mercurial inunctions were instituted every three hours. The condition continuing to grow worse, I performed posterior sclerotomy with a valve-like conjunctival flap, in both eyes. The following day ocular massage was again instituted and instillations of the following solution applied every three hours:

℞.	Eserin salicylate	02
	Pilocarpin hydrochlor.	05
	Sol. adrenalin (1-5,000)	10

The pain was relieved immediately by the incision, the tension fell rapidly, the anterior chamber deepened, the pupil began to contract and the normal visual acuity was established in 72 hours. Two weeks later all traces of the disease had disappeared, but the perimetric examination showed slight contraction of the fields of vision both for form and color. There was no cupping of the discs or vascular anomaly in either eye. With correcting lenses the visual acuity was 6/5 in each eye. The question of iridectomy in the interval of quiet is now an open one.

On account of the absence of significant premonitory signs, and the long delay in the appearance of the acute symptoms, there may be some question as to intimacy of the connection between the application of the mydriatic and the glaucomatous attack. In any event, in view of the happy issue, the outbreak may be considered beneficent, as it enforced preventive measures that otherwise might have been delayed until too late.

* Reported in discussion at a meeting of the American Ophthalmological Society, in Washington. D. C., May 12, 1903.

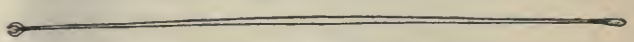
New Instrument.

A COMBINED LINT CARRIER AND FLEXIBLE PROBE.

RICHARD LIGHTBURN SUTTON, M.D.
ASSISTANT SURGEON, UNITED STATES NAVY.
WASHINGTON, D. C.

Anyone who has tried the ordinary probes, directors and forceps for inserting gauze or lint drains into narrow passages or deep wounds is fully aware of the difficulty often encountered in the slight, but frequently tedious, performance.

An instrument which is sufficiently stiff and unyielding to ensure a positive hold on the strip of drainage material is seldom flexible enough to allow of its being pushed through any except an almost direct passage, while the pliable ones now in use, so far as I have been able to find, have either a plain, rounded point, to which it is extremely difficult for one to attach a piece of gauze in such a manner as to insert it in a wound and have it remain there when the instrument is withdrawn, or a flattened extremity with a V-shaped opening for grasping the lint or other material employed.



The probe.



The carrier end enlarged.

After a thorough trial, extending over a considerable period of time, I find the combined carrier and probe here illustrated superior to any I have yet seen. It is a trifle greater in diameter than those commonly employed, about eight inches in length, and is best made of sterling or German silver, aluminum being too soft and pliable.

One end is armed with a single sharp tooth, guarded laterally by two rounded projections which curve toward the median line, each having its inner border slightly hollowed out, while a shallow groove extends backward from the base of the tooth for about one-eighth of an inch. Consequently the strip of material used lies closely along the sides of the guide, and there are no projections or knots to hinder its passage into the wound.

The other extremity is bulbous in shape, and, like the one first described, is connected to the body of the instrument by a slightly constricted neck.

The central portion can be simply smooth and rounded or octagonal in shape. The latter affords a much firmer grip, and, as the additional cost is but slight, is to be preferred.

Phenician Origin of Leprosy in Western France.—Baudouin describes and illustrates certain relics in la Vendée in western France which indicate that the Phenicians established colonies there in prehistoric days as they did in England. (*Gaz. Méd. de Paris.*) He believes that the endemic and isolated leprosy which is found in this province is also a relic of their occupancy. Leprosy was known to the ancients as the Phenician disease.

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MEDICAL ACTIVITY IN THE STATE UNIVERSITIES.

There is unprecedented activity at present along medical lines in the state universities. This activity consists in the rapid installation, in many state universities hitherto devoid of them, of chairs in human anatomy, physiology and pathology, and instructorships in subjects like physiologic chemistry, embryology, neurology and bacteriology. In other words, provision is being made with the utmost speed to give instruction in the subjects which in reality constitute the curriculum of the first two years of the modern medical school.

The cause of this activity appears to be threefold: 1. There has been a rapid advance in the recognition of the cultural value of purely scientific studies; chemistry, physics and biology, so long denied entrance to and proper support in college curricula, have demonstrated in an overwhelming manner their importance as educational instruments and their efficiency in developing an attitude toward life which the classical course failed to produce; the success of these subjects has paved the way for the introduction of other scientific branches hitherto debarred. 2. The medical schools attempting to keep pace in their teaching with the progress and differentiation of the fundamental medical sciences, have found that it is desirable to have these sciences taught by men who are paid to give their whole time to the subject; the fees derived from students is insufficient to pay the necessary salaries and at the same time to supply the buildings and expensive equipment required for the teaching, if it is to be done by the best methods of today; it has become obvious that either endowment for the medical school must be obtained, or the medical school must ask institutions with incomes like the state universities to undertake the medical work of the first two years of the course. 3. Certain medical schools having demanded a college degree for entrance, a conviction has speedily grown that at least some college education, in addition to high-school education, should be required preliminary to entrance on the work of the medical course; this conviction, entering into struggle with another settled persuasion, to-wit: that the student must receive his medical degree at a time when he is not too far advanced in life, has led to a compromise in a number of instances, by which arrangements are made for a kind of "telescoping" of the college course with the medical course, the student to pursue in his first two years of college work the literary studies necessary for his liberal culture, and the scientific studies desirable as a foundation for the professional course which follows, and in his last two years of college work the subjects now included in the first two years of the medical curriculum; at the end of four years the student receives his college degree of S. B., and then proceeds to the two years' clinical work of the medical school, the medical degree being given at the end of the sixth year. Colleges and state universities with affiliated medical schools have been quickly falling into line with this plan; other colleges and state universities are now rapidly adopting it in self-defense, for in its absence a college is likely either to lose at the end of their sophomore year of work (i. e., before graduation) the students who contemplate the study of medicine, or never to get the prospective medical students at all.

It will be interesting to watch the effect of this sudden and radical change in the colleges and state universities. The alteration is viewed by some with fear and dismay, by others with confidence and satisfaction. Men like President Hadley of Yale see in it a threatening of liberal culture and the beginning of the downfall of the American college, and plead that the tendency be checked, while, again, men like President Eliot of Harvard and President Butler of Columbia view the movement as a just recognition of the extension of cultural subjects and a praiseworthy attempt to combine most economically liberal culture with professional study. One thing seems certain: if collegiate study should come to be required by all the better medical schools as prerequisite to entrance, the total number of college students, especially in the S. B. course, will be materially increased, for a great number of students enter the medical colleges at present with no training whatever beyond that received in the high schools. But the argument that this increase in the total number of college students will lead to a commercializing and cheapening of the college course, and to a loss of those ideals which we have learned to associate proudly with the American college should not be too lightly dismissed; if it should prove to have weight, there ought to be no want of alacrity in retracing the steps which are being taken.

The effect of the new departure on the medical schools can scarcely fail to be other than salutary, provided always that the colleges and state universities concerned install the medical subjects on a scale comparable with that obtaining for the scientific subjects already represented in the college curriculum. It must always be considered an advance to have the subjects of anatomy, physiology and pathology taught for their own sake as sciences, rather than merely as far as they can at any given moment be applied to practical medicine and surgery. When taught as sciences to students, the latter are much more likely to make new practical applications of them later in life than could otherwise be possible; those who favor this view maintain that a higher standard of clinical work will inevitably be quickly noticeable as a result. That the combined six years' course will lessen the activity and prestige of the medical schools

now demanding a full four years' college course for admission and a four years' medical course afterward, seems scarcely likely; there will probably always be a number of men who will choose to give eight years to the two courses, either with the hope of attaining to a correspondingly better standing in the community and with the profession, or from motives of personal educational satisfaction.

THEORY AND PRACTICE.

While theories come and go, apparently helpful for a time and sometimes actually lifting medical practice over hard spots in the road, only actual clinical observations become true stepping-stones to higher and permanent things. The simple discoveries in our southern states of intestinal parasites of several kinds hitherto supposed to be almost exclusively foreign in their habitat will almost assuredly do more to explain the chronic anemia thus far thought to be due to malaria than the many wonderfully reasoned out theories on the blood destructive power of malarial cachexia or of the long-continued use of quinin with which medical meetings have been occupied as long as the memory of man runneth, in this country at least. From elaborate theories of insidious hemolysis or the inhibition of blood manufacture to the simple demonstration in the stools of the uncinaria or the so-called Cochin-China worm seems like a drop to bathos, but, as usual, theories sink at once to the limbo of oblivion when actual observation asserts itself.

There has always been this curious by-play between theory and practice in medicine, with theory usually assertively claiming the center of the stage. A hundred and forty years ago when Auenbrugger was making his notable observations on thoracic disease by means of percussion, the two leaders of medicine in Vienna—Van Swieten and De Haen—were writing voluminous treatises on medicine, including the subjects of pulmonary tuberculosis, pleurisy and pneumonia, yet without a mention of percussion. De Haen especially complained of the obscurity of diagnosis in chest diseases and the extreme difficulty of recognizing pleurisy with effusion, yet neither of these great lights of presumably scientific medicine, each with at least a dozen folio volumes of medical writing to his credit, thought it worth while to refer to the new method of their humble colleague (which was, as Skoda declared, the first step in modern diagnosis), though they could not but have known of it, since Auenbrugger was actually working in clinics under their direction. Evidently what we need in medicine is not theory but observation, and observation, and again observation.

On the other hand, there is observable a curious sense of opposition in the minds of some practitioners to the introduction of new aids to exact observation—what they are apt to call new-fangled methods, and mere technic in diagnosis. Many physicians, for instance, have hesitated as to whether blood counting would be of sufficient service to make it worth while learning. Now, there is no doubt that not a few cases hitherto considered to be anomalous and fatal typhoid in comparatively young patients are really examples of acute splenic anemia, the assured diagnosis of which can only be made after a differential blood count. This is only one example. The suggestion that practitioners will have to have a handy microscope and blood-counting apparatus which they can carry without inconvenience to the bedside must become a matter of serious consideration for conscientious physicians who wish to keep abreast of progress in medicine and give their patients the benefit of recent advances.

Such a feature is apt to be spoken of as a refinement in diagnosis. Yet the best medical progress for the last half century has consisted in the adoption of just such apparent refinements. There are few careful physicians now who think they can assuredly recognize diphtheria without a bacteriologic examination. A few years ago some one asked in a Berlin medical society: "Will the practitioner of medicine be expected to take a culture from the throat of his patient before making a diagnosis?" To which one of the oldest but most progressive members of the society responded that not fifty years before in the same society he remembered hearing asked with just the same air of finality, "Will a physician be expected to carry a thermometer around with him, with all the risks of inaccuracy in the instrument and chances of breakage and dangers for delirious patients, just to decide a little more exactly the existence of fever which so far physicians have been able to determine quite satisfactorily by simple touch?" And so history repeats itself. The new things are coming in in spite of the over-conservative. Happy the man who realizes what must be done, and accepts his obligation to get at it without delay.

REDUCING BODIES IN THE URINE OF CHILDREN AND THE SAFRANIN TEST.

It is a well-known fact that human urine, even in perfect health, holds in solution some constituents which act as reducing agents toward metallic oxids and other easily reducible compounds. Uric acid and various nitrogenous waste products of the alloxur—or purin—group possess such reducing properties. The most important morbid urinary constituent having a reducing action is, of course, dextrose. While it is extremely easy to identify larger amounts of dextrose in urine, it is almost impossible to do this if traces only are present in this complex fluid. Hence it is still an open question whether human urine in perfect health, and provided also that the ingestion of sugar has not been in excess of a certain physiologic limit, ever contains any dextrose.

For many years attempts have been made to find a reagent capable of indicating beyond a doubt small amounts of dextrose in urine, but not affected by uric acid, kreatin and other bodies of this type. Safranin was first recommended as such a reagent in 1888 by Crismer,[1] and it was then claimed that uric acid, kreatin,

1. Ann. de la Soc. Méd., Chir. de Liege, Oct., 1888.

chloral hydrate, chloroform, hydrogen peroxid and hydroxylamin, all of which reduce oxycuprihydrate in Fehling's solution, do not reduce safranin. The safranin test has, however, never become very popular, nor has it been used extensively by individual investigators, in spite of the fact that the reagent is easily obtainable and the technic of the test simple.

Safranin is one of the anilin dyes. It is chemically an amidoderivative of phenylphenazonium, is deep reddish-yellow in solution, and has been used extensively by botanists, zoologists and biologists in general as one of the best nuclear stains in the study of karyokinesis. The test for sugar in urine is made by using a 1 to 1,000 watery solution of safranin, adding to it a certain volume of a solution of sodium hydroxid, then varying amounts of urine. The mixture is then carefully heated to below the boiling point and the presence of sugar is indicated by a change in color from the intense reddish-yellow to a pale straw or amber-yellow. The oxygen of the air soon, however, reoxidizes the reduced safranin. Christopher[2] has for a number of years been using the safranin test as a matter of routine, and in a systematic manner in every urine examination, and he has tabulated his findings of 3,504 cases. His results are extremely interesting and highly suggestive. They show among other things detailed in the paper that the reducing power of urine in children varies within wide limits (excluding, of course, cases of obvious diabetes from these considerations). Christopher has perhaps not established beyond a doubt that the reducing body indicated quantitively by safranin is indeed dextrose, but whether it is or not, the figures obtained from so large a material as his must mean something, even if we are not at once in a position to give a correct etiologic interpretation. If, indeed, the reducing body were sugar, a new question will arise as to the origin of this sugar in the urine of children. We know now that sugar may make its appearance in urine from either one of several causes, viz.: 1. The lack of the proper oxidizing agent, normally probably an enzyme furnished by the islands of Langerhans of the pancreas (pancreas diabetes). 2. The overloading of the blood with sugar by an overabundant conversion of the reserve glycogen of the liver into dextrose (hepatic glycosuria), and, 3, morbid changes in the secretory renal epithelium in consequence of which the kidney becomes pervious to sugar (renal phloridzin glycosuria).

Whatever the final interpretation of Christopher's results may be, his careful and suggestive work furnishes valuable data in demonstrating certain deviations from the normal metabolism, measured in terms of reducing bodies found in the urine of sick children.

2. See this issue, p. 1711.

POLYMYOSITIS (DERMATOMYOSITIS).

In this country acute polymyositis, or dermatomyositis is apparently a very rare disease, judging from the lack of reports of cases, but the experience of Oppenheim[1] in Germany, who, in the course of a few years, has seen over twelve cases in clinical and private practice, may indicate that the disease is overlooked or confused with some other condition.

The etiology of the disease is unknown, and conditions which in some cases seemed predisposing or actually causative have been absent in other cases. A case of Senator's had previously eaten stale crabs; one by Kell had eaten fish. Parasites (*Gregarinæ*) and intoxication of intestinal origin have been suggested, but no observations have been made which prove definitely the etiologic rôle of such agents. The course of the disease, as described by Oppenheim from his many observations, is as follows: The onset is acute or subacute, preceded by heaviness in the extremities, headache, gastric disturbances, chills, etc. The first definite symptoms are severe pains in one or more muscle groups, commonly felt first in the calf or shoulder and upper-arm muscles. The pains are pictured as drawing, tearing and boring in character, are greatly increased by passive motion, and allow of only limited active motion. Aside from this limitation to motion there develops eventually in severe cases a genuine paralysis, due to inflammation and degenerative changes in the muscles. Contractures and muscular atrophy result. Pressure on affected muscles elicits intense pain. Simultaneous with the appearance of pain and disturbance of motion, a marked swelling of the region occurs, which is referable to edema of the muscles, skin and underlying tissue. The swelling is at times a true edema, pitting on pressure; at other times it appears as a dense, tense infiltration suggesting scleroderma. There is also a concomitant exanthem or dermatitis which may resemble erythema, erysipelas, purpura, roseola, urticaria, herpes, psoriasis, erythema nodosum or eczema. Sugillations have also been observed. These skin manifestations are prone to recur and usually disappear, leaving no marks but a pigmentation. They occur particularly over the affected muscles. Fever is present constantly and may be either continuous or intermittent.

Special symptoms are caused when particular muscle groups are involved: ptosis, diplopia, disturbances in respiration and deglutition, and rarely the heart has been involved. Stomatitis and angina have been seen in some cases. Splenic tumor may be present but is inconstant. Aside from the hemorrhages seen in the muscles, profuse bleeding from the nose, bowels and kidneys and extreme menstrual flow may occur. Nephritis is the most frequent complication, but pleuritis, mediastinitis and orchitis have been observed. The tendon reflexes are decreased and may even be lost. The prolonged inflammatory condition in the skin and underlying tissue may eventually lead to a condition resembling scleroderma, and Oppenheim thinks that differentiation may at times be difficult. The disease lasts for several weeks to a year or more, and death may result

1. Berliner klin. Woch., Nos. 18 and 19, 1903.

from exhaustion or complications. Batter[2] states that the muscles are the seat of hemorrhages, the fibers are swollen and granular, and the stroma infiltrated with round cells.

Dr. F. Forchheimer,[3] Cincinnati, reported a case of dermatomyositis at the recent meeting of the Association of American Physicians, the disease being "characterized in this case by pustular invasion of certain regions followed by tenderness, swelling and edematous infiltration of muscles." It was thought that the woman's nervous condition was partly responsible for the disease in this case. Although the prognosis is grave, Oppenheim obtained good results by forced sweating.

The disease certainly bears the marks of a microbic infection, with the production of various cytolysins. Oppenheim appears to have made no blood cultures in any of his cases, and it may be hoped that deficiencies in the observations will be remedied as new cases present themselves for study.

"DICHOTOMY" OR DIVISION OF FEES.

The division of fees or, as it is euphemistically called, "dichotomy," is the subject of a signed leading article in *La Presse Medicale* of May 9. It would appear from the statements there made that the evil has been even a more serious one abroad than with us and that the public, penetrating the disguise of the name, have—to use a common expression—got onto it very thoroughly, so that, as the editorial writer says, its doom is sealed in France. He remarks that certain surgical fortunes have been greatly favored by this practice during the past forty years and that it extended from the surgeons to specialists and later to the general consulting practitioners. The editor, Dr. de Lavarenne, introduces an interesting little bit of medical history to show the antiquity of the practice.

It seems that in Louis XIV's time there was a young surgeon of Paris whose practice was rapidly growing, but who lacked the royal patronage to crown his success. The chief surgeon to the King, Marechal, was too watchful and jealous of his own perquisites to allow anyone to encroach on him, but the King's physician, Daquin, was a friend of the young surgeon and by his connivance the latter was, during a temporary absence of the real surgical official, introduced to perform a customary operation of those days, phlebotomy, which the physician had declared advisable. For his services Daquin received a considerable sum from the surgeon, but, as it so happened, the King, growing anxious on account of the bleeding, sent a courier to his chief surgeon, who hastened back and, not being on good terms with the chief physician, there was consequently a row. The King was informed of the facts, which put him in a terrible rage, and Daquin was arrested and his fate put in the hands of the council of state, which unanimously voted his death on the ground of his having made traffic of royal blood. The King, however, so far recovered from his anger as to commute his punishment to banishment from Paris and degradation from his position, which he did not long survive.

This little piece of back-stairs history of the times of Louis XIV is at least entertaining. Human nature, however, is the same at all times and of course there is a possibility that if the practice of division of fees is stamped out in one way, there will be unprincipled persons enough to contrive some other to bring about the same results, but they need not be reputable members of our honorable profession. It certainly existed 200 years ago in France, as the above record shows, and it would appear that it has become altogether too general in that country during the last half century. With us it has certainly never had even a taint of respectability about it and has been practiced only by those who travel on the ragged edge of regularity and those who are clear over it among the outlaws of the profession. It is to be hoped that it will become even more disreputable in the future than it has in the past.

SURGERY IN ASYLUMS.

In the April number of the *Journal of Mental Science*, an asylum superintendent, Dr. Robert Jones of the Claybury (London) Asylum, reports two cases of abdominal surgery. One of our contemporaries[1] comments on these, and strongly suggests a doubt whether anything like this could occur in any of our American asylums; in fact, questions whether abdominal surgery is ever practiced in asylums for the insane in this country. The assumption is rather gratuitous. Surgery in the insane covers the whole ground, and asylum physicians have not only to perform abdominal operations, but sometimes do some of the most elaborate and critical emergency operations in various parts of the body. Our contemporary is evidently ignorant of the facts that among American asylum superintendents there have been surgeons of national reputation, and that probably the first successful laparotomy for a foreign body in the intestine was done by an asylum physician in this country, Dr. White, and reported in the beginning of the last century.[2] The patient had swallowed a teaspoon, and the physician boldly opened the abdomen and extracted it, closed the intestinal wound with a glover's stitch, recovery taking place without anything especially eventful occurring. The case was a good one of clean surgery well in advance of the day. Since that time the number of abdominal operations in asylums for the insane has been legion. The trouble has not been that the asylum physicians were unwilling to perform such work, but that they have been too slow in reporting it. The asylum physicians have not been behind the rest of the profession in their ability to adapt themselves to practical things and to meet emergencies. We say this with due appre-

2. Allbutt's System, vol. vi.
3. Medical News, May 16, 1903, p. 950.

1. Phila. Med. Jour., June 13.
2. Medical Repository, iv, 1807, p. 367.

ciation of their deficiencies. Of course, the asylum is not a general hospital, and major surgery is not an every-day occurrence in it, but it has occurred sufficiently often to show that when required it can be done. The average asylum physician, even the politically appointed type, has been, as a rule, a fair physician and often an equally respectable surgeon. The trouble has been too often that he has not been sufficiently a specialist in the department in which he is engaged.

EDDYITES AND LUNACY.

A correspondent of the New York *Sun* of May 30 remarks that in his own limited range of acquaintance among Eddyites he finds seven cases of incurable insanity. Five of these cases were mothers and four wives of well-known healers; the sixth and seventh were young mothers who attempted to destroy their children, driven crazy by trying to elucidate Mrs. Eddy's problems. The Eddyite mother who actively attempts to destroy her child, instead of passively doing so, as is the custom among the followers of the "profitess," has not come under our observation, but we can easily see how this metaphysical lunacy might strike certain defective classes and bring about such results. We know that in times past the ordinary gross spiritualistic ideas have colored insanity and produced, in many cases, mental breakdown, and it will be surprising if, in the future statistics of asylums, Eddyism—under some name or other—is not figured as an etiologic factor of mental disease.

TYPHOID-INFECTED BLANKETS.

Considerable medical interest and concern has been shown in England recently in regard to the outbreak of typhoid, apparently due to infected blankets from the South African war camps. Both the *British Medical Journal* and the *Lancet* have editorially given the subject considerable space, and it is suggested that, while a limited epidemic on a steamship which was attributed to this cause was comparatively slight, the fact that similarly infected blankets have been distributed through the empire in enormous sales of condemned war supplies, and possibly transported to other countries, is a serious one. It is a reasonable presumption in ordinary cases that articles that have been used in hospitals in which infectious diseases have been treated are sold to the public only after thorough disinfection. If this has not been done by the authorities at the British war office serious responsibility rests on them. The *Lancet* remarks that in some ways this regrettable occurrence will expose Great Britain to the ridicule of certain other nations, but that in no other country in the world is there a public health service that could have acted with greater promptitude and efficiency than was the case in Great Britain on the announcement of the facts.

ALCOHOL AND INSANITY.

The municipal authorities of Glasgow, according to the *Lancet,* recently appointed a special committee to inquire into and report on the effect of alcoholic drinks on the increase of lunacy, which has become a serious matter in that municipality and in Scotland generally. A copy of the report, our contemporary says, furnishes serious matter for consideration. Out of 565 admissions to the Glasgow District Asylum and 213 admissions to observation wards of the poorhouses during twelve months, no less than 33 per cent. were traceable to alcoholic drinks as a cause. The inquiries show that want and privation have not led to insanity, nor were they causes of alcoholic drinking, for the cases thus admitted were from all classes and conditions of society, and in the majority the home surroundings, conditions and earnings were good. These are not isolated facts for the figures of the Royal Edinburgh Asylum point in the same direction. The committee has forwarded copies of its report to the secretary of state for Scotland as a matter for the serious attention of the government. The usual estimate as to the amount of insanity due to alcoholic drink in this country has been about 10 or 12 per cent., and to find that it is more than twice as great in Scotland at the present time is rather startling. There also seems to be a large increase over what was formerly the case in that country, and this increase is especially marked in the great cities and industrial centers. We would not say that the average workingman takes to drink, but the working population of the great cities are certainly the chief patrons of the saloon. It was reported, during the recent coal strike, that in a certain town of 16,000, made up almost exclusively of a mining population, in the anthracite region of Pennsylvania there were 190 saloons. Alienists have been conservative heretofore in estimating the amount of insanity due to liquor and have endeavored, as a rule, to understate rather than overstate the facts. This municipal report certainly goes far beyond their average estimates.

Medical News.

ILLINOIS.

Hospital Site Donated.—A valuable piece of land at Kewanee has been given for the proposed Catholic hospital. The building will be erected this season and will cost about $35,000.

Personal.—Dr. Philip F. Gillette, assistant physician at the Illinois Northern Hospital for the Insane, Elgin, has resigned, and will practice in Rockford. He has been succeeded by Dr. Joseph M. Kearney, formerly assistant at the Cook County Hospital for the Insane, Dunning.

Chicago.

New Hospital.—Englewood Hospital and Training School for Nurses is to erect a hospital building to cost $125,000. It will accommodate 150 patients, and will have 60 private rooms.

Personal.—William Whitford sails for Europe June 23.—— Dr. J. Elliott Colburn has been made professor of ophthalmology in the Chicago Eye, Ear, Nose and Throat College.—— Dr. Frank Allport has been appointed trustee to the Illinois Charitable Eye and Ear Infirmary.

Consumption Leads Pneumonia.—Pneumonia is beginning to give place to consumption as a principal cause of death. The health department says:

> Since the first of the month 117 deaths have been reported from the latter disease and 114 from pneumonia; in May there were 264 deaths from consumption and 646 from pneumonia. This latter disease is essentially one of vitiated, germ-polluted and overheated atmosphere; with the advent of weather which invites open doors and windows, and consequent influx of fresh air, pneumonia steadily declines.

Mortality of the Week.—The 11 deaths recorded during the week ended June 13 more than during the week of June 6, served to raise the annual rate from 12.73 to 13.05 per 1,000 of population. This, however, is 7.5 per cent. below the average June rate between 1895 and 1902. Of the principal causes of

death only bronchitis, convulsions, heart diseases and violence show any notable increase, while the acute intestinal diseases, apoplexy, consumption, nervous diseases, typhoid fever and suicide show an aggregate of 33 fewer deaths than in the previous week.

MICHIGAN.

Nottingham Bill Signed.—Governor Bliss has signed the new medical practice act.

Addition to Biologic Department.—Messrs. Frederick Stearns & Co., Detroit, are having built a two-story addition 60 by 161 feet, to their biologic building, which they erected less than two years ago.

Liberal Appropriation for Vaccination.—The common council of Detroit, on June 9, made an appropriation of $30,000 for general vaccination, complying with the request of health officer Dr. Guy L. Kiefer.

Illegal Practitioner Fined.—"Dr." William W. Phippen, Grand Rapids, charged on complaint of the Kent County Medical Society with the illegal practice of medicine, was found guilty, May 27, and ordered to pay a fine of $25 and costs amounting to $10. He expressed his intention of taking an appeal.

Commencement Time.—The Michigan College of Medicine, Detroit, held its commencement exercises, June 11, graduating a class of 12. The summer course of lectures was opened, June 10, by Dr. Hal C. Wyman.——Grand Rapids Medical College graduated a class of 16, June 3. Dr. William Fuller delivered the introductory address, and Dr. George L. McBride delivered the address to the class after the presentation of diplomas.

Comparative Morbidity.—For May, 1903, compared with the average for May in the 10 previous years, measles, scarlet fever, intermittent fever, typhoid fever, smallpox and whooping cough were more than usually prevalent; and remittent fever and erysipelas were less than usually prevalent. In the two preceding monthly bulletins it was stated that the diseases which usually cause the most sickness in March and April were less prevalent than usual in those months in 1903, and the same statement will apply to the month just passed.

Mortality of Michigan.—The total number of deaths reported for May was 2,733. This number was 12 fewer than the number returned for the preceding month. The death rate for the month was at the rate of 13.0 per 1,000 estimated population per annum. Important causes of death were as follows: Tuberculosis, 228; typhoid fever, 42; diphtheria, 45; scarlet fever, 25; measles, 28; whooping cough, 34; pneumonia, 254; cancer, 125, and violence, 205. There was 1 death from smallpox during the month, and 3 deaths were reported from lightning.

Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during May at 6 places; whooping cough at 43 places; diphtheria at 59 places; typhoid fever at 65 places; smallpox at 127 places; scarlet fever at 131 places; measles at 135 places; and consumption at 196 places. Meningitis reported at 2 places less; whooping cough at 11 places less; diphtheria at 3 places more; typhoid fever at 13 places less; smallpox at 25 places less; scarlet fever at 7 places less; measles at 13 places less, and consumption at 9 places more, in May than in the preceding month.

NEW YORK.

New York City.

Bequests to Hospitals.—By the will of Charles M. Chittenden about $50,000 is to be divided between the Presbyterian Hospital and the Home for Incurables at Fordham.

Addition to Bellevue Hospital.—It is proposed to purchase the block between Twenty-eighth and Twenty-ninth streets and First avenue to afford needed room for grounds and buildings for Bellevue Hospital.

The Spitting Nuisance.—A new incident in the crusade of the health authorities against the spitting nuisance is the display of signs in conspicuous places in the streets, which call attention to the fact that spitting on the sidewalk is unlawful, and that offenders are subject to arrest and fine.

Physician Contracts Smallpox.—Dr. Clinton B. Knapp, an interne of the French Hospital, has contracted smallpox from one of the hospital patients, and has incidentally furnished another example of the necessity for revaccination from time to time. All who had been exposed to the disease from the admission of an immigrant were vaccinated except Dr. Knapp, who thought he was sufficiently protected by a vaccination done in childhood. He was taken to the Kingston Avenue Hospital.

The Antitoxin Frauds.—The medical profession has been disgraced by the announcement in the public prints that about sixty physicians of this city are charged by the district attorney with having obtained diphtheria antitoxin free from the city, under the plea that it was to be used on individuals too poor to pay for this remedy, and have then sold the antitoxin to such persons at prices even in excess of the usual price paid at drug stores. Last December the mayor received information that such a misappropriation was going on, and as a result it is alleged that the district attorney has obtained proof that 300 vials of antitoxin have been purloined and disposed of in this manner. Most of the physicians affected by these charges live and practice on the lower east side and among the Bohemians above East Seventieth street. Already a dozen or more of those accused have been arraigned and have been held in $500 bail each to appear for a hearing.

PENNSYLVANIA.

Gifts to Hospital.—James P. Scott and his sister, Miriam D. Thropp, have each recently given $1,000 to the new Columbia Hospital.

Pre-Fourth-of-July Tetanus.—Ten boys are reported to have died from tetanus in Pittsburg within a few days. In all of the cases the disease followed injury by toy pistols.

Workmen Assess Themselves for Hospital.—To make up a deficiency caused by a reduction of the state appropriation for the city hospital, the workmen of McKeesport offer to assess themselves 25 cents each per month for four months.

Philadelphia.

The Morton Will.—The will of the late Dr. Thomas G. Morton, just probated, shows an estate valued at more than $200,000, all of which is devised to his widow and children.

Impure Food Dealers Fined.—Out of the score of dealers charged by the dairy and food commissioners with selling a compound for pure lard, fifteen were fined $50 each and costs. Most of them paid the fine, a few entering bail to answer the charge in court.

Phipps Institute Enlarged.—A second ward in the temporary Phipps Institute for the Study, Cure and Prevention of Tuberculosis was recently opened, and a third ward is in preparation. There are now 32 beds. In the four months of the existence of the hospital nearly a thousand patients have been treated.

Beri-Beri.—Most of the crew of the Dutch bark *Amsterdam* from Java, bound for Philadelphia, were found to be suffering from beri-beri, and, on June 12, were removed from the vessel to the U. S. Marine Hospital at Lewes, Del. The men are said to be in a serious condition. The disease was probably contracted while the vessel was loading at Java. She was thoroughly fumigated and, after obtaining another crew, sailed for Boston.

Unprofessional Surgery.—On the charge of connection with the death of a negress, in which case the coroner's jury returned a verdict of death as a result of unprofessional surgery, Mrs. Elizabeth Ashmead was committed to prison. She is alleged to have figured as "Dr. Conde" of the Conde Specialty Medicine Company. De Witt Ashmead, the woman's son, and Dr. Matthew McVicker were held as accessories, but were released on bail of $2,000 each.

Typhoid and Smallpox.—For the week ended June 13, 238 new cases of typhoid fever were reported, and 48 new cases of smallpox. Of the latter, 33 cases occurred in two wards adjacent to the municipal hospital. It is thought by the health authorities that rats which infest the municipal hospital are largely responsible for carrying the contagion, and active measures are to be taken for their extermination. A house-to-house vaccination has been ordered in the locality.

Vetoes Homeopathic Control.—The mayor vetoed an ordinance passed by councils authorizing the director of the Department of Public Health and Charities to establish wards in the Philadelphia Hospital, to be conducted under homeopathic treatment. The reason assigned was that the ordinance provided that the physicians to be appointed were to be nominated by the Hahnemann Medical College, thus transferring executive power to a college, whereas such power should be vested solely in the executive officers of the municipality.

Pasteurized Milk Plant to be Established.—After inspection of the plants established in New York through the philanthropy of Nathan Straus for supplying pasteurized milk for infants, Director Martin is planning at least one such station in Philadelphia. It is the plan to have the supply in the crowded tenement district, and the distribution made perhaps through the

police stations. Prominent women of the city are taking an interest in the project, and will probably lend material aid. The necessary apparatus has been ordered through Mr. Straus.

To Investigate Water Pollution.—On June 16 a number of city officials started on a tour of inspection of the Schuylkill River for the purpose of determining the sources of pollution of the water supply of Philadelphia. The party included Dr. A. C. Abbott, chief of the bureau of health, and Health Officer Charles H. Heustis; also medical inspectors A. A. Cairns, A. C. Butcher, Thomas J. Beatty, Henry Sidebotham, C. P. Mercer and L. C. Wessels, and an equal number of nuisance inspectors. The party went direct to Reading, there boarding a launch and proceeding down the Schuylkill. Officials were landed at intervals to make special examination as to sources of pollution in the vicinity.

TENNESSEE.

Colored Graduates.—Knoxville Medical College, an institution for colored students, graduated a class of 6 on May 30.

Maury Infirmary Reopened.—Dr. John M. Maury, Memphis, has reopened the infirmary on Court street, so long occupied by his father and Dr. Mitchell.

Pure Food in Memphis.—Dr. Heber Jones, president of the Memphis Board of Health, is having examinations of food made, which will probably result in the passage of a pure food ordinance.

Smallpox in Chattanooga.—During May there were 35 cases of smallpox in the city, with no deaths. The vaccination crusade proved a success, and the health authorities feel that they have the situation well in hand.

Personal.—Dr. Richard Douglas, Nashville, has returned from the Madrid Congress.——Dr. William Krauss, Memphis, has opened a school of clinical laboratory methods.——Drs. John T. Irwin and Gilbert T. Abernathy, Paris, have been elected members of the local board of health.——Drs. Edward C. Ellett and Pope M. Farrington, Memphis, have formed a partnership.

Physician Wins Suit Against College.—Dr. James G. Crawford, Nashville, who sued the medical department of the University of Tennessee for $750, the sum paid for a professorship in the department, has been successful in his suit. The court held that Dr. Crawford had performed his duty, and that the faculty was wrong in refusing to pay him for the chair and declining to arbitrate.

Physician Shoots Friend.—Dr. John H. Sevier, Brownsville, had been annoyed by unknown individuals who had nailed notes on his door, warning him to leave town, and had committed various depredations. His friends were guarding his house, and on June 8 Dr. Sevier determined to stand guard himself. In the early morning a man approached, did not halt when challenged, and was shot by the Doctor. The victim proved to be a friend who was coming to summon Dr. Sevier professionally. Fortunately, he was not seriously injured.

TEXAS.

Commencement.—The medical department of the University of Texas, Galveston, held its commencement exercises, May 30. Dr. William Keiller delivered the address to the graduating class.

Personal.—Dr. John Preston, Lockart, has been appointed superintendent of the epileptic colony at Abilene.——Dr. H. O. Sappington, house surgeon of the John Sealy Hospital, Galveston, has resigned.

College Incorporations.—Texas College of Physicians and Surgeons, Dallas, capital stock $6,000, by Drs. F. A. Bell, John O. McReynolds, Henry K. Leake and Jesse M. Pace.——Gate City Medical College and School of Pharmacy, Texarkana, capital stock $50,000.

Note on Dallas Commencement.—In THE JOURNAL, April 11, regarding the commencement exercises at Dallas Medical College, it was erroneously stated that Rev. D. C. De Witt delivered the address to the class. Dr. Arthur C. Bell of the faculty delivered the address.

Examining Boards Named.—Governor Lanham has named boards of medical examiners from the regular, homeopathic and eclectic schools. The regular board is composed of Drs. J. T. Wilson, Sherman; Joseph W. Scott, Houston; Sam R. Burroughs, Buffalo; Joseph H. Reuss, Cuero; Don J. Jenkins, Daingerfield; Matthew M. Smith, Austin; John H. Evans, Palestine; Stephen T. Turner, El Paso, and John C. Jones, Gonzales.

Asylum Changes.—Dr. Frank R. Ross, Austin, second assistant physician and superintendent of the State Lunatic Asylum, has resigned and left for Europe, June 1. Dr. John Foster succeeds him, and Dr. Louis Kirk comes to the institution as third assistant physician.——Dr. George H. Moody, first assistant at the Southwestern Insane Asylum, San Antonio, has resigned, and goes abroad for further study in Vienna.

WASHINGTON.

Measles is epidemic, according to reports, in Garfield and Seattle.

Thousands for St. Luke's.—The building fund of St. Luke's Hospital, Spokane, now amounts to $16,345.25.

For Illegal Practice.—G. Olin Smith, Spokane, charged with practicing medicine without a license from the State Board of Medical Examiners, pleaded guilty, May 13, was fined $75 and $3.35 costs, and promptly paid the fine.

Personal.—Dr. William L. Ludlow, health officer of Seattle, was given a banquet by his predecessor, Dr. Frank M. Carroll. ——Dr. H. A. Wright, Wilbur, has been appointed a member of the State Medical Examining Board, vice Dr. John P. Turney, Davenport, term expired.——Dr. John G. Byrne, formerly of Chicago, but who has been surgeon of volunteers in the Philippine Islands for two years, has opened an office in Everett.

WISCONSIN.

Mount Sinai Hospital Open.—Mount Sinai Hospital, Milwaukee, was formally opened and dedicated, under the auspices of the Jewish Hospital Association, June 7.

Hospital Association Chartered.—A charter has been issued to the Kenosha Hospital Association and all that now remains is to raise the funds necessary to erect, equip and maintain the hospital.

Smallpox.—The secretary of the State Board of Health says that smallpox is on the decrease. During the last week in May 60 cases were reported, all in the northern part of the state.—— Milwaukee had 30 smallpox cases under treatment on June 1.

New Graduates.—The Wisconsin College of Physicians and Surgeons, Milwaukee, graduated a class of 23 on May 28. Rev. Judson Titsworth delivered the doctorate address, and Dr. Alfred H. Levings, president of the college, conferred the degrees.——The commencement exercises of Milwaukee Medical College were held May 1. A class of 42 was graduated. Dean Walter H. Neilson presented the class to President William H. Earles, who conferred the degrees and made an address to the graduates.

Personal.—Dr. L. E. Spencer, Wausau, has been appointed a member of the State Board of Health, vice Dr. George W. Harrison, Ashland, term expired.——Dr. J. Russell Eastman has been appointed health officer of Kenosha.——Dr. A. G. Jenner, Milwaukee, has returned from a two years' course of study in Vienna.——Dr. Theodore Koch has been elected health officer of Baraboo.——Dr. Thomas Fitzgibbon, Milwaukee, professor of gynecology at the Wisconsin College of Physicians and Surgeons, has resigned, and will fill the same chair in the Milwaukee Medical College.

GENERAL.

To Try New Leprosy Treatment.—The Hawaiian legislature has appropriated $3,000 to secure the leprosy treatment of Dr. Goto of Japan. It is not claimed that his method is curative, but it is very effective in its alleviating properties.

Conference of Boards of Health.—The conference of state boards of health was held in Washington, June 3 and 4. Twenty-two states were represented, and the conference was a very satisfactory and profitable session. It was agreed that a quarantine against the State of California because of plague is unnecessary because of the sanitary measures taken by the authorities in California. Dr. Walter Wyman proposed a more intimate connection between state boards of health and the United States Public Health and Marine Hospital Service, and the conference adopted a resolution approving the method which he suggested. Dr. Wyman gave an account of the organization and function of the U. S. Public Health and Marine Hospital Service. It is divided into the division of the marine hospital, including the sanatoria for consumptives at Fort Stanton, the division of domestic quarantine, to which are referred all matters relating to national maritime and interstate quarantine stations and regulations and epidemic diseases, and a division of foreign and insular quarantine, to which is assigned the management of our quarantine stations in our outlying possessions and the supervision, inspection, etc., at foreign ports, which is carried on in China and Japan and in various Central American and Mexican ports. The divisions of sanitary reports and statistics and the personnel and accounts

are purely administrative. The division of scientific research is a matter of more interest. It has just gotten into new quarters on the grounds of the old Naval Observatory at Washington. To it requests for scientific investigation of special diseases are referred, and all matters of water pollution, etc., of national interest. There is an advisory board, consisting of a number of leading sanitarians, bacteriologists, etc., attached to it, and one of the latest results of the work of this division is specially noted in the report of its chief, Dr. Stiles, on uncinariasis in the southern states. The yellow fever institute and medical corps are also described by Dr. Wyman. The work of the former is still being carried on; investigations are going on at Vera Cruz and elsewhere. The connection of the service with the International Sanitary Bureau of the American Republics is also noticed. In conclusion, Dr. Wyman calls attention to the advisability of further developments of these annual conferences of state and national health authorities and the appointment of committees, which will keep up their organization during the year and receive for further conference such matters as may be referred to them by the surgeon-general of the Public Health and Marine-Hospital Service. He suggests, for instance, the appointment of committees on sanitary research, on the prevention of epidemic diseases, on typhoid statistics, on state legislation, and on education as well as still more special committees on particular diseases, like cholera, plague, yellow fever, tuberculosis, etc.

CANADA.

A New Chief Coroner for Toronto.—The Ontario government has provided for a chief coroner for Toronto, all the other coroners to be known as associate coroners. Owing to the fact that there has been some jostling for cases among these officers in the past, the above step was thought advisable. The salary is fixed at $1,500; and the chief officer will superintend the conduct of all inquests and direct the work of the subordinate coroners.

Compulsory Vaccination Remains in Ontario.—The bill before the Ontario legislature to repeal the compulsory vaccination law has been withdrawn by its promoter, not more than two or three legislators having been found to support it. It was introduced by a legislator whose constituency had recently experienced an outbreak of smallpox, which also produced an outbreak of cranks to a limited extent. It was to appease these that the legislation was introduced.

Keeping Out Diseased Immigrants.—In the hospitals of Quebec City there are now forty-two immigrants suffering from trachoma. These will be deported and will not be allowed to enter the country any farther. It is understood that the new Canadian law with regard to these classes is working very well. It is urged that the governments of the United States and Canada might wisely co-operate, since neither country wants to become a dumping-ground for the incompetents and the diseased of the old world; there should be one sea wall along the Atlantic shore, so far as maintaining the health and cleanliness of our peoples are concerned.

Medical School Amalgamation in Toronto.—It is again stated that Trinity University will at last come into federation with the provincial university,, and that the medical departments of both Trinity University, formerly Trinity Medical College, and that of the University of Toronto, will also be amalgamated. This would give a very large medical department for the provincial university, and would form a medical faculty the equal of any in America. There are over 200 students in medicine at Trinity and about 400 at Toronto, which would form a student body second to none in Canada. Under the new arrangements it is stated that Dr. W. B. Geikie, who for a long term of years has been dean of Trinity and professor of medicine, will retire. The fused schools will occupy the new medical buildings, now about completed, in connection with the provincial university.

FOREIGN.

Plague in Hongkong.—The plague has spread most seriously in Hongkong. A number of foreigners are victims of the disease. It is reported that six men of the British battleship *Ocean* have been attacked.

Prizes Awarded to Vienna Physicians.—The Vienna Academy of Sciences has conferred the Lieben prize of about $500 on Dr. J. Schaffer, professor of histology at Vienna, for his work on "Cartilage and Allied Structures," and his recent studies on comparative anatomy. The Beer prize of $250 was awarded to Dr. A. Kreidl, professor of physiology, for his study of the comparative physiology of the "static sense."

More Plague in Berlin.—Cable dispatches from Berlin announce in the daily press that one of the attendants of the late Dr. Sachs, the victim of bubonic plague, whose death we mentioned last week, is suffering from the disease. He is 22 years of age, has a strong constitution, and may recover. German physicians are much aroused by the action of the government in prohibiting further experimenting with the plague. They say that Dr. Sachs and other experimenters fully understand the risks they take, and, in view of the benefit to the community, the experimenting should not be stopped.

The Brain of Laborde.—Eminent as a medical journalist, physician, exceptionally fluent speaker and inventor of "rhythmic tractions of the tongue" as a means of resuscitation, the late Dr. Laborde of Paris bequeathed his body to science. The *Gaz. Med. de Paris* of June 6 gives details of the autopsy report. The brain weighed only 1,234 gm. and was asymmetric to a certain extent, while the convolutions were not complicated. The foot of the inferior frontal convolution was much larger on the left side than on the right. It had apparently absorbed the "cape," from which it was separated only by a deep sulcus. Its large size was the more remarkable on account of the smallness of the brain as a whole.

The Rejuvenation of Vichy.—On May 31 Vichy celebrated the completion of the buildings, etc., that have been undertaken on a large scale to place Vichy at the head of European watering places. It is owned by the French government, which recently renewed its contract with a stock company on condition that $2,000,000 should be expended on the place to make it a model of sanitation, hygiene and general resort. The company has expended more than the sum stipulated, and De Lavarenne writes enthusiastically of the results in the *Presse Medicale* of June 3. The place is arranged for wealthy patrons, or for persons of moderate means, according to the schedule desired, and he thinks it far outranks other European health resorts in the most essential points. There were 80,000 visitors last year, and there are now accommodations for many more.

Death of the Famous French Trance Sleeper.—Marguerite Boyenval of Thenelles roused from her long sleep, May 26, five days over twenty years since she sank into her trance. She has been under the medical care of Dr. Charlier, mayor of Origny-Sainte-Benoite, and he found that she was becoming tuberculous and attributes her waking to the inroads of the disease. Her jaws were clenched, and her case has been described as the "summum of the diathèse de contracture" with profound lethargy, mental inertia and physical insensibility. Her mother fed her during these twenty years by peptone in rectal enemata, and through the gap of a broken tooth. A few months ago signs of returning sensibility were apparent. An abscess had to be opened and the muscular contraction gradually subsided and consciousness returned. She was able to answer yes or no to questions, and exclaimed that the physician was hurting her when he took her arm, and asked for her grandfather who has long been dead. She was emaciated to a skeleton, and her weakness was so extreme that the physician advised absolute quiet, and no questions, and she thus passed away. The *Gaz. Med. de Paris* of June 6 gives further details, noting especially her abundant blonde hair. The autopsy had not been made at the time.

LONDON LETTER.

Typhoid Fever and Army Blankets.

Great consternation has been produced by the report that the blankets used by the soldiers suffering from typhoid fever in the Boer War have been sold and distributed all over the country without being disinfected. The sensational daily papers have made use of the opportunity to diffuse all kinds of wild stories. The facts are as follows: Ten cases of typhoid fever occurred on a training ship for which no cause could be ascertained; attention was then directed to certain blankets recently obtained. Stains on them awakened suspicion, and examination by Professor Klein showed that the blankets contained abundant typhoid bacilli. Inquiry elicited the fact that the blankets were part of a large consignment which had been sent to different localities in England. The London authorities warned the medical officers of health of all the districts concerned, who seized and disinfected all the blankets they could find. It has now been ascertained that the blankets were bought at a military sale in South Africa. But this does not explain how infectious blankets came to be sold, for all bedding from typhoid cases was regularly disinfected. It is surmised that some of the blankets of the large number of sick soldiers sent by rail to the various hospitals may have been left in the railway carriages or at railway stations and collected

and sent to the army stores. Two hundred thousand blankets have been sold, of which 160,000 have been traced to 130 towns in Great Britain and Ireland.

Census Returns.

A valuable "blue book," consisting of a summary of the recent census of England and Wales, has just been issued. The first point to attract attention is the tremendous increase of population which has taken place in the past century. In 1801 the population was just under 9,000,000, and in 1901 it was 32,500,000. The increase is entirely due to growth of the urban population. The preponderance of women over men has been increasing for a considerable period, and the "superfluous women" now number over a million. The increase in the number of foreigners, though marked, is quite trivial, compared to the growth of population. The figure rose from 198,113 in 1891 to 247,758 in 1901. The increase is almost entirely among Russians and Italians.

The Plague.

In the weeks ending April 25 and May 2 the deaths from plague in India were 28,146 and 24,333 respectively. The increase of plague in recent years in India is shown by the following figures: The recorded deaths in 1897 were 56,000; in 1897, 56,000; in 1898, 118,000; in 1899, 135,000; in 1900, 93,000; in 1901, 274,000, and in 1902, 577,000. During the first three months of 1903 the deaths amounted to 331,000, and in March alone to 136,000. In Cape Colony, for the fortnight ending May 2, the following have been reported: Port Elizabeth, 8, fresh cases 12, deaths 9; East London, 3 fresh cases and 2 deaths; King Williamstown, 7 fresh cases and 3 deaths.

Correspondence.

THE DEMISE OF THE PHILADELPHIA MEDICAL JOURNAL.

PHILADELPHIA, June 15, 1903.

To the Editor:—The *Philadelphia Medical Journal* was sold out last week by the majority stockholders. As this deal closes an extraordinary chapter in the history of medical journalism in this country, it is desirable that the medical public should learn something about it. As the writer was one of the minority stockholders who were opposed to this deal, and as, moreover, he had been the editor-in-chief of the journal for more than two years, he feels himself qualified to comment on it. The great bulk of the stock of the *Philadelphia Medical Journal* was held by laymen. In fact the journal from its very inception had owed very much to laymen, among whom were men of the highest character, who had supplied money with the unselfish desire to found a medical journal in Philadelphia that should be permanent and representative. That this scheme has failed is no reason why ample acknowledgment should not be made to these generous supporters of what some of them intended should be a free and untrammeled medical press.

Two and a half years ago the *Philadelphia Medical Journal* reached a crisis in its affairs which led to a change in editorial management. There were many prominent medical men in Philadelphia and elsewhere who were interested in keeping the journal alive; and in spite of the fact that its short career up to that time had been marked by threatening disaster (due largely to the opposing aims and temperaments of men who commanded its various departments), a determined effort was made to rehabilitate the journal and give it a new lease of life. At the same time, however, the command of its stock was allowed to remain in the hands of a few (and a very few) laymen. These stockholders professed—and, no doubt, sincerely—to have only the interests of the medical profession at heart; and they seemed for the time being to realize that nothing but a strict regard for the ethical principles of the medical profession would be tolerated by the medical men who consented to identify themselves with the effort to save the journal for the cause of scientific medicine. At this time it was freely declared, and evidently believed, by some of the business men who had invested in the stock of the journal, that its business affairs were satisfactory and that its stock was worth subscribing to. The new editor-in-chief consented to take charge only with the clear understanding that he was to have absolute control of the editorial pages and of the selection of original articles. The business management, including the advertising department, was not in his control, but the functions of the latter department were lodged in the hands of a committee composed largely of physicians. Later the personnel of this committee was changed.

Under this agreement the editor-in-chief and a staff of very able and conscientious assistants worked with practically no interference for a period of two years. It became known, however, that the business men who practically controlled the business department were not satisfied with the commercial status of the journal, and wished to enlarge the advertising business by removing some of the restrictions that had been imposed. The excuse for this was found in the fact that the journal was losing money. The editorial staff was not consulted, however, about any new scheme, until one day word was sent to the editor-in-chief that the business department had entered into an agreement with some drug firms to accept puff articles from such drug firms and to publish them as original articles. The drugs thus to be exploited were proprietary nostrums. The editor-in-chief, acting for himself and the whole staff, and ably supported by the medical members of the board of trustees, immediately served notice that the publication of such papers would not be permitted, and that the acceptance of them by the business department without the knowledge and consent of the editor-in-chief, was a direct violation of agreement.

In the meantime it transpired that an official of the company, who had been sent to England by the business department, with the consent of the board of trustees, to establish a British edition of the *Philadelphia Medical Journal*, had been negotiating with a large drug firm in London to sell the weekly issue of the journal to said drug firm, who should have the right to use it for any and all advertising schemes in Great Britain that said firm might devise. In other words the journal was to be made the organ abroad of the proprietary drug houses, who would be entirely irresponsible to any persons but themselves. It is needless to say that this scheme had not been contemplated by the board of trustees and was vetoed as promptly as it was discovered by the medical members of the board. Hence this crisis.

One lay stockholder, who held the great bulk of the stock, and practically controlled the business department, now announced that he would give no more financial support to the journal, but would sell out to the first buyer. It also transpired that there was a large deficit in the affairs of the journal, although less than a year before this time the business department had announced in a circular that the company was solvent, and had solicited subscriptions to the stock. When this situation was fully revealed to the editorial staff its members promptly resigned (in April). This resignation was not accepted, but the staff was asked to continue in charge by some medical members of the board of trustees in the hope that the situation could be relieved. Efforts were to be made in retrenchment and in curtailing the expenses of what had been a truly extravagant business management. Last week, however, the announcement was made that the majority stockholders (most of them laymen) had sold out—and the *Philadelphia Medical Journal* practically ceased to exist.

The reasons for this demise, as seen in the above narrative, are to be found in the fact that the journal, under its business management, was losing money, and that the majority stockholders could not control the editorial staff and dictate a commercial policy in accord with the demands of the advertisers. The collapse of the journal, so far as its life in Philadelphia is concerned, is only an illustration of the evil effects that come from a conflict between such opposing interests—interests which represent commercial success on the one hand and professional principle on the other. I think I am justified in saying that few men on the board of trustees, and fewer still on the editorial staff, regret that they assisted at the obsequies of the *Philadelphia Medical Journal* rather than assist it to live and stand in a false position toward the medical profession. I speak of the obsequies, for while the property has been bought by respectable parties in New York, where an attempt will be made to keep the title before the world, the journal is practically dead in the city of its birth.

Many of the minority stockholders had hoped to the last that, by the exercise of rigid economy and an adherence to a high professional standard, their property could be saved and the journal kept alive in Philadelphia, but their hopes have been doomed to disappointment.

JAMES HENDRIE LLOYD.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PRONUNCIATION OF PHTHISIS.

LAS CRUCES, N. M., June 3, 1903.

To the Editor:—The Century gives "thy'sis," and Gould "ty'sis" as pronunciations for phthisis. Which is confirmed by more general usage? J. FRANK MCCONNELL.

ANS.—The general pronunciation is "ty'sis" or "te'sis." The following authorities give the pronunciation "thy'sis": Century, Imperial, Stormonth, Walker and Webster. The following give "ty'sis": Encyclopedia, Smart, Dorland and Foster. Dunglison gives "te'sis." The following authorities give more than one pronunciation, with the preference to the first named: Worcester: "thy'sis, ty'sis." Gould: "thy'sis, ty'sis, te'sis." Duane: "ty'sis, te'sis." Standard: "thy'sis, the'sis."

Association News.

Registrations at New Orleans.

A list of those who registered in the various sections at the New Orleans session appeared in THE JOURNAL, May 23. A number of errors occurred in this list, some of which have been called to our attention. We have waited before publishing these, that we might collect all that should be referred to. Attention should be called to the fact that many names appeared in sections in which it might not be expected to find them registered. For example, secretaries of some of the sections have written that some of their members were registered in other sections. On investigating the registration cards of these a considerable number are found to have registered just as is recorded. The corrections are as follows: The following names published in the Section on Practice of Medicine should have been credited to other sections.

W. P. Hill, Milwaukee, Wis., Materia Medica.
N. S. Davis, Jr., Chicago, Hygiene.
L. H. Branson, Iowa City, Iowa, Materia Medica.
C. S. N. Hallberg, Chicago, Materia Medica.
S. L. Powlett, Hammond, La., Obstetrics.
J. B. Shelmire, Dallas, Texas, Cutaneous Medicine.
M. L. Heidingsfeld, Cincinnati, Cutaneous Medicine.
A. W. Brayton, Indianapolis, Ind., Cutaneous Medicine.
A. S. Burdick, Chicago, instead of Ophthalmology, should have been Materia Medica.
James P. Parker, New Orleans, instead of Ophthalmology, should have been Laryngology.
A. E. Bulson should have been A. E. Bulson, Jr., Fort Wayne, Ind.

The following names were omitted:

R. C. Myles, New York, Laryngology.
C. M. Robertson, Chicago, Laryngology.
Ramon D. Garcin, Richmond, Va., Practice of Medicine.
Frederick Tice, Chicago, Practice of Medicine.
B. C. Keister, Roanoke, Va., Materia Medica.
H. G. Anthony, Chicago, Cutaneous Medicine.

State Boards of Registration.

Wisconsin Medical Law.—The last Wisconsin legislature modified the medical practice act of that state to a considerable extent. As the law now stands the governor is to appoint a special board of medical examiners, consisting of eight members from separate lists of ten given him by the state medical society, state homeopathic and state eclectic societies respectively, and a list of five from the state osteopathic association. From these he will appoint not more than three regular physicians, nor more than two each of homeopathic and eclectic and one osteopathic, all licentiates in medicine. Their appointment shall be for four years, no member to serve for more than two consecutive terms. The board will meet on the second Tuesday in January at Milwaukee and the second Tuesday in July at Madison, and at such other times and places as it may from time to time determine. It shall keep a record of its proceedings and a register of all applicants.

Section 3 of the law reads in part as follows:

All persons commencing the practice of medicine, surgery or osteopathy in any of their branches in this state, shall apply to said board at the time and place designated by said board or at any regular meeting thereof for license so to practice and shall present to said board a diploma from a reputable college of medicine and surgery or osteopathy. A college to be deemed reputable by this board shall require at least four courses of not less than seven months each before graduation, no two of such courses to be taken within any one twelve months, and that* shall require for admission thereto a preliminary education equivalent to that necessary for entrance to the junior class of an accredited high school in this state, including a one year's course in Latin, and that shall, after the year 1906, require for admission to such school a preliminary education equivalent to graduation from an accredited high school of this state, and shall submit* to an examination in the various branches in medicine and surgery usually taught in reputable medical colleges, or, if the applicant be an osteopath, he or she shall present a diploma from a regularly conducted college of osteopathy maintaining a standard in all respects equal to that hereby imposed on medical colleges as to preliminary education, said college after 1904 to give three courses of eight months each, no two courses to be given in any one twelve months, and after the year 1909 such college shall give four courses of seven months each, as hereinbefore provided for medical colleges, and shall pass the regular examination of such board in anatomy, histology, physiology, urinalysis, chemistry, toxicology, dietetics, physical and general diagnosis, hygiene and theory and practice of osteopathy. The examination in materia medica, therapeutics and practice shall be conducted by members of the board representing the school of practice which the applicant claims or intends to follow.

After examination, as hereinbefore provided, the board shall, if it finds the applicant qualified, grant a license to said applicant to practice medicine and surgery in all their branches in this state, or a license to practice osteopathy therein, which license can only be granted by the consent of not less than six members of said board, and which, after the payment of fees, as hereinafter provided, shall be signed by the president and secretary thereof, and attested by the seal of the board. Osteopaths, when so licensed, shall have the same rights and privileges and be subject to the same laws and regulations as practitioners of medicine and surgery, but shall not have the right to give or prescribe drugs or to perform surgical operations. The fee for examination shall be fixed by the board, but shall not exceed $15.00 in each case, with $5.00 additional for the license, if issued. Such fee or fees shall be paid by the applicant to the treasurer of the board and may be applied toward defraying any proper and reasonable expenses of the board: provided, however, that any student who is exempted as a matriculant of any medical college of this state under Chapter 306 of the Laws of 1901, whose name is now on file with the Wisconsin State Board of Medical Examiners, shall, on the presentation of a diploma from any Wisconsin college, and on the payment of the fees specified in this act, and having satisfied said board that he or she is a person of good moral character, be licensed to practice without further examination by such board, provided that said college maintains its standard herein required.

Reciprocity is provided for with other states at the discretion of the board on the payment of the fee fixed by the board, not exceeding the sum of $25.

The provisions of this act shall not apply to commissioned surgeons of the United States Army, Public Health and Marine-Hospital Service, or to physicians or surgeons of other states or countries in actual consultation with resident physicians of this state.

Recording of licenses with the county clerk is required under penalty.

If any person licensed or registered by the board should be convicted of any crime committed in the course of his professional conduct, the court may, in addition to any other punishment imposed, revoke such license or certificate. The board has the power to adopt its own rules for government and require the filling out of such blanks as it may deem necessary, and in its discretion refuse to grant licenses to persons who do not furnish proof of good moral and professional character.

SECTION 6.—Every person shall be regarded as practicing medicine or osteopathy, within the meaning of this act, who shall append to his or her name the letters "M.D.," "M.B.," or "D.O.," "Doctor," "Dr.," or any other letters or designation with intent to represent that he or she is a physician, surgeon or osteopathist, or who shall, for a fee, prescribe drugs or other medical or surgical treatment or osteopathic manipulation for the cure or relief of any wound, fracture, bodily injury, infirmity, or disease: provided, however, that nothing in this act contained shall be construed to apply to any dentist or resident refracting optician engaged in the practice of his or her profession.

SEC. 7.—It shall be the duty of the Board of Medical Examiners to investigate all complaints in regard to violation, or disregard of, or non-compliance with the provisions of this act and to bring all such cases to the notice of the proper prosecuting officers, and it shall be the duty of the district attorney of the proper county to prosecute all violations of this act.

SEC. 8.—No person practicing medicine, surgery, or osteopathy shall have the right to collect, by law, any fees or compensation for the performance of any medical or surgical services, or fees for any service as an osteopathist, or to testify in a professional capacity as a physician, or surgeon, or insanity expert, in any case, unless he or she holds a license from the Wisconsin Board of Medical Examiners or the certificate of registration hereinbefore referred to, with a diploma from a reputable medical college or society or a certificate of membership in a medical society, and

* We are not responsible for the grammatical construction; we quote from official printed copy.—ED.

has been duly recorded as a practitioner in the State of Wisconsin; provided, that nothing in this act contained shall be construed as restricting any court in a criminal action from receiving the testimony of any person as a witness.

The act has an emergency clause, and is in force since the date of its approval, May 22, 1903.

Miscellany.

NATIONAL BUREAU OF MEDICINES AND FOODS.

The joint committee of the American Medical and the American Pharmaceutical Associations, presents, in the following statement, the plan for establishing a National Bureau of Medicines and Foods which it has been appointed to consider. In order to aid the committee in coming to a determination as to the proper recommendations to be made to the associations, physicians, pharmacists and manufacturers are requested to express to the committee their opinions regarding the advisability of establishing this proposed bureau, and their reasons for approving or disapproving its establishment. The plan herewith published should be carefully read and considered before opinion or criticism is expressed. The subject is of the greatest importance and the scope and details as set forth in the plan under consideration should be fully appreciated. Kindly forward any criticisms, whether favorable or unfavorable.

The members of the American Medical Association committee are as follows: Drs. E. Eliot Harris, 33 West 93d street, New York; N. S. Davis, Jr., State and Randolph streets, Chicago; Solomon Solis Cohen, 1525 Walnut street, Philadelphia; H. Bert Ellis, Bradbury Block, Los Angeles, Cal., and Philip Mills Jones, 13 West Eighteenth street, N. Y., until July 25; after that date, 31 Post street, San Francisco.

The members of the American Pharmaceutical Association committee are as follows: Dr. H. H. Rusby, 115 West 68th street, New York; Mr. James M. Good, 2348 Olive street, St. Louis; Mr. C. S. N. Hallberg, 358 Dearborn street, Chicago; Dr. A. B. Lyons, 72 Brainard street, Detroit; Mr. S. A. D. Sheppard, 1129 Washington street, Boston.

The chairman of the joint committee is Dr. H. H. Rusby; the secretary is Dr. Philip Mills Jones.

GENERAL STATEMENT OF PLAN.

It has seemed desirable to enumerate a few of the more important evils connected with the lack of standard in pharmaceutical preparations, adulteration of drugs, chemicals and foodstuffs, and the exceedingly complex condition of the many remedial preparations constantly offered to the medical profession.

The Pharmacopeia, in this country, is not a compulsory document. As a result, manufacturers are not obliged to follow it in the preparation of pharmaceuticals, and, as a matter of fact, there is much variation in the strength of their products. Fluid and solid extracts, etc., and many pharmacopeial preparations are made differently by different manufacturers and often are not, as they should be, identical within reasonable limitations. The strength of tinctures made by different manufacturers has been found to vary as much as 70 or 80 per cent. This variation is such that prescriptions filled with one set of products will have a certain appearance and therapeutic effect, but the same prescriptions, when compounded from products of a different manufacturer, will have a different appearance and therapeutic effect.

Chemicals are often adulterated or impure; even reagents marked "C. P." can, in most cases, not be relied on. Lists of chemicals bought in open market and analyzed with the adulterants and impurities commonly found, have been published from time to time and are accessible. The facts are so generally known that it is hardly necessary to enumerate them here. A few illustrations will suffice: Tincture of aconite, practically inert; aristol, containing 65 per cent. of free alkali; phenacetin, containing 90 per cent. of acetanilid; boracic acid, adulterated with three times its weight of borax; "C. P." zinc, containing iron and arsenic in appreciable quantities; hyoscyamin, as pure atropin, etc.

Adulterations of foodstuffs, the use of harmful coloring matters and preservatives, etc., are matters of common repute and have been noticed so many times in connection with proposed and urged national legislation, that only summary comment is needed. Cotton-seed oil is commonly marked olive oil; coffee may be largely chickory; mustard is often not more than 10 or 15 per cent. mustard, the adulterant being corn meal; black pepper is usually adulterated with from 50 to 80 per cent. of foreign material; jellies and jams are seldom what they purport to be; salts of zinc, salicylic acid and the salicylates, borax and boric acid, and other preservatives are very generally employed and not infrequently they are used in harmful quantities. So common is adulteration of foodstuffs that there exists almost complete distrust in the public mind as to the purity of freedom from harmful preservatives, of most common foodstuffs. In the domain of prepared foods there is at the present time no means of determining their composition or suitability for the diets for which the makers recommend and advertise them. It has been found that many foods recommended for diabetics contained starch or sugar in considerable quantities, when the makers claimed absence of these ingredients for their products.

Many of the large number of special preparations that are put on the market and strongly urged on the medical profession, probably are good and have certain well defined uses. But the methods employed by the manufacturers are such as to induce a certain lack of confidence. The physician, as a rule, is not informed of the actual composition of the mixtures he is requested to employ, or if the composition is given it is vague or at best there is only the statement of the interested party—the manufacturer to rely on. If a physician uses many of these preparations in good faith, and in good faith comments favorably on them, in the medical press—supposing that his comment has not been "blue penciled" by the editor of the journal—he is in great danger of seeing his statement taken and even garbled by the manufacturer, and extensively used for advertising purposes. This if his comment is favorable; if it be unfavorable the manufacturer ignores it entirely.

The prevention of adulteration in drugs, chemicals and foodstuffs, and the maintenance of standard in pharmaceutical preparations, should be a government function. For fourteen years effort has been made to secure proper national legislation for this purpose, but without result. The existence of the evils pointed out is recognized by all, and in view of the failure to secure the requisite national legislation, correction, or attempted correction, of these evils has been suggested through the medium of a proper commission or bureau, established by individual effort. Such a bureau could be formed by the association of professional men on the one hand and of those manufacturers who desire to put out only pure, standard and honest goods on the other hand. It is believed that such an association would be to the very great advantage of the public, and probably to those manufacturers who associated with such a bureau in its proposed work.

At first glance, and until the proposed plan is carefully studied, it would seem that such an undertaking would be impracticable. When carefully studied in detail, however, the plan, though of tremendous magnitude, appears to be so far practicable as to demand further study.

The following (infra) statement of the plan which has been formulated for the purpose of meeting present conditions, of adulteration, lack of standard in pharmaceuticals, confusion in identity of preparations and brands of medicinal mixtures, etc., is herewith presented for your very careful consideration. This statement has been made as short as possible, though the effort to condense has not been permitted to go to the point of eliminating anything necessary for the proper understanding of the subject.

The friendly association of the best in the professions of medicine and pharmacy with large commercial interests, necessarily demands the most careful and cautious treatment that it may be beneficial to the public and to the manufacturer without detracting from the reputations of the professional men who engage on the work by casting suspicion on their motives or their integrity. At the same time, a large amount of work would necessarily fall on the professional side of such an association, and the cost of performing the work would have to be defrayed in some manner. It has seemed no less than right that this cost should be met by those who are commercially interested in and profit from the manufacture of the products which would be considered by such an association. Furthermore, it is vitally necessary that such an association should possess the right to determine who may and may not be received in association, and what products of its associates may receive its attention, and the standards of identity, purity, quality or strength to which these products should comply. It must also be in a position to instruct the public and the professions on matters connected with its work and on subjects that are of sufficient interest to the professions or to the public.

To accomplish these ends and to secure the protection to the professional men who shall be chosen to undertake the work outlined, the following detailed plan has been suggested:

PLAN.

In order to have proper legal and business standing, the work should be done by a corporation. As it is not intended that profit shall be made from the undertakings, the corporation should be a membership and not a joint stock corporation. It is proposed to incorporate under the laws of the state of New York, a membership corporation to be known as the National Bureau of Medicines and Foods.

The membership of this bureau should be of two or more classes. All members of the American Medical Association and the American Pharmaceutical Association should be scientific members of the bureau. The organization should be so effected as to fully protect the American Medical Association and the American Pharmaceutical Association, their agents and all their members, who become members of the proposed bureau, from all possibility of being involved in legal or other complications that might assail the proposed bureau. Those manufacturers whose goods it might be requested to vouch for should be admitted to associate membership, but should have no voice in the control of the bureau.

The control of the bureau should be placed in the hands of a board of ten directors, five elected by each association, one from each association retiring annually and his successor elected for five years. This board of directors, with the exception of its secretary, who should devote all his time to the work, should not receive salaries, but should receive mileage and *per diem* when called on to attend meetings of the board or of its committees. The board should, in consultation with the manufacturer, fix standards of identity, purity, quality and strength, not in conflict with the United States Pharmacopeia, and the manufacturer having agreed to these standards, should contract with the bureau to comply with them until altered by common consent and a vote of the board; and to comply with all rules governing him in the manufacture of his product, such rules having been formulated in consultation between the board and the manufacturer, and accepted by both. An eight-tenths vote of the board should be required to accept or reject any application for associate membership, or to adopt any rule of the bureau, or to accept or reject any product presented by an associate manufacturer for proper control by the bureau. No manufacturer or person employed by any manufacturer of products that might come within the scope of the work of the proposed bureau, and no person engaged in their distribution or sale, should be eligible on the board of directors, unless approved by a three-fourths vote of the council of the American Pharmaceutical Association or a three-fourths vote of the House of Delegates of the American Medical Association, respectively.

By-laws should be carefully drawn and adopted by the board, and thereafter it should require an unanimous vote of the board to alter or amend them in any way. They should be very broad and general, covering only vital principles, and all details should be formulated in the shape of rules which could be altered or abolished as occasion required, only by an eight-tenths vote of the board.

The business side of the bureau should be considered with no less care than that devoted to the scientific side. While it would not be the purpose of the bureau to make money, it should be the aim of its administration to confine the cost to the lowest amount consistent with properly carrying on the work, for in any event this sum would be a large one. Modern business methods should be adopted and one general responsible head appointed by the board of directors. Under him should be such persons as may be required to carry on the work under the rules and regulations established by the board, and it should be their duty to see that proper and competent persons only were employed. The board of directors as such should not come into direct contact with the business side of the bureau, nor with the commercial interests involved. It should act in a supervisorial capacity; it should say absolutely what rules, standards, etc., were to be followed and it should see that a proper business department then carried out these rules.

It should be the purpose of the bureau to work in perfect harmony with the United States government authorities, and especially with the Department of Agriculture. In case of future legislation by the United States government, some of the functions of this proposed bureau might be modified or transferred to the proper government department. The ever-present hope that such legislation will eventually be enacted should not, however, interfere with the careful consideration of the bureau plan, nor with its acceptance if it be found satisfactory. Unless spurred on by some such individual effort many more years may elapse before the enactment of proper national legislation. Some features of the work of the bureau could hardly be assumed by the government; notably the dissemination of accurate and reliable information relative to manufacturers and their products, and especially to newly discovered remedial agents, etc., together with a proper ethical supervision of advertising matter connected with the introduction of such products.

Existing laboratories should be utilized so far as practicable in prosecuting the work of the bureau, in making its original investigations, and in carrying on the work of check control, for two reasons: First, in order to incur no greater expense than absolutely necessary; second, in order to encourage scientific enterprise where now already organized.

The bureau should not issue blanket certificates. Each package of any product that is manufactured under the supervision of the bureau and which complies with its rules and standards, and for which compliance some individual expert is responsible, should, however, bear a label setting forth that fact for the benefit and guidance of the purchaser.

No nostrum, nor any medicinal product of which the full formula giving all the active ingredients and couched in the ordinary terms of chemistry and pharmacy has not been or is not freely published, should at any time be permitted to come within the supervision of the bureau.

DETAIL METHOD OF OPERATION.

Any manufacturer desirous of having one or more of his products placed under the supervision of and certified by the bureau would first apply to the secretary for associate membership, which application would carry with it a contract to abide by the rules of the bureau (Appendix A). The application would then be submitted to the board of directors, and on the written approval of a majority of them, such manufacturer would be accepted in associate membership.

An associate member desiring to have a given product certified by the bureau, would transmit to the secretary a proper application for that purpose, together with two samples of the product in question. One of these samples should be sealed and deposited in the custody of the secretary; the other should be transmitted to the scientific department of the bureau, together with instructions to fully investigate the article, and to compare it with at least two samples bought in open market without the knowledge of the manufacturer. When the scientific department has obtained all the information desired by the board of directors, it would transmit the same to the board, who would then consider it in connection with the application. If found satisfactory, the board, in conjunction with the manufacturer, would determine standard of identity, purity, quality and strength, to which this product should thereafter comply, and would formulate rules acceptable alike to the board and to the manufacturer, for the guidance of the chemists of the manufacturer on the one hand, and of the scientific department on the other (Appendix D).

These formalities having been complied with to the satisfaction of the board of directors, the manufacturer would then be authorized to print on the label of each package of each batch of the product that had been approved by the expert or experts in charge or to attach to each such package a separate paster, setting forth the fact that the contents of that unbroken original package had been certified by the bureau under certain rules; and the manufacturer might also print thereon the text of these rules. Each and every such label or paster should bear a number which would indicate, through records to be kept by the bureau, the date of the particular batch and the expert or experts responsible for having approved the standard thereof. At least two samples of each batch should be kept by the bureau for a period to be determined by the board.

At least three times each year two samples of each and every product bearing the certificate of the bureau would be purchased in open market, in different localities, and submitted to careful examination by the scientific department of the bureau, in order to determine whether the standard established was being maintained by the manufacturer. If the standard established was not being maintained, the certificate of the bureau should be withdrawn.

Unless all of the products of any manufacturer were certified by the bureau, such manufacturer should not be permitted to advertise that his products were certified by the bureau, but in all advertisements of any certified products, he should state that such products were certified. If all his products were placed under the supervision of the bureau, he might so advertise.

An associate member who might desire to contract with the bureau to submit any and all advertising matter relative to one or more certified products to the censorship of the bureau, could do so (Appendix C). The bureau would then undertake to place the censored and approved information concerning such products before the physicians and pharmacists of the country in a dignified and strictly ethical and professional manner. These statements would and could with safety be relied on by all the professional interests, for they would practically be the statements, not of the interested manufacturer, but of the disinterested board of professional men, composing the board of directors of the bureau. Careful inquiry among a large number of physicians has revealed a unanimous desire to receive such accurate and reliable information from a wholly disinterested source. Statements issued by the bureau would receive attention where statements issued by the interested manufacturer would not be read at all, or even if read, would be regarded with a certain amount of natural distrust. It is not proposed that the bureau shall deliver official opinions as to the therapeutic value of any products; it would simply certify to their compliance with certain standards or to certain formulas. The statements which it could disseminate regarding such products would be confined to statements of fact regarding origin, composition, chemical and physiologic action, etc., and the opinions of qualified students and investigators which it might collect and diffuse for the benefit of all who might desire to investigate or make use of such products.

THE OPERATION AS APPLIED TO RETAIL PHARMACISTS.

It is proposed that the retail pharmacist shall associate with the bureau on a sound professional basis. In every way possible the bureau should endeavor to aid and improve the profession of pharmacy, and to make more cordial the relations between physicians and pharmacists. To this end the following general plan is submitted for discussion and careful consideration.

Any pharmacist who so desired could become an associate member of the bureau on application, contracting to obey and abide by the rules of the bureau. Rules governing him in the preparation of pharmaceuticals would be, as far as possible, similar to the rules governing the manufacturer and a system consisting of careful and frequent inspection and analytic check control would be established, as in the case of the manufacturer, in order to protect the bureau certificate. Such associate pharmacists would agree to supply products certified by the bureau, when not otherwise called for, and the physicians would be advised of all associate pharmacists in their immediate vicinity. The bureau would also endeavor to have physicians call for products certified by the bureau, and whenever not absolutely necessary refrain from specifying particular brands or makes, requiring only that the materials used by the pharmacist should be of the standards established by the bureau and certified by it.

It is hardly necessary to call attention to the very wide differences in the commercial relations of manufacturers and pharmacists to the medical profession. Obviously the problems attendant on these differences would have to be met by the bureau by the formation of different classes of rules and by different forms of inspection. The detail work in connection with the undertaking as applied to the pharmacist, would necessarily be very great, and for the sake of proper treatment of the pharmacist himself, it should not be undertaken until the bureau had been established on a conservative basis. It should, however, be undertaken at the earliest practicable time.

APPENDIX A.

APPLICATION FOR ASSOCIATE MEMBERSHIP.

..... [place and date.]

A. B., the undersigned, engaged in the business or occupation of ..... [manufacturing pharmaceuticals, pharmacy, etc.], herewith makes application for associate membership in the National Bureau of Medicines and Foods, and if duly elected under the by-laws of said National Bureau of Medicines and Foods to associate membership therein, will, and does by these presents formally enter into and agree to the following contract and agreement with the said National Bureau of Medicines and Foods, to-wit, as follows:

(1) To abide and be governed by all the rules and regulations of the said National Bureau of Medicines and Foods now existing or which may be enacted with the following proviso and exception:

If at any time the said National Bureau of Medicines and Foods shall enact any rule or regulation to which the undersigned can not subscribe or comply, the undersigned may voluntarily withdraw from such associate membership, and the said National Bureau of Medicines and Foods shall make public acknowledgment of the voluntary withdrawal of the undersigned.

(2) To submit without litigation to the decision of eight-tenths of the board of directors of the said National Bureau of Medicines and Foods to the construction to be placed on any and all rules or regulations herewith accepted and subscribed to, and to the decision of eight-tenths of the said board of directors, if the violation of any of the said rules and regulations by the undersigned becomes at any time a matter at issue.

(3) To pay to the said National Bureau of Medicines and Foods the sum of five dollars per annum, payable in advance on the second day of January of each year, to the treasurer of the said National Bureau of Medicines and Foods, and failure to make such payment, as provided in the by-laws of the said National Bureau of Medicines and Foods, shall terminate the associate membership of the undersigned. [Signed] .....

[To be acknowledged before a notary.]

On vote of the board of directors..... was duly elected to associate membership on .....[date]...

[Signed] .....Secretary.

[Seal of the bureau.]

APPENDIX B.

APPLICATION FOR CERTIFICATION.

.....[place and date.]

A. B., hereafter referred to as the party of the first part, herewith makes application to the National Bureau of Medicines and Foods, hereafter referred to as the party of the second part, to have the standard of identity, purity, quality and strength of ..... (product or products to be specified) manufactured by the party of the first part, certified by the party

of the second part, and for that purpose enters into, makes and acknowledges the following contract:

(1) The party of the first part agrees to comply strictly with all the rules or regulations now or hereafter enacted by the party of the second part governing the standards of identity, purity, quality and strength of the ..... manufactured by the party of the first part, and all other rules or regulations at any time enacted by the party of the second part.

(2) The party of the first part agrees to accept, without litigation, the ruling by eight-tenths of the board of directors of the party of the second part, on any question of failure, refusal or neglect to comply with the standards of identity, purity, quality or strength, or failure, refusal or neglect to comply with any of the said rules or regulations.

(3) This contract shall not take effect until any and all experts in the employ of the party of the first part, and who are in charge of and responsible for the manufacture of ..... manufactured by the party of the first part, shall be associate members of the party of the second part, and shall have entered into a contract with the party of the second part to strictly comply with all rules or regulations of the party of the second part, and to certify only to such batches of the ..... manufactured by the party of the first part, as do actually and truthfully comply with the standards of identity, purity, quality and strength established by the party of the second part, hereby agreed to by the party of the first part.

(4) (To apply to such products as can not be assayed or analyzed.) The party of the second part shall have the right to have its duly qualified and authorized inspector inspect the material employed and the process of manufacture of ..... by the party of the first part, at any or all reasonable time or times, and either with or without due notice to the party of the first part.

(5) Not oftener than four times a year the board of directors of the party of the second part shall determine the percentage of ratio which the cost of conducting the work of the party of the second part bears to the value of all the products certified by it for a given time, and the party of the first part agrees to pay to the party of the second part a sum equal to this percentage of the total value of ..... which has been certified for the party of the first part by the party of the second part, during the time specified. The party of the second part agrees that this percentage assessment shall not exceed [percentage to be determined] of the value of ..... certified during that time. The value of the products on which this assessment shall be based shall be considered as and estimated from the list price demanded by the party of the first part for .....

[Signed] .....

[Signatures of two witnesses. Acknowledged before a notary.]

Accepted, National Bureau of Medicines and Foods.

....., President.

.....Secretary.

NOTE.—There will doubtless have to be a number of special contracts covering special cases: this is suggested as a tentative form for the majority of products.

APPENDIX C.

CONTRACT COVERING ADVERTISING CENSORSHIP.

.....[place and date.]

A. B., the undersigned, an associate member of the National Bureau of Medicines and Foods and manufacturer of ..... a product manufactured under the supervision and certificate of the said National Bureau of Medicines and Foods, hereby agrees and contracts to submit any and all advertising matter or general or public statements relative to the said product to the censorship of the board of directors of the said National Bureau of Medicines and Foods, and further agrees and contracts not to make, nor permit, nor cause to be made, any advertisement or general or public statement in regard to the said product that has not been submitted to the said board of directors and approved by a majority thereof. In consideration for the agreement and contract hereby made by the undersigned, ..., the National Bureau of Medicines and Foods agrees to make or to authorize to be made and issued under its name or with its full approval and sanction, any and all such advertising or general or public statements relative to the said product, as shall have been submitted to its censorship and have met its approval.

[Signed] .....

APPENDIX D.

SUGGESTED RULES.

Rule A. The standards of identity, purity, quality and strength of the official raw materials used in the manufacture, and of the official finished manufactured product, for all substances or products recognized by and manufactured under this rule, shall be those of the United States Pharmacopeia, as indicated in the last published edition of that work.

Rule B. No manufacturer shall advertise or make any general or public statement to the effect that his products are certified by the National Bureau of Medicines and Foods or are placed under the supervision of the National Bureau of Medicines and Foods unless all of the said manufacturer's products have been accepted by the said National Bureau of Medicines and Foods for such supervision and control.

Rule C. In all advertisements or general or public statements made by a manufacturer concerning any product manufactured by him under the supervision of the National Bureau of Medicines and Foods and certified by it, the statement shall be made that such product is certified by the National Bureau of Medicines and Foods.

Rule D. The president and general manager, acting conjointly, may at any time notify any associate member to immediately discontinue the use of the certificate of the National Bureau of Medicines and Foods, on sufficient evidence of departure from the standards of identity, purity, quality or strength of any product manufactured by such associate member, or for failure, refusal or neglect of such associate member to comply with or obey any rule or regulation of the National Bureau of Medicines and Foods. Such associate member may, however, appeal to the board of directors of the National Bureau of Medicines and Foods for decision in the matter or matters at issue, and the decision of eight-tenths of the said board shall be final.

Rule E. Each and every package of every product certified by the National Bureau of Medicines and Foods shall bear the following certificate, which may be printed on the label customarily used or be placed thereon in the form of a separate paster, at the pleasure of the manufacturer, together with the device of the bureau:

"The contents of this original unbroken package are certified to comply with the rules and standards of the National Bureau of Medicines and Foods."

The manufacturer may also, if he so elects, print on such label or paster, the text of the special rules governing the standard of his product so certified.

Each such label or paster shall also bear the device of the bureau.

Rule F. Each and every label or paster fixed to every package of a certified product (except in such cases as may be covered by a special rule), shall have printed thereon a number which will be so determined as to indicate, through the records of the manufacturer and of the bureau, the particular batch, the date of its manufacture and the name or names of the expert or experts who is or are responsible for certifying to the standards of identity, purity, quality or strength of that particular batch.

Marriages.

ORAM BROWN, M.D., to Miss Florence Foley, both of Chicago, June 10.

DAVID P. SCHINDEL, M.D., to Miss Emma Leah Everly, at Hagerstown, Md., June 3.

IRA M. WASHBURN, M.D., to Miss Mary Elsie Watson, both of Rensselaer, Ind., June 10.

EDWARD K. LOCKWOOD, M.D., to Miss Stella Josephine Gelder, both of Virden, Ill., June 3.

VIRGIL O. HARDON, M.D., Atlanta, Ga., to Miss Florence Talbot of Eatonton, Ga., June 3.

ZENAS FEARING, M.D., to Miss Emily Hollowell, both of Elizabeth City, N. C., May 27.

BENJAMIN GLEESON, M.D., Danville, Ill., to Miss Kathryn Mae White of Chicago, June 17.

LEE BERNARD BOYERS, M.D., to Miss Nellie Margery Fleming, at Fairmont, W. Va., June 4.

DAVID H. LEWIS, M.D., Akron, Ohio, to Miss Juanita Blanche Sigler of Hayesville, Ohio, May 12.

RICHARD A. URQUHART, M.D., Baltimore, to Miss Helen Dunlop of Washington, D. C., June 10.

JAMES T. RUGH, M.D., Philadelphia, to Miss Eleanor H. Stevenson of Abington, Pa., June 3.

JOHN W. HAIRGROVE, M.D., Jacksonville, Ill., to Miss Mabel Marvin of Madison, Wis., June 20.

GRAHAM E. HENSON, M.D., to Miss Marion Eugenie Anderson, both of St. Clair, Mich., June 3.

HARRY V. PRESCOTT, M.D., Dallas City, Ill., to Miss Lucretia Quinton of Denmark, Iowa, June 14.

CHARLES P. MADDUX, M.D., to Miss Haddie Clark, both of Santa Rosa, Cal., at San Francisco, May 29.

HIRAM L. RANDALL, M.D., Shubert, Neb., to Mrs. Sarah E. Myers of Aurora, Neb., at Julesburg, Colo., June 6.

PETER CONOVER FIELD, M.D., Fort Robinson, Neb., to Miss Cornelia Emmet Voorhees of Morristown, N. J., June 4.

Deaths.

Robert Boal, M.D. Medical College of Ohio, Cincinnati, 1828, a member of the American Medical Association; one of the founders of the Illinois State Medical Society; prominent in politics before the Civil War; a friend of Lincoln, Douglas, Baker and Hardin; a member of the legislature when Lincoln was a candidate for the United States Senate; one of the oldest practitioners in the west, died at the home of his daughter in Lacon, Ill., June 12, aged 96.

Albert Thomas Henley, M.D. New York University, 1869, medical inspector of state convicts for twelve years; some-time president of the Jefferson County (Ala.) Medical Association; senior councilor of the Medical Association of the State of Alabama, died at his home in Birmingham, June 2, from Bright's disease, after an illness of four years, aged 54.

William A. Caldwell, M.D. Columbian University, Washington, D. C., 1892, formerly of Washington, D. C., a specialist in diseases of the eye, ear, nose and throat, and for two years professor of anatomy and physiology in the University of West Virginia, died, June 6, from consumption, at Rockville, Md., aged 41.

John Frederick Golding, M.D. College of Physicians and Surgeons, New York, 1875, professor of toxicology and of the theory and practice of pharmacy in the Brooklyn College of Pharmacy, died suddenly at his home in Brooklyn, from heart disease, June 7, aged 48.

J. Robert Straw, M.D. College of Physicians and Surgeons, Baltimore, 1887, a member of the American Medical Association, committed suicide at his residence in Ashland, Wis., June 2, by cutting his throat while despondent.

Charles T. Pepper, M.D. University of Virginia, Charlottesville, 1855, a surgeon in the Confederate service during the Civil War, died at his home, Grassland, near Rural Retreat, Va., May 28, after a lingering illness, aged 74.

Theophilus J. Batchelder, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1871, of Machias, Me., was found dead, May 26, on a steamer between Portland and Boston, presumably from heart disease.

Julius A. Crane, M.D. Cleveland Medical College, 1870, formerly superintendent of the Agnews (Cal.) State Hospital for the Insane, died suddenly at his home in Santa Ana, June 6, from heart disease, aged 58.

Richard Blair Conn, M.D. Bellevue Hospital Medical College, New York, 1852, for many years a practitioner in Indiana and Illinois, died at his home in Tacoma, Wash., June 1, from heart disease, aged 79.

Frederick A. Remington, M.D. College of Homeopathic Medicine, University of Iowa, Iowa City, 1884, died at the Samaritan Hospital, Sioux City, Iowa, from myelitis, after an illness of three days, aged 50.

John M. Brooke, M.D. University of Virginia, Charlottesville, 1888, of Portland, Ore., died at St. Vincent's Hospital in that city, May 24, from shock following operation for mastoid abscess, aged 37.

Charles J. Wright, M.D. Cleveland Homeopathic Medical College, 1898, of Glenville, Ohio, died at the Huron Street Hospital, Cleveland, June 1, from typhoid fever, after an illness of five days, aged 28.

David A. Pletts, M.D. McGill University, Montreal, 1879, of Brunswick, Me., died at the Eye and Ear Infirmary, Portland, June 7, from injuries received at Deering Junction, June 5.

Leonidas F. Calhoun, M.D. Kentucky School of Medicine, Louisville, 1885, of Black River, near Jonesville, La., was drowned by his team running away into a river, June 2.

James S. Hall, M.D. College of Physicians and Surgeons, Boston, 1897, died at his home in Worcester, Mass., June 2, from heart disease, after an illness of one year, aged 46.

Augustine Thompson, M.D. Hahnemann Medical College, Philadelphia, 1867, of Lowell, Mass., died in a hospital in Boston, June 8, after an operation for carbuncle, aged 68.

Jacob R. Plank, M.D. Washington University School of Medicine, Baltimore, died at his home in York Springs, Pa., May 27, from paralysis, after an illness of five days, aged 76.

O. L. Watson, M.D. University of Vermont, Burlington, 1861, who retired from active practice in 1890, died at his home in Montpelier, Vt., May 25, from neuralgia, aged 75.

Curtis E. Marryot, M.D. New York University, 1866, died at his home in North Kingstown, Wickford, R. I., May 29, from paralysis, after an illness of two days, aged 62.

Edwin K. Fernsler, M.D. Jefferson Medical College, Philadelphia, 1867, died at his home in Terre Hill, Pa., May 22, from dropsy, after an illness of four years, aged 61.

Louis B. La Count, M.D. Rush Medical College, Chicago, 1868, died at his home in Merrill, Wis., May 25, from injuries received in a fall several weeks before, aged 60.

Ira Van Camp, M.D. Eclectic Medical Institute, Cincinnati, 1867, said to have been the oldest practitioner in Nebraska, died at his home in Omaha, June 1, aged 74.

Elbert Sevier Miller, M.D. Transylvania University, Lexington, Ky., 1846, died at the home of his son, Dr. E. S. Miller, Jr., Johnson City, Tenn., June 6, aged 83.

Edgar M. Smith, M.D. Rush Medical College, Chicago, 1891, a member of the American Medical Association, died at his residence in Chicago, May 11, aged 40.

Ethan Allen Riggs, M.D. Tulane University, New Orleans, 1898, of Biloxi, Miss., died in New Orleans, May 28, from consumption, after a long illness, aged 42.

John Gillespie, M.D. University of Pennsylvania, Philadelphia, 1880, of Warrensburg, N. Y., died at Silver City, N. M., May 26, from tuberculosis, aged 44.

Frederick W. Ruby, M.D. University of Louisville, 1886, died at his home in Louisville, from acute tuberculosis, June 7, after an illness of four months, aged 37.

Fiske Holbrook Day, M.D. Jefferson Medical College, Philadelphia, 1849, a pioneer physician of Milwaukee, died at Lansing, Mich, May 30, aged 77.

Chester Howard, M.D. University of Buffalo, 1879, died at his home in Dayton, N. Y., May 27, from spinal disease, after an illness of two years, aged 55.

Leonard S. Rice, M.D. Medical College of Ohio, Cincinnati, 1869, of Springfield, Ohio, died suddenly in that city, May 25, from heart disease, aged 72.

John W. Sykes, M.D. Hahnemann Medical College, Philadelphia, 1855, of Pittsburg, died at Ocean Grove, N. J., May 29, after a long illness, aged 76.

David McLellan, M.D. Hahnemann Medical College, Chicago, 1880, died at his home in West Hoboken, N. J., June 1, after a month's illness, aged 68.

James E. Warner, M.D. Berkshire Medical College, Pittsfield, Mass., 1853, died recently from paralysis at his home in Sterling, Va., aged 79.

Charles D. Parsons, M.D. University of Michigan, Ann Arbor, 1878, of Burr Oak, Mich., died recently in the west, from the effects of an accident.

Albert Wilson, M.D. Medical College of Ohio, Cincinnati, 1851, died suddenly at his home in Sidney, Ohio, June 2, from heart disease, aged 77.

Joseph H. Hilton, M.D. Miami Medical College, Cincinnati, 1874, died at his home in Maywood, Ill., May 27, from heart disease, aged 67.

Madison A. Kelly, M.D. Jefferson Medical College, Philadelphia, 1876, died at his home in Lewiston, Idaho, May 27, aged 75.

Richard P. Evans, M.D. Yale Medical School, New Haven, Conn., 1850, died at his home in Franklin, Ohio, May 31, aged 74.

W. C. Bateman, M.D. Atlanta (Ga.) Medical College, 1891, died at his home in Butler, Ga., June 5, after a long illness, aged 32.

William Thompson, M.D. Castleton (Vt.) Medical College, 1844, died at his home in Luzerne, Pa., May 28, aged 80.

P T. Beeman, M.D., 1856, died at his home in Peachland, N. C., May 23, after an illness of one week, aged 68.

Joseph L. Carr, M.D., a retired physician of Clarksburg, W. Va., died at his home, June 9, aged 85.

E. B. Roberts, M.D., died at his home in Mount Erie, Ill., May 11.

Death Abroad.

Dr. Milan Sachs of Vienna, engaged in bacteriologic work at the Institute of Infectious Diseases, Berlin, died from plague in an isolation hut at Berlin, June 6.

Medical Organization.

The Indiana State Medical Society.

The Indiana State Medical Society met in annual session at Richmond, June 4, and on the following day adopted the plan of organization recommended by the American Medical Association without modification, and by a unanimous vote. The profession of no other state was found better prepared for an intelligent consideration of this subject. This was largely due to the fact that this was one of the pioneer states in making the county societies the units of organization, and in making membership in those a condition to membership in the state society. While no special efforts appear to have been made to build up the county societies, aside from the bare adoption of this provision, and many counties remain wholly unorganized, and in many others such societies have had only a nominal existence, over 1,600 of the 5,000 physicians of the state were enrolled as members. As this is a better showing than had been made by any other state when the present movement began, excepting Alabama, a general desire was expressed to take advantage of any methods which would keep the profession of the state in the front ranks in the work of organization. In addition, President Berteling and other leading members, who had the full confidence of the society, had studied

the proposed plan carefully, and were earnest in commending it.

It was decided to put the new constitution and by-laws for both the state and county societies in the hands of every physician in Indiana at once, and a strong council, composed of thirteen members, was selected to carry on the work during the year.

The following is a list of the officers and councilors: President, Dr. Jonas Stewart, Anderson; vice-president, Dr. Charles A. White, Danville; secretary, Dr. Frederick C. Heath, Indianapolis; assistant secretary, Dr. C. T. Hendershot, Cannelton; treasurer, Dr. Albert E. Bulson, Fort Wayne; delegates to American Medical Association, Drs. Edwin Walker, Evansville; David C. Peyton, Jeffersonville; William N. Wishard, Indianapolis, and G. W. H. Kemper, Muncie; councilors, first district, Dr. William R. Davidson, Evansville; second district, Dr. George Knapp, Vincennes; third district, Dr. C. T. Hendershot, Cannelton; fourth district, Dr. George T. MacCoy, Columbus; fifth district, Dr. Myron A. Boor, Terre Haute; sixth district, Dr. John C. Sexton, Rushville; seventh district, Dr. William N. Wishard, Indianapolis; eighth district, Dr. G. W. H. Kemper, Muncie; ninth district, Dr. Paul J. Bareus, Crawfordsville; tenth district, Dr. George F. Keiper, Lafayette; eleventh district, Dr. Robert Hessler, Logansport; twelfth district, Dr. Albert E. Bulson, Fort Wayne, and thirteenth district, Dr. Charles A. Dougherty, South Bend.

Although a strong body and representing a profession above the average, this society has labored under distinct disadvantages, which would be readily appreciated by any one who had opportunity to compare its proceedings with those of similar organizations in other states.

Its sessions lasted but two days, and, as all business was transacted in the general meeting, the time for scientific work was very limited. The program was crowded with excellent papers, but many of these could be read only by title, and, more important, the discussions, which were of high character, were greatly abridged. As both the total membership and attendance are likely to be doubled during the year, even with a business body to take charge of everything except the scientific work, a friendly critic may be permitted to suggest that the interest and usefulness of the state organization might be greatly increased by extending the session to three days.

J. N. McCORMACK.

Reorganization in North Carolina.

The visit to the annual meeting of the State Society of North Carolina was made a pleasant duty. The meeting was held at Hot Springs, one of their delightful mountain resorts, on June 1, 2 and 3. The attendance was fair, and representative. At the outset, the opposition to the adoption of the new plan of organization was formidable and determined. This came chiefly from the older members, a very conservative element, several of them ex-presidents of the society, who had given no great attention to the subject, but were opposed to anything which disturbed the existing order of things. On the other hand, the officers and the younger members, the latter being in the large majority, who having informed themselves on the merits of the new methods and of their successful operation in other states, were enthusiastically in favor of their adoption. After full consideration and discussion, extending over the greater part of the two first days, the new constitution and by-laws were unanimously accepted by a rising vote, on motion gracefully made by those who had led the opposition.

The reluctance of some to consent to any change in their methods of organization was easily explained when one was informed as to the history of medicine in North Carolina. In 1859, under the auspices of the state society, it was the first state in the Union to enact a really effective medical law, and members of the examining board had always been appointed on nominations made by the society. Examinations were always held at the place of meeting, and a few days preceding the first day of the society, and, so far as possible, all successful applicants were induced to become members. Much the same relations had always existed between the society and the State Board of Health, and members had grown up to consider these three bodies, the North Carolina Medical Society, the State Board of Medical Examiners, and the State Board of Health, as inseparable, and to feel a commendable and jealous pride in an organization which had secured and maintained such high standards through all these years, when most other states were yet over-run with quackery. It was perfectly natural that those who had taken a leading part in making such a history possible should demand the fullest explanations before consenting to change the organic law under which it had all been done. As soon as it was made evident to them that the more complete organization proposed, and for which their profession had been in training, would confirm and strengthen the law, and all of the other worthy interests of their profession and people, they were as earnest in its support as those who had advocated it from the first.

Before final adjournment the state was divided into convenient districts, according to the lines of transportation, and the following councilors were appointed to take immediate charge of the work of organizing county societies: First district, Dr. Oscar G. B. McMullan, Elizabeth City; second district, Dr. David T. Tayloe, Washington; third district,, Dr. Frank H. Russell, Wilmington; fourth district, Dr. Albert Anderson, Wilson; fifth district, Dr. Jacob F. Highsmith, Fayetteville; sixth district, Dr. Hubert A. Royster, Raleigh; seventh district, Dr. Edward C. Register, Charlotte; eighth district, Dr. Henry S. Lott, Winston; ninth district, Dr. Thomas E. Anderson, Statesville, and tenth district, Dr. James A. Burroughs, Asheville.

The officers elected for the coming year are in hearty accord with the council and the Association plan, and are as follows: Dr. H. Bascom Weaver, Asheville, president; Dr. J. Howell Way, Waynesville, secretary, and Dr. Ginnada T. Sikes, Crissom, treasurer.

J. N. McCORMACK.

Memphis and Shelby County (Tenn.) Medical Society.

On June 10 this society received its charter from the Tennessee State Medical Association.

Schuyler County (Mo.) Medical Society.

The physicians of Schuyler County met in Lancaster recently and organized a county medical society.

Hardin County (Ohio) Medical Society.

This society reorganized at Kenton, May 22, and elected the following officers: Dr. C. C. McLaughlin, Dunkirk, president; Drs. Ezra B. Hiestand and Jesse Snodgrass, Kenton, vice-presidents, and Dr. Harry D. Belt, Kenton, secretary and treasurer.

Cedar County (Iowa) Medical Society.

Ten physicians of Cedar County met in Tipton, May 6, and organized a county medical society, with the following officers: President, Dr. L. W. Baker, Stanwood; vice-president, Dr. H. R. Chapman, Bennett; secretary, Dr. Roscoe A. Nash, Tipton, and treasurer, Dr. Louis J. Leech, West Branch.

Rapides (La.) Medical Society.

A number of physicians of Rapides Parish met at Alexandria, May 18, and organized a medical society, with the following officers: Dr. W. W. Ashton, Alexandria, president; Drs. Buford L. Bailey, Doland, and John D. Everett, Lecompte, vice-presidents; Dr. Cyriaque J. Gremillion, Alexandria, secretary, and Dr. John L. Wilson, Alexandria, treasurer.

Jackson County (Miss.) Medical Society.

On June 6, eight physicians of Jackson County met at Scranton, and organized a county medical society in conformity with the plan suggested by the American Medical Association. Dr. Benjamin F. Duke, Pascagoula, was elected president; Dr. James T. Evans, Scranton, vice-president, and Dr. Jacob N. Rape, Moss Point, secretary and treasurer.

Schoolcraft County (Mich.) Medical Society.

Dr. Theodore A. Felch, councilor of the Michigan State Medical Society, met with the physicians of Schoolcraft County at Manistique, and organized a county society to be in affiliation with the state association. Dr. John H. Cole was elected president; Dr. Frank Rainie, vice-president, and Dr. John M. Sattler, secretary and delegate to the state society.

Napa County (Cal.) Medical Society.

The physicians of Napa County met at Napa, May 28, organized a county society on the lines suggested by the American Medical Association, and adopted a constitution and by-laws. Dr. E. E. Stone, Napa, was elected president; Dr. William H. Leach, Napa, vice-president; Dr. J. L. Arbogast; St. Helena, secretary, and Dr. William W. Rumsey, Yountville, treasurer.

Reno County (Kan.) Medical Society.

Twenty physicians of Reno County met at Hutchinson, May 20, and organized a medical society, with the following officers: Dr. Samuel H. Sidlinger, Hutchinson, president; Drs. Clemens Klippel, Hutchinson, and William H. Bauer, Sylvia, vice-presidents; Dr. Claude Mayfield, Hutchinson, secretary; Dr. Armanellie S. Cone, Hutchinson, assistant secretary, and Dr. W. V. Tucker, Huntsville, treasurer.

State Medical Society of South Dakota.

The twenty-second annual meeting was held in Mitchell, May 27 and 28. The plan of organization suggested by the American Medical Association was adopted, and the state divided into nine councilor districts. Dr. Byron A. Bobb, Mitchell, was elected president; Dr. Charles B. Mallery, Aberdeen, vice-president; and Dr. James L. Stewart, Irene, secretary-treasurer. The 1904 meeting will be held in Redfield.

Christian County (Ky.) Medical Society.

This society met at Hopkinsville, June 6, to reorganize under the American Medical Association plan. Dr. H. H. Wallace was elected president; Dr. F. Manning Brown, vice-president, and Dr. Benjamin F. Eager, secretary and treasurer, all of Hopkinsville. Drs. Thomas L. Bacon, Jacob M. Dennis and Ephraim P. Russell, all of Hopkinsville, were elected as a board of censors. Dr. Benjamin F. Eager was elected as delegate to the state association. The new society starts with a total membership of 37, and every promise for success.

Societies.

Bayonne (N. J.) Medical Society.—At the annual election, May 22, Dr. George H. Sexsmith was made president; Dr. John T. Connelly, vice-president, and Dr. Stanley R. Woodruff, secretary and treasurer.

Detroit Physicians' Association.—At the meeting, April 27, Dr. Daniel Kerr was elected president; Dr. Henry L. Obetz, vice-president; Dr. Walter J. Cree, secretary, and Dr. Stephen H. Knight, treasurer.

Chicago Medical Missionary Association.—Permanent organization was perfected, May 23, with the following medical officers: Dr. William E. Quine, president; Dr. Isaac N. Danforth, vice-president, and Dr. Elmore S. Pettyjohn, secretary.

Muscatine County (Iowa) Medical Society.—At the annual meeting held in Muscatine, May 7, Dr. Henry M. Dean was elected president; Dr. Calvin W. Smith, vice-president, and Dr. Thomas F. Beveridge, secretary-treasurer, all of Muscatine.

Monmouth County (N. J.) Medical Society.—At the annual meeting held in Freehold, May 11, Dr. William T. MacMillan, Perrineville, was elected president; Dr. D. McLean Forman, Freehold, secretary, and Dr. Isaac S. Long, Freehold, treasurer.

Fort Worth (Texas) Medical Association.—The following officers were elected at the annual meeting, May 26: President, Dr. Robert E. L. Miller; vice-presidents, Drs. J. R. Frazier and W. Marion Davis; secretary, Dr. Lyman A. Barber, and treasurer, Dr. William R. Thompson.

Appanoose-Wayne County (Iowa) Medical Society.—The third semi-annual meeting was held at Moulton, May 19. Dr. John L. Shipley, Corydon, was elected president; Dr. William L. Dowling, Moulton, vice-president, and Dr. Charles S. James, Centerville, secretary and treasurer.

Macon County (Mo.) Medical Society.—The twenty-fourth annual meeting was held in Macon May 7. Dr. William E. Webb, Macon, was elected president; Dr. George F. Brewington, Bevier, vice-president; Dr. George B. Rush, Macon, secretary, and Dr. Edward S. Smith, Macon, treasurer.

Salem County (N. J.) Medical Society.—The annual meeting was held in Salem, May 13, Dr. Henry T. Johnson, Pedricktown, was elected president; Dr. John F. Smith, Salem, vice-president; Dr. Henry Chavanne, Salem, secretary and treasurer, and Dr. William H. Carpenter Salem, reporter.

Middlesex County (Conn.) Medical Society.—The one hundred and eleventh annual meeting was held in Middletown, April 29. Dr. Charles H. Hubbard, Essex, was elected president; Dr. Charles E. Stanley, Middletown, vice-president; Dr. John E. Loveland, Middletown, clerk, and Dr. Miner C. Hazen, Haddam, censor.

Linton District (Mo.) Medical Society.—At the annual meeting held in Mexico, June 6, the following officers were elected: Dr. Ned R. Rodes, Mexico, president; Drs. Guy L. Noyes, Columbia, and Robert W. Berry, Mexico, vice-presidents; Dr. Edwin S. Cave, Mexico, secretary, and Dr. Martin Yates, Fulton, treasurer.

Bristol South District (Mass.) Medical Society.—At the annual meeting held in New Bedford, May 14, Dr. Joseph C. Pothier, New Bedford, was elected president; Dr. Dwight E. Cone, Fall River, vice-president; Dr. Alanson J. Abbe, secretary and treasurer, and Dr. Henry S. Swan, Middleboro, commissioner of trials.

Middlesex County (N. J.) Medical Society.—The annual meeting was held in New Brunswick, April 15. Dr. William E. Ramsey, Perth Amboy, was elected president; Dr. Frank M. Donohue, New Brunswick, vice-president; Dr. David C. English, New Brunswick, treasurer, and Dr. William M. Moore, New Brunswick, secretary.

Franklin District (Mass.) Medical Association.—At the annual meeting held in Greenfield, May 12, Dr. Francis J. Canedy, Shelburne Falls, was elected president; Dr. Charles C. Messer, Turner's Falls, vice-president; Dr. Halbert G. Stetson, Greenfield, secretary and treasurer, and Dr. James D. Seymour, Whately, commissioner of trials.

Somerset County (N. J.) Medical Society.—At the annual meeting held in Somerville, April 30, Dr. Claudius R. P. Fisher, Bound Brook, was elected president; Dr. John P. Hecht, Somerville, vice-president; Dr. J. H. Buchanan, North Plainfield, secretary; Dr. Thomas H. Flynn, Somerville, treasurer, and Dr. William H. Long, Somerville, reporter.

Middlesex North District (Mass.) Medical Society.—At the annual meeting held in Lowell, April 29, Dr. Wyllis G. Eaton was elected president; Dr. Burnham R. Benner, vice-president; Dr. Return J. Meigs, secretary; Dr. Thomas B. Smith, treasurer; Dr. David N. Patterson, librarian, and Dr. William B. Jackson, commissioner of trials, all of Lowell.

Middlesex East District (Mass.) Medical Association.—At the annual meeting, held in Wakefield, May 15, Dr. Mott A. Cummings, Winchester, was elected president; Dr. George N. P. Mead, Winchester, vice-president; Dr. Harrison G. Blake, Woburn, secretary; Dr. Charles Dutton, Wakefield, secretary, and Dr. Charles C. Odlin, Melrose, commissioner of trials.

Jackson County (Ark.) Medical Society.—At the annual meeting held in Newport, April 15, Dr. John M. Jones, Newport, was elected president; Dr. Henry Owen, Newport, first vice-president; Dr. George K. Stephens, Newport, second vice-president; Dr. H. O. Walker, secretary; Dr. Oscar E. Jones, Newport, treasurer, and Dr. G. A. Causey, Grubbs, librarian.

Cape May County (N. J.) Medical Society.—On May 12 the annual meeting was held at Cape May. Dr. Joseph C. Marshall, Tuckahoe, was elected president; Dr. Nathan A. Cohen, Wildwood, vice-president; Dr. Daniel K. Webster, South Seaville, secretary and reporter, and Dr. Randolph Marshall, Tuckahoe, treasurer. Ocean City was selected as the next meeting place.

Baltimore County (Md.) Medical Association.—The annual meeting was held at Towson, May 21. Dr. L. Gibbons Smart, Baltimore, was elected president; Dr. Benjamin R. Benson, Cockeysville, vice-president; Dr. Frank R. Rich, Towson, recording secretary; Dr. Richard C. Massenburg, Towson, corresponding secretary, and Dr. Harry S. Jarrett, Towson, treasurer.

Berkshire District (Mass.) Medical Society.—Pittsfield was the place selected for the annual meeting, April 30. Dr. Martin M. Brown, North Adams, was elected president; Dr. John J. Flynn, Pittsfield, vice-president; Dr. Lawrence C. Swift, Pittsfield, secretary; Dr. William Le R. Paddock, Pittsfield, treasurer, and Dr. Albert T. Wakefield, Sheffield, commissioner of trials.

C., H. & D. Railway Surgeons' Association.—The second annual meeting was held in Dayton, May 19. The following officers were elected: President, Dr. William S. Hoy, Wellston, Ohio; vice-presidents, Drs. Millard F. Hussey, Sidney, Ohio, and Francis M. Fitton, Hamilton, Ohio; secretary, Dr. Mark Millikin, Hamilton, Ohio, and treasurer, Dr. J. Herman Thesing, Cincinnati.

Alabama Medical Congress.—At the annual meeting, April 9 and 10, in Montgomery, the following officers were elected: Dr. Willis E. Sterrs, Decatur, president; Drs. Samuel S. H. Washington, Montgomery, William L. Council, Birmingham, and H. J. Jenkins, Tuskogee, vice-presidents; Dr. H. Nesbitt, Montgomery, secretary, and Dr. George H. Wilkerson, Mobile, historian.

Scott County (Iowa) Medical Society.—The annual meeting was held in Davenport, June 2, when Dr. William L. Allen was elected president; Dr. Albert W. Elmer, vice-president; Dr. Charles H. Preston, secretary; Dr. Daniel J. McCarthy, treasurer; Dr. John H. Kulp, delegate for two years, and Dr. Heinrich Matthey, delegate for one year to the Iowa State Medical Society.

Essex South (Mass.) Medical Society.—The annual meeting was held at Salem, May 19, at which Dr. Frank S. Atwood, Salem, was elected president; Dr. Snow P. F. Cooke, Gloucester, vice-president; Dr. Harry E. Sears, Beverly, secretary; Dr. George Z. Goodell, Salem, treasurer; Dr. George K. Blair, Salem, librarian, and Dr. Justin Allen, Topsfield, commissioner of trials.

Camden County (N. J.) Medical Society.—The annual meeting was held, May 12, at Blackwood, when Dr. John W. Marcy, Merchantville, was elected president; Dr. Joseph H. Willis, Camden, vice-president; Dr. Paul M. Mecray, Camden, secretary; Dr. Joel W. Fithian, Camden, treasurer; Dr. Alfred Cramer, Camden, historian; Dr. Walter S. Bray, Camden, reporter, and Dr. John W. Donges, Camden, censor.

Hampshire District (Mass.) Medical Society.—At the annual meeting held in Northampton, May 14, Dr. Clarence R. Gardner, Northampton, was elected president; Dr. Albert G. Blodgett, Ware, vice-president; Dr. Arthur G. Minshall, Northampton, secretary; Dr. Alfred H. Hoadley, Northampton, treasurer; Dr. Edward W. Brown, Northampton, librarian, and Dr. Charles F. Branch, Amherst, commissioner of trials.

North Dakota State Medical Society.—The annual meeting was held in Bismarck, May 21 and 22, at which the following officers were elected: President, Dr. William H. Bodenstab, New Salem; vice-presidents, Drs. James A. Rankin, Jamestown, and Paul Sorkness, Fargo; secretary, Dr. Carl L. Brimi, Cooperstown, and treasurer, Dr. William H. M. Philip, Hope. Fargo was chosen as the next meeting place.

National Association of United States Pension Examining Surgeons.—The second annual meeting was held in Washington, D. C., May 13 and 14. The following officers were elected: Dr. William A. Howe, Phelps, N. Y., president; Drs. Philip Y. Eisenberg, Norristown, Pa., John Van Rensselaer, Washington, D. C., Parks Ritchie, St. Paul, Minn., and James Thompson, Kansas City, Mo., vice-presidents; Dr. Wheelock Rider, Rochester, N. Y., secretary, and Dr. Charles H. Glidden, Little Falls, N. Y., treasurer.

Fort Dodge District (Iowa) Medical Society.—At its annual meeting, May 12, this society decided to maintain its organization, despite the fact that a county medical society is about to be organized in Webster County in conformity with the organization plan of the Iowa State Medical Society and the American Medical Association. The following officers were elected: President, Dr. Hugh Mullarky, Manson; vice-president, Dr. Thomas F. Grayson, Fort Dodge; secretary, Dr. James D. Lowry, Fort Dodge, and treasurer, Dr. Harley G. Ristine, Fort Dodge.

Physicians' Mutual Aid Association of the Pacific Slope.—This association has incorporated at Los Angeles without capital stock for the purpose of mutual protection and relief to members, the widows, children, etc. The directors are Drs. David B. Van Slyck, Pasadena; George E. Abbott, Pasadena; Norman Bridge, Los Angeles; Solon Briggs, Pasadena; Edwin R. Chadbourne, Pasadena; W. Edward Hibbard; Charles L. King, Pasadena; Charles D. Lockwood, Pasadena; Fitch C. E. Mattison, Pasadena; James H. McBride, Pasadena, and Henry H. Sherk, Pasadena.

Marion County (Iowa) Medical Society.—At the annual meeting, held in Knoxville, May 14, a committee was appointed, consisting of Drs. A. A. Sandy, Harvey, Corwin W. Cornell, Knoxville, and G. Worstell, Knoxville, to revise the constitution and by-laws, in conformity with those of the state society and the American Medical Association. The following officers were elected: Dr. Lewis E. Park, Tracy, president; Drs. Mary D. Ardery, Knoxville, John V. Brann, Knoxville, and A. A. Sandy, Harvey, vice-presidents; Dr. Corwin W. Cornell, Knoxville, secretary; Dr. J. L. Miller, Pleasantville, assistant secretary, and Dr. John V. Brann, Knoxville, treasurer.

Ohio State Medical Association.—The fifty-eighth annual meeting was held in Dayton, June 3, 4 and 5. The following officers were elected: President, Dr. Charles S. Hamilton, Columbus; vice-presidents, Drs. William W. Pennell, Fredericktown, Thomas M. Wright, Troy, Benjamin R. McClellan, Xenia, and Horatio Chisholm, Marion; members of the house of delegates, American Medical Association, Drs. John S. Beck, Dayton, Charles A. L. Reed, Cincinnati, and P. Maxwell Foshay, Cleveland; alternates, Drs. Jacob F. Marchand, Canton, William J. Gillette, Toledo, and James F. Baldwin, Columbus. Cleveland was selected as the place of meeting in 1904.

CHICAGO SURGICAL SOCIETY.

Regular Meeting, held June 1, 1903.

The President, Dr. John B. Murphy, in the Chair.

The Treatment of the Complications Attendant on Chronic Gallstone Disease.

DR. JOHN B. DEAVER, Philadelphia, read a paper on the above subject. In acute obstruction of the common duct, operation is not to be thought of until increasing jaundice or a period of chronicity, with fever and rapid pulse, indicates the need of such interference. Chronic gallstone obstruction, either with its increasing jaundice or the intermittent form, has called for surgical intervention, because of the liability of such stones to cause strictures, ulceration, fistulæ or damage to the pancreas and to aid in the production of suppuration of the liver ducts, when infection becomes superadded. As infection of a varying degree is practically always associated with the formation of gallstones, and as such infection is surely accompanied by a catarrhal condition of the mucous membrane of the common duct, the presence of a calculus, even if not sufficient in size to produce jaundice, will impair the drainage of the duct and induce a train of symptoms causing chronic invalidism.

The preparation for a gallstone operation differs in no wise from that for any other, except in the presence of jaundice, when calcium chlorid may be administered for three or four days previous to operation, in doses of 20 to 30 grains, three times a day. The use of a sand pillow is a useful adjunct.

The incision originated by Mayo Robson gives a perfectly satisfactory exposure of the field of operation, and by splitting the rectus muscle, instead of dividing it, will insure a much stronger abdominal wall.

The preparation of the field of operation calls for the expenditure of some time and attention to detail. He would no more think of cutting adhesions or searching for a stone without having protected the general peritoneal cavity than he would rupture a periappendiceal abscess in the absence of adequate gauze protection to the intestines. Adhesions should then be dealt with, and while in some cases a few ligatures and the use of the finger and scissors would be sufficient, in others the most extensive and careful dissections will be called for. Every band of adhesion should be carefully tied and divided, and in the separation of those of a more voluminous nature bleeding should be guarded against by the closest scrutiny.

A niee question may arise to be decided when a dilated and displaced stomach due to pericholecystic adhesions has caused marked gastrointestinal symptoms. The great advances and the brilliant results of a gastroenterostomy may well cause an operator to pause and consider whether he can successfully break up all constricting bands and prevent their recurrence, whereas a gastroenterostomy in addition may cause complete relief of the symptoms. Personally, he believes one should be governed by the circumstances of each case; the risk of opening the stomach and intestine is not absolutely *nil*, and the necessity of avoiding peristalsis for some hours after operation would perhaps cause extensive readherence of all raw surfaces.

Fistulæ require great caution in their management, in order to avoid soiling the peritoneum with bowel contents by inadvertently opening the intestine when cutting a supposed adhesion. These cases call for the expert use of the needle and thread, and require the operator to be the master of all situations and emergencies.

The question of drainage occupies a prominent place in the technic of all gall bladder operations. The operator never has any doubt as to the wisdom of draining the suppurative forms of cholecystitis and cholangitis. With a gallstone partially

obstructing the common duct, and a shrunken, thickened gall bladder, the most rational operation at first would seem to consist in removing the stone, closing the duct, and excising the gall bladder. In addition to the tubular drainage, in such cases he places two strips of gauze, one leading to the stump of the gall bladder, the other slightly spread beneath the wound in the common duct. It is safer to drain the hepatic duct at all times, not only on account of infection, but owing to the likelihood of overlooking stones in the hepatic ducts. Kehr even goes so far as to state that after choledochotomy with suture, "even the most skilled surgeon must count upon overlooking stones in from 10 to 15 per cent. of his cases." The speaker uses a smaller sized tube than the latter author when draining.

The question, when is the time of election for performing a surgical operation on patients suffering with cholelithiasis, has been answered time and again by surgeons. Mayo Robson believes that "as soon as gallstones give serious trouble their removal by operation is the most rational method of treatment, since it is only from the complications, which in many cases of cholelithiasis arise sooner or later, that any danger after operation may be apprehended." It is the opinion of Dr. Deaver, after a rich experience in complicated and uncomplicated cases, that operation should be resorted to as soon as it is definitely known that gallstones are present. The recent statistics published by Kehr speak eloquently for the results of early operation. In 535 uncomplicated laparotomies for gallstones the mortality was 3.5 per cent. In 71 simultaneous operations in inoperable carcinoma of the gall bladder, common duct or liver, in diffused suppurative cholangitis, diffused suppurated peritonitis and sepsis, the mortality was 97 per cent; nearly every case, 69 out of 71, succumbed to the deadly spread of infection or to carcinoma possibly the result of chronic gallstone irritation. In 114 operations on the stomach, intestines, pancreas, liver, kidney, etc., 24 per cent. died. These cases were those in which extensive adhesions, chronic pancreatitis, or various changes in the liver and kidney made the operation difficult and the anesthesia prolonged. Gallstones, *per se*, never kill, and fatal infectious cholangitis is not common in the absence of a stone in the ducts. It is only in the presence of great adhesions, fistulæ, suppuration, pancreatitis, or disease of the liver and kidneys that the mortality rises in direct proportion to the grade of the complication. Operation is particularly indicated in those cases of chronic calculous cholecystitis, without jaundice, and with or without enlargement of the gall bladder. Like the interval operation in appendicitis, with a chronic low grade inflammation, perhaps a fecal concretion, and with more or less adhesions, the removal of the diseased gall bladder can be performed with as much celerity and safety as can the amputation of such an appendix. Unoperated, they give rise to a train of symptoms driving the unfortunate patient to the stomach specialist, or to places like Carlsbad. The stones are too large to pass the cystic duct, and the low grade inflammation is responsible for a sequel of symptoms which lead to chronic invalidism.

DISCUSSION.

DR. WILLIAM J. MAYO, Rochester, Minn., said there are two important questions in connection with surgery of the gall bladder and biliary passages which are as yet unsettled. First, in what cases shall we remove the gall bladder? Second, in what cases is it wise to drain the bile to the surface? The majority of the complications of gallstone disease are the result of delay, and preceding this time, there are diagnostic symptoms which would have enabled an operation to have been performed with much less danger. Should we, in the early uncomplicated cases of gallstone disease, take the gall bladder out, or is it sufficient to drain it for a time, until the biliary discharge is sterile? Without going extensively into the physiology of the gall bladder, there is no doubt but that Murphy is right in believing that one of its functions is to act as a tension bulb, keeping the flow of bile steady instead of intermittent. This is unimportant of itself; but when the gall bladder is suddenly cut off by a stone impacted in the cystic duct, there are not only symptoms arising from the retention in the cystic cavity, but there is usually some irritation of the liver from the increased tension and mild infection, shown in many cases by transient slight jaundice, etc. The liver soon accommodates itself to this change, and when the acute symptoms of obstruction are over, such a gall bladder can be tied off without liver drainage, but if the cystic duct is not obstructed and the gall bladder still persists in the biliary circulation in spite of the stones the sudden tying-off of the cystic duct, without provision for the escape of bile, is liable to increase liver tension and coincidentally the infection of the liver ducts, and adds this condition to the usual risks of operation. It is altogether probable that in the majority of cases this would do harm, yet in the exceptional ones cessation of liver function and death may follow. As stones do not re-form after complete removal and drainage, it woud seem to the speaker that the excision of the otherwise healthy gall bladder, on account of gallstones, subjects the patient to some unnecessary risks, unless some provision is made for hepatic drainage. The thick, contracted gall bladder, with obstruction at the cystic duct, has lost its function, and such a gall bladder is the one in which we are liable to have future trouble from mucous fistula, adhesions, cancer, etc. Fortunately, by reason of the obstruction, the liver has become accustomed to the change in the extension, and such a gall bladder can be removed without biliary drainage. He has never seen harm follow the ligation of the cystic duct in such cases, and this exists in about one-third of the cases as they come to the operating table. Stones in the common duct are the cause of cholangitis, and drainage of bile to the surface is necessary either by a cholecystotomy, if the cystic duct is sufficiently patulous for the purpose, or by leaving the incision in the common duct open, the latter being the safer method.

To what extent is it necessary to provide bile drainage in cases in which there are no stones in the common duct? Cholecystostomy drains the hepatic ducts by the escape of bile to the surface, and all of experience have seen a patient doing badly, suddenly relieved by a discharge of bile in a previously dry wound. So true is this that often with a patient not doing well the drains are loosened, hoping to establish bile drainage and, if one succeeds, recovery usually follows. He has tried to classify his cases with regard to the necessity of hepatic drainage. The following is about the position he has temporarily assumed as a result of this study:

1. If the gall bladder contains bile and the organ is distensible, if the gall bladder be removed, bile drainage is provided for by cutting the cystic duct across and leaving it open. If such a patient is very obese, or has degenerative lesions of other organs, he prefers cholecystostomy.

2. If there are symptoms of a cholangitis, even of mild grade, he provides for a bile drainage, and if the condition is acute, the drainage must be free.

3. If the gall bladder contains cystic fluid, but no bile, and the patient has symptoms of cholangitis, he removes the organ and cuts the cystic duct below the obstruction, to permit of bile discharge. If necessary, the cystic duct is split down to the common duct.

4. In a few cases he has directly opened the common duct, for the purpose of securing liver drainage, but it is very rare that this is necessary, unless there are or have been stones in the common duct and it is dilated. The cystic duct ordinarily can be advantageously used for the purpose, although in a few instances he has found it necessary to cut it off flush with the common duct, leaving a lateral defect in its wall for drainage purposes. This brings up the question as to how much danger of peritonitis there is as a result of bile leakage into the peritoneal cavity. If there is free gauze drainage with or without tubage, there is but little danger of peritoneal infection from the bile. He has never seen a case of death from this cause; but the drainage should be attached to the proper point by a catgut suture to prevent its floating away by the bile discharge or displacement by the action of the diaphragm on the liver. If the common duct is greatly dilated and after removal of the calculi there is considerable detritus, the end of a rubber drainage tube is inserted just into the duct opening and secured by a catgut suture. If this condition does not exist, tubage of the common duct is unnecessary.

To sum up: Cholecystectomy is to be preferred if the patient is otherwise in good condition. If the cystic duct is obstructed and the gall bladder contains only cystic fluid, ligation of the cystic duct, without provision for hepatic drainage, is safe. If there be any infection of the hepatic ducts, bile drainage is essential.

Gallstones and Gall Bladder Diseases from the Standpoint of the Physician.

DR. NORMAN BRIDGE read a paper on this subject. He stated that the physician can often present the urgency of an operation to the patient better than the surgeon. Most people dread operation and many suspect the surgeons of having undue enjoyment in the act of operating and of being biased by visions of large fees. The physician is, for these reasons, a more acceptable counselor, but even he, in these later days, says the essayist, is not free from the suspicion of seeking a part of the surgeon's reward.

The author cited cases to illustrate the long continuance of gall-bladder symptoms without recognition.

Whether operation should be done in all cases of proven gallstones, or of suppuration or distension of the gall bladder, is the same question over again of the misfortunes of the appendix. Cases become quiescent, or recover and remain so for years, even with gallstones, the patients dying of other diseases or of old age. Hence one camp of physicians contends that in all such cases we should wait; not operate until forced to it by some urgent symptoms or situations. The other camp says that, for the sake of safety, operation should always be done promptly, since the next attack might be fatal. Both are in part right; neither can prove the other wholly wrong.

People are taking great personal risks in manifold ways all their lives, and with the lightest thought. But if one suffering from cholelithiasis, to the extent of producing marked symptoms, would minimize to the lowest point his danger of death from it, he will probably have it dealt with surgically, always provided he has a surgeon who is wise in pathology and procedure, as well as expert in technic, and provided the patient has good vital organs. That statement is still true of the diseased appendix; it is true of gallstones and gall bladder infection as well.

All cases of chronic cholelithiasis, where the suffering has led to the opium habit, should be operated on. Every case of known distension of the gall bladder by fluid of any sort is in constant peril, and should be operated, if possible. If there is reason to believe the bladder contains pus, operation is urgently demanded. And in all cases where frequent recurrences, or the persistence of symptoms indicate the progressive contraction and fibrosis of the gall bladder, operation should be insisted on, for in these there is constant danger of an explosion of infection that may destroy life.

All cases of proven gallstones or gall bladder trouble are proper subjects for surgical consultation, whether they are to be regarded as surgical cases or ever come to operation. Whether operation is to be done or not when conditions do not sound the insistent need of an operation, or the patient declines, or the physician sees reasons against an operation, proper medical treatment should be instituted always, and persistently carried out. This is as true of the gallstone troubles as it is of those of the appendix.

What are such measures? In the acute cases, there should be absolute rest of the body. Rest of the stomach and bowels to the extent of starvation for some days is best, especially where peritonitis is present or threatened. Nutrient enemas may be allowed tentatively, but never nutrition by the stomach in such cases. The upper abdominal organs must be kept still, not be shaken about by peristaltic movements.

In the subacute and chronic cases the daily full flushing of the bowels by alkaline laxative waters is useful, but it is irrational to suppose that gallstones are thus washed away. Nor do olive oil or any other of the pretended expulsive agents have the smallest effect. The thing that happens is probable merely the elimination of effete matter, thus increasing the physiologic resisting power. This process is aided by a restricted diet of the most assimilable foods, and by general good hygiene.

DISCUSSION.

DR. FRANK BILLINGS, speaking from the standpoint of the internist, said that given a reasonable certainty of the presence of gallstones in the gall bladder or ducts, it calls for their removal by means of the surgeon's knife, with the statement modified to this effect, namely, that where there exists some disease of other organs of the body, as the kidneys, or the heart, which would render the use of an anesthetic immediately dangerous to the health of the individual, it was questionable whether operation should be done. If gallstones are acute in their manifestations, his advice is to wait until the symptoms have diminished or subsided. If attended with jaundice, to wait a reasonable time to see if it does not diminish, and if it does not diminish, to attempt to improve the coagulability of the blood by the use of calcium chlorid. In recent years, by means of calcium chlorid, the coagulability of the blood has been increased or improved to such an extent as to make a surgical operation less dangerous than before it was given. He would go further than Kehr, if he understood him correctly, and say that if there are symptoms of gallstones in the common duct, and they subsided, and if following that, within a reasonable length of time, there are further symptoms or indications of gallstones he would urge operation. He understood from the paper read by Kehr at Washington that he (Kehr) would not operate on such cases. While the speaker made this statement from a medical point of view, of operating on gallstone cases when the evidence was clear that they were present, surgeons should not forget that they owe a great deal of what they know to-day to Pasteur and Koch. It is the work of Pasteur, Koch, Lister and others that has enabled surgeons to open the abdomen in these cases, and to treat them successfully.

Dr. Billings then recounted briefly the symptoms of cholelithiasis and pointed out their peculiarity.

He said the medical treatment of gallstones was instituted long before surgeons opened the abdomen for the relief of this condition. The Carlsbad treatment has been in vogue for years, and surgeons should not censure medical men too much for sending their patients to Carlsbad or resorting to medical treatment, when it was known that a celebrated surgeon who, two years after operating on his own father for gallstones, was attacked himself, but instead of undergoing an operation, he went to Carlsbad for treatment.

DR. ARTHUR DEAN BEVAN said that in a discussion as broad as the one on the subject of cholelithiasis, he took it that brief conclusions arrived at from a review of one's own experience would be in order, and with such an idea in view he submitted the following:

1. Gallstone disease is due to a mycotic invasion of the bile tracts. Gallstone disease is exceedingly common. From my dissecting-room experience, it occurs in 16 per cent. of such cadavers.

2. In the vast majority of cases of gallstone disease, the patient does not suffer from the existence of the condition.

3. A close parallel can not be drawn between cholelithiasis and appendicitis, and the conclusions which we have all arrived at in appendicitis, i. e., that a diseased appendix should in practically all cases be operated on, can not with equal force be applied to cholelithiasis: (a) Because the disease, in its first manifestations, does not carry with it nearly the amount of danger to the patient as does appendicitis. (b) Because of the enormous number of individuals who have gallstones many have slight, single or very infrequent manifestations of the disease which are speedily recovered from, carry little danger, and a good prospect of permanent recovery. Several of my colleagues have had single attacks, and have been advised by both surgeons and internists to await developments and postpone operative interference until the indications warranted it.

4. As a corollary to the above, the hygienic treatment, i. e., exercise, diet, salines, is indicated in cholelithiasis, as a rule, in the first manifestations of the disease.

5. Surgical treatment is indicated when the manifestations of the disease are repeated, and especially when they are frequent and severe. Surgical treatment is demanded when we have:

(a) An infected gall bladder; (b) with stone or obstruction of the cystic duct; (c) with stone or obstruction of common duct.

6. With stones still confined to the gall bladder, cholecystotomy with drainage is the operation of choice.

7. With stone in the cystic duct, or obstruction of cystic duct, cholecystectomy is the operation of choice.

8. With stone in the common duct, choledochotomy with drainage is the operation of choice.

9. With stone in both cystic and common ducts, cholecystectomy and removal of stone from common duct, and drainage of common duct, is the operation of choice.

10. With obstruction of common duct from chronic interstitial pancreatitis or carcinoma, drainage of the bile tracts through the gall bladder is the operation of choice.

11. In the cases of cholecystitis and cholangitis simulating gallstones, drainage of the gall bladder should be carried out, and with this probably the use of salicylate of sodium, which is excreted through the bile, and has seemed to exert a definite local antiseptic effect.

12. To expose the bile tracts, the incision which I introduced in 1898, as modified by Weir and Mayo Robson, gives the best access to the region, makes the operation in difficult cases much easier, saves valuable time, and is least likely to be followed by hernia.

13. The mortality from gallstone operations is surprisingly small in uncomplicated cases. I have had no deaths in more than one hundred cholecystotomies, and in more than twenty cholecystectomies have had but one death in fourteen cases of obstruction of the common duct.

14. The prospects of permanent cure after operative removal of gallstones are very good. The recurrences of symptoms are almost always due to incomplete operations, i. e., leaving some stones or the doing of a cholecystotomy where a cholecystectomy should have been done.

15. Personally, I have seen little evidence pointing to gallstones as a factor in the production of carcinoma, and therefore incline to the belief that carcinoma favors gallstone formation, and is the cause and not the effect where these two conditions coexist.

16. The modern surgical treatment of cholelithiasis is, with the exception of the surgical treatment of appendicitis, the most valuable addition that has been made to medicine during the last twenty years. Inasmuch as the general practitioner sees most of these cases in their early history, it rests with him whether or not this valuable knowledge will be made the most of and accomplish the greatest amount of good.

DR. DEAVER said that the points brought out by Dr. Mayo relative to the non-removal of the gall bladder in certain cases were very apropos. In the past he had made the mistake of tying off the cystic duct and removing the gall bladder when he should have done a cholecystotomy. However, Nature had come to the rescue, had forced the ligature off, established a biliary fistula, and had saved the patient's life.

The remarks of Dr. Bevan were in harmony with the position taken by most surgeons with regard to the treatment of cases of cholelithiasis.

A short time ago, in an address delivered in this city, the speaker said the surgeons of the east had to bow to the surgeons of the west, and after hearing the remarks of Dr. Billings, he was prompted to say that the medical men of the east would now have to bow to the medical men of the west. If the medical men of the east took the advanced position enunciated by Dr. Billings in regard to operative intervention cases of gallstones, it would not cause surgeons to have so many gray hairs, to spend so many restless nights, and make them prematurely old.

MICHIGAN STATE MEDICAL SOCIETY.

Annual Meeting, held at Detroit, June 11 and 12, 1903.

The President, Dr. A. E. Bulson, Jackson, in the Chair.

This meeting was undoubtedly the most successful in the history of the society; being the first since the reorganization, it was one of the most important. During the eleven months since the last annual meeting the state has been thoroughly organized; the 58 chartered branches representing 78 of the 83 counties, with membership fully paid up of 1,712, being the result of the year's work of the council and the officers of the state and county societies.

Business Proceedings.

The council, presided over by Dr. Leartus Connor, Detroit, met the day preceding the meeting, carefully reviewed the enormous amount of work done during the year, received the report of its officers and committees and prepared its report to the house of delegates. It met again the following day. The council had been composed of members appointed at the last annual meeting to serve until their successors could be elected by the house of delegates, which was to meet for the first time this year. The house fully appreciated the work done by the members and returned to the council eight of the former members for a period of two to six years. Two of the members had declined to serve longer. The new council met the last day, elected Dr. Leartus Connor, Detroit, chairman, and Dr. W. H. Haughey, Battle Creek, secretary, and outlined the work for the coming year.

The house of delegates met the evening preceding the meeting, with almost every delegate present. The house was called to order by the president of the society, who briefly defined to the members their duties and responsibilities. The report of the council and of the various committees was received. The house appointed a business committee, to which all new business was referred without debate, a committee on finance to act on the legitimate expenses of the councilor incurred in his work, and a committee on nomination.

Two other meetings of the house were held, and all its business was transacted promptly under the new constitution and by-laws, but one minor change in the by-laws having been made.

The first general meeting of the society was held at 10 o'clock on the first day. At this the address of the president, Dr. A. E. Bulson, Jackson, was delivered, in which he discussed the work of the organization of the profession of Michigan, and emphatically emphasized that the work of the future lies in the county society.

Social Functions.

At the evening of the first day the members and ladies were given a reception by the Wayne County Medical Society, which was largely attended, 700 being present. After the reception a vaudeville entertainment was presented by all the best talent then performing at the vaudeville theaters of the city. This was thoroughly enjoyed.

At the meetings of the three sections papers of importance were delivered and discussed. The general meetings and the sections were well attended; 555 members registered, which attendance more than doubles any other meeting in the history of the society. All meetings were held in the large Masonic Temple. Everything worked harmoniously; business was promptly dispatched and there was not a discordant note; the new order of things was accepted as the natural course of events.

The New Officers.

Grand Rapids was chosen as the next place of meeting, June, 1904, and the duration of the session was extended to three days.

The following officers were elected: President, Dr. James F. Breakey, Ann Arbor; vice-presidents, Drs. George C. Hafford, Albion, Wyllis S. Walkley, Grand Haven, and Charles S. Cope, Ionia; members of council for six years—Drs. William H. Haughey, Battle Creek, C. B. Burr, Flint, and William T. Dodge, Big Rapids; for four years—Drs. Albert E. Bulson, Jackson, Sidney I. Small, Saginaw, Bartlett H. McMullen, Cadillac, and Theodore A. Felch, Ishpeming; for two years—Drs. George D. Carnes, South Haven, D. Emmett Welsh, Grand Rapids, Henry B. Landon, Bay City, and Mortimer Wilson, Port Huron; members House of Delegates American Medical Association, Dr. Henry O. Walker, Detroit, for two years, and Drs. William K. West, Calumet, and Charles B. Stockwell, Port Huron, for one year.

WISCONSIN STATE MEDICAL SOCIETY.

Fifty-seventh Annual Meeting, held in Milwaukee, June 3-5, 1903.

The President, Dr. J. V. R. Lyman, in the Chair.

Proposal for Reorganization.

The attendance was large. The important matter of the morning session was presentation of the report of the committee on reorganization, by Dr. J. F. Pritchard.

The committee, he said, had but little to add to its preliminary report heretofore presented. The plan furnished by the American Medical Association was adopted by the committee. By adoption of the proposed constitution and by-laws, all the machinery of the new plan will be ready for the 1904 session.

Hemorrhage Into the Cranial Cavity Following Injury to the Skull.

DR. CHARLES H. LEMON, Milwaukee, read this paper and made the argument, not that all cases of brain contusion and laceration should be operated on, but as the expectant method frequently results in death, when the signs of cerebral compression manifest themselves and the life of the patient is thereby imperiled, it becomes the duty of the surgeon to select some plan for relieving this undue tension.

DISCUSSION.

DR. A. J. BURGESS, Milwaukee, called attention to the fact that it is the cases in which there is no apparent fracture or laceration which are neglected, but which can frequently be saved, by relieving intracranial pressure.

DR. W. H. EARLES said that where there was any pronounced suspicion of intracranial pressure it is the duty of the surgeon to relieve it by operative procedure, for it is as safe to enter the brain cavity to-day as it is to enter the abdominal cavity.

DR. A. H. LEVINGS mentioned cases of rupture of the branch of the middle cerebral artery from injury, which is denied by some; also that fatal head injuries are not always due to hemorrhage; and that contusion or laceration of the brain itself can never be put under control by operative means. Progressive edema is rare.

DR. F. SHIMONEK, Milwaukee, called attention to the danger of septic infection of the meninges from injections into the ear in cases of fracture of the middle fossa of the skull where communication is made with the canal of the ear.

Retrodisplacement of the Uterus.

DR. G. A. KLETZSCH, Milwaukee, read a paper on this subject, covering the field of prophylaxis.

DISCUSSION.

DR. A. J. PULS said that many cases of retroversion and lateral displacement could be cured by local treatment, but where inflammatory conditions have set in and the uterus becomes flexed by the local peritonitis, operation is necessary.

DR. F. SHIMONEK drew distinction between retroflexion and retroversion. The latter cases are usually not the result of infection, but of mechanical forces causing sudden displacement. Retroflexion indicates pathology of the organ itself.

DR. BURGESS condemned local treatment by intrauterine applications of various kinds, and spoke of the necessity of fresh air and exercise.

DR. WILLIAM E. FAIRFIELD, Green Bay, said that retroversion was frequently caused in puerperæ by their lying on the back, being bandaged and taking anodynes, which caused constipation after labor; lack of proper drainage causing infection, subinvolution and retroversion.

The president then presented his address, giving a history of the society and recounting the advantages of the proposed reorganization.

Blood Examinations.

DR. L. HEKTOEN, Chicago, presented a paper on the scientific and practical value of bacteriologic examinations of the blood during life, emphasizing its diagnostic value in septic disease, especially in the early stages of typhoidal diseases and showing that henceforth the physician's work will require more and more the constant and intelligent use of the facilities of a well-equipped laboratory.

DR. J. B. HERRICK, Chicago, said: 1. Bacteriologic examination of the blood should become general in view of the probability that there will come a specific therapy for infectious diseases, and practitioners should be ready and know how to apply the specific when it is offered.

2. Such examination must be careful and thorough, so that we may better understand the clinical course of these diseases.

3. This examination enables us to make definite etiologic diagnoses.

4. This method is feasible, the technic is simple, and it has come to stay.

5. The system of co-operation would enable a rural laboratory to be maintained in small towns. The laboratory work, of course, must be controlled and interpreted by clinical observation. The day of the general practitioner is not passing away because of laboratories.

Diagnosis of Hysteria.

DR. HUGH T. PATRICK, Chicago, said it is important to diagnose hysterical anesthesia by careful examination. There are three striking characteristics of this functional condition: 1, distribution; 2, sharp limitation or border; and 3, rapid shifting of this limitation.

The area of anesthesia of organic origin, on the other hand, does not shift, but shades gradually to sensation. The anesthesia of the hysterical patient being a functional or psychic difficulty, the patient is utterly unable to remember the location of the area of anesthesia. The same principle of shifting applies to hysterical hyperesthesia.

Reorganization Adopted.

The subject of reorganization was then taken up, and Dr. George H. Simmons, Secretary of the American Medical Association, addressed the society. He explained the advantages of uniformity of organization on the county plan, and said that the American Medical Association was asking the state societies to form one compact organization and to federate with the American Medical Association in a strong union which could accomplish important results in increasing membership, lessening expense, securing necessary legislation, and in the general advancement of the profession.

The constitution and by-laws were adopted as printed, except that the name of the State Medical Society of Wisconsin was retained in place of the one proposed by the committee, the new constitution and by-laws to go into effect at the close of the present annual session.

A committee of ten with the powers of the council under the new constitution, was appointed to act as an organization for the ensuing year, the president, secretary and treasurer to be members of the committee ex officio, in addition to the ten. The committee consisted of Drs. J. S. Pritchard, J. S. Walbridge, G. A. Kletzsch, Herman Reincking, W. T. Sarles, T. J. Redelings, J. M. Dodd, Dr. E. L. Boothby, C. S. Smith and J. G. Meachem.

Management of the Mother During the Childbed Period.

DR. A. D. GIBSON of Park Falls read a paper Thursday. He said that the toilet of the woman should immediately follow the delivery of the placenta; but the postpartum douche and abdominal binder ought not to be used. The babe may be given the breast in a few hours after birth. The bowels of the mother should be evacuated usually within twenty-four hours after the birth. As to position in bed, let the patient follow her own inclinations. The woman should remain in bed as long as the lochia is of a bright red color.

DISCUSSION.

DR. G. E. BALDWIN, Dartford, said that the secret of the comfort during this period is cleanliness. Breasts and nipples can not be cleansed too often, thus avoiding fissures.

The Physician's Failures.

DR. A. F. FUCHS, Loyal, then read a paper on shortcomings of the physician, particularly in his relation to the state and hygiene. He deplored the fact that nearly all of our scholarship and learning come from Germany. We should make American medicine. We are troubled here by too much graft, while there is no graft in German institutions.

DISCUSSION.

DR. RALPH ELMERGREEN, Milwaukee, urged the physician to live up to his duties as a citizen and take a more active interest in politics.

DR. ARTHUR R. EDWARDS, Chicago, presented the annual address in medicine on the "Diagnosis and Treatment of Nephritis."

DR. H. B. SEARS, Beaver Dam, read a paper on "Indigestion, a Few of Its Causes and a Few of Its Effects."

Semilunar Cartilages, Their Anatomy and Surgery.

DR. H. A. SIFTON, Milwaukee, read a paper describing the proper treatment of injuries or displacement of the semilunar cartilages, including reduction, and where indicated, operation. These cartilages can be removed without damaging the function of the joint.

DISCUSSION.

DR. A. H. LEVINGS, Milwaukee, said this condition must be differentiated from sprain. In sprain you never get the snap, the locking of the joint, protuberance, node or vacant place at the site of the cartilage. Differentiation must also be made from loose or floating cartilages.

The Sequelae of Adenoids.

DR. C. D. CONKEY, West Superior, read a paper to point out the frequency of imperfect respiration, the vast number of people who breathe imperfectly, and the serious results that follow.

DISCUSSION.

DR. H. B. HITZ, Milwaukee, said that early recognition and removal of adenoids is important. Recurrence is rare if the adenoids are properly removed, which should usually be done under an anesthetic.

Immunity and Its Relation to Surgical Pathology.

DR. J. M. DODD, Ashland, in this paper, said that a clear understanding of the principles of immunity will point the way to successful diagnosis and treatment of all diseased conditions, but the problem, of course, has not been solved. We look to physiologic chemistry to furnish a solution ultimately, but at present we can not always foretell the result of our procedures, because the estimation of vital resistance is not yet possible.

Eye Injuries.

DR. J. A. BACH, Milwaukee, presented a paper on the "Significance of Perforating Wounds of the Eyeball." He said that if properly made by the surgeon such wounds should not be dangerous. Accidental wounds of the eyeball are dangerous, but all possible sources of ciliary irritation ought to be speedily removed so as to lessen the stimulus to the production of plastic exudate.

Prostatectomy.

DR. T. W. NUZUM, Broadhead, claimed that prostatectomy is an operation designed to add many years of comfort to many patients; the danger lies in sclerosed arteries and hemorrhages; the mortality is small and will be further reduced with improved technic.

DISCUSSION.

DR. D. J. HAYES, Milwaukee, said these cases usually come too late. An early prostatectomy is more successful than a late one, but it is very difficult to get the early cases. The Bottini operation is not desirable.

DR. WILHELM F. BECKER, Milwaukee, read a paper on "Postmortem Degeneration of the Pancreas."

Albuminuria in the Apparently Healthy.

DR. W. H. WASHBURN, Milwaukee, read a paper showing the results of the examination of 258 cases, extending from 1886 to 1903. The results of treatment have been most discouraging. A considerable proportion of the cases recover, but this is due to the *vis medicatrix naturæ*. The prognosis is less unfavorable than has generally been entertained during the past ten years.

DISCUSSION.

DR. C. E. ALBRIGHT said that an examination of 225 cases convinced him that the albumin in no single case occurred under strictly normal conditions.

DR. WILLIAM J. MAYO, Rochester, Minn., then read the annual address on "Surgery of the Stomach."

Russian Massacre of Jews Condemned.

The society passed a resolution condemning the late massacres of Jews in Russia as a heinous crime, unparalleled in the history of civilization.

Ethyl Chlorid as a General Anesthetic.

DR. F. PFISTER, Milwaukee, said this is safer than either ether or chloroform and never causes vomiting or headache. Its use is preferable in minor surgery and in younger subjects. Excitement and cyanosis are absent.

DR. G. E. SEAMAN, Milwaukee, read a paper on "Diagnosis and Treatment of Some of the Inflammatory Conditions of the Middle Ear."

Infant Feeding.

DR. BERTHA E. THOMPSON, Oshkosh, said that in Germany the records show 8 per cent. deaths among breast-fed children, as against 51 per cent. among artificially-fed children. Excess of proteids in milk gives more trouble than anything else. Clean, raw milk is better than sterilized or Pasteurized milk.

DISCUSSION.

DR. J. R. BARNETT, Neenah, said that condensed milk is a good substitute for mother's milk.

DR. L. BOORSE, Milwaukee, said that even trained nurses are ignorant of the proper method of caring for the new born. "Inanition fever," so-called, must be guarded against. Regular habits of nursing and regular periods for feeding are very important when substitute foods are used.

Medical Journal Affiliation.

The society passed a resolution making a contract with the *Wisconsin Medical Journal* to publish the transactions and furnish a copy of the journal monthly to each member at a price not to exceed $1 a year each. The secretary of the society is made editor of the journal, and is to have control over the matters published pertaining to the business of the state society.

Deflections of the Septum.

DR. F. T. NYE read a paper on "Septal Deflections, Their Consequence and Treatment." The consequences are: 1. Imperfect respiratory functions resulting in auditory or olfactory disturbances. 2. Pharyngeal and laryngeal diseases. 3. Imperfect drainage into the nasal passage. The otitic complications are most to be dreaded. The principles to be applied for relief are surgical, involving depressions of the floor, removal of excess cartilaginous or bony tissue to replace septum in its normal position and to facilitate its maintenance in that position.

DISCUSSION.

DR. SEAMAN did not believe that congenital maldevelopment is responsible for the largest number of cases of septal deflection. The nose should not be operated on so long as it is unobstructed. In operating, straighten the septum in the simplest possible manner. Specially devised instruments are not necessary. Cleanliness should be thorough, for infection frequently follows. Local anestheia is preferable, where possible.

Obstetric Technic.

DR. E. F. FISH, Milwaukee, read a paper on obstetrics. He said do not give douches unless there is some decided indication, such as gonorrhea. Rubber gloves are useful. If the patient is well prepared, and the physician also, any number of examinations will not harm the patient. Obstetric forceps are a necessity in selected cases. Repair lacerations at once. Sepsis occurs in spite of our best efforts. Antistreptococcus serum treatment does not seem to have a large following. Hysterectomy is not advisable because it is so difficult to select proper cases. Formaldehyd apparently has no specific action in the treatment of puerperal sepsis.

DISCUSSION.

DR. J. T. SCOLLARD, Milwaukee, argued strongly against meddlesome interference on the part of incompetent midwives and against too frequent internal examinations and too early and unnecessary operative interference on the part of physicians.

DR. W. B. HILL, Milwaukee, said he did not object to digital examinations as a means of determining the exact condition of affairs. Among patients who live in bad surroundings there appears to be an acquired immunity to infection. Antistreptococcus serum is effective in cases of toxemia from the streptococcus.

The Protective Functions of Organs.

DR. R. C. BROWN, Milwaukee, read a paper on this subject. The efforts of the physician should not be directed so much to the combating of symptoms as to the assisting of Nature in her protective efforts.

Myomectomy of Uterine Fibroids.

DR. A. J. PULS, Milwaukee, said that it should be our aim to preserve the healthy tissues and remove only the degenerated or disintegrated parts. Myomectomy may, therefore, be substituted for the extirpation of the uterus wherever sufficient healthy uterine tissue can be safely left.

Surgical Progress.

DR. W. B. EARLES, Milwaukee, read this paper. Progress has been made in almost every branch of surgery. It has been shown that many gastric ulcers are amenable to operative procedure. Excision of the gall bladder is often better than mere drainage. The hopes inspired by reports of *x*-ray treatment of carcinoma are being dispelled by clinical statistics. The special orthopedic work of Dr. Lorenz is followed by functional improvement at least.

Infantile Rheumatism.

DR. ARTHUR P. HOLBROOK, Milwaukee, read a paper on "Manifestations of Rheumatism in Infancy and Early Childhood."

DISCUSSION.

DR. BOORSE said the etiologic factor of this disease has not yet been accurately determined. Early diagnosis and treatment are important. Endocarditis is a frequent complication. Salicylates have a specific as well as an anodyne effect.

DR. H. B. SEARS, Beaver Dam, said that nutritional defects should be especially considered. Withholding starches and sugars is not an important factor.

DR. S. S. HALL said that we know little more about the etiology of the disease than in the past, but we have improved in our treatment.

DR. C. S. SHELDON, Madison, advised the use of aspirin.

DR. G. J. KAUMHEIMER, Milwaukee, thought the lack of effect in the use of salicylates was because too small doses were used.

DR. HOLBROOK said there are two treatments of rheumatism: One is to grin and bear it, and the other is to bear it without grinning.

Diabetes Mellitus.

DR. W. H. NEILSON said that in this disease there is interference with the consumption of sugar; this is due to the absence in the blood of the glycolytic enzyme. Evidence is accumulating in favor of the islands of Langerhans as the producers of this enzyme, and that their invasion and destruction is the constant pathologic entity. The treatment is that which will best improve nutrition and not tax the carbohydrate consuming powers.

DR. J. C. CUTLER, Verona, read a paper on "A Case of Dwarf Pelvis with Cesarean Section."

Milwaukee was chosen as the next place of meeting.

Election of Officers.

The following officers were elected: Dr. F. E. Walbridge, president; Drs. James Mills, Janesville, and C. C. Gratiot, Shullsburg, vice-presidents; Dr. Charles S. Sheldon, Madison, secretary; Dr. Sidney S. Hall, Ripon, treasurer; Dr. Edward E. Evans, La Crosse, delegate to American Medical Association.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 21, 1903.

The Vice-President, Dr. Charles L. Dana, in the Chair.

Symposium on Puerperal Infection.—History.

DR. BROOKS H. WELLS opened the symposium with a historical review. He said that the first dawn of truth regarding the nature of puerperal fever had come on that memorable February evening in 1843, when Dr. Oliver Wendell Holmes read an essay in which he boldly declared his belief that puerperal fever was frequently carried from patient to patient by both physicians and nurses. Of course, his position was bitterly assailed by the authorties that day, and history repeated itself when, four years later, Semmelweis demonstrated so strikingly the truth of his idea that much of the puerperal sepsis in that Vienna clinic could be traced to decomposing organic matter carried on the hands of the students from the autopsy room to the lying-in patients. But, to our shame it must be said, the wonderful reduction in the mortality of maternity hospitals that followed the full appreciation of these discoveries has not been realized in private practice.

Pathology and Prophylaxis.

DR. J. CLIFTON EDGAR said that endometritis was the most common lesion in puerperal infection, and the two principal varieties were septic and putrid endometritis. Two cases were reported to emphasize the curious fact that in some fatal cases of puerperal infection there were no gross evidences of this process. Dr. Edgar condemned the antepartum tub bath, and pointed out the value of sterile rubber gloves and of limiting the number of internal examinations. As yet one could not speak very favorably of antistreptococcus serum, though admitting the great possibilities of this method of treatment.

Intravascular Antisepsis.

DR. CHARLES C. BARROWS, under this heading, described his further experience with formalin injections in the treatment of puerperal infection. He said that, having met an unfortunate accident during the past winter, he had been prevented from pushing this investigation as far as he had hoped, particularly in the direction of securing control of cases treated only with saline infusion. However, he had observed the effects of the formalin treatment in fourteen cases of profound puerperal sepsis which had failed to yield to approved methods. His own method consisted in injecting into a superficial vein a solution of formalin in normal salt solution at a temperature of 100 F., employing the ordinary technic for saline infusion. In his own experience no injury had been done the blood from the use of this 1 to 5,000 solution of formaldehyd, and convalescence had been exceedingly rapid and satisfactory. He thought this rapid and marked improvement in the patients following close upon the use of the formalin injections, and the negative findings of microscopic examinations of the blood should at least set at rest the question of the possible harmfulness of this mode of treatment.

Iodin Treatment.

DR. WILLIAM R. PRYOR advocated this treatment. In 1895, impressed with the futility of doing a radical operation in these cases, he had tried curettage of the uterus, followed up by opening the cul-de-sac and packing with iodoform gauze. He had operated on 37 cases in this manner, only one failing to show the presence of streptococci in the uterus, and even in this case these organisms were found free in the pelvis. In all but one of the cases the streptococci had disappeared after the second dressing, so rapid had been the sterilization of the pelvis by the use of massive iodoform dressings. A sudden fall in the temperature and pulse uniformly followed this operation, and the constitutional effect of the iodin was demonstrated by the occurrence of a strong iodin reaction in the urine in five hours or less. Both the morbidity and the mortality had been decidedly less under this treatment than by any other.

Surgical Treatment.

DR. HERMAN J. BOLDT read this paper. He said that abscesses should, of course, be promptly opened and drained, but the indiscriminate curetting, which was so prevalent at present, could not be too severely condemned. Hysterectomy should only be thought of in the gravest forms of puerperal infection, and then it was extremely difficult to find the correct indication for such an operation. The occurrence of chills was an important symptom of puerperal infection, especially when followed by high temperature and a rapid pulse, but it was

not an absolutely reliable indication of such infection. A bacteriologic examination necessitated the loss of too much precious time. Hysterectomy was indicated in septic phlebitis, or where there were sloughing fibroids. It was true that it was also indicated when there were decomposing substances in the uterus which could not be removed by the natural passages, but such cases were so very rare that he had never met with one.

DISCUSSION.

DR. EGBERT H. GRANDIN opened the general discussion by saying that he had been in error when, in 1886, he had advocated the use of the curette in this class of cases. Increasing experience had convinced him that the curette should not be used in that form of puerperal infection resulting from the presence in the uterus of decomposing secundines, for, by breaking down nature's barrier to general infection, it led to disastrous results. The proper treatment was the removal of the offending masses by the hand under anesthesia. Uterine irrigations in such cases he believed to be not only useless but dangerous by reason of the added risk of introducing from without such organisms as the streptococcus. Sapremia, as this variety of infection was called, should rarely prove fatal if not needlessly interfered with. While most obstetricians had met cases of streptococcus infection that had suddenly and unexpectedly recovered without formalin injections or Dr. Pryor's iodin treatment, he could not but feel hopeful of good results in the future from the general line of investigation instituted by Dr. Barrows. As for hysterectomy, no living person could say when it was indicated in puerperal infection.

DR. HENRY C. COE was disposed to think that the line of future investigation should be rather in the direction of searching for an antitoxic treatment. To offset the cases reported by Dr. Barrows, he had a series of six cases of severe puerperal infection successfully treated by the intravenous injection of normal salt solution.

DR. H. N. VINEBERG said that so strong had been the emphasis laid in recent years on the physician's responsibility and culpability in cases of puerperal sepsis that he felt constrained to call attention to the possibility of such infection arising even when the physician had exercised the greatest care. Facts should not be exaggerated or distorted, and recent teaching on this point had had the effect of influencing many private physicians to endeavor to conceal as long as possible the occurrence of puerperal infection. Every puerperal patient having a temperature over 100 F. should be regarded as a possible case of infection, and should be treated promptly in accordance with this suspicion. He did not have the same fear of the curette as Dr. Grandin, and it was well to remember that it was sometimes difficult to insert the finger deeply into the uterus, even when considerable placental tissue was retained. He would not think of subjecting a puerperal patient to operation until he had personally observed her for three or four days.

DR. B. TORRENS reported six streptococcus cases, all successful, in four of which Dr. Pryor's method had been employed.

DR. S. W. S. TOMS, Nyack, observed that the statistics presented did not impress him as being strictly different from those obtained by Clark's opium treatment in the old days.

AMERICAN SURGICAL ASSOCIATION.

Annual Session, held in Washington, D. C., May 12 to 14, 1903.

(*Concluded from page 1670.*)

Intestinal Localization.

DR. GEORGE H. MONKS, Boston, read a paper entitled "Intestinal Localization; A Study on the Cadaver for the Purpose of Determining to What Extent the Various Parts of the Small Intestine May Be Identified Through an Abdominal Wound." Forty cadavers were examined to learn such characteristics as might assist the surgeon to determine the position and direction of any loop of intestine. An intestinal loop was localized principally from the characteristics of the loop itself, or from those of the adjacent mesentery, or from the relation of the loop to the deeper parts of the mesentery. The direction was ascertained by reference to the mesenteric route, which is an infallible guide, although, on account of the twists in the mesentery, it was occasionally difficult to properly apply the test. Diagrams were exhibited.

Tetanus in Gunshot Wounds.

DR. LOUIS A. LAGARDE, Washington, D. C., read a paper entitled "The Lesions That Augment the Development of Tetanus and Other Infections in Gunshot Wounds," in which he expressed the opinion that the lesions would depend on: 1. The sectional area of the bullet; 2, its velocity; 3, the resistance encountered on its impact. Hematoma especially predispose to infection and increase the danger from tetanus, as is also the case when the wound is burned by powder, etc. He referred to the experiments of Muller and Koller, on which they essayed various methods of treatment of the channel track in gunshot wounds caused by projectiles that were primarily infected, namely: 1. Controls, for which nothing was done. 2. Those treated with a glass drain. 3. Those treated with iodoform gauze drain. 4. Those irrigated with 5 per cent. solution of carbolic acid. 5. Those treated by rubbing with a cotton mop soaked in tincture of iodin. 6. Those treated by cauterizing the wound. All the wounds were dressed with a clean sterile dressing, and the results showed that the animals treated by simple dressing did best of all, and that those treated by radical measures, such as swabbing with iodin and the aplication of the thermocautery, gave evidence of suppuration in every instance.

Old Unreduced Elbow Fractures.

DR. EMMET RIXFORD, San Francisco, read a paper entitled "Note on the Operative Treatment of Old Unreduced Dislocations of the Elbow," in which he remarked that the keynote to the situation was sounded by Stenson in a paper read before this association in 1891, in which he showed that the so-called fragments of bone which had frequently been observed within the joint, while unquestionably the chief obstacle to the reduction of the dislocation, were in a great majority of cases not fragments broken off the humerus or ulna by complicating fracture, but new growths of bone from stripped up periosteum. He felt that, if the bone be reduced to its normal position shortly after the injury, which is nearly always possible, the function is practically in every case restored, but if allowed to remain displaced until this new bone has formed, manipulative reduction is impossible, and should never be attempted, if force is required. The reason that congenital dislocations treated by manipulative force recovered, he felt was due to the fact that this new growth of bone had not formed, and also that the operation being done in children the joint would often recover from the traumatism.

He then reported cases in which he had employed the Kocher incision, but because of the difficulty in reducing the dislocation, and fear of loosening the periosteum, he had added the procedure of Trendelenburg of section of the olecranon. He commented on the value of the *x*-ray as a diagnostic aid.

Asphyxiation in Fecal Vomit.

DR. E. WYLLYS ANDREWS, Chicago, read a paper entitled "Drowning of Patients in Fecal Vomit During Operations for Intestinal Obstruction and Septic Peritonitis," which, after reporting cases, he summed up as follows:

1. Flooding of the air passages by fecal vomit is a real danger, and probably has caused many unexplained deaths.

2. Resuscitation is impossible or very difficult.

3. The fluid may flow by gravity through the relaxed stomach sphincters directly out of the intestines, where it has accumulated in enormous quantities.

4. The accident occurs with great suddenness with a stomach supposedly empty. The suffocation may be so complete that no outcry is made, and may not be noticed by the attendant.

5. It may occur as late as an hour after anesthesia, or at any time until consciousness is restored.

6. We have no evidence that it can occur during consciousness, even in extremis.

7. After-septic laparotomy, patients when returned to bed should be watched, without even momentary intervals, to full consciousness.

8. A suggestion made to me by Dr. McArthur that as many as possible of such cases be operated on under cocain anesthesia seems to me sound in the light of the above report, as well as for other reasons. I have tried both spinal and local cocain

anesthesia in several recent cases, and am convinced that it is a life-saving measure.

Post-Operative Intestinal Obstruction.

"The Pathology and Treatment of Tardy Post-Operative Intestinal Obstruction, with a Report of Cases," was the title of a paper read by Dr. Ellsworth Eliot, New York. This condition is not rare. It is most frequently caused by a paralysis of peristalsis from a spreading or septic peritonitis; it occurs less frequently after laparotomy from a non-purulent condition, even although no infectious material has been introduced at the time of the operation. In this latter group of cases the obstruction is usually of a mechanical nature, and is due to the angular adhesion of one or more loops of intestine to the parietal peritoneum, to each other or to the stump of some recently resected pedicle of omentum or ligated base of tumor, to a possible volvulus, or to the protrusion of a coil of intestine through some accidental orifice in the mesentery or some other peritoneal structure. The symptoms indicating the obstruction develop shortly after the operation and before restoration of the intestinal function has taken place.

Careful exclusion of any kind of mechanical, hermal or chemical irritants from the contents of the abdomen during the primary observation should be observed. Ligatures should not be needlessly employed, drainage should be carefully managed and changed early with subsequent diminution in its amount, or, if possible, its complete removal, while the actual treatment does not differ from the treatment of obstruction arising from any other cause. Several cases were reported.

DR. F. E. BUNTS, Cleveland, Ohio, read a paper entitled "Nerve Injuries to the Shoulder Joint."

Surgery of Cerebral Tumors.

DR. GEORGE WOOLSEY, New York, emphasized that only a small proportion of all cerebral tumors were fit for radical operation, varying from 2 to 8 per cent., according to various observers by the autopsy records, and averaging about 16 per cent., judging from the records of those clinically diagnosed. He felt that this small percentage of operable cases depended largely on our imperfect means of exact diagnosis and localization and on the inaccessibility of certain parts of the brain to surgical operation.

He gave a résumé of 100 cases, and concluded as follows:

1. The sphere of operation for cerebral tumors may be, and has been, extended to these parts of the cortex where the tumors are accessible and localizable, i. e., to the prefrontal, parietal and occipital regions in addition to the motor area.

2. The prognosis, both immediate and remote, is as good, or even better, than in operations for malignant growths in some other locations.

3. This prognosis has improved with the improvements in localization and operative technic, and with the limitations of radical operations to cases accurately localized.

4. The palliative operation is strongly indicated to relieve the symptoms where localization can not be accurately made, or the tumor can not be removed. The exploratory operation is contraindicated.

5. Practically all circumscribed growths of moderate size are suitable for operation.

6. The osteoplastic method should be employed and the most rapid (and perfect) technic adopted, which the circumstances allow.

Treatment of Surgical Shock by Adrenalin.

DR. EDWARD MARTIN, Philadelphia, read a paper with this title. He gave a résumé of the experiments on animals and a series of clinical cases in which it had been used, one being typhoid perforation and another amputation at the hip joint required by osteomyelitis. He felt that the case of typhoid perforation spoke strongly in favor of the employment of this drug, as he stated he had never before seen a surgical patient so profoundly septic and collapsed make an operative recovery. He recommended that the drug be used in infection in the human subject with caution until its exact effect has been demonstrated.

DRS. W. W. KEEN and WILLIAM M. SWEET reported the case of a boy shot in the forehead, and described methods of localization of foreign bodies in the brain.

DR. W. JOSEPH HEARN, Philadelphia, showed a skiagraph of a case in which operation was shown by Sweet's method to be advisable, and was performed successfully.

DRS. W. J. MAYO, Rochester, Minn., and N. B. CARSON, St. Louis, reported similar cases.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Nephritic Colic.

Robin, according to an abstract in the *Indian Med. Record*, gives the following principles in the treatment of nephritic colic: To relieve the pain a hypodermic injection of grain 1/6 (.01) of morphin or grain 1/65 (.001) of heroin, and repeat if necessary. However, when a patient is subject to recurrences of these attacks he should have in his possession the following mixture as a means of immediate relief when medical aid is not at hand:

℞.	Potass. bromidi	3iss	6
	Aq. laurocerasi	3iiss	10
	Syrupi etheris	℥i	30
	Morph. hydrochloridi	gr. 3/4	05
	Aquæ valerianæ	℥iv	120

M. Sig.: One tablespoonful to be taken every half hour until the pain disappears, but not to exceed four or five tablespoonfuls in all.

In order to aid the elimination of the concretions diuretics should be given. For this purpose the author recommends the infusion of meadowsweet or buckbean given every hour from the beginning of the attack. This infusion may be prepared by placing grains 30 (2.00) of the flowers of either of the foregoing plants in 5 ounces (150.) of hot water. He also recommends mulberry leaves as a diuretic, placing 2 drams (8.00) of the leaves in 17 ounces (500.) of hot water, all of which may be drunk in the course of three or four hours.

Calomel in Pruritus Ani.

S. D. Johns, in *Ther. Gazette*, recommends in the treatment of pruritus ani that dry calomel powder be applied locally. The parts in the region of the anus must be thoroughly cleansed and dried with absorbent cotton, after which about 20 grains of the powder is applied locally with the fingers. In connection with the local treatment small doses of Epsom salts are given by the mouth. He states that the calomel stops the itching almost immediately and permanently checks it after a few applications.

A Rubifacient Cataplasm.

The following method of making a cataplasm is recommended by *Province Médical:*

℞.	Barley pulverized	℥iii	90
	Vinegar	3vii	28
	White of eggs No. iii.		
	Aquæ q. s.		

Misce, by making a kind of paste; spread on cloth and dust the poultice over with seven drams of pepper when it is ready for application.

Catheterizing a Patient.

G. M. Cushing, in *The Clinique*, gives the following careful instructions to be followed out in the catheterization of a patient:

1. The instrument should be thoroughly sterilized by boiling and transferred to the hand solution with sterilized forceps.

2. It should be absolutely smooth.

3. It should be lubricated with an aseptic lubricant.

4. It should be introduced without force.

5. The operator's hands should be rendered aseptic by the use of a hand solution.

6. The meatus urinarius should be bathed with an antiseptic solution before the catheter is introduced.

The author further states that a physician's duty to his patient is not fulfilled without the proper exercise of every precaution that will be conducive to his comfort and health.

Intestinal Indigestion.

Hemmeter, according to an abstract in *St. Louis Med. Rev.*, recommends the following in the treatment of putrefactive diarrheas associated with abdominal pain:

℞.	Tannigen	3i	4 |
	Bismuthi subgal.	3ii	8 |
	Salol	gr. xxiv	1 | 60
	Ext. opii (denarcotized)	gr. iii	| 20
	Elix. gentianæ		
	Essentiæ calisayæ, āā	3iii	90 |

M. Sig.: Shake and take one tablespoonful three or four times a day.

The foregoing may be prescribed in capsule form, if preferred, by omitting the last two preparations and making twelve capsules. When anorexia is present the following combination is recommended:

℞.	Strych. sulph.	gr. 1/3	| 02
	Acidi hydrochlor. dil.	3ss	15 |
	Ext. condurango flu.	3iss	45 |
	Elix. gentianæ	3vi	180 |

M. Sig.: One tablespoonful in two ounces of water one-half hour before each meal; or:

℞.	Tinct. nucis vom.	3iiss	10 |
	Ess. calisayæ	3ii	60 |
	Elix. gentianæ	3vi	180 |

M. Sig.: One tablespoonful three times a day before meals, in water.

When anemia is present, accompanied by gastric hypochylia, the following combination is of value:

℞.	Quin. sulph.	gr. xviii	1 | 20
	Strych. sulph.	gr. 1/3	| 02
	Ferri sulph.	gr. xii	| 75
	Acidi arsenosi	gr. 1/5	| 013

M. Ft. pilulæ No. xii. Sig.: One pill three times a day. The foregoing pills should be made up fresh and not coated.

Anginal Paroxysms.

The *Clinical Review* recommends the following in the treatment of anginal attacks:

℞.	Spts. ammon. arom.	3i	4 |
	Sodii bicarb.	gr. x	| 65
	Tinct. card. co.	3i	4 |
	Spts. chloroformi	m. xx	1 | 30
	Sol. nitroglycerini (1 per cent.)	m. i	| 06
	Aquæ q. s. ad	3iss	45 |

M. Ft. haustus. Sig.: To be slowly sipped on the appearance of the attack.

Coryza.

Bjorkman, in *Merck's Archives*, recommends salipyrin in the treatment of acute coryza, administered as follows:

℞.	Salipyrini	gr. xv	1 |

M. ft. chartula No. i. Sig.: One such powder every two or three hours, between meals, and not too soon before or after a meal. Infants may be given grains 2 (.12) to grains 3½ (.20); older children grains 4½ (.30) to grains 7½ (.50) several times a day.

Ringworm.

In the treatment of ringworm of the scalp, according to the *Indiana Med. Rev.*, the hair should be clipped, the diseased hair carefully depilated, dandruff removed and the following ointment applied at night:

R.	Acidi carbolici		|
	Ung. hydrarg. nitratis		
	Ung. sulphuris, āā	3ii	8 |

M. Sig.: Apply locally to the scalp night and morning.

G. T. Jackson, in *Med. Record*, recommends an ointment composed of one dram of iodin crystals to the ounce of goose grease. This ointment should be applied twice daily until the proper reaction is produced, as shown by a little swelling of the patch, then once a day. No epilation is necessary. When applied to the bearded portion of the face it is more painful than when applied to the scalp. If much swelling is produced the ointment should be suspended for a few days, and a 3 per cent. salicylated oil may be substituted until the swelling subsides when the application of the ointment may be resumed.

The author states that barber's itch will yield to this treatment within three weeks' time. If an obstinate case, which will not yield to this treatment is met with, the following may meet the needs of the case:

℞.	Olei tiglii	3i	4 |
	Ung. sulphuris	3i	30 |

M. Sig.: Apply locally night and morning. A severe dermatitis may be set up as a result of this application, and the patch may become perfectly bald, but the hair will finally grow in again and the disease destroyed.

Tapeworm.

The following outline of treatment is recommended by George R. Mitchell in *Med. World* in the treatment of tapeworm: The evening before administering the anthelmintic the patient should be instructed to eat a light supper, and at bedtime from three to five tablets similar to the following should be taken:

℞.	Hydrarg. chloridi mitis		|
	Sodii bicarb., āā	gr. i	| 06

M. Ft. tabla No. i. Sig.: Three to five such tablets at bedtime. The following morning the patient should take a glass of hot milk or cup of coffee; within one hour an ounce of the following should be taken:

℞.	Pelletierin	gr. v	| 30
	Olei aspidii	3i	4 |
	Spts. chloroformi	gtt. xx	1 | 30
	Syr. acaciæ, q. s. ad	3ii	60 |

M. Sig.: Two tablespoonfuls in the morning.

After waiting one hour one tablespoonful of the following should be administered:

℞.	Olei tiglii	gtt. ii	| 12
	Olei ricini	3iv	15 |
	Glycerini	3iv	15 |
	Olei cinnamomi	gtt. ii	| 12

M. Sig.: One tablespoonful at a dose. If, after the foregoing has operated, the head of the worm is not obtained the above process should be repeated.

According to the author this treatment is very efficient in the treatment of tapeworm.

Crurin in Gonorrhea.

Dr. R. Stern, according to an abstract in *Merck's Archives*, recommends crurin, which is quinoline-bismuth sulphocyanate, in the treatment of gonorrhea. He uses it according to the following formula:

℞.	Crurin	gr. xv	1 |
	Glycerini	3i	4 |
	Aq. destil.	3viss	200 |

M. Triturate the crurin in the glycerin and add the water gradually. Sig.: To be used as an injection two or three times daily for two weeks.

Seasickness.

Binz, according to an abstract in *Month. Cyc. of Med.*, states that seasickness is produced by the rocking of the ship, producing contraction of the arteries of the head and consequently causing anemia of the brain. This local anemia in turn causes nausea and vomiting. The stomach consequently is of only secondary importance, as the vomiting is of central origin. Everything, then, according to the author, that tends to increase the flow of blood to the brain aids in ameliorating the symptoms or producing a cure.

The treatment consists in assuming a horizontal position, and in administering remedies which tend to dilate the cerebral arteries. Among these are mentioned chloral hydrate in doses of grains 5 (.30) three or four times within a few hours.

The inhalation of two or three drops of amyl nitrite is of service. Potassium bromid and antipyrin in medium doses have also been well recommended, together with a full meal before boarding the ship.

A combination containing cocain is sometimes preferred in the treatment of seasickness in order to lessen the gastric

hyperesthesia. It may be combined with menthol with advantage, as follows:

℞.	Menthol	gr. ii	12
	Cocainæ hydrochlor.	gr. ii-iii	12-.20
	Syrupi	ʒi 30	
	Alcoholics	ʒii 60	

M. Sig.: One teaspoonful every two hours.

Or, according to *Merck's Archives*, the cocain may be combined with resorcin as follows:

℞.	Resorcin (resublim)	3i 4	
	Cocainæ hydrochlor.	gr. ii	12
	Bismuthi subnit.	3ii 8	

M. Ft. chart. No. xxiv. Sig.: One powder every two hours.

Yeo recommends creosote and carbolic acid in the treatment of seasickness, given as follows:

℞.	Creosoti	m. x	65
	Acidi acetici	m. xx 1	30
	Morphinæ sulph.	gr. ss	03
	Aquæ q. s. ad	ʒi 30	

M. Ft. mistura. Sig.: One teaspoonful every half hour for three doses; or:

℞.	Acidi carbolici	gr. i	06
	Spts. chloroformi	m. iv	25
	Spts. vini rect.	3ss 2	
	Aquæ q. s. ad	ʒi 30	

M. Ft. mistura. Sig.: One half to be taken immediately and repeated in half an hour.

Medicolegal.

Curvature of Leg Not Physical Unsoundness.—The Court of Appeals of Maryland holds, in Maryland Casualty Company of Baltimore vs. Gehrmann, where an applicant for a policy of accident insurance warranted that he was in sound condition physically, that if he had a curvature of the leg, which rendered it more susceptible to injury from a blow or fall, it did not constitute a breach of the warranty. It says that a defective leg is not necessarily an unsound leg, and susceptibility to inflammation from future accident is not present physical unsoundness.

Measure of Damages for Malpractice Where Death Ensues.—The Supreme Judicial Court of Maine holds, in Ramsdell vs. Grady, that a physician who fails to exercise reasonable care and diligence in the treatment of his patient is liable for malpractice. The liability of a physician for malpractice is based on his implied agreement with his patient that he possesses the ordinary skill of a physician under like conditions, that he will use his best skill in determining the nature of the malady and the best mode of treatment, and that he will exercise reasonable care and diligence in the treatment. In this case, where the physician was called on Monday, sent the patient some 135 miles or so to a hospital on Friday, and the patient died on Saturday, the administratrix who brought the action contended that by the exercise of reasonable skill and care the case should have been diagnosed as diphtheria, which was not done, in consequence of which the patient became increasingly ill, and died as stated. The physician, on the other hand, maintained that the disease was not diphtheria, or, if it was, that it did not present any apparent symptoms of diphtheria; that, if it was diphtheritic at all, it was laryngeal, and of a kind the distinctive symptoms of which might not be discoverable by the diagnosis of an ordinarily skilful and careful physician, and that in all respects reasonable care and skill had been exercised. There was much evidence on both sides, and the court contents itself with the brief statement that in finding the physician liable it was not clear that the jury had erred, and the verdict in that respect must stand. But the amount of damages awarded, $3,000, the court thinks unmistakably too large. Only such damages could be allowed as the deceased sustained in his lifetime. Nothing could be allowed for his loss of life, nor for what he might have earned had he lived longer. The administratrix was entitled to recover, for the benefit of the estate, such damages as the deceased suffered up to the last moment of his life, and no longer. This rule might include loss of earning, though in this case that was inconsiderable. It did include expense to which the deceased was put, or for which he became liable, on account of the wrong of the physician. It also included mental and bodily suffering up to the moment of death. It only included, however, such injury, expense, and suffering as was due to the physician's default in excess of what they would have been had the case been properly diagnosed and treated. In this case, the only damages of any amount which the deceased sustained were those resulting from mental and bodily pain. He was unable to lie down or to sleep much. He found difficulty in breathing, and occasionally had strangling spells. He was very weak. He could eat or drink only with great difficulty. There was a strong probability that at times he was in apprehension of death, though the evidence bearing on that point was chiefly inferential. Taking into account all of the evidence, viewed as liberally in support of the verdict as it might properly be, the court thinks that the verdict should not be allowed to stand for more than $1,500.

County Not Liable for Disinfecting After Smallpox.—The Iowa case of Schmidt vs. Muscatine County was brought to recover for services rendered in disinfecting houses with contents, in which persons afflicted with smallpox had resided or had been kept, at the expiration of the quarantine period, and before they were permitted to depart and mingle with the people. The party suing alleged, among other things, that he had been employed by the board of health of the city of Muscatine to disinfect these places; that such disinfection was necessary for the protection of the public health; that the materials used therefor had cost some $93; that neither the persons for whom the services were rendered nor those legally responsible therefor were able to pay; that the houses disinfected were the homesteads of the parties occupying them; and that the claim duly certified by the board of health had been presented to and rejected by the board of county supervisors. Were these services, under the circumstances alleged, proper charges against the county? The Supreme Court of Iowa says that the statutes must answer this question. But, it adds, it finds none requiring the county in any contingency to meet the expense of staying the spread by cleansing the personal property or realty of individuals. Section 1040 of the Iowa Code relates to the care of the sick or infected individual by removing to a separate house, if it can be done, and for providing nurses and other assistance and supplies, if necessary, at county expense. Section 1040 provides that, in event removal would be dangerous to health, the board shall make provision for the patient in the house in which he may be, and in such case may cause the persons in the neighborhood to be removed, and take other means as may be deemed necessary for the safety of the inhabitants. The Supreme Court holds that by no reasonable construction can these sections be said to involve the cleansing of personal property or realty for the sole purpose of preventing or staying the spread of disease. The object in fixing responsibility for the expenses on the county in event it can not be otherwise collected is to secure to the indigent humane treatment through isolation without hazarding the safety of the public. But that responsibility extends no further than to effect this object. With the recovery of the patient its liability ends. It was not the intention of the statutes to cast the burden of destroying the seeds of disease on the unfortunate victim alone, but rather leave that for those directly benefited thereby, or the local municipality. If there be personality or realty which ought not, in its present condition, to be used without renovation, can there be any doubt as to who should meet the expense necessary to render it available for use? The owner is primarily interested, and will be directly benefited. The situation may be due to no fault on his part. It certainly has not resulted from any wrong done by the county. It is incident to the ownership of the property, and the court can think of no reason for relieving the owner from his obligation to care for his own, and to do so as that it shall not become or continue a menace to the health and welfare of the community. Evidently,

it says, the legislature entertained this view concerning the obligations of private ownership in enacting Section 1037 of the Code, which provides that when premises become unfit for habitation, and a cause of nuisance or sickness, the board of health may cause same to be properly cleaned at the expense of the owners, after notice to the occupants. Then, Section 1044 provides for making a special assessment against property of expenses incurred in consequence of the failure of the owner or occupant to comply with an order of such board or the city. A homestead is not exempt from special assessments. However, in any event, in the absence of any statutory provision such expenses could not be incurred at the expense of the county. On the other hand, the expense of disinfecting the county's pesthouse might have been a proper charge had the owner been first notified and given an opportunity to do the work itself.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

June 6.

1 *Perforating Gastric and Duodenal Ulcers: Unilateral Exclusion of Duodenum for Perforating Ulcers of Its Posterior Wall. Albert A. Berg.
2 *Results of Preventive Medicine in Providence, R. I., 1885-1902. Frederick S. Crum.
3 Fatal Gastric Hemorrhage with Autopsy. Marshall L. Price.
4 *The local Treatment of Acute and Chronic Gonorrhea. R. O. Kevin.
5 Preliminary Report of a Successful Operation for the Radical Cure of Complete Prolapse of the Rectum of Sixteen Years' Duration in a Case of Primary Dementia. John R. Knapp.
6 A Case of Adherent Placenta Retained and Discharged After a Long Process of Decomposition—Recovery. J. C. Josephson.
7 Non-operative Treatment of Chronic Mammary Tumor. A. G. Henry.
8 A Classification of Intranasal Diseases for Use in Teaching. Carl E. Munger.
9 A Hint in Urinary Analysis for General Practitioners. Louis F. Bishop.

1. Perforating Gastric and Duodenal Ulcers.—Berg describes the symptoms and pathologic conditions in perforations of the stomach or duodenum and the conditions that occur according to their situation, and discusses the question of operation and the time in which to operate. Where symptoms of perforation and extravasation into the free peritoneal cavity are present, the prognosis would depend on how soon after rupture the abdomen was opened and the perforation closed. He thinks, however, that though this waiting will sometimes entail risks of diffuse peritonitis, that an exploratory laparotomy for supposed perforation is not advisable. Even where symptoms of perforation occur, but there is no gas in the free peritoneal cavity, the question of waiting may be raised. It may be advisable in some cases to wait a few days, while firm adhesions form around the local extravasation. Operation, however, should not be too long deferred, as such localized exudates sooner or later make their way into the subphrenic space, and unless evacuated and drained are liable to rupture through the diaphragm, pleura or lungs. He gives an illustrative case. In the case of perforated ulcer situated on the anterior wall of the stomach, it is easy to effect closure as a rule, but where it occurs on the posterior surface, he believes it better to evacuate and drain the extravasated material through the retrogastric space by lumbar incision and avoid soiling the peritoneal cavity. Then he would open the abdomen, perform a gastrojejunostomy and constrict the pylorus with a purse-string suture. This excludes the perforated duodenum from the intestinal circuit and prevents leakage of chyme through the fistula. This procedure, he thinks, is better than jejunostomy, as gastric digestion is not destroyed. The duodenal rupture must necessarily close spontaneously by granulation, as there is nothing to keep it open. He has not reported any cases thus operated on, however, but it was his intention in one to perform this operation, but the wretched condition of the patient prevented.

2. Preventive Medicine.—Crum reports the results of sanitary methods in Providence, R. I., during the period of eighteen years, 1885 to 1902. During that time the typhoid death rate per 10,000 population has been reduced from 4.5 to 2.2 and the percentage of cases resulting fatally from 35.4 to 23.8 per cent. The diphtheria mortality has been reduced from a ratio of 7.1 to 3 per 10,000 population, the case fatality from 32.9 for the period between 1885 and 1890 to 12 per cent. for the period from 1897 to 1902. The scarlet fever mortality has been likewise reduced from 4.4 per cent. to .6 per cent. per 10,000 population, and the case mortality from 15.7 to 2.9 per cent. These ratios are calculated on three periods of six years each, from 1885 to 1890, 1891 to 1896 and 1897 to 1902. The figures seem to show improved methods of diagnosis and more skilful medical treatment, which must play a large part in bringing about these results.

4. Gonorrhea.—Kevin advocates the use of argyrol in gonorrhea, finding it the most satisfactory antiseptic. It not only is free from the unpleasant sensations accompanying the use of the nitrate of silver, but the relief of symptoms and general therapeutic effect on the pathologic conditions are better.

American Medicine, Philadelphia.

June 6.

10 *The Symptomatology and Diagnosis of Diseases of the Pancreas. Reginald H. Fitz.
11 *The Medicolegal Test of Blood Stains. E. N. Layton.
12 *Isolysins in the Serum of Disease. S. Peskind.
13 Modification of Milk for Infant Feeding. Edwin E. Graham.
14 *The Inefficiency to Restore Pelvic Support of Immediate Suture of Lacerations Sustained During Labor. William E. Ground.
15 An Interesting Case of Endocarditis with Fatal Termination. Frederick G. Canney.

10.—See abstract in THE JOURNAL of May 30, p. 1524.

11. Blood Stains.—Layton gives the results of experimental studies to ascertain whether it is possible to prove blood stains to be of human blood, and whether the proposed test is always a specific or its accuracy modified by the age of the stain and the mixture of other blood, and whether the proposed test is sufficiently accurate and invariable for medicolegal purposes. He reviews the literature of the subject at some length, and reports his experiments and details his methods. From his studies he concludes that the test is in truth specific, invariable, and therefore applicable to forensic use. He specifies as follows:

1. The reaction is caused by the development within the blood serum of the injected animal of an antibody or a property or substance which causes a certain reaction with the serum homologous to the one injected.
2. The reaction does not occur when normal rabbit serum is used.
3. The reaction occurs much more rapidly, especially when dilute solutions are used, if the test is exposed to a temperature of 37 C., although it will occur at ordinary room temperature.
4. An immediate result in the cold is obtainable by diluting only the blood tested, the test serum being used pure.
5. The reaction is obtainable when using a dilution of the test serum of 1-20,000, or of the blood tested of 1-4,000. Hence, only a minute stain and a single drop of the test serum are required for making the test.
6. The delicacy of the test is not altered by the admixture of other bloods or of other foreign material, except the albumin precipitants.
7. The presence or absence of mineral salts, such as copper sulphate, or of other precipitants of albumin, can be determined by the control tests.
8. The delicacy of the test is not materially altered by the age of the stain.
9. A differentiation from monkey blood is possible, and contamination with monkey blood can be excluded, first, by a great dilution of the blood tested and a dilution of the test serum of 1-500, with incubation; second, by a great dilution of the blood tested, the test serum being used pure, and the test made at room temperature.

Since writing his paper he has made tests with the blood of white and colored persons to determine whether there is any difference in the reaction of the blood of the two races. The reaction occurred more slowly than usual, but at the end of five hours in the incubator at 37 C. all the tubes were equally turbid and the characteristic flocculent precipitate soon formed. The control tests of normal rabbit serum remained unchanged as usual.

12. Isolysins.—Incited by the observation of the presence in a leukemic patient of an isolysin, that is, a substance causing hemolysis of human blood corpuscles, Peskind has studied the sera in other diseases to determine whether isolysins were present, and if so, whether they were specific or not. It appeared to him that the study might be of some practical advantage. If it were found, for example, that the serum of a patient with cancer would lake human blood corpuscles, but

would not lake the corpuscles of a known case of cancer, the inference would be that the suspected patient really suffered from cancer. He describes his technic and gives details of the test in leukemia, anemia, pneumonia, gastric cancer, typhoid, uremic coma and uremia. The sera of two cases of typhoid and a uremic case caused absolutely no laking of the normal human blood corpuscle for two or three days, even though drying out had occurred at the ends of the tubes, but the sera in all these cases produced a rapid laking of each other's blood corpuscles, the laking beginning at the ends of the tubes where a slight drying out had occurred. This is, he thinks, in all probability due to the lowered resistance of the blood corpuscles in these diseases to the hyperisotonic solutions. Guthrie has shown that normal blood corpuscles, after drying, are rapidly laked by the addition of serum or normal saline solution. In none of Peskind's experiments with normal bloods was laking observed for several days, probably because no mixing of the serum and dried corpuscles had occurred. In the case of the diseases above mentioned he thinks it probable that the envelopes of the corpuscles deteriorated and became more permeable, making them more readily laked during the drying-out process than is normally the case.

14.—See abstract in THE JOURNAL of January 10, p. 119.

New York Medical Journal.

June 6.

16 *Aids to Cystoscopic Practice. Ferd. C. Valentine.
17 Pyelotomy with Secondary Nephrectomy on the Left Kidney, Pyelonephrolithotomy on the Right. John F. Erdmann.
18 Blepharitis Marginalis. Dudley S. Reynolds.
19 *A Consideration of the Operative Methods for the Cure of Astigmatism. A. E. Davis.
20 *The Management and Prophylaxis of Intestinal Diseases in Infants During the Summer. Charles G. Kerley.
21 *Renal Decapsulation for Puerperal Eclampsia. George M. Edebohls.
22 *Torsion of the Testicle. W. W. Williams.
23 Neuritis from Whooping Cough, with Report of a Case. Charles J. Aldrich.

16. **The Cystoscope in Practice.**—Valentine describes a cystoscope phantom consisting of a disc divided into quadrants with certain objects pictured on it and reflected into a mirror in the lid of the box. In the front of the box is a hole, representing the urethral lumen. The experimenter can use a sound touching the various points as shown in the reflection on the lid. He also has a larger size of phantom which contains a rubber hemisphere in which the lower two-thirds of the bladder are pictured just as they occur during life. A mirror movable in all directions shows the images of the lower two-thirds of the bladder as they appear through the cystoscope. The various anteroposterior and lateral angles at which the mirror is turned to the hemisphere below it, show the distortions in which each point appears as conveyed to the eye by the cystoscope. Practice with this device is identical with that described in connection with the small box phantom, except that the instruments are inserted through a slightly different orifice. When the student has acquired familiarity with localization of the various parts of the bladder in this phantom, he may safely use a cystoscope for that final practice which is preparatory to examination of the bladder in the live subject. No attempt to use the instrument on the living being should be made before the student has learned intelligently to inspect all parts of the bladder of the phantom while avoiding contact of its walls with the beak of the sham or true cystoscope. He also describes the ureter-catheter simulacrum, which should be used for such experiments.

19. **Astigmatism.**—Davis warns against the operative treatment of astigmatism where glasses can be worn with any degree of comfort. None of the proposed operations for its cure is justifiable except in extreme cases, such as keratoconus, where the condition can not be rendered much worse in any case. Tenotomy of the recti muscles primarily for the cure of astigmatism should never be undertaken.

20. **Summer Disease of Infants.**—Kerley insists on the importance of the discontinuance of milk in summer diarrheas of infancy and the substitution of carbohydrates in some form of the cereal gruels for the milk feeding. There are a few drugs which, in connection with this, possess a considerable worth, such as calomel in small repeated doses to relieve vomiting, castor oil in a two teaspoonful dose, and bismuth subnitrate in pretty large doses sufficient to render the stools black. Opium, when there is tenesmus and straining is indicated, preferably in the form of Dover's powder in ¼ to ½ grain doses at two hour intervals in children 6 to 18 months of age. Colon irrigation has been overdone, though an excellent measure. It is indicated with a high temperature, and in bowels where there is something to be washed out. A normal saline solution is best for this purpose, especially in cases where there has been rapid loss of flesh on account of excessive loss of fluid. In these cases he endeavors to have one-half a pint or more of water retained. The water will be best held when it is placed well up in the descending colon, the child resting on its right side with the buttocks slightly elevated. The discontinuance of milk is sometimes necessarily permanent and each case is a rule unto itself. There is no uniform rule when a milk diet should be resumed. Other than the above he treats his cases symptomatically; stimulating the heart, sponging with alcohol and water and occasionally small doses of morphin hypodermically 1/30 to 1/60 of a grain, guarded by atropin, to reduce shock. In vomiting, diet, stomach washing and gavage or forced feeding are the only measures of value. He speaks in regard to prophylaxis. The best is a well-fed baby all the year round, and he gives points as to the instruction of mothers in the proper way of caring for their infants. The duty of the physician is to prescribe suitable food, instruct the mothers what to do on the first sign of gastrointestinal trouble, and the danger of slight gastrointestinal disorder in summer should be made plain. There should be a district visiting nurse to teach mothers how to clean nursing bottles, bathe and air the babies, etc.

21.—See abstract in THE JOURNAL of June 6, 1596.

22. **Torsion of the Testicle.**—Williams reports a case of this accident and describes the ymptoms, which are those of epididymitis or orchido-epididymitis occurring suddenly and often without apparent cause, and during active muscular exertion. The diagnosis depends mainly on the suddenness or severity of the symptoms and the absence of other sufficient cause for the acute inflammation. The epididymis may be found in front of the testis, and in one case a nodulation corresponding to the twist was felt.

Philadelphia Medical Journal.

June 6.

24 *The Qualities Essential to Success in Medicine. W. W. Keen.
25 *A Brief Sketch of Malaria, Diseases and Conditions of the West Coast of Africa. Alfred A. Loeb.
26 The Treatment of Otitis Media Suppurativa Acuta. S. MacCuen Smith.
27 *Wounds Inflicted by Modern Agricultural Instruments. D. W. Basham.
28 *A Plea for the Abandonment of the Abdominal Belt After Celiotomy. Maurice Kahn.
29 *Some Observations on Tuberculous Patients Sent to Colorado. S. Simon.
30 *The Influence of Certain Alcoholic Liquors, and Tea and Coffee, on Digestion in the Human Stomach. Richard F. Chase.

24. **Success in Medicine.**—The four greatest essentials considered by Keen are: 1. Good moral character; 2, good manners; 3, perseverance; and 4, studiousness. He has never known a man to fail of achieving an honorable and enviable success who has had these four.

25. **Malaria, Etc., of West Africa.**—Loeb describes the diseases that prevail on the west coast of Africa, first, malaria, which is much severer than in America, and well known as "coast fever" by the traders. He remarks that it attacks without giving any warning whatever, and details cases illustrating this fact. The hemorrhagic form of malaria is common and quinin given internally often aggravates it. Small doses of a solution of arsenic or of quinin hypodermically are useful. The "'sleeping sickness," so-called, is not as common as one would suppose. It occurs most frequently near the equator. "Craw-craw," a papulo-pustular skin eruption, is common among the tribes of the west coast, especially among those that swim in the ocean a great deal. As far as he can observe the disease is contagious. Filaria loa, the most distressing of all ocular disturbances, burrows beneath the conjunctiva. "Jigger" is a burrowing parasite, easily removed. Ainhum is frequently

met, and it is not rare to see natives with one or more toes missing on either foot. It is apparently painless. Guinea-worm disease is fairly widespread, and elephantiasis is frequently seen, that of the leg being the most common, the scrotum next. Beri-beri is by no means as uncommon as supposed to be, and is often attributed to rice eating. Its mortality is not alarmingly high. Leprosy is not as frequently met with on the coast as in Madeira, Teneriffe and others of the Canary Islands. Smallpox, the most dreaded disease, decimates the villages, but vaccination has proven effective in many places. Venereal diseases are common, both in the natives and white traders. Hydroceles are common, often reaching an enormous size. Umbilical hernia is frequent. Meningitis is a common cause of mortality among children. Osteomyelitis is not uncommon among children in some of the villages. It is usually fatal. Dengue most frequently attacks white traders. Phthisis is frequently seen among the tribes of the northwest and southwest coast. Those of the middle west are not altogether free from it, but nearly so. Dysentery is a marked disorder, and fatal as a rule, as in all tropical countries. Cardiac diseases of all forms are frequently seen. Rheumatism is fairly common among the tribes living on the low, marshy grounds, the inflammatory form predominating. He says:

I would advise any one visiting the west coast of Africa for the purpose of study to provide himself with a mosquito-net, an abundance of light clothing and a large helmet. As fresh food is often scarce, a good supply of the best canned foods should be always on hand. To live as far away as possible from the native villages is advisable. As there is no sanitation, the villages, therefore, are not the most pleasant places to be near. Never sleep in a native hut, as they are often overrun with vermin. Do not partake of native food, except under compulsion, as it is very far from being palatable. In many places good fresh water is unobtainable; the traders use rain water, which they store up in tanks and which, unless boiled and filtered, should not be used.

Hunger is greatly increased, but it is advisable to refrain from eating too much and too frequently. It is best to divide the meals as follows: At 6 a. m. take coffee or tea (if good water is obtainable); at 11 a. m. take the noonday meal, and at 6 p. m. the evening meal, eating what food you may deem the best. Do not eat too freely of fruits.

It is advisable to rest from 11 a. m. until 3 p. m. Keep out of the sun's rays.

During the rainy season provide yourself with the proper covering.

With these few little (?) drawbacks, by having good scientific instruments, there is plenty of interesting work to be done.

27. **Wounds from Modern Agricultural Implements.**—Basham calls attention to injuries received by farmers from agricultural machines; traumas inflicted by reapers, threshers, corn harvesters and the corn knife, with their special characteristics. These are generally received during work in the field beyond the reach of the surgeon specialist, hence the importance of the general practitioner being able to treat them. The tendency of these injuries to sever the tendons and nerves and in certain instances the blood vessels, calls for not only prompt immediate action, but attention to function restoration. Of all the wounds none are so serious as those inflicted by the threshing machine and the cotton gin. In the one case the hand is always reduced to shreds by the action of the teeth in the cylinder, and in the other the member is cut into strings by the saws. In both cases amputation is generally required. Exposure of the nerves causes them to be very painful. He notices also the dangers from the harvesting machine and its resemblance to the ancient war chariot in some respects. It produces a smooth incised wound, which sometimes causes fatal hemorrhage before help can be obtained, in many cases cutting not only the soft parts, but the bone, especially in children. He says one should never despair of a limb as long as the blood supply is adequate. Corn knife injuries of the knee are very common, and formerly many such injuries were followed by ankylosis.

28.—See abstract in THE JOURNAL, xxxix, p. 1132.

29. **Tuberculosis.**—According to Simon the incipient and first-stage cases of tuberculosis do well in a Colorado climate if they are placed in a favorable environment and receive proper medical advice. In acute tuberculosis, however, the change is apt to be damaging. The great trouble is that incipient consumptives do not take good medical advice or live under proper conditions, poverty and sometimes bad advice interfering. The amount of exercise to be taken is one of the things in regard to which they should be instructed. They are too often told that to drink plenty of milk, eat fresh eggs and exercise in the open air will cure them. Homesickness is another reason why many persons do not succeed in a Colorado climate. As to cases in the second stage it is a matter of expediency. They often fail to get along under the most favorable conditions. A patient should not go to Colorado without sufficient means on which to live for a year or two. The third stage cases, with cavities, should, as a rule, avoid Colorado. Some get well, but the majority succumb. The personal equation in each patient should be considered. He speaks in favor of sanatoria, though there are cases, however, that do best outside.

30. **Stimulants and Digestion.**—Chase has investigated the effect of alcohol in the form of beer and whiskey, and of tea and coffee on digestion. He finds that salivary digestion was slightly delayed by whiskey, but somewhat accelerated by beer, but the influence in these cases was insignificant. Peptic digestion, both in the stomach and in the test-tube, was noticeably delayed by whiskey, and still more by beer, in the latter case entirely out of proportion to the amount of alcoholic content. Secretion was probably somewhat increased by whiskey and may have been slightly stimulated by beer. Generally speaking, it would seem that liquor, taken as a beverage, exerts, on the whole, only a harmful influence. In case of gastric disease its use is not followed by any beneficial results. As regards tea and coffee, he quotes some opinions against their use, but thinks them preferable to alcohol. Both the strength and amounts used by him were sufficient to show any harmful effects that might be produced by such liquids. While admitting the harmful effect of large quantities, and that even moderate amounts, when taken with sugar and cream, disagree with some individuals, he believes that an undue prejudice has been excited against the use of these beverages by the results obtained in laboratory experiments.

Boston Medical and Surgical Journal.

May 28.

31 *The Relation of Chronic Enlargement of the Spleen to Anemia in Infancy. John Lovett Morse.
32 The Report of Three Cases in Which Embryos of the Strongyloides Intestinalis Were Found in the Stool—Autopsy of One Case. Phillip K. Brown.
33 A Case of Gunshot Wound of the Stomach. Operation. Recovery. Hugh Williams.
34 A Case of Multiple Fibromata (Fibroma Molluscum) and Serous Cyst of Neck. David D. Scannell.

June 4.

35 *The Symptomatology and Diagnosis of Diseases of the Pancreas. Reginald H. Fitz.
36 *Small Contributions to the Surgery of the Intestinal Tract. Joh. von Mikulicz.
37 *The Surgery of the Simple Diseases of the Stomach. B. G. A. Moynihan.

31. **Anemia in Infancy.**—Morse has studied the relation of chronic enlargement of the spleen and anemia in infancy to each other to see whether any proper ground exists for the recognition of special forms of anemia, known as the splenic anemia of infancy, anemia infantum pseudo-leukemia, etc. He notices the differences that normally exist between the blood of infants and that of adults, and the special tendency to enlargement of the spleen in the former. He reports a large number of cases and analyzes in detail the special conditions and the symptoms found; the relation of enlargement of the liver, lymph nodes and spleen to each other; the relation of the number of red corpuscles and the amount of hemoglobin to the size of the spleen, as also that of the white corpuscles and the proportion of each; the etiology of the condition and its prognosis. In all but two of the cases rickets was present, and disorders of the gastrointestinal tract were noted in all. He thinks it justifiable to conclude that when anemia, splenic tumor and enlargement of the liver or lymph nodes are found in association in infancy, they are in no way dependent on each other, but all manifestations of a common cause, disturbance of nutrition. There is nothing characteristic in the blood changes found in association with enlargement of the spleen, as like changes are found when there is no such enlargement; the anemia is secondary rather than primary and there is no justification for placing the cases of anemia in infancy with enlargement of the spleen or liver in a class by themselves, and calling it a special disease. The term splenic

anemia of infancy or anemia infantum pseudo-leukemica should, therefore, be dropped from our nomenclature. The prognosis in these cases depends more on the condition of the blood than on the size of the spleen. The latter has no influence on the prognosis.

35.—See abstract in THE JOURNAL of May 30, p. 1524.

36.—Ibid., June 13, p. 1668.

37.—Ibid.

Medical News, New York.

June 6.

38 *The Surgery of the Simple Diseases of the Stomach. B. G. A. Moynihan.
39 *Professional Discretion. The Medical Secret. (Continued.) Prince A. Morrow.
40 *A Case of Bacteriuria Resembling Weil's Disease. G. Reese Satterlee.
41 *Pelvic Suppuration in the Female. Abram Brothers.

38.—See also ¶37 above.

39. **Professional Discretion.**—In this article concluded from the last number Morrow discusses the duties of the physician as regards medical secrecy, especially in cases of venereal disease, and concludes that the physician has no right to detail facts to others than the patient himself. The secret of the syphilitic patient should be protected, notwithstanding the dangers that it entails. Guarding against these should be done by other means than revealing personal facts, and this seems to be the general conclusion reached.

40. **Bacteriuria.**—In the case reported by Satterlee the symptoms were those of acute febrile jaundice. There was a severe general infection which must have caused degenerative changes in the liver as well as the kidney cells. The prolonged weakness and general muscular pains during convalescence showed that the infection was a severe general one. Experiments with a bacillus isolated from the urine showed it to be toxic to guinea-pigs and in a lesser degree to rabbits, all of them showing an acute hepatitis and nephritis. In the one animal which survived the inoculation the urine showed bacteriuria with albumin and casts.

41. **Pelvic Suppuration in the Female.**—The following are the rules laid down by Brothers from his experience with pelvic suppuration:

1. To prevent suppuration, examinations in patients suffering from any variety of pelvic inflammation should be made gently and infrequently. 2. The use of sounds and cervical dilators, under ordinary circumstances, should be restricted to the operating room, where the parts can be thoroughly prepared and the operator, nurse and instruments thoroughly aseptic ized. 3. After a gonorrheal pus tube has been removed the woman must be warned of the possibility of an invasion of the opposite side if she takes the chance of reinfection from the diseased male. 4. Abscesses, irrespective of their origin, when "pointing" above or below, should be treated by simple incision and drainage. 5. Sacculated abscesses presenting the characteristics of intraperitoneal tumors should be treated by laparotomy, without unnecessary delay.

Cincinnati Lancet-Clinic.

June 6.

42 Ventral Hernia Following Laparotomy—Causes and Prevention. Magnus A. Tate.
43 Surgery of the Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.
44 Otorrhea. E. L. Mather.

Pennsylvania Medical Journal, Pittsburg.

May.

45 The History of a Case of Intra-abdominal, Extra-uterine Pregnancy Delivered at Term of a Living Child. W. L. Estes.
46 *The Incision in Appendicitis with Especial Reference to the McBurney Method and Weir's Additional Modification Thereof. Richard H. Gibbons.
47 Report of a Case of Penetrating Wound of the Heart. Unsuccessful Attempt at Suturing. John H. Gibbon.
48 The Importance of Early Diagnosis and Treatment of Malignant Tumors. John B. Roberts.
49 Diarrheas of Infancy. M. A. Neufeld.
50 A Case of Intense Phlegmon of the Orbit, Secondary to Empyema of the Ethmoidal Cells. Wm. Campbell Posey.
51 Reducible Inguinal Hernia in Which Operation Is Inadvisable. J. M. Cooper.
52 Diphtheria Antitoxin. Walter H. Parcels.
53 The Physician Before Pilate. W. B. Konkle.

46. **Appendicitis.**—Gibbons particularly advocates the McBurney incision in appendicitis, especially with its modification by Weir, which consists in free separation and detachment of the external oblique aponeurosis and all the underlying muscle fiber. The aponeurosis being freed to the edge of the rectus muscle, he cuts across the anterior layer of its muscle sheath. This allows displacement further inward toward the middle line by traction on the rectus fibers and underlying vessels. The advantages of this method are that it is less liable to be followed by hernia, which so often follows other methods of abdominal incision.

Pediatrics, New York.

May.

54 *A Case of Congenital Heart Disease with Interesting Eye Findings. Samuel McC. Hamill.
55 *Epidemic Parotitis with Metastasis to the Female Genitalia; with a Report of a Case. George McNaughton.
56 Masturbation in the Young Girl a Cause of Acquired Sexual Perversion. William Lee Howard.
57 Raw Cow's Milk in Infant Feeding. Elias H. Bartley.

54. **Congenital Heart Disease.**—The case reported by Hamill was that of a boy nine years of age, with intense cyanosis, dyspnea, precordial pain, the heart sounds somewhat indefinite for the perfecting of a specific diagnosis as to the lesion. A peculiar feature of the case was the great enlargement of the retinal arteries and veins to several times their common size, which was attributed to the cyanosis. There are apparently few cases noticed in the literature of this special condition of the eye ground.

55. **Parotitis.**—M'Naughton reviews the subject of parotitis, especially in its extension to the female genitals, and concludes that its localization in the ovaries is more frequent than mentioned in the literature. The chief reason it is less observed is probably because these organs are less accessible to examination.

Journal of the Michigan State Medical Society, Detroit.

June.

58 Impetigo. Wm. F. Breakey.
59 The Etiology of Pelvic Inflammatory Diseases. Richard R. Smith.
60 The Conservative Treatment of Pelvic Inflammatory Diseases. R. E. Balch.
61 *Boiling as a Method of Sterilizing Catheters. C. B. Nancrede and W. H. Hutchings.
62 *Mydriatics in Refraction of Presbyopes. O. A. Griffin.

61. **Catheter Sterilization.**—Nancrede and Hutchings have studied the effect of catheter sterilization methods, and find that the larger the size the quicker the sterilization, and also that filling with ordinary tap water which expels all air, reduces the time three-fourths. An infected rubber catheter can not be completely sterilized by boiling under four and a half minutes, that is, after artificial infection. Mechanical cleansing of the catheter of old dried pus and blood vessels will render the process easier. The English web catheter and soft rubber catheters may be repeatedly boiled for five or more minutes without roughening the surface or diminishing their elasticity or strength. Chemical sterilization by immersion in a 1/2,000 mercuric chlorid solution for five minutes does not sterilize any variety of catheter which has become infected. If corrosive sublimate is employed, it must be in a concentrated solution, and the catheter must remain in it for a much longer time than the usual period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for an infected instrument. Formalin vapor will sterilize instruments in twenty-four hours. How much shorter time will be sufficient has not yet been determined. All methods of sterilization should be continued for longer periods than the minimum time required for the laboratory destruction of the germ. The English web catheters are apparently more easily sterilized by heat than the soft rubber ones. The authors find that, while washing with warm soap suds is an excellent thing, it is not absolutely necessary. Oily lubricants are removed by boiling, and carry away with them numerous germs. The English web catheter can be boiled for any length of time without damage in a saturated solution of ammonium sulphate. This boils at a little higher temperature than water (104 C.) and is, therefore, superior, but subsequent washing in sterile water is necessary to remove the crystals that are deposited. The only precaution required is to prevent the catheter coming in contact with the bottom of the vessel. These experiments prove that heat can be successfully employed with all varieties of catheters, with the exception of the soft French instrument, provided that all air is expelled from the interior. In the great majority of cases five minutes immersion in boiling water may

be sufficient, but ten minutes should be employed, especially with the smaller instruments. Previous cleansing with warm soap suds is desirable, but not essential, and the employment of ammonium sulphate solution is desirable for the English web catheter, but is also not essential.

62. **Mydriatics.**—The danger of using mydriatics in the determination of refraction in the presbyopes is considered slight by Griffin, who thinks it would be advisable to use these agents in such cases. He asks what is the use of partially relieving the patient when he can be completely relieved. The possibilities of glaucoma are, he thinks, too slight to be counted on. Where it has occurred after the use of mydriatics it has been a coincidence. With the agent employed as indicated, followed by a myotic, the risk, he thinks, would be practically *nil* and the results more satisfactory.

Proceedings of the Pathological Society of Philadelphia.

May.

63 *Bacteriology of the Blood. Randle Rosenberger.
64. A Short Series of Blood Cultures, Made on Typhoid Fever Patients to Determine the Relative Frequency of the Bacillus of that Disease in the Blood. A Preliminary Report. Herbert Fox.

63. **Bacteriology of the Blood.**—From a thorough study of the subject and the literature Rosenberger concludes that the bacteriology of the blood examinations may afford data without which intelligent diagnosis and treatment is impossible. Careful attention to the technic is essential, however, and where organisms thought to be present can not be grown on ordinary culture media, special ones should be employed, such as Wertheim's media or fluid from ascites or hydrocele for the detection of the gonococcus. Postmortem examination of the blood should not be relied on to determine the nature of the infection. It is often untrustworthy. In certain diseases organisms are not present in the blood during life, but just preceding death there is a decrease in the bacteriolytic blood complement which permits the blood to become overwhelmed with bacteria. Transplacental infection constitutes an important element in antenatal pathology. In 535 collated cases of enteric fever, the *Bacillus typhosus* was found in the circulating blood in over 80 per cent. He thinks that this method is more valuable than the serum reaction. In 46 per cent. of 176 cases of sepsis, various organisms were isolated from the blood during life. These included cases of puerperal sepsis as well as local septic processes and infective periostitis and osteomyelitis. It seems probable that the identification of the bacillus in the blood in septic conditions would reconcile discordant views as to the therapeutic efficiency of sera. In 58 cases of croupous pneumonia the diplococcus was found in 53 per cent., the Friedländer bacillus occasionally. In 423 cases of plague the organism was determined in the blood during life in 69 per cent. The *Bacillus influenzæ*, the meningococcus, gonococcus and *Bacillus diphtheriæ* occur in the blood with no degree of constancy. In a number of cases of ulcerative endocarditis bacteria have been found in the blood during life. The same is true of purpura. With present methods the tubercle bacillus is rarely shown in the blood, though it should be more readily obtained. The bacterial flora of tuberculosis is generally secondary and indicates a grave prognosis. There is a possibility of bacterial examination of the blood being of diagnostic value in syphilis and certain observers have isolated a bacillus.

Northwest Medicine, Seattle, Wash.

May.

65 Lessons from the Life of Pasteur. John G. Clark.
66 Puerperal Mastitis; Its Prevention and Treatment. William C. Heussy
67 *The Value of Lemon Juice as a Prophylactic for Typhoid Fever. Wallace Johnson.
68 Chronic Rheumatism. L. R. Markley.
69 Eczema in Children. Robert W. Schoenle.
70 Joint Affections, the Result of Infectious Diseases or Sepsis. Robert L. Nourse.
71 A Large Fetal Omental Hernia. Lewis R. Dawson.

67. **Lemon Juice for Typhoid.**—Johnson has experimented with lemon juice on the various cultures of the typhoid bacillus and comes to the conclusion that lemon juice in any proportion that is palatable must be left to stand much longer than the ordinary meal-time to be of any prophylactic virtue. He finds, however, that a very short heating, even of five minutes, to a temperature of above 60 C. is sufficient to destroy the typhoid germ. It need not be boiled; it is not necessary to have the air boiled out.

Journal of Advanced Therapeutics, New York.

June.

72 *A Vital Problem in the Practice of Electro-therapy. Maurice F. Pilgrim.
73 The Therapeutic Use of Electrical Currents of High Potential and Frequency. J. Holcomb Burch.
74 *Some Therapeutic Notes on the *X*-ray. Charles R. Dickson.
75 *The Effect of Roentgen Rays on Certain Bacteria. William H. Bean.

72. **Electrotherapy.**—The vital problem in electrotherapy, which forms the subject of Pilgrim's article, is the question of keeping the patients persistently under electric treatment, not trifling with it, by trying it intermittently or only on one or two occasions, and then leaving it because no immediate benefit is observed.

74. **The X-Rays.**—Dickson believes in erring in the use of these rays on the side of safety. For the first two or three weeks he frequently starts with the tube one or even two feet from the patient, watching carefully and operating every second day. If there is no marked reaction he gradually lessens the distance, but rarely approaches nearer than six inches. Only in critical cases does he allow daily raying, and twenty minutes is the limit. At first he applies the rays only for ten minutes. For shields he uses the Crookes combination of lead and tin, avoids bony prominences and interposes rubber sheeting in some cases to prevent irritating the patient with induction shocks and to protect the tube. He has used 1/1,000 solution of adrenalin chlorid in lupus before raying, and thought he had better results. He gives a number of cases of skin diseases and malignant tumors where the ray has been used with special advantage. Only in epithelioma of the tongue has he noticed an ill effect in the way of extensive breaking away of tissue and non-retardment of the growth.

75. **Effect of the X-Rays on Bacteria.**—Bean has experimented with the *Bacillus coli communis, Bacillus typhosus, Staphylococcus, Streptococcus*, the Klebs-Loeffler bacillus, etc., using an exposure of one hour at a distance of ten inches, and finds no effect, whatever the make of tube or the method of excitement.

Fort Wayne Medical Journal-Magazine.

May.

76 *Malignant Degeneration of Benign Tumors. Miles F. Porter.

76. **Malignant Degeneration of Benign Tumors.**—Porter reports a case of lipoma of the elbow invaded secondarily from a sarcoma of the neck, which was removed. He has not found a similar case in the literature.

Mobile Medical and Surgical Journal.

May.

77 *Thoughts on the Treatment of Morphinism. George E. Pettey.
78 Surgical Clinics at the City Hospital. W. R. Jackson.
79 *Transmissibility of Diseases of Animals to Animals of Other Species. Geo. T. McWhorter.
80 Hypodermoclysis. J. R. G. Howell.
81 Alcohol with Special Reference to Its Use in Treatment of Disease. P. M. Lightfoot.
82 Puerperal Eclampsia. Henry Green.

77. **Morphinism.**—Petty divides morphinists into two classes, simple morphinists and morphinomaniacs. The former are mere morphin users who have formed the habit for the relief of pain without any element of dissipation in it. Morphinomaniacs are confirmed slaves to the drug and have no desire to be relieved. He credits the greatest number of these latter cases to the reduction method, which has been so much advocated. His own plan is to thoroughly encourage elimination, giving capsules containing 2.5 gr. each of calomel and powdered extract of cascara, 1/4 gr. of ipecac and 1/12 gr. of strychnin nitrate, repeating it at intervals of two hours until four such doses have been given, making 1/3 gr. of strychnin, which would be a large dose ordinarily, but not too much for the morphin habitué. He usually begins this course in the afternoon after the patient has abstained from dinner, and gives no food for the next twenty-four hours. The usual doses of morphin should be given up to the time of giving the second or third of the capsules, but none after that. Nothing should be done to retard the action of the bowels, but, on the contrary, if they do

not act freely in eight or nine hours after the giving of the last capsule, 1/10 of a grain of strychnia should be given hypodermically and repeated at three-hour intervals, if necessary, supplemented by the administration of castor oil or some saline until nothing remains in the alimentary canal. Withholding morphin under these conditions gives but little discomfort on account of the relief of pain by freeing the patient's system of effete material. When the purgation is completed and the drug is again called for, give hyoscin, commencing with 1/200 of a grain, repeated at short intervals, until the toleration of the patient is ascertained, and then kept up for twenty-four to thirty-six hours. During this time he would also give a suitable laxative to keep up the action of the bowels. After this is done there is rarely any further use for medicine, unless the symptoms indicate that further elimination is required. The routine administration of strychnin after such treatment is hurtful. No drug except an opiate would be more injurious. Coffee, tea and other stimulants are also hurtful. The heart failure and collapse which have been so much emphasized and so universally dreaded do not occur under the plan above outlined. He speaks of the impossibility of treating morphinomaniacs at home and the difficulty of treating the morphin habit cases where anything occurs to prevent full control on the part of the physician. Morphinomaniacs are made by the failures of the ordinary reduction method.

79. **Transmissibility of Disease from Animals to Man.**—McWhorter notices the various diseases and toxin infections common to man and animals and ends his paper with the following conclusions: "1. Certain diseases of animals are transmitted from species to species without diminution of virulence. Animal life being held cheap the sources of infection in these cases are promptly extirpated and the sum total of human deaths from them is not great. 2. Other diseases of animals, such as vaccinia, are, when communicated to man, mild in character and protective in influence, as are certain diseases of man when communicated to animals. 3. A number of diseases of animals are transmissible to animals of other species only with the utmost difficulty or not at all. 4. The parasitic carriers of disease may be able to infect only that species of animals from which they received the infection. 5. Species is a great but little understood factor in the distribution of disease. 6. Heterolysis, rather than autolysis or isolysis, must be largely relied on in the science of immunization."

Occidental Medical Times, San Francisco.

May.

83 *Repair of the Perineum by Continuous Removable Sutures. George B. Somers.
84 Erythromelalgia, with Report of a Case. Harry B. Reynolds.
85 *Determination of the Functional Capacity of the Kidneys, with Special Reference to Kidney Surgery. M. Krotoszyner.
86 A Case of Mastoiditis with Mental Disturbance. George H. Powers.
87 Cases Illustrating the Importance of a Microscopic Examination of Tumors at Time of Operation. Harold A. Johnson.
88 Silbamine an Efficient Gonococcocide. G. L. Eaton.
89 Casuistic Report of Cases Operated on at the German Hospital. Henry J. Kreutzmann.
90 Placenta Previa. John F. Moran.
91 The Treatment of Appendicitis Without the Use of a Knife. W. E. Bates.
92 Biomechanical Laws in Medicine (To be continued.) Moriz Benedikt.

83. **Perineorrhaphy.**—Somers advocates the use of a continuous removable suture in this operation. He makes a triangular denudation and inserts the suture with mattress stitch in the upper portion of the wound coming out on the perineum at the lower angle. While being inserted, the upper end is clamped and held with a hemostat. A second is inserted in a similar fashion, but a little more superficially, and a third and fourth are inserted in like manner, the last one simply closing the apex of the denudation. There is no tying of sutures; they are simply clamped at a little distance from their insertion and the vaginal ends are sometimes clamped with a single shot. The sutures keep the surface together, he says, without tension and without interference with the circulation. If any swelling occurs it simply takes up the slack. The tissue slides along the free ends toward the shot clamps. At the end of ten days the sutures within the vagina are cut off close to the surface, the perineal ends grasped and the sutures drawn out. He has used for these sutures silkworm gut and has operated in 28 cases with good results. The advantages of using the continuous removable suture are stated by the author as: 1. The small number of sutures used: 2, the non-constriction of the circulation; 3, the surfaces being tied together without tension and without puckering union is consequently rapid; they allow for swelling and are easily removed.

85. **The Functional Capacity of the Kidneys.**—Krotoszyner concludes from his studies and experiences that the sufficiency or insufficiency of the kidneys can not be determined by urine examination alone. The only method apparently giving correct results is cryoscopy of the blood. The capacity of each kidney may be measured separately by ureteral catheterization, combined with quantitative determination in both urines of certain chemical constituents, urea, chlorids, etc.; their nocturnal concentration, and by saccharum after phloridzin injection. All these tests have not so much of an absolute value as when they show a relative coincidence. If the clinical picture, together with these functional tests, proves the presence and functional capacity of one kidney we would certainly be able to operate on one kidney without the fear of losing our patient through post-operative insufficiency of the other.

The Physician and Surgeon, Detroit and Ann Arbor, Mich.

February.

93 The Etiology of Cancer, with Special Reference to the Parasitic Theory. Frederick A. Baldwin.
94 Surgery of the Urethra and Prostate. Frank B. Walker.
95 A Case of Typhoid Fever. James R. Arneill.
96 *Treatment of Lupus Vulgaris and Inoperable Tumors with the Roentgen Rays. Conrad George, Jr.

96. **Lupus Vulgaris.**—The conclusions reached by George in the study of the ray treatment of lupus are given as follows:

Every case which is to be treated with the Roentgen rays should be given one exposure for about five minutes at a distance of six or eight inches, and then all further treatment be discontinued for a week or ten days in order to determine whether any idiosyncrasy toward the Roentgen rays exists and to avoid severe burns of the tissues. After that time, exposures may be made every second or third day, according to the needs of the case. To emphasize the necessity of these precautions reference need only be made to a case reported from the Johns Hopkins Hospital by Rubel, wherein death occurred from an extensive *x*-ray burn of the abdomen produced after two exposures of twenty minutes each, the tube being at a distance of six inches from the abdominal wall and the spark gap three inches. For lupus vulgaris and superficial malignant growths very soft tubes should be used, the spark gap not being over one-quarter to one-half an inch. For deep seated growths and neoplasms of the internal organs tubes of a slightly higher vacuum may be used with a spark gap of two inches. Sufficient cases have now been reported to show that it is not necessary to excite a dermatitis to effect a cure. Such a reaction is an actual interference with the process of healing and may do great harm to the patient by causing the extension of the malignant growth to the surrounding tissues and the intoxication produced by the absorption of products of the broken-down cells. The toxins resulting from infection with pyogenic organisms may further increase the general exhaustion and hasten death.

Carolina Medical Journal, Charlotte, N. C.

May.

97 *The Complications of Appendicitis. H. A. Royster.
98 *Management of Injuries to Fingers and Hand. D. A. Stanton.
99 Surgery of the Hand. W. J. McAuliay.

97. **Appendicitis.**—The complications here noticed by Royster are: 1, peritonitis; 2, intestinal obstruction, usually due to adhesions; 3, floating kidney, which he has observed in several cases; 4, gallstones; 5, adhesions to other organs, abnormal growths, such as abdominal tumors, stumps of old operations, etc.; 6, pregnancy as a complication; 7, injuries, and he gives instances of gunshot wounds, and lastly anomalies of position.

98. **Injuries to the Fingers and Hands.**—Stanton lays down rules for the treatment of injuries of the fingers and hand. The chief point is to be as conservative as possible in sacrificing the parts. No amount of flesh destruction should deter the physician; the smallest amount of periosteum left, with a flesh covering, may be reproduced into a serviceable finger. A common mistake is to tie the arteries in surgery of the hand and fingers. Torsion and pressure is all that is needed; a ligature only makes a foreign substance and prevents union, and the power to absorb a ligature does not seem to be so great here as in some other parts of the body. No more stitching of the skin should be done than is necessary to approximate the larger pieces. Sterile water is the best of antiseptics and sterile salt solution is sometimes all that is required. After cleansing the member, all tags are trimmed off, and he then wraps the parts loosely in

sterile gauze and keeps moist for forty-eight hours with some sterile solution. After this he irrigates with sterile water, dries and dusts with any antiseptic powder. The most frequent mistake is to change the dressings too often. In some cases he uses a sort of wire gauze muzzle over the hand to keep the wrappings from immediate contact with the wound, and finds it aids nature in taking care of the case.

Atlanta Journal-Record of Medicine.

May.

100 *The Sin of So-called Conservative Medical Treatment in Diseases Requiring Prompt Surgical Intervention. Floyd W. McRae.
101 *The Treatment of Carcinoma of the Cervix. Virgil O. Hardon.
102 Spinal Curvature. Theo. Toepel.

100. **Conservative Medical Treatment in Surgical Cases.**—McRae protests against the so-called conservative medical treatment in cases requiring surgical intervention, and gives illustrations of its bad effects from his experience.

101. **Carcinoma of the Cervix.**—Hardon emphasizes the importance of prompt repair of cervical lacerations, and the importance of the early recognition and treatment of malignant disease as increasing the chance of permanent cure by operation; also the advisability of hysterectomy in operative cases where there is no prospect of permanent cure, and extols the value of palliative treatment in inoperable cases.

Medical Age, Detroit, Mich.

May 25.

103 A Philosophical, Anatomical and Physiological Study of Christian Science From a Physiologic Standpoint. Robert M. Wenley.
104 From an Anatomical Standpoint. J. Playfair McMurrich.
105 From a Psychological Standpoint. Walter B. Pillsbury.
106 Some Developments in the Therapy of Iodoform. J. J. Gaines.

American Practitioner and News, Louisville, Ky.

March 1.

107 The Origin of Some Diseases and a Consideration Thereof. M. K. Allen.

Medical Mirror, St. Louis.

May.

108 *Medical Education in the United States. Frank Billings.
109 Medical Inspection of Schools. Henrietta P. Johnson.
110 How Eye Strain Causes Headache. Lucien Howe.
111 Eschroatic Antiseptics vs. Alkaline, Saline Solution. H. Plympton.
112 A Case of Fall From a Height, Causing Various Injuries, Recovery. Frederick Griffith.

108.—See THE JOURNAL of May 9, p. 1271.

Southern Practitioner, Nashville, Tenn.

June.

113 Fractures of the Skull—With Report of Case. Paul F. Eve.

American Medical Compend, Toledo, Ohio.

June.

114 Pneumonia. W. A. Dickey.
115 Diagnosis of Kidney and Bladder Diseases, Especially with the Cystoscope. C. M. Harpster.
116 Further Observations in the Dosage of Antitoxin in Diphtheria. M. D. Rabenoyich.
117 Two Cases of Epilepsy in Which Treatment with Chloretone Proved Beneficial. G. C. Bassett.

Canada Lancet, Toronto.

June.

118 Brain Power, How to Preserve It. James Grant.
119 Medical Reminiscences of Toronto. James H. Richardson.
120 A Case of Placenta Previa. K. C. McIlwraith.
121 Albuminuric Retinitis in Pregnancy. W. Gordon M. Byers.
122 The Uses and Limitations of the X-rays in the Treatment of Diseases. John McMaster.
123 When Is Colpoceliotomy Advisable? T. Shaw Webster.

Louisville Monthly Journal of Medicine and Surgery.

June.

124 Cesarean Section. J. Garland Sherrill.
125 Reflex Neuroses. William Cheatham.
126 Mental Defects of Children and Their Prevention. Perry Woolery.
127 Scrotal Hernia of the Bladder. John H. Rhodes.
128 Pyloric Stenosis. A. Morgan Cartledge.

Colorado Medical Journal, Denver.

February.

129 The Nervous Manifestations of Typhoid Fever, with Report of a Case. W. W. Reed.
130 The Colorado Law Controlling the Practice of Medicine. H. E. Peckham.

Woman's Medical Journal, Toledo, Ohio.

April.

131 Puerperal Sepsis. Olive Wilson.
132 Extra-uterine Pregnancy—Report of Two Cases. Emily Wright.
133 The Treatment of Constipation by Electricity. May Cushman Rice.
134 Dr. Margaret Taylor Shutt. Eliza H. Root.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

May 30.

1 *A Case of Trypanosomiasis. Patrick Manson and C. W. Daniels.
2 *On the Possibility of the Occurrence of Trypanosomiasis in India. W. B. Leishman.
3 Three Cases of Trypanosoma in Man in Entebbe, Uganda. C. J. Baker.
4 *The Use of Acid Phosphate of Sodium in Alkalinity of the Urine. Robert Hutchison.
5 *Clinical Observations on the Treatment of Inoperable Cancer by Formalin. A. F. Meredith Powell.
6 *Guaiacol in the Treatment of Smallpox. J. J. Ridge.
7 A Mercurial Injection for Use in the Intramuscular Treatment of Syphilis. F. J. Lambkin.

1. **Trypanosomiasis.**—In this case, fully reported by Manson and Daniels, the disease was contracted in the upper Congo region. In the treatment horse serum was used with some apparent effect in diminishing the parasites, but with the effect of producing great depression, high fever, convulsive movements of the limbs and erythema. It was discontinued in time, and the patient made a partial recovery from the disorder. The drug treatment seems to have been the use of arsenic in some form hypodermically and methylene blue, but without apparent results.

2. **Trypanosomiasis in India.**—Leishman offers a sort of retrospective diagnosis of certain cases that occurred in Dumdum, a village near Calcutta, where cases hitherto considered malarial were peculiar in their type. From his present knowledge of trypanosoma infection he thinks he may reasonably assume that that disease existed there at the time. He suggests further inquiry, with special reference to this fact.

4. **Acid Phosphate of Sodium.**—Hutchison finds that acid phosphate of sodium has a decided tendency to increase the acidity of the urine. It has been used frequently in the London Hospital in the last two years in cases of alkalinity from cystitis and other causes with very satisfactory results. It will render ammoniacal urine acid in a very large proportion of cases. It is very soluble in water and easily administered. It can be given in doses of from 30 to 60 gr. every three hours, but it is better to give it in smaller quantities oftener. A good plan is to dissolve 2 drams in a pint of water and allow the patient to drink from this from time to time.

5. **Cancer Treated by Formalin.**—Powell uses absorbent lint soaked in 2 per cent. formalin solution laid over the tumor and this covered with jaconet and cotton wool and bandaged on. The dressing should be changed every six hours. After three or four dressings the discharge and fetor cease and the further process is an aseptic one. In three to seven days the tumor loses its elasticity and becomes darkened, friable and insensitive. Further use of formalin is painless. A line of demarkation is formed and separation takes place, the time varying with the size and nature of the disease.

6. **Guaiacol in Smallpox.**—Ridge reports a number of cases of smallpox with favorable course in children, and attributes the good results to the use of guaiacol dissolved in olive oil, one part to 80. The whole surface was anointed with this with a swab of cotton wool at least every four hours. The patients were eager for it, as it allayed irritation, and after a few applications almost abolished it. It seemed to reduce temperature and prevent consequent delirium. It also seemed to check maturation and caused the pustules to dry up. The loathsome odor of eruption was almost entirely destroyed.

The Lancet, London.

May 30.

8 *The Results of Operations for Strangulated Hernia. Arthur E. Barker.
9 *Acholia. W. B. Cheadle.
10 *The Differentiation of the Continued and Remittent Fevers of the Tropics by the Blood Changes. Leonard Rogers.
11 *On Cases of Uncomplicated Myocarditis in Children. George Carpenter.

12 Malignant Disease of the Colon; Fourteen Colectomies with Ten Recoveries. H. Littlewood.
13 *On Peritomy for Diffuse Corneitis and Other Affections of the Cornea. Simeon Snell.
14 *The Therapeutic Value of Alternating Currents Applied to the Abdominal Sympathetic Nervous System. Samuel Sloan.
15 Successful Removal of More than Three-quarters of the Stomach for Cancer, with Gastro-jejunostomy. J. Lynn Thomas.
16 Xanthelasmoidea in an Adult. A. Christie Reid.

8. Strangulated Hernia.—Barker points out the dangers of neglect and of taxis and objects to leaving a strangulated hernia without a careful inspection of the bowel itself. He shows the percentage of operations for strangulated hernia performed at the University College Hospital for a number of years. The mortality has much decreased, from 53.1 per cent. to 22.2 per cent. Up to 1899 no case of successful enterectomy for the condition, either primary or secondary, is recorded, but since that period there have been three cases of artificial anus with two deaths and seven cases of primary enterectomy with four deaths. This he considers a decided improvement. All the patients would have died without the operations.

9. Acholia.—This is the term used to designate the condition of stools uncolored by bile. Cheadle gives the symptoms of those in which colorless stools without jaundice occurred temporarily, and finds them frequent in persons who live high. A change is produced by cholagogue purgation and restricted diet. He has seen this arise from time to time in chronic Bright's disease. In its more persistent form acholia is of serious import, and he points out the relations in tropical climates between it and the symptoms of sprue. In children the onset is usually abrupt, and offensive white stools are speedily followed by marked impairment of health. The children become feeble, pallid and languid and lose weight. This form is rarely met in adults in England, but he reports a case, undoubtedly of sprue, acquired in the tropics. He says that the functions of the liver are gravely interfered with, and possibly those of the pancreas also, seems certain from several considerations:

1. The stools are obviously greasy; in some instances you can see fat standing on the surface so thick that they glisten like talc, and on analysis are found to contain enormous excess of fat, from 24 to 63 per cent., the normal being 11 to 12 per cent., i. e., twice to more than five times as in the normal state. 2. The stools are acid, or slightly alkaline only, and are extremely offensive, presumably from decomposition of fats owing to the absence of bile, which is known to have antiseptic powers and arrests fermentation. 3. The stools are large in volume, out of proportion to the food taken, indicating imperfect digestion and absorption. 4. The patient wastes rapidly, and in protracted cases becomes greatly emaciated, white, flabby and anemic. 5. In all cases bile pigment is deficient and in extreme and typical cases, where the stools appear white, no trace of it can be found. Moreover, in the more marked cases analyzed by Dr. Wilcox, the bile acids were entirely absent also. In the case of sprue the results of different observers in this respect are contradictory. The effect of the administration of ox gall in producing green coloration of the stools points to the absence of this being the cause of absence of color. 6. Although the urine has only been fully examined in two cases, in one urea was largely deficient (only 0.45 per cent.) and in another in excess, and crystals of leucin were observed, this being indicative of imperfect liver function.

So far as he knows no definite lesion has been found postmortem. The liver is normal in appearance. The pancreas occasionally shows isolated patches of parenchymatous change, but these are not constant. The symptoms point to a cholegenetic arrest of the liver, not merely an abnormality of bile pigmentation. The cause is obscure, though its frequency during dentition favors the view put forward by Dr. Gibbons, that it has a nervous origin. It is possibly a dental irritation reflex. The only other possibly causal condition he has noted in connection with it is surface chill. The indications for treatment are to ease and assist the work of the liver, especially the digestion of fats and starches. If diarrhea is troublesome use bromids and opium and medicines which act as hepatic and blood stimulants together. The chlorids of arsenic and iron with perchlorid of mercury in small doses have appeared to do good. He has given brandy in doses of 10 to 60 drops, and chloral and bromid for the nervous system.

10. Fevers of the Tropics.—The general conclusions reached by Rogers from his careful clinical and pathologic study with modern blood tests of a large and consecutive series of cases of continued and remittent fevers in Calcutta hospitals, both in whites and natives, lead him to believe that only two forms exist, at any rate of long duration, namely typhoid fever and malarial remittent fever. These can be distinguished in a large proportion of cases by clinical methods, of which the temperature curve, pulse rate, presence or absence of abdominal symptoms and action of quinin are most important. For the remainder the serum test will suffice, except in rare cases. The leucocyte count is of special value because it is available when the parasites are absent on account of previous quinin treatment, and because it does not require a laboratory. Simple continued fever, if it exists, which is to be proven, is very rare as compared with malarial fevers. The so-called non-malarial remittent fever in natives has been shown by the serum test to be nothing but typhoid. Low fever is distinct clinically, but is probably the result of a debilitating influence of prolonged residence in a tropical climate, including latent malaria, and is not a new specific fever. Malta fever is at least exceedingly rare.

11. Myocarditis in Children.—Four cases are reported by Carpenter which he thinks offer no question as to the correctness of diagnosis. He calls attention to the presence of systolic and presystolic murmurs in these cases in which endocarditis was absent. It would appear that mitral murmur merely requires a leaking valve for its production, and that it is not diagnostic of mitral endocarditis. He thinks that the murmur heard in his cases, all but one of which came to autopsy, may explain the vanishing mitral murmurs which in cases of acite rheumatism and chorea have led to belief in recovery from endocarditis and functional cardiac disturbance.

13. Peritomy.—This operation, devised by Furnari in 1862, has been modified by Snell as follows:

A speculum is inserted and the patient desired to look downward; a fold of the conjunctiva just beyond the cornea at the upper part is seized with forceps and snipped with curved scissors. From this point the conjunctiva is severed all round the cornea at a distance of from two to three millimeters. The portion left adhering to the cornea is next dissected up and removed with scissors. The division of the conjunctiva around the cornea is facilitated by using a pair of scissors having one blade somewhat longer than the other and ending in a bulbed extremity which readily runs underneath the conjunctiva. Recovery is usually quick from the operation, especially in young subjects. For a few days a rim of bare sclerotic is visible, but after the lapse of a very short time there is little indication of any operation having been performed.

He performs this operation in cases of double keratitis with very satisfactory results, and also in chronic ulceration of the cornea. He has performed it in 100 cases of diffuse corneitis, and finds it of practical value. If performed at the earliest stages in some instances it seemed almost to abort the disease, and in others it undoubtedly very materially shortened the long duration.

14. Alternating Currents to Sympathetic Nervous System.—Sloan describes the value of secondary faradism and the sinusoidal currents in numerous conditions, and the cases in which he thinks it is likely to be of benefit or fail are given by him as follows:

1. Those cases of uncomplicated neuro-muscular asthenia where the cause had ceased or had been removed have proved most amenable to the treatment. By neuro-muscular asthenia I mean neurasthenia minus its psychic elements. 2. Regarding cases of visceral neuroses almost as much can be said. 3. Cases of persistent sickness, some of them of reflex character, have done well under the treatment, the only failure in this list having been one in which the liver was considerably enlarged. 4. The treatment may be relied on in vasomotor cases, all of the five cases having been successful. 5. The treatment will be of little avail in neurasthenia. I suspect its only chance here would be after the Weir-Mitchell treatment of it had failed. 6. In cases where inflammatory mischief existed in the pelvic organs the result is not likely to be good. In such cases vaginal electric applications have given the best results. 7. Where septic endometritis exists only a very temporary improvement will follow, although this may be made a permanent one if the treatment is resorted to after curettage has removed the septic condition from the uterus. 8. Epileptics are likely to derive no benefit from the treatment. I had two cases of angina with no apparent evidence of organic disease. As the table shows, recovery ensued in one, but the treatment in the other appeared to have no influence, or rather seemed to make the symptoms worse. Perhaps in the successful case the success was due to the anterior electrode having been placed during part of the treatment over the cardiac region, and in the case of failure I suspect the dose given was too large. This patient had a somewhat alarming collapse during one of the applications.

The method of treatment was using two large moist clay electrodes, warmed. One about 9x6 inches is placed attached to the positive pole between the shoulder blades; the other attached to the negative pole, measuring 9x10 inches, over the abdomen, especially the epigastric region. The current is from

a secondary coil of about 8,000 turns of fine wire, and the dose carefully measured by his faradimeter, which was described in the *Lancet* March 22, 1902. When the sinusoidal current is used the alternations are about 1,800 per minute, the voltage being much the same as that of the secondary coil. The dose at the first seance is from two to three milliamperes. As the case progresses this is raised until a dose of seven, or at most eight, milliamperes is administered. Each application is fifteen minutes long. With a larger number of turns than 8,000 a larger dose can be given, and with a smaller coil a smaller dose. The patient, at the early sittings especially, should be made to rest at least fifteen minutes before going home, and should then go to bed for an hour or longer, or recline on a sofa. The applications are given every second, third or fourth day; usually six or eight suffice. If more are required a gradual decreasing of the size of the coil should be used, and the former dose maintained. He gives his reasons at length for believing in the efficacy of the currents, and reports cases.

Indian Medical Gazette, Calcutta.

May.

17 Some Emergency Rations. C. A. Sprawson.
18 Unaccustomed Plenty and Prevalence of Bowel Complaints in the Bengal Jails. Norbin C. Dutt.
19 Note on the Mycoid Body Found in the Blood Corpuscles in Remittent Fevers. (To be continued.) W. Leonard Braddon.

Bulletin de l'Academie de Medecine, Paris.

20 (XLIX. 17.) Hommage à la cocaine. L. G. Richelot.
21 (No. 18.) La notion de foie (ilver) variable en séméiologie hépatique. Mongour.
22 *Means of Avoiding Inconveniences of Atropin. Darier.—Sels d'atropine; leurs indications en thérapeutique oculaire.
23 *De la nécessité et des moyens pratiques de controle des désinfections publiques. A. Calmette.
24 (No. 19, May 12.) Approval of Schedule for Unification of Formulæ of Heroic Drugs Proposed by the International Conference.
25 *Cas de tétanos consécutif à une injection de sérum gélatiné. G. Dieulafoy.

22. **To Avoid Inconveniences of Atropin.**—Darier announces that methyl atropin in the form of a 1 per cent. solution of the hydrobromate, induces in emmetropic eyes a dilation of the pupil maximal in thirty to forty-five minutes. It diminishes in twelve hours and vanishes during the second day. Its disappearance can be accelerated by instillation of an eserin collyrium. He prefers to use it in the formula of .05 gm. methyl atropin hydrobromate with .1 gm. of cocain hydrochlorate in 10 gm. distilled water. One drop induces the maximal dilation in thirty-five to fifty minutes, with brief paresis of accommodation, not noticeable in myopia and emmetropia. The methyl atropin is free from the drawbacks of atropin, and is especially indicated for the diagnosis of incipient iritis when glaucoma is feared, also for the accurate determination of the static refraction, and for all cases in which dilation of the pupil is required for ophthalmoscopic examination.

23. **Tests for Public Disinfections.**—Calmette uses for a control test when sulphurous acid is the disinfectant employed, glass tubes 5 to 10 mm. in diameter and 1 meter in length. They are filled with fine sand stained blue with tincture of litmus. These tubes are plugged with cotton and placed horizontally at different points in the room. As the gas that is generated enters the tube it turns red the blue sand with which it comes in contact, He has compiled a table showing the depth to which the gas must penetrate in order to have the disinfection complete in regard to germs in the room. At a depth of 25 cm. the typhoid germs are destroyed, but diphtheria bacilli require a red zone of 40 cm. before their destruction is accomplished. Another test is with short glass tubes, 10 mm. in diameter and 10 cm. long, open at both ends, except for being plugged with cotton. Pure cultures of the germs to be tested are transferred to a strip of filtering paper, which is then placed in the tube. Thus prepared the tubes are exposed at different points in the room. Each strip is then immersed in nutrient bouillon. Tubes only 6 cm. long are used when formol is employed, as it has less penetrating power. It is tested by means of wafers made by adding a hydro-alcoholic solution of fuchsin rubin to horse serum, and desiccating. The red wafers thus formed by the dried serum dissolve readily in water, to which they give up their coloring matter. Exposed to the action of formol they become insoluble and retain their stain in water. A few of these wafers or scraps of paper soaked in the serum and dried are placed at 5 cm. intervals in the long glass tubes mentioned above, with sand or cotton between. As they are transferred in turn to water after the disinfection, the solubility is an accurate index of the penetration of the fumes of the formol. He has had a small room constructed for the sole purpose of testing the results of public disinfection by these tests.

25. **Tetanus After Injection of Gelatin.**—Dieulafoy adds 5 to the 18 recently collected by Chauffard, and says this brings up to 23 the total number of cases of tetanus known to have occurred during the last two years after therapeutic injection of gelatin. Hayem has been using for twenty years intravenous injections of saline solution and found them a most effectual means of hemostasis. In severe cases he injects from one-half to one liter. Roux affirms that solutions of gelatin can be rendered absolutely sterile by heating to 110 C. according to the standard methods.

Bulletin Gen. de Therapeutique, Paris.

Last indexed page 878.

26 (LXXII, 8.) *De la tachycardie continue apyrétique du début de la tuberculose aigue. F. Vialard.
27 (No. 9.) *Traitement de l'ictère simple. A. Robin.
28 *Traitement preventif et curatif de la tuberculose pulmonaire. J. Tetau.
29 (No. 10.) Sulphur Scottish Douches in Treatment of Pulmonary Tuberculosis. Berther (Amelie des Bains).—De la douche écossaise sulfureuse dans le traitement de la tub. pulm.
30 *Moyen pour éviter la confusion des médicaments. E. Berger and R. Loewy.
31 *Traitement de la tuberculose par l'emploi combiné de la tuberculine et les sels éthérés de créosote. S. Bernheim and Quentin.
32 *Traitement de la glossite exfoliatrice marginée par la liqueur de Van Swieten employée en bain local. P. Gallois.
33 (Nos. 11-12.) Injections sous-cutanées de paraffin. C. Amat.
34 L'hagiothérapie. Les saints médecins (miracle healing). Cabanès.
35 (No. 13.) Inhaler in Form of Smoking Pipe. Rochon.—Inhalateur.
36 Small Apparatus to Excite Pupil to Facilitate Determination of Pupil Reflex. M. Dupont.—Petit appareil excitateur de la pupille pour la recherche du réflexe lumineux.
37 *Obesity with Partial Localization at Heart. Fiessinger.—L'obésité avec surcharge graisseuse du coeur.

26. **Tachycardia in Incipient Acute Tuberculosis.**—Vialard is convinced that the circulation centers are first affected by the tuberculosis toxin, and that the continuous apyretic tachycardia observed in the incipiency of acute tuberculosis is due to this cause. There is no modification of rhythm and no abnormal murmur. Digitalis is useless and even dangerous.

27. **Treatment of Simple Icterus.**—Robin advises a milk diet until the Gmelin test shows the absence of bile pigments and their substitution by urobilin or hemaphein, which is a sure sign that the biliary passages are permeable. The diet should then be regulated to stimulate the liver, with alkalines and belladonna. He gives 2 to 3 cg. of the latter daily, supplemented by flushing the intestines twice a day with 1.5 liters of water, at the temperature of the room, as an excito-motor stimulant for the biliary passages and secretions and for the intestines. After the milk has been discontinued he has 5 gm. sodium bicarbonate dissolved in a liter of hot water and 150 gm. taken in the morning and again half an hour later. The same amounts are to be taken again at 4 p. m. Hauterive Vichy can be substituted, if desired. He combats the constipation with salines in laxative doses, preferably sodium sulphate, 10 to 12 gm. in a little seltzer water on empty stomach.

28. **Preventive and Curative Treatment of Tuberculosis.**—Tetau regards the temperature as the sign of the predisposition to tuberculosis. Every one whose average temperature is above 37 C. (98.6 F.) is a candidate for the disease, as it shows peculiarly active organic interchanges. The physician should aim to reduce these excessive oxidations and transform the predisposed into the arthritic condition, thus presenting the greatest possible resistance to the invasion. The temperature can be brought down below this danger point by means of repose, forced feeding, bromids of sodium and of camphor and arsenic, combating at the same time, with calcium glycerophosphate, the demineralization which accompanies this condition. The results in his practice of the application of these principles have been very promising.

30. **Danger Labels for Drugs.**—Berger and Loewy suggest utilizing for the labels on medicine bottles the colors used in railroad signaling, with whose meaning nearly every one is familiar. White signifies that the track is clear, that the patient can take the medicine himself. Green calls for caution, a medicine to be given only to intelligent patients or used by nurses, while red signifies danger, poison, and the contents of the bottle to be used exclusively by the physician.

31. **Associated Tuberculin and Creosote Method of Treating Tuberculosis.**—Maréchal of Brussels is the author of this mode of treating tuberculosis, but Bernheim does not give quite such large doses as Maréchal. He prefers to inject 1, then 2, and then 3 c.c. of creosote phosphate on three consecutive days, the fourth day substituting an injection of .0025 gm. of tuberculin, then repeating the course, gradually increasing the dose of tuberculin. Each c.c. of the Maréchal tuberculin used contains 1 milligram of the active products. The results have been more satisfactory in the writers' experience than with any other method.

32. **Local Treatment of Exfoliating Glossitis.**—A spoonful of Van Swieten's solution is taken in the mouth and the head moved around until the tongue is thoroughly bathed in the fluid, which is then ejected. Gallois had his patients do this every day, and they were cured in a week.

37. **Obesity with Heart Involvement.**—Fiessinger has found that many apparently very severe cases rapidly recover normal tone on a milk diet. He describes 7 cases in detail. The liver was enormous in all and the obesity had been favored by alcoholism and over-eating. The oxidative processes should be promoted and the dietary restricted and milk fulfills both these conditions. In less severe cases he allows a meat diet with restriction of fluids, but when the heart is much dilated, with signs of renal toxemia and of arterial hypertension, the milk diet is preferable. One of his patients found that the symptoms of diabetes vanished with the obesity. One required injections of caffein and another digitalis. All lost 20 to 80 pounds on the milk.

Revue Mens. des Maladies de l'Enfance, Paris.

Last indexed page 946.

38 (XXI, 4.) *Ponction lombaire dans les infections broncho-pulmonaires des enfants. P. Nobécourt and R. Voisin.
39 Cas de meningite séreuse à streptocoques chez un nourrisson (In a nursling). Delherm.
40 Cas de spina bifida; opération; mort. C. G. Cumston (Boston).
41 (No. 5.) *Indications générales du traitement dans le pied bot varus-equinus congénital. A. Broca.
42 *Importance of Eulargement of Spleen as Sign of Early Hereditary Syphilis. A. B. Marfan. — De l'hypertrophie chronique de la rate dans la syphilis héréd. précoce et de sa haute valeur pour le diagnostic de cette maladie.
43 *Injection d'air dans le tissu cellulaire présacré comme moyen de traitement de l'incontinence nocturne ou diurne. Bérard (Lyons).

38. **Lumbar Puncture in Broncho-Pulmonary Infections.**—Nobécourt examined the cerebrospinal fluid in 31 cases of these infections in children. There were no meningeal phenomena in 7, but the others exhibited symptoms indicating the involvement of the meninges, from mere stiffness of the neck to general convulsions. In the 7 negative cases the fluid was clear and generally sterile. Only 4 survived out of the 24 with meningeal symptoms, and in 2 of these no leucocytes had been found in the fluid. In the third there were a few lymphocytes and polynuclears, and in the fourth the former alone. More or less edematous congestion is the rule, but in a few instances an actual sero-purulent meningitis was revealed. The puncture findings bear no relation to the gravity of the disease, although they indicate the intensity of the local reaction. In some of the milder clinical cases there was a distinct leucocyte reaction, and in other very severe ones, merely hypertension.

41. **Treatment of Congenital Varus-Equinus.**—This address was delivered at the Madrid International Congress by request. Broca proclaims that treatment should commence the day the child is first seen, even if just born. The dangers of chloroform are no greater at 6 weeks than at 4 or 5 years. The immobilizing plaster cast need not be wet if the child is taken up to urinate several times during the night and the cast is wrapped in non-absorbent cotton. The modeling exercises should be continued every day or three times a week, and by the fifteenth day or end of the month the varus and supination will be sufficiently corrected for the equinus to be attacked. It may be necessary to cut the Achilles tendon. Open tenotomy is preferable, cutting the ligamentous fibers of the soleus in front of the tendon under chloroform preceded by a brief modeling. He applies a flannel bandage after two or three weeks of the plaster cast, with daily modeling. When the child commences to walk a case of adhesive plaster will be found useful. When the foot is in proper position, walking on it will complete the cure. A well corrected foot should be flat, with no arch on the inner side. The mother should aim to secure this as the child stands barefoot, leaning on a chair, and correct the tendency to toe in. The shoe should lace and fit well, the sole on the outer side raised a full centimeter. By eighteen to twenty months the result will be perfect. In older children he commences with resection of the heads of the astragalus and calcaneum. This alone will often correct the deformity. Ten years of experience have demonstrated that the fear of arresting the growth of the bones is unfounded. He sometimes performs this operation on younger children if the foot is not in good position after the above treatment. It is not at all a serious intervention, and the result is rapidly complete. The foot afterward is over-corrected in a plaster cast. Massage and exercises of the foot are undertaken as soon as possible. This method of treatment ranging from simple manipulations to resection of the tarsus should be tentatively applied to the individual case. The pure orthopedists do not approve of it nor the ultra-surgical interventionists, but it is best adapted to the variable exigencies of the clinic.

42. **Hypertrophy of Spleen Early Sign of Hereditary Syphilis.**—Marfan announces that in 40 cases of chronically enlarged spleen in children syphilis was unmistakable in 31 or 77.5 per cent. Only 9 were free from the taint of hereditary syphilis. In 4 with the syndrome of pseudo-leukemic anemia, all were rachitic, and in 2 the rachitis was associated with syphilis. In the others without evident anemia, syphilis was marked in 19 and associated with rachitis in 10. In 4 there were signs of rachitis alone, and in 1 the splenomegaly was due to tuberculosis, and in 2 to some other unknown cause. These figures suggest the possibility of the existence of a syphilitic rachitis. In any event, in presence of a case of rachitis without appreciable signs of syphilis, we should consider the possibility of the latter. Even in very severe cases of hereditary syphilis of this splenomegalic type the patient may recover under prompt mercurial treatment, though the stage of pseudo-leukemic anemia may have been reached. He has examined 376 children under 2 years of age, and found among those with spleen of normal size, that 59 had rachitis, no syphilis; 23 syphilis, no rachitis, and 8 rachitis plus syphilis, while 40 with splenomegaly included, as mentioned above, 12 with rachitis plus syphilis; 6 with rachitis, no signs of syphilis; and 19 with syphilis alone. The splenomegaly may be accompanied by a certain amount of enlargement of liver and glands. The coexistence of splenomegaly and rachitis does not, therefore, exclude syphilis but rather render it more probable, as in 66 per cent. syphilis was certain or probable. The same is true of splenic pseudo-leukemic anemia for 50 per cent.

43. **Injection of Air as Cure for Urinary Incontinence.**—Jaboulay met with a case of urinary incontinence in a girl of 18 rebellious to the bromids, to section of the meatus and antisepsis of region, also to epidural injections of artificial serum. He then sought to act on the sacral and hypogastric plexuses by compression. He accomplished this and effectually cured the incontinence of many years' standing by injection of air through the raphe in front of the sacrum into the perirectal space. About 150 c.c. of the air were injected and the immediate result was distention of the parts and colic. The air made its way into the supraclavicular fossa and caused some cardio-pulmonary disturbance for a few minutes. In a quarter of an hour all the discomfort had subsided, and during the month since the patient has been freed from her incontinence. In future he will use artificial serum instead of air for the injections as more liable to remain localized than the latter.

Revue de Therapeutique, Paris.

Last indexed page 947.

44 (LXX, 6.) *Oil and Contraindication to Operation in Appendicitis. A. de Vevey.—Traitement médical de l'appendicite par les larges irrigations huileuses. Une contre-indication formelle à l'opération.
45 (No. 7.) La Photothérapie. F. de Courmelles. 167 observations: Lupus.
46 Hydrologie médicale et scientifique en 1903. Garrigou.
47 *Calomel and Salt Poisoning. J. Régnault.—Calomel et sel marin.
48 (No. 8.) Treatment of Tuberculous Joint Affections in Children. A. Hoffa (Berlin).—Traitement des tuberculoses articulaires de l'enfance. Address at Madrid Congress.
49 2 nouveaux cas de scorbut infantile. J. Comby.

44. Oil Treatment of Appendicitis and Contraindication to Operating.—Vevey recalls that the syndrome of appendicitis was known in detail as early as 1830, but was called then "typhlo-perityphlitis." The more strenuous life of the present day, the sports, jars in transportation, etc., are possibly factors in its increased frequency, but this is mainly due to neglect of the old-fashioned habit of occasional purges. Arthritic subjects do not suppurate easily and analysis of the cases shows that they are unusually resistant, consequently medical treatment alone is indicated in their case. Appendicitis frequently develops on a tuberculous soil, but even the suspicion of tuberculosis is a formal contraindication to surgical intervention, under penalty of whipping up the tuberculosis to a speedily fatal termination. He contends that the best mode of treatment is to administer 5 to 6 spoonfuls of olive oil during the day, with repose, supplemented by injections of the oil, 250 gm. at a time, repeated as often as necessary to relieve the acute crises. The patient should take the injection in a position to favor the copious and thorough rinsing of the intestines with the oil. The abdomen is bandaged with flannel impregnated with oil containing 10 per cent. guaiacol and 5 per cent. iodoform. Chills and signs of peritoneal inflammation alone indicate surgical intervention and tuberculosis is a *noli me tangere* under all conditions.

47. Calomel and Salt.—After taking calomel two young men ate a couple of copiously salted eggs. One exhibited dyspnea, small rapid pulse, clamminess, nausea and violent convulsions. The other had colics and diarrhea for three days, the discharges containing blood and mucus.

Archiv f. d. ges. Physiologie (Pflueger's), Bonn.

Last indexed page 1615.

50 (XCIV, 1-2.) Friedrich Goltz. J. R. Ewald.
51 Die Physiologie und Morphologie der Schwimmblase (swimming bladder) der Fische. A. Jaeger.
52 (No. 3-4.) *Physiology of the Sense of Space. E. v. Cyon.—Zur Physiologie des Raumsinnes. III. Täuschungen in der Wahrnehmung der Richtungen durch das Ohrlabyrinth.
53 Equilibrium in Hovering. W. Oswald.—Zur Theorie der Schwebevorgänge, sowie der specif. Gewichtsbestimmungen schwebender Micro-organismen.
54 (No. 5-6.) Purin in Urine. R. Burian and H. Schür.—Das quantitative Verhalten der menschlichen Harnpurinausscheidung.
55 *Absorption in Intestines. R. Häber.—Ueber Resorption im Darm. IV.
56 (No. 7-8.) Influencing of Subjective Visual Impressions. V. Urbantschich.—Ueber die Beeinflussung subj. Gesichtsempfindungen. Twelve colored plates.
58 Zur Physiologie des Ohr-Labyrinths. G. v. Marikovszky (Budapest).
59 (No. 9-10.) *Research on Action of Camphor. H. Winterberg (Vienna).—Experimentelle Untersuchungen über die Wirkung des Camphers auf das Herz und die Gefässe von Säugethieren.
60 Ueber die Fortpflanzungsgeschwindigkeit (rapidity of propagation) des Elektro-Tonus. M. Gildemeister and O. Weiss (Königsberg).
61 (No. 11-12.) Alteration in Perception of White Independent of Color Sensitiveness. E. Hering (Leipsic).—Ueber die von der Farbenempfindlichkeit unabhängige Aenderung der Weissempfindung.
62 Secondary Contractions of Diaphragm. O. Langendorff (Rostock).—Notiz der sec. Zwerchfellzückungen betreffend.
63 *Influence of Alcohol on Albumin Metabolism. R. Rosemann (Greifswald).—Einfluss des Alkohols auf dem Eiweisstoffwechsel.
64 *Meat Diet and Its Relation to Gout. M. Kochmann.—Ueber Fleischnahrung und ihre Beziehung zur Gicht.
65 *Muscles During Deprivation of Oxygen. C. L. v. Lhota.—Ueber die Functions-Aenderung des Warmblütermuskels beim Sauerstoffmangel.

52. Physiology of Sense of Space.—This article is the conclusion of thirty years of brain-racking study of the sense of space, von Cyon remarks. He believes that he has established that the semicircular canals are the peripheral organs of the sense of space, as he proclaimed long ago, and further study has only confirmed the truth of this assumption. Each of the canals corresponds to one of the three dimensions of space, and the limitations of the organ restrict us to these three. His latest work has been the study of the deceptive orientation on change of position in the dark or after whirling around. The results harmonize at every point with his preconceived conception of the functions of the labyrinth, as he describes in detail.

55. Intestinal Absorption.—The soluble lipoid combinations are absorbed into the epithelium, while the absorption of the insoluble is interepithelial with one exception, the salts of iron. Iron seems to have a special arrangement for its absorption in the intestines not shared by any other of the heavy metals.

59. Action of Camphor on Circulatory System.—Winterberg tabulates the results of administration of camphor to 100 rabbits, cats and dogs, as manifested on heart and vessels. Nothing was observed in a single instance which indicated that the heart action was modified by the camphor either favorably or unfavorably. The blood pressure in auricle and arteries showed no marked divergence from normal. The cause for the lessened arterial pressure after administration of camphor is evidently due to the dilation of the smaller arteries. This dilation is not general; the vessels in the splanchnic region seemed to be exempt, which offers a suggestion for therapeutics. The action of the camphor on the vascular center was not constant.

63. Influence of Alcohol on Albumin Metabolism.—Rosemann proclaims that the contradictory views in regard to alcohol are due to the fact that it can be utilized by the organism the same as carbohydrates and fats, and it can exert the same albumin-saving action. But under certain circumstances it displays an albumin-destroying faculty which counteracts its albumin-saving action. Among the circumstances which induce this are the lack of being accustomed to alcohol and the lack of an adequate amount of calories in the dietary. This influence is usually temporary, and the albumin-saving faculty soon gains the upper hand and continues unhindered.

64. Meat Diet and Its Relation to Gout.—Kochmann fed three dogs exclusively on meat and examined the metabolism. The urine was extremely rich in urea. The bowels moved very seldom, the fifth day on an average. The liver and kidneys were found very much degenerated, indications of acute or subacute nephritis, cloudy swelling of the liver and pigment deposits in the spleen. The control animals were all normal. Applying the results to man it is evident that the injury to liver and kidney on a copious meat diet prevents the normal destruction of uric acid, which in health occurs in the liver, kidneys and muscles. If the liver and kidneys are degenerated and the muscles suffering from lack of physical exercise, the uric acid must accumulate and be deposited at different points in the body. Alcohol is an accessory factor, as it aids in the degeneration of the liver.

65. Muscles During Asphyxia.—Lhota found that the functional capacity of the muscles in his experiments was reduced, sometimes to zero, by the lack of oxygen. As soon as the oxygen was supplied they regained their former integrity. On the other hand, the muscles of weak, emaciated animals and of those submitted to repeated asphyxia, suffered little, if any, impairment of their functional capacity.

Deutsche Zeitschrift f. Chirurgie, Berlin.

Last indexed page 880.

66 (LXVI, 5-6.) Beitrag zur Talma'schen Operation. O. Hildebrand (Basle). One case. Successful.
67 Zur Cholecystogastrotomie. Ibid.
68 Zur chirurgischen Behandlung der Arthritis deformans, insbes. der kleinen Gelenke. J. Elter.
69 Ankylosis mandibulæ vera. L. W. Orlow.
70 Zur Anatomie des Plexus chorioideus. Ziegler.
71 Unusual Sequelæ to Basal Fracture. Borchard.—Ueber einige seltenere Folgezustände nach Schädelbasisfractur.
72 Two Cases of Congenital Sacrococcygeal Tumors. W. Hoppe.—Zur Lehre von den angeborenen Kreuzsteissbeingeschwülsten.
73 Bone and Cartilage Growths in Tonsils. H. Nösske.—Ueber Knorpelund Knochenbildung in den Tonsillen.
74 Luxatio supra pubica. Borchard.
75 Technic and Instruments Used in Plugging Bone Cavities. M. Silbermark (Mosetig-Moorhof's clinic, Vienna).—Zur Technik bei der Plombirung von Knochenhöhlen mittels Iodoformknochenplombe. Six cuts. See abstract page 1544, No. 75.

76 Fall von doppelseitiger Luxatio tibiæ anterior compl. F. Fischer.
77 (LXVII, Esmarch Festschrift). *History of Neuroses of Joints. König.—Zur Geschichte der Gelenkneurosen.
78 Prognosis of Wounds in Battle. Hildebrandt.—Die Prognose der Schussverletzungen im Felde.
79 *Spinal Anesthetization of Animals. Eden.—Thierversuche über Rückenmarkenasthesie.
80 *History of Benevolent Institutions. A. Köhler (Berlin).—Zur Geschichte der socialen Wohlfahrtseinrichtungen.
81 *Acute Hernias in Abdominal Wall. A. Wiesinger (Hamburg).—Ueber acute Darmwandbruche der Linea alba und der vorderen Bauchwand mit Ausgang in Gangrän.
82 *Results of Operative Treatment of Congenital Cleft Palate. O. Kappeler (Constance).—Ueber die op. und funct. Erfolge der Operation der angeb. Gaumenspalte.
83 Zur Achillodynia syphilitica. G. Schirren. One case.
84 *Operative Treatment of Sciatica. Bardenheuer (Cologne).—Ischias, ihre Behandlung mittels der Nevrinsarkoklesis.
85 *Should We Operate in Tubercular Peritonitis? E. Pagenstecher.—Dürfen wir die Bauchfelltuberkulose operiren?
86 *Ueber Ganglien-Neurome und andere Geschwülste des peripheren Nervensystems. L. Riedel and R. Beneke.
87 *Ueber einen Echinococcus des Stirnhirns (frontal lobe) von aussergew. Grosse, nebst Bemerkungen über die Operation des Hirnechinococcus. F. Franke.
88 *Fibroma of Neck in Relation to Spinal Cord. E. Boerner.—Ueber Fibrome des Halses mit Beziehungen zum Rückenmark.
89 Significance of Acquired Diverticulum in Intestine. C. Georgi.—Ueber das erworbene Darmdivertikel und seine praktische Bedeutung.
90 Fall von Tetanie gastrischen Ursprungs im Anschluss an Trauma. P. Gatzky.
91 *Chat on Appendicitis. F. Lange (New York).—Eine Plauderei über App.
92 Importance of Certain Muscles for Flat Foot. C. Nicoladoni.—Ueber die Bedeutung des Musculus tibialis posticus und der Sohlen-Muskeln für den Plattfuss.
93 *Treatment of Wandering Kidney. E. Hahn (Berlin).—Ueber Wanderniere und die Behandlung derselben.
94 Zur chirurgischen Syphilis. F. Dittrich.
95 *Diphtheria of Intestines After Serious Operations on Feeble Patients. Riedel.—Ueber Darmdiphth. nach schweren Operationen bei sehr geschwächten Kranken.
96 *Bullet Healed in Heart and Experimental Research on Foreign Bodies in Heart. O. Riethus.—Fall von Schussverletzung des Herzens und Einheilung des Projectils, nebst exp. Untersuchungen über Fremdkörper im Herzen.
97 Signs of Suppurative and Gangrenous Epityphlitis. E. Küster.—Die klin. Zeichen der eiterigen und brandigen Formen der Ep.
98 Spiral Fracture of Leg Bones. C. Lauenstein (Hamburg).—Zur Spiralfractur des Unterschenkels nebst Beschreibung einer typischen Form des Spiralbruches beider Knochen. Thirty-two cases. Twenty-eight cuts.
99 Ueber die Luxation des Os lunatum carpi. L. v. Lesser.
100 Zur operativen Behandlung des Carcinoma ventriculi. Caspersohn (Altona).
101 Experimentelle und klinische Beiträge zur Ether-Narkose und zur Ether-Chloroform-Misch-Narkose. Poppert (Giessen).
102 Leichte und schwere Neurosen. Schüssler (Bremen).
103 Zur Technik der Radicaloperation der chronischen Otitis media purulenta. P. Reichel.
104 Surgery of Liver. Zur Leberchirurgie; 4 Leberabscesse. O. Hildebrand (Basle).
105 *Removal of Foreign Bodies from Bronchus and Tamponing the Bronchi. Helferich (Kiel).—Ueber die Entfernung von Fremdkörpern aus den Bronchien und über Bronchustamponade.
106 Congenital Elevation of Scapula. P. Sick.—Ueber angeborener Schulterblatthochstand.
107 Stenosis After Incarceration of Hernia. R. Göbell.—Ueber die Darmstenose nach Brucheinklemmung.
108 *Ueber extracranielle Aneurysmen der Carotis interna. J. Werner.
109 Behavior of Bones with Glancing Bullets. Oertel (Kiel).—Verhalten der Knochen bei Streifschüssen aus modernen Kriegswaffen.
110 Zum Mechanismus der Luxation im unteren Radioulnargelenk. E. W. Baum.
111 Local Pressure on Frontal Brain and Pathology of Brain in General. P. L. Friedrich (Leipsic).—Zur Hirnpathologie, insbes. zur Pathologie des Stirnhirns, zugleich ein Beitrag zur Frage nach der Bedeutung der örtlichen Hirndrucks. Four cases.

77. **Joint Neuroses.**—König comments on the fact that radioscopy has revealed that many painful joint affections formerly classed as neuroses are in reality due to some anomaly easily remedied by operative intervention. He describes 5 such cases and mentions parenthetically that he recently removed 52 "joint mice," the size of a pea to that of a bean, from a single elbow, leaving the joint intact. He also refers to osteochondritis dissecans as a frequent source of the neuralgic pains diagnosed as neurosis. If the meniscus is involved alone even radioscopy will not reveal the source of the trouble.

79. **Spinal Anesthetization of Animals.**—Experiments on 110 cats are described in detail as conducted at Bier's clinic at Greifswald. The substances injected by the technic of spinal cocainization included morphin, nirvanin, carbolic acid, peronin, acoin, holocain, anesthesin, beta eucain, tropacocain, ether, alcohol and chloroform, the two latter both negative, and saline solution and distilled water. Paralysis followed the use of a number of the substances, but the fact was established that saline solution and distilled water were both capable of inducing complete anesthesia to the breast line, allowing amputation of legs and tail, with no after effects, the animals apparently normal afterward. From one to ten syringefuls of the distilled water were injected. One cat injected with 2.5 syringefuls had complete anesthesia to the breast for thirty minutes; another with 3 syringes had the same in twenty minutes, subsiding to the pelvis by the thirtieth minute and to the legs and buttocks by the fortieth. Afterward the animal ran around normally. In another cat, 10 syringes induced complete anesthesia to the costal arch immediately, the respiration unaffected, continuing for twenty minutes, with afterward normal liveliness. In another, 1 syringe of normal saline solution induced good anesthesia to the breast in twenty minutes. In a black cat weighing 3 pounds, 1 syringe of a .2 per cent. saline solution induced faultless anesthesia to the tenth dorsal vertebra in one to two minutes, lasting for an hour and a quarter. After injection of 3 syringes in another animal the leg and tail were amputated without resistance.

80. **Benevolent Institutions in History.**—Köhler cites in this historical sketch that Scipio founded a city to shelter his veteran warriors and several towns were devoted to the veterans of the Roman army. As early as 1644 sick benefit societies and old age pensions had been inaugurated among the miners of Saxony.

81. **Hernia into Abdominal Wall.**—Wiesinger reports 2 cases in previously healthy children, both entailing gangrene, with the death of one child. The hernia was too small and deep to be discoverable and attention was attracted only by symptoms of peritoneal irritation. As the gangrene developed, the peritonitis deceptively subsided and the children were apparently well for eight to ten days. Then pain and slight fever followed as inflammation and suppuration developed. The exudate worked its way between the layers of the wall and manifested itself at the umbilicus. The suppuration and fluctuation in and around the umbilicus serve to differentiate this lesion. In a third case a child of 5 succumbed to the effects of acute gangrenous hernia of the wall of the stomach. The lesion in this case had been treated for nine weeks on the diagnosis of tuberculous peritonitis.

82. **Cleft Palate.**—Kappeler has followed 82 patients operated on and finds that 61 were cured, including 29 who required more than the single intervention. It failed completely in 4, and 7 are still under treatment. The speech was normal at once in 4; after training in 11; after training and use of an obturator in 23; very much improved in 10; no effect in 11; still under treatment or result unknown, 12. He gives details of technic and casuistics.

84. **Operative Treatment of Neuralgia.**—Bardenheuer insists that the cause of sciatica or other neuralgia is in many cases the length and narrowness of the bony passage through which the nerve emerges. When this passage is small, slight traumatisms may induce concussion of the bone at this point and irritate the vasodilating nerves and the walls of the accompanying vessels. The result is an overfilling of the vessels, venous stasis, with consequent compression of the adjacent nerve and pain. In 5 cases of sciatica in which he operated he found the veins accompanying the nerve darkly congested. He proceeded to enlarge the bony canal, cutting away the lower section of the sacro-iliac synchrondrosis, and thus allowing the nerve to rest on the soft parts. There has been no recurrence of the neuralgia during the two years since in any instance. Trauma was noted in the etiology of all these cases and in that of 16 other cases of sciatica he has since encountered. He operated on a sixth patient, a diabetic, who has since died in coma, and on 2 others. In one he removed a myxosarcoma, the size of a goose egg, on the first sacral nerve. The sciatica was the only sign of its presence and the operation undertaken on this account revealed the neoplasm and allowed its removal in an early stage. In his eighth patient the neuralgia was in the

second branch of the trigeminus, and on opening up its bony passage there evidences of pronounced venous stasis were discovered. The nerve was allowed to rest on soft parts alone by excision of bone, and the neuralgia was banished. The patient died not long after from perforation of a duodenal ulcer. The operation showed that the nerve was apparently intact, and confirmed the assumption that the pain would cease when more favorable conditions for circulation were provided. The measure should at least be tried before attempting excising the nerve or a ganglion in such cases.

85. **Operative Treatment of Tuberculous Peritonitis.**—Pagenstecher's experience includes 9 cases. He advises intervention in the chronic stage—moderate fever is not a contraindication—especially in the cases in which the tubes are the primary seat of the infection. Their removal appears to have a favorable influence on the course of the disease. He prefers expectant treatment in the encapsulated form, in the first stormy onset of the form suggesting ileus, and in the dry variety. His cases are described, with particulars.

86. **Ganglion-Neuromata.**—A careful study is given of the case of a child of 5 on whom 160 tumors could be counted, all due to blastomatous proliferation of the ganglion cells. In 1897 he operated on a boy of 4 who had an immense retroperitoneal tumor. About 700 gm. of the tumor were resected, but a large part extending up under the ribs to the diaphragm was left. The paralytic phenomena caused by the compression of the tumor at the fourth and fifth lumbar segments gradually subsided, and when examined five years later no trace could be detected of the remnants of the tumor, or signs of one elsewhere. In another case he extirpated a tumor in the sciatic nerve requiring excision of half the thickness of the nerve for an extent of 12 cm. There has been no recurrence of the tumor formation during the thirteen years to date, and no paralysis nor sensory disturbances, but the entire leg is much thinner than the other. In a fourth case he removed a congenital tumor on the forearm from a nursling. Both the median and ulnar nerves were resected for several centimeters, and four months later he performed a plastic operation with almost complete restoration of function.

87. **Echinococcus of Frontal Brain.**—His experience with a case in which the patient succumbed immediately after removal of a very large hydatid cyst in the frontal lobe, has convinced Franke that puncture and injection of saline solution is the better mode of treatment for such cases.

88. **Spinal Symptoms from Tumor in Neck.**—The spinal symptoms began to subside at once after removal of the fibroma and completely vanished in time, although they had lasted for a year before the intervention. The case shows that even the most benign tumor in the neck may give rise to serious spinal disturbances.

91. **A Chat on Appendicitis.**—Lange refers to the fact that Esmarch suffered from a severe attack of recurring appendicitis on his visit to America fourteen years ago. His hale and hearty condition on his eightieth birthday, the occasion of the "Festschrift," speaks in favor of the non-operative treatment followed.

93. **Treatment of Wandering Kidney.**—Hahn describes the technic which he has been using for eighteen years. He lifts up the adipose capsule until the kidney rolls into its proper position, and then cuts a flap in the capsula propria, exposing the greater part of the posterior surface of the organ. The slit adipose capsule is sutured to the fascia and muscles, the flap of the capsula propria to the skin and cellular tissue below. He mentions that about 900 cases of nephropexy have been published. All discomfort has been abolished by the procedure in 2 to 60 per cent., according to the reports given by various operators.

95. **Post-Operative Intestinal Diphtheria.**—Riedel reports 5 cases of fatal necrosis of the intestinal mucosa subsequent to a laparotomy. No mercury had been given in any instance, but all the patients were in an exceptionally debilitated condition. He has since become more cautious in regard to purging patients as a preparation for or in the after-treatment of an operation. He thinks that a little costiveness is preferable to the danger of such a serious complication as post-operative diphtheria of the intestines.

96. **Bullet Healed in Heart.**—After the first shock of the bullet wound directly in the sternum had subsided, the patient, a robust young man, was comparatively comfortable for three weeks, during which the bullet had probably been ensconced in the wall of the heart. At this date it penetrated into the heart, and the most violent arrhythmia followed for a time. Radioscopy showed the bullet in the heart, tossed about in the blood stream. By the end of six months the bullet had become stationary, and there was scarcely a trace of arrhythmia. Experiments on dogs confirmed the assumption that the prognosis is not affected when the foreign body heals in the heart without trace of reaction. None of the dogs succumbed, although foreign bodies of various sizes had been introduced into the heart.

105. **Rubber Bag Method of Removal of Foreign Bodies in Air Passages.**—Helferich illustrates a case in which the metal cap of a pencil had become lodged in the left bronchus. He succeeded in removing it without trouble by introducing a small brass tube over one end of which a rubber cot or finger had been tied. After the collapsed rubber bag had been pushed down into the metal cap in the bronchus, the bag was inflated. This evidently pressed back the walls of the bronchus in which the cap had been embedded, and the bag clung to the cap which was easily withdrawn with it. He suggests that this combination of a long, narrow rubber bag and tube might be found useful to tampon a bronchus during an operation, or possibly for other purposes.

108. **Extracranial Aneurism of the Internal Carotid.**—Werner has collected 11 cases and adds the description of one personally observed. On account of the tough consistency, negative result of puncture and lack of pulsation, the tumor about the size of a walnut was supposed to be a fibro- or lympho-sarcoma, and its extirpation was attempted through the mouth. The gush of arterial blood was controlled by tampons and after low tracheotomy had been done and the common carotid litigated, the tumor was resected through the cheek. It was more than half filled with a tough thrombus.

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112 (XLVII, 5-6.) Cryoscopy of Urine in Bilateral Kidney Affections. H. Strauss (Senator's clinic, Berlin).—Die Harnkryoskopie in der Diagnostik der doppelseitiger Nierenerkrankungen.
113 Die intracelluläre Glykogen-Reaction der Leukocyten. S. Kaminer.
114 Albuminurie minima und cyklische Albuminurie. L. Küttner.
115 Mechanism of Absorption. L. Hofbauer (Vienna).—Zur Frage der Resorptions-mechanismen.
116 Influence of Nephrectomy on Electric Conductibility of Blood. A. Bickel (Göttingen).—Experimentelle Untersuchungen über den Einfluss der Nierenausschaltung auf die elektrische Leitfähigkeit des Blutes.
117 Elimination of Glycuronic Acid. M. Bial (v. Leyden's clinic, Berlin).—Ueber die Ausscheidung der Glycuronsäure.
118 Pentosurie und Pentosenreaction. H. Brat.
119 Gangrän des linken Unterschenkels durch Thrombose der Arteria femoralis (wahrscheinlich grippaler Natur) bei einem Diabetiker. M. Loeb.
120 (XLVIII, 1-2.) *Zum Symptomencomplex des Morbus Basedowii. L. v. Schrötter.
121 Results of Experimental Exclusion of Motor Function and Its Significance for Pathology. M. Rothmann (Berlin).—Ergebnisse der exp. Ausschaltung, etc.
122 Accidents from Electricity. S. Jellinek.—Elektrisches Unfallwesen. See abstract page 1178.
123 *Zur Pathologie und Therapie des Morbus-Basedowii. Die Blutdruckverhältnisse. J. Donath (Budapest).
124 Experimentelle und kritische Beiträge zur Glycolyse. E. Bendix and A. Bickel.
125 *Determination of Hydrochloric Acid in Stomach Contents. O. Reissner.—Zur Methodik der Salzsäurebestimmung am Mageninhalt.
126 *Ueber späte Rachitis (R. tarda). E. Roos (Freiburg).
127 *Cardiale Bradycardie. H. Silbergleit (Berlin).
128 Test for Determination of Potassium Iodid in Urine. H. Singer (Elberfeld).—Methodisches zur qualitativen Bestimmung des Iodkali im Harn.
129 Ueber die Bakterien-Menge in menschlicher Feces. A. Klein (Amsterdam).
130 (No. 3-4.) *Study of Saline Infusion. W. Erckleutz (Breslau).—Exp. und klin. Untersuchungen über die Leistungen der Kochsalzinfusion.
131 Die Miliartuberculose der Chorioidea als Symptom der acuten allgem. Miliartuberculose. E. Marguiles.
132 Physiologic Sources of Unphysiologic Movements. A. Adamkiewicz (Vienna).

133 *Relations of Acid-Proof Pseudo- to Tubercle Bacilli. F. Klemperer.—Beziehungen der säurefesten Saprophyten zu den Tuberkelbacillen.
134 *Recuperating Faculty of Normal Heart. H. Singer.—Einfluss des Trainings auf die Erholungsfähigkeit des normalen Herzens.
135 Trauma; Myelitis; Syringomyelie. L. Huismans (Cologne).
136 Riegler's Acetic-Acid Test of Diabetic Urine. Voltolini.—Werth der R.'sche Acetessigsäurereaction im Harn von Diabetikern. Not Accurate.
137 (No. 5-6.) *Physicotherapy of Chronic Joint Affections. L. Brieger and A. Laqueur.—Behandlung von chron. Gelenkaffectionen mittelst physikalischen Heilmethoden.
138 Albuminoids in Exudates. F. Umber.—Zum Studium der Eiweisskörper in Exsudaten.
139 *Cardiac Defects in Children. J. Cassel (Berlin).—Statistische und etiologische Beitrage zur Kenntniss der Herzfehler bei Kindern.
140 Zur Frage des Paratyphus. G. Ascoli (Genoa).
141 *Zur Medikation in Diabetes. Kaufmann.
142 *Bacteria in Intestines After Administration of Disinfectants. J. Strasburger (Bonn).—Ueber Bakterienmenge im Darm bei Anwendung antiseptischer Mittel.

120. **Symptom-Complex of Exophthalmic Goiter.**—Schrötter has had occasion to observe a case in which exophthalmic goiter was accompanied by a lipomatosis which simulated myxedema. He found thyroid treatment most effectual and attributes the condition to perverted chemical functioning of the thyroid gland. Besides the conditions due to hyperfunction and to hypofunction, we must make a place for those due to abnormal functioning.

123. **Blood Pressure in Exophthalmic Goiter.**—Donath studied the blood pressure with three varieties of instruments and found that there was no constant standard. It varied, but was usually normal or higher.

125. **Determination of Hydrochloric Acid.**—Reissner expatiates on the sources of error in the usual tests for hydrochloric acid, and suggests the following as more reliable. The acidity of the stomach contents is determined with litmus paper and a one-tenth normal solution of caustic soda. The same amount of stomach contents is then evaporated to dryness with the one-tenth soda solution in a platinum crucible, and carefully incinerated. After moistening and pulverizing, the residue is extracted with hot water and the chlorin then determined according to Volhard. (*a*). The same procedure is then repeated with the same amount of non-neutralized stomach content (*b*). The chlorin is determined by treating with silver solution, filtering and further treating with ammonium rhodanate (*c*). Then *a* equals the hydrochloric acid plus the combined chlorids; *b* the combined chlorids; *c* the total chlorin; *a* minus *b* equals the hydrochloric acid, and *c* minus *a* the volatile chlorin combinations. Organic acids or their salts do not affect the accuracy of this test. Volatile combinations of chlorin are frequently entirely absent after a Riegel test dinner.

126. **Tardy Rachitis.**—Roos differentiated rachitis by radioscopy in the 2 cases he describes. It first appeared at the age of 11 in one child, and in the other, the child had apparently quite recovered from ordinary rachitis at 7, but it reappeared again at 15, with a remarkably severe course. The skull and thorax as well as the long bones were affected. He suggests that possibly many cases of supposed scoliosis, genu valgum and varum, developing between 10 and 20, may in reality have been cases of this tardy rachitis. The first patient was materially improved by phosphorus-cod liver oil.

127. **Cardial Bradycardia.**—Silbergleit's 2 patients were affected with arteriosclerosis or stenosis of the aorta. Atropin did not accelerate the pulse, thus demonstrating the non-complicity of the vagus in the phenomenon.

130. **What Saline Infusions Can Accomplish.**—Ercklentz inoculated rabbits with staphylococci or injected anilin, arsenic, ricin or cantharidin, and then injected large amounts of a .7 or .9 per cent. saline solution. When copious diuresis was induced the poison was eliminated more rapidly, but it was not invariably induced, probably owing to the different diffusion of the various substances through membranes, but chiefly to the behavior of the kidneys. When the latter were injured by the effects of the intoxication they were unable to respond to the saline infusion with increased diuresis. The kidneys of the animals that succumbed to the intoxication were always more pathologic than those of the rabbits that survived. His clinical experience was also favorable. He thinks there is a wide field for "continuous infusion," that is, repeated injections. In one case of very severe anemia he made 14 infusions of 800 to 1,200 c.c. each, in the course of a month as the last resort. The patient gained fifteen pounds and the erythrocytes rose from 710,000 to 1,240,000; the Hb. from 2.3 to 5.3 per cent.

133. **Relations Between Pseudo- and Tubercle Bacilli.**—Klemperer announces that he has succeeded in rendering guinea-pigs immune to tuberculosis infection by preliminary injections of acid-proof pseudo-tubercle bacilli.

134. **Recuperating Power of Heart.**—Singer recommends testing the recuperating power of the heart by the pulse count at the end of series of graduated exercises. This affords an objective means of determining the functional capacity of the heart for prognosis and therapy, tangible evidence of improvement under treatment or a warning that the heart is being overtaxed.

137. **Physicotherapy of Chronic Joint Affections.**—Brieger has treated at the Berlin Institute of Physicotherapy 20 cases of chronic articular rheumatism, 4 of omarthritis and 6 of gonorrheal arthritis. His experience confirms the great value of hot air, hot water and suitable massage in these affections. Passive congestion failed to demonstrate any benefit.

139. **Cardiac Defects in Children.**—Cassel reviews 107 cases. In 49 there was a history of articular rheumatism in the etiology; in 2 of chorea; in 2 of purpura; in 4 of scarlet fever, in one each of typhoid, measles and influenza, and in 17 the origin was unknown. The defect was congenital in 26, dubious in 4 and certainly acquired in 77.

141. **Medication in Diabetics.**—Extensive research at v. Noorden's clinic has demonstrated anew that all medication ranks far below dietetic measures in diabetes. It is a mistake to attempt to relieve the patient of dietary restrictions.

142. **Bacteria in Intestines After Administration of Disinfectants.**—Strasburger announces as the conclusions of extensive research on man and animals that most of the purges and disinfectants, including calomel, actually increase the number of bacteria in the intestines, as they injure the lining and thus afford more favorable conditions for their proliferation. Proper absorption of well-digested food deprives the bacteria of their nutrient medium and hence reduces their number. Abstention from food has the same effect. No disinfecting power could be observed with naphthalin, and only very slight with salicylic acid; tannocol was the most effective. Ingestion of readily absorbed food or abstention from food are the most effectual means at our command for restricting bacterial proliferation in the bowel.

Gazzetta degli Ospedali, Milan.

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143 (XXIV, 17.) *Patogenesi del delirio nel corso delle malattie infettive. A. Amantini.
144 *La sintomatologia della malaria nel Veneto in raffronto con la diagnosi microscopica. P. Luigi.
145 *Action of Renal Extract and of Blood from Renal Veins on Animals After Bilateral Nephrectomy. P. Fiori (Pisa).—L'azione dell'estratto renale, etc.
146 Benefits from Maragliano Serum in Four Cases of Tuberculosis. H. Hager (Magdeburg).—Nuovo contributo alla cura della tuberculosi polmonare coi siero antitubercolare.
147 (No. 20.) Bile Pigments in Feces. R. Supino (Pisa).—Su la ricerca di alcuni pigmenti biliare nelle feci e del loro significato clinico.
148 *New Method of Operating on Inguinal Hernia. C. Zatti.—Un nuovo processo operatorio dell'ernia inguinale senza fili perduti, con rinforzamento degli strati della parete.
149 Treatment of Pneumonia with Toxic Doses of Digitalis. P. Adolfo.—La polmonite curata colla digitale a dose tossiche.
150 *Perinefrite tubercolare e cura iodica alla Durante. A. de Blasi.
151 (No. 23.) Experimental Arthritis Consecutive to Endovenous Injection of Staphylococcus Aureus without Traumatism of Joint. P. Fiorentini (Messina).—Sulle artriti da stafilococco, etc.
152 *Alcune applicazioni terapeutiche della "Cerebrina." A. Muzzarelli.
153 Success of Antituberculosis Serum in Case of Subacute Polyserositis. I. Monteverdi.—Cura della poliiorreminite subacuta e lenta coi siero Maragliano.
154 (No. 26.) *Meningite cerebrospinale fibrino-purulenta da bacillo di Pfeiffer. G. Mya.
155 L'etiologia e la patogenesi delle dispepsie. G. Campanella.
156 Successful Serum Treatment of Malignant Anthrax. C. Bottignani (Siena).—La pustola maligna curata con le iniezioni sottocutanee ed endovenose di siero anticarbonchioso.

157 Sulla pseudo coxalgie. G. Pirolli.
158 (No. 29.) Sulla frequente coincidenza dell'ernia coll'idrocele. V. Remedi.
159 *Contributo alla casuistica dell forma apiretica dell'endocardite maligna. G. Fazio.
160 Successful Serum Treatment of Malignant Anthrax. G. Alusrindo.—Contributo clinico alla sieroterapia specifica anticarbonchiosa.
161 (No. 32.) Resistenza delle emazie (of the red corpuscles), pressione osmotica e conductibilità elettrica del siero nei pneumonitici. C. Molon (De Giovanni's clinic, Padua).
162 Sulle fibre elastiche nelle cicatrici cutanee. R. Pirone.
163 *Serum Treatment of Tuberculosis. E. Bellinzoni.—Tubercolosi polmonare.
164 *Cura della lebra col mercurio. De Luca.

143. **Pathogenesis of Delirium in Infectious Diseases.**—Amantini argues to prove that the principal factor in delirium is a disturbance in the circulation of the brain. He reasons that prompt relief of the circulation would benefit the delirium, and describes 7 cases treated on this principle with remarkably favorable results. The delirium, hallucinations and excitement were very severe, but the application of one to six leeches to the mastoid process banished the delirium at once, as if by magic, or at most in thirty to forty minutes. In another case the delirium subsided spontaneously after a profuse epistaxis. The disease was pneumonia in 5, acute articular rheumatism in 1 and erysipelas in the other. The delirium had been previously treated by ice to the head without avail.

144. **Symptomatology of Malaria Compared with the Microscopic Findings.**—Luigi rapidly reviews the symptoms as grouped in 500 malarial subjects observed, further classified according to the microscopic diagnosis. Profuse sweating was restricted to quartan and mild tertian infection. Hematuria was noted only in 2 cases of estivo-autumnal. With the exception of headache and vomiting, which are common to all varieties, other nervous symptoms were observed solely with the estivo-autumnal. He describes several instructive cases in which this form presented itself in the guise of a totally different disease, in one case simulating perfectly Addison's disease, and in others cerebrospinal meningitis, or nephritis with uremic symptoms. Exhibition of quinin restored the patients promptly to health after they had been ineffectually treated for the supposed other affection. In another case the patient showed all the symptoms of acute pulmonary phthisis, catarrh of the apices, etc., with the exception of bacilli in the sputa, but quinin soon banished the syndrome. In another patient, persistent pain in the first cervical vertebræ, increased by pressure, was assumed to be a tuberculous affection, but likewise vanished under quinin without leaving a trace.

145. **Action of Kidney Extract and Blood from Renal Veins on Nephrectomized Animals.**—Fiori removed both kidneys from rabbits and then injected them with kidney extract or with serum from the blood of the renal veins, either into the peritoneum or in a vein. The injections evidently retarded the manifestation of symptoms of intoxication, postponed the fatal termination, and had a beneficial action on the bulbospinal phenomena, respiration, etc. Further experiments with ligating the ureters in other animals showed that they survived longer than those whose kidneys had been removed, and the symptoms exhibited were less acute. He thinks that these results suggest a protecting secretion on the part of the kidneys.

148. **New Method of Herniotomy Without Sunken Sutures.**—Zatti has operated 55 times according to the technic described. The object is to strengthen the walls by superposition of the various layers, removing the threads later. The results have been excellent. He proceeds at first according to the Bassini method and then strengthens the wall, closing the wound without drainage. Several cuts show the simple technic, the deep muscles drawn down, the aponeurosis up, both held with sutures removed later.

150. **Iodin Treatment of Tuberculous Perinephritis.**—De Blasi reports a case diagnosed by exclusion as tuberculous perinephritis. The patient was a peasant, 27 years old, who had suffered from a pleuritis on the same side eleven years before, possibly of tuberculous nature. The typical fever vanished after 10 injections of 2 cg. of iodin each, according to Durante's technic, and after 20 more the patient was completely restored. The tumor in the lumbar region had subsided, and the general condition was excellent.

152. **Cerebrin in Nervous Affections.**—The extract of brain substance which Babes, Lyon and Zanoni have found effectual in the treatment of nervous affections was applied in the treatment of one case each of infantile eclampsia, essential epilepsy, dysmenorrhea and several cases of neurasthenia. In the latter it was alternated with testicle extract and in the case of dysmenorrhea with ovarin. The results were always fine and encourage further use of this treatment in such affections. The convulsions have not recurred in the case of infantile eclampsia during the five months since. Nineteen injections of the cerebrin were made on alternate days. The extracts were prepared at Zanoni's Institute for Infectious Diseases at Genoa.

154. **Grippal Cerebrospinal Meningitis.**—Mya has observed 3 cases of fibrino-purulent meningitis in breast nurslings. The meningitis was associated with inflammation of other serous or mucous membranes. During the same season he observed a number of other cases of a fibrino-purulent serositis, all induced by the influenza bacillus, in some cases accompanying measles. H thinks that we must concede to the Pfeiffer bacillus the power of inducing acute fibrino-purulent inflammation of the serous membranes in epidemic form, the same as to Fraenkel's diplococcus and the meningococcus. One of the 3 cases described recovered. The meningitis had been accompanied by otitis media and bronchopneumonia on the left side, and the little patient was left with paralysis of the facialis on this side and of the leg on the other.

159. **Apyretic Malignant Endocarditis.**—Fazio's patient was a robust soldier, and the ulcerative endocarditis developed without any preceding general affection and ran its course to a fatal termination in six weeks without fever at any time. The diagnosis had to be based on the subjective symptoms which were the first to develop. There were no signs of general infection, nor of embolism until toward the last. Fazio refers to other atypical cases on record, and mentions Walker's Chicago case in which auscultation was negative for a month.

163. **Serum Treatment of Tuberculosis.**—Bellinzoni reports 4 cases of tuberculosis immeasurably benefited by serum treatment, with one exception. This was a pregnant woman, and the pregnancy seemed to annul the action of the serum treatment. The tuberculosis continued its course, unchecked, evidently aggravated by the pregnancy.

164. **Mercury in Leprosy.**—De Luca reports 2 cases of leprosy treated by intravenous injection of mercury according to Baccelli's technic. The ulcerations healed completely in one, and nearly had healed on the other when the patient was lost sight of. He does not deny that the remarkably favorable results observed may have been due to a natural tendency to heal, but observes that it is seldom that Nature interferes so promptly and radically and the recovery following so close on the vigorous medication must be more than a mere coincidence.

New Patents.

Patents of interest to physicians issued May 19 and 26:

728432. Catamenial napkin. T. C. Aspiund, New York.
728434. Chest bandage. Josie Baldwin. Tremont, Me.
728444. Aseptic ligature receptacle. H. L. Cox, Toronto, Can.
728220 and 728221. Disinfecting apparatus. Eugene Fournier, Paris, France.
728589. Surgical instrument. Leone Levi, Genoa, Italy.
728493. Shield for vaccination or tumors. Ellis S. Oliver, Newark, N. J.
728328. Atomizer. Charles A. Tatum, New York.
728526. Ear pump. Julius B. Wantz, Chicago.
728865. Invalid bed. Joseph Cheetham, Esbon, Kans.
729138. Holder for atomizers. Joseph C. Cramer, Sawtelle, Cal.
729293. Vaccine shield. Albert B. Dorman, Winthrop Mass.
729317. Means for treating nervous diseases by electromusical vibrations. Henry Fleetwood, Los Angeles, Cal.
729166. X-ray tube. John O. Heinze, Jr., Chelsea, Mass.
729500. Eye shade. Wm. F. Mahony, Washington, D. C.
728980. Surgical applicator. Elzie L. Ridgway and D. H. Bailey, Denison, Texas.
729011. Hypodermic syringe. Charles J. Tagliabue and F. W. Steuer, Brooklyn.
729017. Hernial truss. Charles R. Turner, Westfield, Mass.
729019. Vaporizer. James H. Valentine, Chatham, N. J.
729459. Disinfecting apparatus. Charles J. Walz, New York.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY AS AN AID IN DIAGNOSIS AND AS A THERAPEUTIC AGENT. Designed for the Use of Practitioners and Students. By Francis H. Williams, M.D., (Harv.), Graduate of the Massachusetts Institute of Technology. With 428 Illustrations. Third Edition, with Enlarged Appendix. Cloth. Pp. 757. Price, $6.00. New York: The Macmillan Co. 1903.

SUTER ON REFRACTION. A Manual of Refraction and Motility. For Students and Practitioners of Medicine. By William Norwood Suter, M.D., Assistant Surgeon to the Episcopal Eye, Ear and Throat Hospital, Washington, D. C. Pp. 382, with 101 engravings and 4 colored plates. Cloth. Price, $2.00 net. Philadelphia and New York: Lea Brothers & Co.

THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCERS. By B. G. A. Moynihan, M.S. (Lond.), F.R.C.S. Eng., Senior Assistant Surgeon, Leeds General Infirmary. Illustrated. Cloth. Pp. 83. Price, $2.50 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending June 6:

Asst.-Surgeon M. W. Baker, detached from the Naval Academy and ordered to the *Brooklyn*.

P. A. Surgeon W. B. Grove, detached from the Naval Dispensary and ordered to the Naval Hospital, Philadelphia.

P. A. Surgeon A. Farenholt, detached from the *Independence* and ordered to the *Boston*.

Surgeon G. Pickrall, detached from the Naval Academy and ordered to the *Texas*.

Surgeon H. E. Ames, detached from the *Texas* and ordered to the Naval Academy.

Surgeon G. A. Lung, detached from the Naval Hospital, Philadelphia, and granted sick leave for three months.

A. A. Surgeon G. F. Duncan, ordered to duty with Recruiting Party No. 8.

A. A. Surgeon W. P. Keene, ordered home to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the 14 days ended June 4, 1903.

Assistant Surgeon-General J. H. White, relieved from duty in Washington, D. C., to take effect June 6, and directed to proceed to Mobile, Ala., and assume command of the service, relieving Surgeon W. P. McIntosh.

Assistant Surgeon-General H. D. Geddings, detailed to represent the service at South Carolina Sanitary Association, at Columbia, S. C., May 28-29.

Surgeon A. H. Glennan, relieved from command of the Plague Laboratory, San Francisco, and directed to proceed to Washington, D. C., for duty.

Surgeon S. D. Brooks, on being relieved at Portland, Me., by Surgeon W. P. McIntosh, to proceed to Savannah, Ga., and assume command of the service, relieving A. A. Surgeon E. S. Osborne.

Surgeon W. P. McIntosh, on being relieved from duty at Mobile, Ala., by Surgeon J. H. White, to proceed to Portland, Me., and assume command of the service, relieving Surgeon S. D. Brooks.

Surgeon G. M. Guiteras, relieved from duty at Philadelphia, to take effect June 5, and directed to proceed to Cairo, Ill., and assume command of the service, relieving P. A. Surgeon J. H. Oakley.

P. A. Surgeon J. C. Perry, detailed for temporary duty at Washington, D. C.

P. A. Surgeon J. A. Nydegger, relieved from duty at Baltimore and directed to proceed to Cincinnati and assume command of the service, relieving Assistant Surgeon J. W. Kerr.

P. A. Surgeon C. H. Gardner, on being relieved at Port Townsend, Wash., by P. A. Surgeon M. H. Foster, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

P. A. Surgeon R. Blue, to assume command of the Plague Laboratory, San Francisco, relieving Surgeon A. H. Glennan.

P. A. Surgeon J. H. Oakley, on being relieved at Cairo, Ill., by Surgeon G. M. Guiteras, to proceed to Port Townsend Quarantine, Wash., and assume command of the service, relieving P. A. Surgeon M. H. Foster.

P. A. Surgeon M. H. Foster, on being relieved by P. A. Surgeon J. H. Oakley at Port Townsend Quarantine, Wash., to proceed to Port Townsend, Wash., and assume command of the service, relieving P. A. Surgeon C. H. Gardner.

P. A. Surgeon L. L. Lumsden, to proceed to San Juan, Porto Rico, and assume temporary command of the service.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence on account of sickness for 30 days from May 8.

Asst.-Surgeon J. W. Kerr, on being relieved at Cincinnati by P. A. Surgeon J. A. Nydegger, to proceed to New York and report to Surgeon G. W. Stoner, Immigration Depot, for duty.

Asst.-Surgeon T. F. Richardson, granted leave of absence for 3 days from June 17.

Asst.-Surgeon F. E. Trotter, granted leave of absence for 10 days from June 15.

A. A. Surgeon F. Duffy, granted leave of absence for 4 days from June 1.

A. A. Surgeon W. R. Hicks, granted leave of absence for 5 days from June 2.

A. A. Surgeon J. C. Rodman, granted leave of absence for 4 days from June 1.

A. A. Surgeon F. Townsend, granted leave of absence for one week.

P. A. Surgeon B. W. Brown, to proceed to Memphis, Tenn., for special temporary duty.

P. A. Surgeon H. W. Wickes, granted leave of absence for 1 day, June 10.

P. A. Surgeon J. B. Greene, granted leave of absence for 3 days from June 10.

P. A. Surgeon L. L. Lumsden, bureau order of May 26, directing him to proceed to San Juan, Porto Rico, for temporary duty, amended so that he shall be relieved from duty at New Orleans.

Asst.-Surgeon W. W. King, granted leave of absence for two months from June 10.

Asst.-Surgeon H. McG. Robertson, granted leave of absence for 7 days from May 29, under paragraph 191 of the regulations.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for 7 days from June 3.

A. A. Surgeon A. N. Sinclair, granted leave of absence for 25 days from June 24.

A. A. Surgeon J. W. Tappan, granted leave of absence for one month from May 25.

Pharmacist G. C. Allen, granted leave of absence for 7 days from May 29, under paragraph 210 of the regulations.

Pharmacist M. R. Mason, relieved from duty at San Francisco and directed to proceed to Dutch Harbor, Alaska, for special temporary duty, thence to Nome, Alaska, and report to A. A. Surgeon in charge for temporary duty.

BOARDS CONVENED.

Board convened at the marine-hospital office, Baltimore, for the physical examination of cadets in the Revenue-cutter Service. Detail for the board: Surgeon H. R. Carter, chairman; P. A. Surgeon J. A. Nydegger, recorder.

Board convened at the marine hospital, Boston, June 2, for the physical examination of an officer of the Revenue-cutter Service. Detail of the board: Surgeon R. M. Woodward, chairman; A. A. Surgeon W. C. Rucker, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended June 6, 1903.

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 23-30, 6 cases.
California: Los Angeles, May 16-23, 1 case; San Francisco, 1 case.
Florida: Jacksonville, May 24-31, 3 cases; Pensacola, 2 cases; Baker County, 1 case; Columbia County, 3 cases; Levy County, 5 cases; Washington County, 1 case.
Illinois: Belleville, May 23-30, 4 cases.
Indiana: Evansville, May 23-30, 1 case; Indianapolis, 4 cases, 1 death.
Iowa: Des Moines, May 24-30, 1 case.
Louisiana: New Orleans, May 23-30, 8 cases.
Maine: Patten, May 27, 1 case.
Maryland: Baltimore, May 23-30, 1 case.
Massachusetts: Fall River, May 23-30, 16 cases; Holyoke, 1 case.
Michigan: Detroit, May 23-30, 9 cases; Grand Rapids, 3 cases.
Minnesota: Winona, May 23-30, 2 cases, 2 deaths.
Missouri: St. Louis, May 24-31, 3 cases.
Montana: Helena, May 1-31, 3 cases.
Nebraska: Omaha, May 23-30, 1 case.
New Hampshire: Nashua, May 23-30, 8 cases.
New York: New York, May 23-30, 3 cases.
Ohio: Cleveland, May 23-30, 1 case; Hamilton, 3 cases.
Pennsylvania: McKeesport, May 23-30, 3 cases, 1 death; Philadelphia, 41 cases, 7 deaths; Pittsburg, 19 cases, 3 deaths; four cases imported.
South Carolina: Charleston, May 23-30, 1 case.
Tennessee: Memphis, May 16-30, 4 cases.
Utah: Salt Lake City, May 23-30, 6 cases; 1 case imported.
Washington: Tacoma, May 25-June 1, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, May 2-16, 14 cases.
Belgium: Antwerp, May 9-16, 7 cases; Brussels, May 2-16, 4 deaths; Ghent, 2 deaths.
Canary Islands: Las Palma, May 2-9, 18 cases; Santa Cruz de Teneriffe, May 9-16, 2 cases.
Colombia: Bocas del Toro, May 12-19, 1 death.
France: Marseilles, April 1-30, 36 deaths.
Germany: Hamburg, May 9-16, 1 case.
Great Britain: Bristol, May 9-16, 11 cases; Cardiff, April 4-May 2, 11 cases, 1 death; Dublin, May 9-16, 17 cases, 4 deaths; Leeds, May 16-23, 25 cases, 1 death; London, May 9-16, 7 cases; Manchester, May 9-16, 10 cases, 1 death; Nottingham, May 9-16, 5 cases; Sheffield, May 2-9, 1 case, 1 death; Sunderland, May 9-16; 1 case.
India: Bombay, April 28-May 5, 83 deaths.
Mexico: City of Mexico, May 3-10, 16 cases, 6 deaths.
Russia: Moscow, May 2-9, 3 cases; Odessa, May 2-16, 6 cases.
Turkey: Smyrna, March 28-April 5, 1 death.

YELLOW FEVER.

Costa Rica: Limon, May 14-21, 4 cases, 1 death.
Mexico: Tampico, May 16-23, 5 deaths.

CHOLERA.

India: Calcutta, April 28-May 2, 65 deaths; Madras, April 25-May 1, 1 death.

PLAGUE.

India: Bombay, April 28-May 5, 704 deaths; Calcutta, 228 deaths; Karachi, April 26-May 3, 187 cases, 156 deaths.

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Original Articles.

SOME CLINICAL OBSERVATIONS ON CHICKEN-POX.*

JAY F. SCHAMBERG, A.B., M.D.

Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Physician to the Municipal Hospital for Infectious Diseases.

PHILADELPHIA.

The purpose of this brief paper is to record a number of observations in connection with varicella. This disease is not of great importance in itself, but it acquires a special prominence through its possible confusion with smallpox. The differential diagnosis of these two affections, based on a study of many cases observed during a recent variolous epidemic, is given at some length. In the presentation of the accompanying data no pretense is made at logical sequence.

At the present day it would appear an act of supererogation to devote any time to proving the non-identity of chicken-pox and smallpox. And yet only a quarter of a century ago the relation of these two diseases was the subject of acrimonious controversy. The great Viennese dermatologist, Hebra, a man of large experience in eruptive fevers, loudly proclaimed the unity of these two diseases.

Remarkable as it may seem, Hebra's views are still taught in Vienna at the present day. Kaposi, one of the foremost dermatologists of the world and a clinician skilled in the diagnosis of smallpox, tenaciously adhered to Hebra's views up to the time of his death, less than a year ago.

Kassowitz and Hochsinger are still ardent advocates of the identity of variola and varicella. In Kaposi's last treatise he wrote:

> The arguments advanced by Thomas, Steiner, Monti, Henoch, etc., have been opposed by Hebra, Kassowitz and myself with arguments which appear to me sufficiently strong to deny the existence of a varicella distinct from variola. I recognize only a single form of variola, derived from a single virus, which may occur with more or less severe, even fatal symptoms, and at other times runs its course as an insignificant disease.

It is entirely unnecessary at the present day to formulate answers to this and similar statements. It may be of interest, however, in connection with this subject, to make mention of an epidemic of chicken-pox occurring in children who were convalescent from smallpox.

In November, 1900, a child suffering from chicken-pox was sent into the Municipal Hospital of Philadelphia, under the erroneous diagnosis of smallpox. The true character of the disease was recognized and the child vaccinated. This patient did not contract smallpox, but succeeded in transmitting varicella to a number of other children in the ward. These, in turn, infected new patients as they arrived, and in this manner varicella remained in the children's ward for a period of three months. In all, thirty-three children suffering from smallpox were attacked. The attacks were, in the main, mild and the accompanying eruption moderate in extent. Inasmuch as the patients were exposed during the eruptive period of smallpox, the chicken-pox eruption did not appear until after the variolous lesions had become crusted or were disappearing. The earliest onset of the varicella was in a girl of 7 years, who developed chicken-pox on the seventeenth day of the variolous outbreak. In this patient the firm, compact, crusted lesions of smallpox appeared in strange contrast with the recent dewdrop-like vesicles of chicken-pox. The patient's temperature had not yet reached normal, but was hovering about 100 F. at the time of the appearance of the chicken-pox eruption. It then rose to 102 F., subsiding rapidly to 100 F., and, in a few days, again rising to 103 F., owing to the development of an abscess. In this child the two diseases may be said to have existed simultaneously.

The chicken-pox efflorescence appeared in most of the patients from the twentieth to the thirty-fifth days of their smallpox eruption. As the majority of these children entered the hospital on the third or fourth day of the variolous eruption, it is seen that many of the patients did not contract chicken-pox for about a month after they were exposed. Inasmuch as the period of incubation of varicella is about fourteen to eighteen days, seldom longer than three weeks, this observation would suggest that during the early eruptive period of smallpox many of the children were not susceptible to the infection of chicken-pox.

COINCIDENT SMALLPOX AND CHICKEN-POX.

More recently we have had at the Municipal Hospital a child showing at the same time the eruptions of chicken-pox and smallpox. The history of the case is of inferest.

> S. F., a girl, 5 years of age, developed an eruptive disease which was regarded by a physician as suspicious; thereon, two other physicians independently visited the patient and pronounced the disease to be chicken-pox. The lesions dried up in the usual time, but two weeks later the girl became ill and developed typical smallpox. It is undesirable to publish the circumstances, but the fact is established that the variolous infection was carried to the child's home at one of the visits above referred to.

Thirteen days after the above patient was first seen, a smaller sister, aged 2 years, developed the eruption of chicken-pox. Twenty-four hours later the characteristic lesions of

*Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

smallpox appeared on her. It is to be noted that this child was exposed to the smallpox infection at the same time as her sister. On admission to the hospital the little patient was covered with firm variolous papules. The face, arms and legs were profusely involved, the trunk to a lesser extent. On the forehead, near the border of the hair, were two crusted and superficially ulcerated varicella lesions. A half dozen or more lesions were also observed on the back and a few on the abdomen and chest. On the lower portion of the back was a comparatively recent chicken-pox vesicle just beginning to dry. The subsequent course of the case left no doubt as to the variolous nature of the second eruption. Two other children of this family who were protected against smallpox by previous vaccination showed crusted varicellous lesions on different portions of the body.

Chicken-pox may usually be distinguished from smallpox without much difficulty. In exceptional instances, however, the diagnosis may present perplexities which may cause even a physician experienced in these diseases to delay in pronouncing definitely as to the nature of the disease. Errors may occur through regarding a mild smallpox as chicken-pox or looking on a severe varicella as variola. The points of differential importance are as follows:

1. *The Vaccinal Condition of the Patient.*—If a child under 5 or 6 years of age presents an eruption which exhibits features both of chicken-pox and of smallpox,



Fig. 1.—Extremely mild smallpox in an unvaccinated child.

the presence of a typical vaccinal cicatrix would constitute strong presumptive evidence against the variolous nature of the exanthem; for successfully vaccinated children of this age do not acquire smallpox save under extraordinary circumstances. The same evidence would obtain in an adult successfully vaccinated within a similar period of time.

2. *Initial Symptoms.*—The appearance of the smallpox eruption is preceded by two or three days by an illness characterized in its most complete form by chills, fever, headache, backache, vertigo, nausea and vomiting, prostration and general pains. The more severe the oncoming eruption the more pronounced are these symptoms apt to be. The syndrome is often incomplete, the invasive illness presenting but a few of the above mentioned symptoms. In exceptionally mild cases one may not be able at all to elicit a history of a prodromal stage. It is extremely uncommon, however, for this to occur, and the existence of premonitory symptoms should always be regarded as a matter of great differential importance.

Except for occasional malaise a half day or so before the appearance of the chicken-pox eruption there is, in the vast majority of cases, no prodromal stage. We have recently had the opportunity at the Municipal Hospital of studying an outbreak of chicken-pox among convalescents from scarlet fever. The continuous temperature records show that in nearly every case the eruption appeared synchronously with or before any pyrexial elevation. In exceptional cases, in adults, chicken-pox may, however, be preceded by a prodromal illness suggestive of, but milder, than that observed in smallpox. These patients seldom experience vomiting or prostration and the febrile elevation is, as a rule, moderate.

3. *Constitutional Symptoms.*—The fever and prostration in the eruptive stage are usually more severe in smallpox than in chicken-pox. This is not an invariable guide, however, as severe cases of varicella are accompanied by higher temperature than very mild cases of smallpox.

4. *Distribution of the Eruption.*—It is a well-known and important fact that the smallpox eruption attacks with predilection the face and distal portions of the extremities. On the trunk, and especially the abdomen, the lesions are nearly always more sparse. In chicken-pox the eruption is usually most profuse on the trunk, particularly the back, and relatively sparse on the wrists, hands, feet and face. In general it may be stated that smallpox prefers the exposed surfaces and chicken-pox the covered.

It has been claimed that chicken-pox does not attack the palmar and plantar surfaces. This statement is erroneous, inasmuch as the palms of the hands and soles of the feet are every now and then attacked in pronounced cases. Of course, one never sees such a profusion of lesions in these regions as is observed in smallpox.

5. *Extent of the Eruption.*—The number of lesions on the skin should not be regarded as important evidence. As an example of a sparse eruption may be mentioned an unvaccinated child, admitted some months ago into the Municipal Hospital, who had but five lesions on the entire cutaneous surface. On the other hand, a lad with chicken-pox occupying a different ward had about 1,400 lesions and another boy about 3,000.

6. *Character of the Lesions.*—In smallpox the eruption begins as firm papules, which slowly increase in size and develop into vesicles and pustules. Not all variolous papules are "shotty," but they are more deeply seated and have a more infiltrated base than the chicken-pox lesions. The variolous vesicles are often harder than the papules. They are moderately uniform in size and are often, although by no means always, umbilicated. The vesicles are multilocular and difficult to rupture with the fingernail.

Chicken-pox lesions may begin as maculo-papules, but within a few hours some become frankly vesicular. The epidermal roof is thin and easily broken, permitting the exit of a clear watery serum. With the collapse of the vesicle the infiltration seems to disappear. The vesicle is usually unilocular; but little diagnostic value, however, should be placed on the comparative degree of evacuation of variolous and varicellous vesicles with a needle.

Chicken-pox lesions vary greatly in size, some being as small as a millet seed and others as large as a fingernail. They do not become umbilicated save secondarily by central caving in or desiccation. The early drying with the production of a depressed blackish crust in the center and irregular puckering of the vesicles or pustule on the periphery is highly characteristic of chicken-pox.

It is not rare in an extensive eruption of varicella to find one or several vesicles which resemble variolous vesicles, and, on the other hand, in smallpox to occasionally see a few superficial vesicles which resemble those of chicken-pox. Again, in varicella in adults it is not rare

to find on the thick skin of the forehead very firm papsules, or even nodules.

7. *Manner of Eruption.*—The eruption of smallpox comes out without interruption in the course of twenty-four or forty-eight hours. The lesions show, therefore, a quite uniform development. (It should be remarked, however, that the eruption on the face is always a little in advance of the development elsewhere.) The chicken-pox eruption comes out in crops on successive or alternate days, and the lesions may be seen in varying stages of development. The coexistence of recent tense vesicles,



Fig. 2.—Extensive chicken-pox. Number of lesions estimated to be about 3,000.

older puckered vesico-pustules and dried crusts is highly characteristic of the disease.

8. *Course of the Eruption.*—Smallpox lesions undergo a gradual evolution from papule to crust in the course of 10 to 12 days. (In modified cases 5 to 6 days.) Chicken-pox lesions last from 2 to 4 days and then crust. The crusts of smallpox are dense and compact, while those of chicken-pox are thin and friable. The presence of numerous hard, mahogany-colored crusts imbedded in the horny layer of the palms and soles bespeaks smallpox.

There is no one characteristic symptom on which a differential diagnosis between smallpox and chicken-pox can be based. The case is to be viewed in all its aspects and a diagnosis made from the history and the associated local and constitutional manifestations. A due sense of proportion should be exercised and proper weight accorded to the presence and absence of the various symptoms. Even when this is done there are occasional cases in which twenty-four hours' delay and observation are desirable in order to definitely establish the diagnosis.

CHICKEN-POX IN ADULTS.

It is generally stated that chicken-pox is extremely rare among adults. Thomas, who had a very large experience in eruptive fever, writes (Ziemssen's Encyclopedia of Medicine, page 8): "In children over 10 years of age attacks are infrequent, and I never saw an adult suffering from varicella." Kinsman, who had an extensive experience covering thirty years, and Corlett, who has studied eruptive fever for twenty years, make similar statements. J. Lewis Smith and Flint each saw one case. Jonathan Hutchinson saw one or two cases in patients about 20 years old; he remarks that a "point of great interest in varicella is the almost absolute immunity of adults."

During the past two years about 2,300 patients suffering from smallpox have been treated in the Municipal Hospital. Ten adult patients sent in with the diagnosis of smallpox were found to have chicken-pox. The diagnosis in these cases was confirmed by my senior colleague, Dr. Wm. M. Welch, who during the past thirty-three years has seen over 7,000 cases of smallpox. All of these patients were carefully vaccinated and those not protected by previous vaccination took the vaccine disease.

In addition to these cases I have seen 6 other adult patients with varicella. The ages of these 16 patients are as follows: two were 20 years old, one 21, one 22, one 25, one 26, two 28, one 30, two 32, one 34, two 35, one 38, and one 39. Ten of these patients were males and six females; seven were negroes and nine were whites.

It is thus seen that varicella is not so rare among adults as the experience of the above mentioned careful observers would seem to indicate. The experience in London during the recent extensive smallpox epidemic was much like ours at the Municipal Hospital. Dr. Wanklyn, the smallpox referee and medical superintendent of the ambulance service of the Metropolitan Asylums Board, reports that 200 cases of chicken-pox were sent to the diagnosing station, and that 16.7 per cent., or 33, of these were persons over 18 years of age.

INCUBATION PERIOD OF CHICKEN-POX.

The incubation period of chicken-pox is stated by Trousseau, Gee, Thomas, Körber, Hesse and others to be about 13 to 17 days. It is recognized, however, that much wider variations may occur. In a recent epidemic in the Municipal Hospital it was found possible to determine the incubation stage in sixteen cases. The periods were as follows: 13 days in 1 case; 14 in 7 cases; 15 in 3 cases; 17 in 2 cases; 18 in 1 case; 19 in 1 case, and 21 days in 1 case.

The period of incubation of varicella is thus seen to be both longer and more variable than that of smallpox. The vast majority of patients who are breeding variola fall sick from the tenth to twelfth day after exposure.

A recent experience in a physician's family would seem to indicate that varicella may be transmitted before the appearance of the exanthem.

A girl of 16 years developed slight sore throat and a little fever, and was carefully isolated in an upper portion of the house. A small whitish patch on the posterior pharyngeal wall was noticed. On the following day the eruption of chicken-pox appeared. A brother, 8 years of age, was kept in a distant part of the house and there was no inter-communication whatsoever. Sixteen days after exposure, that is, exposure to the sister, on the day preceding the appearance of her eruption, the boy developed chicken-pox.

This fact is not to be wondered at when we remember that smallpox may be transmitted by a patient before the outbreak of the eruption.

The fluid of early varicellous lesions has, in cases in which I have cultured it, always been sterile. No growth takes place on any of the ordinary nutrient media. Examination of the fluid under the microscope shows an almost complete absence of cellular constituents. I have not noted the small round bodies, regarded by many as protozoa, which are found in the clear fluid of variolous vesicles.

Not infrequently varicellous lesions spread on the periphery and develop into bullæ; these may reach the size of a quarter dollar or even larger. The drying of the contents produces flat, yellowish, irregular crusts. The peripheral spreading of varicellous vesicles and pustules is due to secondary infection with staphylococci and streptococci. This condition may appropriately be called impetigo varicellosa; it is quite analogous to the impetigo variolosa which is so common in bad cases of smallpox. The adventitious skin infection in varicella may produce a secondary fever which may rise to 102 F. or thereabouts and with remissions persist for three or four days. As in smallpox, boils may result from a deeper infection with pyogenic organisms.

DISCUSSION.

DR. J. B. KESSLER, Iowa City, Ia.—We have had a somewhat varied experience in our locality with variola. Whether or not the Spanish-American war had anything to do with changing the eruption of varicella—it seems to me a good many of our physicians, not dermatologists, have made many mistakes in paying more attention to the umbilication than formerly. The past winter I was called to see a family, with five children, the eruption being most extensive on the back. There was a great deal of umbilication, and a good deal of necrotic tissue, the new vesicles being friable and breaking readily. From the character of the vesicles I diagnosed the cases as varicella, which proved to be the case, as they were not quarantined and no one else contracted the disease.

In Des Moines, in an effort to get rid of variola, the board of health passed an ordinance quarantining all cases of varicella as well as variola, and I think in our city we had a number of cases quarantined that were not variola.

The older text-books taught us that the umbilicated vesicle was variola, but I pay more attention to the character of the vesicle than anything else.

The number of cases with us, varicella and variola, have been great but the disease has been mild. In our city we have had but one severe case, an adult probably forty or fifty years of age.

A good many of our people do not call a physician, and I think many cases of variola were not quarantined because of the mildness of the cases and the dread of people in calling a physician and being quarantined for thirty days. We have had a good deal of the so-called Cuban itch. Mild cases of variola they would claim to be Cuban itch.

DR. WILLIAM L. BAUM, Chicago—I was much pleased to hear Dr. Schamberg call attention to the fact that the disease occurs quite frequently in adults and to the occasional presence of the eruption on the palmar surfaces. At Cook County Hospital there have been a number of instances in which the disease attacked adults, during one epidemic several nurses and one interne contracted it. The character of the eruption is often influenced by medication. Four years ago varicella developed among a number of children suffering from whooping cough. Two of these cases, to whom large doses of bromoform had been given, developed an eruption which consisted of large bullæ surrounded by an extensive hemorrhagic halo.

DR. A. H. OHMANN-DUMESNIL, St. Louis—One point in Dr. Schamberg's paper that interested me very much is the comparatively rare occurrence of varicella in adults. In an epidemic of 960 cases but one case of varicella in an adult was observed by me, a woman of 23, and she only had 6 lesions on the forearm and one in the palm of the left hand, which is also an interesting point, to which Dr. Schamberg called attention. It is not mentioned by the majority of authors and is a location which might lead to a doubt as to the diagnosis concerning the other lesions.

DR. J. B. SHELMIRE, Dallas, Texas—Five years ago, when 40 years of age, I had a personal experience which proved that adults can have varicella. I treated a young lady with varicella and some two weeks afterward I found a vesicle on my chest. They continued to come, and I had them on my body, limbs, palms, soles and scalp. Every authority I consulted said the disease was limited to children, that adults could not have varicella.

A CLINICAL REPORT OF A CASE OF BLASTOMYCOSIS OF THE SKIN FROM ACCIDENTAL INOCULATION.*

NEWTON EVANS, M.D.
BATTLE CREEK, MICH.

The subject of this report is a physician, 28 years of age, who has had unusually good health, with no history of specific or venereal disease or tuberculosis or any tuberculosis in the immediate family.

On December 4, at an autopsy on a case of systemic blastomycosis, he accidentally inflicted a very slight skin wound with the point of a needle on the palmar surface of the left index finger, just in the fold at the junction of the proximal and middle phalanges. The wound was insignificant and apparently healed. At the end of about one week a very small pustule appeared at this point. This was opened and a small drop of pus removed. It was not noticed again until after several days, when a small pustule again appeared and a small drop of pus was evacuated, as before.

The affected area was very small, about the size of a pin head or less. The minute pustule was covered by a very thin layer, probably only the epidermis. The base of the little cavity, after the pus was evacuated, appeared red and granular, and was very tender when touched by any instrument. The lesion, before opening, exhibited little tenderness. This course of events was repeated two or three times until in the first week of January, 1903, when signs of an acute inflammatory process appeared. An area of about 1.5 centimeters diameter became swollen, reddened and painful. This was immediately incised, with an idea that it was an acute pus infection, the incision being about one-quarter of an inch in length. It failed to improve and, on the second day afterwards, a longer and deeper incision was made. At this time the finger was considerably swollen, painful and tender. The axillary lymph-nodes began to swell and at that time there were distinct red lines, following the lymph channels of the forearm (acute lymphangitis.) The axillary glands continued to swell and became more tender. The whole mass became as

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. H. W. Stelwagon, W. L. Baum and J. A. Fordyce.

large as a hen's egg. The lymphangitis of the forearm disappeared.

The lesion on the finger did not improve, but the tissue about the incision was swollen, soft and apparently granulomatous, giving it a sort of fungous appearance. About January 12 the finger was curetted and all of the mass of granulation tissue was removed down to the tendon, leaving an opening about one-half inch in diameter. This was packed with iodoform gauze and gradually healed. During this time there was a slight rise of temperature, 100-101, and other febrile symptoms. After about two weeks the wound was well filled and a crust was allowed to form on the surface. In a few days it was noticed that little pustules were forming around and beneath the edges of the crust. These were evacuated. The tenderness was not marked. There also formed on the back of the hand in the subcutaneous tissue, over the metacarpal bone of the index finger, a small nodule of the size of a split pea, at first hard and later softened. This was not painful. It remained for from six to eight weeks, gradually growing smaller and disappeared. Simultaneously with the appearance of this nodule, a somewhat similar nodule appeared on the palmar surface of the affected finger, about one-half an inch above the lesion. This lesion contained a very small pus cavity, just beneath the epidermis, which was evacuated a number of times and decreased in size, but has not yet entirely disappeared.

The original wound finally completely healed, so that it was covered by epidermis about February 5, but the appearance was peculiar. The surface of the scar was not smooth but very scaly, the epidermis coming off in flakes or small crusts, and surrounding it on all sides were minute pustules in, or just beneath, the epithelium, which contained a large or smaller drop of very tenacious pus. These were easily evacuated and the cavities cauterized with pure carbolic acid.

About the edges of the scaly area the tissue is reddened, indurated and swollen, rather nodular and somewhat tender. The whole diseased area is about one-half an inch in diameter. The redness and tenderness and number of small pustules decreased under treatment.

The granulation tissue which was curetted from the lesion on January 12 was imbedded and sectioned and subjected to microscopic examination, which revealed very little remaining epithelium on the surface, a mass of necrotic tissue occupying its place. Beneath the epidermis the corium was filled with a dense cellular exudate, for the most part consisting of polynuclear leucocytes. Scattered about in this tissue were found numbers of the typical, doubly-contured, budding organisms, 10 to 12 microns in diameter, exactly identical in appearance to the organisms found in immense numbers in the case on which an autopsy was performed December 4, and from which the disease presumably was contracted.

On numerous occasions during the course of the affection cultures have been attempted. Those taken during the severe acute symptoms, when an open ulcer was present, after the slight operative procedures, showed the presence of pus cocci, and the symptoms of acute lymphangitis and febrile reaction were probably due to the pus infection, which was secondary to the original blastomycetic infection.

The cultures taken after the healing of the open sore from the typical miliary abscesses in the border of the lesion, for the most part, have been sterile, no growth whatever appearing. However, one tube, inoculated March 13 from a drop of tenacious pus from a miliary abscess, showed, after about one month, a single raised colony, also one inoculated April 4 showed three colonies, composed of the typical mold-like fungus, as they are seen in the cultures made from the original case, reported by Ormsby and Miller.[1]

We also made repeated microscopic examinations of smeared specimens of this pus, but have been unable to find any adult parasites.

The changes in the axillary lymph glands are a matter of doubt, as the glands were not removed and microscopic examination impossible. In January, when the acute process in the finger lesion was at its height, these lymph nodes were greatly swollen and tender and apparently coalesced, so that a large mass, about the size of an egg, was present. It was quite moveable. This mass decreased in size slowly, and as it did so a peculiar condition of the lymph channels of the upper arm was noticed. On raising the arm to a horizontal position three or four cord-like structures were easily felt beneath the skin, connected with the swollen lymph nodes and extending down the arm for several inches. One of especial size was plainly felt to be nodular, resembling a string of beads. It apparently was about one-eighth of an inch in diameter. These lymph channels were greatly shortened by the inflammatory process, and prevented the raising of the arm above the level of the shoulder. The condition has greatly improved and almost completely disappeared.

About fourteen days after the acute process was at its height, and the lesion was thoroughly curetted, symptoms developed resembling acute articular rheumatism. The left wrist and both ankles became swollen, hot and tender, and on the anterior surface of both lower legs there appeared raised, reddened and tender areas, from one-half to two inches in diameter, which resembled erythema nodosum. There was a slight febrile reaction (101 F.). These symptoms subsided in about two weeks.

At present the only symptoms are the indurated and scaling lesion on the finger, showing in its borders a few miliary abscesses; and a rounded mass in the axilla, about 1 centimeter in diameter.

From March 15 to April 15 the lesion on the hand was exposed daily to the actinic ray produced by a light machine. The change during that time has not been marked. The abscesses are less numerous and the scar tissue at the center more flexible.

ETIOLOGY.

So far as I have been able to ascertain, this is the only reported case of blastomycetic infection in which the exact source of infection has been known with any degree of certainty. A large percentage of the reported cases give a definite history of trauma of the skin at the point of infection. For instance, one case injured his hand in tearing down an old kitchen,[2] the lesion appearing in the wound. Another scraped the skin from his arm on a wooden truck.[3] However, in many cases, no history of direct injury is given. The location of the majority of the lesions on the upper extremities and face would favor the idea that some slight lesions of the skin which more frequently occur in these locations and which probably are more often exposed to the infection, are necessary for the entrance of the organism.

The occupations of the persons affected have been numerous. It is apparent, however, that those who per-

1. Ormsby and Miller: Journal Cut. Disease, March, 1903.
2. Montgomery and Rickets: Journal of Cut. and Gen.-Urin. Diseases, January, 1901.
3. Hyde and Rickets: Journal of Cut. and Gen.-Urin. Dis., January, 1901.

form some manual labor, and especially work out of doors, are the more often affected. I know of no reports of cases in clerks, bookkeepers, stenographers or professional men, outside of physicians.

LOCATION OF LESIONS.

The lesions have been more numerous on the hands, arms, face and lower extremities, but, to my knowledge, only two previous cases have been reported in which the disease affected the plantar or palmar surfaces. In the case of Anthony and Herzog,[4] the plantar surface was extensively involved with other portions of the lower extremity. In the case of systemic infection of Ormsby and Miller the lesions of the skin were subcutaneous and evidently originated by metastasis from the blood, nevertheless it was very evident that the skin of the trunk was much less extensively attacked than the head and extremities. In this case there were lesions on plantar and palmar surfaces.

INVOLVEMENT OF LYMPH GLANDS.

In the cases reported the lymphoid structures have been noticeably free from attack. Only in systemic cases, and not extensively in these, have the lesions been found in lymph nodes. In the case of Ormsby and Miller the peribronchial lymph nodes showed no parasites on microscopic examination, while the lungs were almost completely destroyed by the growth of the organism in their structure. In the case of a negro recently reported by Gilchrist[5] the lymph nodes were involved. This case recovered after potassium iodid administration.

CONNECTION WITH RHEUMATIC SYMPTOMS.

Ophüls'[6] systemic case which resulted fatally had multiple arthritis, also a systemic case reported by Montgomery,[2] which resulted fatally, had symptoms of multiple arthritis and erythema nodosum during his sickness.

TREATMENT.

The administration of potassium iodid in many cases is followed by marked improvement in the lesions, and often a practical cure for the time being is obtained; but, as pointed out by observers who have seen a number of cases, this improvement is not accompanied by a complete eradication of the parasites nor of the miliary abscesses from the lesions. Gilchrist, in his report of the disease in a negro, described complete recovery of the lesions under this treatment.

In the case under consideration in this report, a trial of the actinic ray was made, exposures of ten minutes daily for one month being made. During this time there was considerable improvement in the flexibility of the lesion and the disappearance of the miliary abscesses. After its discontinuance for about a week there were marked exacerbations, the symptoms and the lesion began to involve a greater area. It was then excised.

DISCUSSION.

DR. A. W. BRAYTON, Indianapolis—I have reported three cases from Indianapolis, and therefore put myself in the list of those western dermatologists who were for a time thought by some eastern dermatologists to have discovered a mare's nest. But it is certainly a very distinct entity, and it seems to me equally as easy to diagnose as any allied lesion we have. I have emphasized in my cases the extreme boring pain the patient suffered, especially at night. It is not a restful disease at all. The location was in two instances on the fingers, and in the third case on the shin of an old soldier. These locations may have been the reason for the very considerable pain they suffered. It is a matter of considerable interest that so many cases were found within two or three years in the west and scarcely a case in any other part of the country. The author has gone over the literature more recently than I have and perhaps he can tell us how many cases are known up to the present time in other parts of the country.

DR. ISADORE DYER, New Orleans—I have a case I would like to cure. The only way to excise it is to cut the man's leg off. I reported the case last year. We have restricted the growth to the lower third of the leg, the two upper thirds of the original growth having healed entirely. I have used iodid of soda, giving as much as 120 grains at a dose. He is a man over seventy years of age. I have depended on local treatment. The application of a 10 per cent. argyrol watery solution on a compress seems to completely check the pustulation. He has reached the stage several times of here and there a light form of granulation, and the blastomycetic condition has reappeared so as to almost cover the whole area again. He complains of a great deal more pain than he suffers, because he is an old man, and if neglected he suffers intensely. It is hard to estimate his actual pain. He sleeps well. I have run the gamut of almost all treatment, as related in my report to the American Dermatological Association last year, yet the patient does not get well, although he is in good physical condition. The present lesion circles two-thirds of the lower third of the leg and is about two and a half inches in its widest diameter. Originally he had six areas on his body, but this is the only one that remains. I have had him under care for a little over two years.

DR. M. L. HEIDINGSFELD, Cincinnati—I had not intended discussing this paper, because my views in regard to this subject are somewhat dissimilar to those of most of my confrères here assembled, had not Dr. Dyer's case recalled an exact parallel case of my own. The ulceration is of nine years' duration, in a young girl of 13, and occupied one-third of the left leg when I first saw the case a year ago. It conforms very closely to the clinical description of blastomycetic dermatitis and has been exceedingly obstinate and refractory to the most varied treatment. Compresses of a solution of picric acid have yielded the best results, and the ulcer is now considerably diminished in size. My diagnosis inclines to chronic ulceration, following some unknown form of infection, possibly emanating from a tubercular periostitis. My skepticism forbids me to make a diagnosis of blastomycetic dermatitis, although I must admit that it has been materially diminished by Drs. Hyde and Montgomery's interesting demonstrations before this body, two years ago. I wish to correct any false impression relative to the stand I took at that time. I have never questioned that these double-contoured bodies are readily found in these affections, that they germinate and can be readily cultivated; what I do question, until more conclusive evidence is adduced, is that they are pathogenetic. I regard them merely as contaminations, symbiotic products, if you wish, yeast or fungous growths, as a rule present in many forms of affection, but particularly favored in this class of affections by the natural conditions of heat, moisture and good culture media.

DR. ISADORE DYER, New Orleans—As a matter of interest I would say that the pathologist at the Charity Hospital, referring to some specimens I had sent in for examination, made the remark that he commonly found the yeast fungus in epithelioma. I asked him why he did not report it, and he said it was so common that he did not think it of sufficient importance to take into consideration. I assured him I believed it of sufficient importance to receive attention.

I always feel like apologizing when I go before a body of men in skin diseases, because I am purely clinical in my ideas and in my practice. I believe still that the clinical entity of the so-called blastomycetic dermatitis is the same as the condition which is called yaws. I have seen very few cases of yaws. When I first saw a case of blastomycetic dermatitis I stated my position. It makes no difference to me whether it is called blastomycetic dermatitis or yaws, but clinically it has the same evidences.

4. Anthony and Herzog: Journal of Cut. and Gen.-Urin. Dis., January, 1900.
5. Gilchrist: Brit. Med. Journal, Oct. 25, 1902.
6. Ophuls and Moffit: Philadelphia Med. Journal, Jan. 30, 1900.

DR. HENRY G. ANTHONY, Chicago—I have not time to go fully into my views, but originally I said that there were two cases on record at the time I reported my first case, which I was willing to accept as primary blastomycosis. Since then I have had an opportunity to see a considerable number of cases. Through the courtesy of Drs. Hyde and Montgomery I have seen most of their cases at the Chicago Dermatological Society, and I am now willing to add to the original two I picked out some others, but I still cling to the opinion I have always had that in a large number of instances these micro-organisms are secondary infections.

I wish to direct your attention to the fact that Dr. Montgomery has recently been in Europe, and within the last three months, in the *Annals of Dermatology and Syphilography* an article has appeared by Gastou, who says, addressing the French Dermatological Society: "In the name of Dr. Montgomery I desire to present to this society cultures and slides taken from cases which Drs. Hyde and Montgomery have observed in Chicago." He then proceeds with a description of the cultures and closes his article with this statement: "We can say with certainty that these micro-organisms are not artificially introduced into the lesion by the observers. The importance of these micro-organisms as an etiologic factor of disease is not determined. I have recently seen a case of sarcoma of the foot in which these micro-organisms were present. Whether they are really the cause of blastomycosis we do not at this time know." Gastou presented the subject, not as Dr. Montgomery presents it, but just as I presented it in the beginning of this discussion, two years ago. Gastou seems to be skeptical regarding the Ormsby case. I am not. Every possible care was taken in that case to detect tubercle bacilli, and they were not found, and if that case is not tuberculosis, what is it but blastomycosis?

DR. JOHN A. FORDYCE, New York—The fact has often been commented on that cases of blastomycetic dermatitis have not been observed in the east. We have seen cases similar to this type where a clinical diagnosis of blastomycetic dermatitis was made, but we have been unable to find this organism either in sections or culture media. I have seen at least six or eight cases that clinically resembled blastomycetic dermatitis, but could not demonstrate the fungus.

In the cases of systemic infection reported by Drs. Hyde and Montgomery the relationship of the organism to the affection is clearly established. It is, however, a debatable question whether all the reported cases in which the fungus has been found are due to its presence.

DR. A. W. BRAYTON, Indianapolis—In my second case, a woman about 23, the lesions were scattered along the hand and there were some infected papules. There was an affected area as large as a quarter over the finger, and there was an autoinfection producing lesions of different shapes and sizes on the ulnar surface of the palm. The yeast plant was found in all the lesions, regardless of their size.

DR. NEWTON EVANS, Battle Creek, Mich.—As to the question of pain, in my experience, and in the literature at my command, pain does not seem to be an important symptom; most of the patients have been without pain to any marked degree.

The question was asked as to recent cases. In my report I refer to a case which occurred in Chicago, reported by Ormsby and Miller. This was a case of systemic infection. There has also been one lately reported in the *British Medical Journal* by Gilchrist. The patient was a negro with extensive involvement of the skin and lymph glands.

As to treatment, Dr. Hyde has recently suggested the *x*-ray in treating these lesions in addition to the systemic treatment with iodids. In the case I reported the actinic ray was used with the result of holding the growth in check and decreasing the number of miliary abscesses. As soon as the treatment was discontinued it began to spread rapidly by peripheral growth. The growth was afterward excised.

As to the identity of the disease and the etiologic relation of the parasite to the disease, personally I have little doubt on the subject. In the case of systemic infection referred to in our paper there was no doubt at all that the lesions were composed almost entirely of the parasite, and in the cases of localized infection it seems to me there is little doubt about the etiologic relation of the micro-organism.

PSEUDOHYDRONEPHROSIS.

PARANEPHRIC CYST OR HYDROPERINEPHROSIS IN A BOY OF THREE AND ONE-HALF YEARS: OPERATION: RECOVERY.*

S. W. KELLEY, M.D.
CLEVELAND, OHIO.

HISTORY AND EXAMINATION.

S. S., a boy of 3½ years, weighing 29 pounds, was brought to me July 30, 1902. His parents, Jewish people, gave me the following history:

He had always been well until seven weeks previously when he was run over by a wagon in the street. They said there was no visible injury excepting bruises about the head, and yet he seemed to be severely hurt. He was carried into a nearby hospital and kept there a week, then brought home. Two weeks after the injury the parents noticed that his abdomen was swollen, bulging out to the left of the median line and half-way between the umbilicus and the ribs. This swelling gradually increased during five weeks until the present distended condition was reached. They said the size of the abdomen varied slightly at different times, which they attributed to the quantity or quality of his food, as he sometimes bloated with gases. They did not think he was larger than two weeks previously.

The boy's appetite was poor. He had vomiting spells every few days. They said he swallowed with difficulty, the food or drink sometimes regurgitating.

He had a very annoying, husky cough. He suffered from indefinite pain and distress in his stomach, abdomen and side. Never appeared feverish or chilled nor had sweats.

On examination I found the little patient so very peevish and fretful that I could not count his respiration or pulse with any satisfaction. The temperature was normal.

The bulging of the abdomen was perceptible over the whole left side down to the left inguinal region. It occupied the left lumbar, the umbilical, left hypochrondriac and epigastric regions. The largest circumference of his body, which was one inch above the umbilicus, measured 22 inches. The skin was tense, but not discolored.

The tumor felt smooth and rounded, and on percussion was dull, and fluctuating. It appeared to be so distended with fluid that I tried to make out translucence with transmitted light, but failed to do so. In the photograph (Fig. 1) taken at this time, the dark shading indicates the outline of the percussion dulness.

On trial he swallowed water very well, but they told me he could not always do so. I passed a stomach tube without any unusual difficulty, but withdrew only a small quantity of half-digested food. I wished to fill his stomach with carbonic acid gas, but he was too fretful and unruly.

Examination per rectum revealed nothing. I could not feel up to the tumor. Could not detect anything abnormal about rectum, bladder or ureters.

The boy looked ill and was losing flesh.

I advised liquid nourishment of little bulk, and prescribed intestinal digestants and antiseptics, with the idea of relieving the abdominal distension as much as possible. I advised having his urine measured and a sample brought. They brought me 6 ounces, the whole quantity for twenty-four hours. The urine was rather dark colored; specific gravity 1,024; strongly acid; showed many crystals of calcium oxalate and of uric acid, and numerous motile bacilli.

DIAGNOSIS.

Passing in mind the possible conditions which might cause a large fluctuating collection in this region, I

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. H. M. McClanahan, A. C. Cotton and H. E. Tuley.

thought of nephric or perinephric abscess, pyonephrosis, ovarian cyst and ascites, cyst of the pancreas or of the spleen, or of the kidney or its coverings, and hydronephrosis.

Ovarian cyst was barred by the sex, and general ascites by the circumscribed area; abscess by the absence of chills and fever.

A splenic tumor bulges toward the front more commonly than toward the lumbar region.

A cyst of the pancreas may grow as large as a patient's head, pressing forward in the epigastrium and downwards, and causing regional pain, disturbance of the stomach and intestinal indigestion. If thin walled, as a cyst of rapid formation is apt to be, it fluctuates. All these symptoms were present and, although there was no diabetes, that is not a constant symptom of pancreatic cyst.

But this tumor, although it filled the pancreatic region, extended so low in the abdomen, and especially back into the lumbar region where a pancreatic cyst does



Figure 1.

not extend, that it seemed more likely to spring from the kidney or its cellular coating. Pancreatic cyst must be exceedingly rare if, indeed, it ever does occur in children.

There was no bruit in this tumor, nor any pulsation.

A cyst in connection with the kidney may be, according to the accepted classification, a congenital cystic metamorphosis of the kidney, a cyst of the perirenal cellulo-fatty tissue, or a dilatation of the pelvis of the kidney, hydronephrosis.

The child had given no evidence of disease up to the present illness as would surely have been the case with fetal or congenital disease or malformation.

Hydatid cyst is extremely rare.

So the diagnosis was narrowed down to either paranephric cyst or hydronephrosis, although there was no history of occasional evacuation of large quantities of fluid per urethram, as sometimes confirms the diagnosis in hydronephrosis or cysts of the kidney connected with its pelvis.

However, it should not be forgotten that a sarcoma may be cystic, too; or that the elasticity of a rapidly growing sarcoma might be mistaken for the fluctuation of a cyst. A sarcoma has been known to attain enormous proportions in six or seven weeks.

As to whether a cyst of this region is sarcomatous or hydatid or distends the covering of the kidney or is formed by expansion of its pelvis may be impossible to distinguish during life.

PROGNOSIS.

Prognosis in hydronephrosis or cyst depends on the treatment adopted. Spontaneous discharge through the ureter, although it has in some cases occurred, is not to be waited for. Discharge may take place into the peritoneum, or through the pleura into the lung; or suppuration may occur, or gradual exhaustion of the patient.

With operative interference the prognosis is good, although there is a chance of leaving a renal fistula.

TREATMENT.

But this accumulation being present, whether a hydatid cyst, a paranephric cyst or a hydronephrosis, the indication is to remove it. Medical treatment is useless. Manipulation or friction has sometimes been advised in such conditions, but seems perilous where there is so much distension.

Aspiration is the treatment usually laid down in the text-books, and cases are on record in which a single aspiration effected a cure, the fluid never reaccumulating. Sometimes several aspirations are necessary. How the cure is effected by aspiration in a given case it may be only possible to surmise. Perhaps by relieving pressure or reducing some kink or fold in the ureter. Of course, aspiration affords no opportunity to study the cause of the condition.

It is often advised to puncture where the tumor points if this is at a spot where the peritoneum is not likely to be met. If it does not point, the puncture is to be made so many inches below the ribs and above the iliac crest and so many inches from the spine. I object to having locations measured in inches. That is fallacious, as patients differ so much in size. The puncture should be made about half way between the last rib and the crest of the ilium and far enough from the spine to miss the edge of the sacro-lumbalis—not going so far forward as to wound the peritoneum. Usually dulness and, perhaps, bulging guides the operator to the kidney tumor, while a tympanitic note farther forward warns of the presence of the colon. In this case I would have resorted to aspiration, at least as a primary measure, but for the fact that occasionally on percussion a tympanitic note was elicited in this region, which made me fear puncturing the bowel. I had a theory that when the boy met the accident the kidney had been misplaced toward the median line, bending and occluding the ureter and causing hydronephrosis and that the colon lay close to the margin of the spinal muscles, sounding resonant when filled with gas and dull when empty and compressed against the tumor. I tried to test this by distending the colon with air by means of a bellows, but did not succeed in distending it at this point, the pressure from within being too great for safety.

OPERATION.

Nephrotomy was chosen rather than aspiration. This I did, August 10, at the Cleveland General Hospital. Made an incision about three inches in length in the left lumbar region, one rib width below and parallel to the twelfth rib, notching the sacro-lumbalis muscle and extending forward. This incision I preferred to the vertical in so small a child, in whom the space between ribs and iliac crest is very limited, and in dealing with

a tumor the size of which might eventually require a much enlarged incision. The aponeurosis was much thinned by the distension.

There is no troublesome "packing" of fat around the kidneys in infants and young children. There was no bowel in the way, thus exploding my preconceived theory. On reaching the kidney at its lower end I punc-

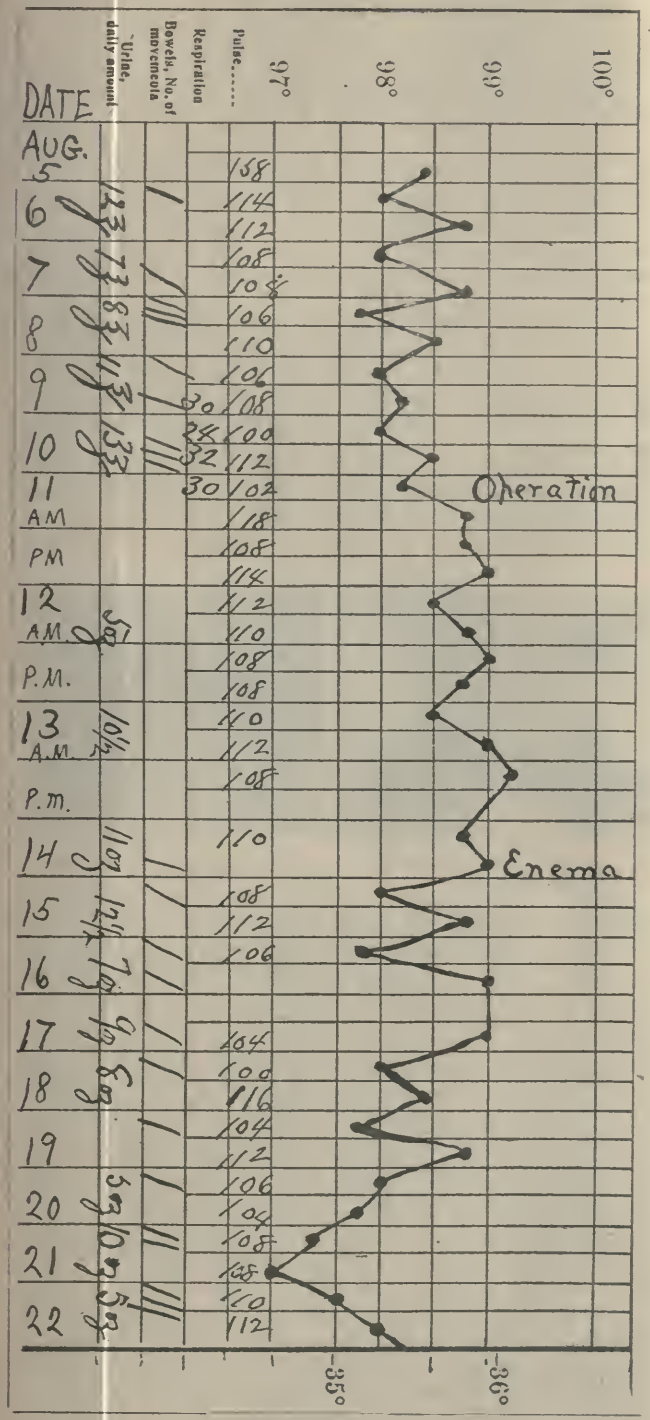


Figure 2.

tured it and drew off 1500 c.c. (little over three pints) of fluid. I followed the trochar with a grooved director and this with a narrow knife and incised the kidney into its pelvis, enlarged this opening with the spreading scissors and explored with my finger. The pelvis of the kidney was not very large, not twice its ordinary size, and certainly not greatly distended.

It is advised in the books to explore the pelvis of the kidney for an obstruction of the ureter. The pelvis contained no calculus nor clot nor growth that was palpable. But, as for exploring the ureter, I could not even be certain of feeling the opening of the ureter; and as for passing a probe or bougie through the wound in the kidney upward in its pelvis and then downward into the ureter, I found it practically impossible. Nor did I detect the opening connecting the pelvis with the cavity of the cyst, although one must have existed, for the cyst emptied itself when the kidney pelvis was tapped.

We know that a paranephric cyst, or, as some authors term it, pseudohydronephrosis, may, in fact usually does, have an opening into the pelvis of the kidney or the ureter.

Parenthetically, I would like to remark that of the two names for this condition, paranephric cyst or pseudohydronephrosis, I prefer the latter. But would suggest that such collections of fluid of traumatic origin, in the retroperitoneal connective tissue and opening into the pelvis of the kidney, should be called "hydroperinephrosis." to distinguish them from the paranephric cysts which are congenital or of unknown origin, developing in the perirenal cellulo-fatty tissue. I am not in favor of complicating our nosology unnecessarily, but it seems to me this distinction is appropriate, for such a collection more resembles that of hydronephrosis than of congenital cystic kidney, of the hydatid cysts, or of the paranephric cysts, with which it has usually been classified, and it indicates the location of the cyst better than the term pseudohydronephrosis. Hydroperinephrosis would be the connecting link between hydronephrosis and the paranephric cysts.

Continuing the operation, I stitched the margin of the kidney wound to the margins of the external incision and put in a rather large drainage tube—perhaps one-half inch in diameter, packed around with iodoform gauze—then sterile gauze, cotton and binder. Urine discharged freely through and around the tube, the accompanying chart shows the conditions during the five days preceding and the week after the operation. When the child first came to me he was passing only five to six ounces of urine daily. This scarcity I attributed in part to his taking such small quantities of fluid, through his fear of swallowing, his general apathy and anorexia.

While under observation in the hospital, his digestion having been improved and his general condition made more comfortable, he passed from seven to thirteen ounces of urine daily. After the operation (skipping the first three days) the quantity of urine did not change very much until the wound was allowed to close, when it increased so that when dismissed with his wound healed on September 2 he was passing from twenty to twenty-four ounces daily.

The fluid removed from the cyst was examined by my student, Mr. I. I. Yoder, who reported as follows:

Amount: A little over three pints, or 1,500 c.c.
Color: Light chocolate.
Sp. gr.: 1,013.
Sediment: Abundant, 2/5.
Reaction: Slightly alkaline.
Albumin: Very heavy precipitate; nearly 3/5 on subsiding.
Urea: 5.76 grams in 1,500 c.c. of transudate, or 0.38 per cent.
No amylolytic ferment.
Microscopic: Blood corpuscles; numerous motile and chain bacilli; uniform spherical masses of a species of large micrococcus and a few cholesterin crystals.

The boy has remained well ever since. Although he grew fatter and heavier, his abdomen measured only eighteen inches.

THE TREATMENT OF VASCULAR TUMORS BY THE INJECTION OF WATER AT A HIGH TEMPERATURE.

WITH SUGGESTIONS AS TO ITS EMPLOYMENT IN TUBERCULAR ADENITIS, ABSCESS, FISTULOUS TRACTS, ETC.*

JOHN A. WYETH, M.D.
NEW YORK.

Angiomata or non-malignant vascular tumors, especially those of large size, as cirsoid aneurisms or cavernous nevi, are among the most difficult lesions with which the surgeon has to contend. In fact, a considerable number of these cases have heretofore been deemed inoperable, and have been abandoned to an ever-increasing deformity and discomfort and, in some instances, to death from hemorrhage, pressure or other cause.

While I do not claim that the method I am about to submit is infallible or will cure every case, or is without danger, I am convinced it is worthy of serious consideration.

These vascular neoplasms may be classified on an anatomic basis as arterial, capillary and venous. The arterial angioma, or cirsoid aneurism, is most infrequently observed. The venous variety (cavernous nevus) is next in order of infrequency, while the capillary form, or "mother's mark," is most common.

In 1900, attracted by the success which my colleague, Prof. R. H. M. Dawbarn of New York, had achieved in his operation for the starvation of inoperable tumors of the nasopharynx by dissection of all those branches of both external carotid arteries which are distributed to the regions involved, I began experiments to determine if this might not be accomplished by a simpler method, which would bring the operation within the scope of many practitioners who might hesitate to undertake such an extensive dissection in one of the so-called dangerous surgical regions. The idea in mind was to obliterate the terminal branches of the external carotid arteries by injecting into the lumen of the parent trunk below the points of origin of these branches, paraffin, alcohol, or some other substance which would cause occlusion of the vessels and render the denutrition of the tumor less difficult and more thorough.

The experiments were made on the arteries of dogs, and the substances employed were paraffin, alcohol and boiling water. Neither of the first two proved satisfactory, while the injections of water at the boiling point into the iliac of a dog caused immediate occlusion of the vessel and all of its branches. This result convinced me that with this agent the coagulation of the blood and albuminoids in vascular neoplasms was possible. The first operation was made in the following case, which had been abandoned as incurable:

Miss V. D., aged 20, consulted me in 1897 for a large cavernous nevus occupying the right lower jaw and chin and a portion of the neck immediately underneath the chin and jaw of the right side. (Fig. 1.) The tumor was congenital, had increased in size progressively with the development of the patient during her growing period, and had continued to enlarge after she had reached her full growth. Pressure of the mass had worn away the outer surface of the lower jaw, and an extensive network of enlarged veins could be seen beneath the mucous membrane of the buccal wall. The skin covering this mass of blood vessels was normal in color. She informed me that the late Dr. Hunter McGuire, Richmond, Va., had essayed to remove the tumor by operation, but had abandoned it on account of hemorrhage. I repeated this effort, proceeding very cautiously, but was convinced from the extensive bleeding which followed a very small incision that the patient would perish if I persisted in the effort. The wound was packed and firm compression applied, and as soon as her condition permitted she was allowed to return home.

On July 14, 1901, under ether narcosis, an area covering one-third of the tumor was injected with from two to three ounces of boiling water. To preclude as far as possible the danger of embolism, peripheral compression was applied. With the distension of the tumor the integument became very warm to the touch, and at one time there was sufficient heat to cause my assistant, who had two fingers inserted into the mouth, to remove his hand. The medium aspirating needle was carried through the mass to within one-half of an inch of the limit of the diseased area and the boiling water forced out of the syringe until the integument turned pale under the distension. Notwithstanding the great heat there was no necrosis of the mucous membrane or the overlying integument.

The operation lasted ten minutes, and there was no pain or elevation of body temperature at any time after the patient became conscious. The blood and albuminoids were evidently coagulated. Within two weeks the area injected had diminished at least one-half in size, when a second operation was performed. At this time the injections were made through the entire remaining portions of the mass with a result equally as gratifying as at the first procedure. At the end of the second week, when the patient left me, the tumor had diminished two-thirds its former size. A third



Fig. 1.—The angioma before treatment.



Fig. 2.—After the first and second injections.

injection of a small area which had escaped coagulation was one year later performed by Dr. Stuart McGuire, Richmond, Va., with success. The accompanying photographs show the gratifying results in this case. (Figs. 2 and 3.)

CASE 2.—A second and more difficult case of this form of angioma is that of C. G., a well-developed child of 9 years, of Lowell, Mass. At birth there was a small "mother's mark" or blue spot, about as large as a quarter of a dollar, on the back just above the right shoulder blade, a little to the right of the median line. At the age of 2 years it began to grow perceptibly, and continued to enlarge in all directions, drifting chiefly downward and to the right. In her fifth year, when the tumor was about seven inches in length and half as wide, an effort was made to remove it by operation, but on account of hemorrhage it was abandoned. The wound was packed, became infected, and resulted in the cicatrices which are shown in the photograph. The neoplasm reappeared in all parts of the operative wound, and one and one-half years later a second attempt was made, and this was also abandoned.

When she came under my observation, on Feb. 27, 1902, there was a large venous angioma occupying the back from the edge of the trapezius muscle above the right shoulder blade, over the shoulder, reaching to the middle line between the two scapulæ, then down along the posterior border of the right scapula, extending as far as the twelfth rib and well forward to the right side. The whole mass was slightly crescentic in shape, its surface was from one to two and a half inches above the level of the body, and from the elevation of the right shoulder it was evident that the abnormally enlarged vessels had burrowed between the ribs and the scapula. To the touch it was soft and compressible, the venous chan-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

nels remaining empty under pressure and refilling as soon as this was removed.

Under ether narcosis the boiling water injections were made as in the former operation, the needle being inserted in eleven different points through the neoplasm. Between five and six ounces of boiling water were thrown in. The child complained of no pain after consciousness was restored. Coagulation was evident, and within two days the area injected began to undergo diminution by granular metamorphosis. By October the entire growth had disappeared with the exception of the rounded mass, about three inches in diameter, and elevated about one and a half inches above the skin, shown in the center of the area in black in the accompanying illustration. (Fig. 4.) This was injected in October, 1902, which completed the cure.

In the first operation in this case a necrosis of the skin over an area of about one inch in diameter resulted from hyperdistension with too much boiling water at this particular point. After the child left my care and returned to her home in Massachusetts this became infected and some suppuration ensued, but it in no way interfered with her recovery and the cure of this large and otherwise incurable growth.

The method has been successfully employed in arterial angioma, or cirsoid aneurism, as shown by the following case:

CASE 3.—Miss S. C., aged 27, came under my observation January, 1902. In 1885 the patient noticed a small pulsating tumor in a branch of the temporal artery situated directly over the ear. Compression on the artery in front of the ear



Fig. 3.—After the third injection.

by means of a cork held in place by bandage tied around the head was tried for a prolonged period. While it controlled all pulsation as long as the pressure was applied, it did not obliterate the artery or cure the angioma.

In 1886 Dr. J. M. Taylor tied the temporal artery in front of the ear, but without benefit, for after this operation the tumor increased in size. In 1887 Prof. T. G. Richardson, New Orleans, attempted to strangulate the mass subcutaneously, but without success. At a later period he introduced several large pins through the base of the tumor and surrounded it with a strong ligature. By repeated tightening of the ligature he succeeding in cutting off by strangulation a considerable section, to the base of which caustic potash was applied. The tumor, however, continued to grow, and although this attempt was repeated a year or two later by Dr. Richardson, it failed again, and any further operation was abandoned.

In January, 1902, there was a large pulsating mass covering about one-half of the left side of the scalp, which measured approximately five by six inches and was elevated above the level of the normal scalp from one-half an inch to an inch. On the surface there were several large cicatrices which had resulted from the efforts of strangulation, and along the border of these scars were three or four small patches of papillomata. Leading into this tumor were five arteries, which could be seen distinctly pulsating with increasing motion as they approached their entrance to the mass. Two of these came from the left temporal, one from the right temporal and one from each occipital. The center of the angioma corresponded to the point where pulsation was first noticed. It had grown so rapidly within the year that the patient was compelled to seek relief by operation, which was done on Jan. 4, 1902, under ether narcosis, the scalp having previously been shaved and thoroughly disinfected.

The needle was entered along the course of the arteries leading into the tumor, beginning about two inches from the mass, a quantity of boiling water sufficient to coagulate these vessels being employed. It was then introduced through the tumor from side to side, injecting about a dram, withdrawing the needle for one-half of an inch and then repeating this procedure until the entire mass had ceased to pulsate. The quantity of boiling water so used was between five and six ounces. Temperature on the surface was noticed by touch, and when the heat became very perceptible to the hand and the skin began to bleach the injections in that particular area were discontinued. The warty growths noticed on the surface of the scalp were touched with the Paquelin cautery. No reaction followed the operation. The patient complained of no pain, but there was a very considerable edema of the scalp, and this, beginning on the left (the side of operation), closed the left eye and spread over the face, closing the right eye within forty-eight hours. The swelling spread as far down as the neck and was so great that had I cause to repeat a similar operation I would use only about one-half



Fig. 4.—After the second injection.

the quantity of water, and would then repeat the operation after the interval of about a week.

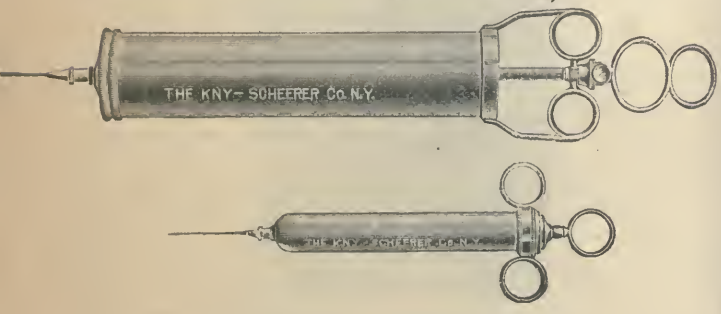
Dr. G. C. Chandler of Shreveport, La., a brother of the patient, writes me under date of Nov. 12, 1902, that "no pulsation is present, and there is slight depression where the tumor was, owing to attrition of the skull by the long pressure of the pulsating mass. The scalp is no thicker than that covering the normal skull, and while a slight eczema persists where the tumor was situated, the hair seems to be more plentiful than before the operation."

I have employed this method successfully and without accident in a number of cases of capillary angioma, but, on account of their superficial character, they being within the substance of the integument, some cicatrization is apt to result unless very great care is taken. The weak tissues of the new growth do not offer the resistance of the normal skin which overlies the venous or arterial angiomata, and may break down under the hot water. In all of my cases the scarring has been very slight, and I think the method is well worthy of thorough trial in these cases. As they occur chiefly in children and are situated on the face, it is important to have the patient very firmly held while the injections are being made without narcosis. The legs, arms, body and head should be kept immovable, while the face should be covered by a mat in which an aperture is cut sufficient to expose the area to be injected. I take the additional precaution to have an assistant hold a sponge saturated with cold water immediately over the needle

in order to prevent scalding the cuticle should the apparatus leak. The small hypodermic needle is used, and this should be thrust through the sound skin, about one-eighth of an inch from the edge of the angioma, pushed beneath the neoplasm, care being taken not to let the point come through the surface. From five to fifteen minims of water may be injected in one spot, changing the needle here and there to suit the size of the mass. When the injections are made directly into the enlarged capillaries, necrosis almost always occurs, but if the water is forced well beneath the surface, the deeper parent vessels will be coagulated, causing the nevus to disappear by gradual denutrition (granular metamorphosis). It is a wise precaution to cover the area injected at once with aseptic collodion to prevent infection. This operation may be repeated from time to time until a cure is effected.

Water at a high temperature will without doubt become more frequently employed in the treatment of various minor surgical diseases. It has already been employed by Dr. Lucien Lofton of Virginia in the treatment of hemorrhoids, and, while I do not approve of the treatment of hemorrhoidal tumors by injection, always having in mind the danger of hepatic or other embolism, if, in the judgment of the surgeon, this operation is deemed advisable, hot water is the safest agent.

It has been employed successfully in the treatment of fistula about the rectum. When there is, as most frequently exists, only an external aperture with no communication with the cavity of the rectum, boiling water injected so as to be brought in contact with the entire surface of the fistula and abscess should destroy all septic organisms and effect a cure.



Figs. 5 and 6.—Injection syringes.

The late Dr. Ackard,[1] Springtown, Texas, reported to me a number of cases in which he had cured fistulæ by this method. It is my intention to give this method a thorough trial in the treatment of tubercular adenitis, preferably before pyogenesis, and I shall not hesitate to employ it in gonorrheal bubo, in ranula,[2] in small cysts, and abscesses and lipomata.

I have used the method in one case of very large inoperable sarcoma of the shoulder and scapula, using more than a pint of boiling water. The operation was followed by extensive sloughing, with improvement of the patient's general condition, but without curative effect, and, while he is still living, I do not think he can long survive his malignant disease. I have had numerous inquiries in regard to the application of this method to uterine fibromata, but my reply has invariably been that hysterectomy was the better procedure.

1. Dr. Ackard accidentally discovered the efficacy of hot water in the treatment of fistulæ. In irrigating a fistula, by a mistake of his office boy, the syringe was filled with water almost at the boiling point, with which he flushed the fistulous tract. The patient suffered great pain from the application, but the fistula was cured. He repeated this in a series of cases under chloroform narcosis with success.

2. I have recently employed this method in a very large ranula with entire success.

DISCUSSION.

DR. WILLIAM J. MAYO, Rochester, Minn.—While I was in New York last November I visited Dr. Wyeth's clinic and had the pleasure of seeing two of the cases reported here to-day. One of them was an enormous angioma, which I do not believe any of us would have felt like taking out by the knife. I was very much impressed with the result and asked Dr. Wyeth to send me an apparatus. In a very short time we had a large venous angioma of the cheek of a young man. To have removed it with the knife would at best have meant a very bloody operation and probably sacrifice of the seventh nerve. With this apparatus one and one-half ounces of boiling water were injected into the tumor, and it promptly coagulated, and in two or three weeks two-thirds of it had disappeared. I have since heard that the growth is almost entirely gone. None of us desire to employ excision in these cases when we can help it, and I was struck with the ease with which this method can be used and the almost certain results. I believe it is one of the advances in the treatment of tumors of the blood vessels.

DR. JOHN P. LORD, Omaha—Modern surgery some years ago attempted to accomplish almost everything, and, therefore, some of the old injection methods of the masters were abandoned, and probably they have not been practiced for several years until recently. Last year I had a case to treat very similar to that described by Dr. Mayo. This nevus so involved all the structures of the cheek that its removal would have necessitated the sacrifice of the mucous membrane of the mouth, so that to remove it by surgical measures would have been absolutely out of the question. The use of electrolysis and the Paquelin cautery seemed to afford no adequate relief. I therefore determined to treat by tincture of iodin injections. In looking up this subject, I found that most of the accidents reported by the older surgeons were due to embolism. Pilchner of Brooklyn observed that in the cases in which accidents had occurred by this method no precaution had been taken against the formation of embolism. I, therefore, took the precaution to cut off the circulation from the outgoing vessels by finger pressure, and the result was all that could be desired. It was very simple in its application. The results were very rapid. In the course of a few treatments, I had accomplished more than I had by the numerous other methods employed. About this time this method of Dr. Wyeth's was published. I have not used it, but I believe that it has a very large use, and I believe also, that we can use safely, in proper locations, the injection of other coagulating agents.

DR. RICHARD H. GIBBONS, Scranton, Pa.—I have seen Dr. Wyeth perform this operation in several instances, and I have seen this remarkable case of monstrous angioma, which he removed entirely by this method, and it makes me feel that the procedure is one of the very greatest value to the profession. It would be very painful to remove by the knife most of these monstrous angiomata, and in many cases it would be absolutely impossible, but they can be safely removed by this method. I believe that this method would be of value in fibroid and other tumors of the uterus. An opening could be made through the vagina; we could ascertain the proper place, make the puncture and then inject the hot water. Later an incision could be made higher up and the tumor exposed and injection made in this region in the same manner, which would doubtless render the patient more comfortable than any other application or treatment.

DR. JOHN A. WYETH, New York—In regard to the employment of any apparatus for the registration of heat, I think it scarcely practicable. The operator should judge by the sense of touch and by the bleaching of the skin as to the proper degree of heat and tension. In choosing between the hot-water injections and excision by the knife one must be guided by the conditions which are present. Where the angioma is small and the skin deeply discolored, if excision can be practiced so as to remove the deformity and leave only a linear cicatrix, this operation would be preferable. But where mucocutaneous margins are involved, injections should be carefully and thoroughly tried.

BUT ONE PROFESSION OF MEDICINE.*

DUDLEY S. REYNOLDS, A.M., M.D.

Member of the American Association for the Advancement of Science, the British Society of Arts, etc.

LOUISVILLE.

It may be fairly claimed that, prior to 1880, the medical profession embraced the regularly educated regular physicians, the regularly educated homeopathic physicians and the regularly educated eclectic physicians. Infinite varieties of each of these classes, representing all manner of individual peculiarities, were to be found in every community. There were those claiming the inherent hereditary power of healing the sick or some mysterious gift from the Creator of the universe to dissipate disease. Then we had the Thompsonian, the Baunscheidt systems, *et id genus omne*. In most states any person desiring to engage in the practice of medicine might have his sign painted, issue his cards or publish his announcement in the newspaper and proceed at once to invade the ranks of the credulous. In some places a local license tax was exacted. All this has been changed.

The work of the Association of American Medical Colleges has, through the encouragement and support of the medical societies, brought about a better understanding by the general public of what constitutes the necessary qualifications of a physician. In most of the states laws have been enacted defining these qualifications, or creating a board of experts for that purpose. This has aroused the sectarian schools of medicine to a realization of the necessity for systematic education in the fundamental subjects of the medical curriculum. Now all schools teach the same anatomy, histology, physiology, pathology, chemistry, toxicology, materia medica and therapeutics, with no pretense of any difference, excepting in some special features of materia medica and therapeutics. In fact, nearly all of them use the same text-books.

State examining boards all require a definite knowledge of anatomy, histology, physiology, chemistry, pathology, toxicology, hygiene, principles of medicine and surgery, obstetrics and medical jurisprudence, of every candidate for license to practice. Those claiming to practice peculiar systems are, in addition to the subjects named, examined on the subjects of materia medica and therapeutics, as taught in the sectarian schools. The truth is, these are subjects nearly identical with what is taught in the regular schools, so that now the sectarian physicians are, nearly all of them, alumni of regular schools, or at least trained from the same text-books in use at the regular colleges.

Education must have its refining influence even on the crudest material, and it has been nowhere more clearly manifest than in the ranks of the profession of medicine.

By agitation and by organized effort it has now become one of the fixed requirements of all applicants for admission to the classes of a medical school, whether sectarian or regular, that the student must possess a good English education, embracing rhetoric, Latin, mathematics and physics. This is exacted by both the colleges and the state examining and licensing boards. If the student is not a graduate of some high school of the first class, or some college or university, he must pass an examination equal to that required of common school teachers of the first class, or submit to an examination by some legally authorized examining board.

Some of the colleges and universities now require of all students of medicine before matriculation an A.B., B.S. or equivalent degree from a first-class literary college or university.

Step by step the advancement has been made until now a higher standard of scholarship is exacted of the medical student than is required of those entering on the study of any of the other professions.

The ethics of all the educated classes of people distinguish them from each other, as well as from the unlearned, and we may now find but little ground for dividing the medical profession into separate classes. Sectarianism fades before the broadening lights of a uniform course of systematic education, just as the refining process of analysis separates the pure gold from the adulterating deposits of earth in which the crude ore is found. It has already come to pass that no sectarian claims are made by the physicians of Evansville, Ind., and must soon be so everywhere, the sole test being educational qualification. Education just as certainly creates ethical regulations for individual deportment as it broadens the sphere of intellectual activity. With the general recognition of these facts all opposition to ethical rules vanish.

If the medical profession is not now a confraternity it soon will be. It is certainly reduced to a common plane as to collegiate training and legal exaction, and it has so far advanced in the growth of knowledge as to be at once conspicuous in the intellectual pre-eminence of its teachers and practitioners.

To assist in this great work of advancement the profession itself must be organized. The recently adopted plan of the American Medical Association to have all the states organized with their auxiliary county and district societies, provides a broader and better field for the continuation of our further development in those channels of scientific knowledge which experimental research alone may unfold to us. Laboratories for experimental tests are every day opening to us some of the mysteries of pathology and laying the sure foundation of new therapeutic procedures. The Roentgen rays of electric light came from the experimental laboratory to aid us in the diagnosis of internal growths, the dislocation of fractured bones, the presence and location of foreign bodies hidden by the flesh of our bodies; and, later, to melt away malignant growths on the surface and within the body. Hundreds of other blessings to humanity have resulted from the community of experimental science.

We never ask what political, religious or other opinions are held by the doctors of medicine. The great question is this, has he a systematic and duly accredited medical education? Has he been lawfully admitted to the practice of his profession? Now, as physicians, we may ask, does he possess a collegiate degree from a first-class medical school, and is he disposed to observe those ethical rules our organized societies have established for the observance of the members, and will he unite with us in our attempts to uphold and maintain the honor and dignity of the profession as a body?

We are one profession in spite of any number of protesting individuals. We are one profession by virtue of our community of interest, occupation and educational training. We are one profession by virtue of our lives of devotion to a common cause.

Our great advancement has been brought about by the labors of those who limit their work to some special field of practice and those who labor in the laboratories.

* Read to the Kentucky State Medical Society, at Louisville, April 23, 1903.

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OUR INDEX NUMBER.

The Index in this issue is, we believe, an advance on previous ones, both in completeness and accuracy. It contains in its Current Medical Literature department not only the titles of American, but of foreign articles, including nearly all the leading papers published both in this country and abroad. It will, therefore, continue to prove a convenient reference aid to those doing literary work in medicine. A separate copy of the Current Medical Literature Index will be published with a reproduction of the titles as given in the separate numbers, thus affording a convenient and easy method of reference to the medical literature of the world for the past six months. Copies of this can be obtained in separate form with paper covers for 25 cents. We believe that this will prove a useful supplementary aid to everyone doing book work in medicine, and not be entirely supplanted by the *Index Medicus,* as it appears under its new auspices. Moreover, there will be a large number to whom the *Index Medicus* is not so readily available where this will be of decided advantage. We trust that our expectations as to its practical utility will be realized by our readers. The presence of the Index in this issue necessitates the abbreviation or entire omission of some of the various departments of the reading matter.

DISEASES OF METALS.

As so much has been appearing in the public press recently on the subject of "diseases of metals" and physicians are being questioned by the laity as to the nature of these diseases, as to whether or not they are actually "contagious" and (by the more naïve) as to whether or not microbes are to be regarded as the cause, The Journal is led to state briefly the facts in the case.

In 1851 Erdmann reported to the Royal Society of Sciences in Leipsic that he had observed a structural alteration of the tin in some old organ pipes from a church in Zeitz; the change in the tin, he believed, might be due to the vibration of the pipes in organ playing. Erdmann's observation remained unnoticed until 1869, when von Fritzsche, in St. Petersburg, called attention to it in connection with an important instance in his own experience. Some blocks of pure tin kept in a storehouse during the winter were found, on examination, to have undergone marked alterations. Some of the blocks were markedly disintegrated; others showed numerous gray, wart-like projections on the surface. Some of the blocks had actually fallen into powder and there were all transition stages between such an extreme structural alteration and the superficial wart-like change. The altered tin had a gray, dull color, in marked contrast with the white glistening appearance of the ordinary block tin. The gray powder, however, underwent a decided change on the application of heat; it decreased in volume and became much lighter in color, approaching that of block tin. The winter had been a very cold one, the temperature going to minus 38 C. It occurred to Fritsche that the change in the tin might be due to the low temperature; he, therefore, exposed some block tin to a temperature below the point where the mercury becomes solid and found, to his joy, that the tin underwent a structural alteration in all respects similar to that observed in the stored tin. In 1871 Oudemans, in Amsterdam, stated that a load of Banca tin, shipped in winter by railway from Rotterdam to Moscow, was found, on arrival, to have fallen to powder. The recipient suspected fraud.

Further observations in various places have shown: First, that great cold is not necessary for the transformation and, secondly, that the change occurs in pure white tin as well as in pipes composed of a large proportion of tin and a small proportion of other metals.

The whole matter has been explained by the experiments of two Dutch chemists, E. Cohen and C. van Eijk, who have demonstrated with great clearness the precise conditions under which white tin is converted into gray tin, and under which gray tin is converted into white tin, for the process is reversible. Equilibrium exists at 18.5 C.; below this temperature (its "inversion temperature") the gray form of the tin is the stable one, while the well-known white form is "metastable," that is to say, is in a condition comparable to that of a supersaturated solution of a salt, which, whenever possible and usually on the slightest provocation, will precipitate its excess of salt and pass into the condition of stable equilibrium. Since 18.5 C. (65.3 F.) is higher than the ordinary temperature of the air except in summer, it is obvious that all tin objects, such as are used by us in daily life, exist in a state of "metastable" equilibrium. Only on warm days, when the temperature is above 65.3 F., are they in a stable condition. It is very curious that if to a supersaturated solution of a salt a crystal of the salt itself be added, the "metastable" condition ceases at once, for the excess of salt crystallizes out as a result of the "inoculation"; exactly the same sort of thing happens with the "metastable" white tin, for if it is contaminated with a particle of the gray form of tin ("inoculated" with it) it passes over into the stable gray form. This happens at all temperatures below 18.5 C., though the change goes on with maximum velocity at minus 48 C.

When the process of transformation from white to gray tin is once started, the process goes on progressively and the conversion leads finally to total disintegration of the metal, hence the name "tin pest." The financial loss in such cases may be great, owing to the fact that

the gray tin is likely to become oxidized, which makes it difficult to melt it up again; importers of tin are, therefore, advised to be very careful to prevent the access of the "infective" gray tin to their storehouses.

These facts are surely highly interesting in themselves, but they should also impress on us, as medical men, the great significance of the principle of equilibrium. If such marvelous changes in form and properties have been shown to be simply a function of the temperature, what may not happen when slight changes of temperature occur among the multitude of complex chemical systems represented by the cells and fluids of the human body. A host of reversible reactions doubtless have their inversion temperatures at or near the normal temperature of the human body; a rise or fall from the level of the normal temperature would then, like an automatically working "stop-order," turn the arrow in a whole series of equations in a direction opposite to that which it occupied before the change. The studies of fever which have already been made show clearly that a profound effect on metabolism is produced by an increase in body temperature; exactly to what that effect is due, and where it takes place must be left to the future and, in that future, probably to the chemist to decide.

THE THERMAL DEATH POINT.

In *Science,* June 12, Mr. W. A. Setchell reports certain investigations he has made as to the upper thermal limit of living organisms, that is to say, the highest degree of heat in which active vitality exists. He has studied the fauna and flora of a number of thermal springs, and points out the precautions under which his investigations were carried on. The greatest care needs to be used in testing the temperature, as a distance of even a few inches may make an important change in the heat of waters owing to currents that are only perceptible to the thermometer. For this reason some of the earlier reported investigations can be criticised, and to some extent may be at least doubted. His findings are that no animal life exists in true thermal waters, that is, where the temperature is above 43 to 45 C. (110-113 F.), but certain low forms of vegetable life exist in waters of much higher temperatures. These all belong to the very lowest types, including the bacteria and chlorophyllose organisms closely allied to them, all being included in the group of plants known as schizophyta. Chlorophyllose organisms are not found in temperatures below 65 to 68 as a rule, though in some cases they have been found up to 75 to 77 C. (167-170.6 F.). The bacteria, however, endure the highest temperature observed for living organs, being abundant at over 70 and found in some considerable amount even up to 82 (179.6 F.) and 89 C. (192 F.), the latter being the highest temperature at which Setchell has been able to find living organisms. The organisms there found belong to the schizomycetes. The composition of the water appears to have something to do with the existence in it of vegetable life, as organisms seem to endure higher temperatures in silicic than in calcareous waters. No organisms whatever are found in springs having a decidedly acid reaction. The question naturally arises in regard to the character of the albumin of these organisms, what it may be that enables their protoplasm to withstand a temperature which coagulates the protoplasm and consequently kills the majority of living beings. The cell structure of the schizophyta is peculiar; it is quite different from that of other living organisms, and while the details are not satisfactorily settled, it seems that there is less differentiation, that is to say, less organization, in its structure than in other groups. "Whether we believe," the author says, "that the protoplast is all nuclear, or whether we believe that it is all cytoplasm, it remains clear that it is different from the protoplasm of other groups of organisms." There is room, therefore, for conjecture. There is nothing, so far as his own study is concerned, to indicate that the protoplast contains so little water as to render it incoagulable at the highest temperature it endures. He thinks there may be an "important difference in the essential proteids of the mixture or in the nature of constitution of the substance, a difference similar to that existing between a substance of the group of vitellins and one of the group of globulins." Whatever it may be, it is evident that the facts as ascertained do not diminish the mystery of living organisms.

Medical News.

CONNECTICUT.

New Insane Hospital.—The bill establishing a state hospital for the insane at Norwich, appropriating $100.000 for this purpose, was passed by both houses June 10.

Infectious Diseases.—During May 42 cases of smallpox were reported; 985 of measles; 2 of cerebrospinal fever; 268 of scarlet fever; 120 of diphtheria; 158 of whooping cough; 28 of typhoid fever, and 17 of consumption.

Physicians Fined.—Dr. Henry A. Carrington, Bistol, was found guilty of not reporting a case of scarlet fever, and was fined the costs of the suit, which amounted to about $10.——Dr. Thomas Mulligan, New Britain, was fined $1 for failing to report a case of measles and diphtheria.

Anti-Tuberculosis Campaign.—The opening and principal lecture in the crusade of the New Haven Medical Association against tuberculosis, was delivered by Dr. S. A. Knopf of New York City, May 29, on "The Duties of the People and of the Government in the Fight Against Tuberculosis."

May Mortality.—There were reported 1,264 deaths in May, 20 more than in April, 164 more than in May, 1902, and 156 more than the average for May for the past five years. This is equivalent to an annual death-rate of 16.7 per 1,000. Infectious diseases caused 23.5 per cent. of the total mortality.

Seasonal Diseases.—During the past five months pneumonia is remarkably conspicuous as the cause of a larger mortality than any other disease. In former years consumption has exceeded all other diseases as a destroyer of life, but in recent times pneumonia is rapidly taking the lead. In the present year, from January to May inclusive, the deaths from these two diseases were as follows: consumption, 570; pneumonia, 845. This changed relation of these two most fatal maladies is true not only of Connecticut, but generally in other states where vital statistics are carefully kept. One reason assigned for its prevalence is that people do not recognize its infectious nature and take no precautions to prevent its spread.

INDIANA.

Gives Hospital to Richmond.—Daniel G. Reid, formerly of Richmond, has offered to give the city a $50,000 hospital, on the condition that the citizens contribute $25,000 as the basis of a permanent endowment.

Resolutions on Dr. Eastman's Death.—At the recent annual meeting of the trustees and faculty of the Central College of Physicians and Surgeons, Indianapolis, resolutions were adopted regarding the death of Dr. Joseph Eastman, who was

characterized as an "ardent promoter and faithful supporter" of the college.

Personal.—Drs. J. Rilus and Thomas B. Eastman, Indianapolis, have resigned from the faculty of the Central College of Physicians and Surgeons.——Dr. James M. Dinnen, Fort Wayne, has been reappointed a member of the State Board of Medical Examination and Registration, for four years.——Dr. Charles E. Laughlin, Orleans, has succeeded Dr. William A. Stoker as superintendent of the Southern Indiana Hospital for the Insane.

Examination for Interneships.—The competitive examination held by the Board of Health of Indianapolis resulted in the appointment of the following internes for a term of service of one year, beginning on date named: City Hospital, May 1, Drs. F. N. Shipp, E. H. Kiser, and Murray Hadley; November 1, Drs. T. R. Cook, Hiram Johnson, and L. W. Brown; City Dispensary, May 1, Drs. P. S. Johnson, F. W. Crockett, H. S. Mackey, and D. W. Sheek.

Disease and Deaths in May.—The monthly bulletin of the State Board of Health for May says:

There was less sickness and fewer deaths in May than in the corresponding month of last year. Rheumatism was the most prevalent malady. Influenza dropped from the third place in April to fourth this month, and what was unusual, pneumonia moved up from sixth place in April to fifth place in May. Perhaps the unusually cold damp weather had something to do with this. Smallpox stood second in April and dropped to third place in May. There were 579 cases of smallpox in May in 59 counties, with 10 deaths. Despite the marked and classical character of the cases of smallpox, and despite the deaths, there are still found physicians in almost every county who contend there is no smallpox. Tuberculosis caused 370 deaths, 154 being males and 216 females. Of the total tuberculosis deaths, 179, or 48.3 per cent., were between the ages of 20 and 40. It is awful to lose each month such a large number of the citizens in the most productive period of life. The number of married females between the ages of 20 and 40 who were destroyed by consumption was 68, and the number of married males in the same age period was 28. The total number of deaths in the whole state was 2,421, an annual rate of 11.3 per 1,000. The county death rate was 9.6, and the city 14.6 per 1,000. The death rates of the five largest cities were all above the average, 11.3 for the whole state, as here shown: Indianapolis, 14.2; Evansville, 14.9; Ft. Wayne, 13.8; South Bend, 18.6; Terre Haute, 16. Cancer and typhoid fever, which usually cause about the same number of deaths monthly, show a wide difference this month as there were 38 deaths from typhoid and 80 from cancer. Thirteen and three-fifths per cent. of the total deaths were children under 1 year of age, and 25 per cent. were 65 years and over.

MARYLAND.

Baltimore.

Personal.—Drs. Hugh H. Young and Arminius C. Pole recently sailed for Europe.

Many Failed.—At the recent examinations of the State Board of Medical Examiners held in this city, 135 persons came up for examination, including second-year students and candidates who had previously failed. Of these 71 passed.

Vital Statistics.—Typhoid fever and scarlet fever are on the increase, 20 cases of the former and 30 of the latter being reported during the week ended June 3. The total deaths were 150, equivalent to an annual death-rate of 12.70 per 1,000 for whites and of 19.02 for colored. The chief causes of death were consumption 20, pneumonia 12, cancer 11.

Faculty Changes.—The following appointments have been announced in the Johns Hopkins Medical School: Drs. Joseph C. Bloodgood and Harvey Cushing, associate professors of surgery; Dr. Samuel Amberg, associate in pediatrics; Dr. Charles P. Emerson, associate in medicine; Dr. Joseph Erlanger, associate in physiology; Dr. Warren H. Lewis, associate in anatomy; Dr. Harry T. Marshall, instructor in medicine; Dr. Burton D. Myers, instructor in anatomy; Dr. Florence R. Sabin, instructor in anatomy; Dr. Charles H. Bunting, assistant in pathology; Drs. John B. Briggs, Jr., and A. P. C. Howard, assistants in medicine; Dr. Augustus Pohlman, assistant in anatomy; Dr. Arthur H. Loevenhart, assistant in physiologic chemistry; Dr. Ernest G. Martin, assistant in physiology; Dr. John A. Sampson, assistant in gynecology, and Dr. J. Morris Slemons, assistant in obstetrics.——Dr. John C. Hemmeter has been elected professor of physiology in the University of Maryland School of Medicine, vice Dr. Francis T. Miles, resigned on account of ill health.——Dr. George A. Fleming has been elected professor of eye and ear diseases, and Dr. Mary N. Brown, demonstrator of obstetrics at the Woman's Medical College.

MASSACHUSETTS.

Boston.

Commencement.—Tufts College graduated a class of 49 June 17.

Hospital Alumni Hold Field Day.—The Boston City Hospital Alumni Association held its annual field day June 15. While these gatherings with their associated sports are specially popular with the younger physicians, not a few of the older men attend and enjoy a jolly afternoon.

To Have Academy of Medicine.—The meetings of the Boston Medical Library this past winter have been so successful that a movement is on foot to organize an academy of medicine in Boston which shall make its headquarters at the library, shall conduct medical meetings and interest itself in matters concerning public health, etc.

Summer Rests Open.—Summer "rests" for women and children are beginning to open. Among them are the Mother's Rest in Newton Highlands, supervised by the ladies of the Protestant churches in Newton Center; another at Rurn Beach managed by the Episcopal City mission; and the Children's Island sanatorium in Salem Harbor.

Boston's Health.—Boston's health, as measured by deaths for the week ending June 13, was practically the same as a year ago, 189 to 187, or 16.81 per 1,000 per annum. Of this number 19 deaths were due to pneumonia; 2 to whooping cough; 23 to heart disease, and 4 to bronchitis. Infants are still unaffected by hot weather, there being only 25 deaths under one year and 38 under five years. Another week passed without a case of smallpox being reported, while diphtheria claimed 32 cases, with 2 deaths; scarlet fever, 29 cases, with 1 death; typhoid fever, 17 cases, with 1 death; measles, 43 cases, with 1 death, and tuberculosis 19 cases, with 24 deaths.

Carney Hospital Changes.—Radical changes have been made in the surgical department of Carney Hospital. The entire surgical staff, both house and out-patient, twelve in all, failed to be reappointed in June. In their place Dr. John C. Munro has been elected surgeon-in-chief, with Dr. John T. Bottomley as his assistant. They have accepted these positions with the understanding that they will hold them for at least ten years. The out-patient service has not yet been permanently organized. The purpose of these changes is understood to be to prevent the frequent changes in the personnel of the staff, which have greatly annoyed the authorities in recent years. Incidentally it has required the resignation of the two surgeons mentioned from the Boston City Hospital surgical staff, and has permitted the recognition of the many years of faithful service of Dr. Michael F. Gavin by transferring him to the consulting staff.

GENERAL.

Philadelphia Medical Journal.—This journal has been sold to A. R. Elliott, owner of the *N. Y. Medical Journal*, with which it will be amalgamated. A correspondent in last week's issue gives details.

Cholera in Army at Manila.—The new outbreak of cholera in the Philippines has caused the death of six soldiers between June 3 and 10. These cases are considered due to carelessness on the part of the victims in drinking unsterilized water and eating native food.

FOREIGN.

Hydrophobia at Paris.—The Paris Pasteur Institute reports for 1902 the best year of its existence; 1,016 persons were treated, and the mortality was only 3, or 0.18 per cent. One of the fatal cases had arrived from a long distance. In 1900 the mortality was 10, and in 1901 12. The number of animals known to be rabid has also decreased from 846 in 1900 to 474 in 1901. The enforcement of strict measures against vagrant dogs is assumed to be responsible for this favorable showing.

Decrease in British Stamina.—The standard of physique in England is alleged to be deteriorating. Lord Londonderry has made this assertion, and others are now quoting the official figures dealing with the army recruits for the year 1902. In 1900, out of 84,000 recruits offered, 23,000 were rejected for physical and other defects, while in 1902, out of 100,000 (to give simply round numbers) 47,000 were rejected. In these army rejections the agricultural population and the laboring classes of the towns furnish the largest proportion of those physically unfit. Nothing is said in the reports as to whether or not the same classes of the population offered for recruits in 1902 as in 1900.

Meeting Place of the Next International Medical Congress.—Some surprise has been expressed at the selection of Lisbon, so near to Madrid, as the meeting place of the next congress. Posner remarks, in a letter to the *Berliner Klin. Wochft.*, that when the subject came up for decision at the last session, to the consternation of all, it was learned that no invitation had been received from any city or state, and it was feared that the congress would have to adjourn without appointing a future meeting. One hour before the congress dis-

solved a telegram was received from the Portuguese government with a formal invitation for the next congress to convene at Lisbon, which was immediately accepted.

Richer as Physician and Artist.—The chair of anatomy at the Paris School of Fine Arts is to be conferred on Dr. P. Richer, who has won renown as a painter and sculptor. His work on "Anatomy in Art" had the rare distinction of winning two prizes, one from the Académie des Sciences and the other from the Académie des Beaux Arts. His "Physiologie artistique de l'homme en mouvement" is also a classic in art circles. His statuettes have gained many prizes, and one of them was purchased by the state and placed in the Anthropology gallery at the National Museum. The monument to Pasteur inaugurated at Chartres last week is also his work, and portrait medals of Blanchard, Marey and Chauveau have been much admired. His latest large literary work is "L'Art et la Medecine," profusely illustrated with reproductions of the masters. Portions of this book have been published from time to time in the "Iconographie de la Salpétrière," with which he has been connected since its foundation by Charcot, who was one of the first to appreciate the value of pictorial representation in clinical reports. Richer's last work is an introduction to the study of the human physiognomy. The fact that he was elected to membership in the Académie de Médecine shows that he has not neglected medicine in his art studies.

Third International Congress of Life Insurance Examiners.—This congress met at Paris, May 25 to 28, with a large and representative attendance. The first congress was held at Brussels in 1899, and the second at Amsterdam in 1901. The reports that have come to hand comment on the increasing tendency of the companies to enlarge the sphere of their activities and not peremptorily exclude so many applicants as in former years. Palme, Stockholm, reviewed the records of 18,132 persons who had applied for life insurance and had been rejected. The results showed that the mortality among them had been less than the average death rate, according to the standard English longevity tables. Among the extra hazardous risks gout was discussed, and the general opinion was in favor of accepting a candidate with gout if over 34 years old, in hygienic surroundings. Under 34, gout is liable to induce serious accidents. On the other hand, a gouty candidate, with evidences of cardio-vascular or renal lesions, should be rejected. Petersen, St. Petersburg, would not accept a candidate who has had acute articular rheumatism until two or three years have elapsed, and Mauriac deems this delay too brief. The rheumatism may affect the heart sounds. The conclusion finally adopted was that a minimum of two years must elapse after the first attack before acceptance of the candidate, and then only in case the heart has not been injured, and there are no arthritic hereditary antecedents. Candidates with essential, nervous asthma may be accepted if young, and free from tuberculous taint, the attacks infrequent. In regard to emphysema, Hirtz, Paris, would reject every candidate whose spirometric register was less than 2,000 c.c., or if the circumference of the thorax did not vary more than 3 cm. at forced expiration and inspiration. His conclusions were adopted. Old, non-tuberculous pleurisy is an acceptable risk, the risk diminishing with the time that has elapsed since. In Bourcy's experience, out of 26 persons who had died from tuberculosis consecutive to pleurisy, 16, that is, 61 per cent., died in less than ten years after the pleurisy. Women are particularly hazardous on account of the aggravation that may follow pregnancy. It was stated that one company accepts without extra premium candidates over 35 who have passed through a coxalgia in childhood and has had no mishaps from this course. Brouardel's suggestion in regard to Pott's disease was accepted by the congress, namely, that the hunchback is defective, but need not be rejected as long as the deformity does not interfere with the functioning of internal organs. This acceptance of tuberculous lesions, even although restricted to old and mild forms, is a significant sign of the more liberal trend of the times. The conclusion adopted in regard to biliary lithiasis was that such antecedents in a remote past do not debar the candidate if all the organs are healthy, or if an operation has been performed at least four years before from which he has entirely recovered. In case of renal lithiasis, it was decided that an operation on this account should entail rejection. The question of obesity was referred to the next congress. In regard to pregnancy, some were in favor of putting off the candidate until after the termination of the pregnancy, but the majority ruled that it was not *per se* an obstacle to acceptance, the examiner being on his guard against speculation. In regard to examinations by specialists, they were not judged necessary unless symptoms attract attention to some special organ. The congress has thus opened a little wider the door to admit candidates formerly inexorably excluded, and the tendency seems to be to open it still wider as time goes on. A full report of the congress is published in the *Semaine Medicale* of June 3.

LONDON LETTER.

Ileocecal Invagination by a Meckel's Diverticulum.

At the Clinical Society Dr. zum Busch described the case of a man, aged 21, who had suffered for several years from abdominal symptoms pointing to an intestinal growth. The condition became suddenly worse after a heavy strain during exertion. Sickness, vomiting, passage of blood, and a rapidly-forming swelling in the ileocecal region led to the diagnosis of invagination from a polypus. Laparotomy was performed, and an ileocecal intussusception was found and reduced with great difficulty. It was secondary to a primary invagination of Meckel's diverticulum into the ileum. Extensive gangrene of the intestine rendered excision of the whole invaginated portion (about three feet) necessary. Side-to-side anastomosis was performed, and uneventful recovery followed. Only 15 cases of invagination of Meckel's diverticulum have been published; in 12 a secondary invagination of ileum into ileum or ileum into cecum occurred. The prognosis is bad; in only one case has recovery followed excision of the gangrenous intestine.

Reform of the Army Medical Service.

The so-called "hospital scandals" in the South African War have led, as has been foretold in THE JOURNAL, to great reform of the Army Medical Service. No effort has been spared to make the corps as efficient as possible. The new warrant gives greatly-increased advantages to the officers and offers them an attractive career. It insures: (1) sufficient pay to enable the officer to support himself from the date of entering the service; (2) increased pay to officers in charge of hospitals or when selected for specialist appointments; (3) opportunities for professional improvement by work in the Royal Army Medical College, by the study of disease in foreign countries, and by original research; (4) advancement on account of professional ability and merit and not by order of seniority; (5) permission to retire after three years' service and join the reserve of the corps, receiving a small annual honorarium; (6) a gratuity of $5,000 on retirement after nine years' service, and a pension of $5 a day on retirement after 20 years' service, with increased rates of pension after longer terms. After a competitive entrance examination, of a very practical character, the successful candidates receive a two months' course of instruction at the Army Medical College, London, in hygiene, bacteriology, military surgery and military medical administration. If at the time of entrance officers hold, or have a prospect of holding resident appointments at any of the large general hospitals they will be allowed to retain them, and the tenure of the appointment will be counted as service toward promotion and pension, but they will not for the time receive army pay. After three and a half years and passing a practical examination the officer will be promoted to captain. On completing his foreign service of three or five years he will return home and study for six months at the Army Medical College. This time will be largely occupied in attendance on the clinical practice of various London hospitals, under selected clinical teachers in medicine, surgery, and certain special subjects. After this course an examination, as practical as possible, takes place for promotion to major. It includes general medicine and surgery, bacteriology and hygiene, and a special subject chosen by the candidate. Those who show aptitude in special subjects may subsequently hold specialist appointments at various army centers, receiving increased pay at the rate of $225 per annum. After promotion to major a second period of service abroad. After fifteen years of service the last examination takes place—in purely military subjects. When he has passed this the officer is eligible for the rank of lieutenant-colonel. The following is the new scale of pay per annum, which is greatly improved: Lieutenant, $1,600; captain, $1,870, after seven years' service $2,000, after ten years' service $2,370; major, $2,930, after three years' service $3,155; lieutenant-colonel $3,565, after eight years' service $4,000; colonel, $4,770; surgeon-general, $7,415.

Curvature of Spine Due to Nasal Obstruction.—Redard of Paris has observed (*Gaz. Med. de Paris*) asymmetry of face and figure and even curvature of the spine secondary to nasal obstruction. The cure or improvement in many cases followed rapidly on the removal of the obstruction to breathing.

Correspondence.

Indians Improvised Turkish Bath.

CANON CITY, COLO., June 15, 1903.

To the Editor:—In connection with the observations of McClanahan on Gros Ventres and Assiniboine Indians, cited by Dr. Gould in THE JOURNAL, May 30, page 1483, I may mention that a similar custom prevails with the Havasupai Indians who live along the Colorado River in northern Arizona. I have seen these Indians, when so far from their river environment that the only water obtainable was that in a car sent for railroad purposes, improvise a tepee by using their blankets and some poles, and in this take the sweat-bath by pouring water on hot stones placed therein. Then, when covered with perspiration, they emerged into the open air where they lounged about regardless of the chill air. And once, it being suggested that such methods would kill a white man, one of the bucks informed us that it was "heap good medicine for Indians." Whether they are accustomed to plunge into the river when one is adjacent, I have not observed, but much the same results would, it seems, be secured by lounging in the chill air of that section of Arizona. N. W. JUDD, M.D.

Book Notices.

DISEASES OF THE HEART AND ARTERIAL SYSTEM, Designed to be a Practical Presentation of the Subject for the Use of Students and Practitioners of Medicine. By Robert H. Babcock, A.M., M.D., Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons, Chicago. With 3 Colored Plates and 139 Illustrations. Cloth. Pp. 853. Price, $6.00. New York and London: D. Appleton & Co. 1903.

It is a pleasure once more to see a book on diseases of the heart by an American author. Flint's work, a model in its day, is now out of date. Dr. Babcock, in the more than eight hundred pages of text, has given us a comprehensive treatise. His book is not written primarily for the specialist but for the general practitioner. Hence the criticism that the expert in heart disease might offer, that matters of pathologic anatomy or of physiology and matters of theory concerning the normal and perverted action of the heart are not given as much consideration as matters purely clinical, loses its force. So, too, the specialist might wish that the numerous references to cases seen by the author were briefer and in their condensed form went more directly to the point. But when we consider that the book is written to meet the wants of the general practitioner it is seen that these seeming faults become excellencies. Dr. Babcock's wide experience and careful recording of cases stand him in good stead in the preparation of the work, and the physician can find on almost every page cases illustrative of the points to be brought out. Symptomatology and physical diagnosis of each disease are treated fully and clearly. A valuable chapter on the physical examination of the heart is found at the beginning of the book. Numerous illustrations bring out the points in physical diagnosis. The value of the Roentgen ray, of the sphygmograph and the tonometer are clearly recognized. Especially full is the discussion of treatment. This will naturally greatly increase the worth of the book to the practicing physician. The author is certainly not a nihilist as to therapy. He is optimistic in discussing treatment, yet rational and in no sense a hobbyist. He is a safe guide. We repeat that we are glad to welcome this excellent book, for while there are several good works in English, by British authors, one likes, after all, to get the American smack and flavor. The book is neatly gotten up. The style is clear and simple, not at all involved, and the work is, therefore, easy reading. It can be heartily commended to student and practitioner.

HOW TO KEEP WELL. An Explanation of Modern Methods of Preventing Disease. By Floyd M. Crandall, M.D. Cloth. Pp. 511. Price, $1.50 net. New York: Doubleday, Page & Co. 1903.

This book is written for lay readers, not for physicians, but medical men who have not been keeping up with scientific medicine will find the reading of it well worth their time. The ostensible object of the author was to place in simple language the fundamental principles underlying preventive medicine, knowing which, the intelligent individual could keep well. In the introduction and first three chapters the author considers, in a general way, medicine, past and present, and shows the difference between medicine based on myth and empiricism, and that which is based on scientific facts and known conditions. Bacteria, what they are and their relation to disease, are considered in one chapter, and this is followed by a chapter on infections and contagions. The author then takes up infectious diseases, such as tuberculosis, typhoid fever, scarlet fever, diphtheria, smallpox, whooping cough, pneumonia, malaria, the plague, etc., showing how these are contracted and spread, and methods of prevention. In a chapter on antitoxin the reader is told what it is, how it is prepared, the theory on which it cures and the diseases in which it has already been found of value. Other chapters are on "Vaccination," "The Effects of Modern Life on Diseases," "The Rearing of Children," "Faulty Nutrition of Children," "Heredity," "Regimen of Adult Life," "Dangers of Middle Life," "Prevention of Breakdowns," "Sedentary Life," "Age and Its Advancement," "Modern Surgery." The general tone of the book and the method of presenting the various subjects are highly commendable. It is just such a book as a physician can honestly recommend to those of his patients who desire a general knowledge of the cause and prevention of diseases.

BACTERIA IN DAILY LIFE. By Mrs. Percy Frankland, Fellow of the Royal Microscopical Society. Cloth. Pp. 216. Price, $1.75 net. London, New York and Bombay: Longmans, Green & Co. 1903.

This little volume, written by the wife of a well-known English scientist, gives in popular and easily-comprehended language a large amount of information in regard to the subjects of bacteria, hygiene, pathology, etc. Necessarily with such a progressive science it is here and there a little behind the times, and in a few places already requires revision. For example, there is nothing said in regard to the fact that antivenene antitoxin offers only a very imperfect immunity, if any at all, to the chief constituent of the toxin of viperine snakes. One would understand from this book that it was equally efficient with all venoms alike. There are one or two other little points where something might be said in criticism. It is satisfactory to an American in reading a work like this to see how much of real practical value is due to his own countrymen and to the encouragement and assistance given by the United States and the different state governments. The work leaves the impression, whether just or not, and we are inclined to think it is just to some extent, that the practical application of economic bacteriology is much more advanced in this country than in Great Britain.

Marriages.

I. J. FRANKLIN, M.D., to Miss Becky Salk, both of Chicago, June 9.

WALTER LEE NICHOLLS, M.D., to Miss Mary Clare Maguire, both of Baltimore, Md., June 25.

HENRY R. JAMES, M.D. Wichita, Kan., to Miss Nellie Kerschman of Little Turkey, Iowa, June 8.

JAMES FREDERICK ADAMS, M.D., Pocomoke City, Md., to Miss Nellie Bland Appold, at Baltimore, June 10.

HENRY MORGAN CAFE, M.D., Isoline, Tenn., to Miss Vernae Alene Redman of Glen Mary, Tenn., June 10.

HUGH BENJAMIN MAHOOD, M.D., Emporia, Va., to Miss Clare De Graffenried Boswell, at Richmond, Va., June 9.

ALFRED ARTHUR BURDICK, M.D., Baltimore, Md., to Miss Katherine Estelle Kenyon of Providence, R. I., April 29.

Deaths.

Isaac N. Love, M.D., New York, N. Y., aged 55 years, for many years a trustee of the American Medical Association, died suddenly, June 18, on board the Cunard steamer *Aurania* just as she was swinging into her pier at New York. Owing to the fact that the reading forms of THE JOURNAL go to press this week four days earlier than usual, and to lack of space, a fuller obituary notice is reserved for next week's issue.

Albert Ferrari, M.D. Medico-Chirurgical College, Philadelphia, 1902, who came from Honduras to Philadelphia to study medicine six years ago, and was recently waylaid and killed just after he had landed in Puerto Cortez, Honduras. He is said to have accidentally met his death as a result of a feud between a relative and an army officer. He was for the last year assistant to Dr. L. Webster Fox.

Christopher Clark White, M.D. Vanderbilt University, Nashville, 1892, valedictorian of his class, of Forrest City, Ark., was thrown from his carriage, June 12, sustaining a fracture of the base of the skull, from which he died June 13, aged 32.

Millard Maybee, M.D. Faculty of Queen's University, and Royal College of Physicians and Surgeons, Kingston, Ont., 1887, of Riverside, Cal., died June 10, at the Riverside City Hospital, after a long illness, from brain disease.

Columbus L. Redwine, M.D. New York University, 1855, surgeon in the confederate service during the Civil War, died at the Confederate Soldiers' Home, Atlanta, Ga., June 8, after a long illness, aged 71.

Leon H. Armstrong, M.D. Jefferson Medical College, Philadelphia, 1871, some-time surgeon in the United States Navy, died from paralysis at his home in Atlantic City, N. J., June 11, aged 52.

Graily Henderson, M.D. Starling Medical College, Columbus, 1893, formerly of Marysville, Ohio, and Denver, died at Magnetic Springs, Ohio, from the effects of an overdose of chloral, June 9.

Theodore Richard Noyes, M.D. Yale University Medical Department, 1867, president of the Oneida Community, died at his home in Kenwood, N. Y., from Bright's disease, June 1, aged 62.

William L. Bradley, M.D. Yale University Medical Department, New Haven, Conn., 1864, died from heart disease, June 12, at his home in New Haven, Conn., aged 66.

Andrew Jackson Newell, M.D. Medical College of Ohio, Cincinnati, 1866, died suddenly, June 5, from paralysis, at his home in South Webster, Ohio, aged 64.

Hiram K. Jones, M.D. Medical Department of Illinois College, Jacksonville, Ill., 1846, a retired physician of Jacksonville, died at his home, June 16, aged 82.

W. A. Woollen, M.D. Vanderbilt University, Nashville, 1883, died at his home in Randleman, N. C., June 5, after an illness of several months, aged 67.

Chester W. Scott, M.D. Hahnemann Medical College, Philadelphia, 1854, died at his home in Lawrence, Mass., June 11, aged 71.

Medical Organization.

Pittsylvania County (Va.) Medical Society.

Physicians of Pittsylvania County met at Chatham, June 11, and organized a county medical society, with Dr. John C. Anderson, Minneola, president; Dr. W. B. Boyd, Spring Garden, vice-president; and Dr. William P. Parrish, Chatham, secretary and treasurer.

Victoria and Calhoun County (Texas) Medical Society.

At the meeting of the South Texas Medical Association in Victoria, June 12, Dr. Walter Shropshire, Yoakum, organizer for the district, organized a city and county society, with the following members: Drs. Shaw, Hopkins, De Tar, Bramann, Shields, Ward and Crouse, of Victoria, and Dr. Peterson of Calhoun County.

Western District (I. T.) Medical Association.

The organization of this association was perfected, June 11, at Muskogee, by the election of Dr. C. P. Linn, Wewoka, president; Dr. William M. Cott, Okmulgee, vice-president; Dr. Claude A. Thompson, Muskogee, secretary, and Dr. Jesse L. Blakemore, Muskogee, treasurer. Tulsa was selected as the place for the December meeting.

Waukesha County (Wis.) Medical Society.

A large number of physicians met at Waukesha, June 2, and organized a county society, with Dr. Byron M. Caples, Waukesha, president; Dr. Henry B. G. Nixon, Hartland, vice-president; Dr. Albert J. Hodgson, Waukesha, secretary; Dr. Margaret Caldwell, Waukesha, treasurer, and Drs. Caples, Nixon and Hodgson delegates to the state medical society.

Tri-County Medical Society of South Jersey.

Physicians of Salem, Gloucester and Cumberland counties (N. J.) met at Woodbury, May 27, and organized a society, with 29 charter members. Meetings will be held as follows: January, Salem; May, Bridgeton, and October, Woodbury. The following officers were elected: Dr. Harry A. Stout, Wenonah, president; Drs. Benjamin A. Waddington, Salem, and Henry W. Elmer, Bridgeton, vice-presidents; and Drs. George E. Reading, Woodbury, secretary and treasurer.

Societies.

Rhea County (Tenn.) Medical Society.—At the annual meeting held in Dayton, June 4, Dr. William P. McDonald, Spring City, was elected president, and Dr. R. C. Miller, Evansville, secretary and treasurer.

Livingston County (N. Y.) Medical Association.—The annual meeting was held in Geneseo, June 9. Dr. William P. Spratling, Sonyea, was elected president; Dr. F. A. Strasenburgh, Avon, vice-president; Dr. George Squires, Avon, secretary, and Dr. George G. Jones, Geneseo, treasurer.

Blue Earth County (Minn.) Medical Society.—At the annual meeting held in Mankato June 1, Dr. Oliver H. McMichael, Vernon Center, was elected president; Dr. George R. Curran, Mankato, first vice-president; Dr. H. G. Parker, Madison Lake, second vice-president, and Dr. John S. Holbrook, Mankato, secretary.

Indian Territory Medical Association.—The twenty-third semi-annual meeting was held in South McAlester, June 8. Dr. W. A. Tolleson, Eufaula, was elected president; Dr. James W. Gilbert, Roff, vice-president; Dr. R. J. Crabill, McAlester, secretary and treasurer; Dr. Le Roy Long, Caddo, delegate to the American Medical Association, and Dr. Eben N. Allen, South McAlester, alternate. Hereafter the society will meet annually in June. The 1904 meeting will be held in Holdenville.

Chicago Medical Society.—At the annual election, June 17, about twenty per cent. of the members voted in person or sent their ballots by mail. The following officers were elected: President, Dr. Robert B. Preble; secretary, Dr. Frank X. Walls (re-elected); councilors for one year—Drs. Rachel Hickey Carr, John C. Cook, Alfred C. Cotton, Frances Dickinson, Chicago, and Clarence A. Earle, Desplaines; for two years—Drs. William L. Ballenger, N. S. Davis, Jr., A. E. Halstead, William M. Harsha and Weller Van Hook; for three years—Drs. Charles S. Bacon, Frank Billings, Arthur R. Edwards, William A. Evans, and Adolph Gehrmann.

Omaha-Douglas County Medical Society.—This society now has one hundred and twenty members. At a special meeting, June 9, 80 members were present. Dr. Willson O. Bridges gave a résumé of the International Medical Congress, Madrid, to which he was a delegate. Dr. Benjamin F. Crummer, president of the Nebraska State Medical Society, presented the attitude of the organized profession toward the irregular and unlawful practitioners. County Prosecutor James P. English responded, presenting the legal side, and gave assurance of every assistance his office could furnish in administering the law. A committee of physicians was appointed to act in conjunction with the State Board of Health in executing the functions of that body. A committee of physicians, with City Health Commissioner John B. Ralph as chairman, was named by the society to investigate all proposed legislation by the city council or board of education bearing directly or indirectly on the health of the community, and to endeavor to have every enactment conform to recognized medical standards of sanitation.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Ice Cold Sponge Bath.

The following technic of administering an ice sponge bath is given by *So. Calif. Pract.:*

A large rubber sheet is spread over the bed; the patient is wrapped in a cotton blanket and placed in the center of the

rubber sheet so that a hollow is formed to hold the water escaping from the wet sponge. Hot-water bottles are placed at the feet and cold cloths or an ice bag on the head. The limbs are wrapped in bath towels wrung out of ice water while sponging the back and chest. The direction to sponge is from the head to the feet with light strokes. A great deal of time should be spent in sponging the muscles of the back. Where the patient is very sensitive strips of cheese cloth should be wrung out of very hot water and placed on the patient, and the iced sponge applied over it, or begin with a tepid sponge and gradually cool to the ice applications. A stimulant should be given the patient just before or after the bath. If the temperature should be lowered too rapidly and the patient does not react well to the ice sponge, hot-water bottles will have to be applied and stimulants administered. Ice applications should not be given in anemic or septic cases or where there is extreme emaciation or valvular heart lesion.

Crede's Ointment.

The following is the composition of Credé's ointment, according to the *Jour. of Tropical Med.:*

℞. Argenti colloid. (collargol) 3viiss 30
Ceræ flavæ 3iv 15
Adipis benzoatis, 15 per cent. .....℥ivss 135

M. Sig.: For local application.

The foregoing ointment has been warmly recommended as a local application in the treatment of the acute parotitis or other forms of adenitis, in meningitis after shaving the scalp, in thrombo-phlebitis and the local infections of streptococcic nature.

Vertigo.

The *New Eng. Med. Jour.* recommends the following in the treatment of vertigo:

℞. Spts. glonoini 3i 4

Sig.: One drop in water three times a day, to be gradually increased until temporal headache is manifested; or:

℞. Pot. bromidi 3iv 15
Syr. aurantii cort. 3iv 15
Aquæ q. s. ad.....℥iii 90

M. Sig.: One teaspoonful three times a day in vertigo from insomnia and overwork; or:

℞. Sodii bromidi 3ii 8
Antipyrini 3i 4

M. Ft. cap. No. xii. Sig.: One tablet three times a day in aural vertigo.

Acute Asthenic Pneumonia.

The following outline of treatment in acute asthenic pneumonia is ascribed to Grassert in *Jour. de Med. de Paris:*

Alternate every hour the following mixtures:

℞. Cognac .....℥iss 45
Elix. simp. q. s. ad.....℥iv 120

M. Sig.: One tablespoonful to be taken with some liquid nourishment; and:

℞. Pulv. ipecac. 3ss 2
Aquæ (bullientis) .....℥iii 90

Reduce this mixture to two and a half ounces and add:

Syr. senegæ .....℥i 30

M. Sig.: One to three teaspoonfuls in milk as directed above.

The patient should be well fed and the following combination given three times a day:

℞. Sodii arsenatis .....gr. ss-2/3 03-04
Acidi citrici .....gr. xv 1
Tinct. cola
Tinct. cacao, āā.....℥ii 60

M. Sig.: One teaspoonful after each meal three times a day.

Medicolegal.

Reasonableness of Doctor's Bill May Be Left to Jury.—In the seduction case of Lampman vs. Bruning, where it was argued that what the doctor charged did not furnish proof of what expense was reasonable, the Supreme Court of Iowa says that such items are rarely the subject of controversy in damage suits, and where the services rendered are of a nature likely to be familiar to the jury, and the charge unquestioned, its reasonableness may be safely left to their determination.

Testimony and Belief in Malpractice Case.—In the malpractice case of Johnson vs. Winston et al., where the Supreme Court of Nebraska reverses a judgment in favor of the parties sued for reasons stated in the commissioners' opinion, the commissioners say that in actions of this kind it is always difficult to obtain professional testimony at all. It will not do to lay down the rule that only professional witnesses can be heard on questions of this character, and then, in spite of the fact that they are often unwilling, apply the rules of evidence with such stringency that their testimony can not be obtained against one of their own members. Again, the commissioners are of the opinion that the rule was stated too broadly in an instruction to the jury that, although a diseased condition, resulting in a malformed and useless hand, was caused by the operation, an amputation of the index finger and metacarpal bone, the parties sued were not liable if they performed the operation with the other party's consent, express or implied, in a careful and skilful manner, under the belief that it was proper to be performed. The "belief," which would excuse the parties sued from the consequences of an operation, must have been a well-founded belief acquired in the exercise of due professional care and skill. The commissioner adds that the authorities appear to lend support to this view. "Known to the profession," it is said, must be understood as being known to the whole profession, not merely to a part, or the most learned members of it.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

June 13.

1 *On Neurofibromatosis. Joseph Fraenkel and J. Ramsay Hunt.
2 Organization of the Bureau of Public Health and Marine-Hospital Service. Walter Wyman.
3 Diagnostic and Prognostic Data in Nervous and Mental Diseases. William B. Pritchard.
4 *Auto-epidermic Skin Grafting. H. F. McChesney.
5 Report of an Operation for Carcinoma of the Cecum and One of Carcinoma of the Transverse Colon. C. G. Darling and Dean Loree.

1. Neurofibromatosis.—Fraenkel and Hunt report four cases of this rare condition: 1. Compression myelitis produced by intervertebral fibroma and terminating fatally; 2, isolated neuromata of the posterior tibial and communicans-peroneii nerves with hyperesthesia and paralysis, recovery after operation; 3, fibromata of peripheral nerves without symptoms, and 4, multiple skin fibromata with a few neurofibromata and doubtful symptoms.

4. Auto-Epidermic Skin-Grafting.—The method described by McChesney consists in dissecting up the thin blue line of epithelial cells that margin and encroach on the healing ulcerative surface and cutting off small pieces, about an eighth of an inch square, and placing them on the granulating surface with or without previous curetting. This, he thinks, causes but little pain and does not develop a scar, and at each dressing several new islands can be started. So far as he knows this method has not been before reported.

American Medicine, Philadelphia.

June 13.

6 *On Cysts and Other Neoplasms of the Pancreas. Roswell Park.
7 *Fourth-of-July Tetanus. H. Gideon Wells.
8 *Nephrolithiasis, with Report of Case.. Charles D. Lockwood.
9 Orbital Cellulitis as a Sequel of Scarlatina; the Report of Two Cases. Burton Chance.
10 Arteriovenous Aneurism of the Femoral Vessels; Ligation of the External Iliac Artery; Failure of Collateral Circulation; Amputation; Death. Schuyler C. Graves.
11 A Case of Post-Operative Tetanus, with Special Reference to the Focus of Infection. Levi J. Hammond.
12 Echoes from the Madrid International Medical Congress. Nicholas Senn.

6.—See abstract in THE JOURNAL of May 30, p. 1524.

7. **Fourth of July Tetanus.**—Wells graphically shows the epidemics of Fourth of July tetanus during the last three years. In 1901 it did not seem to appear in Chicago, but was marked in 1900, and very noticeable in 1902. In the city of Greater New York the curve is very similar to that of Chicago though the number of cases is smaller in proportion to the population. In Washington, Fourth of July tetanus does not seem to exist, owing to the salutary regulations. He reviews the incidence of tetanus at the various seasons of the year, and finds, entirely aside from the Fourth of July cases, that the summer months have the greatest mortality. As to the character of the wounds producing the Fourth of July cases, he finds that in nearly every case they were due to blank cartridges, the wads usually striking the hand with a tendency to carry before it a disc or tube of palmar skin, and when this has happened we have absolutely ideal conditions for tetanus production. At the bottom of the wound is a wad of skin and a wad of cardboard, making a sandwich beneath which is a layer of dirt. It is unfortunate that we have not the data as to the total number of blank cartridge wounds that occur near the Fourth of July, but judging from the number of cases in Chicago, Wells thinks that the percentage of tetanus following them would be large. Every case of blank cartridge wound should be considered from the start as dangerous, and be treated as thoroughly as if we knew that the tetanus bacillus was in the bottom of the wound. The importance of such thoroughness is shown by a case reported by Dr. Bain of the Massachusetts General Hospital, where a blank-cartridge wound had escaped tetanus, in spite of the existence of living tetanus bacilli in the wound. When tetanus is developed of course the treatment is that of any other case of the disease, but the principal thing is prophylaxis, and this is what he specially emphasizes. Of course, the real ultimate prophylactic would be the prohibition of Fourth of July celebration with fire arms, etc., but next to this comes the proper treatment of the wound.

8. **Nephrolithiasis.**—Lockwood reports a case in detail which illustrates the advantages obtained by modern methods of establishing the functional capacity of the kidney and the greater precision in diagnosis afforded by the Roentgen rays. He emphasizes that:

1. It is usually possible to make an accurate diagnosis of renal calculus with the means now at hand. It is no longer excusable to pronounce every kidney complaint "Bright's disease," as had been done in this case, simply because there is a trace of albumin in the urine.

2. Proper preparation of the patient is an important adjunct in every kidney operation. This preparation consists in the following:

(*a*) Increasing the functional activity of the kidneys until the total output for twenty-four hours equals or exceeds the average for a normal individual. This may be done by the free ingestion of fluids and by giving enemas of normal salt solution for several days preceding operation. During and immediately following operation salt solution should be given subcutaneously in large amounts.

(*b*) The administration of urinary antiseptics, especially urotropin and salol.

Boston Medical and Surgical Journal.

June 11.

13 *Dermato-myositis. F. Forchheimer.
14 Poliencephalomyelitis and Allied Conditions. (To be continued.) E. W. Taylor.
15 *Congenital Inspiratory Stridor. D. Crosby Greene, Jr.
16 Avulsion of the Tibial Tubercle Occurring in a Girl of Thirteen. Francis D. Donoghue.

13. **Dermatomyositis.**—The case reported is that of a neurotic woman, aged 40, who suffered from swelling of the muscles, erythematous eruptions, pustular formations, rise of temperature and pulse, and emaciation, the edematous swelling being followed by desquamation. There was a strong suggestion of an angioneurotic condition in this case, and the author remarks that Köster's hypothesis of a vasomotor origin to the disorder seems coonsiderably supported. Forchheimer thinks the condition may be produced by a number of causes and until these are worked out we can only rely on symptomatology for diagnosis, but the symptoms are being constantly added to with each case reported. He remarks, however, that there are sufficient characteristics. The clinical picture of a typical case of dermatomyositis is one not to be forgotten, and the diagnosis is easy when it is typical and when one has already seen a case. (See editorial, June 20.)

15. **Congenital Inspiratory Stridor.**—Five cases have within the last three years been brought to the Boston Children's Hospital, and Greene reports a typical one. All had a folding in of the epiglottis backward, forming a sort of tube with a slit behind. The lesion he locates in the upper part of the pharynx. In two cases in which the stridor has been outgrown there is still a marked inrolling of the lateral margin. The essential symptom is a modification of the respiratory sound during inspiration, characterized by a musical note, which has been likened to the crowing of a chicken or, in mild cases, to the purring of a cat. It is always noted immediately after birth or within a few days, although it may be overlooked at first. It is continuous during waking and sleeping, and is aggravated by excitement. The voice is not affected. Expiration is usually quiet, but when the symptom is intense it may also be heard during expiration. It does not seem to produce distress, but temporary cyanosis sometimes occurs during the height of the stridor. The obstruction, while not affecting the general health under favorable conditions, seems to render the child rather more susceptible to pulmonary affections. It usually increases up to the third or fourth month, and remains the same until the child is about one year old. It then gradually disappears, finally only appearing during excitement and then disappears altogether. The prognosis is good. One case of death, however, due to laryngeal obstruction, simply from this cause, has been reported. The treatment consists in guarding the infants from respiratory trouble, and keeping them properly nourished in order to resist the better. Intubation of the trachea may be required in very rare cases, but in the majority there is no call for operative interference.

Philadelphia Medical Journal.

June 13.

17 Address. First Annual Conference of State and National Health Authorities, Washington, D. C., June 3, 1903. Walter Wyman.
18 *Immunization from Tuberculosis. D. E. Salmon.
19 The Present Status of the Treatment of Superficial Carcinoma and Tuberculosis by Means of the X-Rays. William L. Rodman and G. E. Pfahler.
20 *The Value of Widal's and Ehrlich's Tests in Typoid Fever. Orville Kennedy.
21 *Things to Consider Before Sending the Tuberculosis Patient Away from Home. Martin L. Stevens.
22 Florence Nightingale. W. C. Cahall.

18. **Tuberculosis.**—Salmon's article is chiefly historical, incited by Flexner's statement crediting Theobald Smith and Trudeau with the earlier facts on which immunization to tuberculosis is based. He says Flexner has done an injustice to de Schweinitz in ignoring his earlier work. De Schweinitz had discovered that certain human tubercle bacilli could be administered to cattle subcutaneously, intravenously and intra-abdominally without producing the disease, and administered them with the idea of producing immunity in cattle before Smith's papers were published. The later work of Behring and others is really antedated by these early experiments.

20. **Typhoid Fever.**—The value of the Widal and diazo-reaction in the diagnosis of typhoid is discussed by Kennedy, who sums up that the Widal test furnishes the earliest and most positive evidence, but a bacteriologic laboratory is required to make it available to the practitioner. The diazo-reaction, though not pathognomonic or conclusive, is a valuable aid in making an early diagnosis. Its presence certainly differentiates between malaria and typhoid and practically eliminates all but measles, acute tuberculosis and probably certain septic fevers.

21. **Tuberculosis.**—The various conditions which should affect the decision of the physician in sending a patient away from home are reviewed by Stevens. Among them are the questions of the amount of benefit to be derived, the character of the patient, whether he will be able to resist unfavorable tendencies, his financial condition and the medical care he will receive in his new location, the character of the health resort, and lastly, the instruction of the patient as regards his responsibility to the public is emphasized. He says before sending your patient away from home:

Consider his character with reference to the influence it will have on his prospect of recovery.

Consider his financial condition, and that, if sacrifice has to be made, it is the part of wisdom and economy to make it early.

Consider his need of medical care and control wherever he is, and that good treatment in an unfavorable climate is better than a favorable climate without treatment.

Consider the facilities which the health resort offers for the cure of his disease, rather than those offered for his pleasure.

Consider the need of candor as to his condition and his responsibility to the public.

Medical News, New York.

June 13.

23 *Colchicum in the Treatment of Gout. Charles C. Ransom.
24 *Four Months' Experience with Antistreptococcic Serum in Pulmonary Tuberculosis. S. G. Bonney.
25 The Origin of the Eosinophiles and Their Diagnostic and Prognostic Importance. Thomas R. Brown.
26 *The Morbid Anatomy and Pathology of Tabes. (To be continued.) Joseph Collins.
27 Leucoplasia in Secondary Syphilis. Douglass W. Montgomery.

23. **Colchicum.**—Ransom discusses the action of colchicum in the treatment of gout and says that the varying effects of the drug on the urine and urea excretion are due to faulty methods of experimentation. His own experiments agree with those made by Fawcett and Garrod, and he concludes that the effect of colchicum on the urinary secretion is at least not to augment it but rather to diminish it, while the uric acid and urea excretion is not affected. He prefers to use the alkaloid colchicin, and gives it in small doses. He has used it for weeks and months at a time, and never observed any cumulative action. As to its benefits in kidney disease he has very little question, though the latter has been considered a contraindication. How it acts he does not venture to say.

24. **Tuberculosis.**—Bonney reports a number of cases, 25 altogether, of tuberculosis treated by antistreptococcus serum injections. All were apparently hopeless, and other methods, such as favorable climate, etc., had not been effective. Three cases seem to be fairly on the way to cure; 4 show marked improvement; 5 seem to be improved though the final prognosis is yet uncertain; 8 show a degree of improvement, but not such as to modify the unfavorable prognosis, and in 3 the effect of the serum, if any, is in doubt. In the 3 remaining cases no actual results have been obtained. The serum was inapplicable in at least 2 of them, according to subsequent developments. In a number of cases urticaria appeared, following the injections. He thinks that it is sufficient to say that if the fact had been established that the serum, even in a single case, has been instrumental in conjunction with appropriate measures in restoring the patient to health, its utility is determined.

26. **Tabes.**—Collins, in this installment of his article, describes the pathologic changes observed in the spinal cord, columns of Burdach and Goll, and posterior horns and in the peripheral nerves and spinal ganglia.

New York Medical Journal.

June 13.

28 Address, First Annual Conference of State and National Health Authorities. Walter Wyman.
29 *The Surgery of the Prostate from the Standpoint of Personal Experience. (To be concluded.) Granville MacGowan.
30 A Historical Sketch of the Ear Department at the New York Eye and Ear Infirmary. Gorham Bacon.
31 The Need of Combined Action Among the Various Medical Specialties. J. W. Putnam.
32 *Report of Some Surgical Cases. W. Monroe Smith.
33 *Spermaturia. Arthur R. Elliott.
34 Do Our Present Ways of Living Tend to the Increase of Certain Forms of Nervous and Mental Disorder? Charles E. Atwood.

29. **Prostatic Surgery.**—MacGowan describes the history and methods of prostatectomy and advocates operation in cases of hypertrophy with decided inconvenience. He does not think that the presence of blood, albumin, casts, or old age and feebleness within reasonable limits, are contraindications. As to the method of treatment he is eclectic, using perineal, suprapubic and the Bottini operation, according to the case, favoring, however, perineal section in the majority of cases. He favors drainage, especially when the urine is alkaline and the bladder contains calculi or incrustations. In important operations he uses two quarts of normal salt solution hypodermically, while the patient is under the anesthetic; this is repeated every three hours until the drainage tube shows a free secretion of urine.

32. **Gallstone Impaction in the Liver.**—Smith reports a case of nodular liver tumor in which large amounts of gallstones, 71 altogether, some of them of large size, were impacted in the liver substance and removed successfully, the patient making a good recovery. He also reports several other operations for gallstone, hematoma, rectal gangrene, etc.

33. **Spermaturia.**—Elliott urges examining albuminous urine for spermatozoa. He reports cases showing that the reactions produced by seminal elements in the urine very closely resemble those produced by serum albumin, and may easily prove a confusing element in albumin testing.

Cincinnati Lancet-Clinic.

June 13.

35 *The Examination of the Functions of the Stomach by Means of Gerber's Acid Butyrometer. Frank L. Rattermann.
36 *Constipation in the Aged and Constipation Produced by Reading While Defecating. George J. Monroe.
37 Surgery of Prostate, Pancreas, Diaphragm and Spleen. (Continued.) B. Merrill Ricketts.

35. **Stomach Examination.**—Rattermann's article details the methods of stomach examination with a special illustrated description of Gerber's acid butyrometer and the method of its use.

36. **Constipation in the Aged.**—Monroe calls attention to the tendency of oatmeal, taken habitually, to produce constipation. Phosphate of soda he finds one of the best laxatives in these cases. There is difficulty also in inducing old people and the majority of females to take enough water. This is one cause of constipation. Every adult should drink from a quart to a gallon of water every twenty-four hours, beside the quantity obtained in food. He has never heard that cascara affects the heart, but he is pretty sure that in one instance it retarded the circulation. Another bad habit which he mentions as tending to constipation is the habit of reading at stool.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

June 6.

1 *The Red-light Treatment of Smallpox. Is the Treatment of Smallpox Patients in Broad Daylight Warrantable? Niels R. Finsen.
2 *Recent Electrotherapeutics, with Special Reference to Malignant Disease. John MacIntyre.
3 *The X-rays in the Treatment of Lupus, Rodent Ulcer and Other Skin Diseases. Malcolm Morris and S. Ernest Dore.
4 Further Observations on the Treatment of Rodent Ulcer by the X-rays. James H. Sequeira.
5 Treatment of Lupus by X-rays and Ultraviolet Rays. H. E. Gamlen.
6 Tuberculosis of the Conjunctiva Cured by the X-Rays. Sydney Stephenson.
7 *Further Work on Amebic Dysentery in India. Leonard Rogers.

1. **Smallpox.**—Finsen argues for the position held by him for the past ten years, that diffuse daylight is bad for smallpox cases and tends to aggravate the skin lesions and that the cutting off of the chemical rays and the use of exclusive red light is one of the best measures of treatment. He has found the beneficial action of the red light to have been demonstrated in the practice of some of his confrères.

2. **Recent Electrotherapy.**—MacIntyre describes high frequency and high potential currents. He has not seen any absolute cures from them, though amelioration has taken place in genuine malignant disease. Most workers prefer the *x*-ray for such disorders.

3. **X-Rays in Lupus, Rodent Ulcer, Etc.**—Morris and Dore find that the *x*-ray has a well-deserved sphere of usefulness, but in the case of lupus vulgaris is much inferior as a curative measure to the Finsen treatment. It, however, supplies certain shortcomings of the latter where the *x*-rays can be supplied to cavities inaccessible to the Finsen light. In dealing with the mucous membranes the *x*-rays are more effective. The combination of the two methods, reinforced, if need be, by the use of pyrogallic, salicylic or carbolic acid, or other caustic applications, may be trusted to give good results in the treatment of lupus where the disease has not become too extensive to be managed. They believe there is good reason to think lupus and rodent ulcer may be kept under control, if recurrences are promptly handled.

7. **Amebic Dysentery.**—Rogers concludes that:

Amebic dysentery has naked-eye and microscopic characters which enable it to be easily distinguished from the more common bacillary type of the disease.

Amebic abscess of the liver secondary to this form of dysentery may be produced (1) by infection across the peritoneum with or without previous adhesions, or (2) through infection by the portal vein producing sufficient clotting in its branches to cause a focal necrosis in one or more parts of the liver, concentric extension taking place by means of a similar process.

If staphylococci reach the liver with the ameba, as especially occurs when gangrenous sloughing of the bowel wall complicates amebic dysentery, then multiple small abscesses in the interlobular branches of the portal vein containing both ameba and staphylococci result.

The Lancet, London.

June 6.

8 *The Perils and Complications of Fibroids After the Menopause. J. Bland-Sutton.
9 *Mental Unsoundness Amounting to Certifiable Insanity and Its Diagnosis. Robert Jones.
10 *The Treatment of Gangrenous Herniæ by Enterectomy. Arthur E. Barker.
11 On the Relation Existing Between Uric Acid Excretion and the Breaking Down of the White Corpuscles. Oliver K. Williamson.
12 A Form of Removable Deep Suture. F. R. S. Milton.
13 A Case of Typhoid Pancreatitis. B. G. A. Moynihan.
14 Some Observations on Movable Kidney. T. E. Gordon.
15 Appendicitis with Profuse Intestinal Hemorrhage Closely Resembling Typhoid Fever. Charles R. Box and Cuthbert S. Wallace.
16 Soil Nitrification vs. the Incidence of Malaria and Other Mosquito-borne Diseases. Arthur R. Waddell.

8. **Fibroids.**—Bland-Sutton protests against the notion that fibroids are comparatively harmless. The greatest and most frequent danger after the menopause is their septic infection and necrosis. He believes that there is a special risk of this in the tendency of the uterus to attempt their extrusion, and, when this has become partial and the os is dilated, the entrance of germs is easy. He believes they also have a bad effect in delaying the menopause and in impaction or injury to other organs by calcified fibroids.

9. **Mental Unsoundness.**—Jones discusses the characteristics of insanity, and concludes that it would be proper to certify persons as insane if they are suffering from any of the acute forms, for such are potential suicides; if they are suffering from paranoical or persecutory delusions, for such are potential homicides, or after the early symptoms of general paresis occur or there is great violence, noise, excitement and sexual trouble; but we are justified in not certifying to insanity in young persons of either sex if the trouble is due to a toxin or if it is of a mild or subacute and temporary variety.

10. **Enterectomy.**—Barker holds that the danger of gangrene is not exactly at the point of lesion in strangulated hernia but for four or five feet further back above the constriction. If the hernia is simply put back or an artificial anus made, the danger is great. In either case relief comes slowly. He thinks where the patient is in a reasonably good condition to take out the paralyzed or sodden and ulcerated intestine with all its contents is relatively the safest course. He illustrates his methods and reports cases.

Berliner Klinische Wochenschrift.

17 (XL, 19.) Facial Paralysis. M. Bernhardt.—Zur Pathologie veralteter peripherischer Facialislähmungen.
18 *The Dilution Functional Test of the Kidneys. H. Roeder.—Die Gefrierpunktserniedrigung nephritischen Harns und ihre Deutung auf dem Wege der Verdünnungsversuch.
19 *Treatment of Chronic Intestinal Catarrh. L. v. Aldor (Carlsbad).—Ueber die Behandlung primäre chron. Dickdarmcatarrhe mit hohen Eingiessungen.
20 (No. 20.) *Zur Etiologie der Tabes. E. v. Leyden.
21 Temperature of Chronically Diseased Joints and Congested Members. M. Herz.—Ueber die Temperaturverhältnisse chronischer erkrankten Gelenke und gestauter Gliedmassen.
22 Zur Etiologie des Diabetes mellitus. Lennë.
23 Zur Kenntniss der morphologischen Vorgänge (processes) bei der Infection und Immunität. A. Wolff.
24 (No. 21.) *Zur Frage des Antimorphinserums. J. Morgenroth.
25 Veronal, ein neues Hypnoticum. A. Lilienfeld.
26 *Radiography without Plates. Kronecker.—Ueber ein vereinfachtes Verfahren der Roentgenphotographie.
27 Exercise and Alcoholism. F. Huppe.—Körperübungen und Alkoholismus.

18. **The Dilution Functional Kidney Test.**—This new test has been described in these columns and testimony to its value is accumulating. It consists in examination of the behavior of the kidney after ingestion of a large amount of a standard mineral water. Roeder now proclaims that the test is as effectual after ingestion of fluid food, and that it is the key which explains the variations in the freezing-point of the urine in disease. The results of cryoscopy have been defective by the lack of some standard for the previously ingested food or fluids. The higher freezing-point of the urine in nephritis is a sign of impaired power of diluting the renal secretions, the expression of diminished faculty of accommodation on the part of the kidneys to any increase in the amount of fluids ingested. He has established these facts by study of the osmosis of the kidneys in nurslings and by the behavior of the kidneys in adults when put on fluid food, the findings all confirmed by the experiences with the dilution test. After ingestion of a large amount of fluid the freezing-point in a sound kidney rapidly rises to —.3; —.2; —.1, and even —.03, while the nephritic kidney does not adapt itself to the new conditions, and no amount of fluid ingested is able to bring the freezing-point of the urine from this kidney up to that of its sound mate. The freezing-point remains almost constant. This very constancy in the behavior of the freezing-point, the lack of any power of accommodation on the part of the inflamed organ to adapt itself to the increased intake of fluids, explains many problems in the pathology of the kidney. The freezing-point remains invariable during the dilution test as at other times, the figure the same as that determined by cryoscopy without the ingestion of a large amount of fluid. Further research on older children with nephritis and in scarlet fever and measles has demonstrated that the freezing-point sank on a mixed diet, while it rose on milk alone. Cryoscopy of the urine, therefore, when not associated with that of the blood, is not conclusive unless based on a given dietary.

19. **Treatment of Chronic Intestinal Catarrh.**—Aldor has been almost invariably successful in the treatment of cases of old chronic catarrh of the large intestine which have defied all previous treatment. His method has failed only in those of ten years' standing or longer, with probably irreparable anatomic lesions. He commends it as the most radical treatment yet devised, far superior in its results to any other methods in vogue. It is merely flushing the intestines with hot Carlsbad water, followed by external application of heat to the abdomen. After a cleansing enema he inserts a wide, rubber tube, at least 85 cm. long, pushed in its entire length. He then injects through it 1 to 3 liters of Carlsbad water, which has established anticatarrhal power. The temperature of the fluid must be at least 113 F. After the injection heat is applied to the abdomen by means of a thermophore appliance, for several hours. He describes 18 cases followed for a long time, out of his extensive experience, some of five to ten years' standing. There were no pains nor after-effects in any instance. He does not use it in any case until after other methods have proved unavailing, and the catarrh is at least six months old. The method is equally effective whether the catarrh takes the form of constipation or of diarrhea.

20. **Etiology of Tabes.**—Aside from syphilis, v. Leyden claims trauma, over-exertion and getting chilled as etiologic factors, in the absence of syphilis. The trauma is usually a concussion or contusion, a fall on the head, as in the case of a Russian merchant, 32 years old, whom he had occasion recently to observe. He has also seen a second case recently, a railroad official, 46 years old, whose left foot had been crushed and the neck of the left femur broken in another accident later. Trauma is accepted in the etiology of syringomyelia and multiple sclerosis, and Stadelmann has lately called attention to the tardy apoplexy after trauma. The tendency of recent research is to establish that commotions of the nervous system induce anatomic lesions from the start. Minor of Moscow has discovered minute hemorrhages and tiny foci in the spinal cord. If the concussion is able to induce these lesions in the blood and lymph apparatus, we may safely assume that something of the kind occurs also in the nerve fibers, although not yet demonstrated, and under certain circumstances, may exhibit a tendency to a progressive course. It is even possible that a concussion may entail necrosis of the axis-cylinder either by altering the position of the single atoms of the molecule or in some other way. There is, therefore, no theoretical reason against the acceptance of trauma as a cause of tabes. The

symptoms usually appear first in the limb involved in the trauma or are most severe in this region. He describes 3 cases in which over-exertion in the motor tract was the direct cause of tabes. Case 1 was a sewing woman of 31, who for seventeen years had run the machine about six hours a day, using mostly the right leg. The first symptoms were violent and painful contractions in the right leg. Case 2 was also a sewing woman, who for twenty years had worked the machine for ten hours a day. Her first symptoms were uncertain gait and lancinating pains in the legs. Case 3 was a woman of 47 who had also used the machine daily for several years. Ataxia was marked in all and there was nothing to suggest syphilis in the history or present status. He has collected a few other similar cases, 2 were sewing women and 2 constantly employed on a paper-cutting machine. He has himself observed a fourth case, a bookkeeper of 40, who had written continuously at night for seven years. His initial symptoms were uncertain gait and numbness in the fingers. Any stimulus affecting a nerve fiber affects also the ganglion cell, as the former is merely the peripheral process of the latter. Excessive functioning of a nerve tract may entail injury leading finally to atrophic disappearance of the nerve substance and ingrowth of the glia. Edinger's research has established this fact. He experimented on a large number of rats. They were hung up by the tail or placed in revolving cages. The poor animals exerted themselves enormously in their efforts to escape. When examined, after a few weeks, degenerative lesions were discovered similar to those noted in tabes, and with the same distribution, even to the sparing of the rounded top of the posterior columns in many cases, which were exempt from degeneration, the same as in tabes. Three cases of tabes consecutive to getting chilled have also come under v. Leyden's observation. The chilling in each case was very severe, in one, a ragpicker was snowed in and was apparently frozen to death, but recovered, and had tabes later. Another was a man of 40 who from his seventeenth to his thirty-fourth year had been engaged in a beer cellar and compelled to stand to his ankles in cold water. The third patient was a magistrate in Holland, 58 years old, who for years had made a practice of ultra-Kneipp measures, bathing his feet morning and night in ice water, wearing shoes without stockings, and frequently standing in glacier water to his knees when in the mountains. He finally broke through the ice when hunting, and had pain in the sciatic nerve on both sides, followed in the course of five years by uncertainty of gait, vesical weakness, ataxia and other symptoms of tabes. The chilling trauma affecting a peripheral nerve injures the spinal ganglion, similarly to a mechanical injury, and the result is degeneration of the neuron in the posterior column.

24. **Tests of Antimorphin Serum.**—Morgenroth's experiments do not substantiate the assertions of Hirschlaff in regard to his curative serum for morphin addiction. The latter's results were probably only apparent. The doses he injected were not absolutely fatal for the animals. To date no one has succeeded in producing an antitoxin actually effective against poisons of known chemical composition.

26. **Radiography Without Plates.**—Kronecker takes the radiogram directly on the silver bromid paper, but he states that ordinary sensitized paper will not do, as it is too coarse-grained. A special paper is made for meteorologic work, and is sold only to scientific stations at present. This paper should be procured, and with it the picture can be taken, developed, mounted and presented complete in thirty minutes. The only drawback is that it can not be manifolded as with a plate. The radiogram, however, can be easily photographed when a number of copies are desired.

Centralblatt f. Kinderheilkunde, Sprottau.

Last indexed page 547.

28 (VIII, 1.) Success of Organ Treatment of Case of Myxedema. K. Mendel.—Erfolg der Org.-Therapie in einem Fall von infantilem Myxedem.
29 Echinococcus der Pleura (Rippen-Resektion, Abstossung des Sackes in toto.). C. Springer. Complete recovery after operative treatment.
30 (No. 2.) Herpes tonsurans im Kindesalter. M. Joseph (Berlin).
31 (No. 3.) Erfahrungen über Sanatogen. E. Fromm.
32 Ueber Xeroform in der Kinderheilkunde. E. Toff (Bralla).

Centralblatt f. Kr. der Harn- u. Sex.-Org., Leipsic.

Last indexed page 477.

33 (XIV, 1.) *Ein cystoskopischer Demonstrations-Apparat. R. Kutner (Berlin).
34 Zur Diagnostik der Spermatocystitis. A. Mayer (Worms).
35 Diskussion über die operativen Behandlung der Prostata-Hypertrophie. Bransford Lewis (St. Louis).
36 (Nos. 2-3.) *Rupture of Bladder. W. Nobe.—Ueber Blasenruptur.
37 Physico-Therapy of Affections of Testicles and Adnexa. J. Zabludowski (of Berlin University Massage Institute).—Zur Therapie der Erkrankheiten der Hoden und deren Adnexe. (Concluded from No. 12, 1902.) 16 cuts.
38 *Zur Katheterstерilisation. R. Kutner (Berlin).
39 Irritation from Phloridzin. O. Pielicke.—Nochmals zur Phl.-Reizung.
40 Yeast for Determination of Minute Sugar Content. T. Lohnstein.—Zur Bestimmung kleinster Zuckergehalt durch Hefegärung.
41 *Ueber das Vorkommen von Streptokokki in der normalen Urethra des Mannes. B. Asakura (Berne).
42 (No. 4.) Experimental Research on Fate of Tubercle Bacilli Introduced Into Renal Arteries. P. Asche (Strasburg).—Ueber das Schicksal, etc.
43 Das retrograde Cystoscope. F. Schlagintweit (Munich).
44 Mechanical Treatment of Urethral Affections. E. Remete (Budapest).—Zur mech. Behandlung der Harnröhrenerkrankungen. Illustrates an insinuator (Gleitsonde) and dilator.

33. **Cystoscope for Two Observers.**—In teaching the use of the cystoscope, Kutner has felt the want of an instrument which would allow two persons to look through it at once. He has devised an appliance for the purpose which can be fitted to any cystoscope provided with a screw thread to receive the metal cap to protect the optic apparatus. In the cystoscope specially devised for demonstrating purposes, the ordinary tube is lengthened, and a second tube screws on it at right angles, with a mirror inserted below which reflects the image into this second tube without interfering with the image seen through the lengthened tube of the cystoscope proper. This second tube and mirror can be removed at will.

36. **Rupture of Bladder.**—Wemmers published in 1900 a statistic of 24 cases of rupture of the bladder, with 13 recoveries. Nobe has since collected 32 cases, and adds 3 personally observed, and described in detail, with full abstracts of the others. Of the 21 operated on 18 recovered, while only 7 recovered out of the 7 not operated on. He concludes from his general review that the diagnosis must be based on the rigidity of the abdominal wall soon after the injury, the tenesmus without defecation, palpation of a fluctuating tumor and dulness in bladder region. The latter is not always absolute, occasionally there may be a deep "box tone." There is generally a more or less intense and tormenting desire to urinate, while but a small amount of bloody urine is voided or none at all. In only two instances on record was the urine free from blood, and in both of these the rupture was at the vertex of the organ, the least vascular portion. It must be borne in mind that the bleeding in case of a laceration of the urethra is not under the control of the sphincter. The permanent catheter will determine the amount of urine in the bladder and whether it is escaping internally. If an extraperitoneal rupture is established the operation should be as for sectio alta and the rupture be sutured if readily discovered. If not, tampon and drain the surrounding region, introduce a permanent catheter and close the wound except for the tampon. Three of the cases reviewed healed without complications, although no attempt was made to suture the rupture. In case of an intraperitoneal rupture the tear must be located and sutured, or else the peritoneum should be sutured to the bladder as far back as possible, to transform it into an extraperitoneal rupture.

38. **Pocket Sterilization of Catheters.**—Kutner gives cuts of a small metal box like a cigar case, the top of which can be drawn up like a collapsible cup, until it forms a steeple in the center of the box. A small alcohol lamp in the bottom of the box generates steam. The catheter is hung in the steeple and the steam has to pass through it to escape. Among the advantages claimed for the contrivance are that the catheter hangs freely without touching at any point, while the sterilization can be rapidly and thoroughly accomplished.

41. **Streptococci in Normal Male Urethra.**—Asakura found streptococci in 12.5 per cent. of 50 subjects examined, some with and some without gonorrheal affections.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one title, and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles and the *subjects* of: editorials, society proceedings, abstracts, and miscellaneous matter appearing in THE JOURNAL; the titles of: "Editorials," "Book Notices," "Deaths," "Societies," "Association News," "Medical Organization," and "State Boards of Registration" are indexed and arranged under their separate headings in the "Index of Departments," instead of in the body of the "General Index." The "General Index" contains the subjects of articles in other journals which have been abstracted in THE JOURNAL. The titles and authors of all other articles from other journals are under the "Current Medical Literature Index."

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SOCIETIES.

Abbreviations:
A.—Association.
S.—Society.
M.—Medical, Medicine.
Acad.—Academy.
Phys.—Physicians.
Surg.—Surgical, Surgery, Surgeons.
Coll.—College.
Ry.—Railway.
Dist.—District.
Cong.—Congress.

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